

real-world economics review

Please [click here](#) to support this journal and the WEA

- Subscribers: **26,421** [subscribe](#) [RWER Blog](#) ISSN 1755-9472
 - A journal of the [World Economics Association](#) (WEA) 14,468 members, [join](#)
 - Sister open access journals: [Economic Thought](#) and [World Social and Economic Review](#)
- [back issues](#)

Issue no. 95

22 March 2021

Is a capitalist steady-state economy possible? Is it better in socialism? Theodore P. Lianos	2
The “ideal market” as a normative figure of thought. Analysing the reasoning of the World Bank pro land grabbing Tanja von Egan-Krieger	11
The rise of human capital theory Blair Fix	29
How downward redistribution makes America richer: An empirical, “money view” model of spending, wealth concentration, and wealth accumulation Steve Roth	42
The moral dilemma and asymmetric economic impact of COVID-19 Constantine E. Passaris	62
Pigou and the dropped stitch of economics Duncan Austin	71
Third world development: the simpler way critique of conventional theory and practice Ted Trainer	87
The American Gordian Knot and Alexander the Great is not in sight John Komlos	103
Unbridgeable: why political economists cannot accept capital as power Shimshon Bichler and Jonathan Nitzan	109
A modest proposal for generating useful analyses of economies: a brief note Geoff Davies	118
On the relevance of the Church-Turing Thesis for theoretical economics Ron Wallace	124
From finance to climate crisis: An interview with Steve Keen Steve Keen and Jamie Morgan	130
Board of Editors, past contributors, submissions, etc.	148



[support this journal](#)

[visit the RWER Blog](#)

Is a capitalist steady-state economy possible? Is it better in socialism?

Theodore P. Lianos [Athens University of Economics and Business, Athens, Greece]

Copyright: Theodore P. Lianos, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Abstract

This paper examines the question of compatibility of a steady-state economy as defined by Herman Daly with the capitalism system of social organization and also with the socialist economy models described by ecosocialists and by Oskar Lange. It concludes that the steady-state economy is compatible with both systems. It also concludes that, under certain conditions, the realization of a steady-state economy would be easier and preferable in a socialist system rather than in capitalism.

Keywords: steady-state economy; degrowth; capitalism; socialism; sustainability; population; alternative economies; economic organization; green growth; a-growth

Abbreviations: SSE = steady-state economy

1. Introduction

The increasing intensity of the environmental problems that we face as a global community for the last fifty years has led to the development of several important ideas and proposals regarding the systemic changes that may be introduced in order to reverse the existing tendencies. Most prominent among them are the Steady-State Economy (Daly, 1972), the Green Growth Economy or Green Economy (OECD, 2015, 2011; UN, 2012), the ideas of Degrowth (Hickel and Kallis, 2020; Kallis, 2011; Kallis et al., 2012), of Ecosocialism (Kovel and Löwy, 1991; Löwy, 2018) and of Ecomodernism (Asafu-Adjaye et al., 2015). These ideas and proposals are sometimes referred to as theories. Strictly speaking, a theory is a statement that can be tested, and in that sense these ideas are not theories. However, we can continue to call them theories as long as we understand that in essence they are simply ideas.

The Green Growth Economy and Ecomodernism offer ideas and proposals which, independently of their effectiveness, can be applied in the presently existing socio-economic system in most countries, i.e. within the institutions of capitalism. For the ideas of degrowth and ecosocialism to be applied it would require important institutional changes, more so in the case of ecosocialism. For ecosocialists the prosperity of human society and the health of the environment will coincide with the socialist transformation of society. For degrowth the required changes are not clearly delineated although the advocates of degrowth speak of non-violent and democratic transition beyond capitalism.

The case of the steady-state economy is debatable. Can a steady-state economy be capitalist or does it imply major institutional changes? This question was discussed ten years ago and when Herman Daly, the best known advocate of the steady-state economy, was challenged by Richard Smith, replied “I have never used that term, always speaking of steady-state economy, which in my view is something different from capitalism and socialism” (Daly, 2010). Apparently, Daly believes that the imposition of constraints he introduces on population size, on the throughput of resources, and on income inequality is sufficient to

change the nature of capitalism, even though he keeps the market mechanism for allocative purposes.

Critics of the steady-state idea (Smith, 2010; Trainer, 2016) argue that steady-state and capitalism are not compatible. If an economy is steady-state it cannot be capitalist and vice versa. This is a result of the “growth imperative” which is built on the foundations of capitalism. Lawn (2011), on the other hand, argues that capitalism can exist in a variety of forms and the steady-state economy introduces institutions that can make steady-state capitalism “workable and capable of releasing humanity from consumerism and its current growth addiction” (p. 24).

In this paper we intend to discuss this question further and to show not only that a steady-state economy, with the constraints imposed by Daly, can be capitalist, but also that a steady-state economy is possible, and under certain conditions, preferable in socialism.

2. The steady-state economy is an old idea

The steady-state economy is not a new idea. It was developed by classical economists under different circumstances and it was called a stationary state (Mill, 1885). In this model the size of population depends on the difference between the natural price of labor (minimum of subsistence) and the market price of labor. If the market price exceeds the natural price population will increase, and if the opposite occurs population will decline. In the long run, population will stabilize at its maximum when market and natural prices are equal (Ricardo, 1971). That requirement is the same as Daly’s constant population. The need for a constant flow of throughput was not necessary as there was no concern about ecological problems. With constant population and constant technology, in the long-run this model leads to zero profits, and constant stock of capital. William Baumol (1951) calls this model the “magnificent dynamics” of the early classical school. Therefore, capitalism can exist and operate with zero profits and consequently without capital accumulation.

3. The modern definition of steady-state economy

Daly defines the steady-state economy:

“as an economy with constant population and constant stock of capital, maintained by a low rate of throughput that is within the regenerative and assimilative capacities of the ecosystem... Alternatively, and more operationally, we might define the SSE in terms of a constant flow of throughput at a sustainable (low) level, with population and capital stock free to adjust to whatever size can be maintained by the constant throughput that begins with depletion of low-entropy resources and ends with pollution by high-entropy wastes” (Daly, 2008, p. 4).

The above definitions are not without problems. How is the low rate of throughput to be determined in a market economy? And if that can be determined, what are the right values of population size and stock of capital, particularly if these two values are not related by a constant proportion? Even if we assume that the stock of capital is determined on the basis of technological factors, how is the size of population to be determined? The size of population

is determined by factors that are not directly related to the stock of capital or the size of throughput. For the definition of steady-state economy that is capitalist, the determination of population and throughput is sufficient. The stock of capital will be determined by the technology that relates labor and capital with product.

For the purpose of examining whether a capitalist economy can be a steady-state economy we will first place only one limitation, namely that population needs to be constant at whatever size. Then the additional limitation of a constant throughput will be introduced. But let us first examine the arguments on the basis of which some authors have come to the conclusion that a steady-state economy cannot be capitalist.

4. The growth imperative or “grow or die”

The question regarding the compatibility of a steady-state economy and capitalism has been asked in the recent past by Smith (2010) in a critique of Daly's version of steady-state economy and his answer is in the negative. His answer is based on a brief analysis of three characteristics of capitalism, i.e. that producers are dependent on the market, that competition is the engine of economic development and that the law of survival in the marketplace is “grow or die”. In short, the growth imperative is a law of nature in capitalism.

The same conclusion has been reached by Binswanger (2009) who shows that capitalist economies need to grow because otherwise firms will not be able to realize profits. According to him the simulation results of his model illustrate the growth imperative of capitalism. Similarly, according to Gordon and Rosenthal (2003) growth in capitalism is not just desirable, it is necessary for the future survival for each individual capitalist firm and for the system as a whole. Also, Li (2007) concludes that an a non-growing economy implies that the rate of profit will fall to zero, and therefore a steady-state economy, i.e. a zero growth economy, is not compatible with capitalism, i.e. a system based on the pursuit of profit.¹

Finally, Blauwhof (2012) using Marxian terminology and an expanded reproduction scheme explains that if the economy cannot grow the surplus cannot be invested and can only be consumed or wasted. He adds that capitalists may have ways to raise the profit rate, such as those we see in the real world (wage cuts, avoidance of taxes, state subsidies) but there are limits to these and therefore it is unavoidable that the rate of profit will fall and approximate zero. The conclusion is that a steady-state economy cannot be capitalist.

From the point of view of the history of economic thought it is interesting to note that the Marxian expanded reproduction scheme has found its modern expression within Keynesian economics in Domar's growth model. It has been shown (Lianos, 1979) that aside from terminological differences Marx's expanded reproduction scheme and Domar's growth model are conceptually and mathematically the same. The conclusion derived from Domar's model is that a capitalist economy cannot stand still. If it does not grow it must decline.

¹ Li makes the assumption that in the long run the output-capital ratio is equal to the marginal output-capital ratio. This is always true in a linear production function, but if it is of the commonly used type (i.e. of the Cobb-Douglas type) it will never be true and if it is a third degree equation it will be true only at one point.

5. An arithmetical example

It is useful at this point to consider an arithmetical example that would make clear the above claims and show clearly the effect of restriction that a steady-state economy would impose. Consider the following production function

$$Y = A K^{1/3} L^{2/3}$$

where Y=product, K=capital, L=labor and A is the technology factor.

It is clear that if K and L both increase Y will also increase. Now let A=10, K=16 and L=144 and also assume that labor is constant at that level. Workers consume (Cw) all their income (W=wL) and capitalists consume (Cc) half of their profits (Pr) and invest (I) the other half. For simplicity, capital does not depreciate. Based on these hypothetical data, Table 1 provides the corresponding estimates for the three first periods.

Table 1. Calculation of profit rate for three periods under the assumption of stable population

Period	K	Y	Cw	w	Profit	Cc	I	R=Pr/K
1	16	692	460.8	3.2	231.2	115.6	115.6	1445%
2	131.6	1398	932	6.47	466	233	233	353%
3	364.6	1964	1309	9.1	655	327.5	327.5	179%

In this example, wages and profits will increase from period to period but the profit rate falls. From 1,445% in the first period it falls to 353% in the second and to 179% in the third. As capital increases the profit rate will be approaching zero. For K = 875,680 the profit rate falls to 1% and for K = 64,000,000 it falls to 0,05%. Clearly, in a steady-state economy where population is kept constant capital accumulation will bring profit rate down to zero. Therefore, the question of the ability of a steady-state economy to survive in capitalism is legitimate and important.

6. Can a steady-state economy survive in capitalism?

In a pure capitalist economy where the government does not have an economic role and its only function is to protect private property (Nozick, 1974) the survival or the collapse of a steady-state economy will depend on the behavior of entrepreneurs and consumers. Also, in a pure capitalist economy prices are assumed to be perfectly flexible.

Consumers change their tastes constantly either because they have an inherent tendency for change or because of advertising or because new products appear in the market. Given that total wages (the wage share) will be constant when the steady-state has reached the equilibrium position, the changes in consumer tastes and in demand will bring profits in some sectors and losses in others. Thus, zero profits in general does not mean that all firms will have zero profits. As long as there is change in consumer tastes there will be economic activity to exploit the opportunities and make profits. The tendency for shifting demand between sectors of consumer products may be strengthened by the production of better

quality goods² (Lawn, 2011, p. 10). Of course, this may be also true for capital goods. Lawn (2011) suggests that entrepreneurs, in addition to improving the quality of products, can attempt to improve the production techniques and make them more efficient, that is to increase the value of coefficient A in the production function. Technological improvements, embodied and disembodied, may change the mix of employment among sectors, and involve costs for research and also for educating the labor force but the gains in efficiency would recover the costs.

Let us now make the heroic assumption that all firms have reached the point where the profit of each one of them is zero. Now Li's question (2007, p. 29) comes to mind: "But if the profit rate does fall to zero, then what is the point of being a capitalist?" In modern microeconomic theory, the long-run cost curve of a firm and therefore its supply curve includes a normal profit which is a payment to the entrepreneur sufficient to remain in business. It is not a surplus, but a payment for his services as coordinator and organizer and for bearing the risks associated with running a business.³ There are millions of entrepreneurs today in the real business world that receive just their normal profit.

We may conclude that a SSE with constant population can be capitalist. The picture changes drastically if an additional restriction is introduced for a constant throughput, i.e. for ecological equilibrium.

7. One more arithmetical example

It may be remarked that the arithmetical example we used in a previous section misses the whole point of the idea of the SSE because it ignores the limits to growth. So let us now introduce the additional restriction of ecological equilibrium in the form of equality of ecological footprint with bio-capacity ($EF=BC$). Let also $EF = 0.3Y$ and $BC=2,471$. Now ecological equilibrium requires that total product must be equal to, or less than 8,238. If $Y = 8,238$ and $L = 144$ the required capital is $K = 27,000$. Then, in this case wages will be $W = 5,494$, profits will be $Pr = 2,746$ and the rate of profit 10%. In a pure capitalist economy because of the growth imperative (or the tendency to maximize profits) capital will grow and, therefore, the ecological equilibrium cannot be sustained.

If ecological equilibrium is to be sustained, restrictions must be introduced in the use of resources and this necessitates the introduction of institutions such as those that Daly has proposed (e.g. cap auction trade system, nationalizing money but not banks, taxes on profit, expansion of the public sector etc.). However, an economy with such restrictions is not a pure capitalist economy although the market mechanism is allowed to work. We may assume that this is the reason that Daly always refers to a steady-state economy and not to a steady-state capitalist economy.

² Lawn mentions these factors but he adds that costs remain unchanged. This is hard to accept because quality improvement usually requires research, marketing, etc.

³ It is interesting that Marx (1971, ch. 23) introduced the idea of the *functioning capitalist* who is receiving wages for the labor of supervision and management and "for skilled labor whenever the business is operated on a sufficiently large scale to warrant paying for such a manager..." (p. 386).

8. Can a steady-state economy be capitalist?

Semantics is important but in this case it is also important to make clear classifications in order to avoid unnecessary confusion. I believe that an economy which allows private property of the means of production and the decisions about production and consumption are freely taken by individuals in the context of freely operating markets can be characterized as a capitalist economy, even if the government participates in the economic processes and imposes restrictions that society deems necessary for the protection on the environment or for other purposes. Of course, the extent of the government's involvement is important but at the present time it is limited to narrow limits in most countries.

Given this definition of a capitalist economy and the above discussion, I believe it is correct to conclude that a steady-state economy can be capitalist or, better, that a capitalist economy can become a steady-state economy.

9. Is a socialist steady-state economy better?

The conclusion that capitalism can become a steady-state economy does not imply that there is no other way of dealing with the environmental problems of our time. In the introductory section we mentioned another four ideas that could be considered, and other such as, for example, Trainer's (2016) "the simpler way" may be considered. In a *grosso modo* comparison of the steady-state economy with the other ideas, it is my view that the SSE is superior in three counts. First, it includes constant population as a condition for sustainability, given that its present size is bigger than the size that the planet can support. Second, it clearly recognizes that the available resources are limited and consequently there are limits to growth. Third, it has a well-articulated economic theory to support its claims. The other ideas I have mentioned miss some or all of these characteristics.

Degrowth supporters recognize that resources are limited but evade the issue of population and have not presented a well-defined and well-constructed theory on which their model is based. Degrowth at its present formulation is more a political movement than a clearly articulated economic model. Supporters of green growth and ecomodernists seem to believe that the only problem of the planet is the quantity and the source of energy we use. Thus, green growth advocates suggest methods of increasing the efficiency of energy use while ecomodernists suggest total dependence on nuclear energy. Both groups ignore other resource limits and also the problem of overpopulation. Ecosocialists and Marxists in general suffer from an anti-malthusian syndrome that originates from Marx's deep antipathy for Malthus⁴, and the problem of overpopulation is no part of their program. On the issue of growth versus degrowth, ecosocialists take a third position and speak about a qualitative transformation of development. With regard to the structure and functioning of the economy

⁴ Marx had much stronger negative feelings for Malthus than just antipathy. He had no hesitation to call him a plagiarist, a shameless sycophant, a sin against science, and a libel on the human race (Petersen, 1988, p. 80). I may risk suggesting that Marx, in using irony and derision when he was referring to other writers, was imitating the ancient philosopher Epicurus on whose philosophy of nature he had written his doctoral dissertation. According to Diogenes Laertius (1969, p. 211), Epicurus was calling Plato's Academy "the toadies of Dionysius", Protagoras "a village schoolmaster", Democritus "Derocritus" (the idle-gossip), the Cynic philosophers "foes of Greece", and even Aristotle "a profligate who became a soldier and a drug-peddler after dissipating his inheritance".

ecosocialists suggest a system of democratic ecological planning where the population will make the main decisions. Major decisions will be taken by direct popular vote, less important decisions by elected bodies on a national, regional or local scale depending on the issue under consideration. Also they give emphasis on “full employment with equal conditions of work and wages”. According to the Belem Declaration (Angus et al., 2009), ecosocialism involves a revolutionary social transformation which includes democratic decision making in the economic sphere and collectivization of the means of production.

Although these comparisons may be useful, they do not really form a basis on which a choice can be made. There are many reasons for the difficulty of choosing among them. First, they are all hypothetical and their significance for the good of the planet and human society cannot be evaluated in advance. Second, it is difficult to foresee the economic and other costs of following each of these proposals. Third, for whose benefit is the choice to be made, for the present generation, for our grandchildren or for the people who will live on the earth after two hundred years? Finally, one should compare and evaluate the possible or the expected disadvantages of each of these proposals.

However, choices must be made in advance, and the only decisive criterion from the point of view of ecological balance seems to be how a proposal (or a theory) deals with the population size. The explosion of population size threatens any social system with catastrophe. Capitalism as a system has no mechanism to control the size of population, but capitalism in the steady-state economy version is defined by restrictions one of which is constant population. In this respect the steady-state economy model even within the framework of capitalism is superior. But even in steady-state the problems of capitalism will remain, income inequality being the most serious. In fact, the empirical evidence shows that modern capitalism allows extreme wealth and income inequalities, and this creates in the mind of the objective observer the suspicion that something is rotten in the kingdom of capitalism. In the steady-state economy the distribution of incomes will improve because the constancy of population will create a tendency for higher wages, but it is unknown how much of inequality will remain. Socialism in all versions is a system which promises economic equality based on complete or extended public control of the means of production. Can a steady-state economy be socialist? The answer depends on the decision making process that the socialist state will adopt. If important decisions are taken by popular vote, as in the version of ecosocialists mentioned above, there is no guarantee that population can be kept constant or be reduced. In a socialist state of the type described by Oskar Lange, where production is under the control of the state but the choices of consumption goods and of professions is left to the individuals, the constancy of population would depend on the willingness of the state authority to enforce the necessary measures. In general, there seems to be no theoretical or practical contradiction in having a steady-state economy in a socialist system.

In all versions of capitalism and socialism, persuasion and education as well as monetary and other motives may convince the general population to reduce the number of children in the family. This is more likely to take place in a socialist system because the size of the market does not depend on the size of population and there would be less opposition to population reduction by organized economic or political groups.

With respect to the requirement of a constant throughput it is clear that it can be easily satisfied in a socialist economy of the Oskar Lange type since the state possesses the means of production and therefore controls the quantity of total product. In the ecosocialist type where democratic ecological planning will be decided by popular vote there is no guaranty what the decision of millions of people with different levels of knowledge and preferences will be.

10. Conclusion

In this short paper we have argued that the model of the steady-state economy as described by Herman Daly can save the planet or at least reduce the environmental problems to manageable proportions if proper restrictions are imposed on population size and on the quantity of total output (or of throughput, in Daly's terminology). We have attempted to show that, contrary to Richard Smith's and Ted Trainer's claim, the model of steady-state economy is compatible with capitalism and also that, contrary to the claim of Philip Lawn, the steady-state economy under socialism is preferable under certain conditions. These conditions have to do with the political freedoms in the Oskar Lange socialism, and the uncertainty and inefficiency of the decision making process in the case of ecosocialists.

References

- Angus, I., Follett, D., Kovel, J., Löwy, M. (2009) The Belem Ecosocialist Declaration.
- Asafu-Adjaye, J., Blomqvist, L., Brand, S., Brook, B., DeFries, R. (2015) An Ecomodernist Manifesto.
- Baumol, W.J. (1951) *Economic dynamics: An introduction*. Macmillan.
- Binswanger, M. (2009) "Is there a growth imperative in capitalist economies? A circular flow perspective." *Journal of Post Keynesian Economics* 31, 707–727. <https://doi.org/10.2753/PKE0160-3477310410>
- Blauwhof, F.B. (2012) "Overcoming accumulation: Is a capitalist steady-state economy possible?" *Ecological Economics, The Economics of Degrowth* 84, 254–261. <https://doi.org/10.1016/j.ecolecon.2012.03.012>
- Daly, H. (2010) "The operative word here is 'somehow'." *Real-World Economics Review* 54, 1.
- Daly, H.E. (2008) *A Steady-State Economy*. UK Sustainable Development Commission.
- Daly, H.E. (1972) "In Defense of a Steady-State Economy." *American Journal of Agricultural Economics* 54, 945–954. <https://doi.org/10.2307/1239248>
- Diogenes Laertius (1969) *Lives of the Philosophers*. Translated and Edited by A. Robert Caponigri. Henry Regnery, Chicago.
- Gordon, M.J., Rosenthal, J.S. (2003) "Capitalism's growth imperative." *Cambridge Journal of Economics* 27, 25–48. <https://doi.org/10.1093/cje/27.1.25>
- Hickel, J., Kallis, G. (2020) "Is Green Growth Possible?" *New Political Economy* 25, 469–486. <https://doi.org/10.1080/13563467.2019.1598964>
- Kallis, G. (2011) "In defence of degrowth." *Ecological Economics* 70, 873–880. <https://doi.org/10.1016/j.ecolecon.2010.12.007>
- Kallis, G., Kerschner, C., Martinez-Alier, J. (2012) "The economics of degrowth." *Ecological Economics* 84, 172–180. <https://doi.org/10.1016/j.ecolecon.2012.08.017>
- Kovel, J., Löwy, M. (1991) *The 1st Ecosocialist Manifesto*.

Lawn, P. (2011) "Is steady-state capitalism viable?: A review of the issues and an answer in the affirmative." *Annals of the New York Academy of Sciences* 1219, 1–25. <https://doi.org/10.1111/j.1749-6632.2011.05966.x>

Li, M. (2007) "Capitalism with zero profit rate? Limits to growth and the law of the tendency for the fate of profit to fall" (Working Paper No. 2007-05), Department of Economics Working Paper Series, University of Utah. University of Utah.

Lianos, T.P. (1979) "Domar's growth model and Marx's reproduction scheme." *Journal of Macroeconomics* 1, 405-412. [https://doi.org/10.1016/0164-0704\(79\)90032-6](https://doi.org/10.1016/0164-0704(79)90032-6)

Löwy, M. (2018) "Why Ecosocialism? A discussion of the case for a red-green future." *Climate and Capitalism*. URL <https://climateandcapitalism.com/2018/12/19/why-ecosocialism-a-discussion-of-the-case-for-a-red-green-future/> (accessed 11.6.20).

Marx, K. (1971) *Karl Marx Capital* Vol. 3. Progress Publishers, Moscow.

Mill, J.S. (1885) *Principles of Political Economy Abridged with Critical, Bibliographical, and Explanatory Notes, and a Sketch of the History of Political Economy*, 2009th ed. Gutenberg Project.

Nozick, R. (1974) *Anarchy, state, and utopia*. Basic Books, New York.

OECD (2015) *Towards Green Growth?: Tracking Progress*. OECD Green Growth Studies. OECD. <https://doi.org/10.1787/9789264234437-en>

OECD (2011) *Towards Green Growth*. OECD Green Growth Studies. OECD. <https://doi.org/10.1787/9789264111318-en>

Petersen, W. (1988) "Marxism and the Population Question: Theory and Practice." *Population and Development Review* 14, 77. <https://doi.org/10.2307/2808091>

Ricardo, D. (1971) *On the principles of political economy and taxation*. Pelican classics. Penguin, Harmondsworth.

Smith, R. (2010) "Beyond growth or beyond capitalism." *Real-World Economics Review* 28-42.

Trainer, T. (2016) "Another reason why a steady-state economy will not be a capitalist economy." *Real-World Economics Review* 55-64.

UN (2012) *Future We Want*. Outcome document of the United Nations Conference on Sustainable Development (Rio de Janeiro, Brazil, 20-22 June).

Author contact: tplianos@aueb.gr

SUGGESTED CITATION:

Lianos, Theodore P. (2021) "Is a capitalist steady-state economy possible? Is it better in socialism?" *real-world economics review*, issue no. 95, 22 March, pp. 2-10, <http://www.paecon.net/PAEReview/issue95/Lianos95.pdf>

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

The “ideal market” as a normative figure of thought. Analysing the reasoning of the World Bank pro land grabbing

Tanja von Egan-Krieger* [Denkfabrik für Wirtschaftsethik, Berlin, Germany]

Copyright: Tanja von Egan-Krieger, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Abstract

The self-conception of most mainstream economists relies on the opinion that economics is a value-free science. By contrast, I argue that every economic theory necessarily implies normative assertions. Not only the questions under investigation but also the answers given are always influenced by normative convictions. Subsequently, I will inductively reconstruct some of the specific normativity of economic mainstream theory by analysing the political economic debate on large-scale land acquisition. This article focusses on the reasoning of the World Bank as one main proponent. It shows in which way the arguments of the World Bank are based on key economic terms and how these terms are normative, albeit implicitly. At its heart is a kind of “market faith”. The reconstruction of this normativity conveys a critique of the World Banks arguments by showing after careful analysis that these arguments in favour of large-scale land acquisition do not hold.

Keywords: Market faith, ideal market, normative presumptions of economic theory, large-scale land acquisition, land grabbing, World Bank

JEL classification: P16, Q18

1. Introduction

The self-conception of mainstream economics – by which I mean the style of economics taught and practised in today’s graduate schools which is mainly grounded in neoclassical theory – relies on the opinion that economics is a value-free science. The claim of mainstream economics and the self-image of the discipline as a value-free endeavour in its core as a science is very well documented.¹ However, there are some prominent economists working on the edge of mainstream economics who are very reflective about their normative assumptions.² Economics as a science regards itself as necessarily being concerned with descriptions and explanations, which often are opposed to prescriptions as the seemingly

* **Declarations of interest:** none. **Funding:** This work was financially supported by the German Federal Ministry of Education and Research [grant number 01UN1012A].

¹ In representative economic textbooks, which particularly express the mainstream view, one can find notions of the value-freedom of what is stated in the book. In Gregory Mankiw’s *Principles of Economics* (2014: p. 28 f) one can read that only “positive analysis” is “scientific” and “normative analysis” is not. “When you hear economists making normative statements, you know they have crossed the line from scientist to policy adviser, I don’t view the study of economics as laden with ideology”.

Hal Varian (*Intermediate Microeconomics*, 2010, 8th ed., p. 446) considers the Pareto criterion (“efficiency”) as a value-neutral norm.

In other textbooks one finds the notion that economics is concerned “with both positive and normative questions” (Pindyck/Rubinfeld: *Microeconomics*, 9th ed., Global Edition, 2018, p. 28 f). However, a “normative approach” starts not until p. 607 ff. Also, “normative questions” are just conditional imperatives, imperatives of self-interest. And “value judgements” are not part of economics. (“When value judgements are involved, microeconomics cannot tell us what the best policy is.”) On the other hand, the notion of a “distortion” of the “functioning of a market” (p. 150), leading to “the economy as a whole to be productively inefficient” (p. 628), is regarded as value-free, i.e. beyond ethical doubts or reflections.

In Samuelson/Nordhaus (*Economics*, 19th ed., 2010) there is a “positive” and a “normative” strand in the whole of economics (p. 6), but only “positive economics” is regarded as “science”.

² For example Amartya Sen (Sen 1987).

only field of ethics. By contrast, I argue that every economic theory necessarily implies normative assertions.³ The reason is that even a mere explanatory theory in the social sciences cannot avoid the linkage between the context of assertion and the context of application, which means that not only the questions under investigation but also the answers given are always influenced by normative convictions.

To analyse the specific normativity of economic mainstream theory I will not reconstruct it out of economic textbooks but focus on the political economic debate on large-scale land acquisition. It is a highly controversial practice and the rationales of its proponents like the World Bank can be shown to be based on mainstream economic theory. However, the World Bank of course does not represent mainstream economic thinking in general.

Since 2008 the commercial interest in land has attracted wide media attention. Large-scale land acquisition for commercial production in the Global South reached a big amount since 2008. In a new report, the World Bank argues in favour of large-scale land acquisition. What are the reasons the World Bank gives when arguing in favour or against certain courses of action? The issue here is the justifications for practices. This article shows in which way the arguments of the World Bank are based on key economic terms and how these terms are normative, albeit often implicitly. At its heart is a kind of “market faith” which is crucial in shaping the rationales in favour of large-scale land acquisition. The reconstruction of this normativity conveys a critique of the World Banks arguments by showing after careful analysis that these arguments in favour of large-scale land acquisition do not hold.

2. Perspective: normativity and economics

The question of normativity in economics was initially discussed in the so called “Werturteilsstreit”, a debate opened in Germany at a conference of the “Verein für Socialpolitik” in 1909. According to Max Weber there is no absolutely objective scientific inquiry of social phenomena which is independent of specific points of view according to which the object is selected and analysed.⁴ This point – understood as a matter of selection of the object of inquiry – was uncontroversial. Though economists, as persons, certainly have values and convictions, what they, as scientists, claim as valid is just on “how things really are”, not on “how things should be”. According to Hans Albert this is the case if a theory includes no value judgement (“Werturteil”). He defines a value judgement as an assertion that (1) characterises a fact as positive or negative, that (2) validates a normative principle and (3) expresses the expectation that addressees of the sentence should align themselves with that principle.⁵ According to Albert the only acceptable reason to depart from the ideal of a value-free social science in this sense would be the “practicability” of a theory. Nevertheless, in this case value judgements should be made explicit.⁶

³ Normativity instead of values.

⁴ Max Weber, “Objectivity” in Social Science and Social Policy,” *Methodology of Social Sciences* (New Brunswick: Transaction Publishers, 1949 [1904]), p. 72.

⁵ Hans Albert, “Theorie und Praxis: Max Weber und das Problem der Wertfreiheit und der Rationalität”, *Werturteilsstreit*, ed. H. Albert and E. Topitsch (Darmstadt: Wissenschaftliche Buchgesellschaft, 1990), pp. 200-236.

⁶ Max Weber, “The Meaning of ‘Ethical Neutrality’ in Sociology and Economics”, *Methodology of Social Sciences* (New Brunswick: Transaction Publishers, 1949 [1904]), p. 22 (The English translation in this version is, in my opinion, different from the original German text.)

In contrast, in Max Weber's opinion we are not readily able to keep the separation between positive and normative assertions. Therefore it is not just a matter of selection but of shaping the object of inquiry.⁷ Weber distinguishes between (logical) ideal-typical terms and (practical) ideal-types which are just separated by a "hair-line":

"There is still another even more complicated significance implicit in such ideal-typical presentations. They regularly seek to be, or are unconsciously, ideal-types not only in the logical sense but also in the practical sense."⁸

Therewith Weber applies a much less narrow term of normative assertions than Albert. He does not reduce normativity to prescriptions. Nevertheless Weber judges the blending of these two aspects as a danger. Therefore he argues for a duty of scientific self-control to sharply separate between the description of reality by ideal types in the logical sense and the judgement of reality by ideals.⁹

The important question is whether it is possible to comply with this request at least in economics. Today, most economists distinguish between normative and "positive economics".¹⁰ Accordingly, normative economics is obviously expected to be normative, whereas "positive economics" is assumed only to "predict and explain economic outcomes and processes".¹¹ These explanations and predictions are supposed to be value-free in the sense, that the values respectively the normative convictions of the investigating economist do not influence the answers given to the questions. Even Hausman and McPherson do not "directly challenging" this standard view.¹² According to the same pattern Dasgupta argues, that while economics lies on some "ethical foundations", the differences in political recommendations are based in different views on facts rather than on normativity.¹³ In the opinion of Dasgupta they are entitled to do so, because the normative foundations were settled decades ago.¹⁴ This implies twofold. First, the normative foundations seem to be remarkable uncontroversial.¹⁵ Second, and this is the more important point for my argumentation here, it implies the opinion, that we are able to distinguish between normative convictions and facts. If a "normative" dimension of economics is conceded, it is usually identified with so called welfare economics. If so, according to Putnam/Walsh, this is seen as "a sort of red light district", to which mainstream economists could go in order to do things which were not allowed in pure "predictive", "analytical" or "scientific" economics."¹⁶ Against this position I claim that it is not possible to separate a value-free core of economic analysis from a normative part of theory.¹⁷

⁷ Max Weber (1949 [1904]) p. 511.

⁸ Max Weber, "The Meaning of 'Ethical Neutrality' in Sociology and Economics", *Methodology of Social Sciences* (New Brunswick: Transaction Publishers, 1949 [1904]), pp. 97, 110.

⁹ Ibid. 98.

¹⁰ Mas-Colell et al., *Microeconomic Theory* (Oxford University Press, 1995) p.307; Pindyck/Rubinfeld (2018) p. 28 f; Samuelson/Nordhaus (2010) p. 6.

¹¹ Daniel Hausman and Michael McPherson, *Economic Analysis, Moral Philosophy, and Public Policy* (New York: Cambridge University Press, 2006) p. 30, 60.

¹² Ibid. 306.

¹³ Partha Dasgupta, "What Do Economists Analyze and Why: Values or Facts?" *Economics and Philosophy*, 2005 pp. 221-278.

¹⁴ Ibid. 225.

¹⁵ To a philosopher, acting in a diverse scientific community of various ethical theories struggling for the best argument, this position seems naïve not to say conceited.

¹⁶ Putnam/Walsh, *The End of Value-Free Economics* (Routledge, 2011) p. 3.

¹⁷ Exceptions are strands in economic thinking like Austrian Economics, the Chicago school and others. Whereas these schools of thought certainly had an influence on mainstream economic thinking they not represent the economics taught in classical textbooks.

The reason is that even a mere explanatory theory in the social sciences cannot avoid the linkage between the context of assertion and the context of application, which means that not only the questions under investigation but also the answers given are always influenced by normative convictions. To see in which way this is the case we have to take a closer look on rationality. As Hausman and McPherson rightly state “rationality is a normative notion”.¹⁸ If we name an action as “rational” we implicitly claim that it is a good one. The definition of rationality in mainstream economics corresponds to what Habermas calls instrumental rationality: a rational action is a goal-directed behaviour which aims at a successful intervention in the world to reach a projected end.¹⁹

The “explanations” of an empirical-analytical science like so called “positive economics” always imply a technical interest *sensu* Habermas. The technical interest preforms the meaning of the possibility of possible statements to the technical control over objectified processes.²⁰ The very meaning of predictive knowledge is technical control. In this way the live structures of instrumental action – an action with the aim to achieve a previously determined end – attains a transcendental role for the empirical-analytical science.²¹ Therefore, even an apparently pure explanation implies the practical sense of shaping its object. That explanation and shaping are necessarily connected leads to a merely apparently value-free social science which results in an objectified perception of its object.²² The transcendental framework of instrumental action reduces thereby the sense of science to purposive-rational utilisation of means.²³ Moreover, we can say that economics, as a social science, is situated in a performative setting.²⁴ Different from natural sciences in social sciences like economics the object of investigation consists of subjects. Therefore a subject (the economist) makes an assertion (the theory) towards other co-subjects (the scientific community) about an object which in turn consists of subjects. The organisation of the economy regulates social interactions, the interactions between people. If the only type of rationality on which the theory is based, is instrumental rationality, it implicitly justifies instrumental rationality as the normatively right model of interaction. The concept of instrumental rationality leads to the position that although reasons for actions (or choices) are subject to evaluation, economists must not evaluate them.²⁵ This attitude towards the object is often regarded as ethical neutrality, but it should better be named as indifference towards or even disinterest in the reasons people have for their actions. It presupposes that preferences are impervious to argument. Merely the agency of a person in the sense of its impact is of interest. Others are conceived of as set of constraints to reach predetermined ends, whatever these ends may be. This attitude of instrumental rationality not only can be in conflict with morally right behaviour as Hausman and McPherson claim²⁶ but in fact contradicts it, because others are solely treated as means and not as ends in themselves. To

¹⁸ Daniel Hausman and Michael McPherson (2006) p. 64.

¹⁹ Jürgen Habermas, *The Theory of Communicative Action, Volume 1* (Boston: Beacon Press, 1984 [1981]) pp. 10 ff.

²⁰ Jürgen Habermas, *Knowledge and Human Interests* (Boston: Beacon Press, 1972 [1968]) pp. 195–196.

²¹ *Ibid.* 192.

²² Ulrich Thielemann, *Wettbewerb als Gerechtigkeitskonzept. Kritik des Neoliberalismus* (Marburg: Metropolis, 2010) pp. 74-78.

²³ Jürgen Habermas (1972) p. 193.

²⁴ Ulrich Thielemann, “Integrative Wirtschaftsethik als Kritische Theorie des Wirtschaftens. Die Unmöglichkeit der Wertfreiheit der Ökonomie als Ausgangspunkt der Wirtschaftsethik”, *Wirtschaftsethik als kritische Sozialwissenschaft*, ed. M Breuer, A Brink and OJ Schumann (Bern: Haupt, 2003), pp. 89–115 at pp. 95 ff.

²⁵ Daniel Hausman and Michael McPherson, (2006) p. 76.

²⁶ *Ibid.* 92-93.

treat others as ends in themselves would imply that we are interested in the reasons for their behaviour. Hence, Hausman and McPherson are right in stating that rationality and morality are not in conflict if we understand acting rationally as acting on good reasons.²⁷ But that would demand a different conception of rationality. Habermas argues for a communicative rationality with a *telos* of communicative understanding instead of instrumental control.²⁸

Since the very meaning of predictive knowledge is instrumental or technical control, a social scientist constructing a seemingly value-free theory informs his audience about the given power structure as a fact (the impacts of people), thereby making himself an agent of instrumental or enforcement rationality.²⁹ That is the reason why Hausman and McPherson are right in claiming that so called positive economics and normative economics are linked via the theory of rationality in a way that mainstream normative economics can be derived from the theory of rationality and components of “positive economics”.³⁰ Consequently they would have to conclude that there is no such thing like “positive economics”. Unfortunately however, they neither draw this conclusion nor further scrutinise the normativity of the theory of instrumental rationality itself. When it comes to the derivation of political recommendations for the organisation of the economy a further normative consequence of a theory of explanation and prediction gets obvious. If the implicit aim of a theory is technical control it always serves specific interests.³¹ That is not illegitimate per se but it has to be deliberated. Which interests are served is determined by additionally economic concepts well-known in welfare economics.

In this article I will inductively reconstruct the specific normativity of economic mainstream theory by analysing a specific political economic debate. Large-scale land acquisition is a highly controversial practice and the rationales of its proponents like the World Bank are based on mainstream economic theory. I will first introduce some data facts on large-scale land acquisition.

3. Background: large-scale land acquisition

Since 2008 the commercial interest in land has attracted wide media attention. Large-scale land acquisition (LasLA), also called land grabbing, for commercial production in the Global South, however, is nothing new. Already during colonisation European big landowners appropriated huge land areas in Africa, Latin America, and Asia for the sake of export production. Later on, national and transnational corporations bought parts of this land. What is new today is the scale of commercial interest in land. According to The World Bank in the years 2008/2009 alone, land deals covered 46.6 million hectares.³² The relatively new report of the International Land Coalition, a collaboration of 40 partners ranging from NGOs to international research institutes, estimates that between January 2000 and November 2011 land deals in the scale of 203 million hectares were approved or under negotiation. 71 million

²⁷ Daniel Hausman and Michael McPherson (2006) p. 93.

²⁸ Jürgen Habermas (1984) pp. 10 ff.

²⁹ Ulrich Thielemann (2010) pp. 74-78, 89-90.

³⁰ Daniel Hausman and Michael McPherson (2006) p. 76.

³¹ Ulrich Thielemann (2003), pp. 89-115 at pp. 101 ff.

³² The World Bank, “Rising Global Interest in Farmland. Can It Yield Sustainable and Equitable Benefits?” Report, September (2010), p. xiv.

hectares thereof could be confirmed by cross-reference.³³ According to the Land Matrix Project the assured size of transnational concluded deals initiated since 2000 is 35 million hectares.³⁴ Of the overall land acquisition 78% is for agricultural production, thereof three-quarters for biofuels which is about 40% of the area. Other sectors of investment are Food crop (ca. 11%) and forestry (ca. 8%).³⁵ The main target of land-acquisition is Africa (over 60 %), followed by Asia (ca. 20%) and Latin America (ca. 9%).³⁶

The main trigger of the latest rush for farmland was the food price crisis of 2007 to 2008. Maize and wheat prices doubled between 2003 and 2008 and are still 30 up to 50% above their averages over the past decades.³⁷ Land acquirers are foreign as well as elite national actors and state as well as private actors.³⁸ Primarily motives of government-backed land acquisitions are food and energy security. With the food price crisis resource-poor countries realised the dangers of being dependent on world market prices. The prime motive of land acquisitions by the private sector is a competitive return on investments. The cause for land acquisition, therefore, is the expectation of rising demand in land. It is expected that population growth and changing diets of the world's growing middle classes, particularly growth in meat consumption, will cause rising demands in food and energy. Furthermore, the production of biofuels requires additional land and European governments set high consumption targets for biofuels. But land is finite. Therefore it is expected that the demand in land for food and energy production will rise.³⁹

While opponents of LasLA point to negative social and environmental impacts, proponents conceive of LasLA as much needed investments into the formerly neglected agricultural sector, bearing potential for capital influx, infrastructure investment, technology transfer and job creation. While proponents of LasLA speak of "investments" in agriculture the critics call it land "grabbing".

On important proponent of LasLA is the World Bank. What are the reasons the World Bank gives when arguing in public debate in favour of LasLA? First of all, it is worth noting that despite the basically positive judgement of LasLA the World Bank seems to take seriously the critique of several NGOs in its newest report of 2010 *Rising Global Interest in Farmland*. There is talk of the "displacement of local people from their land", of the "generation of negative environmental or social externalities", and furthermore of the "loss of livelihood".⁴⁰ In spite of taking note of all these negative consequences of LasLA the World Bank nevertheless judges LasLA as a positive "tool" for improving development in the concerned countries. According to the World Bank, "investments" in agriculture can contribute to a more "efficient" use of the resource land.⁴¹ "When done right, larger scale farming systems can also have a place as one of many tools to promote sustainable agriculture". The World Bank

³³ Ward Anseeuw, Liz Alden Wily, Lorenzo Cotula, and Michael Taylor, "Land Rights and the Rush for Land: Findings of the Global Commercial Pressures on Land Research Project. Report" (Rome: ILC, 2012) p. 19.

³⁴ The Land Matrix Global Observatory, Get the idea. Available at: <http://www.landmatrix.org/en/get-the-idea/dynamics-overview/> (accessed 26 September 2014).

³⁵ Ward Anseeuw, Liz Alden Wily, Lorenzo Cotula, and Michael Taylor (2012) p. 24.

³⁶ Anseeuw et al. (2012) p. 23.

³⁷ Lorenzo Cotula, Sonja Vermeulen, Rebeca Leonrad and James Keeley, "Land grab or development opportunity? Agricultural investment and international land deals in Africa." Report (London/Rome: IIED/FAO/IFAD, 2009) p. 53.

³⁸ Ward Anseeuw, Liz Alden Wily, Lorenzo Cotula, and Michael Taylor (2012) p. 21.

³⁹ Lorenzo Cotula, Sonja Vermeulen, Rebeca Leonrad and James Keeley (2009) pp. 53-54.

⁴⁰ The World Bank (2010) p. xxi.

⁴¹ Ibid. xi.

argues that LasLA contribute to “development” in four ways: by supporting local infrastructure, by generating employment, by providing access to markets and technology for local producers and by higher tax revenues.⁴²

The World Bank is not just a proponent in the discussion on land-acquisition but an important actor in these acquisitions in three ways: as core institution of the so called structural adjustments (together with the IMF), as political actor who negotiate with countries the conditions for the financing of projects and as economic actor who directly and indirectly finance projects of land acquisitions.⁴³ In regard to its role as political actor two institutions of the World Bank Group play an important role: the International Financial Corporation (IFC) and the Foreign Investment Advisory Service (FIAS). These two institutions provide technical assistance and advisory services for governments of so called developing countries.⁴⁴ Daniel and Mittal conclude, that IFC/FIAS

“have not only encouraged and facilitated land grabs but have deeply influenced the legislation and policy agendas of developing countries, directly shaping social and economic outcomes that affect local livelihoods and food security”.⁴⁵

4. Results: “Market faith” in the arguments of the World Bank

In its newest report on LasLA the World Bank states that its purpose is to:

“Outline options for different actors to minimise risks and capitalise on opportunities to contribute to poverty reduction and economic growth.”⁴⁶

The World Bank claims that this purpose is “analytical rather than normative”.⁴⁷ Where does this opinion stem from? One possible answer is that the World Bank mainly draws on (mainstream) economic thinking when arguing in favour of LasLA in general. The self-conception of Mainstream Economics relies on the opinion that economics is a value-free science. As a science it regards itself as necessarily being concerned with descriptions and explanations, which are opposed to prescriptions as the seemingly only field of normativity. To be sure, whereas my argumentation for the unavoidable normativity of economic theory is of very general scope, I do not claim that the concrete economic concepts introduced by the World Bank are representative for mainstream economics in general. My paper does not aim at an examination of standard economic textbooks but of the World Banks argumentations on large-scale land acquisitions, obviously inspired by these textbooks.

⁴² Ibid. xi.

⁴³ Andreas Exner, Teilbericht 4a: Ökologische und soziale Folgen der Biomasseproduktion für energetische Zwecke. Die Situation in (potenziellen) Exportländern mit Fokus auf den globalen Süden und dem Fallbeispiel Tanzania (Klagenfurt: Im Auftrag des Österreichischen Klima- und Energiefonds, April 2011) p. 27.

⁴⁴ Daniel/Mittal, *(Mis)investment in Agriculture The Role of the International Finance Corporation In Global Land Grabs* (The Oakland Institute, 2010).

⁴⁵ Ibid. 30.

⁴⁶ The World Bank (2010) 1.

⁴⁷ Ibid. 1.

4.1 Efficiency and maximisation

According to the World Bank the aim of large-scale land acquisitions should be poverty reduction in the sense of increasing incomes and economic growth.⁴⁸ Both can be reached through a “more effective use of resources”.⁴⁹ In accordance with the understanding of economics as a positive science, the report does not word “the aim should be” and thereby make clear the normative sense of this assertion. Instead it is formulated that one part of the purpose is to “outline options for different actors [...] to contribute to poverty reduction and economic growth”.⁵⁰

The effective use of resources is regarded as a main purpose in economic theory. Its reference point is efficiency. Efficiency means that with a given set of resources a maximal output of useful products or services is realised. The purpose of efficiency therefore does not confine to an increase of production but aims at a maximisation. Otherwise, efficiency enhancing opportunities would be forgone, and cases of inefficiency would persist. There never can be too much efficiency from the mainstream economics’ point of view. This matches to a utilitarian understanding of efficiency since utilitarianism demands to maximise the sum of positive and negative consequences of an action measured as just one unit, i.e. utility.⁵¹ This normative reference point of maximisation also lights up when the World Bank talks about the “yield gap” which is defined as the difference between the potential and the actual output.⁵² According to the World Bank this “yield gap” has to be closed.⁵³ Remarkably, the chapter on the “yield gap” is named “The scope for and desirability of land expansion”.⁵⁴ Despite the crucial point of maximisation the World Bank also reveals its understanding of productivity when talking about the “yield gap”. To identify the “yield gap” the World Bank accesses the potential financial revenue of crops.⁵⁵ The question then is not, how much wheat is produced, e.g. to feed the local population, but how much revenue can be realised. How strong this normative notion of maximizing the revenue underlies the argumentation of the World Bank gets clear, when the terms “non-cultivated area” or “unused land” are introduced. The flip-side of utilitarian efficiency is a specific meaning of waste. This notion of waste gets obvious in the definition of “unused land”. According to The World Bank this is land which is suitable for cropping and “populated with less than 25 persons/km²”.⁵⁶ Of course, this land is not unused in the ordinary meaning of the term. It is only used by a few small-scale peasants and, by the way, often additionally by pastoralists who do not settle on the land but are nevertheless strongly dependent on it.⁵⁷ However, compared with the normative reference point of utilitarian efficiency this land is “wasted”, “underused”, or by exaggeration “unused”.

Talking of a “yield gap” in that sense and of the “effective use of resources” to increase economic growth, the World Bank builds on a utilitarian definition of efficiency, which is of

⁴⁸ The World Bank (2010) p. 1.

⁴⁹ Ibid. xi.

⁵⁰ Ibid. 1.

⁵¹ Dieter Birnbacher, “Utilitarismus”, *Handbuch Ethik*, ed. M Düwell, C Hübenthal and MH Werner (Stuttgart: Metzler, 2006), pp. 95-107.

⁵² The World Bank (2010) p. xv.

⁵³ Ibid. xi.

⁵⁴ Ibid. 52, my italics.

⁵⁵ The World Bank (2010) p. 53.

⁵⁶ Ibid. xv.

⁵⁷ Andreas Exner (2011) p. 11.

course a normative criterion. It is a criterion of judgement. The implicit aim is increasing the net value or total wealth. The World Bank refers to this idea in terms of a “social benefit”:

“Even investments that are highly profitable for an investor will generate sustainable social benefits only if they are not associated with environmental externalities”.⁵⁸

An ethical reflection immediately raises the question for whom the net value is produced. Who does benefit from the increasing total wealth? From a utilitarian point of view this question doesn't matter. The ethical maxim of classical utilitarianism is to maximise the sum of pleasure and pain and thereby the overall utility. The economy, and ultimately society at large which encompasses the economy, is thus regarded as a collective subject. An action is ethically right if the overall utility, in case of the economy the total wealth, is increased. Thereby individuals become mere “represents” of utility quanta.⁵⁹ They are off-settable assets. It was Gunnar Myrdal who named this construction of social harmony sarcastically a “communistic fiction”.⁶⁰ By taking no account of potential social conflicts between individuals endowed with moral rights, and of questions of distributional justice, *prima facie* legitimation is attributed to every possible distribution, as long as the sum of utilities, however these are qualified, grows. We can detect an interesting friction in classical utilitarianism. On the one hand classical utilitarians claim that there is no such thing as community because it is just the individual which can experience pleasure or pain and therefore it is just the individual which has to count.⁶¹ On the other hand the ethical maxim of maximising the trans-personal sum of pleasure and pain seemingly leads to the contrary. To transfer this maxim e.g. to the collective entity of “the economy” implicates that it is just the collective body which counts. A classical utilitarian position implicates that individuals have no moral rights besides the claim that their utility, however measured, counts as much as everybody else's. Even if economic activity comes along with a distribution which violates what is seen from other ethical perspectives the moral rights of individuals, this does not matter for utilitarianism as long as the overall utility increases. This is why classical utilitarianism conflicts with nearly all other ethical theories. And this critique prompted various attempts to either advance utilitarianism, or to overcome it.⁶²

Economists often argue that the concept of efficiency is “neutral” towards distributional issues.⁶³ First of all, this “neutrality” in practice means a lack of interest or even carelessness towards distributional questions, and this position is not “neutral” in an ethical sense. If economists, as the “experts for the economy”, always argue for the (most) efficient measures they already take up a position in distributional questions, even if they notice, mostly en passant, that distributional justice can be a reason to choose a less efficient measure.⁶⁴ In fact, the Pareto criterion is used as a measure of economic improvement, which is not ethically neutral.⁶⁵

⁵⁸ The World Bank (2010) p. xxi.

⁵⁹ Konrad Ott, *Moralbegründungen zur Einführung* (Hamburg: Junius, 2001) p. 104.

⁶⁰ Gunnar Myrdal, *Vetenskap och politik i nationalekonomien* (Stockholm: Norstedt & Söners Förlag, 1930) p. 174.

⁶¹ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (Oxford: Clarendon Press, 1907 [1789]) p. 12.

⁶² I will not discuss these advancements of utilitarianism here.

⁶³ Hal Varian, *Grundzüge der Mikroökonomik* (München/Wien: Oldenbourg, 2007) pp. 693–694.

⁶⁴ *Ibid.* 686.

⁶⁵ Debra Satz, *Why Some Things Should Not Be for Sale. The Moral Limits of Markets* (New York: Oxford University Press, 2010) p. 20.

Second, this ethical specificity and hidden, thus unexamined partiality gets all the more relevant if efficiency and distribution are linked. If efficiency and distribution were separated, and separable, economists would have no compelling reason to care about efficiency and distribution at the same time. They could just claim that distributional justice is not their urgent business and that distributional questions can be answered as politically desired after the most efficient measure has been chosen. However, if a market “functions” efficiently, goods are allocated to those who are willing and able to pay the highest prices. This fact alone makes clear that we cannot pick the (most) efficient measure without already making a decision for and against specific distributional patterns.

Against the point that the linkage between allocation and distribution makes the (ethical) neutrality of assertions on efficient measures impossible, sometimes the so called Kaldor-Hicks criterion is quoted. After making explicit, what is mostly just implied in economic modelling, viz. that there are winners as well as losers in the competitive market, this criterion defines that a development or a measure is efficient, if it is possible to compensate the losers in the respective setting. Such a criterion implies that a measure's effect on distribution is not relevant because resulting disadvantages could be compensated.⁶⁶

However, if a measure is efficient in a utilitarian sense, it is by definition always theoretically possible to compensate those who lose.⁶⁷ As Sen correctly remarks:

“If compensations are actually paid, then of course we do not need the compensation criterion [...] On the other hand, if compensations are not paid, it is not at all clear in what sense it can be said that this is a social improvement (‘Don’t worry, my dear loser, we can compensate you fully, and the fact that we don’t have the slightest intention of actually paying this compensation makes no difference; it is merely a difference in distribution’). The compensation tests are either redundant or unconvincing.”⁶⁸

We can argue – making a slightly different crucial point: The Kaldor-Hicks criterion is unconvincing because it is redundant to utilitarian efficiency. Even with Kaldor-Hicks in mind one could always argue in favour of any measure as long as it is efficient, no matter what the distributional consequences are. Acknowledging that, the Kaldor-Hicks criterion says not more on distributional questions as the principle of utilitarian efficiency does.⁶⁹

Despite this ethical critique on the Kaldor-Hicks criterion, a completely different reason is usually mentioned in economics for shifting the definition of efficiency. The starting point for this shift is the impossibility of an interpersonal comparison of utility, which actually is implied by the utilitarian logic of offsetting the higher benefits of individual A with the losses of individual B. It is claimed that there is no point of reference for such a comparison. The criterion of efficiency, however, is not abandoned. It is shifted from a utilitarian definition of efficiency to a Paretian one. The Paretian definition of efficiency can also be found in the argumentation of The World Bank.

⁶⁶ Persky, “Cost-Benefit Analysis and the Classical Creed.” *Journal of Economic Perspectives* 15, 2001, pp. 199–208) pp. 201–202.

⁶⁷ Ulrich Thielemann (2010) p. 304.

⁶⁸ Amartya Sen, *On Ethics & Economics* (Oxford: Blackwell, 2000) p. 111.

⁶⁹ However, there are mainstream economists who complain that the Kaldor-Hicks criterion is still “too” normative compared to the statement of efficiency alone (Persky 2001, pp. 201–202), thereby (unconvincingly) implying that statements on efficiency without broaching the issue of distribution should be more value-free than the Kaldor-Hicks criterion.

4.2 Pareto-efficiency and the market principle

The criterion of Pareto-efficiency judges changes at first glance in market interactions. Every change in a social setting is Pareto-superior if at least one person gains without anyone losing. By definition, with just a single person losing in its level of utility implies that such a social change is to be labelled as Pareto-inefficient. Hence, the Pareto criterion seems to be an explicitly ethical criterion. It already gives an answer on trading of allocation and distribution. It sets limits to the utilitarian concept of efficiency.⁷⁰ With reference to the utilitarian framework, a change which raises the total sum of utilities (however measured) is only Pareto-superior, if the potential losers are actually compensated. This reveals that efficiency in an utilitarian and in a Paretian sense are not the same and can contradict each other. In contrast to the utilitarian definition of efficiency the Pareto criterion does not judge every utility maximisation as ethically right. Even if the total utility rises, single persons can get worse, and this needs to be prevented from a Paretian point of view on efficiency grounds. However, in economic theory this fact is seldom recognised. In contrary, the opposite is the case, if any reflection is undertaken. Buchanan notes that on an ideal market utilitarian and Paretian efficiency fall together.⁷¹ That is right, because by definition *homines oeconomicos* on an ideal “free” market would only consent to exchanges which are not only efficient in an utilitarian sense but also Pareto-superior. Nevertheless, this falling-together depends on the constraining framework of an ideal market. The conceptional difference between utilitarian and Paretian efficiency remains. The World Bank, too, uses both variants of efficiency as if they mean the same, or at least never can contradict.

“The normative implications of the Pareto criterion are the reason why the World Bank seeks for ‘mutually advantageous solutions’.”⁷²

“Still, any land transfers will need to be voluntary and negotiated to compensate current land users in a way that makes them better off than without the investment.”⁷³

As the land effectively is taken away from its previous use (by peasants), which is a loss for them, compliance with the Paretian proviso implies that land transfers can only be justified if they are accompanied with compensations. Thus, the World Bank argues for compensations:

“Compensation should ensure that those whose rights are affected benefit from the transaction or are at the very least not disadvantaged by it.”⁷⁴

Remarkably this argumentation is put forth under the headline ‘fairness and [...]’.⁷⁵ The World Bank judges the distributional effects of an Pareto-efficient market as desirable by claiming that large-scale land acquisitions are able to “bring about increased productivity and equity by closing yield gaps”.⁷⁶

⁷⁰ Ulrich Thielemann, *Das Prinzip Markt. Kritik der ökonomischen Tauschlogik* (Bern: Haupt, 1996) p. 42.

⁷¹ James Buchanan, *The Economics and the Ethics of Constitutional Order* (Ann Arbor: University of Michigan Press, 1991) p. 32.

⁷² The World Bank (2010) p. 77.

⁷³ Ibid. 66.

⁷⁴ Ibid. 77, my italics.

⁷⁵ Ibid. 77.

⁷⁶ Ibid. 66, my italics.

To understand in which ways the Pareto criterion further influences the argumentation of the World Bank we must take a look at the process it is attributed to: the market. In economic theory it is postulated that a market, in principle, brings about Pareto-superior changes and therefore, by tendency, is moving towards a Pareto-optimal equilibrium. This postulate is already implicated in the definition of the market as the net of money facilitated exchange. By exchange is always meant a voluntary, in the sense of non-violent, exchange. Since market participants are conceived of as *homines oeconomici*, they voluntarily agree on an exchange only if they expect an outcome advantageous for them, or at the very least no disadvantage. According to that concept exchange must be Pareto-efficient by definition. Of course, this only holds true for the ideal type (*sensu* Weber) of a market. Hardly any economist today believes in real markets all matching the properties of an “ideal market”. Quite to the contrary, much economic theory is about “market failure”, and this fact is often pointed out as an argument against the critique of “market faith”. However, my argument is that in the *eo ipso* normative concept of market failure the empirical market fails in relation to the “ideal market”. Before I develop this argument further, let us see how this pattern of thought shapes the argumentation of the World Bank in case of large-scale land acquisitions.

The World Bank takes up many of the criticisms of the opponents of large-scale land acquisitions and recognises many of the criticised impacts. However, while talking of the “loss of livelihood” in consequence of the “displacement of local people from their land”, and of the “environmental and social sustainability” as a norm possibly being threatened,⁷⁷ these negative consequences of large-scale land acquisitions are all conceptualised as consequences of “market failure”. That would be a case of “market failure”, where “failure” is defined by any deviation from the market principle as the normative point of reference. The market principle itself cannot fail. In contrary, it defines the failings.⁷⁸ That’s why economists talk of “external” effects. They are external to the market and not attributable to it. In contrary, they have to be “internalised” into the market. Therefore Debra Satz rightly notes that this reasoning “is at least theoretically imperialistic about the range of the market”.⁷⁹ Thus public intervention into the market is not per se bad. Rather, it is just the duty of the state to create a framework which makes the real markets to function like the “ideal” market. For both “conceptual” consequences – negative ramifications as “market failures” and the aim of public intervention – we can find evidence in the World Bank report. Along this line the World Bank conceptualises all outcomes of large-scale land acquisitions, which are judged as undesired, as “market failure”, e.g. as “external” effects.⁸⁰

For example, in case of the displacement of local people, displacement is understood as “expropriation” which in turn is defined as displacement without “proper” compensation.⁸¹ According to the World Bank expropriation takes place because the “existing” property rights are not “recognised”.⁸² Thus, in the opinion of the World Bank an “appropriate framework” includes the recognition of rights. It specifies that rights “need to be recognised, clearly defined, identifiable on the ground, and enforceable at low cost”.⁸³ This claim sounds convincing. However, it immediately raises the question what is meant by “existing” property rights. The World Bank defines the term “existing” to encompass informal rights including

⁷⁷ Ibid. xxi.

⁷⁸ Thielemann, “Heterodoxy, positivism and economism.” *real-world economics review*, issue no. 94 (2020) p. 166.

⁷⁹ Debra Satz (2010) p. 92.

⁸⁰ The World Bank (2010) p. 38.

⁸¹ The World Bank (2010) p. 69.

⁸² Ibid. 70.

⁸³ Ibid. 68.

common property.⁸⁴ That is consistent with the Pareto criterion since every former actual usage can lead to a loss of utility if the access to land is impeded. Accordingly, the outcome of these large-scale land acquisitions is not Pareto-efficient. Here the *prima facie* legitimation of the initial distribution of the Pareto criterion gets obvious. Consequently, the lack of recognition of existing property rights is judged as a “market failure”. In turn, if the large-scale land acquisitions merely regard the existing land rights, then they are judged as ethically unproblematic by the World Bank, provided that “proper” compensation is actually paid. The World Bank argues that the recognition of property rights is in the interest of investors since this ensure legal security thereby preventing negative effects on the investment.⁸⁵

Another often stated cause for the existence of “market failures” is a lack of information, for example about the real preferences of the contract parties. However, missing information about the real preferences would not change the Pareto-efficiency of the outcome. Whether my counterpart does reveal his real preferences or not, I, as a *homo oeconomicus*, would agree to the exchange only if I promise myself to gain an advantage. Thus the result of the exchange would nevertheless be Pareto-efficient. The only possible consequence would be that no social utility maximisation is reached.⁸⁶ The World Bank criticises for example cases where land is being sold “well below under its potential value”.⁸⁷ According to the World Bank the reason for this type of transfers is the insufficient information of one contracting party. In turn, the lack of information as one form of “imperfection” of the market is likewise the evaluation criterion for a price below its potential financial market value. Thus the World Bank claims that an “appropriate framework” includes an open, in the sense of transparent, process with information on prices, contracts, and rights being publicly available and that the transfer is based on an informed agreement.⁸⁸

Opponents of large-scale land acquisitions judge many outcomes as environmentally or “socially unsustainable”. The World Bank takes up this critique too. However, at a first glance it does not define the term sustainability at all. There is not even a reference to the most commonly definition of the WCED: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁸⁹ Instead, the World Bank implicitly argues that every development is sustainable as long as no “external effects” occur.⁹⁰ The concept of “external effects” originates from environmental economics. They denote effects on a third party resulting out of “voluntary” market exchange which itself are consequently not coordinated through the price mechanism of the market and thereby result in an inefficient use of resources. The definition of unsustainable consequences, in this context especially: of land acquisitions, as “external effects” implicates that environmental and social problems only occur if there is no efficient

⁸⁴ Ibid. 69.

⁸⁵ Ibid. 70.

⁸⁶ The notion, that asymmetric information hinder the attainment of Pareto efficiency (cf. Greenwald/Stiglitz 1986) due to “adverse selection” (cf. Akerlof 1970) runs counter the most basic presupposition of the Pareto-Principle: the self-interested rationale of market participants. If it is in the self-interest of one party to hide information (instead of giving them away for free), then the other party’s desire of knowing more details of the targeted transaction is just that: a desire, or “nirvana economics” (Demsetz 1969). Of course it might be the case that it is just in the short-term interest of the one party to hide information. Then, regulatory measures (like consumer protection, liability law, and the like) might be advantageous for both parties. The unattainability of Pareto-efficiency is not conceivable.

⁸⁷ Ibid. xxi.

⁸⁸ Ibid. 68.

⁸⁹ *World Commission on Environment and Development, Our Common Future*. New York: Oxford University Press, (1987) p. 43.

⁹⁰ The World Bank (2010) p. 68.

allocation of resources. That in turn means that as long as the market “functions”, which means it functions right, measured against the concept of an “ideal” market, there are no unsustainable developments.

“The public sector takes care of environmental externalities and allows markets, including those for land, to function smoothly.”⁹¹

Any possible grievance (here: associated with large scale land acquisitions) cannot stem from the workings of pure market transaction, i.e., the process of buying and selling. Tools for the solution to so defined environmental problems exclusively aim at “internalising” these “external effects” into the market and thus ensure an efficient allocation.

As we have seen, the concept of “external” effects does not challenge the market principle, quite the contrary the concepts strengthens it. Yet, how can we realise that the outcome we observe really is an “external effect”? The definition only allows for one answer: by means of the inefficient allocation. Accordingly The World Bank argues:

“Even investments that are highly profitable for an investor will generate sustainable social benefits only if they are not associated with environmental externalities.”⁹²

“Unless proper regulation is in place, negative social and environmental externalities arising from land transfers that are desirable for individual parties may outweigh or reduce the social benefits to the point where they become undesirable.”⁹³

Remarkably, this is an utilitarian argumentation. The underlying term of efficiency is the utilitarian efficiency. Accordingly, external effects prevent a maximisation of the use out of the given resources. The World Bank seems to assume that an utilitarian argumentation can be unproblematically combined with a Paretian one. However, we have already demonstrated that this is not the case. Remarkable enough in the context of the discussion about “external effects” the World Bank claims that the only legitimate reason for politics to regulate market exchange is to secure utility maximisation.

“As long as property rights to land and, where necessary water, are well-defined and a proper regulatory framework to prevent externalities is in place, productivity- and welfare-enhancing transactions can occur without the need for active intervention by the state.”⁹⁴

“The public sector needs to be involved only to ensure that no negative external effects on others or the environment are imposed.”⁹⁵

“A good policy, legal, and institutional framework can minimise risks and maximise benefits.”⁹⁶

⁹¹ Ibid. 62.

⁹² Ibid. xxi.

⁹³ Ibid. 87.

⁹⁴ Ibid. 26.

⁹⁵ Ibid. 27.

⁹⁶ Ibid. 68.

That implicates that reasons of justice are no ethically legitimate reasons for the state to intervene into markets. Thus, that markets lead to Pareto-efficiency and therefore every person wins relative to the *status quo*, is judged to serve justice entirely. That further strengthened the market principle as normative point of reference. Consequently, the World Bank argues for “more market” in a dual sense. First, in a quantitative sense, it argues for the expansion of market exchanges, e.g. by a better market access of local farmers.⁹⁷ Second, in a qualitative sense, it argues for a regulatory framework which ensures that the market “functions smoothly” as it should according to the market principle. In this view, large-scale land acquisitions can never be ethically problematic in themselves. It is just a question of the “right” regulatory framework. The market itself is conceived of as “neutral” or even the potential “best solution” to problems like poverty and hunger, because all proposed regulations aim at the normative reference point of an ideal market.

Even arguing for a redistribution after the market exchange through taxation and transfer would become impossible, if it has negative consequences on efficiency. Accordingly Mas-Colell et al. tells us which ways and forms of redistributively relevant policy measures are *admissible*. A redistributive measure is admissible if, among others, the tax is imposed in a “non-distortionary” manner, with the transfer organised in a “lump-sum” manner (i.e. only once and without any impact on the “actions” of the recipients, howsoever this can be imagined). Only then it does not violate the first welfare theorem.⁹⁸

The taxes paid (which are losses for the net-payers and at least *prima facie* violate the Pareto criterion!) are either assigned to the “initial endowment” of the “consumers”, so that they are conceived of as “transfers prior to the opening of markets”.⁹⁹ However, seen dynamically (time as a continuum) this redistribution is not Pareto superior. It is also likely that it reduce future efficiency by reducing the capability of net-payers who are assigned by the market to be the most productive.

The other possibility is to regard the taxes and transfers as investments, provided an “aggregate surplus increases with the change in the tax”¹⁰⁰ and the *prima facie* net-payers can take the tax payments from their profits which otherwise (without these “lump-sum” transfers) would not be available. If “wealth” is redistributed in this sense “appropriately”, then and only there would be no interference with the market principle and politics (the democratic sovereign) has no reason not to “letting the market work”. The second welfare theorem “offers a strong conceptual affirmation of the use of competitive markets”. So different ethical frameworks will then give rise to different social optima. The leeway for legitimate policy-making, or “different ethical frameworks”, according to Mas-Colell et al., is, it seems to me, extremely narrow. Other authors concede that, while the Second Welfare Theorem claims a space for redistribution on justice grounds not interfering with efficiency, in practice political interventions in the name of justice indeed lower efficiency.¹⁰¹

Markets are not ethically neutral for various reasons. The clue of the Pareto criterion is that it is in itself a social criterion in the sense of inclusiveness. The question who benefits from a Pareto-efficient measure can be answered with: everybody does. Yet, the Pareto criterion is silent with regard to another question, namely relative to what the persons benefit. The

⁹⁷ Ibid. xv, xxi, xxii, 4, 16, 33, 49, 51, 65, 67.

⁹⁸ Mas-Colell et al. (1995) pp. 328, 331, 557.

⁹⁹ Ibid. p. 328.

¹⁰⁰ Ibid. cf p. 334.

¹⁰¹ Pindyck/Rubinfeld (2009) p. 777.

criterion of Pareto-efficiency does not challenge the initial distribution. Sen rightly notes: “A state can be Pareto optimal with some people in extreme misery and others rolling in luxury, so long as the miserable cannot be made better off without cutting into the luxury of the rich”.¹⁰² The Pareto criterion comes down to an implicit legitimisation of any given initial distribution. It does therefore not allow adequately addressing issues of distributive justice and/or fairness in cases, where the initial distribution is to be labelled unjust (from whatever ethical perspective).

James M. Buchanan as one of the most consistent advocates of Paretian economics argues, that “market distortions” by definition cannot occur if a transaction is exercised through an ideal market.

“[S]o long as exchange remains open and so long as force and fraud are not observed, that upon which agreement is reached is, by definition, that which can be classified to be efficient.”¹⁰³

Buchanan, of course, talks about Pareto-efficiency here. A Pareto-inefficient outcome would not find the agreement by the parties involved for being stable. Even persons, who are not involved in the exchange, implicitly agree because they theoretically could pay a higher price to prevent a possible harm to themselves. In not doing so they reveal that they agree to the ongoing exchange.¹⁰⁴ In this perspective, pastoralists being harmed by environmental destructions as the result of large-scale land acquisitions would agree by not making an alternative offer to buy the land. However, that is no point the World Bank wants to make. Perhaps this is the reason why the World Bank deviates from the Pareto-efficiency when it comes to the definition of “external” effects. Though, this conceptional view on “external” effects can hint at the normative essence of the Pareto criterion.

As mentioned earlier, the Pareto criterion is an ethical criterion. As we have seen the World Bank indeed uses it as a normative point of reference and judges the deviation from it as a matter of (un)fairness. This rises the question what arguments for the ethically legitimisation of the Pareto criterion are pointed out. Proponents argue that Pareto-superior changes obtain universal, voluntary approval, and that it would be a pretension to dissent out of “external” moral reasons. The Pareto criterion thereby reduces the question of ethically legitimisation to the factual approval out of self-interest under given constraints.¹⁰⁵ The given constraints not only include the status quo distribution of resources but also the overall market power of the actors. In market exchange it is just the purchasing power of the buyers and the productivity or competitiveness of the seller which count. Thus, the Pareto criterion is equivalent to an ethic of the law of the powerful.¹⁰⁶ Instead of the legitimacy it sets the market power. Therewith it serves to gloss over possible moral reasons against large-scale land acquisition.

5. Discussion

Let me briefly outline which possible reasons against large-scale land acquisitions are silenced by positing the Pareto criterion as the normative reference point. First of all, the

¹⁰² Amartya Sen (2000) p. 32.

¹⁰³ James Buchanan, *Liberty, Market and State* (Brighton: Wheatsheaf, 1986) p. 95.

¹⁰⁴ Ulrich Thielemann (1996) p. 183 ff.

¹⁰⁵ Ulrich Thielemann (1996) p. 166 ff.

¹⁰⁶ Ibid. 171.

conception of a market as “neutral” instrument is misleading. There are effects of markets which are necessarily entangled with market interactions. I name this sort of effects an internal effect of markets.

One internal effect of markets which can be a reason for constraining a market is its partiality for the competitive.¹⁰⁷ This partiality can be judged to be problematic in multiply senses. The first is its coercion to entrepreneurship.¹⁰⁸ The people who rely on markets for their livelihood are forced “to submit to the mechanism of competition and to strive continually to maintain their competitiveness”.¹⁰⁹ External, or “outside” interests as Weber called it, which lead to a reduced competitiveness have to be eliminated if one don’t want to lose ones job or to go bankrupt. These external interests can nevertheless be morally justified. In Sandels words: “Sometimes, market values crowd out non-market values worth caring about”.¹¹⁰ This recognition raises questions of teleological nature, of our ideas of a good human life. These questions can’t be fully answered scientifically but nevertheless should be raised and discussed in science to enrich the public debate. The coercion to entrepreneurship can be criticised as economisation of our life.¹¹¹ This criticism was mainly offered in the Global North¹¹² but it is part of the criticism of land grabbing offered of civil movements in the Global South, too. Via Campesina, an international peasants movement, and other NGOs/CSOs and social movements launched a policy proposal during the World Food Summit in 1996 calling for food sovereignty.¹¹³ One claim is the access of smallholder farmers, pastoralists, fisherfolk and landless people to land, water, seeds and livestock breeds and credit to be able to produce food.¹¹⁴ This argument is based on their traditional ways of life, even if they aim on an agro-ecological modernisation of their land use. To be sure, this argument has to be discussed with other interests groups in the specific country as for example the urban poor. Nevertheless, the Paretian arguments of the World Bank for more market as on form of competition apologetics is – to use a well-known term of Hayek in a different context – a “pretense of knowledge”.

The second way in which the markets partiality for the competitive can be judged problematic concerns the competition between consumers.¹¹⁵ Transnational corporations “invest” in land because they assume the demand on food and biofuels to rise. The food price crisis of 2007 to 2008 was the main trigger of the latest rush for farmland. It is likely that these corporations will produce for the international market in order to profit on the higher buying power in the Global North. Therewith the prices of food and the production of biofuels will rise and get unaffordable for many poor in the Global South. According to Satz we can classify these markets as ones with underlying high vulnerabilities.¹¹⁶ First the different consumer groups have widely varying resources and second land is the basic resource for a highly needed good, namely food. The possibilities for the poor countries to take countermeasures are hardly constrained by international trade agreements. Hunger crisis as the one in 2008 will

¹⁰⁷ Peter Ulrich, *Integrative Economic Ethics. Foundations of a Civilized Market Economy* (New York: Cambridge University Press, 2008) p. 131; Ulrich Thielemann (2010) p. 327.

¹⁰⁸ Ibid. 331.

¹⁰⁹ Peter Ulrich (2008) p. 131.

¹¹⁰ Michael Sandel, *What Money Can’t Buy. The Moral Limits of Markets* (New York: Farrar, Straus and Giroux, 2012) p. 9.

¹¹¹ Peter Ulrich (2008) p. 359.

¹¹² Peter Ulrich (2008). Michael Sandel (2012).

¹¹³ Michael Windfuhr and Jennie Jonsén, “Food Sovereignty Towards democracy in localized food systems,” Report (ITDG Publishing, 2005) p. 11.

¹¹⁴ Ibid. 13.

¹¹⁵ Ulrich Thielemann (2010) p. 39.

¹¹⁶ Debra Satz (2010) p. 97.

get more likely. The large-scale land acquisition has to be seen as a global competition for land which is a very basic and absolutely scarce resource.

Not least, the large-scale land acquisitions are not only the introduction of markets but also enormous changes and concentrations in property rights. If most of the land in a country is owned by few international corporations this will enormously reduce the possibility of a country to define its own agricultural policies.

6. Conclusions

I started this paper by arguing for the unavoidable normativity of economics. Following that it is not possible to separate a value-free core of economic analysis from a normative part of theory. Since the very meaning of predictive knowledge is instrumental or technical control, a social scientist constructing a seemingly value-free theory informs his audience about the given power structure as a fact (the impacts of people), thereby making himself an agent of instrumental or enforcement rationality. Moreover, if the implicit aim of a theory is technical control it always serves specific interests.¹¹⁷ That is not illegitimate per se but it has to be deliberated. Which interests are served is determined by additionally economic concepts well-known in welfare economics.

After describing some facts about large-scale land-acquisition, I inductively reconstructed the specific normativity of economic mainstream theory by analysing a specific political economic debate: the rationales of the World Bank pro large-scale land-acquisition.

This reconstruction showed that the argumentation of the World Bank is based on standard economic concepts like an “ideal market” either characterised by utilitarian or Paretian efficiency.

The discussion showed that the argumentation strategy of defending large-scale land acquisitions against its critics by claiming that large-scale land acquisitions are principally good because of their nature as market transactions failed. The (logical) ideal typical term of a market (the “ideal market”) also functioning as a (judgemental) ideal type (the market principle) is not convincing and therefore can neither be used to legitimise large-scale land acquisitions in principle nor to define the right regulatory framework to make the real large-scale land acquisitions to be desirable. The Pareto criterion is equivalent to an ethic of the law of the powerful. Instead of the legitimacy it sets the market power. Therewith it serves to gloss over possible moral reasons against large-scale land acquisition. To substantiate this claim I shortly presented a few of these possible moral reasons in the discussion. However, an encompassing judgement of large-scale land-acquisition is beyond the scope of this paper.

Author contact: anja.egan@mem-wirtschaftsethik.de

SUGGESTED CITATION:

Egan-Krieger, Tanja von (2021) “The ‘ideal market’ as a normative figure of thought. Analysing the reasoning of the World Bank pro land grabbing” *real-world economics review*, issue no. 95, 22 March, pp. 11-28, <http://www.paecon.net/PAERReview/issue95/Egan-Krieger95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

¹¹⁷ Ulrich Thielemann (2003), pp. 89–115 at pp. 101 ff.

The rise of human capital theory

Blair Fix [York University, Toronto, Canada]*

Copyright: Blair Fix, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Abstract

Today, human capital theory dominates the study of personal income. But this has not always been so. In this essay, I chart the rise of human capital theory, and compare it to the rise (and fall) of *eugenics*. The comparison, I argue, is an apt one. Eugenics and human capital theory both focus on isolated traits of individuals. By doing so, both theories neglect the *social* nature of human behavior.

The most pernicious scientific theory?

If there was an award for the most pernicious scientific idea ever, what theory should get first prize? I would vote for eugenics, a theory that claims we can “improve” humanity through selective breeding (Galton, [1904](#)).

If there was a second prize, I would give it to human capital theory. I think of human capital theory as “eugenics light”. It purges the idea that abilities are innate (and that we should selectively breed the “fit”). But human capital theory keeps the Nietzschean idea that humanity’s success can be attributed mostly to gifted *übermensch* (Nietzsche, [2005](#)).

Among us, human capital theory claims, walk individuals who are unfathomably productive. These *übermensch* produce more in an hour than most of us do in a week. Take just 1% of these top individuals, and you will find that they out produce the bottom half of society!¹ According to human capital theory, then, we could do away with half of society with no great loss to economic output. Of course, few human-capital theorists advocate such atrocities. But my point is that their theory contains the seeds of eugenics ... even Nazism.

The ethical problems with eugenics and human capital theory are easy to spot. But what about the *scientific* problems? These are more difficult to tease out. Eugenics is based on the hard truth that many traits are heritable. Similarly, human capital theory is based on the reality that some people earn hundreds of times more income than others. Where both theories go wrong, however, is that they misunderstand humanity’s *social* nature.

Yes, many individual traits are heritable. But it is a fallacy that traits that are good for individuals are also good for society. That is the core scientific flaw in eugenics. And yes, it is true that some people earn far more than others. But it is a fallacy that this income is caused by traits of the individual. In reality, income is a *social* trait.

* I thank John Medcalf, Mike Tench, Robin Shannon, Brent Gulanowski, Tom Ross, Steve Keen, Hilliard MacBeth, Joe Clarkson, Grace and Garry Fix, Pierre and Norbert Hornstein for their support.

¹ In the United States in 2019, the top 1% of earners took home 18.7% of all income. The bottom 50% of earners, in contrast, took home just 13.5% of all income. (Data is from the [World Inequality Database](#), pre-tax income share of US adults, equal splits.) If human capital theory is correct, this income indicates productivity. So the top 1% produced more than the bottom half of society. And the average member of the top 1% produced about 70 times more than a member of the bottom 50%. (The math: $18.7\% / 13.5\% \times 50 = 69.2$). So an *übermensch* member of the top 1% produced more in an hour than a bottom-50 percent did in a week. Or so human capital theory would have us believe.

My goal in this essay is not to rigorously debunk human capital theory. (For a discussion of the problems with human capital theory, see Fix, [2018b](#).) Instead, I am going to chart its rise and speculate about its eventual fall. I will do so by looking at the rise and fall of eugenics. What is ominous is that the theory that debunks eugenics is today still more obscure than eugenics itself. In a century, will something similar hold for the theory that debunks the idea of human capital?

The rise and fall of eugenics

When Charles Darwin published his opus *On the Origin of Species* in 1859, it was only a matter of time before his ideas would be abused.² Darwin argued that species arose by survival of the fittest. Each generation, some individuals reproduced more than others, passing on their traits to the next generation. Over time, this caused organisms to adapt to their environment, eventually giving rise to new species. It was evolution by natural selection. In the wild, this process is blind. (Nature has no goal.) But when humans entered the equation, natural selection started to have a conscious overseer. For millennia, humans have selectively bred domestic animals to have traits that we desired. Darwin called this guided process “artificial selection”. Its success in creating distinct breeds of domestic animals, he argued, was evidence for the wider process of evolution by natural selection.

If we could change the traits of domestic animals through selective breeding, it seemed plausible that we could do the same with *humans*. And with that idea, *eugenics* was born. The word – which means “well-born” – was coined by 19th-century polymath Francis Galton, who was himself of impeccable pedigree. He was Charles Darwin’s half cousin.

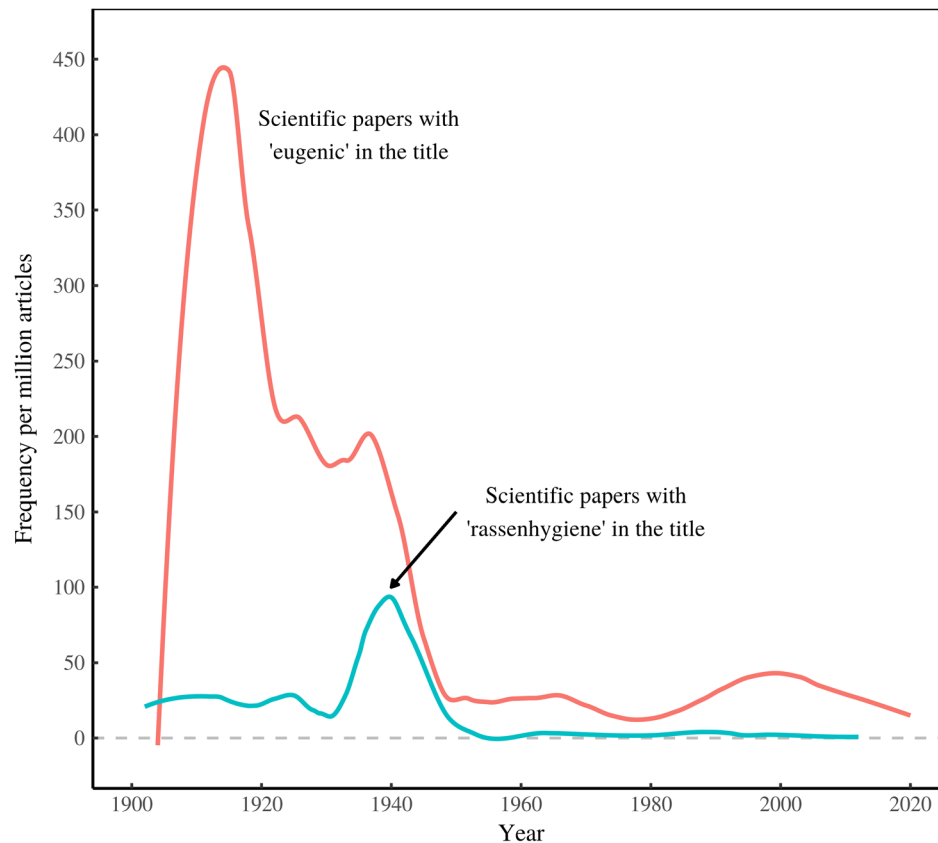
The prospect of selectively breeding humans raises obvious ethical problems. It requires first deciding who is “well-born” and who is not. (What are the criteria for this decision? And more importantly, who gets to decide?) And once this decision is made, the reproductive rights of the non-well-born must be removed. That rings of fascism. Despite the dubious ethics, eugenics became shockingly popular in the early 20th century. In the United States, “feeble-minded” individuals were sterilized en masse (Reilly, [1985](#); Sofair & Kaldjian, [2000](#)). And later, Nazi Germany simply exterminated “unfit” individuals by the millions (Bloxxham, [2009](#)).

This Nazi monstrosity is written in mass graves throughout Europe. But it is also written in the scientific record. Figure 1 shows the frequency of the term “eugenic” in scientific papers. Its use exploded at the turn of the 20th century and remained popular until the end of World War II. It was not until the horrors of the Holocaust were revealed that eugenics became disgraced. On that front, the German term for eugenics – “rassenhygiene” (racial hygiene) – peaked ominously as the Holocaust was perpetrated.

² Actually, the seeds of abuse appear in the full title of Darwin’s opus. The main title (still used today) was *On the Origin of Species by Means of Natural Selection*. The subtitle, however, has fallen out of favor. Darwin called it *the Preservation of Favoured Races in the Struggle for Life*.

Figure 1. The rise and fall of eugenics

I have plotted here the relative frequency of scientific papers containing the words “eugenic” and “rassenhygiene” in their titles. I have smoothed the trend using a LOESS regression. For data sources, see [Sources and methods](#).



Productive individuals, productive society?

Barbarous as it is, let's put aside the ethical problems with eugenics. Even then, the science is dubious. The premise is that if we selectively breed for traits that we (the eugenicists) find desirable, the spread of these traits will lead to a better society. What are these “good” traits? I will let the eugenicists speak for themselves. Figure 2 shows a eugenics poster from 1926. It reads:

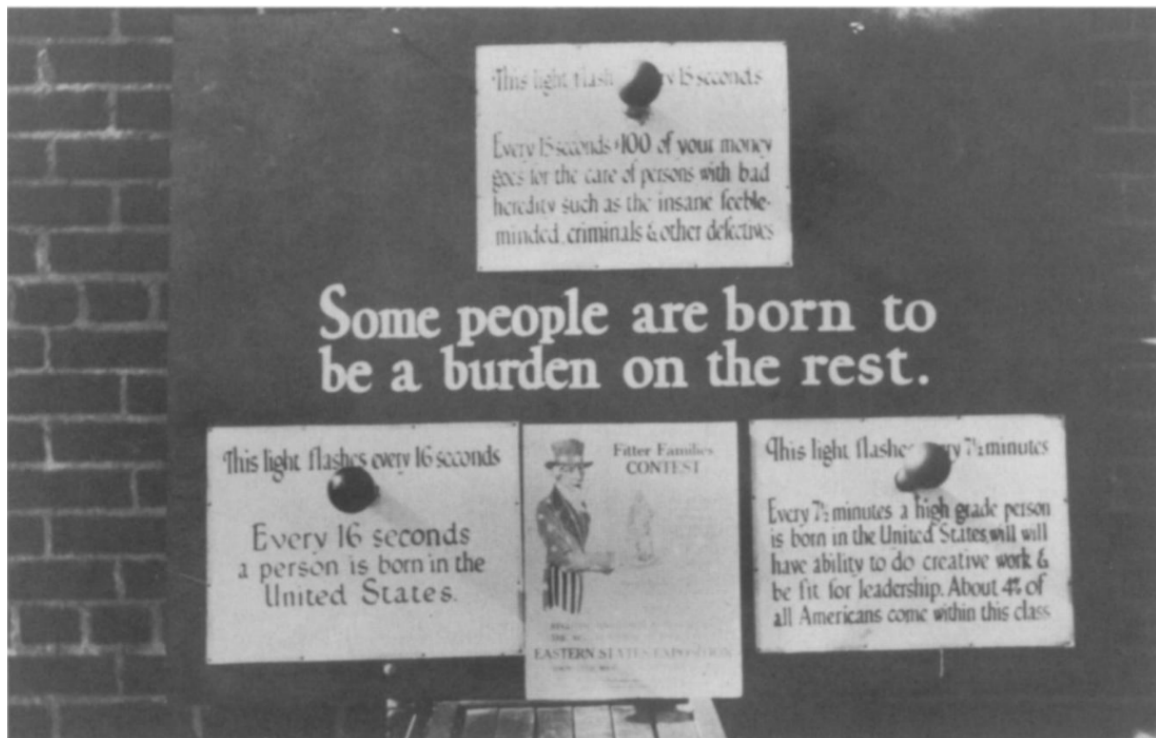
“Some people are born to be a burden on the rest.

Every 15 seconds \$100 of your money goes for the care of persons with bad heredity such as the insane feeble-minded, criminals & other defectives.

Every 7½ minutes a high grade person is born in the United States will (sic) will have ability to do creative work & be fit for leadership. About 4% of all Americans come within this class” (Eugenics poster from Selden, [2005](#)).

Figure 2. A burden on the rest

A eugenics poster from the 1926 Philadelphia Sesqui-Centennial Exhibition.



Source: Selden ([2005](#)).

The logic in this eugenics poster is hard to miss. Some people, the eugenicists claim, are unproductive and do not contribute to society. These people should reproduce less. Meanwhile, “high-grade” productive individuals should reproduce more. The result will be a better society.

This sentiment is morally repugnant, yes. But might it be true? If we selectively bred “productive” individuals, would the result be a more productive society? Fortunately, no one has done this experiment on humans. But it has been done on domestic animals. And the results completely undermine the eugenicists’ arguments.

In the 1990s, geneticist William Muir conducted experiments on chickens to see what would improve egg-laying productivity (Muir & Craig, [1998](#); Muir, [1996](#); Muir & Wilson, [2016](#)). In one trial, he did exactly what the eugenicists recommend – he let only the most productive hens reproduce. The results were disastrous. Egg-laying productivity did not increase. It *plummeted*. Why? Because the resulting breed of hens was psychopathic. Instead of producing eggs, these “uber-hens” fought amongst themselves, sometimes to the death.

The reason this experiment did not work is that egg-laying productivity is not an isolated property of the individual hen. It is a joint property of the hen and her social environment. In Muir’s experiment, the most productive hens laid more eggs not because they were innately more productive, but because they *suppressed* the productivity of less dominant chickens. By selecting for individual productivity, Muir had inadvertently bred for social dominance. The result was a breed of bully chicken that could not tolerate others.

The lesson here is that in social animals, traits that can be *measured* among individuals (like productivity) may not actually be traits *of* the individual. Instead, they are joint traits of both the individual and their social environment. Here is evolutionary biologist David Sloan Wilson reflecting on this fact:

“Muir’s experiments ... challenge what it means for a trait to be regarded as an individual trait. If by ‘individual trait’ we mean a trait that can be measured in an individual, then egg productivity in hens qualifies. You just count the number of eggs that emerge from the hind end of a hen. If by “individual trait” we mean the process that resulted in the trait, then egg productivity in hens does not qualify. Instead, it is a social trait that depends not only on the properties of the individual hen but also on the properties of the hen’s social environment” (Muir & Wilson, [2016](#)).

A key problem with eugenics is that it neglects the social nature of human traits. It assumes that productivity is an innate trait of the individual, and that breeding for this trait would lead to a better society. It is a seductive idea that is deeply flawed. In all likelihood, selectively breeding people for productivity would, like chickens, lead to a psychopathic strain of human.

The rise of human capital theory

After the horrors of the Holocaust, eugenics fell into disrepute. As a result, few people today dare argue that we should selectively breed humans for productivity. Still, the sentiment behind eugenics (that some people are far more productive than others) lingers on in mainstream academia. It survives – even thrives – in *human capital theory*.

The ground work for human capital theory was laid just as eugenics fell out of favor. In the 1950s, economists at the University of Chicago tackled the question of individual income.³ Why do some people earn more than others? The explanation that these economists settled on was that income resulted from *productivity*. So a CEO who earns hundreds of times more than a janitor does so for a simple reason: the CEO contributes far more to society.

The claim that income stems from productivity was not new. It dated back to the 19th-century work of John Bates Clark ([1899](#)) and Philip Wicksteed ([1894](#)), founders of the neoclassical theory of marginal productivity.⁴ Clark and Wicksteed, though, were concerned only with the income of social *classes*. What the Chicago-school economists did was expand productivist theory to *individuals*.

Doing so required inventing a new form of capital. The idea was that individuals’ skills and abilities actually constituted a stock of capital – *human capital*. This stock made individuals more productive, and hence, earn more income. Figure 3 shows key papers that initiated human capital theory.

³ It is no coincidence that human capital theory arose out of the University of Chicago. The school was established in 1890 with a \$600,000 donation from John D. Rockefeller. In return, the school became a bastion of neoclassical economics. Rockefeller later described his donation as “the best investment I ever made” (Collier & Horowitz, [1976](#); quoted in Nitzan & Bichler, [2009](#)).

⁴ We can go further and trace productivist sentiment back to the 17th-century philosopher John Locke, who argued that property comes from the exertion of productive labor (Locke, [1689](#)).

Figure 3. Key papers that initiated human capital theory

The theory of human capital began in the late 1950s and early 1960s with papers by Chicago-school economists Gary Becker, Jacob Mincer, and Theodore Schultz. Pictured here from top to bottom: Becker ([1962](#)) and the 2nd edition of Becker ([1964](#)); Mincer ([1958](#)) and Mincer ([1974](#)); Schultz ([1961](#)) and ([1970](#)).



The idea that skills constituted “human capital” was initially greeted with skepticism. For one thing, the term itself smacked of slavery. (Capital is property, so “human capital” implies human property.) For another, human capital theory overtly justified inequality. It implied that no matter how fat their incomes, the rich always earned what they produced. Any attempt (by the government) to redistribute income would therefore “distort” the natural order. During the 1950s and 1960s, there was little tolerance for such views. It was the era of welfare-state expansion, driven by Keynesian-style thinking. Yes, big government may have been “distorting” the free market – but society seemed all the better for it.

Until the 1970s, human capital theory remained obscure. But then politics began to change. In the words of Ronald Reagan, “People were tired of wasteful government programs and welfare chisellers” ([1990](#)). The welfare system was not a social safety net, Reagan declared. It was a “creator and reinforcer of dependency” ([1987](#)). Reagan’s language, you will note, is eerily similar to the eugenics sentiment of old:

“Some people are born to be a burden on the rest.”

Yes, Reagan removed the crass genetic component. But the sentiment remained the same:

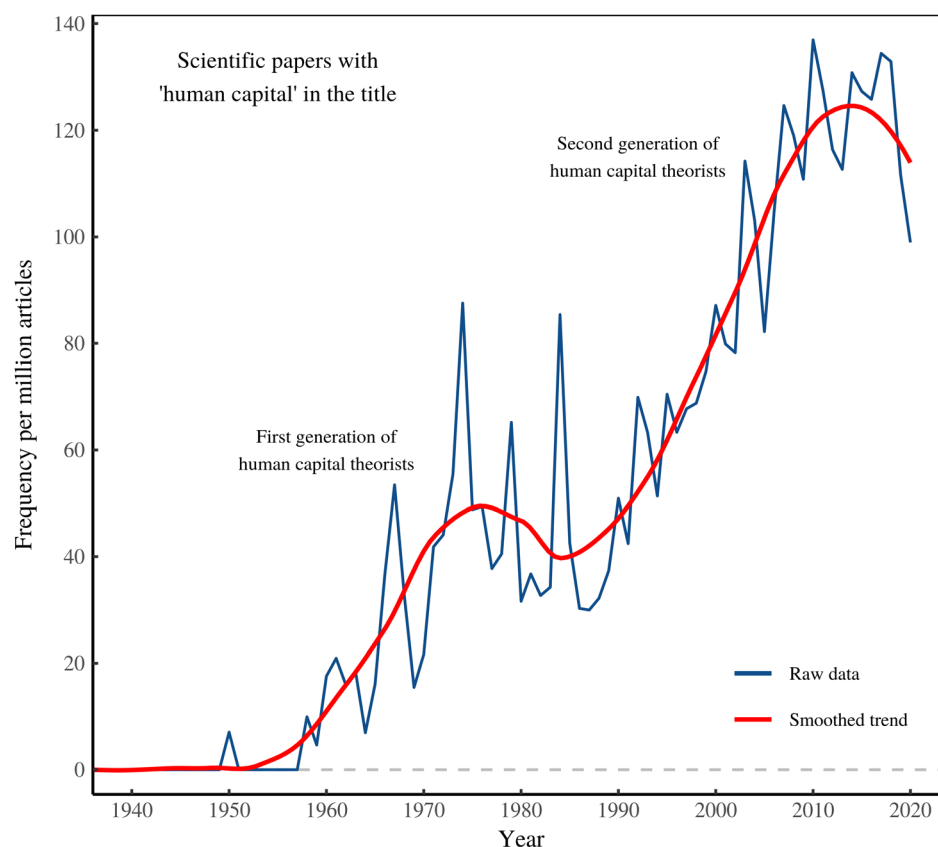
“Some people are a burden on the rest.”

The stage was set for a return to eugenics-style thinking – to the idea that the poor were a burden on the rich (not the other way around). As a result, the fortunes of human capital theory rose.

Figure 4 tracks this rise. I have plotted here the portion of scientific papers that contain the words “human capital” in their title. The first spat of papers appeared in the late 1950s and early 1960s, authored by Chicago-school economists Jacob Mincer, Gary Becker, and Theodore Schultz. This trio constituted the first generation of human capital theorists. By the 1970s they were famous, but their academic output soon tapered off.⁵

Figure 4. The rise of human capital theory

I have plotted here the frequency of the term “human capital” in the titles of scientific papers. The blue line shows raw data. The red line shows the smoothed trend. For data sources, see [Sources and methods](#).



In the 1990s, a second generation of economists took up the human-capital mantle. By then, neoliberal politics was in full swing. The fact that human capital theory explicitly justified inequality was no longer a liability. It was a *selling point*. In 1999, for instance, Chicago-school

⁵ A human capital theorist would say that Becker, Mincer and Schultz’s output tapered with age because their human capital (much like a used car) *depreciated* with time.

economist Finis Welch delivered a lecture on human capital theory in which he declared that “inequality is an economic ‘good’” (Welch, [1999](#), emphasis added). As Figure 4 shows, human capital theory proliferated during this inequality-loving era. (Unsurprisingly, so did income inequality. See Piketty, [2014](#).)

Today, the fortunes of human capital theory seem to have peaked. Like eugenics before it, will human capital theory soon fall into disrepute? Or are we headed for a third wave of human-capital propaganda? It is hard to say. But what is scary is that eugenics collapsed not from any scientific reckoning, but because of a genocide. Will human capital theory collapse only when we plumb the depths of despotism? I do not want to find out.

Fiction over fact

As a scientist, I am fascinated by the human ability to delude ourselves – to choose convenient fiction over inconvenient fact. On that front, the collapse of eugenics (Figure 1) appears to be a victory. But it is only a partial one. Eugenics collapsed for ethical reasons (it produced a genocide). Yet the scientific reasons why eugenics is wrong remain obscure.

We can see the scientific flaws by returning to William Muir’s chicken experiment. I have already told you about his psychopathic chickens, created by breeding the most productive hens. But I have not told you about his alternative trial. In it, he bred the most productive *group* of chickens. The result was an astonishing increase in egg-laying productivity.

The reason this group selection worked is that chickens are *social* animals. That means productivity is influenced by the social environment. By selecting productive groups, Muir selected for egg-laying ability, but also for sociality. The resulting social hens flourished together.

Something similar holds true for humans. The abilities of individuals cannot be separated from the social environment in which they occur. For this reason, any selective breeding based on individual traits is likely to have unintended consequences. If Muir’s chicken experiment is any indication, breeding *übermensch* would not create an uber-productive society. It would create a psychopathic one.

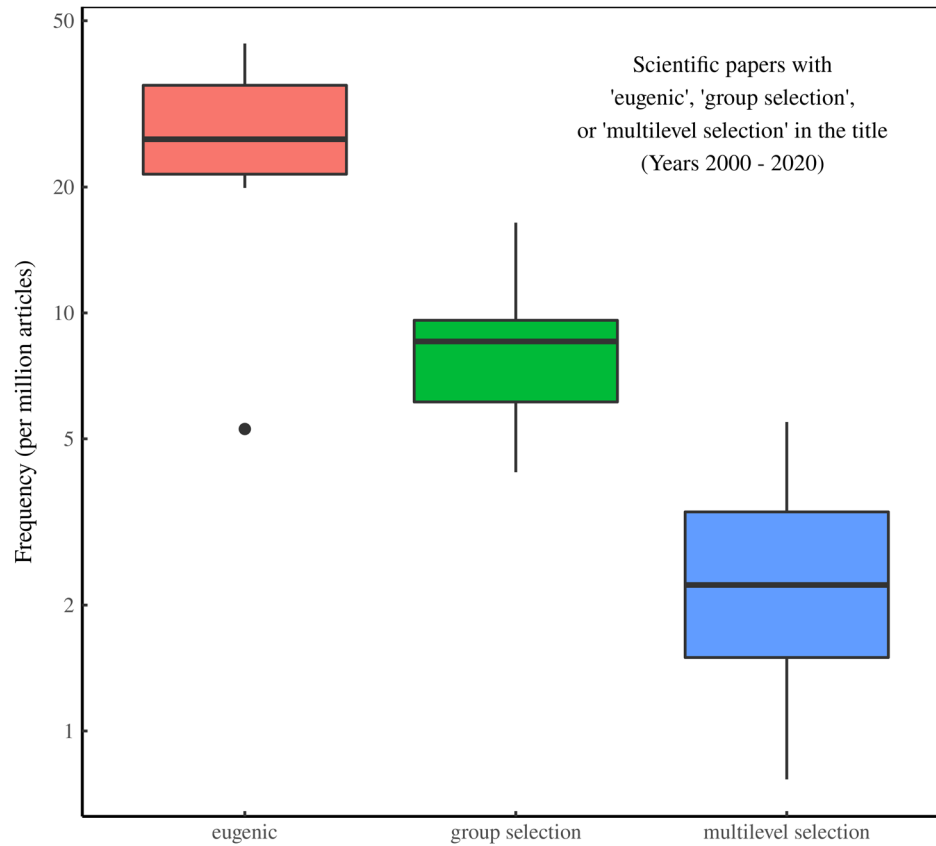
The reason comes down to the unit of selection. As social animals, humans have been strongly shaped by the selection of *groups*. This group selection has tended to suppress selfish tendencies that are otherwise beneficial for individuals (Sober & Wilson, [1999](#); Wilson, [1997](#), [2015](#); Wilson & Wilson, [2007](#)).

Back to eugenics. Yes, eugenics has collapsed into disrepute. And yet the reasons why it is scientifically flawed remain obscure. Today, papers containing the word “eugenic” in their title still outnumber those containing the word “group selection” or “multilevel selection” (Figure 5).⁶ No, these modern eugenics papers are not *advocating* eugenics ... they are investigating its history. Still, they appear not to be discussing (in their titles) a key scientific flaw in eugenics theory.

⁶ The idea behind “multilevel selection” is that natural selection can act on any unit, ranging from “genes”, to “individuals” to “groups of individuals”. Multilevel selection theory recognizes that multicellular “individuals” are in fact just groups of organisms that are particularly cohesive (Okasha, [2005](#); Wilson, Van Vugt, & O’Gorman, [2008](#)).

Figure 5. Eugenics is now obscure ... but so are its scientific alternatives

I have plotted here the relative frequency of papers containing the word “eugenic”, “group selection”, or “multilevel selection” in their title. Data covers the years 2000–2020. Note that the vertical axis uses a log scale. For data sources, see [Sources and methods](#).



Now to human capital theory. If, in the future, human capital theory falls into disrepute, my guess is that its scientific flaws will remain obscure. Let’s review these flaws.

Human capital theory supposes that income stems from productivity, and that this productivity is an *isolated trait of the individual*. This thinking, when taken to the extreme, is ludicrous. It implies that an Egyptian Pharaoh was thousands of times more productive than his slaves. Moreover, because this productivity was embodied in the Pharaoh, he could do away with his slaves and still retain his wealth. It gets worse. According to the logic of human capital theory, the Pharaoh’s slaves were actually a *burden* on the kingdom’s per capita productivity. If the Pharaoh exterminated them, per capita productivity would skyrocket.⁷

⁷ Imagine an economy consisting of the Pharaoh and 1000 slaves. In terms of living standard, imagine that the Pharaoh earns 1000 times the “income” of the average slave. In human capital theory, that means the Pharaoh is 1000 times more productive than each slave. With this “fact” in hand, let’s do some productivity accounting. Let the productivity of a slave be 1. We find that national productivity per person is roughly double the productivity of a slave:

$$\text{productivity per capita} = \frac{(1 \text{ Pharaoh} \times 1000) + (1000 \text{ slaves} \times 1)}{1001 \text{ people}} \approx 2$$

According to human capital theory, if the Pharaoh wants to increase national productivity, he should exterminate the slaves. Per capita productivity will then grow by a factor of 500:

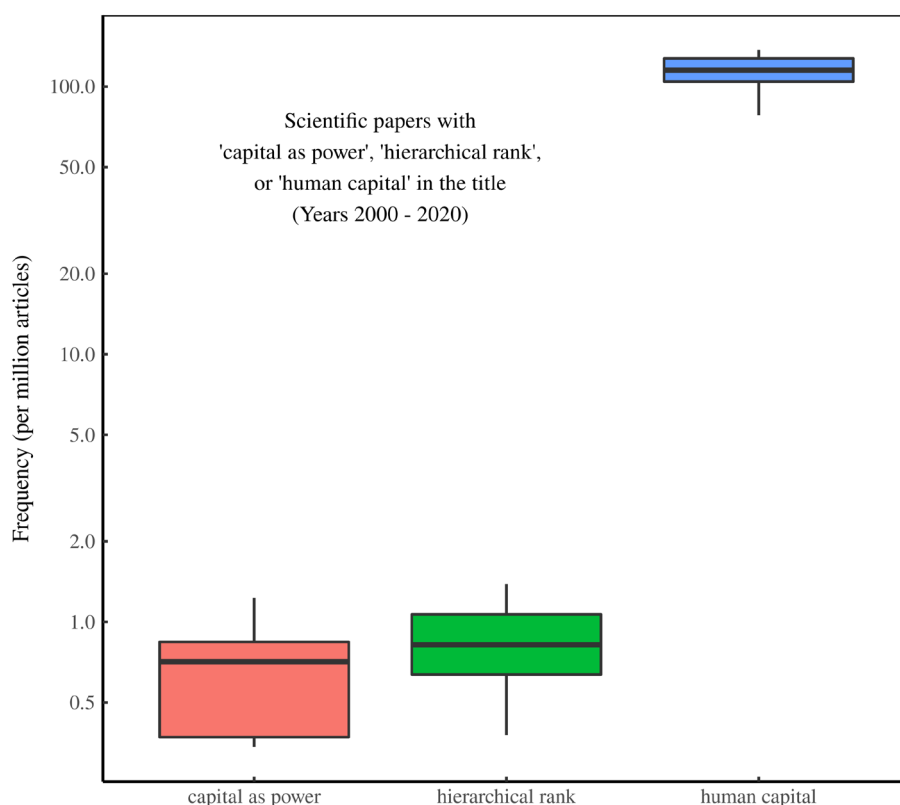
In the real world, things are rather different. The truth is that the Egyptian Pharaoh owed his wealth not to human capital, but to his tremendous *power*. He sat atop a massive hierarchy – an army of slaves who answered his beck and call. Do away with the slave army and the Pharaoh’s wealth would vanish.

When we apply human capital theory to a feudal society, we recognize that it is nonsense. But when applied to our own society – as economists do every day – human capital theory passes for “science”. Yet reality remains the same. Today (as ever) wealth and income stem from power.

There are a variety of theories that acknowledge the realities of power. Jonathan Nitzan and Shimshon Bichler’s (2009) theory of “capital as power” is one. My own investigation of how income relates to hierarchical rank is another (Fix, 2018a, 2019, 2020). The truth, though, is that these theories are flies on the human-capital elephant. As Figure 6 shows, scientific articles with “human capital” in the title outnumber those with “capital as power” or “hierarchical rank” by a *factor of 100*.

Figure 6. Flies on the human-capital elephant

I have plotted here the relative frequency of scientific papers containing the words “capital as power”, “hierarchical rank” or “human capital” in their title. Data covers the years 2000–2020. Note that the vertical axis uses a log scale. For data sources, see [Sources and methods](#).



$$\begin{aligned} \text{productivity per capita} &= \frac{1 \text{ Pharaoh} \times 1000}{1 \text{ person}} \\ &= 1000 \end{aligned}$$

Never mind that in reality, the Pharaoh’s wealth depends entirely on his army of slave labor. In human capital theory, reality is turned on its head — the *slaves are a burden on the Pharaoh*.

In the future, human capital theory (like eugenics before it) may fall into disrepute. In that case, the number of human-capital papers will surely shrink. But will theories that acknowledge the realities of power become wildly popular? My guess is no.

Again, we can take a cue from the fall of eugenics. Eugenics is scientifically flawed because it conceives of traits as residing in the individual, not their social environment. Yet when eugenics collapsed, the theory of group selection (which focuses on the social environment) did not become wildly popular. Why? A big reason is ideological. Like economics, biology has been seduced by methodological individualism – the dogmatic focus on traits of individuals.

When it comes to human capital theory, the problem is even worse. Here, when we expose the realities of power (a social trait), we undermine the legitimacy of the social order. That is a dangerous business. It can be done safely in obscurity. But if the realities (and injustices) of power become widely known, that means the social order has been put into question. That is good ... if it leads to a more just society. But often, widespread discontent leads to reactionary repression.

If human capital theory someday becomes the fly on the power-theory-of-income elephant, it would signal not only a scientific revolution, but also a social one. I doubt I will live to see it happen. And if I do, I have no idea what type of society would emerge from the other side.

Sources and methods

Data and code used in this paper are available at the Open Science Framework: osf.io/btv8c/. To measure the word frequency in the titles of scientific papers, I use metadata from the Sci-Hub database. Sci-Hub houses roughly 80 million papers. The Sci-Hub metadata is available from Library Genesis: gen.lib.rus.ec/dbdumps/. The raw data comes as an SQL database dump. I have built an R function that can parse the SQL data, available at Github: github.com/blairfix/read_sql.

References

- Becker, G. S. (1962) "Investment in human capital: A theoretical analysis." *Journal of Political Economy*, 70(5, Part 2), 9–49.
- Becker, G. S. (1964) *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Bloxham, D. (2009) *The final solution: A genocide*. Oxford University Press, USA.
- Clark, J. B. (1899) *The distribution of wealth*. New York: Macmillan.
- Collier, P., & Horowitz, D. (1976) *The Rockefellers: An American dynasty*. Henry Holt & Company.
- Darwin, C. (1859) *On the origin of species*. London: John Murray.
- Fix, B. (2018a) "Hierarchy and the power-law income distribution tail." *Journal of Computational Social Science*, 1(2), 471–491.
- Fix, B. (2018b) "The trouble with human capital theory." *Real-World Economics Review*, 86, 15–32.
- Fix, B. (2019) "Personal income and hierarchical power." *Journal of Economic Issues*, 53(4), 928–945.

- Fix, B. (2020) "How the rich are different: Hierarchical power as the basis of income size and class." *Journal of Computational Social Science*, 1-52.
- Galton, F. (1904) "Eugenics: Its definition, scope, and aims." *American Journal of Sociology*, 10(1), 1-25.
- Locke, J. (1689) *Second treatise of government: An essay concerning the true original, extent and end of civil government*. John Wiley & Sons.
- Mincer, J. (1958) "Investment in human capital and personal income distribution." *Journal of Political Economy*, 66(4), 281-302.
- Mincer, J. (1974). *Progress in human capital analysis of the distribution of earnings*. National Bureau of Economic Research Cambridge, Mass., USA.
- Muir, W., & Craig, J. (1998) "Improving animal well-being through genetic selection." *Poultry Science*, 77(12), 1781-1788.
- Muir, W. M. (1996) "Group selection for adaptation to multiple-hen cages: Selection program and direct responses." *Poultry Science*, 75(4), 447-458.
- Muir, W. M., & Wilson, D. S. (2016) "When the strong outbreed the weak: An interview with William Muir." <https://evolution-institute.org/when-the-strong-outbreed-the-weak-an-interview-with-william-muir/>
- Nietzsche, F. W. (2005) *Thus spoke zarathustra: A book for everyone and nobody*. Oxford University Press, USA.
- Nitzan, J., & Bichler, S. (2009) *Capital as power: A study of order and creorder*. New York: Routledge.
- Okasha, S. (2005) "Multilevel selection and the major transitions in evolution." *Philosophy of Science*, 72(5), 1013-1025.
- Piketty, T. (2014) *Capital in the twenty-first century*. Cambridge: Harvard University Press.
- Reagan, R. (1987) "Radio address to the nation on welfare reform." *Ronald Reagan Presidential Foundation & Institute*. <https://www.reaganfoundation.org/ronald-reagan/reagan-quotes-speeches/radio-address-to-the-nation-on-welfare-reform/>
- Reagan, R. (1990) *An American life: The autobiography*. Simon; Schuster.
- Reilly, P. R. (1985) "Eugenic sterilization in the United States." In *Genetics and the law III* (pp. 227-248). Springer.
- Schultz, T. W. (1961) "Investment in human capital." *American Economic Review*, 51(1), 1-17.
- Schultz, T. W. (1970) "The reckoning of education as human capital." In *Education, income, and human capital* (pp. 297-306) NBER.
- Selden, S. (2005) "Transforming better babies into fitter families: Archival resources and the history of the American eugenics movement, 1908-1930." *Proceedings of the American Philosophical Society*, 199-225.
- Sober, E., & Wilson, D. S. (1999) *Unto others: The evolution and psychology of unselfish behavior*. Harvard University Press.
- Sofair, A. N., & Kaldjian, L. C. (2000) "Eugenic sterilization and a qualified nazi analogy: The United States and Germany, 1930-1945." *Annals of Internal Medicine*, 132(4), 312-319.
- Welch, F. (1999) "In defense of inequality." *American Economic Review*, 89(2), 1-17.
- Wicksteed, P. H. (1894) *An essay on the co-ordination of the laws of distribution (1932 edition)*. London: London School of Economics.
- Wilson, D. S. (1997) "Altruism and organism: Disentangling the themes of multilevel selection theory." *The American Naturalist*, 150(S1), S122-S134.
- Wilson, D. S. (2015) *Does altruism exist? Culture, genes, and the welfare of others*. Yale University Press.

Wilson, D. S., Van Vugt, M., & O'Gorman, R. (2008) "Multilevel selection theory and major evolutionary transitions: Implications for psychological science." *Current Directions in Psychological Science*, 17(1), 6-9.

Wilson, D. S., & Wilson, E. O. (2007) "Rethinking the theoretical foundation of sociobiology." *The Quarterly Review of Biology*, 82(4), 327-348.

Author contact: blairfix@gmail.com

SUGGESTED CITATION:

Fix, Blair (2021) "The rise of human capital theory." *real-world economics review*, issue no. 95, 22 March, pp. 29-41, <http://www.paecon.net/PAEReview/issue95/Fix95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

How downward redistribution makes America richer: An empirical, “money view” model of spending, wealth concentration, and wealth accumulation

Steve Roth [Independent Researcher]*

Copyright: Steve Roth, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Abstract

A model is constructed based on two monetary series: household wealth and consumption spending, and their distributions between top-20% and bottom-80% income groups. Based on parsimonious assumptions, it concludes that at a given level of wealth, and given large observed long-term differentials in spending out of wealth or “wealth velocity” across the wealth/income distribution, downward wealth redistribution and less-concentrated wealth result in more total spending, and more total wealth accumulation. Differential results are examined for different levels of wealth concentration and wealth redistribution.

What are the economic effects of wealth concentration, and wealth redistribution, on wealth accumulation? The dominant body of economic theory and “accumulation”-based growth models, rooted in theories of behavior, incentives, and individual reaction functions – “microfoundations” – holds that at any level of wealth concentration, downward redistribution from the rich to the poor distorts incentives, causes deadweight loss, and makes us collectively less wealthy than we would be otherwise.

These growth models also, back to Solow and beyond, rely on a silent assumption: that “accumulation” is attributable to saving out of income – that “what we produce minus what we consume” fully explains changes in assets/net worth/wealth.¹ If we accept national accountants’ measures of saving and wealth, that assumption is empirically insupportable. (See figure below; FRED series: fred.stlouisfed.org/graph/?g=BqGI.)

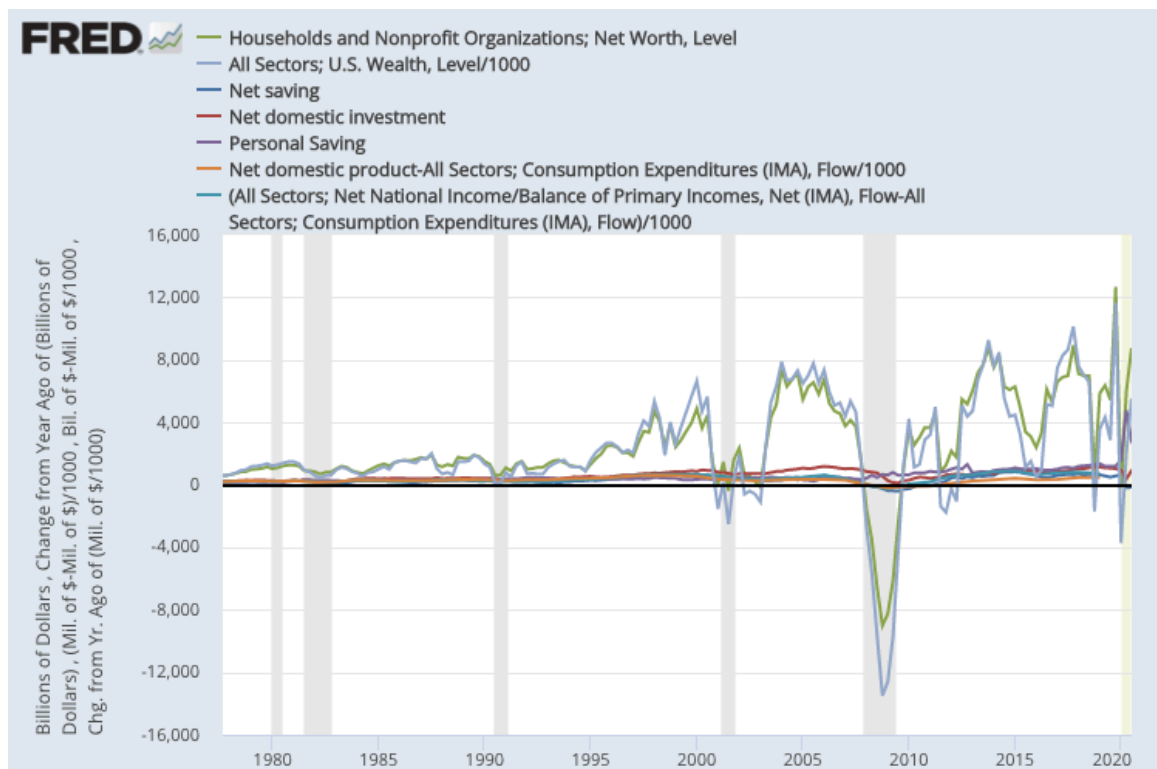
The first two measures in the following graph depict year-over-year wealth changes. (The second measure of wealth is from the Fed’s Table B.1 in the Financial Accounts, Z.1 report, which uses an alternative methodology to estimate U.S. Net *Wealth*.) Measures of “capital” accumulation estimating production minus consumption – net saving, net investment spending, or net capital formation (the IMAs’ preferred label) – don’t come close to explaining either measure of wealth accumulation.²

Important aspects of those mainstream presumptions lurk even within progressively motivated, inequality-focused, and heterodox economic models. While downward redistribution is beneficent in these models, it’s nevertheless generally still a tradeoff against a “bigger pie,” if that measure is addressed at all. More broadly, despite significant attention of late to *causes* of wealth concentration, in both mainstream and heterodox economics the economic *effects* of wealth concentration are weakly theorized at best.

* Steve Roth (@asymptosis) is an independent student of economics, with a particular focus on national accounting and its underlying models and methodologies. He serves as publisher and sometimes-contributor to *Economics.com*. His earlier writings appear on Asymptosis.com and AngryBearBlog.com.

¹ These accumulation models are well-explored from a modern heterodox perspective in Marc Lavoie, “The Neo-Pasinetti Theorem in Cambridge and Kaleckian Models of Growth and Distribution,” [Eastern Economic Journal](#), 1998.

² This conflation of wealth and capital is perhaps most succinctly embodied in Piketty’s explicit use of the two terms as synonyms: “I use the words ‘capital’ and ‘wealth’ interchangeably.” *Capital*, p. 47.



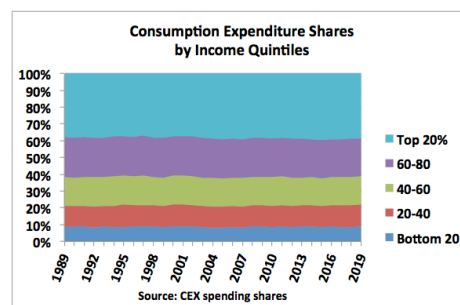
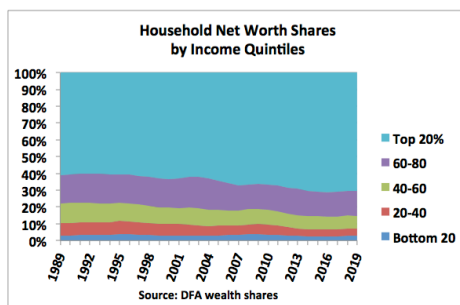
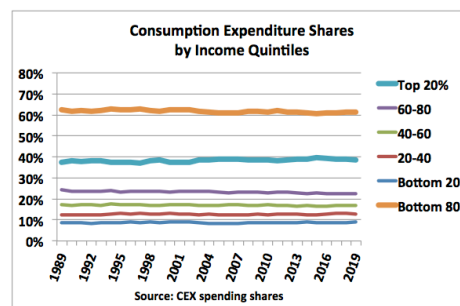
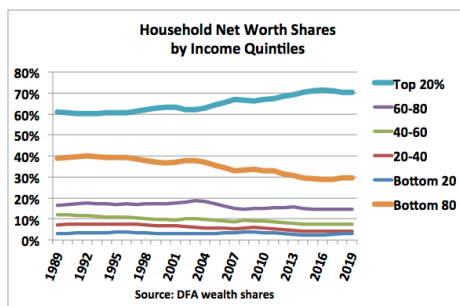
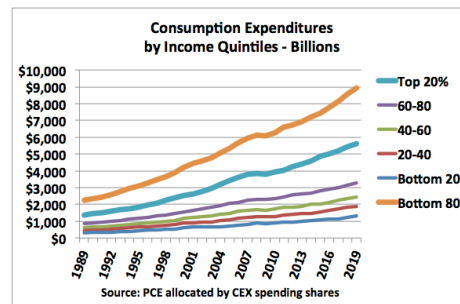
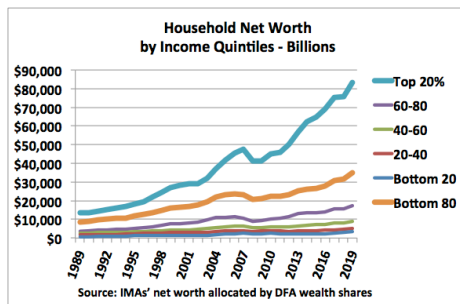
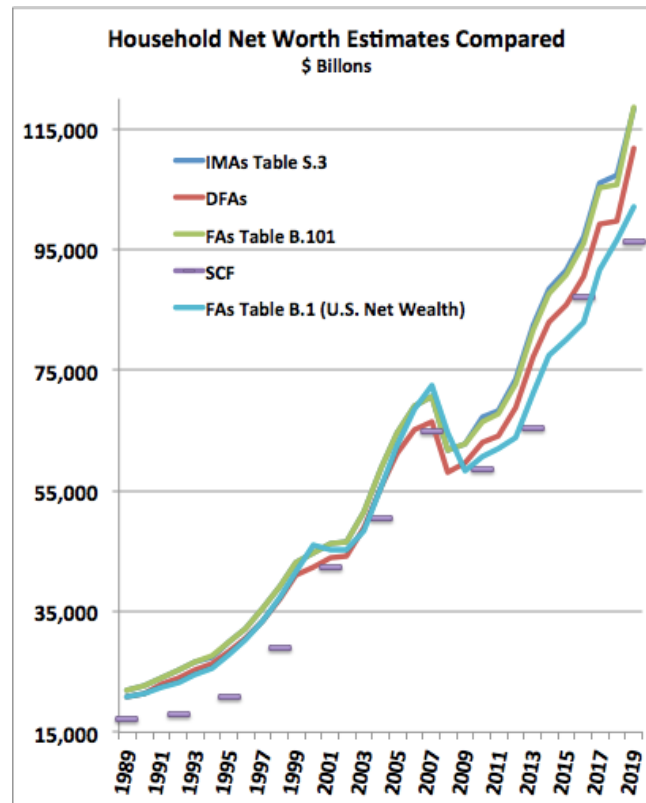
This paper takes a different, and to the extent possible purely empirical approach. The model attempts to exploit decades of empirical regularities, focusing on monetary wealth concentration and accumulation. Part I describes the model's overall approach, and the empirical measures employed. Part II explains the underlying economic logic and narrative, and details the model's construction, equations, and parameters. Part III tests its calibration against the empirical series, and explores problems of overfitting. Part IV adds a counterfactual redistribution parameter, and examines a range of resulting effects. Theoretical foundations are further discussed in Part V. Part VI provides a brief, condensed conclusions. Details and limitations of the source data sets are discussed in an appendix.

Part I: Building a wealth-based, money-view model

In addition to its focus on empirical foundations, the model bruited here seeks to be parsimonious in multiple ways.

1. It relies on only two economic measures – consumption spending, and household wealth (and their distribution and relationships) – for which we have “close-to-the-ground,” survey-based data sources, consistently measured and comparable over decades.³

³ All wealth series published by the Federal Reserve. IMAs = Integrated Macroeconomic Accounts table S.3.a. DFAs = Distributional Financial Accounts. FAs = Financial Accounts. SCF = Survey of Consumer Finances. PCE = Personal Consumption Expenditures. CEX = Consumer Expenditure Survey.

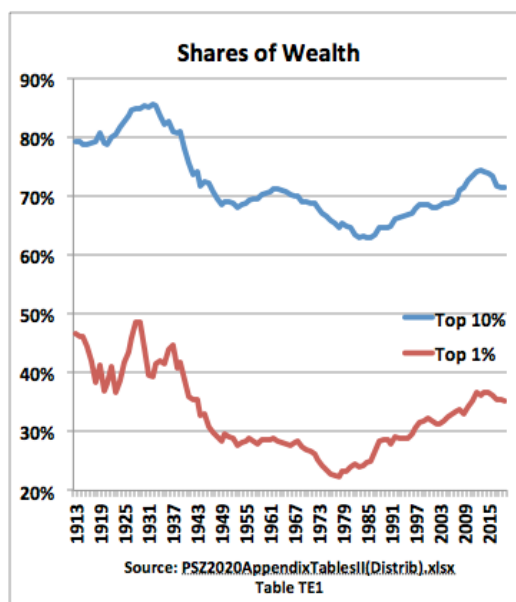


The wealth series employed here, in particular, are quite unusual in economic modeling, despite an expanding literature on the topic of wealth and its distribution. The U.S. national accounts have only offered annual accounting of wealth and its accumulation that's fully stock-flow consistent across all sectors since 2006, when the Integrated Macroeconomic Accounts were released (coverage back to 1960; quarterly tables released in 2012). The Distributional Financial Accounts, estimating quarterly household wealth (and asset/liability) levels and shares by income and wealth groups back to 1989, were only released in 2019.

The consumption series from the Consumer Expenditure Survey (CEX) sets the other important limit on the model's empirical scope; CEX only reports spending shares by quintiles of income, and only back to 1984. There's no narrower detail for top percentiles, and it doesn't provide share breakouts based on quintiles of wealth. So distributional breakouts here are all by quintiles of income.

It's important to note that the CEX survey also almost certainly undercounts top percentile groups' spending significantly, perhaps by a great deal. So it understates the concentration of consumption spending. The top 20% appears to very consistently do 40% of the spending – significant, but not even close to the (increasing) disparity in shares of wealth. (See the Appendix, Data Details and Limitations.)

Since this model seeks to exploit regularities in long-term measures of wealth and spending, it would be preferable to draw on a data set encompassing the longer U-shaped path of wealth concentration over the past six to nine decades: its decline from highs in the 1920s and 30s (or even just postwar), to its nadir in the late 70s/early 80s, and strong runup since.



Both the available wealth and spending series preclude that. CEX spending data only extends back to 1984, the DFAs' wealth-shares data to 1989. [Series from the Piketty, Saez, and Zucman's Distributional National Accounts](#) (DINAs)⁴ extend wealth-share measures back further, but the published tables either 1. don't include a breakout of wealth shares for the top 20% that can be aligned with the CEX series (table TE1), or 2. where that measure could be

⁴ [PSZ2020AppendixTablesII\(Distrib\).xlsx](#)

assembled, the tables only cover four representative years pre-2000 – 1962, '70, '80, and '90 (TE4). Even if this longer top-quintile wealth series were available, it would only extend the sample period back five years to the CEX 1984 starting point. So with one important exception, this model is based on data from 1989-2019, and is focused only on the top-20% and bottom-80% income classes.

2. It is a pure “money-view” approach, in as complete a sense as possible. The employed economic measures are purely monetary, eschewing any effort to estimate, for instance, the “real” numeric value of total production over decades, or a total stock of unconsumed real-world goods accumulated over that period (“capital”), expressed numerically. Nor does it need to engage in the vexed accounting exercise of imputing the distribution of “national income” across households. Both the spending and wealth measures are based on explicit household surveys, and are reported in nominal dollars plus derivatives of those nominal measures: changes, percentages, and ratios.
3. With one up-front exception, it eschews behavioral theories regarding individuals’ reaction functions. It seeks to observe and exploit relationships for income groups: a given observation of the group has some regular or persistent relationship to another observation. It is certainly possible to surmise theories of individual behavior *post hoc* to explain the observed empirical relations, but they’re unnecessary to the model.⁵
4. The model neither seeks nor offers insights into volatile, short-term, high-frequency changes and effects – whether they’re presumed to be “business cycle”-related, idiosyncratic “shocks,” “animal spirits,” or some other. Rather, it exploits long-term empirical regularities in an effort to understand aggregate economic changes and effects over decades. Important levels and trends have persisted despite innumerable policy changes, and reactions to same, and so hold some likelihood of persisting into the future as manifold conditions and policies (and reactions) change and are changed. (On this issue, see “Overfitting” in Part III.)

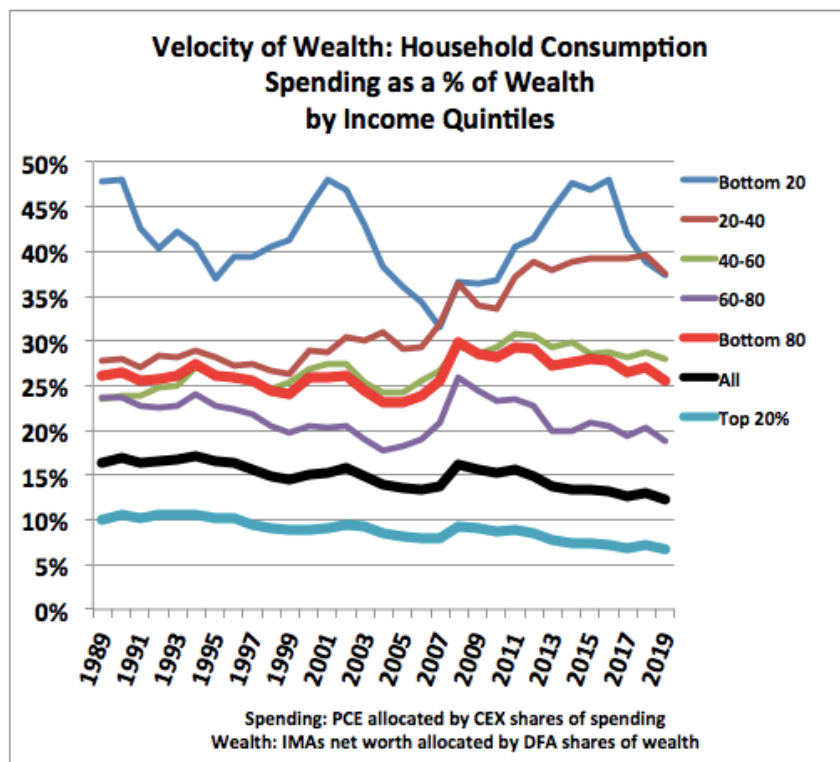
Part II: The model’s economic “story”

The model is heavily driven by a novel measure that’s completely dependent on the newly available annual wealth-distribution data: velocity of wealth. Different classes turn over their wealth in spending at very different rates.

The bottom 80% group turns over its wealth in annual spending three or four times as fast as the top 20%. Bottom-20% turnover is six or seven times greater.⁶ This measure is powerful in the model because spending is also powerful; it’s what drives wealth creation (with a big multiplier). If these velocities persist, more-equal wealth distribution at a given level of wealth would arithmetically result in more spending.

⁵ To use a physical metaphor, this approach seeks to model water whirlpooling down a bathroom drain, with no attention to the interactions among H₂O molecules that “cause” that effect. While explanations of those micro effects make the macro explanation more complete and robust, they may be unnecessary to predict the observed macro properties of the whirlpool.

⁶ The second-to-bottom group, 20-40, bears special mention here. It’s been spending down its wealth each year much more rapidly over the last two decades – up from about 27% turnover to nearly 40%. This suggests that assembling an initial nest egg and getting onto the second or third step of the lifetime property-income escalator has been getting much more difficult. The group’s share of total wealth has declined from 7.2% to 4.3% over the period.



The model's underlying economic narrative, intuition, and logic begins with one bald behavioral claim.

1. *Spending causes production.* Cribbing from Greg Mankiw's textbook usage, we could call this the model's "first principle of economics." Ask any commercial or professional producer (actors inside the GDP "[production boundary](#)") why they produce what they do – from CEOs to restaurant owners, massage therapists, or workers producing widgets for wages. The claim here is that their answer will be, "because people are spending to buy what we produce." In this view, spending is the economic expression and actualization of human desire for goods and services, and is the driving force of economic activity – at least in a modern monetary economy.⁷

Two other claims complete the basic narrative.

2. Production creates new goods, some portion of which are not consumed.⁸ Some of those produced goods are estimated in GDP – structures, equipment, and "software," which increasingly includes diverse intangibles. But much of that "capital stock" is not – a healthy, well-educated, and well-trained populace; a vast body of public-domain knowledge, unprotected so untraded and unmeasurable as exclusive "intellectual property"; governance systems, etc. Likewise, national accounts estimate only some

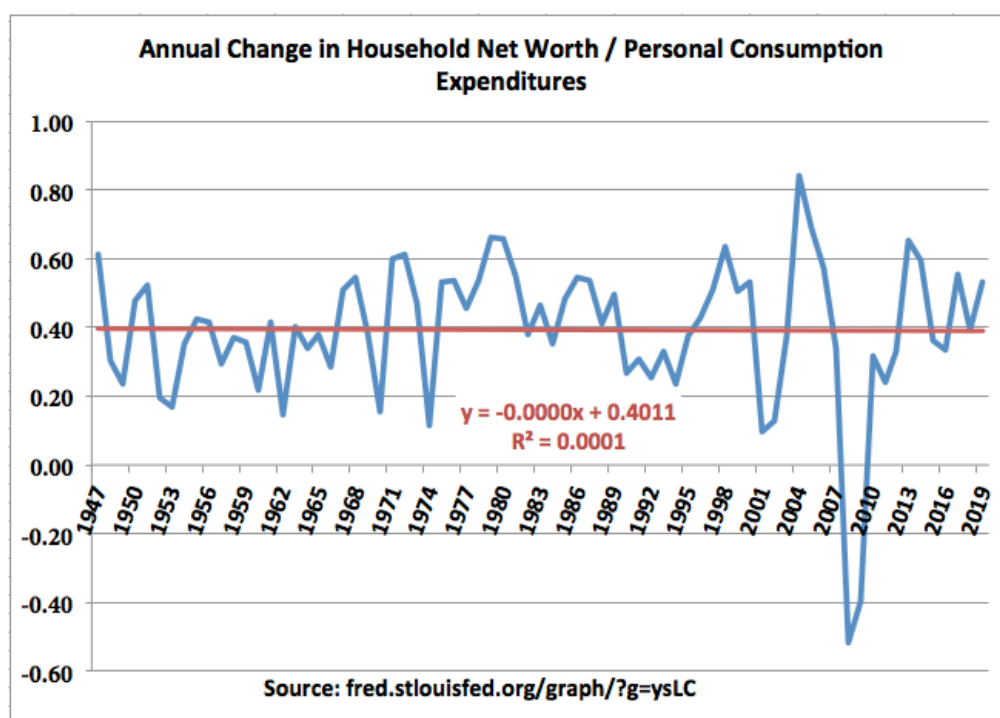
⁷ This view is often discussed in terms of a "demand-driven" economy, invoking a behavioral concept and curve (rather than a numeric measure) that is not empirically measurable, so only has import within dimensionless conceptual diagrams. What's modeled here is a *spending*-driven economy.

⁸ While no measure of "production" plays a role in the model, it implicitly assumes that producers respond to greater spending by producing more, not by raising prices; there is no inflation in the model. This may suggest that it's excessively influenced by recent years and decades, in which capacity utilization, the labor-force participation rate, and inflation measures have declined to current multi-decadal lows. A mechanism of inflation could potentially be added to the model.

portion of consumption, which includes actual consumption, wear and tear, natural decay, obsolescence, senescence, and death.

3. The increased stock of goods from the unconsumed production causes an increase in household balance-sheet assets, net worth, wealth. There is no attempt here to explain *how* an increased stock of diverse real-world stuff results in more numeric, monetarily-designated assets of various types appearing on the account statements and balance sheets of various economic units (notably households). Those mechanisms are treated as a black box, unnecessary to the model.

Condensing the three items, the model simply assumes that spending causes increases in monetary wealth. The empirical relationship between those two monetary measures is observable, surprisingly large, and surprisingly consistent over the long term. Here's the relationship between annual U.S. personal consumption expenditures, and annual changes in household net worth.⁹



The series is obviously volatile; net worth changes are strongly subject to large and often rapid changes in asset-market prices. But over 72 years postwar, it's very consistent; the slope of an ordinary least squares (OLS) linear-regression trendline of the series is flat to four digits. For every dollar of PCE spending, households' wealthholdings increase on average by 39 cents. Splitting the series into two 36-year periods as a test, the trend lines for each period remain equally flat to four digits, and averages for each series are almost unchanged: '47-'82:

⁹ It might be preferable to employ a more complete measure of spending, such as Final Sales to Domestic Purchasers (FSDP), which includes both consumption and investment spending, by all domestic sectors. That measure displays similar long-term regularity relative to wealth changes. But data on distribution of that spending by household income/wealth classes is both unavailable, and would be difficult or impossible to assemble, both conceptually and (hence) empirically. It's also worth noting that the ratio of FSDP to PCE has been fairly consistent over the decades, quite flat around 1.64 from 1959 to 1980, then trending down to hold at its post-2010 level of ~1.51.

fred.stlouisfed.org/graph/?g=yPzK

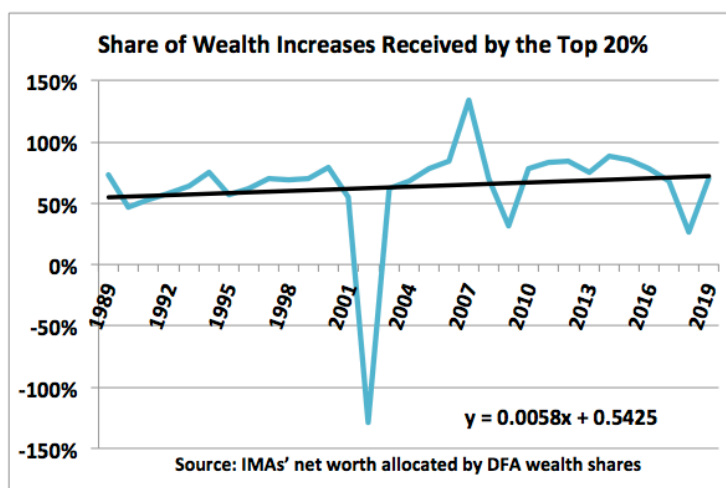
41 cents; '83-'19: 38 cents. Even over the more-volatile two decades since 1998, the average is 37 cents.

This observed 72-year regularity gives us our first model equation:

$$(1) \text{ Change in household net worth} = \text{consumption spending} * .39$$

Two key questions emerge from this: who gets the additional wealth – the top 20% or the bottom 80% – and who does the spending?

Wealth accumulation by income group. The historical data gives a rough answer to the first question: of the \$96T of increased household wealth over three decades, 73% (\$70T) redounded to the balance sheets of the top 20%. Unsurprisingly, the series is also quite volatile, but it again shows long-term regularity: a quite flat though increasing OLS trend line with a slope of .0058.



This series is not as consistent as the wealth:spending ratio. Over the first fifteen years of the period, the top 20% got 64% of the new wealth, versus 78% over the last fifteen years. The model uses a simple multiplier from the full sample as an initial estimate. (This parameter could be elaborated in future iterations of the model.) In a given year:

$$(2) \text{ Top-20\% wealth increase} = \text{total wealth increase} * .73$$

Combined with equation (1), we derive:

$$(3) \text{ Top 20\% wealth increase} = \text{total consumption spending} * .39 * .73 (= 28.45)$$

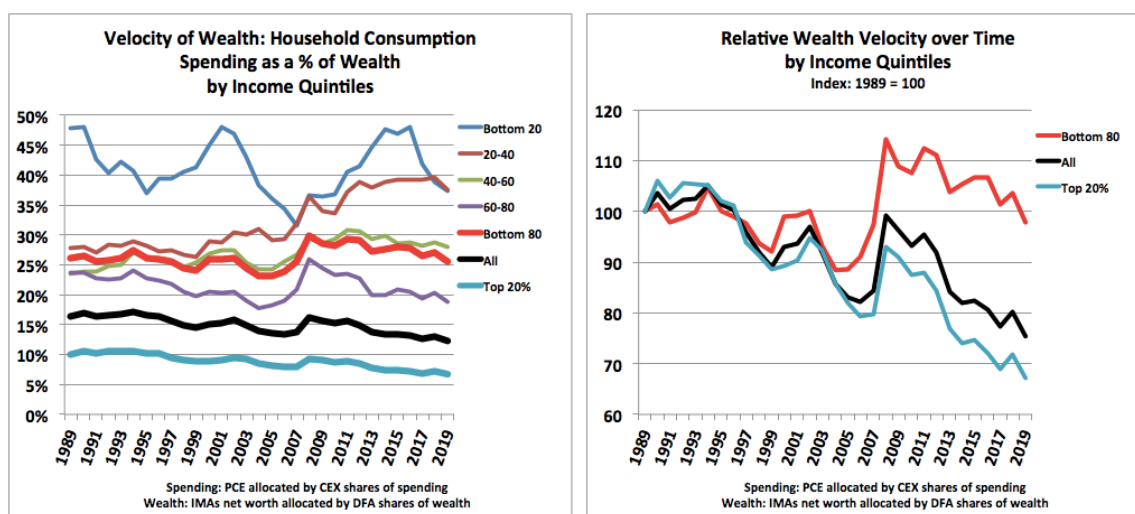
For every dollar of total consumption spending, top-20% wealth increases by 28 cents. By subtraction, for every dollar of total consumption spending, bottom-80% wealth increases by 11 cents.¹⁰

¹⁰ This result gives no insight into causation, much less “just deserts” – whether a dollar of top-20% spending *causes* there to be 28 cents of new balance-sheet wealth, versus 11 cents per dollar of bottom-80% spending. The direct implications for individuals are even further removed; over those thirty years hundreds of millions were born and immigrated, moved in and out of the top 20%, and died. The groups comprise constantly shifting populations of individuals.

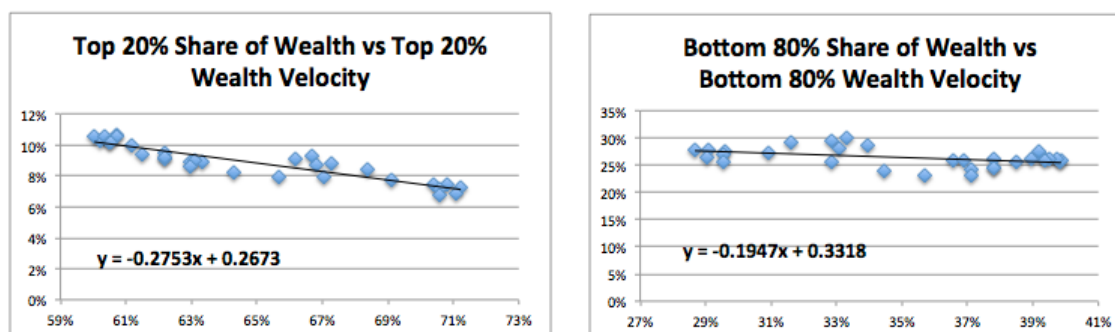
Spending velocity by income group. Each year's spending for each group in the model is a simple function of the group's previous-year (ending) wealth, times its wealth velocity. But what predicts a group's velocity? The best simulation of the empirical facts and trends emerges when each group's velocity is determined by its share of total wealth. (Those relative shares are one measure of wealth concentration.)

Unlike the first two model parameters, these measures have not been consistent over the period examined. Both shares of wealth and wealth velocity have trended significantly, with big differentials in those changes between the top 20% and bottom 80%.

The top-20% share of wealth (in the second figure, above) has increased pretty steadily from 61% in 1989 to 71% in 2019; the bottom 80% share went down commensurately. The changes in wealth velocity have been more complex.



2019 wealth velocity for the bottom 80% is largely unchanged from 1989, despite volatility in the interim (+/-10%; the truncated Y axis may overemphasize that volatility). Top-20% velocity, by contrast, shows much less up/down volatility, but has trended sharply lower, a secular decline of more than 30%. (The top-20% pattern also dominates the change in velocity for the total population.) We can generate OLS linear-regression equations of the correlations between wealth shares and wealth velocity for each group, to derive approximate formulas in hopes of predicting each group's annual spending velocity.



We can use these regression values as estimates in assembling the two remaining model equations (equation numbers rounded for clarity here). In any given year:

(4) Top 20% spending velocity = $-.28 * \text{Top 20\% wealth share} + .27$

(5) Bottom 80% spending velocity = $.19 * \text{Bottom 80\% wealth share} + .33$

Those equations complete the model. It may be easiest to understand as expressed in a spreadsheet layout.

				Top 20%	Bottom 80%	
Δ Wealth Per \$ of spending			\$0.39			
Share of annual wealth change received				73%	27%	
Annual wealth transfer			0.00%	+ is poor -> rich. - is rich -> poor		
	Year	1989 0	1990 1	1991 2	1992 3	1993 4
Top 20%	Spending		1,330	1,403	1,479	1,555
	Transfer		0	0	0	0
	Wealth	13,388	14,394	15,452	16,565	17,733
	Wealth Share	61%	62%	62%	63%	64%
	Velocity		10%	10%	10%	10%
	Spend share		38%	38%	38%	38%
Bottom 80	% Growth		8%	15%	24%	33%
	Spending		2,190	2,299	2,413	2,532
	Transfer		0	0	0	0
	Wealth	8,559	8,938	9,337	9,756	10,195
	Wealth Share	39%	38%	38%	37%	36%
	Velocity		26%	26%	26%	26%
Totals	Spend share		62%	62%	62%	62%
	% Growth		4%	9%	14%	20%
	Total Spending		3,520	3,702	3,892	4,087
	Total Transfer		0	0	0	0
Totals	Total Wealth	21,947	23,332	24,789	26,321	27,928
	% Growth		6%	13%	20%	28%

The model starts with just two numbers: actual wealth (shares) of the top 20%, and the bottom 80%. All the ensuing-year figures are extrapolated by the model equations.

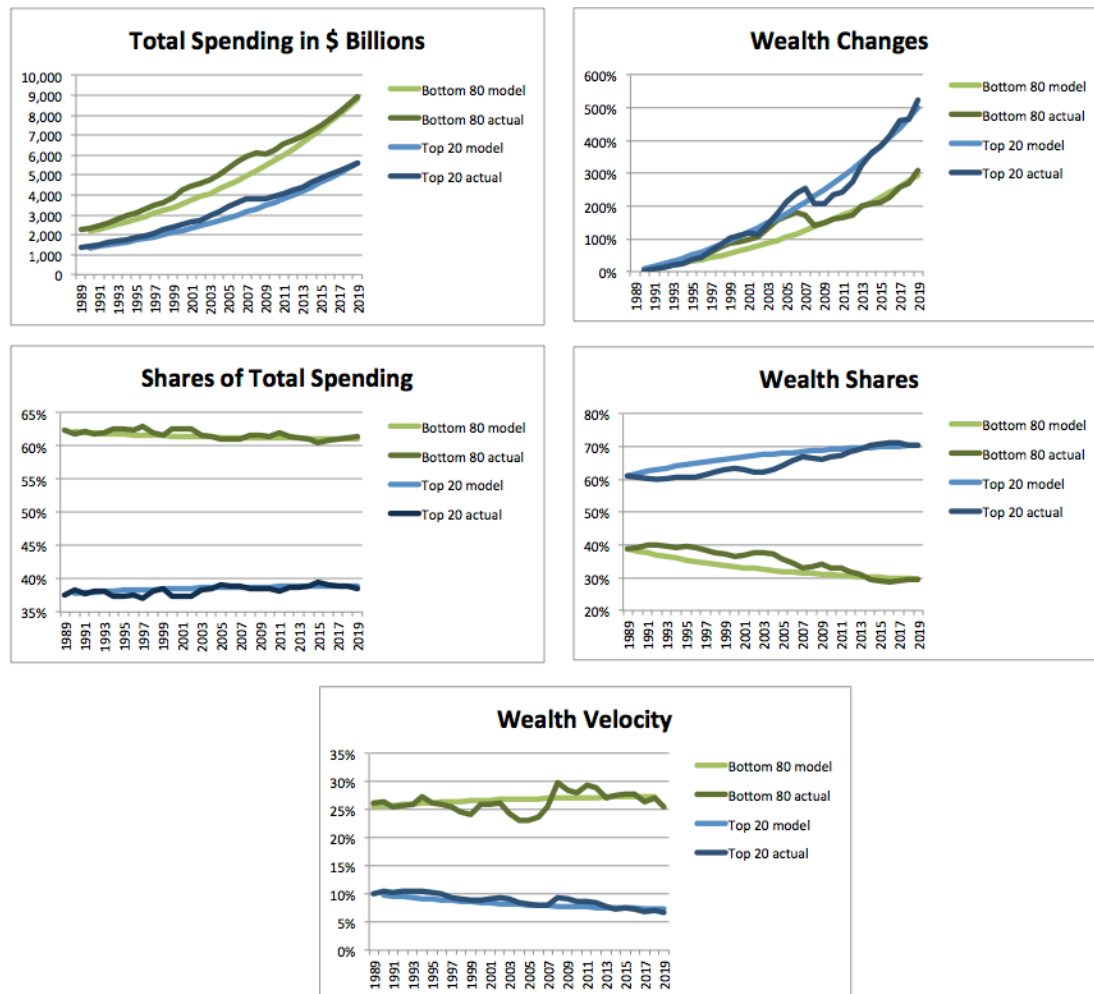
- Each group's Wealth row implements Equations (1), (2), and (3): with the parameters as given, its formula adds 28 cents to top-20% wealth for each dollar of total spending, and 11 cents to the bottom 80%.
- The groups' Spending rows implement equations (4) and (5), calculating each groups' spending based on their previous year's wealth and their wealth velocity (which is formulaically based on their wealth share).

Part III: Running the model

One basic question arises to begin with: does this simple model, starting just with year-zero wealth shares and extrapolating over thirty years, deliver an accurate picture of actual changes over those years? Is the model "well-calibrated," by *multiple* measures?

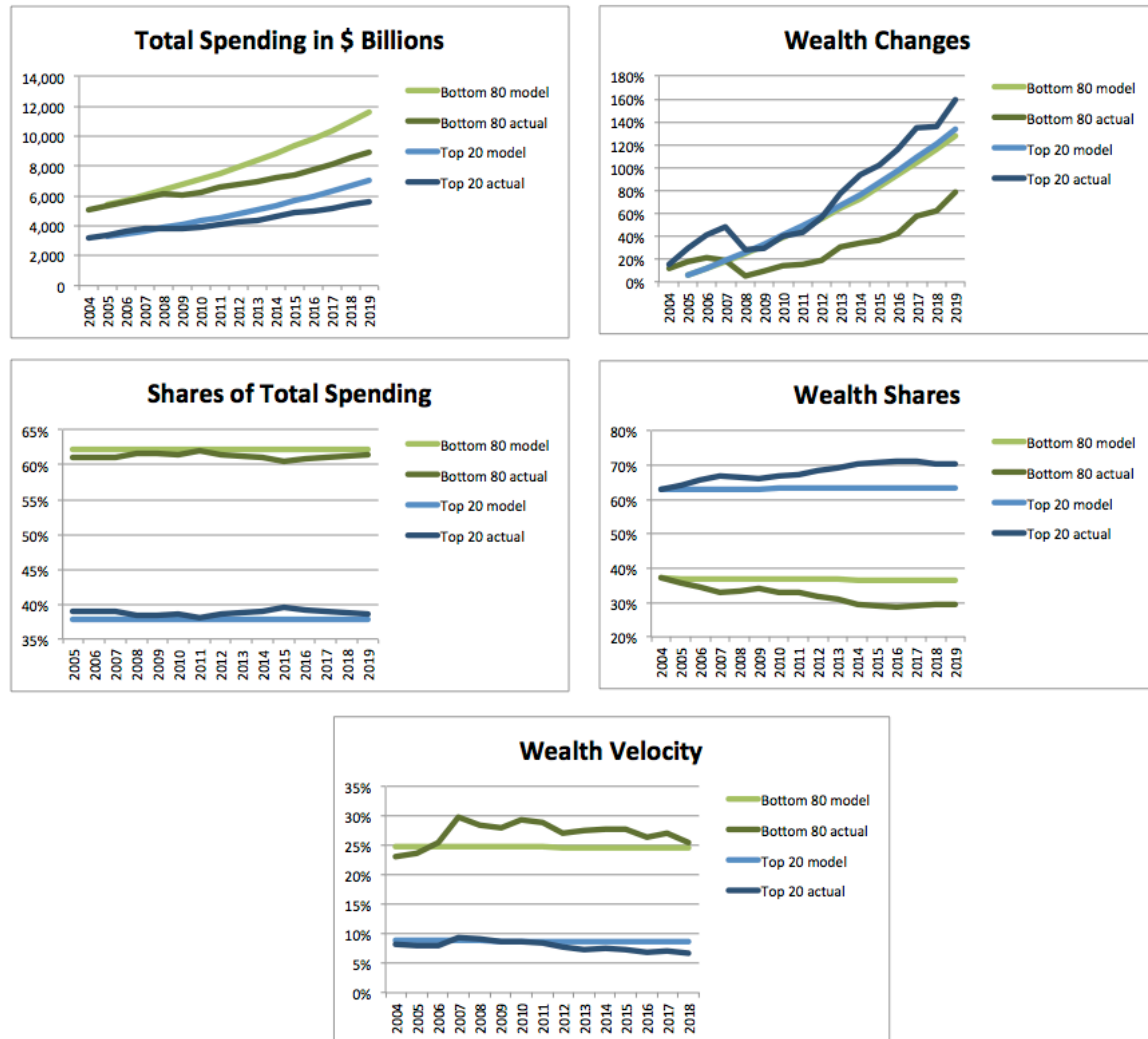
Overall, the answer seems to be yes. Total modeled wealth at the end of the period is \$114T, compared to actual ending wealth of \$118T: a 4% miss after thirty years of modeled changes. The paths of wealth (and hence velocity) measures diverge significantly from actual values *within* the period, raising concern for out-of-sample validity, at least for shorter-term

projections. Other measures show pretty closely to the actual paths of historical values. Overall, the model is quite well calibrated over the long term.



The overfitting problem. The most obvious and reasonable objection to the model is overfitting: the input parameters are derived from the modeled data (though the powerful parameter of wealth increase per dollar of spending is based on a longer 72-year series). This could simply guarantee a fit to the modeled data, so it could easily fail in predicting out-of-sample, future measures in the spending and wealth series.

Splitting the already-small thirty-year sample in two to create a pseudo out-of-sample test suggests this problem exists. Predicting 2004-2019 results based on 1989-2004-derived parameters greatly overstates predicted 2019 wealth, for instance: \$136T vs actual \$118T, a 15% error. Modeled spending is also quite high versus actual. It also misses widely on wealth shares, showing them mostly unchanged over the second period, which they decidedly were not. Other measures show qualitative similarity, but significant quantitative errors.



These errors largely result from a single difference: from 1989-2004, higher bottom-80% wealth shares correlated with higher bottom-80 spending velocity, versus the reverse for the whole sample period. This may suggest that a different method is needed to predict groups' wealth velocity; it may recommend a different measure of wealth concentration (preferably a measure developed externally to the data series here); it may show that a 15-year period is an insufficient sample to derive a reliable correlation; or it may disqualify the model entirely.

Ultimately, of course, time will tell. The model is easily extrapolated forward starting with actual 2019 wealth measures (and 30-year-derived parameters), to set a predictive stake in the ground and project the unknown, out-of-sample future.

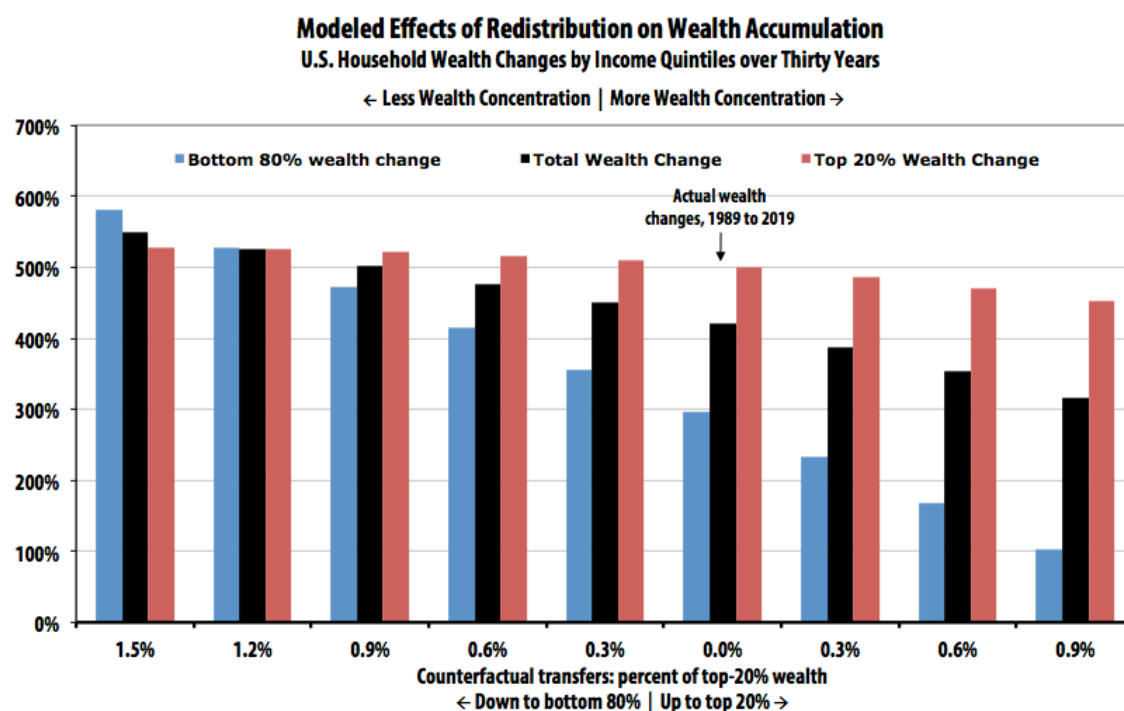
Projections extrapolated from 2019 starting wealth levels

	2024	2029	2034
Total wealth	\$152T	\$196T	\$251T
Top 20% share of wealth	71%	71%	72%
Personal consumption expenditures	\$18T	\$23T	\$31T

Wealth is predicted to grow by 30% in five years, 68% in ten, 116% in fifteen. Personal consumption expenditures are projected to increase equivalently – a 5.1% compounding annual growth rate over 15 years, compared to the actual past 30-year CAGR of 4.8%. Notably, almost no further wealth concentration is predicted.

Part IV: Modeling redistribution

Taking the model as it stands, we can return to the question that opened this article: what are the effects of wealth concentration and redistribution on wealth accumulation? If we add counterfactuals to the model, with some portion of top-20% wealth transferred down or up each year, what effect does that have on total modeled spending, wealth accumulation, and wealth shares?¹¹



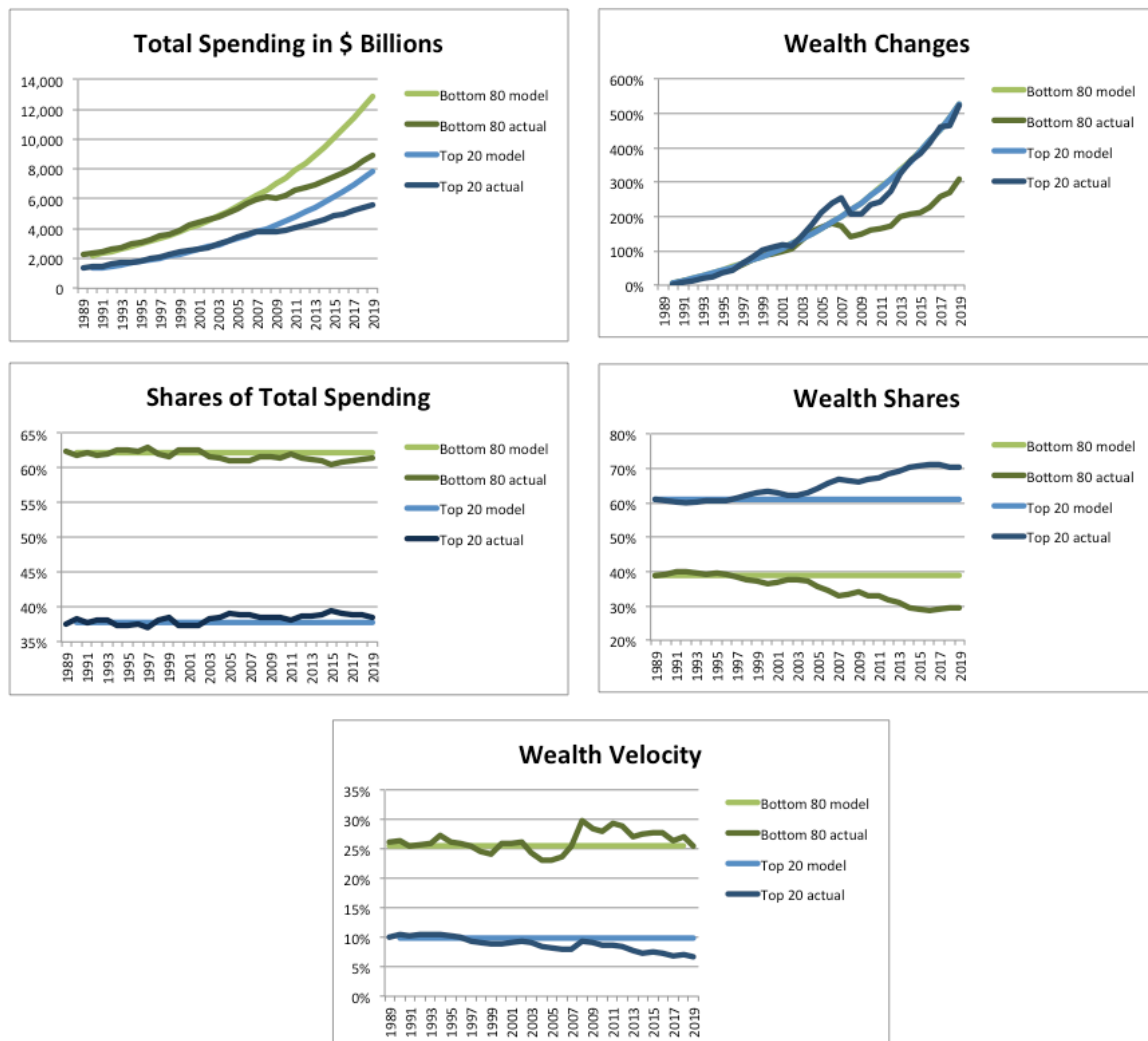
Taking the leftmost bars as an example, with annual 1.5% downward transfer of top-20% wealth, greater spending would have resulted in a 549% total wealth increase, versus actual 421%. Greater downward redistribution appears to make everyone quite a lot wealthier, faster – especially (no surprise) the bottom 80%.¹² That might not be true for the very richest percentile groups, of course, depending on the mechanics and progressivity of the transfers. But the transfers would have to be *far* larger than envisioned here before top-percentile wealth *levels* (vs their relative share) actually stagnated or declined. Absent much more extreme redistribution, the rich keep getting richer.

¹¹ This “counterfactual” approach may seem to suggest that the past three decades represent a zero-redistribution “reality,” even though many would suggest that upward redistribution has been rampant over the period. Rather, the graphs here just represent past decades as a zero benchmark or comparator, with counterfactuals as additional redistribution, upward or downward.

¹² This is not to suggest that aggregate “national wealth” is any kind of definitive measure of national well-being; at best it’s a very rough index. It’s even less useful as a comparator among nations, with different systems of ownership, public/private mix, and economic rights. Increasing monetary wealth is not a goal in itself. But in this model it is a cumulative indicator of past economic activity and accumulation, and is necessary to any estimates of wealth concentration.

In fact, excepting the two leftmost scenarios (1.5% and 1.2%), the top 20% keep getting *relatively* richer than the bottom 80%. Avoiding the increased wealth concentration that we've seen since 1989 (or even reducing the 1989 concentration) would have required at least an annual 1.2–1.5% downward wealth transfer from the top 20%. (For comparison: the compounding annual growth rate on a wealthholder's 60/40 stock/bond portfolio over that period [was about 7.5%](#).)

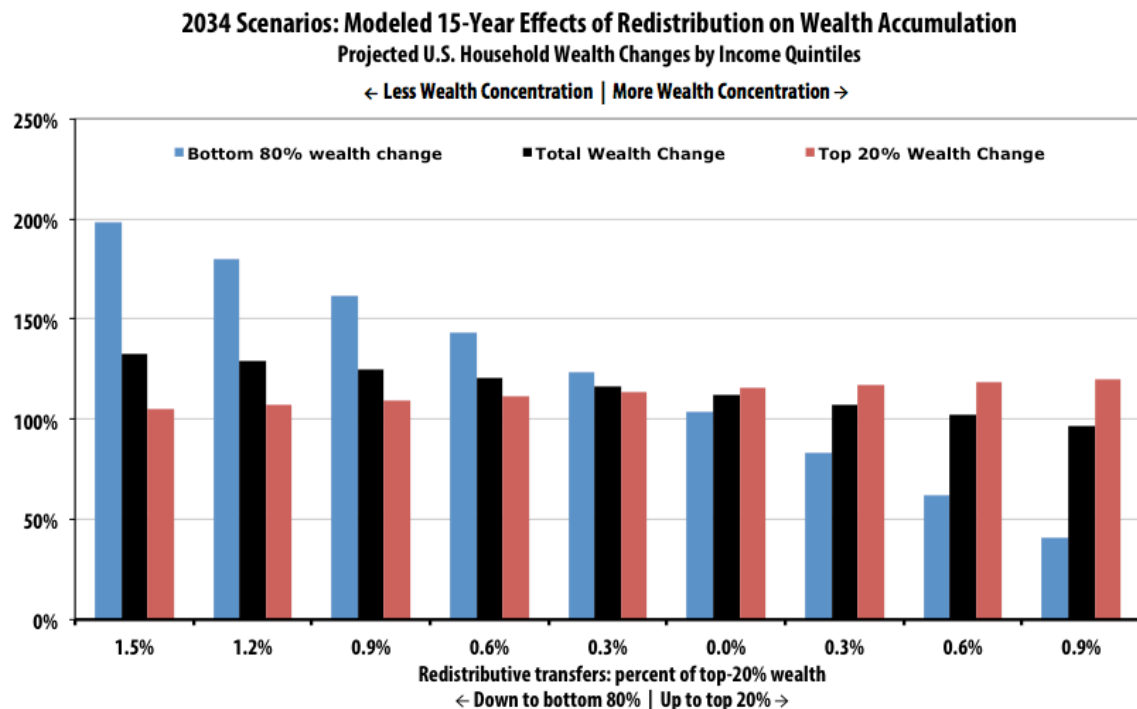
Total modeled 2019 wealth with 1.2% downward redistribution would be \$137T, versus actual \$118T – 16% higher. Most of that extra wealth growth would have gone to the bottom 80% (wealth growth of 527% vs actual 295%), while top-20% wealth growth would have been only slightly higher than actual (526% vs 499%). Shares of total wealth would have remained unchanged, versus the actual increase in top-20% wealth share from 61% to 71%.



Note that the light green line for Bottom 80 modeled wealth changes is hidden behind the light blue line; the two groups' wealth grows at the same rate, 526/7%, in this 1.2% downward redistribution counterfactual.

Finally, we can project future scenarios with different wealth-redistribution policies. Starting with 2019 wealth levels and extrapolating forward using the same 30-year-derived

parameters, over fifteen years we see predicted changes that are quite different from modeled scenarios/counterfactuals of the past.



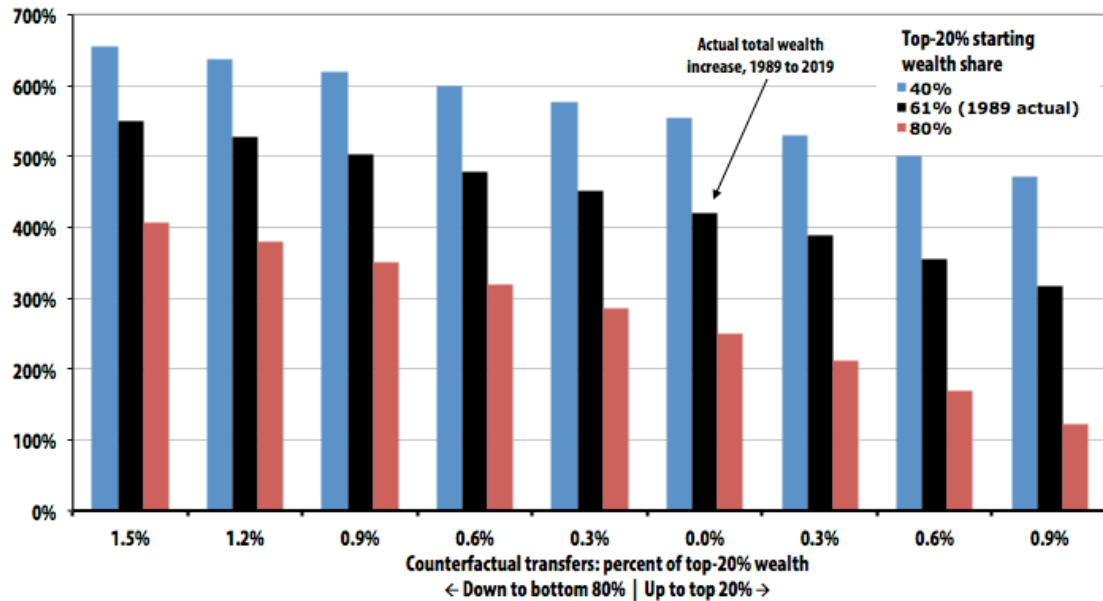
Growth in total wealth from right to left is somewhat weaker than in the previous simulation. Top-20% wealth growth, which showed a moderate upward slope right to left in the previous, actually declines in this one (though top-20% wealth levels don't actually decline; they roughly double over the period). Meanwhile bottom-80% growth remains similarly robust. The results are more straightforwardly redistributive, showing less of the "all boats rise" effect.

These differences are primarily due to initial conditions; in 1989 the top 20% held 61% of the wealth, versus 71% in this graph's 2019 starting year. This seems to suggest that when wealth is more concentrated, redistribution serves relatively more to reduce that concentration than to increase overall wealth. Over time that de-concentration might slowly return the economy to the previous scenario of higher (potential) overall growth.

This 1.2% experiment reflects more general properties of the results, visible if we plot counterfactuals for two parameters at once: starting wealth concentration, and redistribution.

With high starting wealth concentration, total wealth accumulation is significantly lower/slower. But the effects of redistribution on total wealth accumulation are far stronger; more downward redistribution makes us all wealthier at an increasingly faster rate as wealth concentration increases.

Modeled Total 30-Year Household Wealth Increases Based on Starting Wealth Concentration and Annual Wealth Redistribution

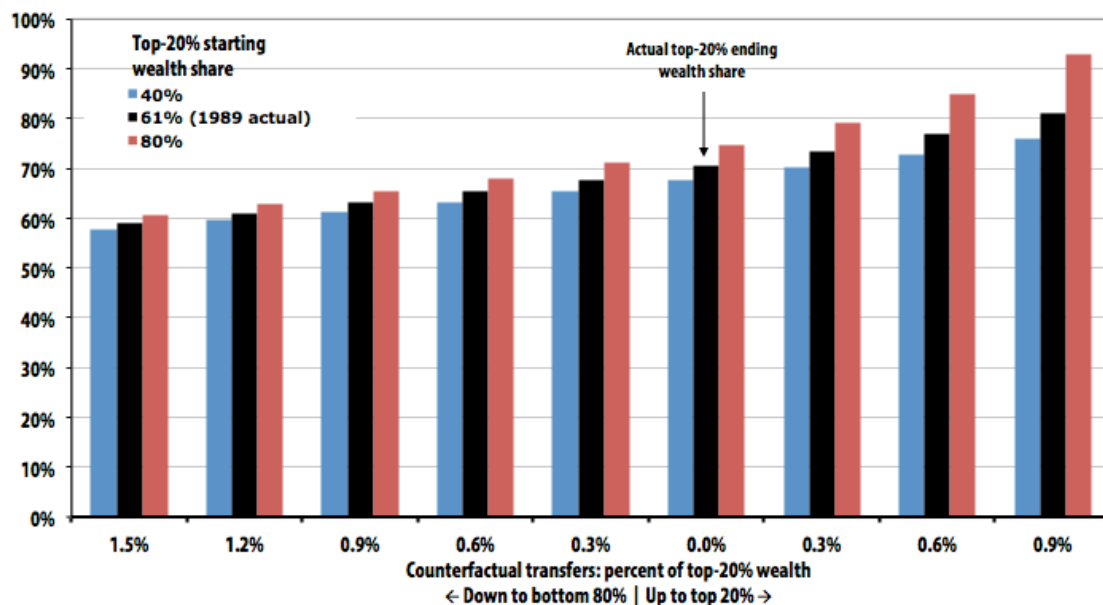


Increases in total wealth by starting wealth concentration and redistribution levels

Starting Wealth Concentration	Redistribution .9% upward	Redistribution 1.5% downward	Differential
40%	472%	654%	1.4X
61% (actual)	317%	549%	1.7X
80%	122%	406%	3.3X

Compared to accumulation, wealth concentration is far more resistant to change, even at the highest depicted levels of downward redistribution. This may help explain the long, slow observed changes in wealth concentration over the last century.

Modeled Top 20% Ending Wealth Share Afer 30 Years Based on Starting Wealth Concentration and Annual Wealth Redistribution



Part V: “Wealth effects”

Having detailed the model and seen some of its results, the economic narrative and logic sketched briefly in Part II bear revisiting and expansion. In this narrative and model, *spending comes out of wealth*, assets. The usual comparator, income, is absent from the narrative and model.

This may seem to imply that individuals’ income and spending levels are purely a function of their wealth. It makes no such claim. (Though it does suggest that the absence of a wealth term in the Keynesian consumption function is a rather glaring omission.)

Rather, the spending-out-of-assets construction just states a precise *definition* of spending: “transferring assets from one account or balance sheet (or pocket or wallet) to another, in exchange for newly-produced goods and services.” That’s what spending is. The intuition is that you can’t “spend out of” the instantaneous moment and event of somebody handing you a five-dollar bill. You can only spend out of the stock of assets you are holding: the five dollars in your hand, pocket, wallet, or account. Individuals’ incomes increase their asset holdings, which they can spend.¹³ Significantly, these transferred assets are not “consumed.” They just circulate among economic units; the purchased goods are produced and consumed.

Examining spending relative to wealth, a stock measure, rather than income, a tightly entangled flow measure (“one person’s spending is another person’s income”), allows us to employ an old economic standby, the left-hand side of monetarists’ equation of exchange:¹⁴

Spending = Money Stock * Velocity (annual turnover of the money stock in spending)

This envisions spending as the circular flow of a stock – faster or slower – as opposed to spending *relative to* another flow: income. Only, the stock denominator employed in the current model is household net worth (about 88% of household assets), rather than the money stock that comprises only about 15% of the aggregate household-sector asset portfolio.¹⁵

This approach differs from the [significant but specialized “wealth effect” literature](#) in two important ways. That literature assumes that propensity to spend (“consume”) out of recently-

¹³ Borrowing, which adds assets (and liabilities) to borrowers’ accounts – expands their balance sheets – is unexamined here. Likewise, the asset-class portfolio composition of asset-holders’ accounts, however large or small the holdings, is not considered. Swapping ETF shares for M assets, checking deposits, “cash,” which are generally demanded by producers/sellers for purchases, is treated as a purely mechanical necessity for goods buyers, the matter of a few mouse clicks. (Selling real estate, of course, takes a bit longer.) It’s the everyday business of aggregate portfolio churn; in this model it’s assumed to be frictionless (which assumes quite liquid markets for most assets). An individual can “spend out of” their stock of ETFs and bonds, or even real-estate assets if/when they downsize – or plan to. Even, if they have significant pension entitlements/“assets,” they can spend more of their current income and liquid assets than they could without those pension assets, without threatening a secure retirement – effectively spending out of their pension entitlement assets.

¹⁴ Since this paper’s money-view narrative and model don’t employ or require any measure of goods “quantity” (numerated in some imagined universal unit of “output”), the right-hand side is ignored.

¹⁵ “There is as an unearthly, mystical element in [Milton] Friedman’s thought. The mere existence of a stock of money somehow promotes expenditure.” Joan Robinson. *Economic Heresies* (1973), p. 87. More precisely, the monetarist narrative seems to presume that a higher *proportion* of M assets in the market’s aggregate portfolio causes more spending – a presumption that has little or no empirical or theoretical support. To borrow Keynes’ words though not necessarily his constructions, this “analysis registers my final escape from the confusions of the Quantity Theory, which once entangled me.” ([General Theory, Preface to the French edition.](#))

accumulated, new “marginal” wealth is different from the propensity to spend out of already-existing wealth. The literature’s results also mostly characterize various “long-run” MPCs, as opposed to the explicit annual velocity measures employed and exploited here. This model assumes that annual propensities are the same for income *groups*’ new/marginal and pre-existing wealth, and that those propensities are well-estimated by long-term wealth-velocity measures. Those assumptions merit further explicit investigation.

Discussing spending relative to the stock of wealth, versus income, makes possible important understandings that remain opaque in much mainstream and even heterodox economics. As an example, Ben Bernanke, describes the academic response to Irving Fisher’s debt deflation theory:

“Fisher’s idea was less influential in academic circles, though, because of the counterargument that debt-deflation represented no more than a redistribution from one group (debtors) to another (creditors). Absent implausibly large differences in marginal spending propensities [relative to income] among the groups, it was suggested, pure redistributions should have no significant macroeconomic effects” (*Essays on the Great Depression*, p. 24).

Viewed only through the lens of (marginal) propensity to spend out of *income*, debt deflation – and wealth/income distribution itself– *can’t* have significant macro effects. “That’s just (re)distribution.” The large, persistent observed differences in wealth velocity across the wealth/income distribution provide one straightforwardly transparent mechanism to explain such effects.

Spending out of wealth also renders notions of “wealth hoarding” (think Smaug the Dragon reclining on his piles of pillaged treasure) conceptually and arithmetically transparent, compared to spending as a share of income, and the vexed topic of individual vs collective (and households’, firms’, government, and “national”) “saving.” Hoarding (or a less loaded term, holding), by individuals or groups, is simply slow turnover of wealth in spending.

This conceptual construction robustly embraces an economic mechanism, velocity, that is central to much mainstream economic thinking (though with an importantly different denominator), while eschewing important others – notably “saving out of income” mechanisms of aggregate accumulation.

Conclusions

Examining the performance of the model itself, and the model results, some main takeaways emerge.

The model. Comparing actual empirical measures over thirty years to the model’s predictions, it appears extremely well-calibrated, at least over the long term. The end-of-period modeled measures match actual results quite precisely. Model errors and variance within the period, however, raise concern for out-of-sample reliability. A “split test” of the period (which is already a smaller sample size than would be desired for this exercise) reinforces that concern. Predicted results for the second 15-year period, based on parameters drawn from the first, show significant quantitative and some qualitative differences from actual.

Modeled predictions provide a benchmark against which to measure actual future out-of-sample observations.

The results. Taking the model as usefully (if only approximately) predictive, it demonstrates that greater annual downward redistribution of top-20% wealth results in significantly greater ending wealth for both the top 20% and (especially) the bottom 80%, and for total wealth. The effects are very large, alleviating some concern for precise accuracy of the model parameters. Results are dependent on initial conditions. When starting wealth is more concentrated, the effect of redistribution is more to ameliorate wealth concentration, with a somewhat smaller relative effect on increases in total wealth. When starting wealth concentration is higher, however, downward redistribution has a more powerful *differential* effect (upward vs downward distribution) on total spending and total wealth accumulation. Wealth concentration declines quite slowly (when it does at all) in almost all the modeled scenarios.

This model only examines one (straightforwardly arithmetic) wealth-based economic effect; there are innumerable others. But it appears to be a very large effect that is largely absent, or quite muted at best, in both mainstream and heterodox models.

Appendix: Data series details and limitations

The data series and calculations employed in the model are all included in a downloadable Excel workbook at asymptosis.com/Redistribution6.xlsx. The spending and wealth measures require some explanation.

Wealth series. The Distributional Financial Accounts' (DFAs') measures of wealth shares by percentile group are fundamental and necessary to the model. The DFAs also provide wealth *levels* by percentile group, but as depicted in the first figure in this paper, their totals are different from other wealth measures – notably the FAs (Financial Accounts, from Table B.101).

All of these wealth measures are published by the Fed. They all draw on similar data, and on each other – especially on the Fed's triennial Survey of Consumer Finances (SCF). The measure from the B.1 table, of "U.S. Net *Wealth*," stands out numerically, methodologically, and conceptually (and is vulnerable to corporations' share-buyback and equity vs debt "capitalization" decisions). Without going into the measures' many differences in methods and assumptions, this paper uses the Household Net Worth measure from Table S.3 of the Integrated Macroeconomic Accounts (IMAs) because:

1. It closely matches the measure in the FAs.
2. It's backed by a complete and fairly transparent accounting structure that is stock-flow-consistent across all sectors (it fully explains balance-sheet changes) and largely conforms to the U.N.'s System of National Accounts (SNAs) and the international Balance of Payments (BOP) methodology.
3. Its tables are conveniently and comprehensibly organized and presented, and are provided in multiple forms (PDF, interactive HTML, and Excel, with individual measures also available on the FRED data portal).

The DFA's wealth share measures, which only extend back to the inception of the SCF in 1989, are used to allocate those IMA wealth levels across percentile groups.

Consumption Spending. The Consumer Expenditure Survey (CE or CEX) from the Bureau of Labor Statistics (BLS) makes it possible to extract shares of consumption spending by income quintiles back to 1984. Its levels measures are quite problematic; total tallied spending is generally only 60% of Personal Consumption Expenditures (PCE), from the Bureau of Economic Analysis (BEA).¹⁶ The latter measure conforms and contributes to the larger accounting construct of GDP and etc. The model here allocates the larger PCE measure to income quintiles based on shares of spending calculated from the CEX levels measures.

Those CEX share measures also bear interrogation. Most significantly, the CEX seems to seriously undersample the highest-income households. This almost certainly results in a misrepresentation of spending distribution/concentration across income quintiles, and might even be a significant factor in the under-reporting of total spending itself.¹⁷

Finally, the spending-by-income-quintile data used to assemble the CEX spending-share series is only provided in separate, individually downloadable, single-year spreadsheets, which are not consistently laid out. All those annual tables, and a compilation assembled for all years, are included in the downloadable model workbook.

Author contact: steve@steve-roth.com

SUGGESTED CITATION:

Roth, Steve (2021) "How downward redistribution makes America richer." *real-world economics review*, issue no. 95, 22 March, pp. 42-61, <http://www.paecon.net/PAEReview/issue95/Roth95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

¹⁶ BEA, 2019. "Comparing expenditures from the Consumer Expenditure Survey with the Personal Consumer Expenditures: Results of the CE/PCE Concordance." bls.gov/cex/cepceconcordance.htm
Spreadsheet: "Summary comparison of aggregate Consumer Expenditures (CE) and Personal Consumption Expenditures (PCE)" bls.gov/cex/pce-compare-200916.xlsx.

¹⁷ Sabelhaus, John et al., 2013. "Is the Consumer Expenditure Survey Representative by Income?" NBER. [nber.org/papers/w19589](https://www.nber.org/papers/w19589)

The moral dilemma and asymmetric economic impact of COVID-19

Constantine E. Passaris [University of New Brunswick, Canada]

Copyright: Constantine E. Passaris, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Introduction

COVID-19 has forced us to acknowledge that we live in the Age of Internetization. Internetization is a new concept that I have coined to describe our individual and collective empowerment through digital infrastructure and electronic connectivity in the 21st century. The global pandemic revealed an economic disparity and a digital divide between developed and developing countries. In addition, it has also demonstrated a philosophical dilemma based on the public policy binary options for developed and developing countries between saving lives and protecting livelihoods.

The coronavirus pandemic has widened the economic disparity between developed and developing countries. The economic impact and consequences of COVID-19 on a global scale have been uneven and asymmetric. This disparity has been magnified because of the digital divide which is reflected in the lack of electronic infrastructure and digital capacity in developing countries.

Global pandemic

COVID-19 unleashed a worldwide medical, social, and economic catastrophe. In a globalized world, national borders were not able to prevent the transmission of the virus. National economies were devastated. The format of social interaction had to be re-invented. In addition, COVID-19 strained the contemporary governance architecture and the efficacy of its public policy.

The economic impact of the global pandemic has been profound and multilayered. It has affected the economic well-being of individuals and families. It has also revealed the vulnerability of businesses. In effect, it has exposed the economic fault-lines and inequalities at the microeconomic level. It has also adversely impacted economic growth and many economic sectors. More precisely, COVID-19 has contracted economic growth and decimated economic sectors such as the tourism, hospitality, aviation, and travel industries.

Global pandemics have occurred with irregular frequency in the long history of humanity. COVID-19 was the most cataclysmic event of our collective lifetimes. It permeated shock and awe around the world. The pandemic unleashed a series of adverse economic consequences that triggered negative economic growth and massive unemployment.

COVID-19 spread like wildfire to every country in the world and impacted adversely upon national economies and civil society. What is unique to the coronavirus pandemic is that it occurred during the Age of Internetization. There is no denying that COVID-19 has underlined and magnified the extent to which we have become dependent on internetization. In effect, COVID-19 has revealed our dependence on electronic connectivity, the central role of digital infrastructure for our economy, the widening of the economic disparity between developed

and developing countries because of the digital divide and the moral dilemma between saving lives and saving livelihoods.

The World Bank has concluded that “the COVID-19 pandemic has, with alarming speed, delivered a global economic shock of enormous magnitude, leading to steep recessions in many countries. The baseline forecast envisions a 5.2 % contraction in global GDP in 2020 – the deepest global recession in eight decades, despite unprecedented policy support. Per capita incomes in the vast majority of emerging market and developing economies are expected to shrink this year, tipping many millions back into poverty (World Bank, 2020, p. 3).”

Global context

COVID-19 has revealed the extent to which national borders are no match for globalization. The recent global pandemic has marginalized the efficacy of national borders. The modern border is porous, malleable, and surmountable. It is not an effective deterrent for undesirable political, social, medical, or economic consequences. Our past has lulled us into a false sense of comfort and security behind our national borders. This is no longer a realistic or pragmatic assumption. The old days when borders served as a deterrent from entry from any kind of foreign intrusion are behind us. Today's borders are purely symbolic and simply serve as a geographical marker.

Advances in digital technologies have transformed traditional geographical entities to virtual economic communities. Innovations in transportation and communications technology have enhanced all forms of human mobility. Borders have melted in the presence of digital connectivity. In effect, cyberspace has no natural or geographical demarcations. Indeed, knowledge-based products and services cross borders without impediment and with relative ease.

Contemporary governance has been subjected to global forces unlike any precedent time in human history. It has become abundantly clear that governance can no longer be confined within national parameters. The domestic insularity of governance is no longer practical or relevant for the 21st century. In consequence, the internationalization of governance necessitates a global mindset, a worldly awareness, an inter-cultural cognizance, and an international engagement.

Internetization has resulted in a diminished national autonomy. Indeed, the dividing line between the national context and the international linkages is blurred at best and fluid on most issues. This does not negate the need for domestic governance institutions and policies. But simply recognizes that their capacity to respond to international events can be constrained. COVID-19 has revealed that global interdependence is the wave of the future.

One of the lessons of the coronavirus pandemic is that global interdependence is a fact of life in the 21st century. An integrated and porous global environment exposes a country's national governance architecture to new vulnerabilities and external shocks. At the end of the day, the internationalization of the governance architecture, its accompanying machinery of governance and the scope and substance of its public policies is a prerequisite for modernizing the mission and mandate of governance. In addition, the redesign of governance

should facilitate an effective global outreach and protect a country's national institutions of governance from external shocks and digital vulnerabilities.

It has become abundantly clear that the challenges facing humanity in the 21st century are global in scope and substance. These challenges include economic, political, social, and environmental. National policies to combat these challenges are unlikely to produce favourable outcomes. In consequence, a collaborative multilateral approach which is supported by global institutions and a global mindset are required to achieve a modern efficacy in the conduct of public policy.

Age of internetization

Internetization is a new word and concept that I have coined to describe the electronic empowerment of the 21st century. COVID-19 has forced us to acknowledge the extent to which technological change has impacted our individual and collective lives at every level and in numerous dimensions. Internetization includes global linkages and extends them by simultaneously embracing electronic connectivity and the empowerment of the Internet.

Internetization has redefined the economic landscape and reformatted social connectivity. In effect, internetization has made time and geography irrelevant. Furthermore, the Internet has triggered an age of individual and collective empowerment that is unprecedented in the history of civilization. It provides individuals, institutions, civil society, businesses, and governments with a tremendous global connectivity, influence, and outreach (Passaris, 2019).

COVID-19 has underlined how dependent we have become on internetization in the 21st century. During the pandemic, internetization kept our world functioning albeit at a slower pace and with a different *modus operandi*. The pandemic forced individuals and civil society to retreat and retrench in their homes and personal spaces. As the world enforced self-isolation and lockdowns, internetization served as our direct connection outside of our secure bubble. In effect, internetization became our window on the world and redefined the parameters of our economic, social, and political interaction.

Furthermore, internetization served as a convenient medium for transporting our work and our office to our homes. It enabled schooling our children from home and we resorted to social media to connect with our friends and relatives. Internetization was our enabler for celebrating our birthdays, holding weddings, and conducting funerals online. We attended religious services online, shopped and sold products and services online, received our newsfeeds online and completed our banking online. We even readjusted our patterns of entertainment by attending the symphony online and watching our favourite sports on our computer screens.

In effect, self-isolation and the pandemic lockdowns have forced us to come to grips with our digital existence. Our national economies and civil society are now defined by their online capacity and empowerment. Computers and electronic connectivity have become an essential and necessary enabler for our contemporary existence. All in all, it has been a revolutionary change to our lifestyle, daily routine, and our contemporary pattern of our human existence.

In short, the advent of the Age of Internetization is a mirror that we are living through one of the most momentous economic and social revolutions of all time. An economic and social

revolution of unprecedented magnitude that is empowered by technological change. There is no denying that internetization has been a catalyst for transformational change with a profound and indelible impact.

Moral dilemma

The advent of COVID-19 revealed a novel public policy dilemma with moral and philosophical implications. Governance was confronted with a trade-off between being informed by science or sustaining the economy. In this regard, public policy faced the binary microeconomic choice between saving lives or saving livelihoods. This governance dilemma set all countries on a collision course between science and the economy.

The issue is whether public policy should be grounded in scientific evidence and take a cautionary approach or resolutely prop up the economy. In the absence of our collective experience in dealing with the COVID-19 virus, science favoured a tempered approach that was evidentiary and cautionary. On the other hand, businesses were confronted with financial insolvency due to a disparity between increasing costs and declining revenues.

COVID-19 revealed a schism between the conduct of science and the operation of the economy. In effect, science and business are not mutually compatible. Science is methodical, fact based and contemplative. On the other hand, business is impulsive, opportunist and a risk-taker. Advancing on independent and parallel tracks, science and business can flourish on their own. The game changer was the advent of COVID-19 which forced science and business to collide.

More precisely, the purpose of science, during the coronavirus tsunami was to save lives. However, in that same context the natural inclination of business was to make money. Furthermore, in the pursuit of profits, businesses are prepared to take calculated risks. In effect, the wild card in this divergent decision-making process is the element of risk. Science is used to making evidence-based decisions, while businesses are by nature risk takers and are prepared to underwrite a portion of loss based on risk taking.

In confronting this moral dilemma, the element of risk is not limited to a financial loss but a more formidable penalty which is an increase in the death toll. In other words, what is at stake, is a balancing act between risking lives or risking livelihoods. In this regard, the stakes are high, and the consequences are uneven. In consequence, governments have a profound role to play in exercising due diligence and serving as a referee between evidentiary science and economic efficacy. This requires taking the advice of medical experts and epidemiologists regarding the different phases and timing for the operational scope of the economy. The end game should always be that human lives matter, and the safety and well-being of a country's citizens is paramount.

The role of government has been profound during COVID-19. The reason being that no other institution had the authority or the fiscal capacity to intervene on such a massive scale. The global pandemic underlined the positive role of government during a time of crisis and revealed the contemporary efficacy of Keynesian macroeconomic policies. The macroeconomic public policy options have been articulated by McKibbin and Roshen in this manner: "A range of policy responses will be required both in the short term as well as in the coming years. In the short term, central banks and Treasuries need to make sure that

disrupted economies continue to function while the disease outbreak continues. In the face of real and financial stress, there is a critical role for governments.... The longer-term responses are even more important. Despite the potential loss of life and the possible large-scale disruption to a large number of people, many governments have been reluctant to invest sufficiently in their health care systems, let alone public health systems in less developed countries where many infectious diseases are likely to originate The idea that any country can be an island in an integrated global economy is proven wrong by the latest outbreak of COVID-19. Global cooperation, especially in the sphere of public health and economic development, is essential" (McKibbin and Roshen, 2020, p. 25).

Economic assymetry

The economic severity and worldwide impact of COVID-19 is better understood in the context of a comparison between developed and developing countries. Indeed, the global pandemic has revealed a macroeconomic inconvenient truth. It has widened the economic disparity between developed and developing countries. In effect, the economic impact and financial consequences of COVID-19 on a global scale have been uneven and asymmetric. This disparity has been magnified because of the lack of digital technology and electronic capacity in developing countries.

The role of internetization in our contemporary economic and social existence is most vividly displayed when we compare the empowering role of electronic connectivity between developed and developing countries. In the 21st century, developed countries focused their investment priorities on digital infrastructure and electronic capacity. In contrast, developing countries have lagged on both counts.

A global comparative assessment reveals that despite the adverse economic consequences inflicted by the coronavirus pandemic, citizens of developed countries had recourse to a financial support system and a social safety net that is non-existent in developing countries. More specifically, during the COVID-19 pandemic, only developed countries were able to rely on a well-oiled machinery of economic governance, a national financial structure to support their citizens and businesses and a robust health care system. These were luxuries that were not available to the citizens of the developing world who number more than 6.5 billion people or 85 % of the world's population.

One of the stark comparisons between developed and developing countries appeared during the gradual removal of social confinement. The process of re-opening national economies around the world after a period of extreme economic and social lockdowns created unique asymmetric challenges. Developed countries implemented a cautious re-opening of their economies taking their cue from a declining trend in coronavirus infections. Developing economies faced a different set of realities and challenges. A prolonged lockdown for developing countries brought to the fore a binary choice between saving lives and protecting livelihoods.

Due to their weak social safety net, food insecurity, inadequate governance framework, developing countries concluded that many more people would die from hunger than from the virus. In consequence, they were prepared to gamble with a surge in infections because of a quick reopening. Policymakers in developing countries concluded that a prolonged lockdown

would cause more long-term financial harm and result in mass starvation than reopening their economies immediately.

Furthermore, governments in developing countries did not have an effective outreach in the form of electronic connectivity to a large segment of the population. In this case, the lack of a social media presence and the absence of an electronic network inflicted an additional penalty for developing countries. The advent of the COVID-19 pandemic has underlined the importance of electronic public education and the dissemination of instantaneous public advisories during a time of crisis. In short, the marginalized portion of the workforce was forced to bear the brunt of a disproportionate adverse financial impact because of a prolonged economic lockdown.

For many marginalized citizens in developing countries, the harsh and immediate measures of a comprehensive lockdown felt like an economic ambush with respect to their economic livelihoods. It also revealed a deep internal fissure in their respective societies between those who had the financial means to sustain themselves during the lockdown and those who did not. Furthermore, the lack of digital infrastructure and electronic capacity in developing countries prevented their citizens from working from home. In addition, COVID-19 caused the closure of international borders resulting in the decimation of the tourism and hospitality industries in developing countries.

Digital divide

At the turn of the millennium, the digital revolution revealed a novel form of economic disparity between developed and developing countries. While most developed countries had a seamless transition to the digital and knowledge economy, that was not the case for developing countries. The reason being the more pronounced barriers for developing countries in creating a digital ecosystem composed of an electronic network, Internet access and a digital infrastructure.

The digital divide is a demonstrative expression of the marginalization of developing countries from the electronic resources and economic benefits of internetization. It reveals a significant impediment and a perpetuation of the vicious cycle of underdevelopment from an economic and social perspective for developing countries. Castells concluded that “Information technology, and the ability to use it and adapt it, is the critical factor in generating and accessing wealth, power, and knowledge in our time” (Castells, 1998, p. 92).

COVID-19 has spotlighted the foundational role of internetization as an enabler of economic growth and development. Internetization is the most potent modern tool for empowering developing countries to establish global virtual markets, enhance productivity, create economic opportunities, and contribute to the formation of human capital. In consequence, I am proposing a new economic development model that has internetization as a core enabler for the purpose of bridging the economic disparity between developed and developing countries.

It should be noted that internetization has shifted the emphasis for the wealth of nations from the resources under our feet to the resources between our ears. In effect, the creation of human capital within a country’s population is the modern trajectory towards attaining economic growth for developing countries. In short, internetization has the potential to

become the great equalizer between developed and developing countries in the modern circumstances. Indeed, COVID-19 has forced us to recognize that electronic connectivity has become an essential economic enabler for the 21st century.

As COVID-19 spread around the world, it has exposed our collective weaknesses, fault lines and vulnerabilities on the economic landscape. If COVID-19 is present somewhere, it is a potential threat everywhere. Our effective global response to COVID-19 should reflect that a global society is only as strong as its weakest link. In consequence, addressing the digital divide has become an urgent imperative.

Human capital

COVID-19 had a direct and profound impact on education. Around the world, schools, colleges, and universities were closed and students and teachers were sent home. Internetization emerged as the default medium for transforming school and university-based pedagogy to online learning. Despite the significant empowering capacity of digital education for developed countries, internetization has also confirmed the disparity in digital capacity for developing countries.

One of the foundational postulates of the new global economy of the 21st century is the paramount role of education and the creation of human capital. Human capital has been elevated to an iconic role in the creation of the wealth of nations. The new economy of the 21st century has transformed the desired educational outcomes and required skill set from the foundational 3Rs of reading, writing and arithmetic to a more complex and integrated skill set and competencies. The modern array of desired educational outcomes includes scientific, technological and financial literacy, global and cultural awareness, leadership and entrepreneurial skills, social and civic responsibility, creativity, critical thinking, problem solving, communication and collaboration (World Economic Forum, 2020).

COVID-19 proved to be a stress test for the world-wide education system. It revealed that the digital divide had become a herculean educational barrier for developing countries. The vast majority of countries around the world closed their educational institutions to contain the spread of the coronavirus pandemic. More than one billion students were affected world-wide. In consequence, students were forced to stay at home and wherever feasible classes continued with teaching and learning moving online. In this scenario digital technology emerged as the foundational tool to support remote learning.

The paramount role of electronic education was ascertained during COVID-19. In effect, one of the more glaring disparities between developed and developing countries was reflected in the delivery of education. Developed countries were able to initiate a seamless transition to online learning and students did not miss out on their school year and timely graduations.

On the other hand, developing countries had no operational alternative but to shut down their schools and universities until further notice. That is because developing countries did not have the option of defaulting to online education. Harnessing electronic connectivity and the Internet infrastructure for schooling was not an option. In consequence, most of the students in developing countries lost at least one year of their schooling. One of the lessons learnt from this experience was that a modern digital infrastructure and electronic connectivity has

become an essential prerequisite for developing countries with respect to ensuring educational capacity.

The most pronounced and pervasive manifestation of the digital divide is evident on the educational landscape. Developed countries have taken advantage of the educational empowerment of digital technology and integrated it effectively for the benefit of their students and teachers. These were luxuries that were not available to teachers and students in the developing world. In consequence, developing countries should prioritize investing in building and nurturing their digital infrastructure and electronic capacity. The internetization of education in developing countries has the potential to enhance accessibility to educational platforms, improve the efficacy of educational outcomes and nurture the creation of human capital. Consequently, it can serve as a catalyst for bridging the gap of economic opportunity and national prosperity between developed and developing countries.

Conclusion

In the Chinese language, the word for crisis is composed of two characters. One denotes danger and the other opportunity. This is the context for an examination of the economic impact of COVID-19. There is no denying that the coronavirus pandemic generated an adverse economic tsunami around the world. But it can also be perceived as a new opportunity and an operational turning point for bridging the economic disparity between developed and developing countries. In effect, the COVID-19 economic crisis opens the door to reshape and restructure the economic landscape so that it can better serve humanity worldwide.

COVID-19 has reminded us that we are living through one of the most momentous economic revolutions of all time. An economic revolution of unprecedented magnitude. The digital revolution has spawned the operational axiom of internetization which has become a foundational postulate of the new global economy of the 21st century. Indeed, internetization has morphed into a modern catalyst for transformational change with a profound and indelible impact.

The global pandemic has underlined the fault lines and asymmetric impact of COVID-19 on developed and developing countries. It has exposed a moral trade-off between saving lives and protecting livelihoods. COVID-19 has also highlighted the disparity in economic opportunity and economic performance between developed and developing countries. In effect, internetization has magnified the economic disparity between developed and developing countries due to the lack of technological infrastructure and digital capacity in developing countries.

At the end of the day, COVID-19 has delineated several new opportunities for bridging the gap of economic disparity between developed and developing nations. Digital education and online learning have the potential to serve as a catalyst for developing countries by empowering them to create the human capital that is essential for their economic advancement in the 21st century. Furthermore, a new economic development model for developing countries that is enabled by internetization can forge a new path forward for enhancing the economic potential of developing countries in the context of the challenges and opportunities associated with the 21st century.

References

Castells, Manuel. (1998) *End of Millennium*. Malden, MA: Blackwell.

McKibbin, Warwick J. and Fernando, Roshen. (2020). "The Global Macroeconomic Impacts of COVID-19: Seven Scenarios". CAMA Working Paper No. 19/2020, Retrieved on August 8, 2020
<https://ssrn.com/abstract=3547729> or <http://dx.doi.org/10.2139/ssrn.3547729>

Passaris, Constantine. (2019). "The Economics of Internetization", ed. M. Khosvow-Pour, *Advanced Methodologies and Technologies in Network Architecture, Mobile Computing, and Data Analytics*, Hershey (USA): IGI Global, pp. 1714-1729.

World Economic Forum. (2020) "Resetting the way we teach science is vital for all our futures", Retrieved on October 5, 2020 https://www.weforum.org/agenda/2020/08/science-education-reset-stem-technology/?utm_source=sfmc&utm_medium=email&utm_campaign=2729072_Agenda_weekly-21August2020&utm_term=&emailType=Newsletter

World Bank. (2020) *Global Economic Prospects*. Retrieved on August 29, 2020
<https://www.worldbank.org/en/publication/global-economic-prospects#overview>.

Author contact: passaris@unb.ca

SUGGESTED CITATION:

Passaris, Constantine E. (2021) "The moral dilemma and asymmetric economic impact of COVID-19" *real-world economics review*, issue no. 95, 22 March, pp. 62-70, <http://www.paecon.net/PAEReview/issue95/Passaris95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Pigou and the dropped stitch of economics*

Duncan Austin** [Independent Researcher]

Copyright: Duncan Austin, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

The metaphor may be a bit archaic, but generations of knitters have known the aggravation of a dropped stitch. Miss a loop as one knits a row and a whole column of a sweater's ribbing can unravel, ruining all one's hard work. While no great hardship if caught promptly, when a dropped stitch is only noticed later, one is consigned to the time-consuming process of un-knitting, picking up the dropped loop and then reknitting back up again. A lot of effort just to get back to where you were – or, at least, where you had mistakenly believed you were.

The field of Economics is waking up to the fact that it dropped an important stitch – a century ago! The field completely underestimated the significance of Pigou's formulation of the concept of externalities. In missing this at the time, the way was paved for the development of a hubristic form of economic theory that greatly influenced today's socio-economic arrangements and which remains a root cause of our sustainability problems.

Today, people in the West live in a market-centric neoliberal culture that represents the import of mainstream 20th Century economic theory into the political realm. The central feature of our neoliberal self-coordination is the primacy of markets over non-market institutions. To extend Ronald Reagan's famous phrase, the effective slogan of today's paradigm is: "markets are the solution; government is the problem".

Yet, it is becoming apparent that not only do markets not have solutions for all our social and environmental problems, but also that market primacy exacerbates certain problems in its privileging of economic growth and partial measures of profit.

Even as these problems have become clearer, economics is still assumed to hold the answers. Hence, the memorable exchange between Greta Thunberg and Steven Mnuchin, then US Treasury Secretary, at the 2020 Davos Meeting. To Thunberg's challenge that policymakers should do more to prevent climate change, Mnuchin's defence was that young Greta had not yet learned her economics:

"Is she the chief economist, or who is she? I'm confused... After she goes and studies economics in college she can come back and explain it to us."

Issues of civility aside – he later claimed he had meant it as a joke – Mr Mnuchin expressed a common view that an economics degree might be more help than hindrance in comprehending our world and addressing some of our largest problems.¹ Yet possibly what Greta had noticed is that many of society's influential decision-makers are either formally

* I am grateful to Jérôme Tagger and Raj Thamotheram of Preventable Surprises for publishing an earlier version of this article.

** Duncan Austin has had a 25-year career in the sustainability field, having held senior positions at both an environmental non-profit organization and a sustainable investment firm. He currently writes as an independent.

¹ James Walker, "Steven Mnuchin Says Greta Thunberg Jibe Was 'Somewhat in Jest'" *Newsweek*, 2020 <https://www.newsweek.com/steven-mnuchin-davos-jab-greta-thunberg-intended-joke-somewhat-jest-1484015> [accessed 27 January 2020].

trained or well-practiced in economic thinking and still struggling to find convincing remedies for our sustainability crisis.

Perhaps the economics we have been teaching is the source of the problem?

1. Complete markets or very incomplete markets?

The key issue is not that economics is not a valuable way of thinking – it clearly is – but rather that the discipline lost sight of its boundaries and unwittingly propagated an exaggerated sense of its scope. Ironically, it achieved this by fatefully downplaying the significance of one of its own discoveries made a century ago. Given the profound influence of economics within modern culture, this oversight cannot be dismissed as mere academic error, for it has potentially existential real-world consequences.

In 1920, Arthur Pigou, a Cambridge economist, conceived the idea of externalities to describe how market transactions may create unintended harms or benefits for which no monetary compensation or reward occurs. Market exchanges effectively generate ripple effects for human value that go beyond what is captured by the originating transaction. These ripple effects may be positive – I benefit, too, from you being vaccinated – or negative – think of pollution or congestion. However, there is an important asymmetry. Positive externalities take the form of “free goodies”, whereas certain negative externalities constitute systemic risks that may be catastrophic to “trip” or breach. While you generally cannot have too much of a positive externality – a “free good thing” – too much of certain unwanted harms may induce systemic failure.

Externalities exist because markets have an incomplete grasp of what humans value. Markets work off prices and not everything has – or can have – a price. As such, marketed values – or prices – exist amidst a broader “value field” of things that humans care about and which have an influence on our wellbeing.

Pigou's proposition was an inconvenient truth for economics. It suggested that there are real limits to what conventional economics might say about matters of human value and, hence, to how far markets might serve human wellbeing. The inconvenience of his idea may be why Pigou is not better known – seemingly more tolerated, than celebrated.

Complete markets...?

As a discipline, economics did the very human thing of trying to ignore a difficult proposition. By not confronting Pigou's awkward challenge, the door was opened for a line of theorizing that led in exactly the opposite direction. Economists for most of the 20th Century sought to establish economics as a comprehensive corpus of thought with universal application. There was a conspicuous hope that general laws might be found, of the sort that had been discovered in physics and which had granted physicists considerable prestige in the academic firmament. Possibly, similarly great “truths” – and fame – might also be available to economists.

Hence, by the 1950s, a very appealing theory of *complete markets* had been developed. No externalities in this theory, none at all. In a world of complete markets, you can sign a contract today to buy any conceivable good or service, at any place in the world, for delivery at any

point in time from right now to the far distant future. Complete market theory is the laying down of a conceptual blanket over all our preferences that leaves no space for externalities. It is the comprehensive master spreadsheet of human desire – a currency-formatted cell for every preference.

The formulation of complete markets theory was deemed a major milestone for economics. Its authors, Kenneth Arrow and Gérard Debreu, received the “Nobel Prize” in Economics – the creation of which was itself a telling mark of the discipline’s yearning to be taken seriously as a science. Most important, it provided the cornerstone for the discipline’s claim for the superiority of markets as a mechanism for social coordination. The implication of complete market theory is that the market can allocate Earth’s finite resources to promote human wellbeing better than any political system can. Whenever a claim is made for the superiority of market outcomes, complete markets theory is lurking in the background.

To be fair, economists have always recognized that the theory is a hypothetical ideal and have long acknowledged various types of market failures, per Pigou. Textbooks talk of the need for governments – or at least for associations or clubs – to provide lighthouses, national defence, streetlights and more.

Rather, the key mistake made by 20th Century economics was not in misunderstanding externalities, but in grossly underestimating their magnitude and so foreclosing a debate on the innate limits of economic thinking. The discipline considered that markets were “complete enough” to safely proceed as if they were actually complete! We are now waking up to the consequences of that misjudgement.

... Or very incomplete markets?

Consider, for example, a recent study by Robert Costanza and colleagues. They estimated the monetary value of the “services” provided free by the Earth’s ecosystem at \$125 trillion in 2011, nearly twice the value of global GDP (gross domestic product) at the time.² Moreover,

² Robert Costanza and others, “Changes in the Global Value of Ecosystem Services”, *Global Environmental Change*, 26 (2014), 152–58 <https://doi.org/10.1016/j.gloenvcha.2014.04.002>. The Costanza et al. (2014) estimate is based on monetary estimates from the Ecosystem Services Value Database described by de Groot et al. (2012). This database compiles monetary values of ecosystem services from 320 separate case studies providing 665 usable valuation estimates. However, these estimates cover only 10 of the 12 classified biomes and, on average, only 12 of the 22 recognized ecosystem services for each biome, so it is an incomplete assessment of the ecosystem’s full value. Nonetheless, using this data, Costanza et al. (2014) estimate that the value of the global ecosystem in 1997 was \$145 trillion per year declining to \$125 trillion per year in 2011. The corresponding global GDP figures were \$46 trillion in 1997 and \$75 trillion in 2011. So, annual GDP increased by \$29 while ecosystem services decreased by \$20 trillion. (Slightly confusingly, all dollar amounts are based to 2007). The decline is calculated based only on how land use has changed to increase the extent of certain biomes (e.g. croplands and desert) and decrease the extent of other biomes (e.g. tropical forest and wetlands). The data does not permit any evaluation of change of quality within biomes over the period, though the authors state that it is almost certain that functionality of ecosystems has declined in many cases. The paper cautiously concludes that: “our estimates show that global land use changes between 1997 and 2011 have resulted in a loss of ecosystem services of between \$4.3 and \$20.2 trillion per year, and we believe that these estimates are conservative.” (page 157). Though, earlier in the paper, they indicate a clear methodological preference for the higher number: “...the total net decrease is estimated to be \$20.2 trillion in annual services since 1997. Given the more comprehensive unit values employed in the 2011 estimates [i.e. \$20.2 trillion], this is a better estimate than using the 1997 unit values [i.e. \$4.3 trillion], but certainly still a conservative estimate.” (Page 156). The de Groot database is described at: Rudolf de Groot and others, “Global Estimates of the Value of Ecosystems and Their Services in Monetary Units”, *Ecosystem Services*, 1.1 (2012), 50–61 <https://doi.org/10.1016/j.ecoser.2012.07.005>.

the authors believe this to be a conservative estimate because it grasps only about half of the “services” we know ecosystems provide.

Other studies have contemplated the value of unmonetized social systems, including one estimate that unpaid housework in the UK in 2016 was about 65 percent of GDP – another huge block of value not captured by the market.³ Just combining this figure with the Costanza et al. figure suggests that measured GDP captures about a third of some larger conception of value.

From its very inception, GDP has been derided as an incomplete measure of wellbeing. However, in elevating GDP to its current perch of influence, the working assumption has been that GDP, and the market system it reflects, captures the lion’s share of what matters. What the latest estimates of “externalities” and non-market values suggest – and what our sustainability crisis seems to underscore – is that our perception of GDP’s reach may be horribly off. Such an estimate suggests that it is not that the market does not capture all things of value, it does not even capture most things of value. **Far from externalities being peripheral, they may be the main event!**

Unfortunately, such estimates have appeared late in the day, long after neoliberal ideas had exploited the discipline’s disregard of externalities to seed today’s cultural arrangements.

A dropped stitch

Externalities were generally ignored through most of the 20th Century. After Pigou had identified the problem in the 1920s, there followed a long barren period for “welfare economics”, the natural home for this type of thinking. This lasted until the early 1970s when there were the first stirrings of renewed interest by serious economists.⁴

Language matters and the terminology did not help. Framed as “externalities”, market failures could be more easily dismissed. The term encourages a perception of unpriced damages as being mere residuals to the centrepiece of a priced economy. Since Pigou, some have sought to “beef up” the terminology. K. William Kapp, for example, bluntly described the market mechanism, *in toto*, as a “cost-shifting” institution.⁵ In this framing, externalities are not a bug, but a feature.

The mathematization of economics – another marker of the discipline’s scientific aspiration – exacerbated the situation. The desire for manageable equations and functioning models further pushed troublesome market imperfections away.

Possibly, there was the sense that positive and negative externalities might roughly cancel each other out, leaving GDP incomplete but still reliable enough as a directional indicator.

³ “Household Satellite Account, UK - Office for National Statistics”
<https://www.ons.gov.uk/economy/nationalaccounts/satelliteaccounts/articles/householdsatelliteaccounts/2015and2016estimates#main-points> [accessed 27 January 2020].

⁴ William Nordhaus and James Tobin, *Is Growth Obsolete?* (National Bureau of Economic Research, Inc, 1972), pp. 1–80 <https://econpapers.repec.org/bookchap/nbrnberch/7620.htm> [accessed 3 February 2020].

⁵ Clive L. Spash, “A Tale of Three Paradigms: Realising the Revolutionary Potential of Ecological Economics”, *Ecological Economics*, 169 (2020), 106518
<https://doi.org/10.1016/j.ecolecon.2019.106518>. And Karl William Kapp, *The Social Costs of Business Enterprise* (Spokesman Books, 1978).

But, as noted, that rests on the assumption that positive and negative externalities are symmetrical in nature.

In all this, the failure of economics to fully incorporate externalities in its 20th-century theorizing now appears to be the dropped stitch that defines the whole discipline. For a long time, this was a tolerable neglect as markets were more robustly counterbalanced by pre-market institutions that upheld unpriced values, and as the environment was able to absorb the fewer demands of a smaller, less consumptive population. But, with the onset of climate and biodiversity emergencies, the context has changed considerably. It matters more and more that we might not have *slightly incomplete* markets, but *very incomplete* markets.

Alas, in dropping this stitch, the way was paved for today's neoliberal paradigm. The idea of a near infallible market system was eagerly seized upon by post-WW2 "neoliberals", led by Friedrich von Hayek, who were keen to promote individual freedoms and to limit government, as an understandable response to the horrors wrought by authoritarian regimes, but who were less keen on scrutinizing the claims made about the superiority of markets. The market-favouring ideas burst into socio-economic reality via the Reagan and Thatcher governments in the early 1980s and have since settled across most of world by emulation and by the export of a "Washington Consensus" ideology.

A missed warning

Sadly, we missed a warning from another thinker who foresaw the danger, Karl Polanyi. He cautioned in 1944:

"To allow the market mechanism to be **sole director** of the fate of human beings and their natural environment... would result in the demolition of society"⁶ [emphasis added].

Polanyi saw that a culture that believed markets to be complete or "complete enough" would hazardously over-promote markets, leading us to organize our affairs in line with market forces, not fully appreciating that those market forces were largely *disembedded* from social and ecological reality. It is not that the market is *actually* disembedded from social and environmental foundations and benignly detached, but, worse, that it remains embedded in society and ecology and so induces market participants to transform the world with a dulled sense of the consequences of their actions.

In a critical "sliding doors" moment for human history, Polanyi's warning was drowned out by Hayek's *Road to Serfdom* of the same year, which was the launching pad for the neoliberal ideas that shape our contemporary world. The rest, as they say, is history. But it has left us at the start of the 21st Century transforming the matter and energy of the world using economic and financial tools that have only a very limited grasp of the reality they fashion.

⁶ Karl Polanyi, *The Great Transformation* (Beacon Press, 1944).

2. Complete measures or very incomplete measures? Our BESDA economy

GDP and EBITDA

While the deficiencies of GDP as a measure have been well known, less emphasized has been the fact that every single financial statement with which we build GDP exhibits the same deficiency of being a limited barometer of value. Ironically, the main users of these financial statements, in the business and financial sectors, are wise to the incompleteness of certain metrics *within* financial statements, but act in a way that indicates they are oblivious – or perhaps just willing to overlook – the incompleteness of financial statements writ large.

To explain, consider that GDP exhibits clear parallels with the profit metric of EBITDA (earnings before interest, taxes, depreciation and amortization). Though there are technical differences of formulation, GDP and EBITDA both represent partial measures of “wealth creation” *disembedded* from a fuller conception of value. However, while financiers are wise to the deficiencies of EBITDA, they have not acknowledged that the same pattern of incompleteness reappears at the level of the overall financial statement – and then at the yet higher level of GDP.

With the “DA”, EBITDA conveys the profitability of a company *as if it would never again have to spend a dollar on keeping its factories, equipment, property and software in good repair and up to date*. In other words, EBITDA excludes the cost of maintaining in good condition the whole infrastructure upon which a company depends! It is the homeowner’s fantasy of how wealthy they would be if they never had to fix or repair anything in their house ever again.

EBITDA came to prominence during the leveraged buyout (LBO) boom of the 1980s. As Moody’s recounted in 2000: “LBO sponsors and bankers have promoted the use of EBITDA for its obvious image benefits. EBITDA creates the appearance of stronger interest coverage and lower financial leverage.”⁷ As a general rule, beware profit metrics promising image benefits. Forbes was blunter still: “EBITDA is essentially a tool that shows what a company would look like if it wasn’t actually that company.”⁸

EBITDA is now clearly recognized as a “wool-over-your-eyes” measure, such that accounting authorities deny it official status. It is a “non-GAAP” metric – *not* a Generally Accepted Accounting Principle. Its ongoing ubiquity – besides being trivially easy to calculate – is because it masks the fact that a business may be overleveraged – that it may have borrowed against its future more than it can ever repay. But, as Warren Buffett perceptively notes, the measure persists not only because of its power to deceive others, but also to help deny:

“People who use EBITDA are either trying to con you or they’re conning themselves”[emphasis added].⁹

GDP is a “wool-over-all-of-our-eyes” metric for the same reason that it excludes the full cost of maintaining in good condition the social and ecological infrastructure upon which the whole

⁷ Pamela M. Stumpp and others, “Putting EBITDA In Perspective Ten Critical Failings Of EBITDA As The Principal Determinant Of Cash Flow” (Moody’s Investor Services, 2000).

⁸ Ted Gavin, “Top Five Reasons Why EBITDA Is A Great Big Lie”, *Forbes*, 2011 <https://www.forbes.com/sites/tedgavin/2011/12/28/top-five-reasons-why-ebitda-is-a-great-big-lie/> [accessed 29 January 2020].

⁹ <http://buffettfaq.com/#your-thoughts-on-ebitda>

economy depends. In steering society by GDP, we are effectively managing the planet on an EBITDA basis. GDP is not just a benignly incomplete measure of wealth, it is the tool with which we are conning ourselves.

Businesspeople – and homeowners – know how these stories end. Eventually the under-investment in infrastructure catches up with you. Of course, by then, you hope to have passed the asset – and the problem – on to someone else. This is feasible, if not best form, where the asset is not the whole planet. The deception works for as long as you can get away with the under-investment and the factories and software hold up.

Buffet's partner, Charlie Munger, is characteristically more forthright on the topic:

"I think that, every time you see the phrase 'EBITDA earnings', you should substitute the phrase 'bullshit earnings'."¹⁰

By analogy, GDP is "bullshit wealth". That we have been able to enjoy the comforts of its deception without mishap for so long is simply because it was introduced against higher levels of social and ecological infrastructure that we have not yet completely run down. The under-investment is only now becoming apparent.

A BESDA economy

Long-term or ESG (environmental, social and governance) investors may protest that they understand all this but that their own investment process insulates them from such blinkered thinking. ("We don't use EBITDA"). Yet the point is that *the whole financial system is operating on a "before ecological and social depreciation and amortization" basis* – call it BESDA, perhaps.

So, every single financial metric on the Bloomberg screen is a BESDA metric – profits-BESDA, earnings per share-BESDA, return on capital-BESDA, return on equity-BESDA, etc. The millions of financial numbers processed daily by our increasingly automated markets – which, in turn, steer our economy and drag our culture along behind, ripping up nature in its wake – *are all BESDA numbers*. It might not only be EBITDA with which we are conning ourselves, but every financial number in the book. They all represent different degrees of disembedded value, some of which we have unmasked, some of which we have not.

We have a sustainability challenge because the *entire financial system* repeats the problems of the discredited EBITDA metric *at the level of the whole economy*. This is the invisible conceptual cage we have wrapped around our decision-making and from within which the ESG movement is frantically trying to make a difference. Alas, given the incompleteness of our markets, the ESG movement increasingly resembles a hopeful grafting of good intentions onto an unchallenged accounting reality that remains the largely intact source of our problems. This is the root cause of our collective "greenwish" in which we are hoping that well-intended efforts to make the world more sustainable are much closer to achieving the necessary change than they really are.¹¹

¹⁰ <http://buffettfaq.com/#what-adjustments-to-reported-earnings-do-you-make>

¹¹ Duncan Austin, "Greenwish: The Wishful Thinking Undermining the Ambition of Sustainable Business", *Real-World Economics Review*, 90, 2019, 18.

Creative versus parasitic growth

To recognize that GDP is a measure of value disembedded from a much larger context must complicate our attitude towards GDP growth.

The Costanza et al. study estimated that the Earth's annual ecosystem services had been depleted by \$20 trillion since 1997, during which time conventionally measured real GDP increased by \$29 trillion, for a net gain of \$9 trillion.¹² While conventional global GDP grew by 3.5 percent per annum during the period, a fuller measure of "total wealth creation" would have grown by only 0.3 percent to 1.7 percent per year – that is, "growth" would have been at most half what we registered, at worst virtually non-existent.

In a world of very incomplete markets, things of human value lie in two separate realms – the marketed domain and the non-marketed domain. Some of the growth of the marketed economy genuinely arises from human ingenuity and creativity unlocking better ideas and products from new combinations of inputs. This is "good" growth, which ought to be celebrated and encouraged. However, other parts of monetized "growth" arise from simply running down the stocks of what is valuable but in the non-marketed realm. This is the illusion of wealth creation based on registering the increase in marketed value, but not recording the decrease in unmarketed values. In contrast to growth from genuine ingenuity, this is robbing Peter to pay Paul.

So, our measured economic "growth" overall combines in unknown proportions a "creative growth", which we want to encourage, and a "parasitic growth", which we do not. At an aggregate level, it is almost impossible to trace the origins – creative or parasitic – of GDP growth, and very few official metrics make any attempt to do so.

This should unsettle our views about economic growth. Our working assumption is that all economic growth is good – as it indeed would be if we had complete markets eliminating the possibility of parasitic growth. However, in not knowing the real-world mix between creative and parasitic growth, do we want more GDP growth, or less? It is not clear. And, given that companies work to the same price register as GDP, do we want companies to beat profit expectations or would it be better if they missed them? Who really knows?

The conventional argument – captured by the notion of an Environmental Kuznets Curve – is that it is only by increasing monetary wealth that we can develop better technology to protect the environment. However, it is not clear in the aggregate whether the deployment of such new capabilities ever makes good the damage done by the initial enabling wealth creation. While anecdotes can be summoned to support the idea – electric cars, wind turbines, LEDs etc – thus far, at the global level that matters, data shows we remain in net ecological destruction mode.

The "real" real return on capital

While GDP has long been criticized as a measure, the problem is that the root of GDP's deficiency is the incompleteness of the price system, which cascades all the way through our economy, contaminating the whole historical record of economic and financial metrics.

¹² Costanza and others.. See note 2 above.

To stick with the Costanza et al. numbers, it follows that all our reported corporate profits and returns will *on average* have overstated wealth creation by similar amounts. According to Credit Suisse, over the last century, annualized real equity returns in the US have been approximately 6 percent.¹³ Would we think differently of equity returns if they had been only 0 to 3 percent? What is the “real” real return on equity?

Of course, there would be important variations by industry. Trucost, the sustainable consulting firm, estimated in 2013 that large swathes of primary industry – including agriculture and energy companies – would simply not be profitable if they had to pay the full costs of their environmental damage.¹⁴ In 2011, the *American Economic Review*, published similar work showing that the solid waste combustion, sewage treatment and oil- and coal-fired power production industries generated air pollution damages – *air pollution alone* – that were greater than their economic value added (EVA).¹⁵ On this fuller accounting perspective, these are effectively EVS – economic value subtracted – industries.

There are two ways to interpret such findings. Either that if we moved to a full-cost accounting basis, such industries would go out of business, which is implausible given they serve some basic needs; or that if we were to pay sufficient prices to food, energy and waste companies for them to produce sustainably and make the necessary profit to stay in business, we would collectively have fewer resources to spend on other things. Stated another way, some of our “cleaner” discretionary consumption free rides off the current unsustainability of some of our primary industries.

Hence, just as the long record of GDP growth constitutes an overstatement of wealth creation, so the same must be true of the long record of financial return on capital. As Tim Hodgson of the Thinking Ahead Institute has aptly said of investment returns: “past returns are not even a reliable guide to past performance.”¹⁶

The real dilemma for Central Banks

The cascade continues. In managing our economy with disembodied measures of wealth, the world’s central bankers are effectively agents of the sustainability crisis. They may not wish to be unsustainable by personal inclination, but they certainly are by professional obligation because of how they are duty-bound to act.

An entirely foreseeable response to the climate emergency is that people in wealthier countries may choose to pare back their consumption of non-essentials. Certainly, not everyone has the luxury to do this, but the obvious solution of “buying less stuff” has become an articulated idea in wealthy countries. “Flight shaming” and “consumption shaming” are new memes. Articles in multiple UK newspapers have challenged readers to see if they can go a

¹³ <https://www.credit-suisse.com/about-us-news/en/articles/news-and-expertise/global-investment-returns-yearbook-201902.html>; Page 20. Between 1900 and 2018, a real return on equity of 6.4% per annum.

¹⁴ Trucost, *Natural Capital at Risk: The Top 100 Externalities of Business*, April 2013 <https://www.naturalcapitalcoalition.org/wp-content/uploads/2016/07/Trucost-Nat-Cap-at-Risk-Final-Report-web.pdf> [accessed 15 January 2020]. Page 9 and Table 7.1.2.

¹⁵ Nicholas Z. Muller, Robert Mendelsohn, and William Nordhaus, “Environmental Accounting for Pollution in the United States Economy”, *American Economic Review*, 101.5 (2011), 1649–75 <https://doi.org/10.1257/aer.101.5.1649>.

¹⁶ Tim Hodgson, “Past Returns: Don’t Even Guide the Past”, *Top1000Funds.Com*, 2019 <https://www.top1000funds.com/2019/11/past-returns-dont-even-guide-the-past/> [accessed 27 January 2020].

year without buying any new clothes, contravening the media's normal practice of generally trying to coax the economy along. (It buoys the advertising revenue).

Such behaviours would amount to a direct hit on GDP in developed countries, where personal consumption can represent two-thirds of the total. Critically, any such reduction in consumption will likely show up as a deflationary decline in economic activity that the world's central banks are on hair-trigger alert to prevent. The large and powerful financial bureaucracy stands ready to provide immediate stimulus to any perceived flagging of measured economic activity.

Hence, the arrangement most populations in the world currently live under is that should they collectively choose to buy less, more money will be printed until they have changed their mind. Effectively, our exhausted ecosystem is gasping for a lull in measured economic activity that our financial authorities are pledged to never let happen.

“Model behaviour”

The underlying problem, then, is that we have greatly overestimated the market's grasp of things that are valuable to humans, and this runs all the way through our decision-making from corporate investment to central bank policymaking. We developed a very appealing theory of complete markets and then, reflexively, started to behave as if that were an accurate enough depiction of reality. We built a model and have been fitting our behaviour to the model ever since, rather than asking how true the model is.

Marketized values must be viewed as a *subset* of human values nested in a bigger “value field”. From this perspective, it is not that economics is “wrong” but rather a valid corpus of knowledge, but with less practical reach than we have appreciated.

3. More and less market

So, how to proceed? Awkwardly, we could simultaneously benefit from *more and less* market – *more* markets where they are technically feasible and beneficial and yet *less* market primacy of culture. I recognize the tension, but will take them in turn.

3.1. More market...

If markets are incomplete, an obvious remedy is to try and complete them. While completeness is impossible – certain things of value defy commoditization – the market could nonetheless be beneficially extended in certain areas, as we have long known. The question arises: why hasn't that happened?

The remedy for externalities that Pigou offered a century ago is to price them via government intervention to make them “visible” to the market. Today's environmental economists have built upon this basic insight to describe and advocate carbon and pollution taxes and tradable permit markets, which are now broadly understood and have been implemented in several jurisdictions.

This certainly works for some of our environmental problems, but it relies on the separability and commodifiability of discrete pollution or waste flows. The prime example is a GHG

emission, which is homogenous, emanates from limited and well-understood sources and impacts a global problem regardless of where it arises. Many other pollutants have similar characteristics. Hence, while keeping in mind that markets cannot grasp everything, we could benefit from having more markets than we do.

Yet, in the face of a species-level challenge of unprecedented scale, we are bizarrely underutilizing externality pricing despite the huge lip service paid to the idea. According to the World Bank, about 20 percent of global greenhouse gas emissions are now covered by regional, national and subnational carbon pricing initiatives.¹⁷ However, less than 5 percent of this 20 percent (i.e. less than 1 percent of total global emissions) are currently priced at a level consistent with achieving the temperature goals of the Paris Agreement. This indicates it is technically feasible to price GHG emissions, but that we have a long way to go to before the value of a stable atmosphere is fully represented within our market system.

What is puzzling is that markets have evidently expanded greatly over time. Humans used to have no, or very few, markets. Now we have a great many. And yet, they are not everywhere they might be. This raises a crucial question: how does the market domain evolve in practice?

A still extending order

In 2012, Harvard philosopher Michael Sandel observed that markets seem to extend autonomously – pricing today what was not priced yesterday.¹⁸ Sandel noted many long-established activities that have become marketized in recent times including: child-care; queue-standing for plays, amusement parks and Congressional hearings; access to college; child surrogacy; another female's sterilization; the right to shoot endangered wildlife; prison cell upgrades; and the right to buy another person's life insurance policy in hopes they'll die sooner than expected.

As he observed:

“...markets – and market values – have come to govern our lives as never before... [T]he reach of markets, and market-oriented thinking, into aspects of life traditionally governed by nonmarket norms is one of the most significant developments of our time.”¹⁹

Sandel may not have known he was echoing an observation made 250 years earlier by Adam Ferguson, a philosopher contemporary of Adam Smith. Observing at a much earlier stage the same mysterious creep of markets into social life, Ferguson pondered whence it came. It was seemingly a *spontaneous order*, “the result of human actions, not of human design”.²⁰ Hayek took up the theme in the 20th Century. Though a strong advocate of markets, he disliked the term “capitalism”, preferring “the *extended order* of human cooperation”, to convey the same idea of markets having emerged out of a pre-market historical context.²¹ As noted earlier, Hayek felt markets had extended sufficiently to largely displace the need for non-market institutions.

¹⁷ World Bank Group, *State and Trends of Carbon Pricing Report 2019* (Washington D.C: World Bank, June 2019) <https://openknowledge.worldbank.org/handle/10986/31755>, pp. 9-10.

¹⁸ Michael Sandel, *What Money Can't Buy: The Moral Limits of Markets* (Penguin UK, 2012).

¹⁹ Sandel.

²⁰ Adam Ferguson, *An Essay on the History of Civil Society* (Bell, & Bradfute, 1767).

²¹ F. A. Hayek, *The Fatal Conceit: The Errors of Socialism* (University of Chicago Press, 1990).

Note that Sandel, Ferguson and Hayek ask a markedly different question to that of Adam Smith – not how does the Invisible Hand work, but where did it come from in the first place? And how does it extend? Mainstream economics for most of the 20th Century was more focused on Smith’s question than Ferguson’s – striving to understand how markets worked so that we might manage them better. Promisingly, this is changing. Seemingly over its earlier infatuation with physics, economics has been turning towards biology and its themes of evolution and complexity.²²

Essentially, economics is migrating from where physics has been to where biology is headed. In turn, this is one of many manifestations of a “Systemic Spring”, in which multiple disciplines are racing to incorporate the insights of systems and complexity thinking.²³ This is likely to lead future economists to see that the economy is nested within the much larger complex systems of society and ecology. It will also lead them to recognize that, despite Hayek having been alert to the nascent developments of complexity thinking and cybernetics, his appraisal of the sufficiency of markets was misplaced. Even having “extended” in earnest for some 300 years now, markets still have only a very limited grasp on the totality of what humans value.

Asymmetric extension of the market

On the face of it, then, an ever-expanding market system – a “still extending order” – would appear to be good news because it would bring the market’s genuine power of efficient allocation to more and more items. The key problem, however, is that there is a hazardous and unsustainable asymmetry in the pattern of the market’s extension.

Consider, for example, that over the last decade my Google search for “carbon emissions” has been commodified and now commands a price – not to me, but to the advertisers bidding for my attention – while my actual carbon emissions remain unpriced despite economists making a serious case for such pricing for nearly half a century, now. Personal data suddenly has a price, but not carbon emissions? The market seems to extend in mysterious ways.

The simple explanation is that markets appear where those who have power to make markets would like them to appear.

This power is often *de facto* rather than explicitly granted. Our current socio-economic arrangements empower corporations to reach out and appropriate – to make new property of – new things that may be profitable for them. Such as your internet searches or knowledge of your travel movements. However, corporations also have extraordinary power through lobbying and regulatory obstruction to prevent any new commodification of entities that would result in new costs. Businesses have real powers in the political domain in which markets are nested to determine where markets may or may not extend.

So, our still extending – and so still incomplete – market system continues to annex new, previously uncommodified, realms, *but in asymmetrical fashion*. Markets eagerly reach out to embrace new profit opportunities but rebuff the internalization of new costs. As the decades

²² David S. Wilson and Alan Kirman, *Complexity and Evolution: Toward a New Synthesis for Economics* (MIT Press, 2016).

²³ Duncan Austin, *Can Economics Grasp What Ecology Says?* (Responsible Investor, 22 February 2021) <https://www.responsible-investor.com/reports/duncan-austin-or-can-economics-grasp-what-ecology-says> [accessed 3 March 2021].

go by, this ensures that the market, as an institution, becomes ever more extractive or cost-shifting in nature.

“Enabled markets”, not “free markets”

Hence, the “free market” advocate cheats when he argues the role of government is principally to uphold property rights, or to “enforce private contracts.” That entirely dodges the critical questions of what entities should receive property rights and how we should collectively decide. “Property” can never be a static domain, both because we make new things and because our ever-expanding knowledge of the world leads us to re-perceive and re-value many existing things. As well, technology permits us to commodify – and so make property of – more and more.

The “free market” advocate is in the dissonant position of wishing market actors to be the sole conferees of new property rights while also depending on the government to uphold a general rule of law which is the necessary condition for property to being meaningful at all. Indeed, because of the indispensability of the rule of law, we should be more accurate with our terminology. We never have “free markets”. We only ever have “enabled markets” – markets *enabled* by an authority capable of upholding the rule of law that gives property meaning. Language matters. “Free markets” is a highly misleading term – routinely deployed as an unassailable universal principle to cloak a more parochial agenda. Too often, what “free market” proponents are really advocating is a system of “enabled markets where we want them and not where we don’t.” Or, put another way, the working slogan of neoliberalism has come to be: “*some* markets are the solution; government is the problem”.

Government is in the loop!

The problem, as should now be clear, is that we have created a narrative and cultural norms that limit governments’ ability to correct the huge gaps in the market’s grasp of real value. We expect government to support the market and governments now find themselves “caught in the loop” of promoting unsustainable economic growth.

Governments increasingly use economic performance – even stock market performance! – as a measure of their success, which negates their ability or even interest to introduce new markets that may impose costs. Other reinforcing loops are more tangible, still. For example, corporations use profits to lobby for lax regulations that enhance profits which can be used to lobby for more lax regulations etc. This dynamic – Friedman’s Feedback Loop, call it – has inexorably neutered government’s ability to improve human welfare by modulating market forces.²⁴

3.2. And less market?

Paradoxically, then, to use markets more than we are, to introduce more externality pricing, would require a new cultural level reassertion that markets are a tool within culture. We need not a sustainable economy, but a sustainable culture that has an economy. Such a culture would establish room for governments to introduce new markets which powerful market

²⁴ Duncan Austin, “Milton Friedman’s Hazardous Feedback Loop”, *Responsible Investor*, 14 September 2020 <https://www.responsible-investor.com/articles/duncan-austin-milton-friedman-s-destabilising-feedback-loop> [accessed 3 December 2020].

incumbents may not like, but which improve human wellbeing. In turn, such a culture would also invigorate non-market means to protect our environment, for we must remember that not everything of human value can be priced and “internalized”. The interesting question, worth a moment’s reflection, is: why is that?

“Economic” and “ecological” views of value

Though Pigou identified commodifiable externalities, there are many things of human value that cannot withstand the disembedding from their context necessary for them to be commodified and, hence, be transactable via market exchange. Such values are non-transactable because they are irrevocably embedded either in specific things – they are unique – or in specific relations – they exist “between” certain things. Some examples: friendship, reputation, loyalty, integrity, trust, community, mental health, etc. If you believe you have purchased any of these items, you might want to check the label.

What is tricky is that most things in the world bear both separable transactable values and intrinsic non-transactable values. A tree has both separable value as a feedstock for furniture and paper and intrinsic value as part of the ecosystem in which it is relationally embedded. We tend to value trees in managed plantations for their separable values, but we value *General Sherman*, the 26-story-tall giant sequoia that is the largest known tree on Earth, for its non-separable attribute of being uniquely the tree we call *General Sherman*.

With *General Sherman*, we have chosen to perceive and value its uniqueness over its instrumental value. Indeed, we might say that *General Sherman* is price-less. The “economist” denies the validity of this perspective by arguing that everything has a price. To say that something is priceless is merely to say that nobody has yet offered a high enough price. Give, say, a trillion dollars to the right person and, if you so wished, *General Sherman* could almost certainly be delivered to your door as a very large stack of two-by-fours.

In turn, the “ecologist” denies the “economist’s” perspective, arguing that while you *can* apply such economic thinking to *General Sherman*, it is the *wrong* sort of thinking to apply. Consider that when someone helps you as a favour, you sometimes sense it would be *wrong* to pay them, as they would take offence. Payment would change the nature of the favour from something being uniquely offered as part of a relationship between you and them to something merely transactional. It is not that you could not pay them. Indeed, at other times you may well pay other people for the exact same assistance, and so can *impute* the monetary value of the favour. Instead, both parties agree it is not the right frame of reference for this exchange on this occasion. The context is non-economic. In many other instances, the opposite is true – it is very helpful to be able to buy lunch at a restaurant on a purely transactional basis without having to befriend the seller.

Both the “economic” transactional perspective and the “ecological” intrinsic perspective are beneficial and valid, *but they are incompatible*.²⁵ To act based on one value is to close off the possibility of realizing the other. It is like the famous optical illusion where you can see the young lady or the old crone, but not both at the same time.

²⁵ Austin, *Can Economics Grasp What Ecology Says?*

Values nested in values

So, we always have a choice. In sensing that it is sometimes wrong to put a price on something, we grasp that the boundary of economics and markets is less a technical and more of a moral matter – dependent on deeper values. The priced values that economics so capably juggles appear to be nested within meta-values beyond, or prior to, economics. The prior decision whether to see things for their transactional value or their intrinsic value is the expression of a deeper preference that transcends the economic frame of reference and cannot itself be priced. For example: “how much can I pay you for me not to pay you and to regard this as a favour instead?” It doesn’t work! It is a pre-economic preference.

We are all both “economist” and “ecologist” because we appreciate that some values are separate to the things that bear them, and some are intrinsic. While the choice emanates from us, different “things” coax different perspectives. Some things encourage an “economic” transactional perspective – a biro pen is a biro pen – while other things encourage an “ecological” intrinsic perspective – your pet dog is *your* pet dog not easily replaced by another random dog providing tail-wagging services. Somewhere between biros and beloved pets lies pretty much everything else in the world. We each exhibit our own preferences regarding which perspective to apply to which things.

Yet, our preferences are unavoidably shaped by our culture. Some cultures instil an economic perspective, some an ecological perspective. A market-centric culture primes our perception towards separable and transactable values that can be monetized over the non-separable and relational value in things that generally cannot. In contrast, “traditional” cultures have often cultivated perceptions of intrinsic value by declaring places sacred or by “placing” beings into the natural world. That is, instead of placing a price *on* things, they seek to render things priceless by placing spirits and gods *in* them, from rivers to forests to rocks, even. Daft, really. It would be like naming a tree. After a warrior god.

So, we have transactional values in tension with intrinsic values, nested within even deeper values about which is the most valuable of these two perspectives to apply. The decision to apply an economic perspective to the external world is always a value judgment that necessarily transcends economics. More, it is a value judgment that can never be justified or refuted on economic grounds precisely because it is an argument about the validity of applying an economic perspective.

All this is a discussion that the field of economics may well have taken more seriously 100 years ago, had it been more open to the significance and implications of Pigou’s formulation of externalities. Alas, we are now having to unknit to pick up this dropped stitch in a world now confronting large-scale problems of missed externalities.

Economics might be well served by formalizing an incompleteness theorem that would act as a proverbial knot-in-a-handkerchief reminder about the limits of claims that economics can make. It is an oddity of human intellectual thought that the most logical of our sciences, mathematics, had a formal Incompleteness Theorem as early as 1930, while economics formalized a complete market theory in the 1950s and seemingly still has no definitive statement of incompleteness.

One of the ways, then, that we could better protect ecological values is for economics to recognize – *re-cognize* – the wisdom of culturally ring-fencing where economic thinking is

preferred. In other words, to recognize the non-monetizable value of non-economic thinking. Granting names to things or designating areas as protected are just two means by which societies can explicitly restrain the ever-eager economic perspective. Of course, such boundaries need to be upheld at the social or cultural level to count for anything. If not, individuals can always free ride and extract the monetary instrumental value that others have agreed not to pursue. So, it matters who stands behind a name or a principle. *General Sherman's* sacred status seems well supported; Standing Rock's was not.

Conclusion

While economics is undoubtedly a valuable form of knowledge, it is a way of seeing things, not *the* way. A full century after Pigou formalized the idea of externalities, we might mark the anniversary by taking more seriously the effort to clarify the appropriate reach of economics and markets within the broader social and cultural context.

Arguably, one of the most important questions in economics is not even an economic question. The field effectively punts the matter of its own ontology – the things that economics can talk about – to a different discipline. In Abba Lerner's words:

"An economic transaction is a solved political problem. Economics has gained the title of Queen of the Social Sciences by choosing solved political problems as its domain."

Economics has been strangely content to focus its efforts on pattern-seeking within a domain it leaves other disciplines to define, but in the absence of contemplating its boundaries more explicitly, it has hubristically come to believe it has greater reach than it really has.

In turn, this leaves most economists – and the great many people who think and act economically in conducting their professional duties – dangerously unaware of where economic thinking is beneficial and valid and where it ultimately hits limits. They are effectively blinded to the intrinsic and increasingly large cost-shifting of their decision-making. In the discipline not having recognized those limits earlier, we have delayed our understanding about the ways markets extend and emerge, leading us to have the markets we do and to not have the markets we do not.

Such recognition now calls for us to move from being a market culture unthinkingly in thrall to very incomplete markets to becoming a culture that can thoughtfully uses more complete markets *and also knows their limits*. We need not a sustainable economy but a sustainable culture that has an economy.

Author contact: duncanaustrin@msn.com

SUGGESTED CITATION:

Austin, Duncan (2021) "Pigou and the dropped stitch of economics." *real-world economics review*, issue no. 95, 22 March, pp. 71-86, <http://www.paecon.net/PAEReview/issue95/Austin95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Third world development: the simpler way critique of conventional theory and practice

Ted Trainer [Simplicity Institute]

Copyright: Ted Trainer, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Abstract

Thinking about development is dominated by a conventional conception which takes for granted the centrality of increasing production for sale, integration into the globalized market place, moving to more sophisticated technologies, and the goal of rising to affluent rich-world living standards. Basic criticisms of this conception of development are briefly summarized, firstly to do with the way it has primarily benefitted the rich and secondly regarding its grossly unsustainable resource implications. Global biophysical resource endowments prohibit its realization. There has been remarkably little thinking from conventional or critical sources on the goals and means which a sustainable alternative must take. The Simpler Way project is concerned to show the necessity for, and desirability and workability of, the development of mostly small scale, cooperative, highly self-sufficient and self-governing local economies focused on meeting basic needs, and not concerned with economic growth, globalization, competing in the global market place, or aspiring to rich-world “living standards”. It is argued that only some form of Simpler Way can enable satisfactory global development within sustainable resource and ecological limits.

Introduction

The literature on Third World development has mostly been framed in terms of a single taken-for-granted conception, which is labelled “conventional” in the following discussion. Since the 1990s a “post-development” literature has arisen expressing a variety of discontents with the conventional view. However the following discussion argues that general perspective is also deficient regarding the implications of sustainability for development. The major fault in most if not all previous development thinking has been failure to grasp the need for materially simple lifestyles and systems.

Following is a summary critique of essential elements and claims in conventional development and critiques of these. It is necessary to begin by attending to these features in order to proceed to elaboration of The Simpler Way perspective which it is claimed avoids them.

The inadequacy of the conventional perspective

The centrality of economic growth

The defining characteristic of conventional development is economic growth. Growth of GDP is commonly taken to *be* development. Even where other criteria are included in the concept of development, such as declining infant mortality or malnutrition rates, economic growth is typically regarded as the prerequisite or enabler of development.

However development should be thought of as involving the improvement of all aspects of the whole society, not just its GDP. Further it should not be assumed that the best way to improve these factors is to grow the economy. Indeed it will be argued below that when the supreme goal is economic growth many important aspects of a society are not just neglected but are damaged.

Secondly even within the economic sector of society, development is not equivalent to growth. The conventional conception involves no notion of what the end goal of development might be or when there has been sufficient growth in various elements. It only assumes an economy that constantly increases in size.

The most important contradiction is between development that will maximize the GDP and development that is appropriate in view of the needs and welfare of individuals and society. When maximizing the GDP is the goal the owners of capital will be encouraged to put more land into export crops even if there is an urgent need to produce more food for hungry people. However if land was taken out of production of export crops and put into growing food for hungry people the GDP would be reduced. Conventional economic theory does not attend to the ways in which growth reduces benefit.

Underlying these issues is the powerful but rarely recognized assumption regarding the “unidimensional” nature of development. It is thought of as capable of varying only along one dimension, to do with the amount of business turnover or production for sale and the associated level of industrialization, trade, infrastructures etc. All nations can be lined up according to their GDP per capita, and development is about moving up the slope towards the rich world end of this single dimension. But again there are many dimensions relevant to assessing development, and some are much more important than the economic dimension.

These have been reasons why GDP should not be regarded as the, or even an, important index of development appropriately defined. Development should be understood as multifactorial, indicating the need to list incommensurable goals in order of priority and to design a range of specific policies to achieve each of them.

But there are far more powerful grounds for recognizing that growth can have no place in an acceptable conception of development.

The limits to growth perspective: the overlooked implications for development

It is remarkable that the development literature has given so little attention to the “limits to growth” analysis of the global predicament. No other set of considerations has such profound implications for development in rich and poor worlds. Over the last fifty years there has accumulated an extensive and overwhelmingly convincing case that global resource consumption and ecological impacts are far beyond sustainable levels. This rules out any possibility of all the world’s people rising to the present material “living standards” presently enjoyed by the one-fifth who live in rich countries, let alone to the levels of consumption growth would lead them to (TSW, 2019).

The magnitude of the overshoot needs to be stressed. The World Wildlife Fund’s Footprint index (WWF, 2019) shows that to provide one Australian with the amount of food, water, energy and settlement area now used, about 7 ha of productive land are required. Therefore if the possibly 10 billion people expected to be on earth by 2050 were to live as Australians live now around 70 billion ha would be required. However there are only about 8 billion ha of productive land available on the planet. This indicates that Australians are consuming natural resources at close to 10 times the rate all people in the world could rise to.

Other measures indicate worse multiples. For instance the top ten iron and aluminium ore consumers have per capita average rates of consumption 80 times greater than all the rest (Wiedmann, et al., 2014).

But the implications of growth must be added to this analysis. If the 10 billion people expected to be on earth by 2050 were to rise to the “living standards” Australians would have then given 3% p.a. economic growth, the amount of producing and consuming going on in the world would be *20 times* as great as it is now, and by 2073 the multiple would be 40.

The common response to this case is to claim that technical advance will make multiples of this order possible. It is not difficult to point out the extreme implausibility of this “tech-fix” faith. However, many studies of this thesis have found that despite decades of constant effort to improve productivity, recycling and efficiency, growth of GDP continues to be accompanied by *growth* of impacts and demands. That is, no absolute decoupling is taking place. Recent lengthy reviews of hundreds of studies by Hickel and Kalis (2019), Parrique et al., (2019) and Haberl, et al. (2020) confirm this finding and state that no reversal of it is likely.

Why should the analysis be in terms of the possibility of generalising rich world practices to all people? The answer is that this is the taken-for-granted goal of development and it is built into the foundations of the present global economic system, so it is important to consider the likely consequences.

This focus on the biophysical resource limits of the planet shows that appropriate development must be conceived in terms of large scale descent to a zero-growth or steady-state economy, operating at levels of GDP that are a small fraction of those in rich countries today. There is now a significant Degrowth movement based on this recognition.

The connections between the market and inappropriate development

No principle is more fundamental in conventional development theory and practice than that maximum freedom should be given for market forces to determine what happens. However it is difficult to refute the claim that the result is development that is not and that cannot be geared to the most urgent needs.

The global economy is a market system and the two major effects of the market system on development are:

Market forces allow the relatively rich few to get most or all of the available resources.

For example, while possibly 850 million people lack sufficient food, which might require 40 million tonnes of grain p.a. to remedy, over 40% of world grain production is fed to animals each year, mostly in rich countries (FAO, 2013).

These extremely unequal distributions of the world's resource wealth come about primarily because it is an economic system in which some individuals and countries can afford to pay much more to purchase scarce goods. Market forces inevitably allocate scarce items to those who are able and willing to pay more. Markets do not take into account what is needed, what is just, or what will contribute to social cohesion or ecological sustainability.

In the Third World Market forces have mostly developed industries that are inappropriate to the needs of people and ecosystems

A great deal of development has taken place in the Third World but little of it has been development of the most needed industries and systems. Because it has been determined largely by market forces the development has been mostly the development of industries to provide commodities and consumer goods for the benefit of local elites and for export to the rich countries, while the labour, land and infrastructures involved could have been devoted to meeting urgent needs.

Thus conventional development can be seen as a process which draws Third World productive capacity into producing mostly for the benefit of the local rich classes, the transnational corporations and banks, and consumers in rich countries.

Integration with the global economy: globalisation

The conventional approach to development assumes that movement towards a single unified global economic system is desirable. This is seen as providing greater access for all to markets, productive and export opportunities and sources of imports. Globalization involves reducing impediments to trade and investment such as tariffs, protection, subsidies and government intervention in the market. The pressure is on economies and individuals to produce for sale into the global economy in order to earn the income needed to purchase from it.

This arrangement has significant benefits but it forces all nations, regions and individuals into competing in the one market and many inevitably fail to do this very effectively. Nations must focus on selling whatever resources they have cheaply. The poorest people and regions, and some entire countries, especially in Africa and the Pacific, are largely irrelevant to the interests of transnational corporations and therefore cannot expect much investment or development. They have no cheap resources to attract foreign investors and could not compete in export markets if they did.

Globalization is in the interests of rich nations and their corporations because it increases their freedom of access to resources and consumers in all countries. It involves leaving development to market forces, which in effect means that there will only be development of whatever it suits the corporations to develop.

A large literature has now accumulated documenting the damaging effects neoliberal globalization has had on many people and nations. Alternative/appropriate development is not possible unless governments exercise significant levels of control and regulation over their economies, trade, foreign investment etc. Its core principle contradicts globalization; appropriate development must be local.

Development is capital intensive

Conventional development cannot take place unless large amounts of capital are acquired and invested. Land, equipment and expertise must be paid for in order to set up plantations, factories, mines, fishing and logging operations etc. Because there must be large scale export of commodities or manufactured goods, costly infrastructures must be built. Therefore

governments take on large debts to build them, reducing the capacity to attend to basic necessities. However the alternative conception to be discussed below involves little need for capital, and in some important sectors such as basic food production almost none might be required.

The “trickle down” assumption

The basic justification for conventional development is that although it mostly enriches the rich, in time “...wealth will trickle down to benefit all.” There is indeed a tendency for this to happen, but there are several reasons for rejecting this strategy.

Little trickles down

In the global economy the amount of benefit that trickles down is evident in the fact that one-fifth of the world's people now receive about 70 times the amount of income the poorest one-fifth get, and according to a number of studies such as by Hickel (2017) the ratio is getting worse. Edward and Summer (2013) report that between 1990 and 2010 global consumption increased by \$10 – \$15 trillion, but 1% of people received 15% of it. The gain for each of them was 637 times as much as the gain for the poorest 53% of the world's people.

The strongest justification for the trickle down strategy is the claim that poverty has been greatly reduced. The conditions large numbers experience have indeed improved greatly, but the situation is complex and the overall effects are debated. The reduction in global poverty rates seems to have been due mostly to achievements in China (Hickel, 2017). Edward and Summer (2013) find that if Chinese figures are omitted then there has been little if any improvement in global inequality and poverty rates in recent decades.

Conventional “development” also impoverishes; what are the net effects?

Conventional economists typically enthuse about gains and benefits but fail to attend to the losses and costs. Conventional development drives some people into poverty, mainly by depriving them of resources and livelihoods they once had. When governments allow corporations to log forests and build dams and mines, tribal and peasant people can be removed from their ancestral lands. Fletcher (2016) quoting the U.N. Human Development Report says that in 2003 after decades of Neoliberal development, 54 nations were poorer than they had been in 1990, and Sub-Saharan Africa had a lower per capita income than 40 years before. (See also Hickel, 2016.) The poor in Third World countries that are most integrated into the global economy have fared worse than those in other countries (Wodin and Lucas, 2006, p. 55, Meredith, 2005).

It is not clear how big the net gains in income, employment and welfare have been but the above evidence on global poverty changes suggest that they have not been as spectacular as is commonly claimed.

The rate of trickle down development is extremely slow

At present rates it would probably take more than a hundred years for the “living standards” of the poor majority in the Third World to rise to present rich world levels...and by that time rich world GDP per capita would have become extreme. Yet if the available resources could be

applied directly by people to meeting their own needs rapid improvements would easily be achieved.

The moral issue

The trickle down rationale promises to improve the welfare of those in great need via crumbs from the tables of the rich. Most of the benefit of conventional development goes to national elites, foreign corporations and rich world consumers. A morally acceptable development process would prioritize improving the conditions of the poorest.

The global resource situation will not permit Trickle Down to work

The strongest argument against trickle-down doctrine is that the limits to growth rule out any chance that development which promises to lift the poor to rich world affluence via trickle down benefits can succeed. There are far too few resources for this to be achieved.

The structural adjustment packages

The most powerful forces imposing these forms of developments on the Third World over the last several decades have come via the Structural Adjustment Packages of the World Bank and International Monetary Fund. When a Third World country's debts become impossible for it to repay it must go to these agencies for assistance. They arrange for more loans to enable debt repayments to be made, but they do so on condition that a Structural Adjustment Package is accepted. This package obliges the country to implement a number of policies that are supposed to improve the economy, such as cutting government spending including subsidies to local industry and assistance to poor people, opening the economy to more foreign investment, increasing exports, devaluing (making exports cheaper for rich countries to buy, and making the country pay more for the imports from them), reducing government regulation, reducing government ownership and control and generally increasing adoption of free market policies.

There is considerable evidence that in general these measures have had little or no effect in "getting the economy going again". More importantly, the packages promote the interests of the rich countries and their corporations and banks because impediments to their access to Third World resources and markets are reduced, they can buy up the firms that go bankrupt, they can hire cheaper labour, they can import more cheaply from the country while being paid more for exports to it. In addition SAPs make repayments to rich world banks top priorities for national governments.

Conventional development can therefore be regarded as a form of legitimized plunder

Conventional development gears most of the Third World's productive capacity to rich world demand. Most of its produced resource wealth flows to consumers and corporations in rich countries. Thus the global political economy can be regarded as an imperial system. Rich world living standards could not be as high as they are if rich world people were not securing far more than an equal share of the world's resources. Unlike previous imperial systems this one functions mainly through financial arrangements, especially those surrounding debt. In general gunboats are not required for its maintenance and extension.

This general view of the development field has been argued by many analysts over recent decades. For instance Goldsmith (1997) discusses “development as colonialism”. Rist (1997, p. 243) says, “...development has resulted in material and cultural expropriation”. Schwarz and Schwarz (1998, p. 3) say, “Development now seems little more than a window dressing for economic colonialism”. Chossudovsky (1997) details the mechanisms, especially in relation to finance and Structural Adjustment Packages. These are a few of the sources that have documented the reasons why conventional development can be regarded as a form of legitimized plunder. Reference is made below to these kinds of conclusions in the more recent “post-development” critical literature.

The connection with oppressive foreign policy

The forgoing argument has been that much of the injustice evident in the world is due to the normal working of the global economy. However from time to time people who are deprived and exploited tend to become discontented and can only be kept working in the mines, plantations and sweatshops through violent repression. This is usually readily imposed by the local ruling classes, but often rich countries provide arms, training and other assistance to put down dissent or assist rebels undermining a non-compliant regime. From time to time rich countries invade to install regimes willing to rule in their interests, or take steps to get rid of those that are not.

Thus there are strong causal connections between conventional development and rich world affluence, Third World deprivation, imperial domination and armed conflict. If the rich few are determined to continue to secure their disproportionate share of increasingly scarce world resources they would be well advised to remain heavily armed. (For overviews see TSW: 2018a TSW: 2018b.)

Alternative, appropriate development ... The simpler way

The tragedy of development theory and practice is that so few realize that satisfactory, appropriate, development would be easily achieved, although it would require radical change in lifestyles, systems and aspirations.

Let us begin by asking what factors are most important for a high quality of life? What goals would satisfactory development be aimed at? There would probably be a high degree of agreement on the following list.

- Good health.
- Having sufficient good quality food, shelter and clothing.
- Belonging to and being involved in a supportive community.
- Having meaning and purpose, important tasks, projects, interests.
- Feeling secure, from unemployment, poverty, violence, illness, stress, isolation and social breakdown.
- Freedom/autonomy over one’s life and work.
- Having a valued and interesting livelihood; being respected for making a useful contribution.
- Not having to work hard or struggle; a relaxed pace.

- Closeness to nature; living in or close to a beautiful environment.
- Having a sense of place, a home.
- Having pride in one's family, town, society, institutions, nation.

It is important to note that money, wealth or possessions are hardly relevant to any of these items, and none requires a high GDP. All can in principle be achieved easily by reorganizing lifestyles and systems along the following lines.

1. Enable people to begin applying the existing resources and productive capacity around them, especially their own labour and skills, to producing the mostly simple things that are needed to give them a high quality of life.

Most if not all Third World regions have all the resources they need to build the basic structures and systems which would provide a high quality of life to all in a few years at most, via relatively simple technologies, lifestyles and systems. Achieving these goals in a short period of time is possible with little or no foreign investment, trade, heavy industrialization, aid, external expert advice or sophisticated technology, and with little need for monetary capital.

2. Put priority on cooperation, participation and collective arrangements and effort.

Most farms and firms might be privately owned but the members of settlements must have collective control over their basic functions and must gear these to maximizing the welfare of all. People arrange and contribute to town meetings, working bees, cooperatives, committees, commons, and town mini-banks. Villagers govern themselves, researching, planning, deciding development action via thoroughly participatory procedures such as village and town assemblies.

3. Very simple material living standards must be willingly accepted.

Affluent lifestyles and rich world living standards must be understood as impossible for all to have, and unnecessary for a high quality of life. The goal must be material *sufficiency* on levels of per capita resource consumption that are as low as possible. This does not mean deprivation or hardship must be accepted. Very satisfactory lifestyles and systems can be provided on per capita resource consumption levels that are literally around 10% of rich world national averages. (See further below.)

4. The basic element in appropriate development is the small, highly self-sufficient and largely co-operative local economy.

Most of the basic goods and services used by people must be produced in and close to the towns and suburbs they live in, by local people using local resources mostly in cooperative local firms and farms. These must focus on the production of necessities and on minimizing exports to and imports from the wider national and international economies. The village and regional economies might contain mostly private firms and most of these might operate wholly or partly within markets. However responsibility for all important activities that the market economy does not perform satisfactorily must be undertaken by the Community Development Cooperative. It will have considerable power to either get the market sector to attend to necessities, or go around it to organize community provision by establishing its own cooperatives etc.

If lifestyles are frugal and most basic items are produced locally there can be dramatic reductions in dollar and resource costs. There would be little need for transport to bring goods into settlements, or to move workers out to distant work places. Most people might need to engage in paid work only twice a week, and most of this might be accessed on foot or by bicycle. Especially important is the development of local leisure and entertainment options, overseen by village leisure and educational committees.

It must be stressed that only localized systems are capable of achieving the dramatic reductions in resource use sustainability requires. This is due to a) the complex *integration* of functions and processes, b) the close *proximity* of functions, and c) the *informal* "administration" by ordinary people as they go about their daily activities. For example a study of egg supply (Trainer, Malik and Lenzen, 2019) found that the backyard and village cooperative path could have dollar and resource costs less than 2% of the conventional agribusiness-supermarket path. This is largely because proximity enables all organic wastes to be recycled by hand to nearby compost heaps, gardens, fish ponds and methane digesters, much poultry food to come from local sources especially free ranging, thereby eliminating the need for factories, trucks, chemicals, supermarkets, marketing, packaging, and expensive buildings, managers and professionals, etc.

The *Remaking Settlements* study (Trainer, 2019) derives detailed estimates of the dollar and energy costs that would be theoretically achievable within a rich world outer city suburb, partly based on records from the Pigface Point homestead (TSW, 2018c). These indicate greatly reduced costs compared with present rich world national averages, and little need for goods and services that cannot be produced within small towns and regions. For instance the per capita energy costs of food in the US are literally more than a hundred times as great as those estimated in this study for locally-produced food. Lockyer's (2017) study of the Dancing Rabbit Eco-village in Missouri found that per capita rates of electricity, fuel, vehicle use, water use and garbage generation are in the region of 5-10% of US national averages.

5. Sophisticated technology is of little importance for meeting basic needs.

Although many modern ways would be of considerable value, a well-developed village or region might be achieved with little more than traditional hand tool technologies. Voluntary working bees can build the simple structures needed, especially community centres and workshops, clinics, stores and business premises, using mostly local materials such as earth, stone and timber.

There are however areas in which sophisticated technologies are important, most obviously to do with health services, and these require arrangements which extend beyond the village. Nearby regional economies would contain larger productive units providing for instance radios, fridges, light manufacturing. State and national economies would need to enable small quantities of items such as cement, light steel, pumps and plastic pipe.

6. Satisfactory material living standards are easily achieved, without sophisticated technology and with minimal resource use.

This is probably the most important point for advocates of the alternative path to make clear and convincing because the claim can seem to be quite implausible. The quality of

life goals listed above depend almost entirely on social arrangements, not on individual wealth. Where material standards are relevant (e.g., in housing) structures and systems usually can be simple and frugal yet entirely adequate, indeed often functionally and aesthetically superior.

It should also be stressed again that these large reductions in resource, dollar and ecological costs are also typically associated with a higher experienced quality of life (Lockyer, 2017; Grinde, 2017). (See also TSW, 2018d). The main task advocates of the alternative path have is to provide convincing accounts of the sufficiency, achievability and desirability of these simpler ways.

7. There is negligible need for corporations, big banks, capital, loans and debt, or for involvement in the global economy.

Because The Simpler Way requires few elaborate structures or systems there is little need for monetary capital. Most of the development needed can be achieved by drawing on “capital” in the form of local skills, labour and enthusiasm. Often the necessary material resources are locally available in the form of land, earth for building, timber, stone, rainfall, manures, plant and animal materials and traditional knowledge and skills. Because levels of town and regional self-sufficiency are high and lifestyles are materially simple there is little need to export into the global economy to earn the money to purchase from it, and therefore little need to build infrastructures such as ports and airfields. There need only be sufficient concern with exporting into the global economy to acquire sufficient capacity to purchase crucial necessities from it. Because there is also little need for capital borrowing and debt can be minimal. Similarly foreign investment should be confined to the provision of necessities that cannot be produced from local sources.

8. Social, cultural and ecological goals take priority over economic goals.

Development decisions must be based on considerations of social need, morality, justice, rights, tradition, social cohesion and ecological sustainability. No attention need be paid to the GDP; whether it rises or falls is irrelevant. A wide range of appropriate development measures should be developed, such as those included in Bhutan’s index of Gross National Happiness.

9. National governments must do as much regulating, subsidizing, planning and controlling of the economy as is necessary to enable the foregoing goals.

National governments should prioritize assisting the industries and infrastructures needed to maximize local self-sufficiency, while organizing village access to those items that must be produced elsewhere in the relatively small remaining national economy. They should distribute mostly light industries across the rural landscape, so that all villages can earn small amounts producing a few basic items for the national economy and thus be able to pay for the few items they need to import from it.

National governments should work to reduce national, regional, village and individual dependence on surviving in the global economy, i.e., assist them to become less tied to importing, exporting, and borrowing.

10. Ideally the transition would be gradual.

The transition can be a process of gradually building a new “Needs-Driven-Economy” underneath the old “Profit-Driven-Economy”. It can begin by a few coming together as a Community Development Cooperative to organize the provision of some neglected basic goods and services, for example by setting up community gardens, poultry co-ops or aged care rosters. Their long term goal would be to increase these cooperative, socially desirable non-market activities until they might largely replace the old economy.

11. Nothing is more important than the understanding of “development” that people have.

It is crucial that people be helped to see that conventional/capitalist theory and practice is an ideology enabling and legitimizing wealth extraction, and to see that there is an alternative. It is distressing that billions of people do not realize that there can be other than the conventional “unidimensional” approach which locks them into continued poverty and deprivation waiting for trickle down, when they could be developing relatively simple systems that would quickly enable far better conditions.

It hardly needs to be pointed out that because this alternative conception constitutes a head-on contradiction of conventional development theory and practice it sets a mortal challenge to the interests of large numbers of rich and powerful individuals, classes, agencies and nations. The more that local self-sufficiency and frugal lifestyles are adopted the less participation in and dependence on the global market system there will need to be, and the less opportunity for capital-intensive development. It is therefore not surprising that the alternative is largely ignored in mainstream discussion, agencies and projects.

Nevertheless many of the alternative elements listed above are increasingly being embraced and are informing practice in rich and poor worlds. Examples include the Zapatistas in Mexico, the Via Campesino movement involving an estimated 200 million people, the Chikukwa movement in Zimbabwe, (Leahy, 2018, TSW, 2018e), the Catalan Integral Cooperative in Spain (TSW, 2018f), the Global Eco-village Movement now including thousands of people in rich and poor countries (Global Ecovillage Network, 2018) and involving the intention of the Senegalese government to develop 1,400 Eco-villages (St Onge, 2015), and the Voluntary Simplicity (Simplicity Institute, 2018), Downshifting and Transition Towns movements.

Relation to post-development and other critical literatures

The foregoing account aligns with many elements expressed by “post-development” theorists. These include the claims that conventional development represents only one of a number of conceivable forms of development, enshrines the market, assumes the superiority of a globalized economy and thus rejects localism, takes a narrowly economic view of welfare and progress, legitimizes extractivism and imposes a form of development that suits the rich, has failed to solve development problems, accepts goals which are not achievable in view of the limits to growth, and assumes the superiority of Western culture and thus disregards the cultures of Third World people. Especially relevant to the above discussion is the recognition

of development as a “discourse” or ideology which misleads thinking in the interests of the powerful and causes people to fail to see what is in their interests.

However most of the “post-development” commentary has been merely critical and has had relatively little to say about desirable alternative forms of development which is the Simpler Way focus. Proposals have been mostly highly abstract and directed at a wish list of centralized/state action, (e.g., reduce inequality) and not aimed at explaining the possible structure and functioning of an alternative economy. Above all little attention has been given to the essential role frugality and simpler lifestyles and systems must play.

The general “Unequal Exchange”, Dependency and Marxist accounts of underdevelopment can be criticized for unwittingly adopting the conventional “unidimensional” view of development. The former is concerned with the loss of monetary wealth from Third World countries due to trade conditions which involve unequal exchange. This is seen as hindering development, but development is still conceived in conventional terms, i.e., growth of GDP and rising to rich world levels of industrialization and affluence, with no attention given to global resource limits.

Similarly Dependency theory is concerned with the ways development in poorer countries takes forms that are dependent on the interests of dominant powers, such as relying primarily on resource extraction, but again the goals and means are basically conventional.

Marxist theory is focused on the exploitative nature of capitalism but at least implicitly assumes that if this was eliminated development towards conventional goals would be enabled. Again development is conceived in terms of stimulating productivity and technical advance to enable investment designed to increase GDP per capita. It also endorses centralized control, heavy industrialization, high material “living standards”, large scale, and technical advance, and has little regard for localism or “peasant” ways. Marxist theory can be seen as a variety of capitalist development; one in which the capital is not privately owned.

These three theoretical perspectives do not recognize that the core problem is to do with *what is being developed* and the kind of society that is to be built. The argument above has been firstly that a system driven by private capital seeking to maximize profit in a market will inevitably develop the wrong things, and secondly that only a conception based on localism, self-sufficiency, collectivism and frugality can enable development that is satisfactory for social and sustainability reasons. Thus the core element in Simpler Way theory is not the faulty productive relationship in capitalism which Marxist theory focuses on; it is the market system with its inevitable imperatives to growth and inequality.

Some Marxists have not only adopted the conventional definition of development but have insisted that Marx’s theory of history requires the maturation of capitalist development in the Third World before conditions enabling revolutionary transition to a post-capitalist society will have been created. This has led to attempts to block revolutionary movements as being premature. (See for example, Avineri, 1968, and Warren, 1980, and the pre-revolutionary Russian Marxists.) The alternative perspective being argued here rejects this understanding of the situation.

It is remarkable that late in his life Marx entertained the possibility of a transition path, one which aligns to a considerable extent with the alternative being argued for here, i.e., building on the model of the traditional Russian collective village, the Mir. Mainstream socialist thinking

regarding transition has disregarded this possibility, but it is central in the Simpler Way perspective, which accepts that the most promising approach to appropriate development can begin within existing settlements.

A final critical comment on the general Marxist perspective is that a sustainable and just approach to development is not well described as Socialist. It is obviously anti-capitalist, but the standard Socialist vision embraces strongly centralized government, bureaucratization, leadership by experts and officials, industrialization, technical advance, “modernization”, complex urbanized systems and high material living standards. Its goals do not focus on smallness of scale, localism, sufficiency or self-governing communities, nor has it shown much respect for low technology and peasant ways let alone voluntary simplicity and largely autonomous and self-governing communities. Nor does the Socialist revolutionary strategy pay much attention to the need for radical cultural/ideological change before structural change. (Noted by Avineri, 1968.) Similarly its assumed revolutionary means involve confronting capitalism in typically violent struggles by workers led by vanguard parties.

In sharp contrast the approach argued above is the opposite of centralized and top-down, focusing on local initiative and autonomy, on smallness of scale, on thoroughly participatory democracy and citizen initiative rather than control by official authority, and especially on the need for deep cultural change before significant structural change is possible. Similarly its revolutionary strategy does not focus on direct let alone violent confrontation but on “prefiguring” the new within the old, primarily as an educational means of subversion and ultimately replacement. Thus the alternative is best described as a variety of Anarchism. (For more detailed discussion of transition theory, especially on differences with Marxist theory, see Trainer, 2020.)

However the most important blind spot in all these critical perspectives has been failure to grasp the biophysical situation. Many have taken for granted the same affluence and GDP growth goals as conventional theorists, which are impossible to achieve and indeed suicidal for the planet. The foregoing argument has been that when the biophysical situation is recognized satisfactory development can only be conceived in terms of some form of Simpler Way.

The significance for environmental issues and non-violent transition

The alternative development goal argued above has significant implications for the planetary ecological crisis, and for peace in the world. Because it involves large scale reduction in resource consumption it would greatly reduce global ecological impacts. The above discussion of limits and multiples shows that any attempt to develop the Third World to rich world ways is grossly unsustainable. It is characteristic of Simpler Way thinking that solutions are sought via reductions on the demand side whereas much current thinking about the environmental problem involves faith in the emergence of supply and provision solutions, that is, “tech-fix” ways of sustaining current throughput levels while ameliorating ecological impacts.

Similarly the strategic implications involve a greatly reduced level of violent conflict in the world. Marxist transition strategies typically involve head-on confrontation intended to eliminate ruling class control, and these have had a tragic and not very successful history. The Simpler Way approach recognizes that unlike previous revolutionary situations a goal

centred on localism and simplicity cannot be achieved unless and until extreme cultural change has taken place and that when it has then peaceful change in structures will have become conceivable, and indeed perhaps relatively easily achieved. Thus strategy focuses on patiently avoiding overt conflict as much as possible while “prefiguring” the new ways, primarily for educational/ideological purposes. The classic reference points are seen in the Zapatista and Rojavan cases, where the existence or establishment of a radically alternative world view leads directly to new structures and practices. At least there is a good chance that these can infiltrate under the radar of ruling classes, who will be less inclined to crush them than if they were directly confronted by armed rebellion.

This perspective is supported by the reasons outlined for thinking that present dominant socio-economic system is in the process of self-destruction (Trainer, 2020) and will have diminishing power to control deviance. If worsening circumstances lead people to see that the old systems will no longer provide for them and force them towards forming their own local and collective arrangements then those systems are likely to eventually be spontaneously dumped. Even if the outcome is not so smooth at least a transition strategy based on prefiguring is likely to minimize violent conflict.

Conclusion

The case for rejecting conventional development focuses firstly on the biophysical impossibility of achieving its goals; there are far too few resources to enable the Third World to rise to anything like present rich world lifestyles and systems. In addition it is inherently unjust; the “growth and trickle down” means mainly enrich the already rich, and ensure a global economy that transfers vast quantities of resource wealth out of poor countries.

The contradiction between conventional and alternative conceptions of development are of great and tragic significance. Billions of people struggle to survive in appalling conditions when these could quickly be largely eliminated if people were able to put the resources around them into creating the simple industries and systems that would meet most of their basic needs. But this could not be done until the rich ceased taking far more than their fair share of scarce global resources and unless the current development model which enables this is abandoned.

From the Simpler Way perspective the historically novel and unique conditions brought about by exceeding the limits to growth have determined that the present revolutionary situation is unlike any before it. In the past, revolutions have been primarily intended to liberate impoverished masses to rise to greater material wealth. But the goal of sustainable and just development must now be conceived in terms of radical and extensive Degrowth, localism, and above all willing acceptance of materially simpler lifestyles and systems. The supremely important determinants of this revolution are cultural and ideological; they are to do with recognition of the false claims of conventional development theory and practice, and the acceptance some kind of Simpler Way.

References

- Avineri, S. (1968) *The Social and Political Thought of Karl Marx*. Cambridge, Cambridge University Press.
- Chossudovsky, M. (1997) *The Globalisation of Poverty*. London, Zed Books.
- Edward, P. and A. Summer (2013) "The geography of Inequality: Where and how much has income distribution changed since 1990?" Working Paper 341, Centre for Global Development, Sept.
- FAO (2013) *World Livestock*, Rome. <http://www.fao.org/docrep/019/i3440e/i3440e.pdf>.
- Fletcher, I. (2016) "No, Free Trade Didn't Lift Millions Out of Poverty." Feb. 05, *Huffington Post*.
- Goldsmith, E. (1997) "Development as colonialism." In J. Mander and E. Goldsmith, *The Case Against the Global Economy*. San Francisco, Sierra. Global Ecovillage Network, (2018). <https://ecovillage.org/>.
- Grinde, B. et al. (2017) "The Quality of life in intentional communities." *Social Indicators Research*, March.
- Hickel, J. (2017) *The Divide: A Brief Guide to Global Inequality and its Solutions*. Heinemann, London.
- Hickel J. and G. Kallis (2019) "Is Green Growth Possible?", *New Political Economy*, DOI: 10.1080/13563467.2019.1598964.
- Haberl, H. et al. (2020) "A systematic review of the evidence on decoupling GDP, resource use and GHG emissions, part 2, synthesizing the insights", *Environmental Research Letters*, 15 065003.
- Leahy, T. (2018) *Food Security for Rural Africa: Feeding the Farmers First*. Routledge.
- Lockyer, J. (2017) "Community, commons, and De-growth at Dancing Rabbit Eco-village." *Political Ecology*, 24, 519-542.
- Mollison, B. (1988) *Permaculture; A Designer's Manual*. Tagari Publications, Tyalgum.
- Parrique T. et al. (2019) *Decoupling Debunked*. European Environmental Bureau July. www.eeb.org/library/decoupling-debunked.
- Rist, G. (1997) *The History of Development*. London, Zed Books.
- Schwarz, W. and Schwarz, D. (1998) *Living Lightly*. London, Jon Carpenter.
- Simplicity Institute (2018) www.simplicityinstitute.org.
- St-Onge, E. (2015) "Senegal Transforming 14,000 Villages Into Eco-villages!" *Collective Evolution*, June 17. <https://www.collective-evolution.com/2015/06/17/senegal-transforming-14000-villages-into-ecovillages/>
- Trainer, T. (2019) "Remaking settlements for sustainability; the simpler way", *Journal of Political Ecology*, 26.1: 587 - 601. <https://journals.uair.arizona.edu/index.php/JPE/article/view/22972>.
- Trainer, T., A. Malik and M. Lenzen (2019) "A Comparison Between the Monetary, Resource and Energy Costs of the Conventional Industrial Supply Path and the "Simpler Way" Path for the Supply of Eggs", *BioPhysical Economics and Resource Quality*, September.
- Trainer, T., (2020) "Simpler way transition theory." *real-world economics review*, issue no. 93, 28 September, pp. 96-112, <http://www.paecon.net/PAERReview/issue93/Trainer93.pdf>.
- The Simpler Way [TSW] (2018a) Our Empire; Its Nature and Maintenance, <http://thesimplerway.info/OUREMPIRE.htm>
- TSW (2019) The Limits to Growth, <http://thesimplerway.info/LIMITS.htm>.
- TSW (2018b) Peace and conflict. <http://thesimplerway.info/PEACE.htm>.
- TSW (2018c) Pigface Point. <http://thesimplerway.info/PigfacePoint.htm>.
- TSW (2018d) <http://thesimplerway.info/YOURDAY.htm>.
- TSW (2018e) The Chikukwa movement in Zimbabwe, <http://www.thesimplerway.info/CHIKUKWA.htm>
- TSW (2018f) The Catalan Integral Cooperative, <http://thesimplerway.info/CATALAN.htm>.

Warren, B. (1980) *Imperialism; Pioneer of Capitalism*. London, New Left Books.

Woodin, M. and C. Lucas (2006) *Green Alternatives to Globalisation: A Manifesto*. London, Pluto Press.

Wiedmann, T. O., H. Schandl and D. Moran (2014) "The footprint of using metals; New metrics of consumption and productivity." *Environmental Economics and Policy Studies*, Published Online, 26 June. DOI 10.1007/s10018-14-0085-y

World Wildlife Fund (2019) *Living Planet Report*. Technical Supplement.

https://d2ouvy59p0dg6k.cloudfront.net/downloads/technical_supplement_ecological_footprint_2016.pdf

Author contact: tedtrainertsw@gmail.com

SUGGESTED CITATION:

Ted Trainer (2021) "Third world development: the simpler way critique of conventional theory and practice." *real-world economics review*, issue no. 95, 22 March, pp. 87-102,
<http://www.paecon.net/PAERReview/issue95/Trainer95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

The American Gordian Knot and Alexander the Great is not in sight

John Komlos [University of Munich, Germany]

Copyright: John Komlos, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

A long longed-for breath of fresh air is blowing across the country, replacing the hot air bellowing from the Trump administration. Yet, the challenges facing the Biden-Harris team are formidable, and most likely insurmountable.¹

Let us first consider them from a birds-eye view. Western Civilization once again finds itself at a crossroads in the middle of the Information Revolution and well on the way to a post-industrial knowledge economy. According to the historical record such economic transformations are always complicated, never smooth, and seldom free of conflict. The transition from Feudalism to Capitalism was no child's play. After all, France had four revolutions during the transition while England had two major upheavals in the 17th century during which one king was beheaded and another deposed through machinations that resembled a modern-day *coup d'état*. Insofar as such transformations reshuffle the political, social, and economic hierarchy, it should not surprise us that conflict ensues in their wake. It is difficult to give up power and privilege or anything else for that matter.² This was already obvious to the ancient Greeks.³

While the big picture helps us understand the context for the current predicament, it is crucial to recognize that the U.S. is facing **20** formidable headwinds within the political, cultural, social and economic realm. Moreover, they are all intertwined in complex feedback mechanisms too numerous to mention.

Political dysfunction has become a permanent feature of the U.S. system

1. The U.S. constitution is anachronistic. A product of the Enlightenment, it is no longer effective at providing a mechanism for the General Will Gemeinwille of the citizens to become the law of the land.⁴ After all, Al Gore received half a million more votes than Bush Jr., yet did not become president and Hillary Clinton received 3 million more votes than Donald Trump and yet she also lost. Hence, the U.S. is no longer a functioning democracy in spite of the elections, because some votes count more than others.

For the presidential election of 2020 300,000 California voters send one elector to the electoral college that officially chooses the president, whereas in the states of Montana, Wyoming, South and North Dakota every 140,000 voters do so. Put another way, the votes of the citizens of those four states are twice as important as those of the citizens of California. Such weighting schemes also account for the non-representative nature of the Senate. There

¹ J. Komlos, "Reaganomics: A Watershed Moment on the Road to Trumpism," *The Economists' Voice*, 2019, 16: 1.

² D. Kahneman, J. L. Knetsch, R.H. Thaler: "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias," *Journal of Economic Perspectives*, 5. (1991), H. 1, S. 193-206.

³ Thucydides: *History of the Peloponnesian Wars*, around 411 BC.

⁴ J.J. Rousseau: *The Social Contract*, Amsterdam 1762.

California has two representatives whereas the less populated 22 states with population total equal to that of California send 44 senators. A functioning democracy should enable the general will of the population to be the rule of the land.⁵ No wonder that the general will cannot emerge in Washington with such an archaic system.⁶

2. With the large role of money in politics, and with the average wealth of the top 1% of households reaching 25 million \$, the US has morphed into a plutocracy.⁷ The mistake of the Supreme Court of equating donating money for political purposes with free speech acerbated the problem considerably by increasing the power of money in politics. Trump would never have won the primaries in 2016 had he not had his own money to finance his campaign initially.

3. The military-industrial complex has a strong influence on the political process. The 720-billion-dollar annual expenditure on the military is a humongous drain on the federal budget away from civilian uses. The military adventures in Iraq and Afghanistan have cost trillions of dollars.

Cultural challenges are insurmountable

4. The defective dominant **ideology** of neoliberalism characterized “by a huge overestimation of the wisdom of market processes,” has seeped into the popular culture to such an extent that it is difficult to make the citizenry understand that the best government is not one that governs the least.⁸ It is easy for market aficionados to label progressive politicians who aspire to improve the condition of the poor through government programs as socialists.

Social challenges are deeply rooted

5. Endemic **racism** haunts the social fabric. The lack of jobs, the mediocre educational system, and the limited safety net available to minorities makes it difficult to improve their life. The unemployment rate among minorities is usually twice that of whites. African Americans are 1.8 times as likely to be poor than their share of the population and their annual median household income was \$24,600 less than that of whites in 2016. They are looked down upon because of their poverty, but their poverty is due to lack of opportunity and inferior schools available to them.

6. It is widely recognized that the economy is **unjust** and is not working for half of the population. The top 1% earn 20% of national income. The bailouts of the financial system in 2008 left all the banks in the top 1% of the wealth distribution. None of them sank down into the middle class. Dick Fuld, who bankrupted Lehman brothers, still has \$250 million in the bank, while Angelo Mozilo who bankrupted Countrywide Financial has \$600 million. However, eight million families were callously evicted from their homes without mercy. Such asymmetric

⁵ M. Sandel: “Populism, liberalism, and democracy,” *Philosophy & Social Criticism* 44. (2018), H. 4, S. 353-359.

⁶ G. Packer: “We Are Living in a Failed State,” *The Atlantic*, June, 2020.

⁷ B. Page, M. Gilens: *Democracy in America? What Has Gone Wrong and What We Can Do About It*, Chicago 2017.

⁸ J. Komlos. *Foundations of Real-World Economics: What Every Economics Student Needs to Know*, 2nd edition, Routledge: 2019.

bailouts are indicative of the power of the oligarchy that fueled the populism harnessed by the Trump presidency.⁹

7. The primary and secondary **educational system** remains mediocre. So, it does not prepare the next generation for the IT revolution. Furthermore, a large share of the poor is unable to afford college education so important in today's economy. Hence, the significant demand for IT professionals is unmet. Yet, money is not available to improve the educational system.

8. **Life expectancy** was falling even before the pandemic. The 150,000 people who die of "deaths of despair" provide evidence of the immense anxiety at the low end of the income distribution.¹⁰ Such epidemic of suicide does not occur in a good economy.

The economy is out of balance

9. **Anemic GDP growth** is the new normal in the 21st century and is not likely to change. Per capita growth has been 1.1% between 2000 and 2019 compared to 2.1% during the three final decades of the 20th century.¹¹ The U.S. has been producing about \$1 trillion less after the 2008 financial crisis than its potential according to projections prior to the crisis. But as Larry Summers pointed out, even before the crisis, there were no signs of an overheating economy, despite the accommodating monetary policy, explosion of debt and "imprudent lending".¹² Consumer prices, wages, and output were not growing excessively. Instead people were dropping out of the labor force by the millions because of limited opportunities. There were also millions who could only find a part-time job or gig work.

This led Summers to formulate the secular stagnation thesis: because of inadequate aggregate demand, the post-industrial service economy is going to be stuck in low gear for the foreseeable future. Hence, there is no reason to think that an acceleration of economic growth will ease the competition for income share or free up resources for redistribution.

10. Anemic growth is due in part to the **productivity slowdown** and there is no reason to think that that will improve.¹³ Total factor productivity grew at an annual rate of 1% between 1988 and 2007. However, between 2007 and 2019 it was halved to 0.5%.¹⁴ That implies that innovation and entrepreneurship can no longer be relied upon as the engines of growth.

⁹ J. Komlos, "The Triumph of Trumpism," *Journal of Contextual Economics, Schmollers Jahrbuch*, 137 (2017), 4: 421-440.

¹⁰ A. Case, A. Deaton: *Deaths of Despair and the Future of Capitalism*, Princeton: Princeton University Press, 2020.

¹¹ 4th Quarter to 4th Quarter. Federal Reserve Bank of St. Louis: series A939RX0Q048SBEA.

¹² L. Summers "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound," *Business Economics*, 49 (2014), S. 65-73; L. Summers, "Demand Side Secular Stagnation," *American Economic Review* 105 (2015), 5, 60-65.

¹³ R. Gordon: *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War*. Princeton 2016.

¹⁴ Federal Reserve Bank of St. Louis: series MPU4910013. Labor productivity fell from 2.4% to 1.4% in the same period; series MPU4900063.

11. The endemic **budget deficit** implies that the government has few possibilities for major project initiatives that could solve any of the structural problems faced by the economy even if it could break through the political gridlock.¹⁵ This also means that the interest payments on the national debt will continue to snowball.¹⁶ In 2018 the average interest rate on the debt was 2.3% but if it increases to normal levels around 5%, the burden of debt would become precarious.¹⁷ This is ominous since the total public debt as a percent of GDP jumped from 103% to 135% as a consequence of the corona crisis.¹⁸

12. **Private debt** is also excessive including student debt (\$1.6 trillion as of 2019) and credit card debt (\$0.9 trillion); this implies that aggregate demand will be subdued in the future because people in debt will have to curtail their spending.

13. **Technological unemployment** will be a permanent threat unless we can lower the number of hours worked per worker as we did in the 1930s and guarantee income and jobs to all. The proliferation of robots means that GDP growth is decoupled from employment, as firms switch from human labor to robot labor. People are becoming increasingly redundant through automation and endemic underemployment.¹⁹ That implies that basic income and job guarantee programs will need to be on the political agenda.²⁰

14. The official **unemployment** rate is usually half of the true rate, because its definition is far too stringent. This leads to an unjust labor market which excludes many who are not even considered unemployed. Even before the pandemic 4.9 million adults were considered out of the labor force even though they did want to work and another 4.3 million were working part-time involuntarily, because they were unable to find full-time employment.²¹ Obviously, the supply of full-time jobs was inadequate to meet demand. The true unemployment rate was closer to 7% instead of the much-heralded official rate of 3.5%.²²

15. **Stagnating or declining wages** is frustrating and is creating distributional conflicts and fuels white nationalism. Amazingly, the real median wages of men employed full time at the end of 2019 was still at the level of 1979.²³ Women's wages were merely \$114/month more than they were in 2004.²⁴

16. The **pandemic** of 2020 is a large-impact improbable event that is often referred to as a "black swan".²⁵ It struck a fragile economy that magnified its impact and revealed the need for fundamental reforms that would create a fairer and more robust socio-economic system.

¹⁵ K. Rogoff: "Government Debt Is Not a Free Lunch," *Project Syndicate*, December 6, 2019.

¹⁶ H. Long: "Fed Chair Powell warns Congress that \$1 trillion budget deficits are unsustainable," *The Washington Post* February 11, 2020.

¹⁷ D. DeSilver: "5 facts about the national debt," Pew Research Center, August 17, 2017.

¹⁸ Federal Reserve Bank of St. Louis: series GFDEGDQ188S.

¹⁹ E. Brynjolfsson, A. McAfee: *The Second Machine Age. Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York 2014.

²⁰ J. Komlos: "Despair at Full Employment: The Urgency of a Fairer Labor Market," *Challenge: The Magazine of Economic Affairs*, 61. (2019): 5-6, 363-386.

²¹ Federal Reserve Bank of St. Louis: series NILFWJN and LNS12032194.

²² Federal Reserve Bank of St. Louis: series U6RATE and UNRATE.

²³ Federal Reserve Bank of St. Louis: series LES1252881900Q.

²⁴ Federal Reserve Bank of St. Louis: series LES1252882800Q and CPIAUCSL.

²⁵ N. Taleb: *The Black Swan: The Impact of the Highly Improbable*. New York 2007.

Note, that such unforeseen disasters have been appearing at the national level at 5-year intervals so far in the 21st century: the DotCom bubble, 9/11, the Meltdown of 2008, and now the coronavirus and the wildfires and hurricanes of global warming are also devastating the land. In other words, such unforeseen events occur with sufficient regularity that we should take their threats much more seriously than we have so far.

17. An endemic **trade deficit** reached 578 billion \$ in 2019 means that the U.S. will continue to export jobs that will hinder an inclusive labor market.²⁶

18. **Globalization** means that low-skilled workers must compete with their lowerwage counterparts around the globe, partly because the workers have no institutional support, and partly because educational opportunities are so limited for a large segment of the population that they do not have the skills necessary to take advantage of the new economy.

19. **Infrastructure** is depreciating. This will continue to weigh on the economy because infrastructure is its lifeblood. Yet, the government does not have the money to make the necessary investments after its tax giveaways.

20. The U.S. economy has morphed into a **bailout capitalism** supported by money creation of the Federal Reserve. Its assets in September of 2008 were just 0.8 trillion \$. In 2021 they are 7.1 trillion \$. That is an increase by a factor of 9. How long can such a bailout capitalism work?

Conclusion

Donald Trump boasted before the recession about “an unprecedented economic boom,” adding that we have “the hottest economy anywhere” and that “our economy is the envy of the world,” because “an economic miracle is taking place in the United States”.²⁷ He mistook a Potemkin village for reality.²⁸ According to the above evidence, the structure of the economy has been fundamentally in permanent disequilibrium. The political gridlock implies that none of the above 20 challenges can be addressed properly. Hence, there is no reason to think that the future economy will be socially more inclusive than it has been. These are the reasons to be skeptical about Joe Biden’s ability to cut through this convoluted Gordian Knot and restructure the economy so that it would satisfy the needs and aspirations of the U.S. population.

The country is too divided after four decades of dubious economic policy and after four years of a nasty populism it is also too nervous to unite behind any leader short of Alexander the Great. Sure, Franklin D. Roosevelt was able to respond effectively to the Great Depression with the New Deal, but his party controlled both houses of Congress throughout his 12 years in office and during most of the time by very large margins. Sure, Lyndon B. Johnson managed to pass the Civil Rights Act of 1964 through Congress, but he too had majorities in both houses by decent margins. Such fortune, however, did not smile on Biden. Yet, the challenges are as formidable, nay, even more so than those of his great predecessors,

²⁶ U.S. International Trade in Goods and Services FT 900, Exhibit 1.

<https://www.census.gov/foreign-trade/Press-Release/2020pr/04/index.html#ft900>.

²⁷ D. Trump: Remarks by President Trump in State of the Union Address, February 6, 2019 and February 4, 2020.

²⁸ J. Sachs: “America’s Illusions of Growth,” *Project Syndicate*, May 14, 2019.

because they have been accumulating for decades and getting worse. Of course, we wish him well. Even if he fails to solve any of the above problems, it will be a great improvement over the constant barrage of impure thoughts and actions that emanated from the Trump White House. Nonetheless, it would be prudent to acknowledge that the 20 challenges will hang over his administration, the country, and the Western World like the sword of Damocles for some time to come.

Author contact: john.komlos@gmx.de

SUGGESTED CITATION:

Komlos, John (2021) "The American Gordian Knot and Alexander the Great is not in sight." *real-world economics review*, issue no. 95, 22 March, pp. 103-108, <http://www.paecon.net/PAEReview/issue95/Komlos95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Unbridgeable: why political economists cannot accept capital as power

Shimshon Bichler and Jonathan Nitzan¹ [Israel and York University, Canada]

Copyright: Shimshon Bichler and Jonathan Nitzan, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Building bridges

The theory of capital as power (CasP) is radically different from conventional political economy.

In the conventional view, mainstream as well as heterodox, capital is seen a “real” economic entity engaged in the production of goods and services, and capitalism is thought of as a mode of production and consumption. Finance in this approach is either a mere reflection/lubricant of the real economy (the mainstream view), or a parasitic fiction (the heterodox perspective).

CasP rejects this framework. Capital, it argues, is not a productive economic entity, but a symbolic representation of organized societal power writ large, and capitalism should be analysed not as a mode of production and consumption, but as a mode of power. In this approach, finance is neither a reflection nor a fiction, but the symbolic language that organizes and reorders – or creates the order of – capitalized power.

These are foundational claims. They go to the very heart of political economy, and they have far-reaching implications. So far-reaching, in fact, that if we accept them, we must rewrite, often from scratch, much of the theory, history and possible futures of the capitalist order.

Many have complained about CasP being aloof. Our approach, they have argued, insists on being “right” – to the exclusion of all others. It shows no interest in “building bridges”. It dismisses neoclassical liberalism altogether, and although sometimes sympathetic to Marx, it aims not to revise Marxism, but to discard it altogether.

In this research note – excerpted and revised from our 2020 [invited-then-rejected interview with *Revue de la régulation*](#) – we explain the basis for these complaints and why CasP and conventional political economy cannot be easily bridged. Stated briefly, the problem is not unwillingness but built-in barriers. As it stands, political economy cannot accept capital as power. Its *very foundations* prevent it from doing so.

The bifurcation

Many political economists talk and write about power, often extensively. But they are always half-hearted about it. The main reason is that capital for them is an *economic* entity. It is

¹ Shimshon Bichler and Jonathan Nitzan teach political economy at colleges and universities in Israel and Canada, respectively. All of their publications are available for free on *The Bichler & Nitzan Archives* (<http://bnarchives.net>). Work on this interview was partly supported by SSHRC. We thank Daniel Moure for his proofreading.

affected by power, for sure. But the effect, positive or negative, comes from the *outside*. As far as they are concerned, power, by and large, is inherently external to accumulation.

And this is how it was from the very beginning. From the Physiocrats onward, political economists have made it their habit to construct various “production functions”, as they later came to be known, that explain why the economy grows and who deserves to receive what part of its output. In constructing these functions – be they qualitative or (pseudo)quantitative – they typically identify the important factors of production, (claim) to figure out their distinct productive contributions and then correlate (figuratively speaking) these (alleged) contributions with the factors’ respective incomes. Positive correlations support the current class structure of society, while negative correlations are used to trash it.

The classicists usually took the side of capital, but their theory was deficient: it treated capital as a mere auxiliary to the true factors of production, labour and land, and therefore found it difficult to rationalize profit. This glitch was eventually fixed by the neoclassicists, whose refurbished production function, courtesy of J.B. Clark, christened capital as a full-fledged third factor on par with labour and land – and then, inverting cause and effect, cited the large incomes of capitalists as “proof” that the capital they owned was highly productive... Contrary to the liberals, both classical and neoclassical, Marx insisted that there was only one productive factor, namely labour, and that the incomes of landlords and capitalists represented not the productive contributions of their assets (which were nil), but the economic exploitation and political oppression of their workers.

Focusing specifically on capital K , we can generalize these debates with Equation 1. In this equation, accumulation $\Delta K/K$ is seen as a function F of different factors of production – or economic inputs e_i – with the main contention being the relevant factors to be included and the precise functional form through which they fuel the growth of capital.

$$1. \quad \frac{\Delta K}{K} = F(e_1, e_2, e_3, \dots e_n)$$

By the early twentieth century, though, the debates broadened beyond the economy proper. Marxists such as Gramsci, Lukács and members of the Frankfurt School realized that, although ownership of the means of production and the production process more broadly remained paramount, the power relations associated with legitimation, and with culture more generally, were also crucial. Moreover, these power relations, the critics argued, were not mere addenda to, let alone simple derivatives of, the so-called productive base. They had their own autonomy – a point that Marcuse would later extend, dialectically, to make artistic creation the centrepiece of human autonomy more generally.

Eventually, these insights, together with the existentialist revival of the human subject and the growing disillusionment with the Soviet Union, helped breach the economic determinism of capital accumulation. If during the 1950s the Communist Party excommunicated Hegelian heretic Henri Lefebvre for daring to make “urban space” – previously an aspect of the superstructure – an autonomous historical entity, by the 1970s such transmutations were no longer frowned upon. By then, Louis Althusser was already busy “overdetermining” materialist history with additional, non-economic factors – including “ideology”, which he shifted from the superstructure over to the productive base. And this relocation, unthinkable during the Party’s Stalinist era, was just the beginning. One of Althusser’s students, Nicos Poulantzas, endowed

the state with “relatively autonomy”, while another, Michel Foucault, abandoned economic determinism altogether in favour of ergodic power. In parallel, Dependency and World-Systems theorists such as Gundar Frank, Arghiri Emmanuel, Samir Amin and Immanuel Wallerstein anchored the history of capital accumulation and capitalism more generally in the global military expansionism of the European superpowers. The Regulation and SSA schools took these conceptual expansions a step further by adding to the equation a far broader extra-economic input – the “mode of regulation” or “social structure of accumulation”. Similarly with institutionalism, which argues that economic agents are only partly autonomous (if at all), and that their inclinations and behaviour, rational and irrational, are shaped by the slowly evolving social institutions into which they are born.

With these multiple breaches, theorists found many more things to argue about. Accumulation nowadays is seen as determined not only by traditional economic inputs e_i , but also by a broad range of extra-economic relations of power ee_j , all mediated through an augmented function AF , as shown in Equation 2:

$$2. \quad \frac{\Delta K}{K} = AF(e_1, e_2, e_3, \dots e_n; ee_1, ee_2, ee_3, \dots ee_m)$$

But one thing remains unchanged. With the bygone exception of Thorstein Veblen, all users of Equation 2 – be they neo-Marxists, Gramscians, Regulationists, Dependency and World-Systems analysts, poststructuralists, institutionalists or behavioural economists – continue to treat capital K itself as a productive-economic entity and its power determinants as external to accumulation proper.

The three foundations

Can political economists transcend this bifurcation? Can they stop thinking of power as external to accumulation proper? Can they conceive capital itself as an embodiment of power? Perhaps. But to do so, they must first jettison the key foundations of their approach.

This requirement goes back to the seventeenth and eighteenth centuries, when political economy was conceived as the first science of society. Rooted in the mechanical worldview of the new secular sciences and the capitalist contestation of feudal power, the framework of political economy was – and remains – built on three intertwined foundations: (1) a separation of economics from politics (or more broadly, a distinction between the objective world of production and wellbeing and the subjective passions of hierarchical power and violence); (2) a mechanical, self-equilibrating model of the economy; and (3) a value theory that breaks the economy into “real” and “nominal” spheres and uses the quantities of the former to explain those of the latter.² These foundations, we argue, prevent power from being fully integrated into political economy.

Foundation 1: “Economics” versus “Politics”

The first foundation is the split between economics and politics. Most people take this duality as natural and obvious. It's neither. Historically, the separation of economics from politics can be traced back to the twelfth century in Northern Italy and Flanders, where there emerged a

² The origins and consequences of these foundations are articulated in Bichler and Nitzan (2012).

new class struggle between an oligarchy of merchants and financiers in the growing burghs and the feudal nobility of the agrarian countryside.³ The two groups represented totally different modes of power and, indeed, totally different concepts of power. Whereas the feudal mode of power legitimized hierarchical privilege sanctified by religion and backed by naked force, the nascent capitalist mode of power boasted the notion of a flat civil order based on rational productivity. While the feudal lords earned their income thorough the forceful redistribution of a fixed agricultural pie, the would-be capitalists generated theirs through the ongoing growth of industry and commerce.

Initially subservient to the feudal state within which they emerged, the burghs quickly started to demand and obtain differential exemptions – or *libertates* – from feudal rule. In today’s lingo, we could say that they fought to separate and liberate their bourgeois “economy” from feudal “politics”, and it is this bygone conflict that continues to echo whenever we contrast these two terms today.

Liberals tend to see this separation in black and white: “economy – good; politics – bad”. And that’s hardly a caricature. In the liberal cosmology, the economy – namely the processes of production, consumption, technology, trade, prices and income – is the fertile source of society. This is the horizontal realm of individualism, utility, productivity, frugality, rationality, dynamism and freedom, the sphere where personal initiative and mutually beneficial exchange propel society forward. By contrast, politics – namely the state and its bureaucracies, the law, the police and army – is the vertical domain of authoritarianism and conformism, power and coercion, waste and irrationality, corruption and manipulation.

Prone to mischief, politics should be restricted as much as possible. Ideally, its role should be to assist the economy by providing law and order and filling in for the occasional market failure – and that’s it. In practice, though, politics always ends up doing more than it is supposed to, causing havoc in the process. According to liberals, politics as such cannot produce anything; it can only appropriate and redistribute. And since the economy is assumed efficient to start with, political intervention cannot but distort and undermine this efficiency, making the overall economic pie smaller. The obvious antidote for this mishap is *laissez faire*: for liberals, the best society is one with the biggest “free” economy and the smallest and least “interventionist” polity.

The Marxist view is different, but not entirely. Like liberals, Marxists too distinguish economics from politics (or base from superstructure). And they too see the economy, particularly production, as the prime mover of capitalism – the sphere where labour creates both the use value that sustains society and the surplus value that capitalists appropriate to propel accumulation. Unlike liberals, though, Marxists view the political sphere not as a hindering distortion, but as a built-in requirement. The formal separation of economics from politics, they argue, legally alienates private property from public control in order to ensure and legitimize the class superiority of capitalists over the rest of society. In this way, economics and politics stand as the two essential pillars of the capitalist regime – the former generates its exploitation, while the latter secures its oppression.

³ Note that we are not siding here with the so-called “Smithian approach” to the origins-of-capitalism debate – or with any of the other approaches for that matter. In fact, we are not at all concerned here with the “origins” debate, which is entirely about *economics* (production versus trade in the early Sweezy-Dobb exchange, and forces versus relations of production in the subsequent Brenner Debate). Instead, our discussion deals with the prior question of what *separated* the concepts of economics and politics to start with.

So, we have a rather unseemly convergence. Although liberals and Marxists reject each other's framework, they appear to agree (albeit for different reasons) that economics and politics are – and must be – *distinctly constituted*, and that the *economy leads with production and politics reacts with redistribution*.

And the question is why? Why do political economists right and left insist on retaining the anachronistic separation of economics from politics and the notion that the former dominates the later? You can say that liberal defenders of capitalism benefit from this separation and prioritization, but what do Marxist critiques of capitalism stand to gain from upholding the same view? The answer is largely *analytical*. As they stand, neither school can afford to rock the boat. Without the a priori separation and pecking order of economics and politics, their ability to model – and even describe – the social reality breaks down. The reason for this breakdown relates to the second foundation of political economy: the mechanical, self-equilibrating view of the economy itself.

Foundation 2: The self-equilibrating economic machine

This view emerged together – and remains deeply interlaced – with the mechanical cosmology of the seventeenth century. Throughout history, human beings, perhaps as a way of alienating themselves from nature, have tended to *politicize* their cosmos, imposing on their natural environment the power structures of their own society.⁴ And this politicization continues in the liberal-capitalist order.

Think of the mechanical world, articulated since Machiavelli by Kepler, Galileo, Descartes, Hobbes, Locke, Hume, Leibnitz and above all Newton. The gods of this liberal cosmos represent absolute rationality, or natural law. The structure of this natural law is numerical and its language mathematical. The universe it gives rise to is flat. The particles that populate it have no inherent hierarchy. They don't obey or submit, but freely interact through attraction and repulsion. Their actions and reactions are dictated not by a lineage of differential obligations, but by universal gravity. They are tuned not to the willful caprice of the Almighty, but to the structured relations between force and counterforce and the invisible power of equilibrating inertia.

This flat universe mirrors the flat ideals of liberal society. Reduced to its bare essentials, the liberal cosmos is a perfectly competitive market, populated by particles – or actors – each of which is too small to significantly affect the overall outcome. The actions of these particles – namely the market's producers and consumers – are determined not by patriarchal responsibilities, but by scarcity – the gravitational force of the social universe. They are repelled from and attracted to each other not by feudal obligations, but through the universal utilitarian functions of supply and demand. And they obey not the dictates of hierarchy, but the equilibrating force of the invisible hand.

These mutual reflections help explain why politics and economics must remain distinctly constituted, and why politics must be seen as subservient to economics: if they are not, the arbitrary character of politics – and of power more generally – is bound to distort if not totally annul the rational-mathematical automaticity of the perfectly competitive economy; with mathematical rationality gone, liberals lose their universal laws of the economy and Marxists

⁴ On the politicized cosmologies of ancient Egypt and Mesopotamia, see Frankfort *et al.* (1946), Kramer (1956, 1961) and Jammer (1957).

their capitalist laws of value, if not of motion; and with these laws defunct, political economy can no longer claim to be the science of society.

Foundation 3: Value theory

The third foundation of political economy is value theory.⁵ Capitalism is a system denominated, organized and regulated by prices. Any attempt to theorize capitalism hinges on the theorist's ability to understand those prices, which is why liberalism and Marxism are each based on a specific theory of value – the *utility* theory of value and the *labour* theory of value, respectively.⁶

As they stand, both value theories rely on a basic distinction, first popularized by David Hume, between the “real” and “nominal” spheres of the economy. The real sphere is the domain of production and consumption, utility and wellbeing, labour and exploitation. The nominal sphere is the realm of money, prices and finance. The common assumption is that everything of import happens in the real sphere, which is why economics textbooks, both liberal and Marxist, are denominated almost exclusively in “real terms”. The nominal sphere is considered a mere reflection (and sometimes a facilitating lubricant) of that “reality” and therefore merits little or no attention.

There is only one tiny problem: in reality, the “real-term” quantities of the real economy are completely unreal.⁷

The native quantities of the real sphere are *qualitatively different* from each other. Apples can be quantified in bushels, steel in tonnes, cars in numbers, loans in dollars and computer programmes in lines of code.⁸ But these quantities have no common denominator. Apples cannot be added to loans, steel to computer programmes, and machines that make microchips to those spewing fast-food chips. And since these magnitudes cannot be added, there is no straightforward way to aggregate them into larger bundles such as “real investment”, “real GDP” and the “real capital stock”. The economists, though, remain unfazed.

Every science has its own elementary particles – the units that everything else is made of – and so does the science of economics. The elementary particle of the liberal universe is the “util”, a term coined by Irving Fisher to describe the basic unit of hedonic pleasure. In the liberal world, all goods and services, regardless of their qualitative differences, can be counted in terms of the utils they generate. For instance, if a tractor generates 10 times the utils of a particular software package, its quantity is 10 times larger. And since, according to liberals, all commodities are produced and consumed for their utility, we can use their util-generating capacity, hypothetically countable in universal utils, to quantify, relate and aggregate their magnitudes in “real” terms. Of course, in front of their students, economists deny that “utils” are universal. In their textbooks, they insist that each agent's “utils” are

⁵ Cf. Nitzan and Bichler (2009: Part II) and Bichler and Nitzan (2015).

⁶ Note that only classical Marxism offers a value theory. Neo-Marxian economics has no value theory as such, while the cultural and state-theory branches of Marxism reiterate the classical version or eschew value theory altogether.

⁷ For more on this unreal reality, see Nitzan (1992: Ch. 5), Nitzan and Bichler (2009: Ch. 8), Bichler and Nitzan (2015) and Fix, Bichler and Nitzan (2019).

⁸ In principle, the differences can be refined further and further: there are many types of apples, steel, cars, loans and computer programmes, so each type can be differentiated and re-differentiated all the way down to its underlying molecules and atoms. These finer distinctions only strengthen our point here, so we disregard them.

incommensurate with those of others. But when they use the “real” economic aggregates of the national accounts, they end up, often unknowingly, assuming universal “utils” nonetheless. Without this reluctant assumption, their “real” economic aggregates are merely arbitrary sums of money with no “*real*” economic meaning...⁹

Marxists make a similar claim. Their elementary particle is *SNALT*, or socially necessary abstract labour time. In their view, commodities can be counted, related and added based on the *SNALT* it takes to produce them. In our example here, the tractor might take 10 times more *SNALT* to produce than the software package, and therefore has 10 times the quantity.

Armed with these hypothetical universal quantities, economists then posit a quantity-to-quantity mapping, with money prices in the nominal sphere determined by the universal magnitudes of the economic reality: in the liberal utility theory of value, prices are proportionate to utils, whereas in the Marxist labour theory of value they are proportionate to *SNALTs*.¹⁰ If a liberal tractor generates 10 times the utils of a software package, its price will (or should) be 10 times higher, and if a Marxist tractor takes 15 times more *SNALT* to make, its price will (or should) be 15 times higher.

And it is here that value theories fall into a trap – in fact, two traps. And both have to do with power.

First, even if these quantity-to-quantity value theories are correct and nominal prices are indeed determined by real quantities (and that’s a big if), this determination works *only* in a self-equilibrating perfectly competitive economy whose mechanical laws of supply and demand ensure that the real quantities of utils or *SNALT* indeed map onto actual money prices. If we deviate from this setup, though – that is, if we allow politics, social constraints and the full spectrum of power more generally into the picture – the model’s automaticity disintegrates, the real-to-nominal mapping dissipates and the utility and labour theories of value break down. Their values no longer explain prices.

And then there is the second, more basic and much more embarrassing difficulty. Unlike the underlying quantities of physics (distance, time, mass, electrical charge and heat), utils and *SNALT* are *fictitious* quanta. Of course, all quantities are creatures of our imagination. But whereas those of physics can be observed/examined directly or indirectly, utils and *SNALT* can never be. They are forever a matter of belief – a trait that may befit religion and postism, but has no place in science.

The issue here is not that utils and *SNALT* tax credulity as such; the categories of physics are often freakier. But whereas physicists continue to discuss, debate and test their categories and whether they still fit their theories – witness the relationship between the ether and light, the Higgs boson and mass, the cosmic microwave background radiation and the Big Bang, and cosmic rays and the earth’s clouds and climate – political economists no longer deliberate theirs. “[I]n the interest of science”, writes Albert Einstein, “it is necessary over and

⁹ Note that for utils to be universally comparable and additive, consumers must be *identical drones* (to make their utilities interchangeable) and be possessed by *income-invariant preferences* (so measurement is distribution-neutral). Needless to say, these prerequisites make both liberalism and radical autonomy utterly meaningless – though it seems that users of “real” economic data, including Marxists, are perfectly OK with sacrificing those ideals in order to quantify them (if that sentence makes any sense).

¹⁰ For simplicity, we ignore here differences in Marx’s “organic composition of capital”.

over again to engage in the critique of these fundamental concepts, in order that we may not unconsciously be ruled by them”.¹¹ Value theorists, though, remain unimpressed. While the underlying categories of physics are, potentially, always in flux, those of economic value haven’t changed since Karl Marx and Irving Fisher. And the reason is simple: whereas every physicist with the right equipment and creative acumen can measure and challenge the basic quantities of physics, no economist, even the most original, has ever been able to measure the util or SNALT content of any commodity whatsoever, let alone in a way that all other economists consider objective, or at least refutable.

This inability is detrimental, to put it politely: without utils and SNALT conventional political economy cannot quantify the so-called real economy; without such quantification it cannot explain prices; and without a measurable real economy and an explanation for prices, it cannot understand capitalism.

Now, if this were the case in physics – i.e., physicists trying to measure gravity without mass, or velocity without time – their theories would be scrapped in no time. But not so in political economy. Instead, political economists got used to arguing in *reverse*: rather than using unobservable utils and SNALT to explain readily observable nominal prices, they deploy nominal prices to explain (read justify) their utility and SNALT theories of value! Instead of positing that the util-generating capacity of commodities determines their prices, liberals claim that commodity prices reveal to us their util-generating capacity.¹² Similarly with Marxists: to get their version of this inversion, simply replace “util-generating capacity” with “SNALT”.¹³ Of course, given that utils and SNALT cannot be observed and examined, let alone measured, these inverted claims are irrefutable. Moreover – and crucially for our purpose – since actual prices are “contaminated” by politics and power more generally, there is no reason why they should be proportional to utils and SNALT to start with – although this proposition too is conveniently untestable....

The rift

All in all, then, we have a foundational rift: power is everywhere and its full spectrum must be incorporated into the core of political economy – yet the very foundations of political economy make such incorporation impossible. If we fuse power at large into existing political economy, we eliminate the economy’s presumed automaticity and in so doing annul its liberal economic laws and Marx’s capitalist laws of motion. Moreover, in doing so we also pull the rug from under the util and SNALT theories of value. Finally, and most embarrassingly, we make it impossible for political economists to quantify and therefore describe their “real economy” to start with.

So, as they stand, CasP and conventional political economy remain largely unbridgeable.

¹¹ Einstein (1954: xiv).

¹² Samuelson (1938).

¹³ A recent illustration is offered by Tonak (2019) in his paper “The Rate of Exploitation (The Case of the iPhone)”. The article, which derives its various SNALT-based Marxist categories directly from observed market prices, justifies the inversion as follows: “It should be pointed out that any attempt to empirically calculate Marx’s labour theory of value must necessarily make assumptions that simplify reality”, adding that, “In our view, however, these assumptions – such as that *prices reflect values* – can be justified and that these simplifications do not exaggerate the results” (p. 31, emphasis added).

References

- Bichler, Shimshon, and Jonathan Nitzan (2012) "[Capital as Power: Toward a New Cosmology of Capitalism](#)." *Real-World Economics Review* (61, September): 65-84.
- Bichler, Shimshon, and Jonathan Nitzan (2015) "[Capital Accumulation: Fiction and Reality](#)." *Real-World Economics Review* (72, September 30): 47-78.
- Einstein, Albert (1954) "Forward." In *Concepts of Space. The History of Theories of Space in Physics*, edited by M. Jammer. Cambridge, Massachusetts: Harvard University Press, pp. xi-xvi.
- Fix, Blair, Shimshon Bichler, and Jonathan Nitzan (2019) "[Real GDP: The Flawed Metric at the Heart of Macroeconomics](#)." *Real-World Economics Review* (88, July): 51-59.
- Frankfort, Henri, H. A. Groenewegen-Frankfort, John Albert Wilson, Thorkild Jacobsen, and William Andrew Irwin (1946) *The Intellectual Adventure of Ancient Man. An Essay on Speculative Thought in the Ancient Near East*. Chicago: The University of Chicago press.
- Jammer, Max (1957) *Concepts of Force. A Study in the Foundations of Dynamics*. Cambridge: Harvard University Press.
- Kramer, Samuel Noah (1956) *From the Tablets of Sumer. Twenty-Five Firsts in Man's Recorded History*. Indian Hills, Colo.: Falcon's Wing Press.
- Kramer, Samuel Noah (1961 [1997]) *Sumerian Mythology. A Study of Spiritual and Literary Achievement in the Third Millennium B.C.* Rev. ed. Philadelphia: University of Pennsylvania Press.
- Nitzan, Jonathan (1992) [Inflation as Restructuring. A Theoretical and Empirical Account of the U.S. Experience](#). Unpublished PhD Dissertation, Department of Economics, McGill University.
- Nitzan, Jonathan, and Shimshon Bichler (2009) [Capital as Power. A Study of Order and Creorder](#). RIPE Series in Global Political Economy. New York and London: Routledge.
- Samuelson, Paul A. (1938) "A Note on the Pure Theory of Consumer's Behaviour." *Economica* 5 (17, February): 61-71.
- Tonak, E. Ahmet (2019) "[The Rate of Exploitation \(The Case of the iPhone\)](#)." *Tricontinental: Institute for Social Research* (Notebook No. 2, September): 1-40.

Author contact: tookie@barak.net.il and nitzan@yorku.ca

SUGGESTED CITATION:

Bichler, Shimshon and Jonathan Nitzan (2021) "Unbridgeable: why political economists cannot accept capital as power." *real-world economics review*, issue no. 95, 22 March, pp. 109-117, <http://www.paecon.net/PAERReview/issue95/BichlerNitzan95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

A modest proposal for generating useful analyses of economies: a brief note

Geoff Davies [Visiting Fellow, Research School of Earth Sciences, Australian National University]

Copyright: Geoff Davies, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

I propose that economists leave philosophy alone for a while and instead try analysing some actual economic observations.

I have observed much discussion among heterodox economists about what science comprises, whether one could do “scientific” economics, and what ontology, epistemology, etc., etc., might be involved. If, for example, economies are historically contingent, how could one hope to do a rigorous analysis. I have also observed much concern about the complications of people and societies and the resulting alleged need for elaborate statistical analyses to extract an object of interest, followed by the construction of an elaborate mathematical model that includes many nuances of human behaviour.

I think the challenge is not nearly so daunting. An economic analysis does not have to emulate the precision of (some) laboratory physics to be useful. It does not have to yield a literal prediction. If one steps out of the equilibrium mindset of the neoclassical mainstream one can find obvious phenomena crying out for explanation, a financial market crash for example.

It is not a great mystery how one might try to do some scientific economic analysis. Many kinds of scientist do science all the time, mostly without worrying about the philosophical nuances of precisely what kind of process they are engaged in.

The process I illustrate here is drawn from my experience studying Earth’s interior (Davies, 1999). It is a historical science. Earth’s processes are historically contingent and often very complicated. Observations of the interior are difficult, indirect and always incomplete. Yet we have developed considerable understanding of how the interior works to move continents and tectonic plates around the surface. Sometimes a very rough estimate can yield considerable insight.

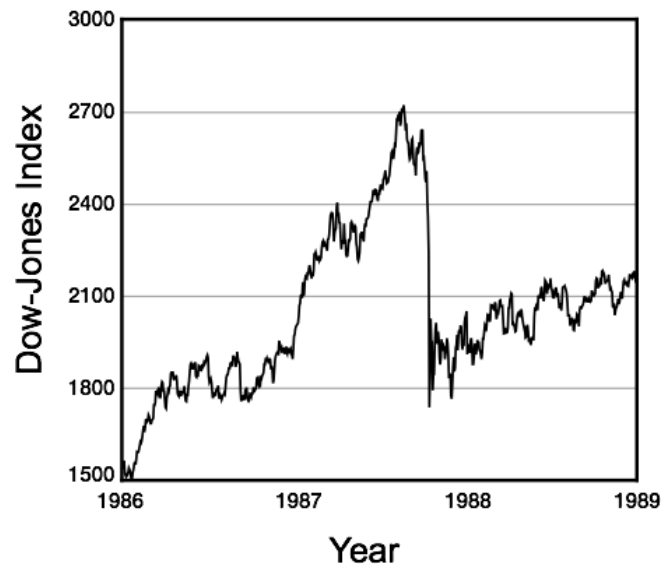
What follows is expressed in terms that I think apply to many other kinds of science. Worrying about whether this process encompasses all kinds of science is precisely the sort of distraction I want to avoid. In avoiding the philosophy I do not mean to imply there is none involved, I simply want to get on with something that I know to work.

The process, in outline, is to seek some regularity or pattern or striking feature of an observable economy, and to propose a hypothesis that might account for the observed feature. The relationship of the hypothesis to the observation(s) ought to be explained. This might involve mathematics or it might not, and any mathematics used might be simple or sophisticated. Ideally some additional observations would be noted that are consistent with the implications of the hypothesis. One might then conclude by discussing whether the hypothesis appears to provide a useful description of the noted phenomenon and, if it does, how its usefulness might be further tested or enhanced.

The currency of such enquiries is thus observations, hypotheses and useful resemblances. Nothing more obscure or contentious.

As an example of an observed phenomenon I offer the record of the US financial markets in the late 1980s (Figure 1).

Figure 1. The Dow-Jones industrial average, 1986-1989



One can interpret this as a broad rising trend upon which is super-imposed a more rapid rise followed by a sudden drop. One might make other interpretations of a rather irregular plot, but that seems to be a useful description.

This interpretation raises the question of what might cause the financial markets to rise unusually rapidly and then suddenly drop, i.e. the implied change of behaviour signals something that might be usefully investigated. An analogy can be made with population dynamics in ecosystems. A species, say rabbits, might find itself in a very favourable season, with a lot of food and few predators, and breed rapidly. If, however the rabbits eat the food faster than it can regenerate then they might find, rather suddenly, that there are lots of rabbits and hardly any food. Starvation might then ensue, with a sudden crash in rabbit numbers. Worse, they might have over-grazed the land and damaged its productive capacity.

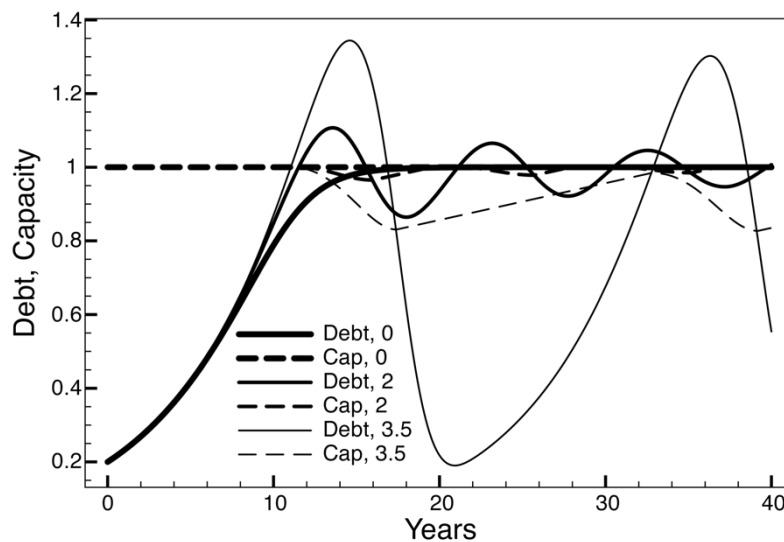
This is known as an overshoot-and-crash phenomenon. It occurs because the feedback from food supply to breeding restraint is delayed. If there had been a wise old rabbit who persuaded the rabbits to slow their breeding as the carrying capacity of the land was approached then the population might have stabilised around a steady number. However rabbits are not so wise, and they keep breeding past the carrying capacity until the issue is forced by lack of food. By then it is too late to stabilise, and a disastrous crash is inevitable.

So by analogy one might suppose that something triggers a burst of optimism among financial market traders and they borrow lots of money to “invest” (though really to bet on the market continuing to rise). This may continue until the amount of debt becomes more than can be

reasonably repaid. There might then be a cascade of defaults that drive the market rapidly down.

One can make a mathematical description of this process, in which the rate of growth of debt approaches zero as the “carrying capacity” of the economy is approached, but with a delay, so the amount of debt may overshoot the carrying capacity. How much overshoot will depend on the delay between the debt reaching the carrying capacity and the traders slowing their borrowing. It is assumed that during overshoot debt is extinguished, with a delay, by defaults at a rate that rises rapidly as the overshoot increases. Three solutions are shown in Figure 2, corresponding to delays of zero, 2 years and 3.5 years. The details of this model and further discussion of it are developed in my books *Sack the Economists* (Davies, 2013) and *Economy, Society, Nature* (Davies, 2019).

Figure 2. Modelling debt as an overshoot and crash phenomenon



With no delay of feedback, the debt rises, exponentially at first, then smoothly levels off at the presumed carrying capacity. With a 2-year delay there is some overshoot, then quasi-periodic oscillating. With a 3.5-year delay there is a larger overshoot followed by a crash to very low levels of debt. The crash in the model is because debt is still being rapidly extinguished even after the level of debt has fallen back. It then takes a long time for the debt (and the economy that depends on it) to recover.

This simple model seems to capture some of the essence of the market behaviour observed in Figure 1. It suggests that the core of the problem might be excessive optimism of traders and their resistance to warnings, combined with debt being too readily available. Clearly one could make more sophisticated models of such a process, but this simple model encourages further exploration of the main idea.

A further encouragement is the solution with the 2-year delay, which yields behaviour reminiscent of the “business cycle”, too much money (and debt) alternating with not enough. The three kinds of behaviour illustrated in Figure 2 are obtained merely by changing one parameter, the delay. Thus in this sense the model has a generality extending beyond the immediate question addressed.

This model is kept very simple in order to focus on the process of developing and using it, but you might think it is just too crude. It involves a single non-linear ordinary differential equation and a few plausible but debatable assumptions about parameters. The equation can readily be solved numerically.

Yet consider a model of the Global Financial Crisis of 2007-8 by Eggertsson and Krugman (2012), the latter a pseudo-Nobel prize winner. They made two models, one for before and one for after a crash, with the difference between the models being effectively that the amount of available credit was presumed to be less in the second. Nothing in the model determined the amount of credit, it was imposed from the outside. Their equations of optimisation did require sophisticated, though old-fashioned, analytical methods to solve, but that says nothing about the usefulness of the models.

Both models are equilibrium models. But if the “before” state of the market, with high prices, was an equilibrium state there would be no crash. Therefore the model must be missing the imbalance that drove the crash. It is therefore incapable of telling us why such a crash occurred. It cannot tell us anything about the dynamic process of boom and crash, the inflation and bursting of a debt bubble. It is not a useful model, it is a useless model, a dead end as far as understanding an observable economy is concerned.

My simple model, on the other hand, can accommodate imbalances of the sort that must be involved in market crashes and the initial results are encouraging. It could be elaborated with more empirically-constrained input and, for example, a more explicit model of traders’ behaviour. In other words it has the potential to yield useful insight into a financial market crash. Steve Keen’s rather more elaborate models of finance are of the same general kind, so we have taken a small step in the direction of his instructive models (Keen, 2012). It may also turn out that this approach has limitations, when compared with more observations, and that other factors are important. That would still be a useful insight.

Another virtue of my model is that it addresses a major and recurrent dysfunction of modern economies, their propensity for financial market crashes. The neoclassical tradition has been completely unable to address this rather fundamental issue, to the point that it was claimed no-one could have anticipated the Global Financial Crisis of 2007-8, though of course many outside the mainstream did.

Let us look at what went into the models of Figure 2. First was a subjective interpretation of the graph in Figure 1, that the rise and fall during 1987 was a distinct episode with potentially identifiable causes. Then there was a model of one aspect of human behaviour: that financial traders tend to be over-optimistic and tend to ignore warning signs until they are very strong. This behaviour was then rendered into a rather simplified mathematical description with some plausible choices of parameters. These are all assumptions on which the model is based. Then deductive logic was invoked to deduce the implications of these assumptions - in other words the equation was solved, numerically. Then the results (Figure 2) were compared with observations - those of Figure 1 and also, qualitatively, with knowledge of “the business cycle”.

This is a scientific process in operation: non-rational perceptions or interpretations of events or patterns in observations, the formulation of a hypothesis, deduction of implications of the hypothesis and further comparison with observations.

Notice also that taking this small step in understanding did not require a comprehensive model of human behaviour and the many ways we interact. We do not have to be paralysed by the immense complication of human societies.

Nor does one episode need to be identical to another for potentially useful insight to be found. An economy is a historically-contingent system, but we can still gain some understanding. The field of history would not exist if resemblances did not exist. You do not lie in bed despairing that today will not be just like yesterday, nor trying to model the coming day in detail. Rather, you get up and muddle through the new day as best your considerable understanding allows.

My analysis did not yield a prediction of the future of the stock market. The event analysed is in the past, immutable, as the processes that formed a rock are in the past, yet we can draw insight from an analysis of how it might have come to pass. The solution of the equations expressing the assumed model allows us to deduce the implications of the model's assumptions. It is more general and more useful to talk about implications rather than predictions.

By dealing with observations we avoid worrying about what "reality", if any, might lie behind our perceptions. Observations will always have limited accuracy and will always be incomplete, and we have to contend with those limitations, but the existence of some observations is not in doubt.

The assumptions on which our model is built matter, contrary to the thoroughly muddled assertions of Milton Friedman (1953/1983). In fact assumptions are everything. Eggertsson and Krugman assumed equilibrium and thus emasculated their model at the beginning, making it incapable of addressing the issue. Scientifically it is a useless model, even though professionally it presumably further enhanced the reputations and power of its authors within their misguided profession.

The model behind Figure 2 would be called a macro-economic model, in conventional mainstream terms. It is legitimate to address aggregate properties in this way because a complex self-organising system, as a modern economy plausibly is, has emergent behaviour that is not inherent in the behaviour of the system's components (the traders and the objects of their trade). The behaviour emerges from the interactions among the traders and cannot be deduced, for example, from the behaviour of one representative trader. The well-developed science of fluid dynamics, for example, proceeds on the basis of the emergent macro behaviour of fluids, not by modelling all the atoms within the fluid.

It is possible to do useful micro-economic models, but they must involve modelling the interactions of large numbers of traders and extracting their collective effects. Yoshinori Shiozawa and his colleagues are developing such an approach (Shiozawa et al., 2019). Other agent-based models, some associated with the Santa Fe Institute, have been reviewed by Eric Beinhocker (2006).

This exercise did not involve statistics. It did not require elaborate massaging of data to extract the object of interest. That object is obvious enough in the raw data. Thus we need not be paralysed by the knowledge that there are many factors and variables at play in any given situation. There is a place for statistical analysis, but understanding of modern, disequilibrium economies is still so limited it is not hard to find rather obvious phenomena worth analysing.

There is much low-hanging fruit to be harvested by those willing to venture into the field of far-from-equilibrium systems.

That of course is a telling observation about a field that has been so misdirected it has failed to make substantial progress on basic questions (financial crashes, inequality, oligopoly, capture of markets and governments, destruction of our planetary life-support system, for example) after 150 years or more.

One might reflect on the wisdom of humans relative to rabbits. We understand that rabbits do not have the foresight we do, and so they proceed to eat out their food supplies. We, on the other hand, do have foresight, and we have wise elders who have been warning us for decades, yet we persist with exactly the same over-exploitation of our planet. I think the problem is that in large societies our collective communication, verbal and non-verbal, is too limited and distorted for our foresight to regulate our baser impulses. Traditional societies living in smaller groups with mutual eye contact fare better in this regard – otherwise we would not be here. Until we reclaim and wisely use our means of communication in large societies we will remain collectively greedy and stupid.

If at this point you feel the urge to further analyse the type of approach I used in the example presented above, please, resist. Do not tell us about the epistemological, ontomagestic, negativist, empyreanist foundations of what I just did, nor even about the sadly disturbed state of my psyche. Instead, get out of bed, come outside into the messy world and join us in muddling along. Look for an interesting aspect of the observable behaviour of an economy and its society and either find or invent a possible explanation for it. Then tell us about it. We can then start to learn more about how modern economies and societies work.

References

- Beinhocker, E.D. (2006) *The Origin of Wealth*. Boston: Harvard Business School Press.
- Davies, G. F. (1999) *Dynamic Earth*. Cambridge, UK: Cambridge University Press.
- Davies, G. (2013) *Sack the Economists*. Canberra, ACT, Australia: BWM Books.
<http://betternaturebooks.net.au/my-books/sack-the-economists/>
- Davies, G. (2019) *Economy, Society, Nature: An introduction to the new systems-based, life-friendly economics*. Bristol, UK: World Economics Association, www.worldeconomicsassociation.org.
- Eggertsson, G.B. and P. Krugman (2012) "Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach." *Quarterly Journal of Economics*, 127: 1469-1513
- Friedman, M. (1953/1984) "The methodology of positive economics" in B. Caldwell (ed) *Appraisal and Criticism in Economics: A Book of Readings*. Allen and Unwin: London.
- Keen, S. (2012) "A monetary Minsky model of the Great Moderation and the Great Recession." *Journal of Economic Behavior & Organization*, 86: 221-235.
- Shiozawa, Y., M. Marioka, and K. Taniguchi (2019) *Microfoundations of Evolutionary Economics*. Springer.

Author contact: geoff.davies@betternaturebooks.net.au

SUGGESTED CITATION:

Davies, Geoff (2021) "A modest proposal for generating useful analyses of economies: a brief note." *real-world economics review*, issue no. 95, 22 March, pp. 118-123, <http://www.paecon.net/PAEReview/issue95/Davies95.pdf>

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

On the relevance of the Church-Turing Thesis for theoretical economics

Ron Wallace [University of Central Florida, USA]

Copyright: Ron Wallace, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Abstract

Nearly a century ago, Alonzo Church and Emil Turing famously proposed that any calculation performed in the actual world by any physical means (e.g., pencil and paper) could also be executed on a computer. Since its inception, the Church-Turing Thesis (CTT) has been extensively debated, especially in computer science, and the philosophy of mind. Recently, in economics, CCT has been referenced (Gräbner et al., 2019) as a rationale for a new approach in method and theory. Based on CTT, it is possible to convert the equations of mathematical economics into computer simulations. The conversion makes possible the identification of important variables concealed by equations. Discovery is also enhanced by the exploratory manipulation of simulation components. Together these changes furnish the basis for a refined formalism. The method may thus be described as a “dialog of models”. The present article-essay describes this approach, and a pioneering application by Albin and Foley (1992) to the Arrow-Debreu model (1954) of general equilibrium. It is concluded that the approach should be broadly applied to the Neoclassical Framework.

Key words: Computational economics, Agent-based models, Equation-based models, Arrow-Debreu model

JEL codes: C02 C63 E13

1. Introduction

The emergence of Computational Economics – itself but a single dimension of the broader revolution in Information Technology (IT) – is poised to dramatically shape the future development of economic theory. We are not primarily talking about the justly celebrated advances in processing speed. For example, we do not understate the importance of new architectures that combine logic and memory functions thus reducing the time required for information to pass between them – an obstacle traditionally known as the “von Neumann bottleneck” (Peper, 2017). But here we are looking at something which, although related to speed, is different: a kind of computational “dialog” between an empirically-based, economic model and its mathematical expression – an exploratory dialog for which the outcome cannot be predicted, regardless of how precisely the initial conditions are specified (Gräbner et al., 2019). This semi-autonomous interplay between simulation and formalism is anchored in the Church-Turing Thesis (CTT) (Church, 1935). The thesis, informally, states that any computation carried out in the “real world” (e.g., on pencil and paper) can also be carried out on a computer. (A somewhat more formal version will be given in Section 2). In this brief essay we hope to suggest that CTT may have significant implications for the development of economic theory.

The essay begins with an informal overview of CTT emphasizing “real-world” and machine computation. This perspective is then applied to agent-based models (ABMs) and equation-based models (EBMs), two methods extensively used in the social and natural sciences. In this discussion we hope to show that the current controversy regarding ABMs “versus” EBMs amounts to a false dichotomy and that, in the light of CTT, the two strategies may be viewed as strongly complementary (Gräbner et al., 2019). These correlated approaches are then applied to economic theory. As an example of what is possible, Peter Albin and Duncan

Foley's (1992) coupled-ABM-EBM analysis of the Arrow-Debreu (AD) model is presented in some detail. Finally, we point out that the strategy outlined here, although valuable, should be seen as a subset of a potentially larger platform in which simulation and formalism interact and enrich one another.

2. The Church-Turing Thesis: logic and computing machines

The closely linked theoretical constructs developed by Alonzo Church and Emil Turing in the 1930s known as the Church-Turing Thesis (CTT) centered around the notion of computation. This concept was understood in an abstract generalized sense as a physical or “mechanical” process in which specific input to some system was subjected to a set of actions or operations that, in the absence of error, yielded the corresponding output (Copeland, 1997). In Church's original version of the thesis – it was never a formal proof, but more closely resembled a “working hypothesis” (Post, 1936) – an idealized human agent working tirelessly with some physical instrument (perhaps pencil and paper) correctly solved a mathematical function. Against this backdrop, Church proposed a logical structure known as the Lambda Calculus – today it is recognized as an early programming language – which, given the same input values as the mathematical drudge, could duplicate its output (Copeland and Shagrir, 2019). In essence, Church metaphorically posited that any mathematical function which could be successfully executed in the actual world could also be successfully executed through the use of his lambda calculus.

This was when Alan Turing made his mighty entrance. In an argument that famously defined an idealized computing machine, Turing claimed that the latter was computationally equivalent to Church's lambda calculus. More precisely, Turing (1936) imagined a device which serially scanned either a 0 or a 1 from a moving, one-dimensional tape; each successive scan determined the configuration of the machine. (For a valuable discussion and illustration, see Penrose, 1989, pp. 30-73). Thus, in this reformulation, the logical operations performed on a numerical input in Church's lambda calculus became machine operations determined by a binary code. Put differently, Church had claimed that any “real-world” computation (symbolized by his minimalist workers) could be executed through lambda calculus. Turing had followed with the claim that any computation executed through lambda calculus could be executed through his Platonic machine. The conclusion was straightforward: any computation in the actual world can be carried out by a Turing Machine (TM). This is the variant of CTT most widely understood today (Copeland and Shagrir, 2019). In the remainder of this essay, we examine the relation of Church and Turing's remarkable thesis to simulation, formalism and the development of economic theory.

3. Simulations, equations, and the Church-Turing Thesis

Turing's 1936 claim of computational equivalence has cast a long shadow, occasionally assuming a sweeping, metaphysical cast. Much of the latter discussion has centered on the real-world computations (Wolfrain, 2002, pp. 637-714) which, if only in principle, could be executed on a TM. The claim seemed clear enough in relation to Turing's – and Church's – abstract human workers, perhaps equipped with pencil and paper (Copeland and Shagrir, 2019). But what of other entities? Are enzyme interactions a computation (Zauner et al., 2001)? What of electrostatic interactions in the neural membrane (Price and Wallace, 2003)? The debate is valuable because it serves to remind us that CTT is evolving, a critique

originally voiced by Emil Post (1936) who viewed CTT as a “working hypotheses” (as noted above).

A dimension of this discussion is the relationship between computational simulation and mathematical representation, or formalism. As a case in point, we may consider Agent-based models (ABMs) and Equation-based models (EBMs) typifying simulation and formalism, respectively. An ABM is an artificial micro-world comprised of heterogeneous, autonomous units (agents) which formulate decisions (outputs) based on decisions of other agents (inputs) (Bruch and Atwell, 2015). ABMs are frequently multi-level. An agent may be, for example, an individual, a political action committee, or even a corporation. This fine-grained structure contrasts with the (typically) more concise mathematical expression of the EBM (Gräbner et al., 2019). A mathematical object – most often a differential equation or set of such equations – an EBM describes, and can be used to predict, the change in state of a complex system. This method has been extensively used in engineering and is increasingly applied in medicine (Daun et al, 2008).

Importantly, the platforms are the subject of a growing debate: which platform is better? ABMs, their proponents note, can capture a richness of detail that is often concealed by equations (Gräbner et. al., 2019). Moreover, they are a generative strategy which can reveal emergent properties unforeseen by the investigator (Epstein, 1999). EBM modelers counter that the use of differential equations lends exactitude and predictive power to the descriptions of dynamic systems (Daun et al, 2008). These exchanges, although illuminating the advantages of each method, have all too often been presented as a dichotomy, overlooking their complementarity and the value of a synthetic approach.

CTT supplies the rationale for a correlated strategy. Any ABM, as a TM program, can convert the equations of an EBM into a set of machine instructions that yield a qualitative representation. Moreover, the similarity of ABMs and EBMs, which promotes their combined application, has sometimes been understated in the critical literature. Seeking to correct this oversight, Richiardi (2018) has emphasized that an ABM is grounded in a fully mathematical system. The functions underlying an ABM relate to input-output transforms: “They are logical theorems saying that, given the environment and the rules described by the model, outputs necessarily follow from inputs” (Richiardi, 2018, p. 33).

4. Simulations, equations, and neoclassical economics

Can the combined, exploratory application of simulation and equation modeling, consistent with CTT, significantly contribute to theoretical economics? The state of the art is contentious. For well over a century, the science has been guided by a set of idealized axioms, configured as differential equations formulated by Léon Walras (Turk, 2012). At the center of the Neoclassical viewpoint and the attached controversy is General Equilibrium Theory (GET). Walras envisioned a perfectly competitive economy, comprised of rational actors, in which supply matched demand, thereby yielding a stable state (Walras, 1969 [1874]). Based on the perspective developed above, it is not our intention to provide yet another critique of GET, nor defend its continued application. (For a generally sympathetic recent discussion of GET, see Köllmann, 2008; for a severely critical view see Ackerman, 2002). Instead, we hope to show that the combined application of ABM and EBM approaches to GET in particular, and the Neoclassical Framework in general, may yield unexpected insights into economic theory. As a

case in point, we may consider Albin and Foley's 1992 computational study of the Arrow-Debreu (AD) model (1954).

The roots of AD extend to the beginnings of Classical economics. Adam Smith (1776) devoted extensive discussions to multiple markets in which the price of one commodity affected the price of another (e.g., wheat and potatoes) in a system typically displaying a dynamic stable state, i.e. a general equilibrium (Maskin, 2019). A century later, Léon Walras (1874) attempted a more elegant version, expressed through an auction metaphor: An auctioneer coordinated a multiple-commodity market, matching producers with consumers, arriving at a set of market-clearing prices. But the model was problematic. Each commodity transaction was described by a distinctive equation; an economy of M commodities would require M equations (Maskin, 2019).

This limitation was addressed by Kenneth Arrow and Gérard Debreu (1954). The AD model was the elegant mathematical construct that Walras had sought but had not achieved. The EBM assumed strategically more complex producers and consumers. Producers were described by inputs, outputs, and a plan (or "production set") which included, most significantly, the maximization of profit. Consumers were described by endowments, and a plan ("consumption set") which included preferences within budgetary constraints. These eminently rational agents transacted within a game-theoretic economy, coordinated by an auctioneer who sought maximization of demand. Based on these and several other assumptions, the AD model proved (to the authors' satisfaction) that general equilibrium was possible in multiple markets.

The AD model of GET has given rise to over three generations of supportive and negative commentary (e.g., Köllmann, 2008; Ackerman, 2002). This history suggests the fallacy of the excluded middle. Perhaps a more valuable stance is to neither bury AD nor to praise it. Rather, we should view it as a methodological portal to expanded investigations. This approach was adopted by Albin and Foley (1992) in a simulation study which examined the effect on AD if certain key assumptions were changed. Consistent with CTT, the formalism of Arrow and Debreu was modelled as an ABM. The auctioneer was eliminated, yielding a decentralized economy. The new model also assumed more fluid interactions among producers and consumers. The revised AD model:

"showed how the absence of the Walrasian auctioneer leads to an increasing inequality as a consequence of decentralized trading... In particular, it showed the impact of decentralized trading and the effect of different network structures underlying the trading relations of the agents" (Gräbner et al., 2019, p. 765).

This finding would appear consistent with recent research indicating a causal relationship between homogenous social networks and economic inequality (Jackson, 2019).

5. Conclusion

The broad claim by Alonzo Church and Emil Turing that any mundane computation by any mechanical means could be generated by a computer may have significant implications for economic thought. CTT could serve as a foundational principle for the structured interaction of equation and simulation to derive novel perspectives from an established theoretical

framework. Seen in this light, the equilibrium demonstration of Kenneth Arrow and Gérard Debreu is neither “the high altar of mathematical economics” (Durlauf, 2017) nor a defunct formalism “still dead after all these years” (Ackerman, 2002, p.19). Rather, in the midst of contention, there is a third approach. Neither mainstream nor pluralist, the present method may generate unanticipated theoretical insights. The latter, in turn, may inspire a revisionist mathematics of subtlety, realism, and increased predictive power.

We may venture a step farther. The proposed discovery procedure, in addition to reciprocally enriching simulation and formalism, may reveal unexpected affinities of competing theoretical views. Such, indeed, may be the deeper significance of Albin and Foley’s research. If a modified version of AD resembles network economics, perhaps the differences between Neoclassical theory and alternative perspectives has been exaggerated. And perhaps, accordingly, we should envision a research tradition – unbiased, empirically-grounded, linking equation and simulation – which may yield challenging approaches by bridging conceptual divides.

References

- Ackerman, F. (2002) “Still dead after all these years: Interpreting the failure of general equilibrium theory”, *Journal of Economic Methodology* 9(2), pp. 119-139.
- Albin, P. and D. Foley (1992) “Decentralized, dispersed exchange without an auctioneer: A simulation study”, *Journal of Economic Behavior and Organization* 18(1), pp. 27-51.
- Arrow, K. and G. Debreu (1954) “Existence of an equilibrium for a competitive economy”, *Econometrica* 22(3) pp. 265-290.
- Bruch, E. and J. Atwell (2015) “Agent-based models in empirical social research”, *Sociological Methods and Research* 44(2) pp. 186-221.
- Church, A. (1935) “Abstract No. 2004”, *Bulletin of the American Mathematical Society* 41, pp. 332-333.
- Copeland, J. (1997) “The broad conception of computation”, *American Behavioral Scientist* 40 (6), pp. 690-716.
- Copeland, J. and O. Shagrir (2019) “The Church-Turing Thesis: Logical Limit or breachable barrier?”, *Communications of the ACM* 62 (1), pp. 66-74.
- Daun, S., J. Rubin, Y. Vodvotz and G. Clermont (2008) “Equation-based models of dynamic biological systems”, *Journal of Critical Care* 23(4) pp. 585-594.
- Durlauf, S. (2017) “Kenneth Arrow and the golden age of economic theory”, VOX EU Center for Economic and Policy Research, column, April 8, 2017.
- Epstein, J. (1999) “Agent-based computational models and generative social science”, *Complexity* 4(5) pp. 41-60.
- Gräbner, C., C. Bale, B. Furtado, B. Alvarez-Pereria, J. Gentile, H. Henderson, and F. Lipari (2019) “Getting the best of both worlds? Developing Complementary Equation-based and Agent-based models”, *Computational Economics* 53(2), pp. 763-782.
- Jackson, M. (2019) *The Human Network*, New York: Random House.
- Köllmann, C. (2008) “General equilibrium theory and the rationality of economics”, *Analyse und Kritik* 30 (2), pp. 575-599.
- Maskin, E. (2019) “The Economics of Kenneth J. Arrow: A Selective Review”, *Annual Review of Economics* 1, pp. 1-26.

Penrose, R. (1989) *The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics*, Oxford: Oxford University Press.

Peper, F. (2017) "The end of Moore's Law: Opportunities for natural computing?" *New Generation Computing* 35, pp.253-269.

Post, E. (1936) "Finite combinatory processes: Formulation 1" *Journal of Symbolic Logic* 1, pp.103-105.

Price, H. and R. Wallace (2003) "Field-induced reorganization of the neural membrane lipid bilayer: a proposed role in the regulation of ion-channel dynamics", *Biosystems* 68(1), pp. 67-77.

Richiardi, M. (2018) "Agent-based models as recursive systems", *Agent-based Models in Economics: A Toolkit*, Cambridge: Cambridge University Press.

Turing, A. (1936) "On computable numbers, with an application to the Entscheidungsproblem", *Proceedings of the London Mathematical Society* 2, 42, pp. 230-265.

Turk, M. (2012) "The mathematical turn in economics: Walras, the French mathematicians, and the road not taken", *Journal of the History of Economic Thought* 34(2), pp.149-167.

Walras, L. (1969 [1874]) *Elements of Pure Economics; or, The Theory of Social Wealth*. Translated by William Jaffé, New York: A.M. Kelly.

Wolfram, S. (2002) *A New Kind of Science*. Champaign: Wolfram Media Inc.

Zauner, K. and M. Conrad (2001) "Enzymatic computing", *Biotechnology Progress* 17(3) pp. 553-559.

Author contact: RonaldLynnWallace@gmail.com

SUGGESTED CITATION:

Wallace, Ron (2021) "On the relevance of the Church-Turing Thesis for theoretical economics." *real-world economics review*, issue no. 95, 22 March, pp. 124-129, <http://www.paecon.net/PAEReview/issue95/Wallace95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

From finance to climate crisis: An interview with Steve Keen

Steve Keen and Jamie Morgan¹ [University College London, UK; Leeds Beckett University Business School, UK]

Copyright: Steve Keen and Jamie Morgan, 2021

You may post comments on this paper at

<https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Steve Keen is Distinguished Research Fellow at the Institute for Strategy, Resilience and Security, University College London. Steve is one of the more publicly engaged Post-Keynesians and first came to prominence with the publication of his book, *Debunking Economics* (Keen, 2001, 2011), which provides a wide-ranging critique of the assumptions, mathematical incoherencies, conceptual inconsistencies, and adverse socio-economic consequences of “neoclassical economics” – a dominant strain of mainstream economics whose influence spreads further than merely those who self-identify as neoclassical economists. In terms of his own theoretical contributions, he is best known for his work on the macroeconomic significance of private debt – banking practices, financial asset expansion and debt-deflation in the tradition of Hyman Minsky, Irving Fisher etc. Work from this perspective proved particularly timely – putting Steve in a position to identify the underlying tendencies that would eventually manifest as the “Global Financial Crisis” (GFC), 2007-8. Steve first started to draw attention to problems in late 2005 and readers of *Real-World Economics Review* voted him recipient of the “Revere Award” for this in 2010 (and Alan Greenspan was awarded the matching “Dynamite Award”). Steve’s subsequent *Minsky* software package project (see <https://sourceforge.net/projects/minsky/>) provides a free, Open Access alternative to mainstream macroeconomic modelling tools like Dynare and GAMS.² Steve has published numerous papers (e.g. Keen, 2017a; Gallegati et al., 2006; Keen, 2014; Keen, 1993). Some of this work is collected in *Developing an Economics for the Post-Crisis World* (Keen, 2016). He has also published a further book on his central themes – *Can We Avoid Another Financial Crisis?* (Keen, 2017b). In recent years, Steve has become increasingly interested in mainstream environmental economics and increasingly influenced by its alternative, ecological economics. His most recent work provides a systematic critique of mainstream economic work on climate change, particularly “Integrated Assessment Models” (IAMs), of which the best known are the “Dynamic Integrated Model of Climate and the Economy” (DICE) variety (e.g. Keen, 2020a; Keen et al, 2019; Asefi-Najafabady et al., 2020). These models have influenced the Intergovernmental Panel on Climate Change (IPCC) and play a role in informing policy for mitigation and adaptation. Many climate and Earth system scientists (and increasingly so) are sceptical regarding these models, but it was mainly for his work on them that William Nordhaus received the “Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel” (jointly with Paul Romer) in 2018.³

¹ debunking@gmail.com www.isrs.org.uk

² <https://sourceforge.net/projects/minsky/>

³ See <https://www.nobelprize.org/prizes/economic-sciences/2018/summary/>

Note: The original prizes were initiated in 1901, economics is *not* a “Nobel Prize”, it is an addition. According to the Nobel Prize organization: “In 1968, Sveriges Riksbank (Sweden’s central bank) established the Prize in Economic Sciences in Memory of Alfred Nobel, founder of the Nobel Prize. The Prize is based on a donation received by the Nobel Foundation in 1968 from Sveriges Riksbank on the occasion of the Bank’s 300th anniversary. The first Prize in Economic Sciences was awarded to Ragnar Frisch and Jan Tinbergen in 1969.”

<https://www.nobelprize.org/prizes/economic-sciences/>

Steve's blog and Twitter activity have made him something of a controversial, perhaps maverick figure in economics circles and his route into academia and subsequent career have been atypical. He attended University of Sydney in the 1970s, graduating Bachelor of Arts in 1974 and Bachelor of Law in 1976, before completing a Diploma in Education in 1977 at Sydney Teaching College. Having worked as a school librarian, NGO education officer, computer programmer and journalist he turned to economics, completing a Masters of Commerce in economics and economic history in 1990, followed by a PhD in economics in 1998, both at University of New South Wales. He was professor of economics at University of Western Sydney (UWS) until 2013, moving to Kingston University, London in 2014, following the closure of the economics program at UWS. He then took the unusual if not unique step in 2017 of initiating a crowdfunding project to free him from the administrative burden that came with his full-time higher education post. In December 2018 he announced he was now fully "retired" from Kingston.

His blogs, podcasts and funding site can be accessed at:⁴

<https://www.patreon.com/ProfSteveKeen>

He is interviewed by Jamie Morgan for *RWER*...

Jamie: "Independence" has costs and benefits for an academic. It worked out well, for example, for the well-known climate scientist and inventor James Lovelock, who though associated with many institutions over his life took the decision decades ago to be dependent on and beholden to none. What was your motivation, and how has it turned out so far?

Steve: The motivation was circumstantial. You note that UWS closed its economics program. That was in response to a classic Neoliberal education deform (not a typo!) to allow universities to offer as many 1st year positions as they liked, rather than imposing quotas. When there were quotas, UWS used to get 120-150 "first preferences" from school leavers, and ultimately about 300 enrolments each year. With quotas removed, first preferences plunged immediately to just 16, and similar plunges affected all other humanities subjects. UWS then brutally shut the economics program down during the final exams in 2012, without waiting to see the impact on enrolments in 2013 – which would not have been as severe. They made all 5 Professors of Economics redundant, not just me.

At the time, I had a \$52,000 a year income from Rupert Murdoch, of all people: my blog used to be republished for free by a website that Murdoch purchased. I wasn't going to let him get it for free, so I insisted on \$1000 per post. I could survive on \$1000 a week, but without a University position, I couldn't apply for research funding, so I ran a crowdfunding campaign for Minsky on Kickstarter. It raised US\$78,000, so I knew then that crowdfunding could work.

I heard about Patreon in 2016: it provides a monthly income, whereas Kickstarter, Indiegogo and so on are one-off. I was about to launch a Patreon campaign for *Minsky*, when Kingston was forced, by exactly the same Neoliberal deform that killed UWS, to make 30% of its humanities staff redundant – though it did so in a far more measured and responsible way than did UWS. In my case, they required me to either quadruple my teaching load (unlike most Heads of School, I was teaching two courses, the introductory undergraduate subject

⁴ [Most posts on Steve's Patreon page are freely accessible to non-subscribers. Only his weekly podcast with Phil Dobbie is behind a paywall. He also posts at: <http://www.profstevekeen.com/>](#)

The podcasts are also available at: <http://debunking.podbean.com>

See also: https://en.wikipedia.org/wiki/Steve_Keen

and a Masters course), or take a 75% pay cut. I took the pay cut option, and turned the Patreon campaign into one for myself rather than *Minsky*. I launched my Patreon page in March 2017.

It started quickly – \$2800 per month in the first month – and then rose slowly to reach about US\$9,000 a month from about 1500 supporters three years later. That's roughly equivalent to my salary at Kingston, so I'm comfortable and able to work full-time on creative research, as well as getting the message out about how bad Neoclassical economics is – especially on climate change.

Overall, I love it. I miss teaching, but I don't miss marking, let alone the tedious, pointless administration, which was particularly bad at Kingston. There was a time when administrators supported academics, doing the inevitable paperwork while we did the teaching and research. Now they tell us what to do, without being able to do it themselves, and throw paperwork at us all the time as well.

Jamie: I read somewhere that there was a gradual increase in the ratio of administrators to front-line (teaching) staff of around 3:1 in the UK in the earlier part of the Millennium, but Austerity and budget controls have started to reduce that again, though without changing the way all of this now works – as you say, administration seems to be about dissemination of electronic paperwork to teaching staff and then monitoring compliance;⁵ though this is only one aspect of a neoliberal approach to education, which as many observers have noted conflates the marketisation of education as a system of provision with an instrumental approach to both knowledge and teaching and their goals (e.g. Patomäki, 2019; Giroux, 2014; Lynch, 2006). There is now an oddly distorted concept of education as an investment with a tangible (and so measurable economic return) and a transition from student to consumer (who requires consumer protection, with the potential for actionable claims in relation to the measurable benefits of the investment as a tangible return). Value for money is now more a matter of metrics (employability) and less about intangible benefits to society derived from well-educated community citizens. In the UK this has been further embedded by the Higher Education and Research Act 2017. Some of this, of course, fits with your own work since student debt is a major issue for financial processes.

Steve: Yes, the financialisation of higher education has gone hand in hand with the growth of bureaucracy. More than all of the money raised from student loans has gone into the black hole of administration, so despite the increase in funding, there is less money going to education now than when universities were fully funded by the state. This has also perverted the educational process, for both administrators and students. Whereas administrators used to support the learning and research process, now they direct the fund-raising process; whereas students used to come for an education, they now come for vocational training. Stuck in the middle, academics are harried by performance targets and measurement metrics from above and "I've paid for my degree, so give it to me" pressures from below.

When I started as an academic in 1987, my workload was huge (developing a new course from scratch each of my first 3 years, teaching 12 hours a week of classes, plus marking and 6 hours of consultation, plus doing my Masters full-time), but I was spending the bulk of my time doing interesting stuff under my own direction, and small class sizes let me really interact

⁵ For current figures see: <https://www.hesa.ac.uk/news/23-01-2020/sb256-higher-education-staff-statistics>

with the students. Now, academics' time is dominated by performance monitoring and form filling, while classes are unmanageably large, at least in the low-ranked universities where heterodox economists can get a job. It's counterproductive, soul-destroying, and certainly in the UK, low-paid. I'm glad to be out of the system.

For students, it has meant they're paying for a much lower quality education than their predecessors used to get for free, and they leave university saddled with tens of thousands of pounds of debt which locks them out of the housing market because they can't service the additional debt of a mortgage.

In any case, all my frustrations about that deform process, which I watched from my early days as a tutor at the University of New South Wales in 1987 till my final days as Head of the School of Economics, Politics and History at Kingston University, exploded on the day that I found out what had happened to my office in November of 2018.

Jamie: "Exploded?"

Steve: I remember leaving the Dean's office on the day of my arrival in July 2014, and walking off expectantly to see my new office, now that I'd moved from the bottom of the departmental hierarchy in 1987 to the top in 2014 – not that climbing hierarchies is my thing, but I was at least looking forward to the perk of a decent office. It was in Holmwood House, a quaint three-storey house on the campus.

What I saw was the worst office I'd had since I graduated from my undergraduate degree back in 1975. In addition to being small and poky with a view of brick wall, it had a huge patch of mould next to the window, and I refused to enter it until the mould had been removed. I never bonded with the place, which is why the shelves never had any books on them: I was better off working from home instead.

Then in 2018, academics were turfed out of the building to make way for the relocation of the Vice Chancellor's office onto campus, from its previous off-campus location overlooking the Thames. A bureaucrat had scheduled a meeting with me to help publicise my research – which is ironic in itself, since I was already quite effective at that on my own. It was to be held in my old office because the University hadn't updated my address: she thought it was still my office, and I thought it was hers. I got there prepared for the irony of discussing how to promote my research in my old office, but I wasn't prepared for finding instead that the building had been tarted up, while my office had been converted into a galley kitchen. It was good enough for a Professor and Head of School apparently, but not good enough for a bureaucrat.

I just lost it. I rarely lose my stack in public, but I did that day. It was a sign of how much pressure I was under, partly because, as well as taking a 75% pay cut, I was voluntarily teaching an additional Masters subject since the unexpected departure of Engelbert Stockhammer for a position at King's College. But I turned abusive in public, mainly because this cameo – of a Head of School's office being converted into a galley kitchen for bureaucrats – summed up the deterioration in academic conditions that I had witnessed over the preceding 30 years.

I'm sorry about my offensive rant about this in front of, and at, the poor bureaucrats in Holmwood House at the time – including the Vice-Chancellor's personal secretary.⁶ They were just doing their jobs, and they had no appreciation of the process I'd witnessed over the previous 30 years. But as the immortal bard Tom Cruise put it in *Cocktail*, "Things always end badly, otherwise they wouldn't end". A week later, I was out of academia forever (apart from my honorary position at UCL), and I've been by far the better for it – thanks to Patreon. Getting rid of the "assistance" of academic managers has dramatically improved my academic productivity.

My free time for research has effectively quadrupled, and I do outreach these days via social media, media appearances – almost all of which occur on non-mainstream and non-Western outlets – and invited seminars.

Jamie: So independence has turned out very well for you it seems... providing you with more time.

Steve: Yes. It also allowed me to escape Europe when Covid-19 hit. The move I made to Thailand in March would have been impossible if I'd been an academic still, or dependent on income from an employer or a consulting business. Thanks to Patreon, I swapped an allegedly First World country with 65 million people that (as I write this on February 15th 2021) has over 4 million recorded Covid-19 cases and over 100,000 deaths, for a supposed Third World country with the same population but under 30,000 cases, and less than 100 deaths.

Jamie: And I suppose being freed from the constraints of departmental disciplinary research processes has also had its benefits? In the UK an academic is typically required to undertake performance review, construct a research plan for the following year and then justify how the plan contributes to a departmental research focus for the purposes of the university "Research Excellence Framework" (to which careers are tied). You seem to be more of a "public intellectual" these days and seem to have greater scope to be critical and to also be flexible. Though you have never had any trouble being oppositional, as your work on the emergence of the financial crisis in Australia indicates.

Steve: Absolutely! My productivity has gone through the roof, thanks both to the time I now have, and my freedom from bureaucratic management. I published one major paper (on the role of energy in production) in 2019, and five more papers in 2020 – despite Covid-19 (Keen 2020a, 2020b, 2020c; Hanley et al., 2020; Garrett et al. 2020; Keen et al 2019). Plus, I've almost finished a new book for Polity Press (*The New Economics: a Manifesto*), and I've managed major improvements in my *Minsky* software thanks to a £200,000 grant from Friends Provident Foundation. There are yet more papers in train on the role of energy in production, after a joint research project with the mathematician Matheus Grasselli and atmospheric physicist Tim Garrett (this work was funded by the Rebuilding Macroeconomics program run by the NIESR). And I hope to start work on a 3rd (and final!) edition of *Debunking Economics* later this year.

I also didn't have to justify to anyone my change in focus from financial instability to climate change. I still do work on financial crises and debt-deflation of course – in fact I've managed to work out the crucial link between "endogenous money" and aggregate demand (Keen

⁶ See Keen, S: "[The circumstances of my retirement from Kingston](#)"

2020b). But otherwise, I've moved from Hyman Minsky and financial instability to climate change, without having to justify the shift to anyone.

Jamie: This raises the obvious question, what took you from an interest in financial instability and debt processes – Hyman Minsky etc. – to climate change and ecological breakdown? Clearly, these are subject matters that no concerned citizen of the world can now afford to be ignorant of. But superficially, at least, from an academic perspective, this seems a strange sideways step.

Steve: There's a commonality to the issues though, in that both involve the consequences of pushing an unsustainable trend. In financial instability, it's the level of private debt compared to GDP. In climate change, it's the load humanity is putting on the planet relative to the capacity of the biosphere to renew itself.

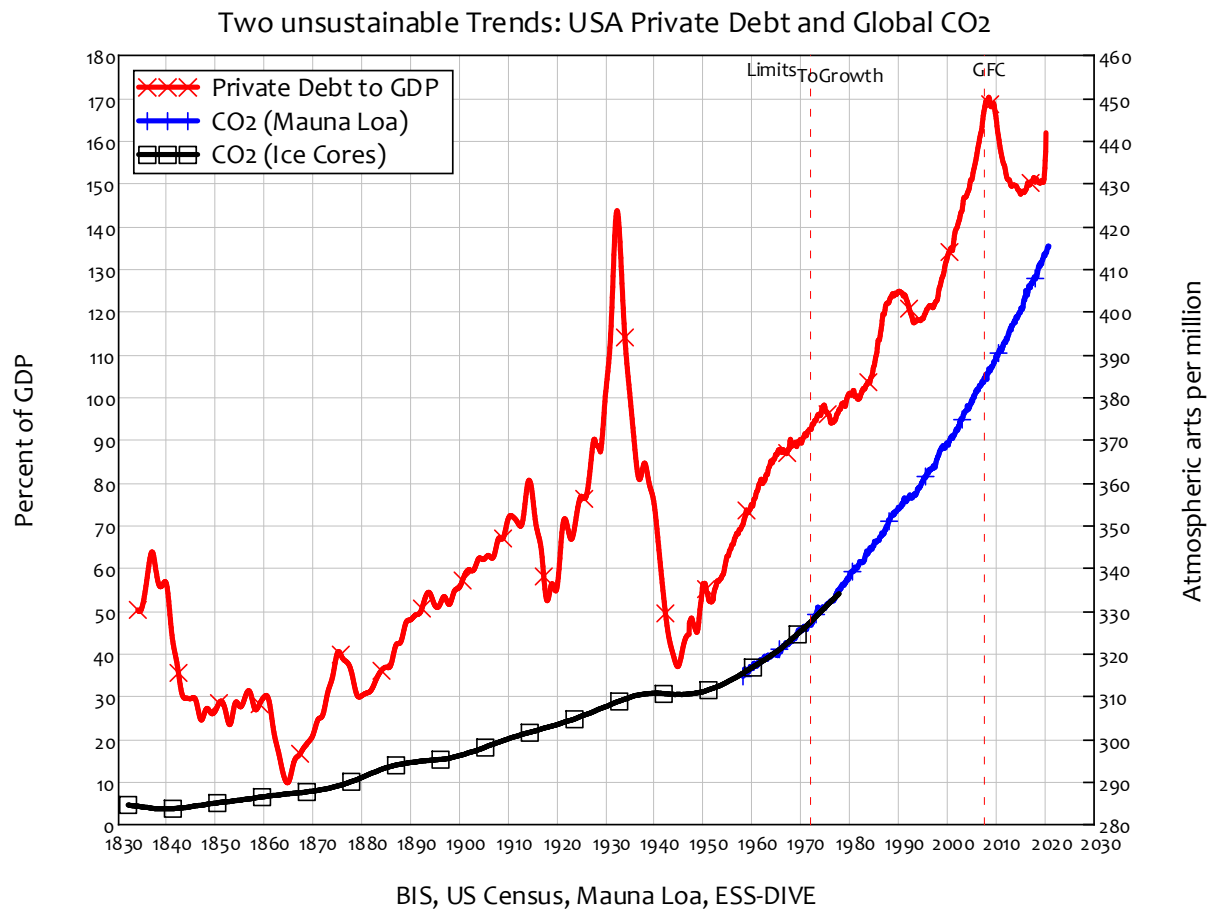
That comparison calls for a chart (or two). Figure 1 shows correlation not causation, but the exponential trend in both series simply can't continue – and mainstream economics fails to understand both of these.

For the former (finance), mainstream economics deludes itself with the now demonstrably false "Loanable Funds" model of banking to argue that the level and rate of growth of private debt are irrelevant to macroeconomics. For the latter (climate), the truly delusional work of Nordhaus and friends has pretended that climate change is no more than a change in the weather. Neoclassical economists profoundly misunderstand both processes.

Private debt to GDP and CO₂ in the atmosphere are stocks, something that Neoclassical economics is very poorly equipped to handle. Its models are all about flows, like output, and rates, like the unemployment rate, the inflation rate, but they rarely connect to levels (except say from output to investment to the capital stock and back), and certainly not in ways that can threaten the production system if they are too high. But if there is a level of private debt that is too high, that implies the need to control the rate of change of private debt; ditto for CO₂ in the atmosphere. You only get dangerous levels of both private debt and atmospheric CO₂ if the rate of change of these two stocks is positive for too long. Figure 2 below shows the annual change in debt on one axis, and the decadal change in CO₂ on the other. Both have been too positive for too long.

The special danger with climate change is that, while it's relatively easy to reverse the growth of private debt, either unintentionally (as in the USA's three great crises – the Panic of 1837, the Great Depression and the Great Recession), or by design (as in [my proposal for a Modern Debt Jubilee](#)), it's very difficult to reduce CO₂.

Figure 1: Private Debt and Atmospheric CO₂



Jamie: Given that this is cumulative, since CO₂ can stay in the atmosphere for over a hundred years and other greenhouse gases can also stay for years...

Steve: Yes. If we stop adding it to the atmosphere, then the process of absorption by natural processes takes centuries. Government policy can also relatively easily attenuate the impacts of a credit crisis, as we saw during the Great Recession. But there's no such salve for the impact of climate change.

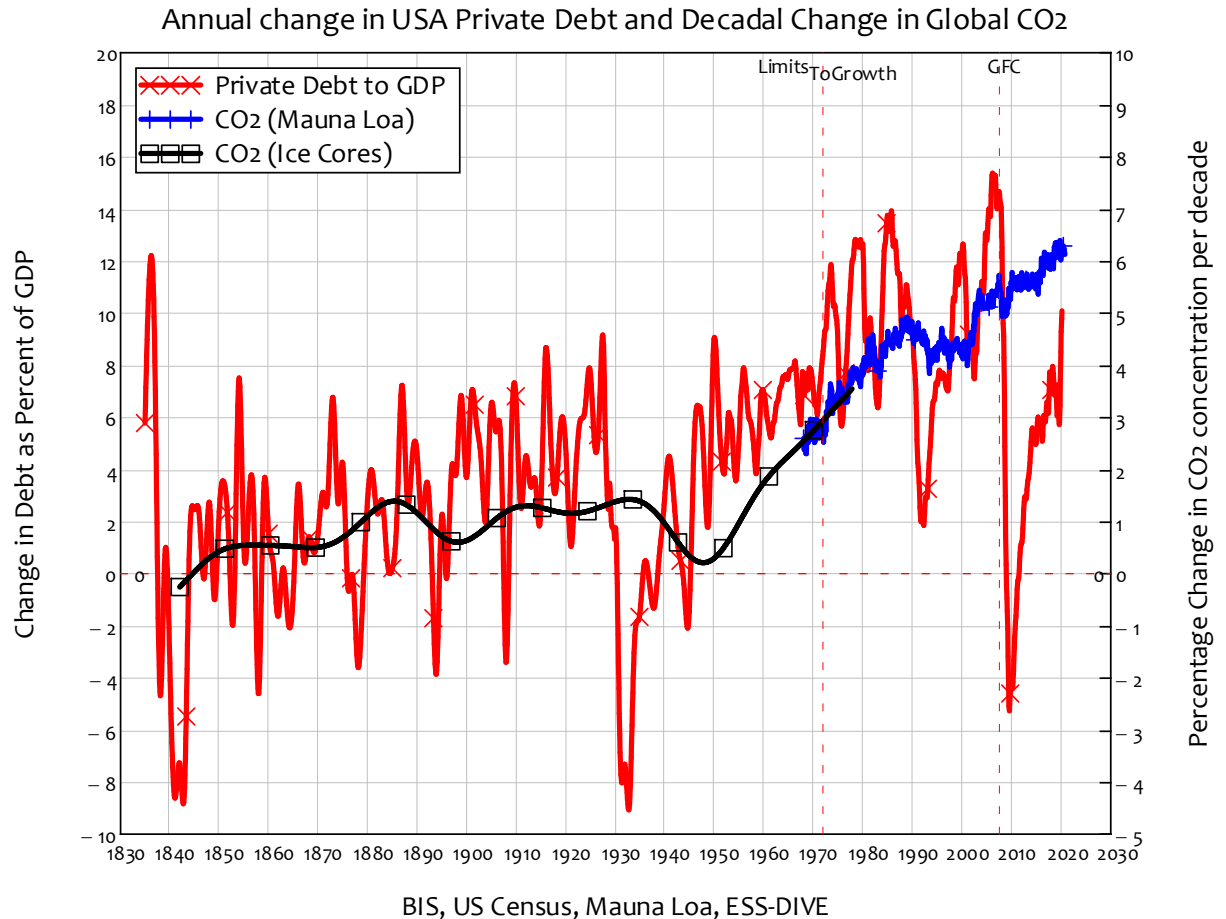
Jamie: And the impact can be extensive since this says nothing regarding the threshold effects or tipping points and feedback consequences that emissions can induce – warming leading to effects on the operation of natural systems, shifting them into new states – the “hothouse Earth” scenario, for example... and there are many identified tipping points for climate change and ecological breakdown. In any case, apart from the comparative aspects of finance and climate, what made you choose to switch to climate change?⁷

Steve: I've been interested in climate change ever since I read *Limits to Growth* in 1972. I thought the system dynamics software the authors developed was brilliant, and their arguments were compelling. So, I've been reading about the area ever since then, but I didn't

⁷ Note from Jamie: there are many works in recent years exploring trends and tipping points and drawing attention to the cumulative problem. For example, Ripple et al (2020); Lenton et al (2020); Wunderling et al. (2020); Steffen et al (2015, 2018).

feel that I could engage in the academic debate until I could make a genuine contribution – not just an incremental one. That came in 2016, when I worked out how to properly incorporate energy into production functions with the simple insight that “labour without energy is a corpse, capital without energy is a sculpture” (see Keen et al., 2019).

Figure 2: Change in Private Debt per Year & Change in CO₂ Concentration per Decade



Jamie: And ecological economists core critique of mainstream economics is that it lacks adequate attention to the material and energy content of economic activity – hence the ecological economists’ interest in throughput and metabolic flow, as well as issues like entropy and the waste generated by an economy, affecting and being affected by the Earth system in which this economic subsystem is embedded. So, they are always looking for ways to synthesise standard economic measurement and climate and ecological metrics (though with varying degrees of critique of how feasible this is).⁸

Steve: I have always thought that this couldn’t be done properly until energy was incorporated into economic models in a fundamental way. Existing “production functions”, basically the Cobb-Douglas at one extreme and the Leontief at the other, both express output as a function of inputs of Labour (“L”) and Capital (“K”). When some economists have tried to

⁸ Note from Jamie: see the edited text, *Routledge Handbook of Ecological Economics* (Spash, 2017).

incorporate energy (“E”), they’ve added it as a third factor of production, on the same footing as L and K. In a functional form, that’s something like:

$$Y = F(L, K, E)$$

Especially in a Cobb-Douglas model, this implies a trivial role for energy if you use the share of the energy sector in GDP as your coefficient (akin to using the wages share as the coefficient for Labour).

With my focus on how to soundly incorporate energy into production functions I realised there was an incredibly simple way to show that energy was vital for production. If you treat energy as an essential input to both workers and machines that enables them to do useful work, then you get something like:

$$Y = F(L(E), K(E))$$

Even if you stick with the standard Cobb-Douglas coefficients, which Shaikh (1974) showed are nonsense in his brilliant paper “The Humbug Production Function”, this still increases the importance of energy by a factor of ten over the way Stiglitz (1974a, 1974b) and Solow (1974a, 1974b) used it in their responses to the *Limits to Growth*. It also allows the incorporation of waste production into economic models: the simplest way to treat L and K as functions of E is as the units (L,K) times the energy inputs (E_L , E_K), times the efficiency with which they are turned into useful work (e_L , e_K). In the Cobb-Douglas form, that results in:

$$Y = \left(C_L \times (e_K \times E_K)^\alpha \right) \times K^\alpha \times L^{1-\alpha}$$

Where C_L just acknowledges that the energy input of unskilled labour is a biological constant (roughly equivalent to 100 Watts), while what Neoclassicals call “Total Factor Productivity” is actually the energy output level of the “representative machine” – which was (say) 10% of 10 tonnes of coal per day in James Watt’s time versus (say) 30% of 10 tonnes of kerosene per second in Elon Musk’s.

In the Leontief form, it shows that what we’ve called the “capital output ratio” is actually the efficiency with which energy inputs to machinery are turned into useful work. Using u for capacity utilisation, this is:

$$Y = u \times e_K \times K$$

In both forms, waste necessarily turns up: since e_K is the fraction of energy turned into useful work, $(1-e_K)$ is waste. There’s much more to it than that, and I’m working with Matheus Grasselli and Tim Garrett to develop more complete models, but that was enough for me to feel that I could now take part in the environmental economics debate. So then I read Nordhaus, and I was beyond horrified with how bad his work is – and that of the cabal of Neoclassical “climate change” economists that he’s assembled.

Jamie: And there is, of course, something of a crossover with your longstanding interest in neoclassical economics (or rather core mainstream economics). The response to *Limits to*

Growth was mainly dictated by what was to become environmental economics and by parallel commentary from growth theory. Environmental economics has been heavily influenced by core mainstream theory and perspectives rather than has been influential on it. This was obvious as early as 1974, and your comments allude to this. In that year the *American Economic Review* published an issue containing Robert Solow's Ely Lecture in which he essentially reduces the limits to growth problem to merely a choice between more state and market as an economy grows (Solow, 1974a). The same issue contains a special section in which William Nordhaus and Herman Daly both appear, but Nordhaus essentially ignores the entire basis of Daly's ecological economics case – that an Earth system creates definite limits to an economic system but economics continues to fail to recognise this because it focuses on exchange values without appropriate attention to the material processes that an economy entails. Your most recent work has a great deal to say about how Nordhaus's work and those who have followed him has evolved. Perhaps you might introduce it by explaining one of the more arresting parts of your analysis – the use and misuse of a "controlled environments" concept.

Steve: "Controlled environments"! The spin that Neoclassicals are capable of is wasted in economics, they should all be cricketers instead. Nordhaus and his equally deluded group of Neoclassical followers quite literally equate the climate with the weather, so that if you're not directly exposed to the weather, the implication is that you're immune to climate change, and all their projections are about cold places getting warmer (and thus benefiting) while warm places get warmer still (and thus suffer), with the overall outcome being a tossup.

A statement by Nordhaus from his "To slow or not to slow" paper in 1991 is worth citing in full here:

Table 5 shows a sectoral breakdown of United States national income, where the economy is subdivided by the sectoral sensitivity to greenhouse warming. The most sensitive sectors are likely to be those, such as agriculture and forestry, in which output depends in a significant way upon climatic variables. At the other extreme are activities, such as cardiovascular surgery or microprocessor fabrication in 'clean rooms', which are undertaken in carefully controlled environments that will not be directly affected by climate change. Our estimate is that approximately 3% of United States national output is produced in highly sensitive sectors, another 10% in moderately sensitive sectors, and about 87% in sectors that are negligibly affected by climate change (Nordhaus 1991: 930; emphasis added).

"Controlled environments" is a euphemism for "indoors or underground"! How else can you justify simply assuming that all of manufacturing and services will be unaffected by climate change?

This is from the 2014 IPCC Report, which was clearly dominated by Richard Tol:

FAQ 10.3 | Are other economic sectors vulnerable to climate change too?

Economic activities such as agriculture, forestry, fisheries, and mining are exposed to the weather and thus vulnerable to climate change. Other economic activities, such as manufacturing and services, largely take place in controlled environments and are not really exposed to climate change. However, markets connect sectors so that the impacts of climate change spill

over from one activity to all others. The impact of climate change on economic development and growth also affects all sectors (Arent et al 2014: 688).

That “*carefully controlled environments*” assumption would be cold comfort to Texans right now – quite literally – as they freeze in sub-zero °F temperatures thanks to an unstable Jet Stream. Being indoors isn’t much help when the power utilities fail because they are frozen solid.

I have to admit to being extremely angry about this garbage. Not only did Nordhaus destroy the credibility of the *Limits to Growth* study with shoddy research – as Forrester put it, “each point made by Nordhaus rests on a misunderstanding of *World Dynamics*, a misuse of empirical data, or an inability to analyze properly the dynamic behavior of the model by static equilibrium methods” (Forrester et al. 1974; see also Bardi, 2018). He replaced *Limits* with this delusional nonsense that shows a complete lack of understanding of what climate change actually is.

Because economists have spouted this nonsense, it has been taken seriously by politicians, and surely used to justify the tepid action they’ve taken to date to address climate change. But they clearly don’t know what they’re talking about.

Jamie: Something you also suggest underpins mainstream economics on financial crises only in this case the damage is even more basic?⁹

Steve: Yes. The same applied to Neoclassical economists before the Global Financial Crisis, but at least the damage that did could be relatively easily attenuated by government policy (even though policy has not fundamentally constrained the damaging dominance of finance over the real economy, nor reduced the private debt overhang that was the main cause of the crisis). But climate change? As its impacts become more extreme, there’ll be precious little humanity can do to attenuate it, short of actions like geoengineering that can reverse the rise in global temperature, but will undoubtedly have dangerous side effects as well. Plus, we’ll start taking action at best fifty years after we should have, when the human impact on the planet is far greater.

Jamie: And geoengineering and imagined technological fixes built into the “nationally determined contributions” (NDC) emissions reduction projections, which countries have started to provide under the Paris Agreement do seem highly unrealistic... despite the recent change in rhetoric revolving around climate ambition since the IPCC *Global Warming of 1.5 °C* report (IPCC, 2018), which called for a 45-55% reduction from the 2017 level in annual global carbon emissions by 2030 followed by “net zero” by mid-century – the UN “race to zero” project etc – behind this is a longstanding complacency heavily influenced by economics?¹⁰

⁹ Note from Jamie: on the lack of progress in emissions reduction see the UNEP emissions gap ten year summary see Christensen and Olhoff (2019). On the broad range of causes of delay see also Lamb et al (2020).

¹⁰ Note from Jamie: the UN Climate Ambition Alliance is working to encourage countries to increase the ambition of their ‘nationally determined contributions’ to emissions reduction (NDCs) and has also launched the ‘Race to Zero’ campaign to feed this through to cities, regions, business and other actors: or the climate ambition alliance see: <https://cop25.mma.gob.cl/en/climate-ambition-alliance/> Visit Race to zero at: <https://unfccc.int/climate-action/race-to-zero-campaign> On economics and complacency see Røpke (2020); Gills and Morgan (2020b).

Steve: Exactly. Climate activists target fossil fuel companies and wealthy right-wing ideologues as the main culprits of climate change denialism and trivialisation, but there has been a dereliction of duty by Neoclassical economists as well – and not just a duty humanity as in macroeconomics, but to the entire ecosphere. They have also enabled the professional trivialisers like Bjorn Lomborg, who cites the economics chapter of the 2014 IPCC report approvingly (Lomborg, 2020).

I firmly believe that Nordhaus and his followers should face consequences for this negligence, which is one reason that I support moves to establish the crime of ecocide – see <https://www.stopecocide.earth/>.¹¹

Jamie: Still, it is extraordinary just how influential mainstream economics theory and policy frameworks have been over the decades, despite critique. Edward Fullbrook has been supportive of that critique since *Real-World Economics Review*'s inception and *RWER* has over the years published and promoted the work of Herman Daly, Peter Söderbaum, Clive Spash, Richard Smith, Ted Trainer and many others.¹² Though the IPCC and UNEP do draw on Integrated Assessment Models (DICE, RICE etc.) and the work of Nordhaus and Toll for their scenario pathways, there is also a growing awareness and scepticism about them – though this has been a long-time coming, since in addition to your own devastating critique there have been others across the spectrum of the social sciences (from politics, sociology, political economy, philosophy) and from some climate scientists.¹³ Critique has, of course, become more timely as well as prominent because Nordhaus won a “Nobel Prize” for his work and because a climate emergency has been declared (the two seemingly in glaring opposition). Your recent work (Keen 2020a), for example, has been amongst the most “visible” in social science according to Altmetric criteria – though it has yet to be picked up by the main print media.

Steve: I didn't even know of Altmetric until you pointed out how well the paper was doing there: it currently has a score of 1647, which puts it in the top 3,000 of the 17 million papers Altmetric has tracked. The invitation from *Globalizations* to turn my Twitter war with Richard Tol and Patreon blog posts into something more academic was extremely welcome: time is of the essence in climate change, and I'm very grateful to the journal for giving me the chance to get a substantial critique into the academic literature post haste.

I can't divulge further details at the moment, but that paper inspired one of the world's most prestigious scientific journals to invite me to write a more technical critique for their audience. That might help overcome the one disappointment that the *Globalizations* paper has received no mainstream media coverage – which reflects more on the parlous state of journalism these days than on *Globalizations*.

Jamie: As you say the, paper appears in *Globalizations*. It was part of a recent special issue titled “Economics and Climate Emergency” and this collection follows a similar format to the

¹¹ Note from Jamie: see also the Alliance of World Scientists which has been organized to coordinate pressure on governments and create public awareness of the urgency of the climate emergency. For example: Despite promising developments, the need for climate action has grown even more urgent this year - read “The Climate Emergency: 2020 in Review”: <https://bit.ly/3nk4QXt>

¹² Note from Jamie: See for example, Daly (2015); Söderbaum (2018 [2016]); Smith (2020), Trainer (2020).

¹³ Note from Jamie: for critique of Nordhaus etc. see for example: Dale (2018); Gelman (2019); Hickel (2018); Spash (2002). For something more mainstream see Pindyck (2017).

prior *RWER* collection “Economics and the Ecosystem” (Fullbrook and Morgan 2019).¹⁴ A key feature of the many essays included in both (and these cover an array of ecological and political positions using a wide variety of terms – growth-critical, postgrowth, degrowth, a simpler way, social-ecological economics etc.)¹⁵ is that mainstream economics is ideological. All non-trivial knowledge is, of course, in some sense, from a perspective and entails some underpinning value system, but the term ideological can carry further connotations. I was reminded of something you wrote in the preface to the first edition of *Debunking Economics* (Keen 2001: xiv) you state:

I came to the conclusion that the reason they [neoclassical economists] displayed such anti-intellectual, apparently socially destructive, and apparently ideological behaviour lay deeper than any superficial pathologies. Instead the way in which they had been educated had given them the behavioural traits of zealots rather than of dispassionate intellectuals... there is no point trying to debate fundamental beliefs with a zealot... I abandoned any delusion that I might be able to persuade committed economists to see reason (though there has been the odd exception to the rule). Instead, I prefer to spend my time developing an alternative approach to economics, while persuading others not to fall for the superficially persuasive but fundamentally flawed arguments of conventional theory.

Perhaps, by way of bringing this interview together, you might elaborate on this in the context of our current “climate emergency” and where you see your work taking you?

Steve: You’ve chosen a good quote there. In general, I’ve moved from the “demolishing the glass house from the outside” stage characterised by *Debunking Economics* into a “build a new house” phase.

A major aspect of this is the development of *Minsky*, because I believe that system dynamics should be the analytic foundation of economics, and it was close to impossible to design models of financial dynamics using existing system dynamics programs. Some people have done it, but if they need to edit their design, it’s ridiculously hard to do so with the flowchart paradigm, given the quadruple-entry nature of showing financial transactions at the aggregate level – something that Hyman Minsky emphasised was necessary. *Minsky’s* Godley Tables handle quadruple entry with ease, and as a result, editing the design of a financial sector is easy in *Minsky*.

We also need to win the “good foundations” debate. Neoclassicals firmly believe that macro must have good foundations – not be “ad-hoc” – and that means microfoundations to them, which is nonsense given the Sonnenschein-Mantel-Debreu theorem (e.g. Sonnenschein, 1972) and the empirical falsehoods in their theory of supply (see Lee 1998). So their first belief is valid, but their second is not. Macroeconomics does need sound, indisputable foundation, and as I show in my recent *Review of Political Economy* paper (Keen, 2020b), macroeconomic dynamics can be derived directly from macroeconomic definitions.

¹⁴ Note from Jamie, for “Economics and the Ecosystem” see <https://www.amazon.com/dp/B07ZM9G22Y>. The other papers can be found as: [recent special issue of Globalizations on “Economics and Climate Emergency”](#)

¹⁵ Note from Jamie: for influential work that provides some background see Hickel and Kallis (2019); Parrique et al. (2019). The *Globalizations* collection contains, amongst others, work by James Galbraith, who *RWER* readers ought to be familiar with (see Galbraith, 2020). See Gills and Morgan (2020a).

Good foundations also include integration of economics with ecology at a fundamental level. That was the objective of my *Ecological Economics* paper (Keen et al, 2019). By treating energy as the essential input into Labour and Capital, the economy's reliance on the natural world (as a source of energy) and damaging feedback on the natural world (via the necessity, under the Laws of Thermodynamics, to dump waste energy – and matter – into the environment) become fundamental aspects of economics. It's a hard slog from that basic insight to models that integrate economics, energy and ecology, but I've made a start with Matheus Grasselli and Tim Garrett, and we hope to take that a lot further in the next few years.

I try to bring all this together in a new book for Polity Press, with the title – suggested by them, which I've tried to live up to – of *The New Economics: A Manifesto*. I hope to finish it this month, and have it published by the end of 2021. It's not my "magnum opus", but it sets out the basics in 40,000 words. I've taken to calling it my "mini opus".

Realising what Neoclassical economists have done on climate change has also turbocharged my original motivation for writing *Debunking Economics*. Their zealotry about their model of the economy has ended up not merely causing crises in the real economy, but jeopardising the survival of human civilisation, and causing the extinction of a substantial slab of life on Earth. If civilisation does survive climate change, it certainly won't be in the form of the mythical free market capitalism they believe they're championing. In the struggle to survive, we could find ourselves in the equivalent of a War-based military command economy, with severe rationing, forced redistribution, and controlled production.

Jamie: Not a comforting thought and one that several strands of the climate movement are trying to prevent.¹⁶

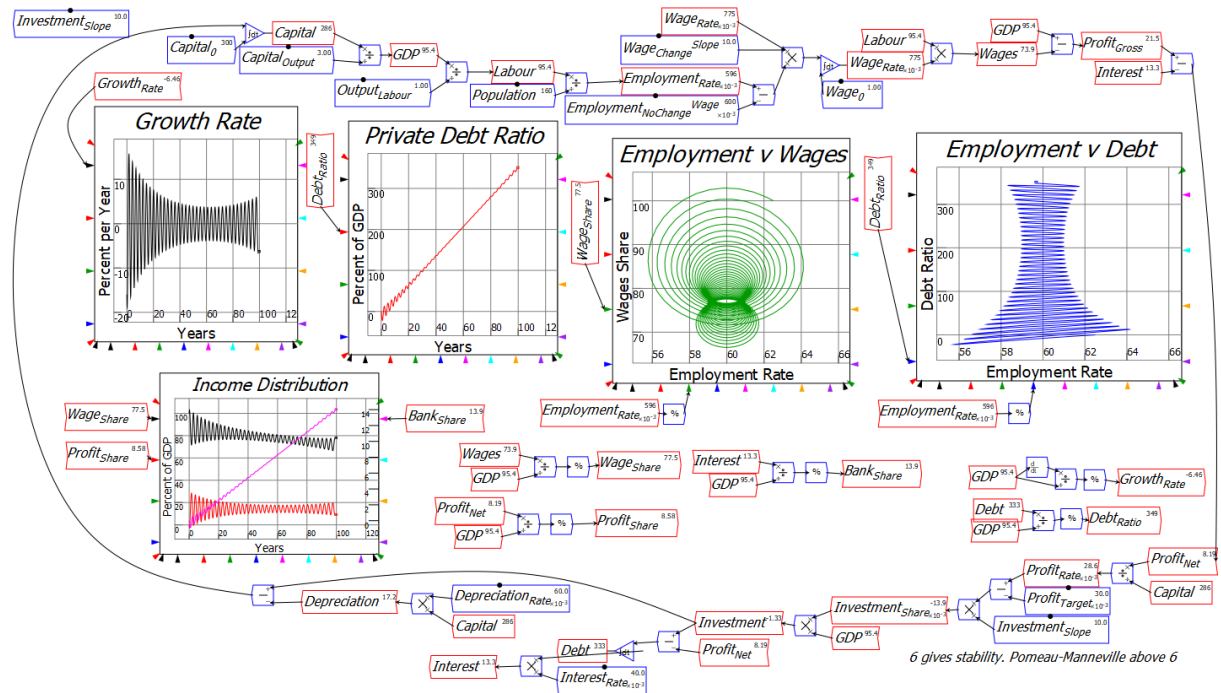
Steve: A worst case maybe, but a foreseeable one. And if we do come out the other side of that with a civilisation that puts a sustainable load on the biosphere, rather than the overload Neoclassical negligence has encouraged, the survivors will want to know how we made such a huge mistake in the first place. Though of course I want my work to be read now, largely I see myself as writing for that future audience, while at the same time helping develop tools we can use now to properly understand market economies and industrial production.

That's where my Open Source system dynamics Minsky software, and system dynamics in general, comes in.

I don't want humanity to survive a climate apocalypse only to resurrect the type of economic thinking that gave rise to it in the first place. As well as denouncing Neoclassical economics, we need to produce tools of thought – including not only software but memes, symbolic mental representations of reality – that are as powerful as the Neoclassical totem of intersecting supply and demand curves (see Leijonhufvud, 1973), but far more realistic. Above all, we have to represent our dependence upon pre-existing energy, the necessity of waste from the exploitation of that energy, and the limited capacity of the biosphere to accommodate the far higher pressure that industry imposes upon it compared to the feedbacks in the biosphere itself. I think Kate Raworth's (2017) "Doughnut" has done a brilliant job of communicating the biosphere's limits, but we still need a meme for our dependence on energy.

¹⁶ Note from Jamie: For examples of problems see Morgan (2020, 2017).

Figure 3: Keen's Goodwin-based model of Minsky's Financial Instability Hypothesis in Minsky



Jamie: Raworth's work has certainly been high-profile and has a lot of champions – Tim Jackson, George Monbiot etc. It is also worth noting that George Lakoff suggested several years ago that climate activism needed a more effective communicative framework to compete with or displace the current more problematic framing of the whole problem (neoliberalism etc.). Still, there are also various critiques and counter-critiques of Raworth's work within and without academia and climate activism. What is your preferred imagery?¹⁷

Steve: My preferred meme is the wheel, or water wheel: it has the same shape as the doughnut, but it won't turn without moving water coming from the environment.

Jamie: And if there is any final thought you would want to leave a reader with, it would be...

Steve: Overall, the travesty that is Neoclassical climate change economics has elevated the struggle heterodox economists have waged for realism in economics from an issue merely about the proper nature of economics to a key requirement for humanity to have a future at all. This isn't just about the right way to do economics anymore; it's about the survival of human civilisation. If we are to have a future, then Neoclassical economics has to go, and we heterodox economists have to replace it with something properly grounded in the physical reality of planet Earth.

¹⁷ See Lakoff (2010); and in the *Globalizations* collection (Spash, 2020).
 See also: <https://theconversation.com/economists-are-more-like-storytellers-than-scientists-dont-let-the-nobel-for-economic-sciences-fool-you-147722>

References

- Arent, D. J., R.S.J. Tol, E. Faust, J.P. Hella, S. Kumar, K.M. Strzepek, F.L. Tóth, and D. Yan (2014) "Key economic sectors and services." *AR5 IPCC Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva: IPCC and C. B. Field, V. R. Barros, D. J. Dokken et al. Cambridge: Cambridge University Press, 659-708.
- Asefi-Najafabady, S. Villegas-Ortiz, L. and Morgan, J. (2020) "The failure of Integrated Assessment Models as a response to 'climate emergency' and ecological breakdown: the Emperor has no clothes." *Globalizations*. <https://doi.org/10.1080/14747731.2020.1853958>
- Bardi, U. (2018) "Why economists can't understand complex systems: Not even the Nobel Prize, William Nordhaus." *Resilience*: <https://www.resilience.org/stories/2018-10-24/why-economists-cant-understand-complex-systems-not-even-the-nobel-prize-william-nordhaus/>
- Christensen, J. and Olhoff, A. (2019) *Lessons from a Decade of Emissions Gap Assessments*. Nairobi: UNEP.
- Dale, G. (2018) "The Nobel Prize in climate chaos." *The Ecologist*, October 12th <https://theecologist.org/2018/oct/12/nobel-prize-climate-chaos-romer-nordhaus-and-ipcc>
- Daly, H. (2015) *Essays Against Growthism*. London: WEA/College Books.
- Forrester, J. Gilbert, W. and Nathaniel, J. (1974) "The debate on "World Dynamics": A response to Nordhaus." *Policy Sciences* 5(2): 169-190.
- Fullbrook, E. and Morgan, J. (Eds) (2019) *Economics and the Ecosystem*. Bristol: World Economic Association Books.
- Galbraith, J. K. (2020) "Economics and the climate catastrophe." *Globalizations*. <https://doi.org/10.1080/14747731.2020.1807858>.
- Gallegati, M. Keen, S. Lux, T. and Ormerod, P. (2006) "Worrying Trends in Econophysics." *Physica A: Statistical Mechanics and its Applications*. 370 (1), 1-6.
- Garrett, T. J. Grasselli, M. and Keen, S. (2020) "Past world economic production constrains current energy demands: Persistent scaling with implications for economic growth and climate change mitigation." *PLoS ONE* 15, <https://doi.org/10.1371/journal.pone.0237672>.
- Gelman, A. (2019) "The climate economics echo chamber: Gremlins and the people (including a Nobel prize winner) who support them." <https://statmodeling.stat.columbia.edu/2019/11/01/the-environmental-economics-echo-chamber-gremlins-and-the-people-including-a-nobel-prize-winner-who-support-them/>.
- Gills, B. K. and Morgan, J. (2020a) "Economics and Climate Emergency." *Globalizations*, <https://doi.org/10.1080/14747731.2020.1841527>.
- Gills, B. K. and Morgan, J. (2020b) "Teaching climate complacency: mainstream economics textbooks and the need for transformation in economics education." *Globalizations*. <https://doi.org/10.1080/14747731.2020.1808413>.
- Giroux, H. A. (2014) *Neoliberalism's War on Higher Education*. 2nd ed. Chicago, Haymarket Books.
- Hanley, B. P. Keen, S. and Church, G. (2020) "A call for a three-tiered pandemic public health strategy in context of SARS-CoV-2." *Rejuvenation Research* doi: [10.1089/rej.2020.2363](https://doi.org/10.1089/rej.2020.2363)
- Hickel, J. (2018) "The Nobel prize for climate catastrophe." *Foreign Policy*, December 6th.
- Hickel, J. and Kallis, G. (2019) "Is green growth possible?" *New Political Economy*. 25(4): 469-486.
- IPCC (2018, October) *Global Warming of 1.5°C: Summary for policymakers*. Geneva: Author.
- Keen, S. (2020a) "The appallingly bad Neoclassical Economics of climate change." *Globalizations*. <https://doi.org/10.1080/14747731.2020.1807856>.

- Keen, S. (2020b) "Emergent Macroeconomics: Deriving Minsky's Financial Instability Hypothesis directly from macroeconomic definitions." *Review of Political Economy*. 32 (3): 342-370.
- Keen, S. (2020c) "Burying Samuelson's Multiplier-Accelerator and Resurrecting Goodwin's Growth Cycle in Minsky. In Cavana, R. Dangerfield, O. Pavlov, M. Radzicki, M. ad Wheat, I. (eds.) *Feedback Economics*. New York: Springer.
- Keen, S. (2017a) "Trade and the gains from diversity: Why economists failed to predict the consequences of Brexit." *Globalizations*. 14(6): 803-809.
- Keen, S. (2017b) *Can We Avoid Another Financial Crisis?* Cambridge: Polity Press.
- Keen, S. (2016) *Developing an Economics for the Post-Crisis World*. London: College Books and World Economics Association.
- Keen, S. (2014) "Endogenous money and effective demand." *Review of Keynesian Economics*. 2(3): 271-291.
- Keen, S. (2011 [2001]) *Debunking Economics*. London: Zed Books.
- Keen, S. (1993) "Use-value exchange value and the demise of Marx's labour theory of value." *Journal of the History of Economic Thought*. 15 (1): 107-121.
- Keen, S., Ayres, R. And Standish R. (2019) "A Note on the Role of Energy in Production." *Ecological Economics*. 157: 40-46.
- Lakoff, G. (2010) "Why it matters how we frame the environment." *Environmental Communication* 4(1): 70-81.
- Lamb, W. Mattioli, G. Levi, S. Roberts, J. Capstick, S. Creutzig, F. Minx, J. Muller-Hansen, F. Culhane, T. and Steinberger, J. (2020) "Discourses of climate delay." *Global Sustainability*. 3, e17, 1–5. <https://doi.org/10.1017/sus.2020.13>.
- Lee, F. (1998) *Post Keynesian Price Theory*. Cambridge: Cambridge University Press.
- Leijonhufvud, A. (1973) "Life among the Econ." *Western Economic Journal* 11: 327-337.
- Lenton, T. Rockstrom, J. Gaffney, O. Rahmstorf, S. Richardson, K. Steffen, W. and Schellnuber, H. (2020) "Climate tipping points too risky to bet against." *Nature*. 575: 592-595, November 28th
- Lomborg, B. (2020) "Welfare in the 21st century: Increasing development, reducing inequality, the impact of climate change, and the cost of climate policies." *Technological Forecasting and Social Change* 156: 119981.
- Lynch, K. (2006) "Neo-liberalism and Marketisation: the implications for higher education." *European Educational Research Journal*, 5(1): 1-17.
- Morgan, J. (2020) "Electric Vehicles: The future we made and the problem of unmaking it." *Cambridge Journal of Economics*. 44(4): 953-977. <https://doi.org/10.1093/cje/beaa022>.
- Morgan, J. (2017) "Piketty and the growth dilemma revisited in the context of ecological economics." *Ecological Economics*, 136: 169–177. <https://doi.org/10.1016/j.ecolecon.2017.02.024>.
- Nordhaus, W. D. (1991) "To Slow or Not to Slow: The Economics of The Greenhouse Effect." *The Economic Journal*. 101(407): 920-937.
- Parrique T. Barth J. Briens F. Kerschner, C. Kraus-Polk A. Kuokkanen A. and Spangenberg J. H. (2019). *Decoupling debunked*. European Environmental Bureau. eeb.org/library/decoupling-debunked.
- Patomäki, H. (2019) "Repurposing the university in the 21st century: toward a progressive global vision." *Globalizations* 16(5): 751-762.
- Pindyck, R. S. (2017) "The Use and Misuse of Models for Climate Policy." *Review of Environmental Economics and Policy*. 11(1): 100-114.
- Raworth, K. (2017) *Doughnut Economics*. White River Junction: Chelsea Green Publishing.
- Ripple, W. Wolf, C. Newsome, T. Barnbard, P. Moomaw, W. and 11,258 signatories (2020) "World Scientists' Warning of a Climate Emergency." *BioScience*. 70(1): 8-12.

- Røpke, I. (2020) "Econ 101 – In need of a sustainability transition." *Ecological Economics*. 169: article 106515.
- Shaikh, A. (1974) "Laws of production and laws of algebra: The humbug production function." *Review of Economics and Statistics* 56: 115-120.
- Smith, R. (2020) "Climate arsonist Xi Jinping: a carbon-neutral China with a 6% growth rate?" *Real-World Economics Review* 94: 32-52.
- Söderbaum, P. (2018 [2016]) *Economics, ideological orientation and democracy for sustainable development*. London: WEA Books.
- Solow, R. (1974a) "The economics of resources or the resources of economics." *American Economic Review*. 64(2): 1-14.
- Solow, R. (1974b) "Intergenerational equity and exhaustible resources." *Review of Economic Studies* 41(5): 29-45.
- Sonnenschein, H. (1972) "Market excess demand functions." *Econometrica* 40: 549-563.
- Spash, C. (2020) "Apologists for Growth: Passive Revolutionaries in a Passive Revolution." *Globalizations*. <https://doi.org/10.1080/14747731.2020.1824864>.
- Spash, C. (Ed) (2017) *Routledge Handbook of Ecological Economics: Nature and Society*. New York: Routledge.
- Spash, C. (2002) *Greenhouse Economics* London: Routledge.
- Steffen, W., Rockström, J., Richardson, K., Lenton, T. M., Folke, C., Liverman, D., ... Schellnhuber, H. J. (2018) "Trajectories of the Earth System in the Anthropocene." *Proceedings of the National Academy of Sciences of the USA*. 115: 8252–8259.
- Steffen, W. Richardson, K. Rockstrom, J. Cornell, S. E. Fetzer, I. Bennett, E. Biggs, R. Carpenter, S. de Vries, W. de Wit, C. Folke, C. Gerten, D. Heinke, J. Mace, G. M. Persson, L. M. Ramanathan, V. Reyers, B. and Sorlin, S. (2015) "Planetary boundaries: Guiding human development on a changing planet." *Science*. 347(6223): 736–46.
- Stiglitz, J. (1974a) "Growth with exhaustible natural resources: Efficient and optimal growth paths." *Review of Economic Studies* 41(5): 123-137.
- Stiglitz, J. (1974b) "Growth with exhaustible natural resources: The competitive economy." *Review of Economic Studies* 41(5): 139-152.
- Trainer, T. (2020) "Simpler way transition theory." *Real-World Economics Review* 93: 96-112.
- Wunderling, N. Donges, J. Kurths, J. and Winkelmann, R. (2020) "Interacting tipping elements increase risk of climate domino effects under global warming." *Earth System Dynamics*. <https://doi.org/10.5194/esd-2020-18>.

Author contact: Steve Keen: debunking@gmail.com and jamiea.morgan@hotmail.co.uk

SUGGESTED CITATION:

Steve Keen and Jamie Morgan (2021) "From finance to climate crisis: An interview with Steve Keen" *real-world economics review*, issue no. 95, 22 March, pp. 130-147, <http://www.paecon.net/PAEReview/issue95/KeenMorgan95.pdf>.

You may post and read comments on this paper at <https://rwer.wordpress.com/comments-on-rwer-issue-no-95/>

Board of Editors

Nicola Acocella, Italy, University of Rome
Robert Costanza, Australia, The Australian National University.
Wolfgang Drechsler, Estonia, Tallinn University of Technology
Kevin Gallagher, USA, Boston University
Jo Marie Griesgraber, USA, New Rules for Global Finance Coalition
Bernard Guerrien, France, Université Paris 1 Panthéon-Sorbonne
Michael Hudson, USA, University of Missouri at Kansas City
Anne Mayhew, USA, University of Tennessee
Gustavo Marqués, Argentina, Universidad de Buenos Aires
Julie A. Nelson, USA, University of Massachusetts, Boston
Paul Ormerod, UK, Volterra Consulting
Richard Parker, USA, Harvard University
Ann Pettifor, UK, Policy Research in Macroeconomics
Alicia Puyana, Mexico, Latin American School of Social Sciences
Jacques Sapir, France, École des hautes études en sciences sociales
Peter Söderbaum, Sweden, School of Sustainable Development of Society and Technology
Peter Radford, USA, The Radford Free Press
David Ruccio, USA, Notre Dame University
Immanuel Wallerstein, USA, Yale University

ISSN 1755-9472

EDITOR: Edward Fullbrook,

ASSOCIATE EDITOR: Jamie Morgan

PAST CONTRIBUTORS: James Galbraith, Frank Ackerman, André Orléan, Hugh Stretton, Jacques Sapir, Edward Fullbrook, Gilles Raveaud, Deirdre McCloskey, Tony Lawson, Geoff Harcourt, Joseph Halevi, Sheila C. Dow, Kurt Jacobsen, The Cambridge 27, Paul Ormerod, Steve Keen, Grazia Ietto-Gillies, Emmanuelle Benicourt, Le Mouvement Autisme-Economie, Geoffrey Hodgson, Ben Fine, Michael A. Bernstein, Julie A. Nelson, Jeff Gates, Anne Mayhew, Bruce Edmonds, Jason Potts, John Nightingale, Alan Shipman, Peter E. Earl, Marc Lavoie, Jean Gadrey, Peter Söderbaum, Bernard Guerrien, Susan Feiner, Warren J. Samuels, Katalin Martinás, George M. Frankfurter, Elton G. McGoun, Yanis Varoufakis, Alex Millmow, Bruce J. Caldwell, Poul Thøis Madsen, Helge Peukert, Dietmar Lindenberger, Reiner Kümmel, Jane King, Peter Dorman, K.M.P. Williams, Frank Roterig, Ha-Joon Chang, Claude Mouchot, Robert E. Lane, James G. Devine, Richard Wolff, Jamie Morgan, Robert Heilbroner, William Milberg, Stephen T. Ziliak, Steve Fleetwood, Tony Aspromourgos, Yves Gingras, Ingrid Robeyns, Robert Scott Gassler, Grischa Periono, Esther-Miriam Sent, Ana Maria Bianchi, Steve Cohn, Peter Wynarczyk, Daniel Gay, Asatar Bair, Nathaniel Chamberland, James Bondio, Jared Ferrie, Goutam U. Jois, Charles K. Wilber, Robert Costanza, Saski Sivramkrishna, Jorge Buzaglo, Jim Stanford, Matthew McCartney, Herman E. Daly, Kyle Siler, Kepa M. Ormazabal, Antonio Garrido, Robert Locke, J. E. King, Paul Davidson, Juan Pablo Pardo-Guerra, Kevin Quinn, Trond Andresen, Shaun Hargreaves Heap, Lewis L. Smith, Gautam Mukerjee, Ian Fletcher, Rajni Bakshi, M. Ben-Yami, Deborah Campbell, Irene van Staveren, Neva Goodwin, Thomas Weisskopf, Mehrdad Vahabi, Erik S. Reinert, Jeroen Van Bouwel, Bruce R. McFarling, Pia Malaney, Andrew Spielman, Jeffery Sachs, Julian Edney, Frederic S. Lee, Paul Downward, Andrew Mearman, Dean Baker, Tom Green, David Ellerman, Wolfgang Drechsler, Clay Shirky, Bjørn-Ivar Davidsen, Robert F. Garnett, Jr., François Eymard-Duvernay, Olivier Favereau, Robert Salais, Laurent Thévenot, Mohamed Aslam Haneef, Kurt Rothschild, Jomo K. S., Gustavo Marqués, David F. Ruccio, John Barry, William Kaye-Blake, Michael Ash, Donald Gillies, Kevin P. Gallagher, Lyuba Zarsky, Michel moerBauwens, Bruce Cumings, Concetta Balestra, Frank Fagan, Christian Arnsperger, Stanley Alcorn, Ben Solarz, Sanford Jacoby, Kari Polanyi, P. Sainath, Margaret Legum, Juan Carlos Moreno-Brid, Igor Pauno, Ron Morrison, John Schmitt, Ben Zipperer, John B. Davis, Alan Freeman, Andrew Kliman, Philip Ball, Alan Goodacre, Robert McMaster, David A. Bainbridge, Richard Parker, Tim Costello, Brendan Smith, Jeremy Brecher, Peter T. Manicas, Arjo Klammer, Donald MacKenzie, Max Wright, Joseph E. Stiglitz, George Irvin, Frédéric Lordon, James Angresano, Robert Pollin, Heidi Garrett-Peltier, Dani Rodrik, Marcellus Andrews, Riccardo Baldissone, Ted Trainer, Kenneth J. Arrow, Brian Snowdon, Helen Johns, Fanny Coulomb, J. Paul Dunne, Jayati Ghosh, L. A. Duhs, Paul Shaffer, Donald W. Braben, Roland Fox, Stevan Harnad, Marco Gillies, Joshua C. Hall, Robert A. Lawson, Will Luther, JP Bouchaud, Claude Hillinger, George Soros, David George, Alan Wolfe, Thomas I. Palley, Sean Mallin, Clive Dilnot, Dan Turton, Korkut Ertürk, Gökcer Özgür, Geoff Tily, Jonathan M. Harris, Jan Kregel, Peter Gowan, David Colander, Hans Foellmer, Armin Haas, Alan Kirman, Katarina Juselius, Brigitte Sloth, Thomas Lux, Luigi Sapaventa, Gunnar Tómasson, Anatole Kaletsky, Robert R. Locke, Bill Lucarelli, L. Randall Wray, Mark Weisbrot, Walden Bello, Marvin Brown, Deniz Kellecioglu, Esteban Pérez Caldentey, Matías Vernengo, Thodoris Koutsobinas, David A. Westbrook, Peter Radford, Paul A. David, Richard Smith, Russell Standish, Yeva Nersisyan, Elizabeth Stanton, Jonathan Kirshner, Thomas Wells, Bruce Elmslie, Steve Marglin, Adam Kessler, John Duffield, Mary Mellor, Merijn Knibbe, Michael Hudson, Lars Pålsson Syll, Jane D'Arista, Ali Kadri, Egmont Kakarot-Handtke, Ozgur Gun, George DeMartino, Robert H. Wade, Silla Sigurgeirsdottir, Victor A. Beker, Pavlina R. Tcherneva, Dietmar Peetz, Heribert Genreith, Mazhar Siraj, Hazel Henderson, Nicolas Bouleau, Geoff Davies, D.A. Hollanders, Richard C. Koo, Jorge Rojas, Marshall Auerback, Fernando García-Quero, Fernando López Castellano, Robin Pope and Reinhard Selten, Patrick Spread, Wilson Sy, Fred Moseley, Shimshon Bichler, Johnathan Nitzan, Nikolaos Karagiannis, Alexander G. Kondeas, Roy H. Grieve, Samuel Alexander, Asad

Zaman, L. Frederick Zaman, Avner Offer, Jack Reardon, Yinan Tang, Wolfram Elsner, Torsten Heinrich, Ping Chen, Stuart Birks, Dimitrios Koumparoulis, Arne Heise, Mark Jablonowski, Carlos Guerrero de Lizardi, Norbert Häring, William White, Jonathan Barzilai, David Rosnick, Alan Taylor Harvey, David Hemenway, Ann Pettifor, Dirk Helbing, Douglas Grote, Brett Fiebiger, Thomas Colignatus, M. Shahid Alam, Bryant Chen, Judea Pearl, John Pullen, Tom Mayer, Thomas Oechsle, Emmanuel Saez, Joseph Noko, Joseph Huber, Hubert Buch-Hansen, Brendan Sheehan, C P Chandrasekhar, Heikki Patomäki, Romar Correa, Piet-Hein van Eeghen, Max Koch, John Robinson, Oscar Ugarteche, Taddese Mezgebo, Donald Katzner, Crelis F. Rammelt, Phillip Crisp, John B. Benedetto, Alicia Puyana Mutis, Leon Podkaminer, Michael Kowalik, Mohammad Muaz Jalil, José A. Tapia, Robert W. Parenteau, Alan Harvey, C. T. Kurien, Ib Ravn, Tijo Salverda, Holger Apel, John Jeffrey Zink, Severin Reissl, Christian Flamant, Rainer Kattel, Amit Bhaduri, Kaustav Banerjee, Zahra Karimi Moughari, David R Richardson, Emil Urhammer, Michel Gueldry, Rüya Gökhan Koçer, Hee-Young Shin, Kevin Albertson, John Simister, Tony Syme, Geoff Tily, Ali Abdalla Ali, Alejandro Nadal, Steven Klees, Gary Flomenhoft, Bernard C. Beaudreau, William R. Neil, Ricardo Restrepo Echavarría, Carlos Vazquez, Karen Garzón Sherdek, Paul Spicker, Mouvement des étudiants pour la réforme de l'enseignement en économie, Suzanne Helburn, Martin Zerner, Tanweer Akram, Nelly P. Stromquist, Sashi Sivramkrishna, Ewa Anna Witkowska, Ken Zimmerman, Mariano Torras, C.P. Chandrasekhar, Thanos Skouras, Diego Weisman, Philip George, Stephanie Kelton, Luke Petach, Jørgen Nørgård, Jin Xue, Tim Di Muzio, Leonie Noble, Kazimierz Poznanski, Muhammad Iqbal Anjum, Pasquale Michael Sgro, June Sekera, Michael Joffe, Basil Al-Nakeeb, John F. Tomer, Adam Fforde, Paulo Gala, Jhean Camargo, Guilherme Magacho, Frank M. Salter, Michel S. Zouboulakis, Prabhath Jayasinghe, Robert A. Blecker, Isabel Salat, Nasos Koratzanis, Christos Pierros, Steven Pressman, Eli Cook, John Komlos, J.-C. Spender, Yiannis Kokkinakis, Katharine N. Farrell, John M. Balder, Blair Fix, Constantine E. Passaris, Michael Ellman, Nuno Ornelas Martins, Jason Hickel, Eric Kemp-Benedict, Sivan Kartha, Peter McManners, Richard B. Norgaard, William E. Rees, Joachim H. Spangenberg, Lia Polotzek, Per Espen Stoknes, Imad A. Moosa, Salim Rashid, Richard Vahrenkamp, Dimitri B. Papadimitriou, Michalis Nikiforos, and Gennaro Zezza, Abderrazak Belabes, Phil Armstrong, Bruno Bonizzi, Annina Kaltenbrunner, Jo Michell, Dirk H. Ehnts, Maurice Höfgen, Richard Murphy, Louis-Philippe Rochon, Malcolm Sawyer, Jan Toporowski, Kenneth Austin, Duncan Austin, Kalim Siddiqui, Arthur M. Diamond, Jr., Theodore P. Lianos, John E. Coulter, Gerald Holtham, Jaehee Choi, Girol Karacaoglu, Geoff Crocker, Andri W. Stahel, Gregory A. Daneke, Joaquim Vergés-Jaime, Hardy Hanappi. Rosemary Batt, Patrick Pobuda, Ulrich Thielemann, Tanja von Egan-Krieger, Steve Roth, Ron Wallace.

Articles, comments on and proposals for should be sent to the editor at
pae_news@btinternet.com

Subscriptions to this email journal are free to all members of the World Economics Association (WEA). WEA memberships are free at <http://worldeconomicsassociation.org/>

Back issues of this journal and material related to the PAE movement are available at
www.paecon.net.

To subscribe to this journal go [here](#) (<http://www.feedblitz.com/f/f.fbz?Sub=332386>)

To unsubscribe to this journal go to

<http://www.feedblitz.com/f/f.fbz?EmailRemove=NDUzNDkzMHWzMzIzODZ8cGFIX25ld3NAYnRpbmRlcm5ldC5jb218MTA5OTU4>