

How to transform economics? A philosophical appraisal

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Abstract. Ten years after the global financial crisis there is hardly any evidence that the theories, teaching and policies of mainstream economics have changed. This paper is an attempt to contribute to the greater understanding of this persistence, but also to the discussion on what the requirements are to materialise a transformation in economics, given the dismal outcomes in the world economy. The analytical approach of the paper is to utilise relevant philosophical accounts that point out attributes of dominant discourses, and methodological requirements to supersede an already dominant discourse. The objective is to contribute to an improved understanding of factors that obstruct or construct transformations in a knowledge field such as economics; and thereby contribute to transformation efforts, preferably for a more pluralist and emancipatory economics. Given the complexities and the tensions between different philosophical positions, the conclusions of this appraisal are summarised into five criteria that appear essential to realise a successful transformation in economics: critical juncture; dissimilarity; scholar validation; sensibility; and external power. It is suggested to revise efforts to fulfil these criteria as much, and as soon as possible, given the importance and urgency of changing the trajectory of our economies and societies.

Keywords: philosophy, methodology, emancipation

Introduction

'It is, I think, particularly in periods of acknowledged crisis that scientists have turned to philosophical analysis as a device for unlocking the riddles of their field.'
(Kuhn 1996 [1962]:88)

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The global financial meltdown of 2007-2008 unleashed economic crises of great proportions around the world, but it also helped to unveil major shortcomings in mainstream economics. A two-tier problem became evident: economic crises and a crisis in economics. Intuitively, the turn of events called to mind Thomas Kuhn's famous philosophical narrative, in which structural scientific change takes place in the aftermath of a field-oriented crisis. Such a crisis, in turn, is an outburst of accumulated 'anomalies', or put differently, major frictions between the 'paradigm' theory and reality. A crisis represents fertile ground for another theory to supplant the prevailing paradigm in a scientific field, which is conceptualised as a paradigm shift (Kuhn 1996 [1962]). This is to say that some views are so deeply held that it takes major events to shake them.

However, almost a decade after the outbreak of the Global Financial Crisis (GFC), represented by the bankruptcy declaration of the major financial house, Lehman Brothers, on 15 September 2008, the theories, teaching and policies around economics have shown little evidence of meaningful transformation. To begin with, the mainstream economics curricula have not changed much, even though a number of student groups have been formed to protest the narrowness of their study material (cf. Reardon 2012, Jones 2014, Post-Crash Economics Society 2014). In terms of theory, the picture is less gloomy, but neither is it encouraging (cf. Chang 2014, Farrell and Quiggin 2012, Lawson 2013, Chandrasekhar 2014, Skidelsky 2017). In terms of economic policy, the situation is probably alarming. The policy spectrum seems to have become even narrower during the Great Recession. On the fiscal side, austerity seems to dominate, especially in the Global West. On the monetary side, central banks seem to be cornered around zero — interest rates and inflation rates, where attempts at unconventional measures such as Quantitative Easing (QE) have failed to resolve the stagnant nature of the economic activity (Roubini 2017). Chang (2014) notes that policy reforms have been slow despite the scale of the crisis.

In such an environment, dissenting economists, other scholars, journalists, students and a great number of citizens did, in one way or another, express dismay or outrage at the kind of economics that continues to be played out in classrooms and as policies throughout the world. Numerous economic commentators have pointed out that the dominant neoclassical school of thought in economics is to be blamed for the GFC, and called for a transformation of economics (cf. Stiglitz 2011, Krugman 2012, Heise 2014). Depending on the commentator, the form and magnitude of proposed transformation varied tremendously. In the meantime, a number of discourses, including game theory, behavioural, experimental, Marxian,

Keynesian, post-Keynesian and (new and old) institutional economics, have made efforts to advance their positions in the hope of supplanting spheres of the dominant discourse.

What could be the reasons for the continued lack of transformation in economics? After all, mainstream economics was being criticised long before the GFC. The GFC simply added fuel to such critiques, spurring what should have been stronger momentum for change in economics. Perhaps the problem is on the supply side? But there are plenty of economic discourses around, seemingly fully functional. Perhaps they are not good enough to supplant the current paradigm. If so, who decides which ones are good enough? How are the discourses evaluated? Are they put to the test? What does the decision process look like? Of course, it is plausible that a supplanting process is ongoing, perhaps under the auspices of 'mainstream pluralism', as suggested by Davis (2006), which is encountering a transition period before the complete paradigm shift is complete. It is also plausible that such a shift will occur through even more subtle forms, in such a way that the theoretical properties of mainstream economics prevail in other guises, for instance by offsetting a discourse that shares its fundamental elements of thought, such as new institutional economics. It is also plausible that alternative forces and paradigms are gathering strength and scanning for momentum for a radical or a progressive take-over.

All in all, much remains to be understood in terms of transforming economics. This paper is an attempt to contribute to such an understanding and thereby contribute to the efforts of actually transforming economics. The term 'transformation' should here be understood in a rather broad manner, but one that involves a substantial change in the *content* of mainstream economics. For instance, if mainstream economics has changed so that additional discourses are now included in the widespread dissemination through mass education, substantial research funding, policy influence, popular media appearances, high ranked scholarly publishing, and through other channels, then we have a materialised transformation. However, note that transformation discussed may also involve a negative change; for instance, a greater concentration of the current content of mainstream economics. In other words, deliberations on the actual ingredients of that content fall outside the scope of this paper, unless they are relevant to the objective of this paper: to understand the structures and mechanisms that obstruct or construct transformation in the knowledge field of economics.

Before proceeding further, another clarification of terminology is in order. This paper employs the term 'dominant economic discourse' to denote what is often known as mainstream economics. This type of economics has also a number of other labels: neoclassical, neoliberal, market-liberal, employee-friendly, corporate-friendly, supply-side, orthodox, zombie, fake economics, old-paradigm or, for those who mainly employ the dominant discourse, simply economics. Perhaps one of the reasons for this diversity is because 'economics' is so vast, that by looking in different places it is possible to see very different things' (Backhouse 2010: 11). The labels often differ depending on the vantage point or purpose of the label maker. In this particular case, 'dominant economic discourse' is chosen because it is more suitable for the purpose at hand; there are one or few discourses that are dominant in the wide knowledge field of economics, and our research problem is to explore elements that alter such dominance in favour of other economic discourses. 'Dominant' implies dominance over something or someone, which fits the relevant analytical lens and insinuates that something should change. Secondly, 'dominant' has a sufficiently negative connotation, by contrast to, for instance, the term 'mainstream'; making it applicable to the research objective: transformation in economics. Thirdly, it is sufficiently dynamic, especially when compared to terms such as 'orthodox', which implies a static description — a currently dominating economic discourse may actually change over time. Fourthly, it functions as an umbrella term when juxtaposed with the labels mentioned above.

Furthermore, the term 'discourse' has been chosen because it captures the various expressive and applied forms of the dominant economics, from theory and methodology to education to policy. They are all links in a chain which forms an explicit and implicit line of ideas and theories that are connected and applied to reality — all of which can be captured by the term discourse.

The position of this paper is that there are both intra-scientific (internal) and extra-scientific (external) structures and mechanisms in shaping and transforming economics and the conduct of economists, but that the latter is much more important than the former. The internal sphere involves scholarly discussions, debates, inferences, and other academic activities on contesting theories. The external sphere involves everything else, i.e. factors and activities that influence the content of the specific knowledge field, such as normative influences, financial support, geographical biases, academic prestige, religious considerations, and the like. There are, of course, significant overlaps between the two spheres. In fact, the article argues for the following dynamic interplay between the two spheres:

1. The current dominant economic discourse is far from objective.
2. The dominant economic discourse and other economic discourses are significantly value-, ideology-, and interest-laden.
3. Economic discourses are, therefore, superseded through both intra- and extra-scientific efforts.
4. The relative importance between the intra- and extra-scientific efforts depends on each context with their competing and complementary economic discourses.
5. The current dominant economic discourse is substantially influenced by extra-scientific norms.
6. Therefore, in order to supplant the current dominant economic discourse, dissenting scholars ought to disrupt or dismantle extra-scientific influences.

These positions are validated and further elaborated upon with the objective of gathering solution-oriented inferences about the requirements to transform economics today. The analytical approach below is one that assembles the most relevant philosophical accounts that reveal factors that obstruct and construct transformation within the field of economics. The next section involves a discussion on issues within the spectrum between logical positivism and normative interpretivism. The third section almost entirely abandons logical positivism and instead focuses on extra-scientific factors, relevant to the transformation of economics. The fourth section concludes.

Internal ('objective') factors of transformation

The proponents of the dominant discourse in economics claim to conduct 'positive' or 'objective' economics (cf. Boumans and Davis 2010). In this way, they are indirectly suggesting that any contestations against their type of economics should also be objective, through the methodology of logical positivism. As it will be elaborated below, this involves the process of falsification, which is aimed at an opposed theory, in an 'objective' and 'scientific manner'. In this section, such a position will be dismantled, through two sub-sections. The first one attempts to identify the scholarly features of a dominant theory. The second builds on such features and attempts to identify the scholarly requirements to supersede such dominant theories.

Attributes of a dominant theory

Although scientific change involves an intertwined myriad of factors, entities and individuals, its point of departure usually involves the problem of verisimilitude. Verisimilitude is 'to specify rigorously what it means for one theory to be closer to the truth than another' (Brink 2000). Karl Popper suggested logical objectivism as a route to tackling the problem of comparative verisimilitude (Brink 2000). He suggested that individuals produce scientific theories and knowledge in general but, once created, theories and knowledge do not need 'knowing subjects' to sustain them: they stand on their own as objective structures. Popper proposed tests of falsification in order to overcome verisimilitude. In principle, this involves a situation in which a theory, say T2, has greater verisimilitude than another theory, say T1, which occurs if T2 produces more true consequences and fewer false ones than T1 (Watkins 2000). In a Popperian sense, theories that stand tests of falsification are accepted and may reach dominance in an academic field. However, albeit not consistently nor clear-cut, Popper has seemingly advised employing 'situational analysis' as the methodological appraisal in economics, with particular emphasis on the 'rationality principle' of neoclassical economics (Hands 1985). This may, according to Hands (1985: 87) be 'paradoxical given Popper's stated commitment to methodological monism'. Blaug (1985: 286), however, do not conclude any inconsistency between Popper's position on logical positivism and advise for economics, as 'it is conceivable that social science employs distinctive methods of investigation, involving, for example, the intentions of human agents, and yet that the findings of social scientists should be validated, verified, falsified, or simply confirmed in the same way as the findings of natural scientists. It seems dominant economists have taken this mixed approach as they claim objectivity, but which only plays out under certain, very strict, assumptions and premises that fall under a pre-determined 'rationality'.

Popper's and Popperian methodologies have been criticised from several angles. The criticism usually involves the insurmountable challenge of assessing true and false consequences in each relevant theory, and the non-existence of objectivity (cf. Kuhn 1996 [1962]). One of Popper's most fierce critiques was Thomas Kuhn. His classic 1962 book, *The Structure of Scientific Revolutions*, involved accounts that implied that even the hardest sciences, such as physics, involved normative and external influences. Kuhn's account centres around the concept of 'paradigm', which is basically the dominant discourse in a given scientific field. A paradigm is associated with 'normal science', which involves scientific activities in regular times

(absence of crises). The actual conduct of normal science is regarded as 'puzzle-solving activities'. Furthermore, Kuhn did not regard puzzle-solving activities as unimportant, only that they are usually quite straightforward since they are based on premises grounded by the paradigm. He also labelled them 'mopping-up operations', but saw them as essential to the development of science. He argued that the focus on relatively small esoteric problems, forces scientists to investigate some part of nature in a detail and depth that would otherwise be unimaginable' (Kuhn 1996 [1962]).

However, Kuhn's understanding of science and scientific revolutions were broader than strictly scholar activities. He described the notion of 'paradigm' in many ways. Masterman (1970) outlined that Kuhn (1962) used 21 synonyms to the concept of 'paradigm'. Intuitively, one would take this account as a devastating criticism, but it is plausible to see them as strengths, which is indeed the position of Masterman (1970). She went on to group the 21 senses of paradigms into three categories: 'metaphysical' or 'metaparadigms'; 'sociological paradigms'; and 'artefact paradigms' or 'construct paradigms'. This elaboration upon the three categories may be applied to economics and economists.

Regarding the first category, Masterman (1970) draw attention to the following phrases which described 'paradigm' in the pages of Kuhn's classic book: 'a set of beliefs' (Kuhn 1962: 4); 'a myth' (p. 2); 'a successful metaphysical speculation' (p. 17); 'a standard' (p. 102); 'a new way of seeing' (pp. 117-21); 'an organising principle governing perception itself' (p. 120); 'a map' (p. 128); and 'something which determines a larger area of reality.' (p. 128).

In regard to the second category, of 'sociological paradigms', Masterman (1970) points out Kuhn's formulation as 'something which can function when the theory is not there ... as a set of scientific habits'. In this way, Masterman equates the sociological character of paradigms to Kuhn's notion of 'normal science', in which a set of habits, whether intellectual, verbal, behavioural, mechanical or technological, are performed by a particular community conducting 'puzzle-solving activities' from a set of basic vantage points.

For the third category, Masterman (1970) highlights how Kuhn (1962) holds that 'a paradigm is an artefact which can be used as a puzzle-solving device, not a metaphysical world-view'. Masterman adds that 'the constructed sense of 'paradigm', and not the metaphysical sense or meta-paradigm, is the fundamental one. For only with an artefact you can solve puzzles'. As such, Masterman argues the loosely

defined paradigm is an instrument in the hands of its community, be they scholars, research officers, policy makers, politicians or others. Masterman takes, in this way, the note of the overlap to extra-scientific spheres.

Although Kuhn's account of the dominant discourse was mainly based on observations from the natural sciences, scholars have also applied it to the social sciences, and Kuhn actually welcomed such endeavours (Kuhn 1996 [1962]), albeit with the caveat that '...it remains an open question what parts of social science have yet acquired such paradigms at all. History suggests that the road to a firm research consensus is extraordinarily arduous.' However, Kuhn (1996 [1962]) did emphasise the importance of textbooks, elementary and advanced, in establishing and nurturing a paradigm. The centrality of textbooks in economics is widely recognised by economists (cf. Fullbrook 2010).

Kuhn did also encounter important criticisms. Imre Lakatos not only criticised Kuhn but presented yet another philosophical account of scientific conduct and related change. Lakatos (1970) argued that Kuhn was a 'sociologist of knowledge', and concluded that his breaking down of science into irrationalism and scientific change was a kind of religious conversion. According to Lakatos (1970), the history of science is not the history of theories but rather the history of 'research programmes', which may well be perceived as conceptual frameworks or scientific languages. In his view, research programmes consist of 'methodological rules: some tell us what paths of research to avoid (negative heuristic), and others what paths to pursue (positive heuristic)' (Lakatos 1970). The researches that scientists avoided were the basic fundamentals or the 'hard-core' of particular research programmes. These elements were taken for granted, and research was instead conducted by articulating and testing 'auxiliary hypotheses', which formed a 'protective belt' around the hard-core. According to Lakatos, it is this protective belt of auxiliary hypotheses that face tests, get adjusted, re-adjusted, or even completely replaced if the hard-core falls. Furthermore, the protective belt, and thus the research programme, ought to be seen as successful if the research tests create a 'progressive problem shift', and are unsuccessful if it leads to a 'degenerative problem shift'.

Another prominent critique in the philosophy of science was Paul Feyerabend. He argued that Kuhn's account is ambiguous in the sense that it lends support to both methodological prescriptions and descriptions. If science functions in such manner, with one dominating paradigm, then scientists are basically forced to adhere to one theory. This was alarming to Feyerabend since it would mean active engagement in restricting criticism, which in turn reduces the number of comprehensive theories to

one. Instead, Feyerabend agreed with Popper that science is advanced by the critical discussion of alternative views, but he also took the cue from Kuhn's postulation (which he believed was unintentional) of tenacious periods. He combined the two positions and argued that they represent a synthesis, which is represented by Lakatos' assertion that 'proliferation and tenacity do not belong to successive periods of the history of science, but are always copresent' (Feyerabend 1970). In this manner, Feyerabend was able to combine the three distinct accounts of Popper, Kuhn and Lakatos into a vantage point on the dominance of theory. This is not to say Feyerabend developed a new consistent analytical framework; his ambition seemed to be more modest, yet practical, advocating for pluralism of theories, approaches and methods.

Superseding the dominant theory

Kuhn (1970b) did not share Popper's position on the methodology of falsification, as he maintained that paradigm defenders will devise numerous articulations and ad hoc modifications of their theory. The pressure to uphold the prevailing paradigm is tremendous, even in the face of mounting evidence (Kuhn 1996 [1962], Feyerabend 1970). It is partly for such reasons dissenting economists have failed to supplant the dominant discourse, despite having published a high number of 'falsifying' scholarly material against it. This analysis has been applied to mainstream economics by a number of scholars (cf. Arnsperger and Varoufakis 2006, Mirowski 2013, Quiggin 2010).

According to Kuhn (1996 [1962]:21), 'the explanation must, in the final analysis, be psychological or sociological ... a description of a value system, an ideology, together with an analysis of the institutions through which that system is transmitted and enforced'. Kuhn (1996 [1962]) argued that a paradigm will be supplanted in the aftermath of a paradigmatic crisis, which occurs when a large set of anomalies have accumulated within the paradigm. These anomalies form a major crisis, which leads to a paradigm shift, i.e. the emergence and acceptance of a new dominant theory. Kuhn did, however, acknowledge that there may be more than one single paradigm over a transitory period. Interestingly, he posited that social sciences, in particular, may be dominated by several strands of theories as paradigms at the same time. In an exercise into the question of how such a paradigm shift actually happens, Kuhn (1970a:3) asked the following rhetorical questions:

How am I to persuade sir Karl [Popper], who knows everything I know about scientific development and who has somewhere or other said it, that what he calls a duck can be seen as a rabbit? How am I to show him what it would be like to wear my spectacles when he has already learned to look at everything I can point to through his own? In this situation, a change in strategy is called for, ...

The strategy Kuhn (1970) chose was the one of finding mutual locutions as entry points to override contextual differences. However, Popper's response (1970) in the same publication proved the strategy futile, as he disowned most of Kuhn's narrative. This 'failure' seems to have been expected by Kuhn, as he had stressed the concept of incommensurability. According to Kuhn, the strategy of persuasion must overcome the fact that different paradigm members communicate differently, even if they use the same vocabulary, the meaning of words are usually different. As they speak from incommensurable viewpoints, 'how can they even hope to talk together much less to be persuasive' (Kuhn 1996 [1962]:200). The communication between counterparties will, therefore, be only partial. To overcome this problem, Kuhn suggested that the participants recognise each other as members of language communities and become translators. Of course, Kuhn recognised that persuasion may not follow, and conversion may not follow even if persuasion were successful (p. 202). According to Kuhn (1996 [1962]:8), 'competition between segments of the scientific community is the only historical process that ever actually results in the rejection of one previously accepted theory or in the adoption of another.'

It was with such formulations that Kuhn opened the door to the influence of individual and social factors in scientific change through persuasion, conversion, or the lack thereof, so that he felt accused of subjectivity and even irrationality, although he pointed out that he was simply describing his observations (Kuhn 1996 [1962]). However, Kuhn (1970b:19) admitted that there is a lot he did not understand with regard to the questions of 'how do the scientists make the choice between competing theories? [And] how are we to understand the way in which science does progress?'

It was clear that these sociological aspects of science were difficult to accept for Imre Lakatos, for whom theory-change and theory refutations were 'rational' processes (Lakatos 1970). His methodology of research programmes embraced the notion of sophisticated falsification. This is a process in which contesting theories and research programmes prove 'excess corroboration' through the employment of a wide range of methodologies involving pluralist and long-term appraisals. As such, a research programme (a meta-theory with its auxiliary theories) can be

supplanted only if an alternative research programme has exhibited a higher degree of theoretical and empirical progressiveness, i.e. sustained excess corroboration. By contrast, 'naive falsification' involves a process in which a theory is appraised in an isolated manner (Lakatos 1970). According to Lakatos (1970:123), 'the only relevant evidence is the evidence anticipated by a theory, and empiricalness (or scientific character) and theoretical progress are inseparably connected.' Theories must, therefore, anticipate 'novel facts', and empirics must exhibit these facts - only then will a research programme reach a great (dominant) acceptance.

Rosenberg (1986) argues that Lakatos does a good job in capturing the long history of changing dominance between different economics discourse, but that he is counterproductive when it comes to appraisal of economic theories and assessment of scientific status. This is because of Lakatos' dictum that since research programmes may take decades to take off and become empirically progressive, appraisal attempts should be lenient over the transition period. However, Weintraub (1987) argues against such strict interpretations of Lakatos work and instead suggests appropriate modifications to it so that it becomes useful in economic methodology. For instance, according to Weintraub, economics is dominated by the 'neo-Walrasian' research program, which has a hard-core consisting of several propositions, and its protective belt involves the various application of the hard-core heuristics (Rosenberg 1986).

In other words, Lakatos and Popper viewed scientific transformations as strictly an internal affair, contrasting Kuhn's and Feyerabend's leanings on the role of extra-scientific factors and behaviour. Argyrous (1992) helped to clarify the two frictions from a Kuhnian perspective, arguing that Kuhn did not mean scientists should abandon 'standards'. Instead, Kuhn was simply trying to explain that the processes of theory choice are not only a matter of absolute or objective mechanisms, such as falsification and verification; there are also sociological and psychological factors at play.

In addition, Argyrous (1992) argues that Kuhn left the specific historical circumstances guiding normal science open to discussion. In fact, Kuhn pointed out that there are similarities between political and scientific development, both of which are related to economics. For instance, a major political upheaval re-codifies institutional values in the form of a written constitution. This constitution is then applied in the operations of society in a number of ways, particularly through judicial and parliamentary review. In this scenario, the constitution may be amended as the values of the power holders change. More importantly, such political constitutions and associated institutions are essentially ideological in their

construction, and this is essentially true for scientific paradigms as well, especially for economics (Argyrous 1992). In relation to that, Heise (2014) argues that all of Kuhn's criteria for scientific revolutions were, in the aftermath of the GFC, at hand: 'economic crisis, alternative theory (Keynesian), and cultural dominance (Keynes and Cambridge)'. However, Heise (2014) also recognises that Lakatos' account of competing for research programmes does a better job in reflecting dynamic changes to dominance between economic discourses, but that it disregards power imbalances.

It is to such political, sociological, psychological, historical and ideological influences that will be explored below in our pursuit of exploring underlying premises that facilitate factors which may obstruct or construct transformations in economics.

External ('normative') factors of transformation

'No discipline is remotely as significant to ideological shifts as economics; and, as stressed at the outset, no discipline conducts its business under the relentless ideological scrutiny and pressure that economics does.' (Ross 2012: 246-247)

Kincaid, Dupré and Wylie (2007:10) point out that 'after Kuhn, a flood of studies in history, philosophy, and sociology of science showed how norms and other extra-scientific forces influence even the hardest of sciences.' This section aims to assess such influences relevant to transformations in economics. The findings are organised into the normative areas: values, ideologies and interests. The main point is that such norms construct and obstruct transformations in economics since they represent barriers to understand and adopt theories and discourses that are different from the scholar's own. The objective here is to understand how such norms play out within the dominant economic discourse so to inform the character of efforts necessary to supplant it.

Values in economic enquiry

In his book *Moral Relativism*, Lukes (2008) concludes that when people engage in moral practices, they will do so for a multitude of reasons, including the plurality of values. This conclusion is based on the general observation that diversity is a result of moral relativism. This diversity may sometimes involve incompatibility between

different (conflicting) values (Lukes 2008). Note that this is analogous to Kuhn's concept of incommensurability, mentioned above.

Lukes (2008) further points out that values are a term widely used but rarely analysed. Values emerge in our consciousness when pondering upon how to justify our choices, and are subjective. They are distinct from preferences and from tastes because values involve what we care about, which, in turn, implies rationalisation for the choices we make. This does not necessarily mean that we choose our values, as we may simply find them inescapable. Moreover, what we say about our values does not always correspond to actual values in reality; we may be deceiving others or ourselves. Neither we do consistently live in a way that matches the values we have adopted or claimed to have adopted. In fact, if there is a large gap between the talk and the walk, there are reasons to doubt our value stream. If such gaps persist and become very random, one may again doubt that they are real values, rather than impulses or passing whims (Lukes 2008).

The claim in mainstream economics textbooks of conducting a 'positive' economics — a value-free discipline, does not hold for such reasons. Boumans and Davis (2010) outline the following four ways in which value judgements play a role in economics.

- Methodological value judgments
 - Choice of subject matter
 - Methods of investigation
 - Standards of validity
- The value-ladenness of economic concepts and explanations
- The ethical commitments of rational choice explanations
- Accommodating ethical values and norms

Methodological value judgements can be evaluated with respect to methods and approaches employed, which make ethical judgements about moral right and wrong. For instance, the methodologically positive (value-free) position postulated in mainstream economics textbooks is in itself a value judgement, since it tells the reader what is best practice. Furthermore, Boumans and Davis (2010) identify three kinds of methodological value judgements. The first involves the choice of subject matter, in which the economist picks topics worthy of investigation. The relative worthiness, in turn, may follow from certain ethical views, professional ambitions, personal capacity etc. Economists also make methodological value judgements through their methods of investigation. For instance, one economist

may employ rational choice theory to frame consumer preferences, while another may employ context-related frameworks, such as social habits, to investigate the same topic. Standards of validity are the third channel of methodological value judgements. This involves the criteria, standards and norms that assess the validity of the outcomes of investigations. All in all, many economists recognise the value-ladenness inherent in methodology, but claim that the content of economics is value-neutral. The claim is, then, that only methodological value-ladenness exists in economics (Boumans and Davis 2010).

However, the second way in which value judgements play a role in economics is through the value-ladenness of economic concepts and explanations. Boumans and Davis (2010) cite Gunnar Myrdal who argued that even 'is' statements conceal evaluative terms that imply hidden 'ought to' statements. For instance, perfect competition is described with positive connotations in standard economics, and thus carry value-ladenness as it implicitly advocates for competition, which may not always be desirable. In a linguistic sense, it may contrast with the social connotation of the word competition, which is sometimes negative. It is difficult to make a term simply a technical term since it must be relevant in explaining the real economy. The extent of this problem is probably best understood by examining the role of value-ladenness in individual research output, theories and research programmes.

Furthermore, Boumans and Davis (2010) draw attention to the ethical commitments of rational choice explanations. These explanations reinforce the conditions individual preferences ought to satisfy in order to be classified as rational. And since rationality has a positive connotation of objectivity, the 'is' theory is actually an 'ought to' theory. This is because most people are expected to strive for rationality. This 'rationality' is also described in terms of maximising individual utility, which is said to be a matter of acting selfishly. But, as argued by Boumans and Davis (2010), such a chain of reasoning is a mistake. This is because there are several variants of rationality, for instance, those based on firm beliefs, habits (without particular considerations), altruism or other-regarding ethical viewpoints. What is more important, people may find other means than selfishness to maximise their utility (Gintis, Bowles, Boy & Fehr 2005). Even though the ethical commitments in mainstream economics may accommodate such considerations indirectly through commonly used *ceteris paribus* clauses, Boumans and Davis (2010) point out that at the normative heart of the rational choice theory lies a strongly value-laden principle, in which a particular set of moral judgments, especially strict egoism, are prescribed.

A fourth way in which value-ladenness is embedded within economics involves accommodating ethical values and norms - the extent and form to which economic explanation reflects the moral landscape. If it is supposed that people who choose to work in civil society organisations do so because they are motivated by their ethical goals, then wage differences ought to be explained also by these ethical values. However, as with non-egoist preferences, economic explanations usually ignore such ethical values. In similar fashion, there are presupposed value-laden premises in theory and policy. For instance, implicit in the idea of an economic contract is the idea that people ought to observe the norm of complying with contracts. At the same time, economic contracts presuppose the existence of private property. Thus, one reason people believe contracts should be observed is their respect for the institution of private property. In doing so, economic explanations incorporate value judgements and ethical views of right and wrong. Indeed, the latter is so frequently prevailing in economics that it is difficult to say where economics ends and ethics begins (Boumans and Davis 2010).

On this issue, Hands (2013) points out the term reflexivity (a similar concept to self-fulfilling beliefs and performativity). He argues that reflexivity has always formed part of scientific studies and the sociology of scientific knowledge literature, implying that science too is a social activity organised in a similar way to any other social activity. As such, the beliefs of scholars are determined by the same social forces and relations that determine the beliefs of the members of any other society. Because the scholar community is also a community of scholars, their own beliefs are influenced by social factors (Hands 2013).

Ideology in economic enquiry

Ross (2012) assesses the dichotomy between positive and normative economics from a different angle, asking 'to what extent is economic theory ideologically biased?' He starts off by recognising that 'establishment economics' is actively hated by a substantial amount of people. One of the reasons for this hatred involves economics functioning as an 'ideology produced for the benefit of the powerful', which in turn is closely related to the 'sympathy to the market' (Ross 2012:7). This type of criticism is, in turn, divided into two lines of thought: one in which establishment economics is seen as an ideology, the other in which economics is seen as a tool for ideology.

Ideology is closely associated with economics simply because of the clear and present implications the field has on socioeconomic outcomes. For this reason, it is

intuitively easy to categorise economics as politics and ideology (Ross 2012, Doppelt 2007). Another reason that strengthens this stance is that 'secular ideology is exactly as old as political economy, or economics'; they have been rooted and cultivated together since the rise of mass markets and industrialisation (Ross 2012:4). Such a feedback-looped historiography between two concepts is, more or less, consistent with the idea that dominant popular ideology moralises whatever policy perspectives scientific economists find valid. This would imply that economists influence policy significantly more than the other way around. According to Ross (2012), there are some grounds to this statement as there is an observable lag between academic and popular enthusiasm for large-scale economic policy frameworks. At the same time, Ross (2012) points out that ideologies coalesce gradually and cause academic discourses to change as well. In doing so, scientific fields and ideologies share similar ideas and knowledge, being products of common historical causes.

Neither Ross (2012) nor Doppelt (2007) accepts that economics is purely equal to ideology and politics. In the first case, Ross (2012) concludes that it cannot be proven that establishment economics promotes markets at all cost. Doppelt (2007), on the other hand, concludes that it can be shown that even when economic enquiry is sparked by political ambitions, the end product of the enquiry may have important scientific knowledge properties. In the end, however, both accept the high level of ideology-ladenness within economics.

Schutz (2011) argues that mainstream economics is the most politically or ideologically conservative discourse of the social sciences because economists scrutinise the capitalist economy far less than other social scientists. But Schutz (2011:15) remarks that neoclassical theory itself is, arguably, 'not necessarily 'ideology-bound' but merely a tool, useful for some things and harmful for others.'

Lawson (2012) argues that mainstream assumptions and categories are couched in terms of economic systems as a whole, while being mainly designed to achieve consistency at the level of modelling rather than coherence with the world in which we live. Lawson (2012) holds that the insistence on always employing mathematical modelling and methods is also a form of ideology, thus cementing the primary mainstream deficiencies within the economic content. Mathematical modelling can be said to account for mainstream inadequacies, whether couched in terms of explanatory failure, unrealistic formulations or the project's lack of direction; whether the economic focus is the system as a whole or very partial 'micro' situations; whether the modellers are supporters or not of the status quo; whether or not data are employed; preoccupation with the substance of the latest fad and

fashion, and so on. This ideology, according to Lawson (2012), usually involves 'a presumption of an event-regularity-seeking (and so prediction-oriented) conception of science along with the complementary belief that mathematics is closely aligned with, and indeed essential to, such a science.'

Backhouse (2010) outlines a simple but different take on the issue of ideology and mainstream economics. Retelling a story in which Alan Greenspan, the Chairperson of the Federal Reserve during the years 1987 - 2006, was questioned by a US congressional committee on 23 October 2008, just after the onset of the global financial crisis. A committee member asked:

'You found that your world, your ideology, was not right - it was not working?' To which Greenspan replied 'absolutely, precisely. You know that's precisely the reason I was shocked because I have been going for forty years or more with very considerable evidence that it was working exceptionally well.'

Backhouse (2010:183) draws attention to the fact that 'Greenspan concedes both that his position was an ideology and that it was buttressed by considerable evidence - it was not that he held a view that was determined by his ideology against the evidence, the two reinforced each other.' But it may be worthwhile to ponder upon the question: what kind of 'evidence' was Greenspan paying attention to? Given our findings above, it is very likely that he paid attention to the kind of evidence that supported his ideology, which also happened to be the dominant one.

On this note, Fullbrook (2014) reminds us that social sciences, and economics especially, are ultimately a means to preserve or reconstruct basic realities. Different theoretical approaches to economics present different sets of choices, real or imagined, to be chosen and acted upon. Each of these sets of choices will never equally favour every group in society or every set of values. It is the intrinsic nature of every approach to economic theory to favour some groups in society over others. As a consequence, all economic enquiry and analyses are heavily loaded with normative implications, and are effectively ideological moves.

If ideology is embedded within economics, there is a lot at stake, as it opens the gate to interests.

Interests in economic enquiry

Human beings cannot disentangle themselves from values and ideologies, not even when they conduct scientific enquiry. What is more, values and ideology inform

the form and direction of interests. Interests play out through the bi-directional processes of scientific funding, recognition, patronage, and the distribution of positive or negative prejudice, for instance by ethnicity, gender, sexual orientation, religion, etc. (cf. Doppelt 2007, Kellecioglu 2010).

Usually, 'interests' is the common answer to the question of 'what causes people act the way they do?' (Swedberg 2005). Although interests are central to human conduct, including scientific conduct, there are few theories on them. In mainstream economics, the concept of rent-seeking touches upon the topic. In political science, there are theories from the perspective of interest groups and their advocacy work. One would expect that it is in sociology that the issue would garner the most direct attention, but Swedberg (2005) and Yearly (2005) conclude that there is no single, well-established theory of interests in sociology. However, at the minimum, it is recognised that interests sponsor beliefs, including scientific knowledge, while beliefs give legitimacy to interests. These two notions, therefore, reinforce each other in a continuous feedback loop (Yearly 2005).

Barke (2003) suggests the following statement to highlight the importance of interests and other external forces in science:

If science institutions engage in

- the aggregation of interests,
- competition for resources,
- reliance on leaders, and
- the formation of compromises and coalitions,

then they engage in political activity.'

Barke (2003) further points out that nowadays it is well-recognised that interests abound in the scholar community, as do political language and authority. The issue of authority involves conflicts between internal and external control, and on the roles of external interests rather than on the politics at work within science. This is because the world of science involves complex accumulations of influence, together with overt political power. For instance, the American science community may appear egalitarian, but is actually dominated by specific elites. The 'leaders' define acceptable questions and methods while influencing the education of newcomers, determining the allocation of panels, publications and grants. In particular, such leaders marginalise those who refuse to be led.

Furthermore, special representatives act at the interface between science and policy so that scientific institutions translate professional interests into policy. Indeed, it may well be that the specific issue at stake is a scientific authority, defined as an inseparable combination of technical capacity and social power. The ambition is then to achieve a monopoly over scientific competence, in the sense of a particular agent's socially-recognised capacity to speak and act legitimately on scientific matters in wider society (Barke 2003). In this way, power authority is facilitated for or against specific discourses.

Conclusions and recommendations

The present paper has reviewed philosophical accounts on the theoretical attributes necessary for a theory to reach dominance in a scientific field. It also provided an overview of different findings from the field of Philosophy of Science on how a dominant theory may be supplanted by other theories. However, the intra-scientific accounts displayed cracks into the extra-scientific realm, from which normative influences help to determine the dominance of a theory and its likelihood of being overthrown by other theories. In particular, such influences are expressed through values, ideologies, and interests; by economists and other scholars. In the end, it could be concluded, or rather re-affirmed, that the dominance of a specific theory within its knowledge field also hinges on normative demonstrations of superiority.

Economics is more influenced by norms than any other academic field, especially when compared with the natural sciences. This is because economics is closely related to our economy and general well-being, making it more value-, ideology- and interest-laden, compared to other fields. Therefore, Kuhn's descriptions of what constitutes a paradigm, as explained by Masterman, are rather fitting to the dominant discourse in economics. In particular, it is 'a set of beliefs', 'an organising principle governing perception itself', 'a set of scientific habits', that are characterised by 'normal science' and 'puzzle-solving activities'. It is also fitting to conclude that economic discourses are instruments in the hands of its community, be they scholars, research officers, policymakers, politicians, or others. Moreover, dominant economics also uses textbooks widely, which was seen as an indicator for the existence of a paradigm, according to Kuhn.

However, it is plausible to apply such normative characteristics of the discourse at hand to the 'positive' Lakatosian theory of 'research programmes'. After all, the dominant economic discourse does involve a 'hard-core' protected by 'auxiliary

hypotheses', as well as positive and negative heuristics. The hard-core is represented by the assumptions embedded in the current dominant economic system: capitalism, both in theory and practice. This hard-core also include its system of ethics (strict egoism, competition, and calculative rationality), as well as its political system, in which employers are favoured over employees, corporations favoured over governments and economic production over the natural environment. The auxiliary hypotheses involve scholarly and non-scholarly fine-tuning and strengthening activities of the hard-core, such as monetarism, rational choice theory, econometrics, green consumerism, etc. The heuristics are positive for these auxiliary theories and negative about the hard-core, which is simply taken for granted. In reality, the hard-core and its auxiliary theories may not be consistent with each other upon closer scrutiny, but its practitioners will attempt to stitch them together as best as they can. This is all and well if conducted with honesty, clarity and transparency. However, our findings show that the dominant economics involves a significant amount of undeclared values, ideologies, and interests, contrasting the claim on objectivity.

This means that economists adhering to the dominant discourse (more than dissenting economists) possess a mix of naivety and dishonesty about the level of their objectivity. More importantly, undeclared norms obstruct transformation in economics since they create an illusion of impartiality and scientific standards, which makes it difficult to support the case for alternatives. This is because the features of the dominant economic discourse also reflect the economic system in the real world. It follows that we are able to conclude that the dominant economic discourse (and probably other discourses, as well) are both a tool for ideology and *an* ideology. In similar fashion, economics is not only a tool in favouring a specific set of ethical strands, but also *a* system of ethics. This would also be acceptable, as research is intended to serve its external spheres, if the real-world economy were not characterised by extreme imbalances, such as extreme poverty, inequality and wealth; in the midst of substantial environmental degradation and animal extinction.

From a transformative point of view, if dissenting attacks are mounted against the hard-core, there is a protective belt with a large number of justifications employed in defence of the hard-core. If, on the other hand, the protective belt is intellectually attacked, the hard-core may withstand through justifications of the prevailing hard-core (the economic system, in this case). However, this does not lead to an inference in which saying that attacking both areas is the right course of action to deliver

transformations. The presence of external factors will limit such successes as they are evidently more powerful than internal ones. Therefore, it does suggest that it is important that dissent should take place against both the hard-core (structures) and the auxiliary spheres (symptoms), but through both internal and external spheres. In fact, given the character of the current dominant economics, the external sphere is relatively more important.

Our findings above suggest that it is important to adhere to quality standards, showcase better solutions to problems, and make a convincing case for your dissenting theory or discourse to relevant stakeholders; all of which will face scholar scrutiny and numerous hurdles in the form of normative influences. This conclusion also entails a flipside: dissenting scholars should minimise problem-oriented and meaningless intellectual exercises. Dissent should be solution-oriented and preferably transcend incommensurability; by becoming 'translators' between members of 'language communities'. However, this approach should be explored when the likelihood of constructive communication and prospect of 'mutual locations' are reasonably high. Otherwise, it may be a waste of valuable time and energy. It goes without saying that dominant economists and other protectors of the status quo are unlikely to alter their positions to allow alternative theories, methodologies, and policies that influence their research community and reality.

All in all, the determinants of economics are evidently quite numerous and complex. It may be valuable to organise the requirements through a set of criteria, or a set of conditions that are necessary to fulfil. The following list is based on the philosophical appraisal above, and is therefore not exhaustive, but hopefully informative and inspiring in the attempt to transform economics:

- critical juncture (crisis)
- dissimilarity
- scholar validation
- sensibility (to the prevailing values, ideologies, interests)
- external power

The first criterion, critical juncture, should not be seen as exogenously given, it should be seen as something that can be created, or rather established. The GFC should indeed be seen as a critical juncture, as it involved severe economic disturbances, but there are a large number of crises around the world today, which are all, more or less, linked together to form one massive, overarching crisis. There is also an overlapping crisis in humanity, with severe power imbalances between

various groups, classes, sexes, ethnicities, as well as environmental crises and wars. In other words, there is a single global economic crisis formed by numerous crises around the world.

The second criterion, dissimilarity, refers to meta-theories and their auxiliary theories that are different from the dominant economic discourse. If they are to gain ground in economics, two lines of efforts should be pursued: revealing and debunking the detrimental ethical assumptions and elite-oriented policy paths of the dominant discourse and its associate economic system; while putting forth discourses that are based on the diversity of humanity's ethical behaviour, together with superior policy options. Of course, such efforts are already being made, but it may be advisable to reassess, revise, and expand upon such actions. Furthermore, although dissimilarity implies diversity, the discussion above suggests that it may be worthwhile to find unity of purpose, such as a transformative interest.

The third criterion, sensibility, refers to the manner in which a discourse is successfully made more appealing to sufficiently large numbers of supportive individuals, organisations, and other groups. It further involves finding mutual locutions between prevailing and alternative cognitive maps, while offering solutions to specific problems to specific groups. It is of vital importance in order to amass popular support, but also from other scholars, journalists, activists, etc. Sensibility also involves improved efforts in persuasion and communication of dissimilar ideas, perspectives, theories, and discourses, so to influence the character and substance of prevailing norms, and possibly reconcile them.

The fourth criterion, scholar validation, involves the collegial support and endorsements given to contesting theories and discourses. To strengthen and enhance such endorsements, it may be worthwhile to further organise through various associations, business entities, think tanks, political parties, and academic institutions. If the three criteria above are sufficiently convincing, then this criterion should be a sophisticated extension of them. Here, the continued and expanded communication and intellectual exchange between dissimilar discourses play an important role, especially in making the alternatives stronger and more coherent. Strategic collective action by dissenting scholars is imperative to minimise duplication of efforts, and maximise complementary efforts in the transformative project.

The fifth element, external power, is probably the most important one, given the normative connection between scholars of the dominant economic discourse

and the dominant economic system: excessive and elite-oriented capitalism. To be clear, theories that are well-suited for the popular classes are not likely to be accommodated, financially supported, and appropriated by the powerful classes. Therefore, dissenting scholars have to pursue other channels and groups to gain support from external sources, for instance from sympathetic civil society organisations, scholar associations, journalists, politicians, business people, etc.

All in all, the greater the fulfilment of these requirements, the greater the likelihood of transforming economics. Although the appraisal above provides the theoretical substance, more research would be useful in order to further elaborate upon them, for instance by examining past, recent or ongoing transformation efforts. This is especially important given that dominant elites are likely to strengthen their defences and counter-attack at the same time. After all, they are aware that for others, the struggle to transform economics is not only imperative, but also very urgent.

References

- Argyrous, G. (1992), 'Kuhn's paradigms and neoclassical economics', *Economics and Philosophy*, 8 (02), 231-248.
- Argyrous, G. (1994), 'Kuhn's paradigms and neoclassical economics: Reply to Dow', *Economics and Philosophy*, 10 (01), 123.
- Arnsperger, C. and Varoufakis, Y. (2006), 'What is neoclassical economics? - The three axioms responsible for its theoretical oeuvre, practical irrelevance and, thus, discursive power', *Post-Autistic Economics Review*, 38 (1).
- Backhouse, R. (2010), *The puzzle of modern economics: Science or ideology*, New York, US: Cambridge University Press.
- Barke, R.P. (2003), 'Politics and interests in the republic of science', *Minerva*, 41 (4), 305-325.
- Boumans, M. & Davis, J.B. (2010), *Economic methodology: understanding economics as a science*, Basingstoke, UK: Palgrave Macmillan.
- Blaug, M. (1985), 'Comment on D. Wade Hands, "Karl Popper and economic methodology: a new look"', *Economics and Philosophy*, 1, 286-288.

Brink, C. (2000), 'Verisimilitude', in W. Newton-Smith (ed.), *A Companion to the Philosophy of Science*, Cornwall, UK: Blackwell Publishers.

Chang, H. (2014), *Economics - a user's guide*. London, UK: Pelican, an imprint of Penguin Books.

Chandrasekhar, C.P. (2014), 'Open access vs academic power', *Real-World Economics Review*, (66) 127-130.

Davis, J.B. (2006), 'The turn in economics: neoclassical dominance to mainstream pluralism?', *Journal of Institutional Economics*, 2 (1), 1-20.

Doppelt, G. (2007), 'The value-ladenness of scientific knowledge', in H. Kincaid, J. Dupré, A. Wylie (eds.), *Value-Free Science? Ideals and Illusions*, New York, US: Oxford University Press, pp. 188-217.

Farrell, H. and Quiggin, J. (2012), *Consensus, dissensus and economic ideas: The rise and fall of Keynesianism during the economic crisis*. Queensland, Australia: University of Queensland, School of Economics.

Feyerabend, K. (1970), 'Consolations for the specialist', in I. Lakatos and A. Musgrave (eds) *Criticism and the growth of knowledge*, London, UK: Cambridge University Press, pp. 197-230.

Fullbrook, E. (2010), 'How to bring economics into the 3rd millennium by 2020', *Real-world economics review*, (54), 89-102.

Fullbrook, E. (2014), 'New Paradigm Economics versus Old Paradigm Economics: Interview with Edward Fullbrook, Conducted by Paul Rosenberg (13 January 2014)', *Real-World Economics Review*, (66), 131-143.

Gintis, H., Bowles, S., Boy, R., and Fehr, E. (2005), *Moral Sentiments and Material Interests*, Cambridge, US: MIT Press.

Hands, D.W. (1985), 'Karl Popper and economic methodology: a new look', *Economics and Philosophy*, (1), 83-99.

Hands, D.W. (2013), 'Introduction to symposium on reflexivity and economics: George Soros's theory of reflexivity and the methodology of economic science', *Journal of Economic Methodology*, 20 (4), 303-308.

- Heise, A. (2014), 'The Future of Economics in a Lakatos–Bourdieu Framework', *International Journal of Political Economy*, 43 (3), 70-93.
- Jones, C. (2014), 'Economics: change of course', *The Financial Times*, 16 May.
- Kellecioglu, D. (2010), 'Why some countries are poor and some rich - a non-Eurocentric view', *Real-World Economics Review*, (52), 40-53.
- Kincaid, H., Dupré, J., and Wylie, A. (2007), *Value-free science? ideals and illusions*, New York, US: Oxford University Press.
- Krugman, P. (2012), 'Economics in the crisis', *The New York Times*, 5 March.
- Kuhn, T.S. (1970a), 'Logic of discovery or psychology of research?', in I. Lakatos & A. Musgrave (eds), *Criticism and the growth of knowledge*, London, UK: Cambridge University Press, pp. 1-24.
- Kuhn, T.S. (1970b), 'Reflections on my critics', in I. Lakatos & A. Musgrave (eds.), *Criticism and the growth of knowledge*, London, UK: Cambridge University Press, pp. 231-278.
- Kuhn, T.S. (1996 [1962]), *The structure of scientific revolutions*, 3rd ed., Chicago, US: The University of Chicago Press.
- Lakatos, I. (1970), 'Falsification and the methodology of scientific research programmes', in I. Lakatos & A. Musgrave (eds), *Criticism and the growth of knowledge*, London, UK: Cambridge University Press, pp. 91-196.
- Lawson, T. (2012), 'Mathematical modelling and ideology in the economics academy: Competing explanations of the failings of the modern discipline', *Economic Thought*, 1 (1), 3-22.
- Lawson, T. (2013), 'What is this 'school' called neoclassical economics?', *Cambridge Journal of Economics*, 37 (5), 947-983.
- Lukes, S. (2008), *Moral relativism*, New York, US: Picador.
- Masterman, M. (1970), 'The Nature of a paradigm', in I. Lakatos & A. Musgrave (eds), *Criticism and the growth of knowledge*, London, UK: Cambridge University Press, pp. 59-90.

- Mirowski, P. (2013), *Never let a serious crisis go to waste - how neoliberalism survived the financial meltdown*, London, UK and New York, US: Verso.
- Popper, K.R. (1970), 'Normal science and its dangers', in I. Lakatos & A. Musgrave (eds), *Criticism and the growth of knowledge*, London, UK: Cambridge University Press, pp. 51-58.
- Roubini, N. (2017), 'The Return of Fiscal Policy', *Project Syndicate*, 26 September.
- Reardon, J. (2012), 'A radical reformation of economics education: Educating real world economists', *Real-world Economics Review*, (62), 2-19.
- Rosenberg, A. (1986), 'Lakatosian consolations for economics' *Economics and Philosophy*, (2), 127-139.
- Ross, D. (2012), 'Economic theory, anti-economics, and political ideology', U. Mäki (ed), *Handbook of the Philosophy of Science. Volume 13: Philosophy of Economics*, Oxford, UK: Elsevier, pp. 243-285.
- Schutz, E. (2011), *Inequality and power: The economics of class*, New York, US: Routledge.
- Stiglitz, J.E. (2011), 'To cure the economy', *Project Syndicate*, 3 October.
- Skidelsky, R. (2017) 'Economists in denial' *Project Syndicate*, 23 February.
- Swedberg, R. (2005), *Interest*, Maidenhead, UK: Open University Press.
- Quiggin, J.Q. (2010), *Zombie economics: How dead ideas still walk among us*, Princeton, US: Princeton University Press.
- Watkins, J. (2000), 'Popper', in W. Newton-Smith (ed.), *A Companion to the Philosophy of Science*, Cornwall, UK: Blackwell Publishers, pp. 343-348.
- Weintraub, E.R. (1986), 'Rosenberg's "Lakatosian consolations for economics": comment', *Economics and Philosophy*, 3, 139-142.
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