Beyond Krugman to Behavioural Keynes

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Paul Krugman's critique of financial and macroeconomics, 'How did economists get it so wrong?', is apt. Whilst the financial sector is the biggest threat to macroeconomic stability, the study of the financial sector by academic economists — a major endeavour occupying the resources of some of the brightest people in the economics profession — has not reduced this threat. Indeed some argue that financial innovations based on financial economics have increased financial instability. In spite of this huge research effort the financial sector has been reduced to a shambles reliant on government bail-outs, and the macroeconomies in the US and Western Europe are in deep recession. It is not unreasonable to conclude that there has been a major misallocation of resources in the science and policy of financial economics and macroeconomics. But how could that have happened?

Whilst the financial sector is far from untouched by government intervention, it is a sector in which demand and supply dominates the setting of prices, and in which participants, because of the size of their transactions, have every incentive to make sensible decisions. *Homo economicus* would be untrammelled and motivated. But instead of the sensible decision-making one would expect from *Homo economicus*, we observe rashness and short-sightedness. For Krugman, this suggests that the model of *Homo economicus* is inappropriate for the financial sector. Krugman advocates a different model, that of behavioural finance, in which individuals are strongly influenced by the behaviour of others and suffer from irrational exuberance, unwarranted panic, loss aversion, and ill-considered extrapolations from small samples.

In an emotional response to Krugman's critique, John Cochrane appears to concede the important pillars of Krugman's views. Cochrane agrees that asset prices are excessively volatile. He also suggests that this excessive volatility is perhaps due to the vulnerability of people to bursts of irrational optimism

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and pessimism. To my mind, this supports the view that *Homo economicus* is inappropriate and that behavioural finance should be playing a more central role in the research and teaching of financial economics.

The theories of economic decision-making developed by behavioural economics offer better insights into human behaviour than do those of the standard economic paradigm based on *Homo economicus*. The individuals in behavioural economics are social animals, influenced by context, especially the activities and outcomes of other individuals. One result of this is herding behaviour, a commonly observed phenomenon in asset markets. The decision-makers of behavioural economics are also subject to biases, especially present bias and self-serving bias, and to emotional distortions that override and/or prevent attempts to behave according to the cool, long-sighted calculations of *Homo economicus*.

Homo economicus would not lend to highly leveraged financial institutions, since leverage encourages excessive risk-taking by the borrower. *Homo economicus* would not lend to financial institutions that operate incentive schemes that encourage short-run behaviour by their staff that jeopardises the wealth of creditors. *Homo economicus* would not 'search for yield'; that is, take on excessive risk in rash attempts to achieve a historically determined reference rate of return.²

Krugman views Keynesian economics as the best framework for macroeconomics, saying 'a more or less Keynesian view is the only plausible game in town'. Krugman argues for the importance of fiscal policy in tackling cyclical unemployment, especially when interest rates have got to zero. Krugman's advocacy of a Keynesian approach is based on his view that it is inadequate aggregate demand that drives recessions, not confusion about relative prices, nor lapses in technical progress, nor voluntary shifts to leisure during times of low real wages. While rejecting these microeconomic explanations, it is noteworthy that Krugman offers no clues about the microeconomic foundation that would support the sustained impact on activity of the decline in aggregate demand.

This absence of a microeconomic foundation for macroeconomics is also apparent in an earlier paper, Krugman (2000). In that paper, Krugman argued for the importance of a Keynesian approach to macro-policy issues. He advocated a Keynesian/IS-LM/Mundell-Fleming approach supported by ad hoc microeconomic foundations, in particular an adaptive expectations Phillips curve and regressive expectations for the real exchange rate. For Krugman, this Keynesian/IS-LM approach had the advantage of realism and simplicity. However, it's disconnect from economic decision-making by individuals —

2 For discussion of these points, see McDonald (2009).

that is, its lack of micro-foundations — suggests a worrying disconnect from academic research. As a stop-gap or temporary solution, this may be fine, but as a programme for macroeconomics it is unsatisfactory.

The microeconomic-foundations revolution of 1968 attempted to extract a macroeconomic model consistent with Keynes' aggregate-demand hypothesis from the narrow conception of human behaviour as embodied in *Homo economicus*. In that revolution, job-search behaviour played the key role in the determination of wages. However, with no concern for wage relativities, there was no role for the sticky wage story put forward by Keynes. The result was a brittle theory of how inadequate aggregate demand influences the level of activity, brittle because in those natural-rate models the real effect of aggregate demand depended upon a persistent overestimate by workers of the level of prices.

The result of this brittleness was and remains a puzzle to me. It killed Keynesian economics rather than stifling at birth the unrealistic modelling of wage determination on which it was based. The reliance of the theory on a persistent overestimation of the level of prices was vulnerable to the concept of rational expectations. As soon as rational expectations was considered as an alternative to adaptive expectations, the ability of the theory to explain the impact of aggregate demand on the level of activity evaporated. For me, this exposed the underlying theory of job search as inadequate for an explanation of wages. But the mainstream took a different view and decided instead to jettison the Keynesian theory of aggregate demand.

There may have been a problem of timing. In 1968, the sophisticated understanding of the role of relativities in human behaviour as described by prospect theory, with the associated concept of loss aversion, was not available. It only appeared a decade later in Kahneman and Tversky (1979). Had this theory has been around in the 1960s, when Keynes' influence was stronger, then the micro-foundations revolution may have avoided an excessive reliance on *Homo economicus*. Prospect theory has emerged as the natural way to model concerns with relativities. Using prospect theory to model Keynes' concerns about wage relativities shows how wage rigidity is consistent with individual behaviour, as shown by the pioneering paper of Baskar (1990). This implication follows from the concept of loss aversion. The extreme dislike felt by workers for cuts in wages below the reference level is an example of loss aversion.

Keynes himself showed prescience by anticipating the concept of loss aversion. Not only did Keynes emphasise the role of relativities but he also regarded this role as being influenced by what would later be called loss aversion. Thus on the page following the introduction of the wage-relativity effect, Keynes went on to say: 'Every trade union will put up some resistance to a cut in money wages,

however small’ (Keynes 1936: 15; emphasis added). ‘However small’ implies a discontinuity in the marginal utility of wages at the current level of the wage, which is the implication of loss aversion.³

Thus behavioural economics can make a valuable contribution, not just to financial economics but to macroeconomics.⁴ It is to be hoped that the turn made in 1968 to the narrow conception of *Homo economicus* — a turn somewhat similar to the Paretian turn taken (according to Bruni and Sugden, 2007) by economics in the nineteenth century — will be reversed and the important insights of Keynes taken up in the application of prospect theory to labour-market behaviour and macroeconomics.

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3 Some argue that Keynes theory did not rely on any special modelling of wage determination. However, Keynes’ own efforts to explain resistance to cuts in nominal wages even when unemployment is at a high level belies this idea. Furthermore, Keynes contrasted this behaviour with the flex-price behaviour of classical theory by using the expression ‘fall without limit’ to describe classical flex-price behaviour when the economy is at less than full employment (see, for example, Keynes 1936: 253 and 303–4). The decelerationist hypothesis of natural-rate theory implies ‘fall without limit’. Keynes regarded ‘fall without limit’ as empirically irrelevant for an economy at less than full employment and thus implicitly rejected the deceleration hypothesis and natural-rate theory.

4 Ideas from behavioural economics can also contribute to the theory of the determination of aggregate demand. The importance of present bias in the determination of saving rates (see, for example, Thaler and Bernatzi 2004) is a good explanation for why Ricardian equivalence doesn’t hold and why consumption is strongly influenced by income. Bowman, Minehart and Rabin (1999) show how the application of prospect theory to an inter-temporal model of consumption and saving can explain the commonly observed asymmetry in the consumption–income relation. Akerlof (2007) argues that the social norms of managers of firms can explain the sensitivity of investment to cash-flow. Akerlof and Shiller (2009) argue that confidence, sometimes aided by ‘new era stories’ in which historic changes are described to propel the economy into a brand new era, have strong influences on the level of aggregate demand.

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