

RESEARCH PAPER

Economics fit for the Queen: a pessimistic assessment of its prospects

Peter E. Earl*

School of Economics, University of Queensland, St Lucia, Brisbane, Australia

The widespread failure of economists to predict the 2008 credit crunch and subsequent Global Financial Crisis led Her Majesty the Queen to ask what had gone wrong. She received very different responses from representatives of mainstream and heterodox perspectives. The mainstream economists' perspective on the crisis contained elements of truth, but it did not concede that there is any need for fundamental reform of how the discipline is taught and the kind of research that is conducted. This paper critically examines ways in which the degenerating mainstream research programme can attempt to fend off claims that major changes are needed. It also considers barriers to curriculum change in economics and the incentive structures that work against economics becoming more pluralistic and focused on real-world problems. It concludes by suggesting ways in which pressures might be imposed from the outside for reform within the economics discipline.

Introduction

This paper examines the need for, and barriers to, innovation in economics. Innovation is especially required from practitioners who provide policy advice to governments, and academic economists who train new generations of economists. It takes the view that radical change is needed despite acknowledging that there have been major advances in the past decade or so in areas such as industrial organization, the economics of asymmetric information, auction theory and market design. The paper's focus is on approaches to understanding fluctuations at the macroeconomic level and the functioning of financial markets. The latter has become hotly contested, with economists from various perspectives arguing their positions in multi-signature letters to newspapers (see Keegan, 2010).

In the UK, the public debate among economists has also involved letters to Her Majesty the Queen, one of which suggested that the economy could benefit from Her Majesty requesting monthly briefings from government ministers on the economic pitfalls that might lie ahead (see Allen, 2010). These attempts to include the Queen in debates about the state of the economy and of economics are a result of Her Majesty showing a personal interest in this area. During a visit to the London School of Economics in November 2008, she asked why the economics profession had failed to predict the credit crunch that has become known as the Global Financial Crisis (GFC).

A financial crisis had, in fact, been publicly predicted by a number of economists of various persuasions, including Martin Feldstein, Raghuran Rajan, Nouriel Roubini

*Email: p.earl@uq.edu.au

and Robert Schiller in the US, Roger Bootle, Wynne Godley, Stephen King and Andrew Oswald in the UK, and Steve Keen in Australia. However, on 22 July 2009, following a forum held at the British Academy on 19 June, the Queen was sent an answer in the form of a three-page letter signed by two members of the Academy, Professors Tim Besley and Peter Hennessy (2009). On the final page of this letter the problem was summarized:

Everyone seemed to be doing their own job properly on its own merit. And according to standard measures of success, they were often doing it well. The failure was to see how collectively this added up to a series of interconnected imbalances over which no single authority had jurisdiction. This, combined with the psychology of herding and the mantra of financial and policy gurus, led to a dangerous recipe. Individual risks may rightly have been viewed as small, but the risk to the system as a whole was vast.

So in summary, ... the failure to foresee the timing, extent and severity of the crisis and to head it off, while it had many causes, was principally a failure of the collective imagination of many bright people, both in this country and internationally, to understand the risks to the system as a whole.

This letter can be read as implying that misguided economic analysis underpinned the economic reforms of the 1980s that, amongst other things, freed up the workings of financial markets in many countries, resulting in the conditions that produced the GFC. These reforms were driven by politicians, such as Margaret Thatcher, who had accepted Friedrich Hayek's view of why socialism is inherently inferior to a free-market economy (see Yergin and Stanislaw (1998) and their companion television documentary series). Hayek had shared the 1974 Nobel Prize in Economics for his analysis of how actions by individuals, on the basis of locally available information, can produce spontaneous order at the level of the economy as a whole. Socialist planners, who attempted to coordinate economic activities centrally, would do this less well because of the complexity of the economy: they would not be able to gather and deploy all the information used by decentralized individuals in a market economy.

While Hayek may have been right about the shortcomings of socialism, his analysis did not actually demonstrate that a decentralized market economy would necessarily grow in an orderly manner. It is possible that the Nobel Committee was trying to signal this when it decided that he should share the prize with Gunnar Myrdal, whose work had stressed the power of positive feedback loops to produce processes of cumulative causation rather than tendencies towards equilibrium in economic systems. However, despite recognizing that the local rationality of a mass of dispersed, specialized decision makers does not necessarily add up to macroeconomic coherence, the Besley/Hennessy letter did not suggest that economists might have done better if they had followed the kind of institutionalist/complex systems approach that was central to Myrdal's work. Nor did it suggest that there could be a place for psychology in the training of economists, despite mentioning the 'psychology of herding' and saying that:

... most were convinced that banks knew what they were doing. They believed that the financial wizards had found new and clever ways of managing risks. Indeed, some claimed to have so dispersed them through an array of novel financial instruments that they had virtually removed them. It is difficult to recall a greater example of wishful thinking combined with hubris.

Six weeks later, on 10 August 2009, 10 senior heterodox economists sent a very different reply to Her Majesty (Dow *et al.*, 2009). Unlike the Besley/Hennessy letter, the heterodox economists' letter laid some of the blame for the extent of the crisis on the nature of mainstream economics and therefore argued for major changes to the economics curriculum. It accused leading economists of having turned the discipline into a branch of applied mathematics in which technique is pursued for its own sake. It suggested that there was a need to broaden the discipline to allow room for more critical perspectives that reflect knowledge of other fields, such as economic history and psychology.

Although parts of the Besley/Hennessy letter conveyed a sense that the GFC was an outcome of an historical process affected by psychological factors and system complexity, this paper will argue that it is most unlikely that the GFC will lead to any major change within academic economics that is internally driven. This is despite the fact that heterodox approaches – such as institutional, evolutionary and psychological economics, and Post Keynesian macroeconomics – offer significant ingredients for understanding how to reduce the risk of future crises in the global economy. Indeed, many proponents of these approaches had anticipated something along the lines of the GFC, albeit without a precise date or calendar of events, via their familiarity with the financial instability hypothesis proposed by the late Hyman Minsky (1975, 1982, 2008).

It was pessimism about the prospects for internal reform in economics that lay behind the Dow *et al.* letter (which was instigated by Geoffrey Hodgson, editor of the *Journal of Institutional Economics*). It was hoped that the letter might serve as a device to increase pressure for reform from the outside. Of course, its signatories did not expect Her Majesty to initiate anything, but they did hope that their letter might at least lead to wider public debate about the state of economics and how what is going on in economics classrooms relates to the state of the economy.

This paper analyses the barriers to both internal innovation and the diffusion of existing innovative (heterodox) thinking within mainstream economics. First, it shows how the mainstream economist can construct a case that there is no crisis in economics, despite the GFC. The paper then provides a critique of this construction, pointing to the need for precisely the kinds of changes advocated in the heterodox economists' letter. Next, the paper considers attempts to fend off the heterodox perspective via claims that mainstream economics actually is changing in precisely the directions suggested, as evidenced by the rise of 'behavioural economics'. This is followed by two sections that consider barriers to change within the academic environment: first, the problem of opening up the economics curriculum and, secondly, the hiring and promotion processes for academic economists. The paper concludes by reflecting on what, if anything, can be done to bring external pressure to bear on economics as a discipline to change its mode of operation so that it is more attuned to, and better able to anticipate events in, the real world, and offer policies for preventing undesirable outcomes.

Scope for denying that there is anything wrong with economics

The Besley/Hennessy letter has a contrite tone characteristic of the economics establishment during the GFC. However, if mainstream economists wish to claim that the GFC does not signal a need to change economics, they can readily change their demeanour and start asserting that if only more attention had been paid to their ideas,

we would not be in the current mess. In doing so, they can put a positive spin on the state of economics, despite the state of the economy, and can assert that the GFC is evidence of the great *power* of the core ideas of modern microeconomics.

The spin involves characterizing the origins of the GFC in terms of principal–agent problems, the ‘lemons’ problem and moral hazard in financial markets. In other words, they resort to the theoretical analysis of markets with asymmetric information for which George Akerlof, Michael Spence and Joseph Stiglitz were jointly awarded the 2001 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. This approach was being used to analyse failures of financial institutions two decades ago (see Milgrom and Roberts, 1992, ch. 6). It assumes that economic agents are greedy and unscrupulous folk who respond rationally to market incentives and take calculated risks, but that they differ in their access to information. From this perspective, the roots of the GFC lie in the fact that intermediaries frequently did not have incentives conducive to ensuring that those who were given credit could service their debts in the long term, while the penalties for defaulting were not onerous enough to discourage taking on debts that could well be problematic to service. Many sub-prime mortgage debts were subsequently securitized and sold, and then sold again and again, on the basis of misleading credit ratings prepared by rating agencies that succumbed to conflicts of interest. Once the bad debts started to surface, interbank lending collapsed, along with much lending to firms, especially small firms, because banks could no longer distinguish between good and bad credit risks, and their reluctance to lend could cause defaults by firms that normally would have been able to meet their obligations. This perspective implies that financial crises will tend to recur unless markets and financial products are re-engineered to change incentives and remove conflicts of interest. We may expect there will indeed be such changes, as the wider awareness of these kinds of problems may result in financial institutions and regulatory bodies making greater use of economists who have expertise in these areas.

Deconstructing the spin

Such a rationalization of the GFC is no doubt partially right: there really were dysfunctional sets of incentives facing consumers, mortgage brokers, credit card companies, bankers, derivatives market participants and credit rating agencies. For example, if US personal bankruptcy laws enable bankrupt consumers to keep their car and house contents when their houses are repossessed, it makes perfect sense for people who have little hope of servicing debt to sign up for a mortgage and credit cards in the knowledge that they are likely to default. This may be their one chance to get a decent car and big-screen TV. Going bankrupt has few consequences for their future credit ratings. Likewise, the mortgage salesperson who is rewarded for signing up clients rather than for the successful completion of the mortgage contract many years later has little incentive to be concerned about a client’s long-term capacity to service the debt. Senior bankers have little incentive not to put their firms at risk of long-term failure when pursuing performance bonuses in the short term: if a bank eventually does get into trouble, there is a good chance it will be too big to be allowed to fail and will be bailed out by the state, if not by a former rival that sees it as a rational investment in avoiding problems of contagion that would arise if it were allowed to default on its liabilities.

However, such spin by the economics establishment diverts attention from the potential benefits of taking a more pluralistic approach to the subject. These benefits

can be seen if we deconstruct this reconstruction of events. The deconstructionist method involves focusing on what *could have been said but was not*, rather than on what was actually said, as the key to understanding a piece of analysis – just as cynical consumers deconstruct real estate advertisements by looking for what is left out rather than what is said. The principal–agent/moral hazard story of the GFC omits some dimensions that might be rather important.

First, although the GFC has been particularly severe, it is by no means the only financial crisis since the 1929 Wall Street Crash. In fact, over the past four decades, there has been a succession of smaller financial crises containing ingredients that have been identified as significant in the GFC: the mid-1970s secondary banking and real estate crises (Dow and Earl, 1982, ch. 12; Earl, 1990, pp. 285–90); the 1980s savings and loans crisis and yuppie-era boom/bust associated with financial deregulation (Shiller, 1989; Earl, 1990, pp. 201, 287–88, 295–97; Mayer, 1992; Milgrom and Roberts, 1992, pp. 170–76); and then the Asian economic crisis/dot.com bubble (Shiller, 2000/2005). It would be completely erroneous to suggest that the GFC is different because of its global aspect. The 1970s crisis had global aspects – for example, some of the bank failures were associated with foreign exchange speculation and offshore property speculation – while the global side of the Asian economic crisis of 1997 is set out in Thomas Friedman's (1999) bestseller on globalization. In fact, if we take a long-term historical perspective on the history of capitalism, we find that these kinds of financial crises have been occurring for centuries (Kindleberger and Aliber, 2005).

There is no evidence that economic agents generally have been learning enduring lessons about system-wide risks and financial instability. We should not be particularly surprised by this, given the absence of learning about financial crises in the economics classroom: the yuppies who populate the dealing rooms burn out and move on to other roles, so each crisis involves a different set of decision makers at each layer, as well as new financial instruments and trading roles. If learning about financial instability is to occur, the best time is before people becoming players in financial markets. Not all of them will necessarily be graduates of economics, or even graduates in any area, but social networking is likely to result in danger signs being widely recognized if a significant proportion of those who embark on careers in the financial sector have been taught about financial history and Minsky's financial instability hypothesis. This is conceptually far easier to teach, and more likely to engage students, than the topics (IS-LM models, aggregate supply and demand analysis, real business cycle theory, and so on) that comprise core teaching in macroeconomics. If the will is there, it is perfectly possible to teach the economics of financial instability in introductory macroeconomics courses. These tend to be compulsory, not merely in economics programmes, but also in business degrees more generally. (DVDs, such as *The Ascent of Money* (Ferguson, 2008), *Money as Debt* (Grignon, 2008) and *Addicted to Money* (McWilliams, 2009), could provide excellent video material to supplement traditional lectures.) But this has not happened; nothing has been allowed to get in the way of teaching formal macroeconomic models in which the financial sector hardly figures at all, or where there is a separation between 'monetary' and 'real' aspects of the economy.

Secondly, the mainstream story does not have a place for institutions and institutional change in the generation of financial instability except insofar as they determine whether there are information asymmetries that cause moral hazard and principal–agent problems. Such institutions can include laws that regulate financial firms, as

well as conventions for how business is done. As far as mainstream economics is concerned, regulations – such as those specifying what financial institutions are required or allowed to do as regards to who gets loans, the composition of balance sheets, or the kinds of loans that a bank can make if it is not an investment bank – are portrayed as simply additional constraints that decision makers contend with when engaging in constrained optimization. Likewise, if banks use formulaic or checklist-based procedures for simplifying the process of deciding who gets loans, these are to be seen as optimal rules of thumb (*cf.* Baumol and Quandt, 1964). Changes in such rules occur as optimal adaptations to changing market conditions.

If such an attitude to institutions is adopted, there is a risk that economists will fail to consider how financial market behaviour may be affected by institutional change. The analysis thus remains couched in general terms and is not mindful of particular kinds of changes that are taking place. Hence, institutional evolution in, say, home mortgage lending fails to attract economists' attention. This is despite the fact that the implications for financial stability can become rather drastic if there is, say, a change in policy from home loans being limited to two-and-a-half times the prime earner's annual salary with a 20% deposit, through lending three times joint annual gross household income with a 10% deposit, to lending 125% of the value of the property with scant regard for borrowers' incomes. Failure to possess and consider such institutional knowledge may result not only in failure to anticipate financial meltdown, but also in more mundane errors, such as arguing that rising property prices mainly reflect population growth and/or shortages of land releases for new building: property comes to be seen as suffering from lack of affordability rather than as being expensive because finance is so readily available.

Thirdly, the 'spun' story of the GFC provides no consideration of the impact of psychological factors on the changing propensity of consumers to get into debt or to attempt (as many are now doing) to pay it off. The widely taught 'permanent income' and 'lifecycle hypothesis' models of consumption and saving are based on rational choice theory, with the consumer working out an optimal long-term strategy for consumption in the face of probabilistically predictable fluctuations in income associated with the availability of work or returns from self-employment (e.g. variations in farmer income caused by changes in weather and crop prices), and expected and actual changes in earnings due to promotion, tax policy and the receipt of windfalls and bequests. If consumers are tending to take on more debt, rational choice theory does not try to understand this in terms of changes in attitudes to being indebted, or changes in wants that can be satisfied by debt-financed expenditure. The theory is based around the assumption of a given preference ordering, so it has to leave these factors out.

Fifty years ago, George Katona (1960) and his colleagues at the University of Michigan Survey Research Center were already exploring the significance of consumer psychology in the determination of aggregate demand. In the modern world, consumption is a function of willingness to spend rather than tightly constrained by given budgets. Many households enjoy significant discretionary income and access to personal credit. Modern consumers often replace their durable goods long before these are worn out and not worth repairing. Taken together, these factors allow great discretion in the timing and direction of spending. Katona's work led to the development of consumer confidence indices by banks in many countries, but it remains absent from standard macroeconomics textbook discussions of the consumption function.

Though Katona's work hardly ever made it into macroeconomics textbooks (a rare exception is Ackley (1961)), many economists currently in their fifties or sixties will at least have been taught the psychologically-inspired 'relative income' model of the consumption function offered by Duesenberry (1949). As Frank (2005) has observed, Duesenberry's analysis has 'mysteriously disappeared' from the curriculum. If it reappeared, it might prompt students of economics to consider the possibility that mortgage stress could be a consequence of consumers having raised their aspirations from, say, a three-bedroom, one-bathroom home to a four-bedroom home with an en suite bathroom and a media room after seeing homes to which some of their social circle have upgraded.

From the standpoint of mainstream economics, there is no need for a psychological perspective on saving and debt, despite the existence of an extensive literature on these topics within economic psychology (see Lea *et al.*, 1993; Wärneryd, 1999). As well as ignoring social relativities, rational choice theory does not prompt consideration of the possibility that changes in households' indebtedness are affected by changes in social norms regarding whether being in debt is a good or bad thing, or whether it is wise to presume that the prices of homes will keep rising, and it is safe to take some home equity and use it for consumption via an increased mortgage overdraft. It allows for social interaction in terms of 'information cascades' between people but not 'decision rule cascades' (Earl *et al.*, 2007).

If one adheres to the rational choice/constrained optimization view, rising ratios of indebtedness must reflect either a relaxation of constraints on getting into debt, or changes in other personal circumstances (such as life expectancy and retirement age), or social welfare provisions that affect the trade-off between consumption today and in the future. Such factors may indeed have empirical significance, but this does not justify the non-pluralistic approach of lecturers and their failure to alert students to alternative views with socio-psychological foundations. A potential starting point for bringing in the alternative approaches is to point out that, with rising life expectancy and the risk of cuts in state support of retirement because of the costs of dealing with an ageing population, we should have seen a rise in savings ratios in developed countries, rather than people spending in the run up to the GFC as if there were no tomorrow.

Fourthly, the view of the GFC as an outcome of rational, selfish responses to changing constraints and opportunities in an environment characterized by principal-agent problems upholds the mainstream perspective by assuming consumers are financially literate enough for this to be a good approximation for how they choose. Long before the GFC emerged, Shiller (2000/2005) was expressing concern that irrational exuberance was driving up property prices: in their attitude to the boom, most consumers simply disregarded elementary notions of compound interest and exponential growth. They should have realized that a boom based on house prices rising faster than incomes is logically unsustainable.

In mainstream economics, even the poorly educated sub-prime mortgage candidate is seen as acting 'as if' well aware of the details of the mortgage contract and of bankruptcy law, and with a good understanding of how compound interest will blow out a credit card balance if the monthly bill is not repaid in full. The vast majority of subjects in a recent study by O'Shea (2010) failed comprehension tests on real-world credit contracts. Following Earl and Potts (2004), an alternative scenario might be one in which consumers outsource their risk preferences to the financial institutions. In other words, consumers may sign up for debt contracts on the basis that the firms

offering them would have done calculations about their ability to service the loans and would not offer loans to people who have a high chance of going bankrupt.

Behavioural economics as a means of defending orthodoxy

According to Colander *et al.* (2004a, 2004b, 2007–2008), modern mainstream economics is no longer a neoclassical monolith. Rather, it is a complex adaptive system of competing ideas from which economists select those that seem to work and reject those that have been discredited. (If this characterization is correct, we should shortly see the abandonment of CAPM and DSGE models that, in the words of this paper's mainstream referee, have 'proven useless' and 'have no clothes' in the light of the GFC.) The rise of the sort of 'behavioural economics' surveyed in Wilkinson's (2008) recent textbook is consistent with this view and is significant in relation to attempts by outsiders to argue that the economics curriculum requires radical reform. Mainstream economists can concede that there are some shortcomings in the 'rational agent' perspective, but they can then argue that they are addressing them by bringing findings from psychology into economics. For evidence of this, they can point to their hiring newly-minted PhDs whose work employs the behavioural approach.

The explosion of interest in behavioural economics might seem to imply a genuine interest in making changes in economics in situations where empirical anomalies have been exposed. However, a more cynical reading of the situation runs as follows. The modern behavioural approach first started to take off in finance (see the major anthology edited by Shefrin (2001)), where knowing how markets actually function enables a lot of money to be made. In economics, by contrast, there was a long period of resistance to acknowledging major anomalies (as with risk aversion, discussed in Rabin and Thaler (2001)). Behavioural economics became fashionable only after Rabin and a few others managed to get papers into the top US economics journals. Their success in winning these trophies led others to consider the possibilities of emulating them to advance their own careers.

Within modern mainstream economics, the behavioural approach entails incremental improvement rather than radical innovation. It is a sign that some principles in the core of the mainstream economics research programme are being deemed more important than others, but the conventional core is retained (Berg and Gigerenzer, 2010). There is no systematic attempt to bring psychology into economics; instead, constrained optimization is modified to allow for preferences and/or perceptions to be distorted by 'heuristics and biases' uncovered in empirical work. Constrained optimization is retained, but the price of achieving this is the loss of independence of economics from psychologists' findings. It is a partially pluralistic research strategy, for most economics continues on the basis of full rationality assumptions, but some is mindful of the potential significance of heuristics and biases (for a more extensive analysis of this pluralism, see Davis (2006)).

Though this is being called 'behavioural economics' it is, as is evident in Sent (2004), very different from an earlier version of behavioural economics that takes in much more from psychology and other social sciences, and rejects optimization. Ironically, the new behavioural economics achieved public notice via articles by Lowenstein (2001) and Uchitelle (2001) in the *New York Times* two days after the death of Herbert Simon. Simon was a founding figure in old behavioural economics, the originator of the concepts of bounded rationality and satisficing and winner, for these

contributions, of the 1978 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. The *New York Times* journalists failed to make any connection between Simon and the new breed of behavioural economists about whom they were writing, and Simon's approach remains almost completely invisible within the new literature.

As a sign of what is happening in the new behavioural economics, consider the weighty 740-page reader edited by Camerer *et al.* (2004). Simon is mentioned a mere four times: the first three cases refer to his notion of 'procedural rationality' with no references. Only the last cites any of his work and makes any connection with his concept of satisficing (for which there is no index entry); bounded rationality is referred to on only three pages (all in the same paper). Moreover, the first page of the introductory chapter is perfectly explicit about this being a limited departure from the dominant way of thinking, for cases where the standard model does not fit the facts:

At the core of behavioral economics is the conviction that increasing the realism of the psychology underlying economic analysis will improve the field of economics *on its own terms* – generating theoretical insights, making better predictions of field phenomena, and suggesting better policy. This conviction does not imply a wholesale rejection of the neoclassical approach to economics based on utility maximization, equilibrium, and efficiency. The neoclassical approach is useful because it provides economists with a theoretical framework that can be applied to almost any form of economic (and even noneconomic) behavior, and it makes refutable predictions. Many of these predictions are tested in the chapters in this book, and rejections of those predictions suggest new theories. (Camerer *et al.*, 2004, p. 1, emphasis in the original)

From the standpoint of methodology of scientific research programmes, advocated by Lakatos (1970) as a means of understanding how scientific disciplines change, this is a very clear statement of an intention to modify auxiliary hypothesis in the protective belt of the mainstream/neoclassical hard core. Though they may talk cheerfully about rules of thumb in everyday life, these economists are not about to pick up the radically innovative agenda of Simon and abandon constrained optimization; rules of thumb have to be discussed (if they are discussed at all) 'as if' they are optimal, in the manner of Baumol and Quandt (1964), not within a satisficing framework.

From the perspective of the new behavioural economics, it can be argued that decision makers are more likely to end up making financial errors than standard economic thinking would predict. In sizing up risks, they are prone to edit probabilities, treating very low probabilities as no probability at all, over-emphasizing the importance of relatively low probabilities, and treating high probabilities as certainties. Decision makers in the real world are also prone to engage in hyperbolic discounting – i.e. they will tend to discount the immediate future at a higher rate than they discount the more distant future, rather than discounting exponentially. These tendencies will result in some consumers being overly willing to risk going bankrupt by spending heavily with their credit cards in order to consume in the present. The gross front-end loading will persist and produce time-inconsistent behaviour since, as they move through time, consumers will discount the immediate future at a higher rate than they imagined they would when looking ahead in earlier periods: instead of paying off their debts as they had planned, they add to them. They act, in short, as if addicted to consumption.

An implication of this line of thinking is that if more people had read inexpensive books, such as the guide to avoiding the impact of heuristics and biases in financial decision making offered by Belsky and Gilovich (1999), fewer people would have suffered financial embarrassment. That only a tiny fraction of the population did such

reading is evidence of hyperbolic discounting: people generally must have been unwilling to incur the upfront costs of searching for tools to improve their decision making capabilities or, if they came across them, were reluctant to invest \$13.00 (the cover price of Belsky and Gilovich (1999)) to reduce the risk of losing thousands of dollars.

The typical story of hyperbolic discounting told in modern behavioural economics seems quite reasonable, but it involves an analytical contradiction. On the one hand, it presumes people are not smart enough to see that they will over-consume and display time-inconsistent preferences if they discount hyperbolically, whereas on the other hand, it presumes they act 'as if' they are smart enough to do all the computations required to size up the net present value of consumption today versus reduced future consumption based on their hyperbolic discounting strategy. By contrast, old behavioural economists expect that, depending on the context, people will either suffer from Simon's 'bounded rationality', or they will not. If people are short of the computational capacity required to see that hyperbolic discounting will involve time-inconsistent preferences, then perhaps it might be wiser to recognize that they may let their credit cards accounts get into a mess, not because their calculations based on hyperbolic discounting lead them to make a succession of time-inconsistent choices, but because they *fail to look* very far into the future and *do not do* any complex calculations. Instead, they act in a cavalier manner as if no trade-off is involved and as if they can cross the repayment bridge when they come to it. The heterodox perspective is not simply a rewording of the new behavioural story: rather, it is a different story that does not involve constrained optimization over a set of trade-offs. Moreover, the heterodox view opens up the prospect of even bigger risk of financial default.

For heterodox economists who have long been employing and advocating the approach of the old behavioural economists, watching the rise of new behavioural economics is an experience akin to that suffered by a European art-house movie director whose film is re-made Hollywood-style and in the process is 'dumbed down' and has its ending changed. The heterodox economists do not deny the empirical facts that are central to the heuristics and biases literature; on the contrary, they were accepted within the old behavioural economics literature before many of the proponents of the new behavioural economics had even graduated from high school [see readings 9, 10 and 13 in volume I and reading 9 in volume II of Earl (1989)]. Rather, they are frustrated that the new breed is being so selective in choosing what to learn from psychology, and by the new breed's failure to pick up what heterodox economists and economic psychologists have already done with a much richer range of psychological inputs.

Barriers to curriculum change in economics

In principle, it is perfectly possible to reform what happens in the economics classroom even if most economists prefer to carry on writing papers based on traditional perspectives, or making the kinds of incremental innovations within the existing research programme that are epitomized by the new behavioural economics. In the classroom, at least, there could be a wholeheartedly pluralistic approach to the teaching of economics that presented research programmes with different core concepts. This kind of pluralism would be very different from the half-baked version that is emerging within mainstream economics research where some modelling assumes full

rationality and some is considered to be distorted by heuristics and biases. Exposure to heterodox approaches would help students understand more clearly how orthodoxy works, and *vice versa*. Such an education could be provided without diluting intellectual content, though its delivery would need to be handled carefully in order to be well received by students whose thinking styles are of the dualistic kind and who are not used to scientific debate (see Earl, 2008).

Although critics of mainstream economics have characterized standard textbooks as 'toxic' and set up a website (<http://www.toxictextbooks.com/>) to expose their shortcomings, it is not the scarcity of suitable alternative texts that is stopping curriculum reform in economics. Textbooks to facilitate pluralistic teaching of economics have been around for many years [e.g. Snowdon *et al.* (1994), Earl (1995), Dow (1996), Himmelweit *et al.* (2001), Earl and Wakeley (2005), along with others referred to as 'non-toxic' at the toxic textbooks website and on its Facebook discussion board]. There is also no shortage of complementary readers, reference books and companion works produced by heterodox economists – partly because publishers (such as Edward Elgar) have noticed that heterodox economists make much more use of books relative to their journals-focused mainstream colleagues. For all of their preaching of the benefits of choice, when it comes to teaching, most academic economists choose not to introduce their classes to alternative perspectives, either quite deliberately or because they, too, were taught in this way and remain oblivious of alternatives. Members of this group most likely have no heterodox colleagues and what they read fails to refer to alternative approaches to economics. Consciously or not, they indoctrinate their classes by presenting the language of the subject as if no rational person would question it [for a case study, see Dawson (2007)].

It is going to be very difficult to persuade mainstream economists to allow pluralism into the economics classroom if those in power in departments of economics are senior professors primarily interested in models (in the sense of doing applied mathematics) rather than the real world. As things stand, undergraduate programmes in economics are contorted by a focus on making sure that prospective honours and graduate students can handle heavy duty articles in mainstream journals, even though the great bulk of those who take economics are typically terminating students, often from business degree programmes. Making space for alternative perspectives would not only open up the possibility of students favouring heterodox approaches; it would also limit the time they could spend covering the technical side of the dominant approach.

From time to time, of course, the policies and procedures handbooks that managers of modern universities use as their operational bibles will require economics degree programmes to be reviewed. Such reviews provide opportunities for internal dissidents to make proposals that can be put before external stakeholders. Their proposals are almost inevitably voted down by the mainstream majority at departmental meetings. Even if departments whose economics programmes are being reviewed consist entirely of mainstream economists, there is still scope for external stakeholders to insist on changes of the kind suggested in the letter sent to Her Majesty by the 10 heterodox economists.

Unfortunately, it seems from an information economics perspective that the crisis in economics shares some of its foundations with the GFC, for these avenues for reform are limited by problems of agency associated with asymmetric information. At best, a course is an experience good (whose benefits cannot be ascertained until after it has been consumed), but often university courses are credence goods (whose benefits remain unclear even after consumption). They therefore have to be selected on

trust. Decision makers who have no experience of, for example, behavioural and evolutionary economics cannot be good judges of whether such economics needs to be made part of the curriculum. If even the new behavioural economists have no knowledge of old behavioural economics from the twentieth century or of recent work carried out by followers of Simon, the chances of students, alumni and other interest groups having the knowledge necessary to avoid being taken in by mainstream rhetoric are not good.

Internal representatives on a review panel can argue that freedom of choice within a degree is a good thing and will enhance student enrolments, and hence that introducing compulsory courses to cover economic history and the psychology of choice is a bad thing. They can also argue that, while pluralistic course content might increase intellectual demands on students, there would be a cost in terms of reduced technical content. They can then argue that this will result in graduates having less well-developed technical capabilities than those coming out of mainstream programmes and hence that the university's economics graduates will be at a disadvantage in a market for jobs that places a premium on modelling and number-crunching skills. If courses in heterodox economics and economic history already exist as electives, but are taken only by a tiny minority of students, the mainstream economists can argue that students are voting with their feet and that, if anything, these courses should be discontinued and the resources used more productively elsewhere.

If the marketing rhetoric of mainstream economists is to be challenged, non-economists at high levels in universities need some knowledge of economics; otherwise, the rhetoric is likely to be endorsed by the external review panel members chosen by the mainstream-dominated department. Ignorance of the diversity of thought within economics is also likely to afflict alumni representatives (who are products of the programmes under review) and employers alike.

In the unlikely event that the degree review process concludes with requests for reforms, information asymmetries continue to be an issue that may limit change in the classroom. A head of department who wishes to allow things to continue much as before can turn a blind eye to the difference between what was asked for and what is actually delivered in the classroom by department members who are reluctant to change. Little may actually change without careful monitoring by external groups or an active student body who, despite what they are being taught, have a sense that they deserve something very different. There is thus a classic double-bind problem preventing heterodox economics and economic history from becoming core parts of the economics curriculum: the only way in which rational choices can be made about the merits of heterodox approaches to economics versus orthodox ones is for *both* approaches to be taught in the core of the programme and subjected to empirical examination.

Matters are no better at the graduate level. Coursework is being added to PhD programmes outside North America, to make them more like the US model. This typically entails 'rigorous' courses enabling students to interpret even more difficult papers in the core mainstream journals, rather than courses designed to open their eyes to alternative approaches to economics. This also means that potential PhD students of heterodox economics are required to master the orthodoxy before they can turn their attention elsewhere. Postgraduate heterodox economists have to be seriously committed, and technically gifted, to tolerate and survive this ordeal. Many prefer to take their PhDs in other areas, such as marketing, entrepreneurship, international business and political science. Unless this trend is reversed, fewer

heterodox PhDs will be produced. As senior heterodox economists retire, there will be no new blood to replace them as critics of the mainstream and advocates for change.

The role of research audits in preventing change in economics

It is not just the one-sided teaching of economics that is likely to limit the presence of heterodox ideas and personnel within economics departments, despite the shock of the GFC. Anyone who enters academic economics with the capacity to operate as a mainstream economist and who is in the game for fame and fortune – rather than to seek out truth and make a difference – will not rationally choose a heterodox approach. For example, it pays to be a behavioural economist of the new kind rather than someone who takes bounded rationality seriously and sees decision makers as agents using simplified models and discovering satisfactory solutions. The key driving force here is the widespread tendency to rank, and fund, academic departments based on their performance measured by the rankings of journal articles published by their members of staff (see Lee, 2007).

Scholars whose work is unlikely to win a place in the top ranking journals will thus be ranked lower than those whose work conforms to the templates of papers in these journals. A paper stands no chance of acceptance with the top tier journals unless it contains a mathematical ‘model’. A typical mainstream theory paper is based on insights that can be summarized in a couple of paragraphs, which are then spun out and ‘proved’ in 25 pages or so of mathematics. Papers that consist of essays of a traditional kind, containing economic argument that is not couched in formal notation, are not viewed by the elite journals as serious pieces of economics.

Now, of course, within the top-tier generalist journals, most papers are applied contributions rather than purely theoretical. In the period 1991–95, only 25 of 281 articles published in the *American Economic Review* were pure theory (see Dasgupta, 2002). However, if empirical work is based on unfamiliar economic theory it will be disadvantaged, if only because papers may need to be far longer in order to introduce the theory to referees and readers. Even if referees of mainstream journals are open to fresh approaches, authors whose applied work is conducted from heterodox perspectives will have a greater chance of acceptance in heterodox journals where related work has already been published. At the moment, what matters most is where a paper is published, not its use in public or business policymaking or citation in applied papers. The ability to demonstrate real-world relevance certainly *is* important when attempting to win research grants, but so, too, is one’s standing in the discipline. A heterodox economist’s credibility may suffer if panel members and assessors are mainstream economists.

There is little incentive to contribute to the development of capacity within the broader discipline by writing textbooks and editing to facilitate the teaching of the kind of economics advocated in the letter sent to Her Majesty by the 10 heterodox economists. Despite the GFC, and evidence of Schumpeterian processes of creative destruction and structural change in the real economy, the trophies of academic economics normally do not go to those who produce heavily cited contributions using evolutionary economics. Instead, rapid advancement goes to those who continue to write arcane papers about equilibrium conditions or competitive games played with fixed rules and no surprises – papers that are mostly cited in similar articles, often by their own authors.

In sum, the academic job market in economics seems to heterodox economists to be rotten to the core. Mainstream economics insists that the axiom of Archimedes holds – that a shortfall in one area can be compensated for by a superlative performance elsewhere (in other words, ‘everything has its price’). However, appointments and promotions committees and the elite journals appear increasingly unwilling to make trade-offs that give equal treatment to bright economists from different persuasions and with different comparative advantages. Instead, they appear to be choosing on the basis of non-compensatory decision rules of the kind that heterodox economists write about as being commonly used in everyday life (for a discussion of such rules, see Earl (1995, ch. 4)).

There is nothing necessarily wrong with journals having sets of hurdles that papers *must* meet in order to be acceptable. Rather, the problem of applying hurdles in this context is their height and ranking: real world significance is not the first priority. Paradoxically, the discrimination against work that does not centre on mathematical models (or against empirical work not based on mainstream theoretical foundations) seems to have arisen precisely because journal editors initially were prepared to make trade-offs, and accepted more mathematical papers that explored the frontiers of technique. This was the start of a slippery slope that resulted in sight being lost of the goal that was being traded off to allow in more formal analysis. As Augier and March (2008, p. 103) point out,

In the longer run, the effect of a commitment to trade-offs is even more pernicious ... Reasonable people ... can come to see deeply held commitments, such as beliefs in realism and comprehension, as exchangeable goods, nice to have insofar as you can afford them but not closely linked to an inviolate sense of self. Loss of realism becomes an affordable cost rather than a personal failure.

Concluding reflections

This paper’s focus on whether the GFC signals the need for major changes in economics teaching and research perhaps gives the impression that the 10 heterodox economists’ claims about the state of economics are something new. They are not. Suggestions that mainstream economics has been a failure and that the discipline is in a state of crisis have been repeatedly made over the past 40 years. As is evident in Hutchison (1977), many suggestions were made in the early 1970s about the irrelevance of equilibrium economics, the need for a historical perspective and to avoid excessive abstraction and claiming too much about the potential for predicting how economic data would unfold. But economics as a discipline has gone in the opposite direction. Now we are in a situation in which the chances of economics reforming itself seem about as remote as the prospect that bankers will beg for more prudential supervision and cease paying themselves huge bonuses. Critics of the mainstream are much better organized in institutional terms (with societies, websites and their own journals, and much easier communication via email) than they were four decades ago, but there is little sign that they are having any significant impact on the economics establishment. If anything, mainstream economics is in a stronger position to resist internal pressures for change than it ever was, and it can use the growing information asymmetry between itself and the wider public about what it does to put ‘spin’ on its contributions and deny it is failing.

If economics is to change for the better, pressure must come from outside, aided by dissidents from within. Non-economists on research audit panels and grant-

awarding bodies will need to be persuaded to demand more evidence of economics achieving a better understanding of the real world economy rather than developing imaginary worlds. Measuring the quality of departments of economics by their success in raising funds to conduct empirical projects is one way to do this. Using citation scores (such as those from Google Scholar) that cast a wide net and pick up books and book chapters may be better than relying on journal-focused citation measures. It is probably going to be necessary for dissident economists to get their message across in the media and engage in public debate with the mainstream so that external stakeholders start to develop a healthy scepticism about what is being taught within mainstream departments of economics. Finally, heterodox economists as a group should spend less time writing about method and more practising what they preach by developing empirically-grounded theory, doing applied pluralist research, and contributing to public inquiries.

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