What Kind of Theory to Guide Reform and Restructuring of the Financial and Non-Financial Sectors?

A focus on theoretical approach

Sheila C Dow

Prepared for the Institute for New Economic Thinking inaugural conference, Cambridge, April 2010

Abstract

The purpose of the paper is to argue for attention to be paid, not only to choice of theory, but also to choice of theoretical approach, in order to address issues posed by the crisis. It is argued that changing market sentiment and the breakdown of trust were important factors in the crisis which require treatment by economic theory in order for economists to guide policy. The way in which these issues are understood and analysed by different approaches is considered, including the different implications for policy. It is argued further that a deductive mathematical approach to analysis of market sentiment and trust is unduly limiting, and that a more pluralist approach would more fully address the issues.

SCEME
Division of Economics
University of Stirling
Stirling FK9 4LA
UK
Tel: +44-1786-822206
Fax: +44-1786-467469
e-mail: s.c.dow@stir.ac.uk

March 2010

Introduction

The current economic environment poses unusual policy challenges. All sorts of policy developments have occurred over the last few years which had previously been outside the normal range of theoretical analysis and policy discussion, such as activist fiscal policy, quantitative easing and partial socialisation of banking. These initiatives were introduced even while active discussion was ongoing as to how best to frame the theoretical analysis of the crisis. Some new thinking seemed to be required because of the lack identified in mainstream economic theory: the crisis had not been predicted by most economists, and it was taking some time for satisfactory theoretical explanations to be forthcoming.

While one lack was identified as the inattention to interconnectedness of financial portfolios, and the resulting scope for systemic risk, the basic issues seemed to many to rest on inappropriate pricing of risk at market level. It had generally been presumed that, through the price mechanism, competitive markets would ensure an equilibrium outcome which maximised social welfare. This was particularly the case for financial markets which were known for their competitiveness, enhanced by the deregulation of the 1980s, as well as the technical skills of market players. Therefore leading explanations for the crisis, taking this view of markets as the starting point, rested on some impediment or other to the free operation of market forces. Of these the main impediments were identified as asymmetric information, and a regulatory structure which encourages moral hazard. Other explanations refer to what were taken to be irrational motives for behaviour: ‘greed and fear’, ‘hubris’, etc. A range of policy prescriptions followed from

these explanations: in particular, measures to improve the valuation of assets (especially with respect to risk), and to reduce the incentives and/or opportunities for moral hazard.

The existing mainstream theoretical framework has thus now provided a basis for reform and restructuring which follows from the palpable distance which had emerged between theory and reality. The proposals are designed essentially to make markets more like the way they had been depicted by theory, on the grounds that this would produce the best outcome for society, according to a particular set of (utilitarian) values, including the judgement that rationality (according to its theoretical definition) should be promoted. To support such restructuring is to make the (contestable) value judgement that the theoretical outcome would indeed be best for society. Further, to design such restructuring may require a theory of the process of institutional and behavioural change which is not available in the mainstream approach. But, most seriously, if the nature of reality is such that it cannot be restructured in such a way as to be closer to mainstream theory, then different approaches to considering reform would be helpful.

Much of the public debate about reform, as expressed for example in the pages of the *Financial Times*, has taken a wider purview, and indeed at times actively questioned the conventional mainstream approach to economics. Yet there has been little coverage of what would be entailed by opening up the question of other ways of approaching economics. The purpose of this paper is to draw attention to the possibility of re-examining, not just theory, but also theoretical approach, as a way of addressing policy in the light of the crisis, and to consider how that might impact on policy advice. To consider the question at this level of approach is justified by the challenges posed by the crisis, but is justified further by the fact that theory within some non-mainstream

approaches had anticipated the crisis and were able to explain it as it evolved. Some wider reflection on economics is called for.

The mainstream approach outlined above is thus not the only possibility. Theory, and theoretical approach more generally, inevitably require abstraction. Theory abstracts from variables thought to be less important to the question at hand. Theoretical approach goes much further. It employs particular ways of understanding, and therefore categorising, the subject matter, giving particular meanings to terms (such as 'rationality'), and specifying the range of acceptable forms of argument. For any economist, deciding on one approach or another is necessary for knowledge to be developed, to inform policy. The choice to adopt one approach involves putting higher value on what that approach allows relative to what it precludes. But, while reasoned justifications can be made, there is no absolute basis for choosing one approach over another. Choice for economists, as for economic agents (on which more below), requires the exercise of judgement. (Of course such choices are not entirely 'free'; any discipline involves its own institutions and educational frameworks which encourage particular approaches to the discipline.)

If such a discussion is to be helpful for policy-makers, it needs to start with the reality in which policy is to operate. Of course there is a certain circularity to taking reality as the starting point. First, this in itself involves an approach which relies more on induction than the more deductivist methodology of mainstream economics. By this is meant, not pure induction, since understanding of evidence is conditioned by theory, but that theory is grounded in evidence and is regarded as provisional in the face of future evidence, or evidence from different contexts. Further, reality will be understood

differently by different groupings of economists (as well as policy-makers, and indeed political parties). Nevertheless it seems the best place to start. The motivation is to open up the discussion beyond the predominant one identified above, which involves starting with a particular theoretical framework, seeing how to adapt it to current circumstances, and ultimately considering policy to make behaviour and market structure more consistent with the framework. The issue of different ways of understanding reality (different ontologies) will be addressed in the course of the analysis below.

In order to frame this analysis, we attempt to identify four core sets of problems to be addressed by policy. The first two problems arguably are general ones, while the second two problems refer to particularities of the current circumstances.

1. General issues for analysis of financial markets

a. *The scope for changes in market sentiment to drive asset prices.* While the long boom in asset markets had been taken to reflect rising 'true' value, this assumption was increasingly questioned as the weak basis for risk assessment in particular markets came under scrutiny. At the worst points in the crisis markets found it extremely difficult to assign values, and banks chose as liquid a stance as possible, to the extent that the interbank market actually froze. On reflection, market sentiment was seen to have driven asset prices up, and then drove them down. How can swings in market sentiment be explained theoretically, and what is the policy scope for taming these swings?

b. *The central importance of trust between the state, the banks and the public.* The banking crisis emerged as banks lost trust, and then depositors lost trust, in particular banks (and implicitly in the central banks' support of these

institutions), while central banks lost trust in banks' willingness to behave prudently. The payments system, and thus the social fabric, were threatened. An important challenge therefore is to restore that trust. What theoretical approach can inform such policy?

2. Issues specific to the current crisis

a. *The increasing globalisation/interconnectivity of financial markets*. This unanticipated development served to amplify the consequences for the financial sector and for the real economy of these swings in market sentiment and the breakdown of trust. The ensuing collapse of effective demand required fiscal injections, with significant consequences for the financial position of governments, and for bond markets.

b. *The content of financial regulation, including national differences in regulation.* Regulatory issues loom large in discussion of the causes of the crisis as well as its cure. Deregulation and capital adequacy requirements arguably sowed the seeds of the crisis, while a lack of clarity over regulation exacerbated it. This lack of clarity applied for example to the use of the lender-of-last-resort facility and depositor protection, and to the differences between national regulatory frameworks and their realm of application. Theory should also be able to contribute to discussion of regulatory reform.

This paper will focus on the first pair of problems as being the more fundamental ones when considering how to approach building theory. At the same time, we will bear in mind the need for theory to accommodate unanticipated developments and to allow for

theorising about institutions and behaviour in such a way as to inform policy with respect to regulation. But we leave aside the full complexity of the particular issues raised by these latter problems. In the case of each of the two issues on which we put our focus, we explore the way in which theory needs to be approached in order to give them full treatment, and compare the policy implications both of mainstream theory and of a more pluralist range of approaches to theorising.

The Role of Market Sentiment

> We can model the euphoria and the fear stage of the business cycle. Their parameters are quite different. We have never successfully modelled the transition from euphoria to fear. (Alan Greenspan, *Financial Times*, 27 March 2009)

The crisis was the outcome of ever-increasing leveraging on the part of all sectors on the basis of confident expectations of continuing rises in asset prices, what Greenspan here refers to as 'euphoria', and of continuing financial stability. When these expectations were not met for some assets, asset sales and defaults (due to high leveraging) added fuel to the reversal in asset prices and to the increasing reluctance of banks to supply liquidity. This was exacerbated by the banks themselves now holding and trading in assets whose prices were reversing. Market sentiment changed from euphoria to fear. Before considering how this transition might be modelled, we need to consider how it may be conceptualised first, then theorised, and then, possibly, modelled.

The terms Greenspan used are psychological, and behavioural finance has done much to introduce conceptualisations from psychology into the analysis of financial markets. But, because the stated aim, or at least the outcome, has been to incorporate psychology into the existing formal mainstream framework of rational choice theory (see eg Kahneman 2003; DellaVigna 2008), the conceptualisation has necessarily been constrained in a particular way, either as cognitive limitations or as unconventional preferences (see further Dow 2010a). Rationality is defined as the logical pursuit of given goals, such that anything which falls outside such behaviour is defined as irrational (and to be limited or discouraged by policy). The benchmark is full information, including information about objective risk, so there is a concern with cognitive limitations which limit the absorption of information, and thus estimation of risk, on which rational decisions are based. The more activity is dominated by professional players in financial markets, with the fullest information and the least distraction by unconventional preferences and irrational behaviour, the better the chance of markets not deviating from their equilibrium path.

But recent experience suggests that market players themselves can find it difficult to price assets; indeed this is the normal pattern when markets undergo structural change, as evidenced by the collapse of LTCM. To contemplate an objective risk measure, which markets are to identify, is to presume that the future is knowable, at least stochastically, as presumed by mainstream theory. Unpredicted structural change challenges such a presumption. The more general case is rather some degree of fundamental uncertainty, or unquantifiable risk, which looms large particularly when current conventions of risk assessment are challenged by events.

Keynes (1921, 1937) provided a theory of behaviour under uncertainty to explain, not only how we (as agents or as theorists) cope with uncertainty but also how we are able to take positive action under uncertainty; he pointed out that it would not be rational (in the strict mainstream sense) to make any positive decision to invest under uncertainty. While, rationally, we draw on theory and evidence based on past experience as far as possible, this cannot be sufficient to guide action with respect to an uncertain future. Further, deductive reasoning cannot explain why a set of expectations could change from Greenspan's euphoria to his fear. We make up the gap left by uncertainty by drawing on conventional judgements (Davis 1994) and by exercising (or not) animal spirits (Dow and Dow 1985). Neither of the latter is grounded in rational choice theory as defined by mainstream economics, and indeed would be classified as irrational.

But to accept that classification in terms of rationality is to accept the bounds of that approach to theory. For Keynes, as for Hume and Smith, and indeed for much of the psychology literature, cognition and sentiment are not a mutually-exclusive dual, but rather are interdependent (Dow 2010a). Thus reason requires a foundation in conventional belief (just as the Bourbaki project found that deductive mathematics cannot be constructed as a self-sufficient system) and must be combined with the exercise of the imagination, along with emotion, to motivate behaviour. Far from being something to be discouraged, sentiment (or emotion) is necessary for decision making.

Animal spirits are necessary for firms' investment decisions, given uncertainty, and also for market leaders who trigger changes in market sentiment by making bold moves against the market. But for most market players it is (informed) conventional judgement which is most important. While individuals are the unit of mainstream

analysis (with possible, though logistically limited, modification to incorporate other-regarding behaviour), other approaches understand individual identity in relation to society (Davis 2003). Rather than a basically selfish individual constrained by society, Smith (1759) in the *Theory of Moral Sentiments* analysed individuals whose behaviour is in reference to society's judgements, or an imagined impartial spectator who judges behaviour. (This does not presume unselfish behaviour, but rather behaviour which is aware of the consequences for others, and takes this into account in varying degrees.) In the absence of certain knowledge, a successful society therefore evolves in such a way as to enable action in spite of uncertainty. Institutions are formed and conventions established which provide a stable foundation for decision making (van der Lecq 1998).

Conventions may be challenged by events – they too evolve – and this is particularly the case for conventional judgements. In Keynes's terms, confidence in the conventional low assessment of risk increased as markets followed a relatively stable path up to 2007. This psychological state had real consequences in employment, production and expenditure. Conventional judgements were part of the reality, in turn affecting the reality, and reinforcing themselves reflexively as asset prices continued to rise (Soros 2008). Market players framed the reality in terms of mainstream theory, which suggested that rational market behaviour was expected to produce the pricing of assets in line with true risk and the best outcome for society (or at least this framing was used rhetorically). But conventional risk assessment was thrown into disarray with the crisis, and it took some time for new, more wary, conventions to become established.

Let us now consider the implications of this way of understanding the nature of behaviour in financial markets, first for approach to theory and then for policy. As far as

theoretical approach is concerned, questions arise about the scope for deductive logic (which relies on the certain, or certain-equivalent, knowledge as to the truth-value of premises). If the nature of the economic system is such that it does not behave in a law-like way which allows confidence in quantification of risk, then uncertainty is the general case. To focus on law-like behaviour and quantifiable risk is therefore to focus on a special case, with uncertain scope as to application. In particular, the mainstream approach is to attempt to capture behaviour in a deductive mathematical system. This approach has the advantage of clarity and consistency within itself, where the aspects of reality under consideration are made commensurate by mathematics, but at the cost of limiting what can be considered (Chick and Dow 2001).

Much follows from the centrality of the concept of rationality, by its special definition, in mainstream economics. Just as economists are seen as rationally constructing deductive models of stochastic relationships, so economic agents rationally optimise on the basis of risk assessments based on stochastic relationships. But if in fact behaviour is based on conventional judgements, eg about risk, which are subject to non-deterministic (but not stochastic) shifts, then theory needs to address the factors underlying those conventions, and shifts in the conventions. Just as Keynes argued that, in society, our behaviour is based on knowledge derived in a plurality of ways from a plurality of sources (with input from emotions), so also the analyst may usefully draw knowledge in a pluralist way. Mathematical models play a part, as a way of expressing partial arguments in a clear way. But because uncertainty, conventions and emotions, as well as non-deterministic evolution of institutions, cannot be modelled in the conventional deductivist way, any argument based on a formal, closed model is

inevitably partial and requires putting together with other lines of argument and different forms of evidence, in order to increase weight of argument (Lawson 2009). It is worthwhile to consider that, while Keynes referred to the usefulness of formal models, he nevertheless warned about the importance of keeping in mind the closures which models require, but which need to be relaxed for application of the model's conclusions:

> [I]n ordinary discourse, where we are not blindly manipulating but know all the time what we are doing and what the words mean, we can keep 'at the back of our heads' the necessary reserves and qualifications and the adjustments which we shall have to make later on, in a way in which we cannot keep complicated partial differentials 'at the back' of several pages of algebra which assume they all vanish. (Keynes 1936: 297–8)

From a mainstream perspective, which effectively defines the subject by what can be dealt with by means of deductive (mathematical) logic (see eg Blaug 1999), anything else falls outside the discipline. This parallels the conclusion that anything which falls outside the particular definition of rationality is irrational, and therefore to be avoided. But if we broaden the scope of economics to allow for different approaches (methodological pluralism), the scope of the discipline expands enormously and, as in biology, the capacity to adapt in the face of environmental threats is enhanced. This is often misunderstood as 'anything goes'. But to consider pluralism in this way is to continue in the dualistic (either/or) approach of mainstream economics: there is only one best approach (Dow 1990). Pluralism in its own non-dualistic terms rather involves

opening up the possibility of a range of approaches, and, at another level, a range of methods within any one approach. Different approaches to economics make their own categorisations according to how they understand the economy, and select their own range of methods and criteria for theory appraisal, according to how the economic system is understood (their ontologies). The range of possibilities is thus structured according to the conventions adopted by different schools of thought in economics (Dow 2004).

The argument for a pluralist approach to economics is even stronger for policy makers who are required, not just to analyse, but to take positive action. Thus the MPC of the Bank of England (1999) has explicitly referred to the pluralism they employ, in the sense of a range of methods (see further Downward and Mearman 2008). Central bank publications have been addressing uncertainty increasingly frequently (see eg Aikman et al. 2010 for a recent discussion). While policy-makers need to decide on their own overall approach and thus range of methods, there would also be benefit in increased awareness of what other approaches can offer, ie methodological pluralism (going beyond the range of theory within mainstream economics). Each approach has its own strengths and weaknesses, and unanticipated developments might call for guidance from alternative approaches. As Keynes (1921) argued, confidence in judgement is higher the more different types of evidence (and reasoning) support that judgement.

For the particular case of the current response to the crisis, the implication of the argument developed above is that market sentiment should be taken seriously, not as something to be ignored or eliminated as irrationality, but rather as the normal mechanism for market judgement in the face of uncertainty. Theory used to understand developments in financial markets should therefore include analysis of decision-making

under uncertainty, including any changes in the institutional environment which might alter the process of arriving at, and perpetuating, judgements. This would suggest input from 'old' institutionalist theory (Rutherford 1994; Hodgson 1999) and 'old' behavioural theory (Earl, ed., 1989; Sent 2004) which (unlike the 'new' versions of this theory) are not constrained to analyse behaviour in terms of rational optimisation by atomistic individuals. These other theoretical approaches would aid understanding of market sentiment and what causes it to change, but also point to possible policy intervention in order to stabilise markets. Conventions may depart from what the authorities regard as reasonable (rather than narrowly rational) judgement, and psychological theory can inform the analysis (see eg Tuckett and Tafler 2008). This implies, first, the development of mechanisms for monitoring market sentiment, and second addressing monetary policy (especially communication of monetary policy) to moderating market sentiment when it is judged to be lacking a grounding in reality.

The Role of Trust

The Keynesian theory of knowledge under uncertainty outlined above emphasises the role of (socially) conventional knowledge. But the functioning of the economy in general, and of monetary policy and financial sector reform in particular, require the presence of a key social convention: trust. A major challenge posed by the banking crisis has been how to address the general breakdown of trust between the central bank, the banks and the public.

Trust has been the subject of new literature within the mainstream, particularly in the form of trust games, where the responses of other parties to incentives are not known

with certainty (Berg, Dickhaut and McCabe 1995). But, as Hughes (2008) shows, conceptually trust in this approach either collapses into rational optimising behaviour (within these circumstances) or it is irrational (and thus to be discouraged). At best, other-regarding behaviour can be incorporated by placing the pay-offs to others in each others' utility functions in a calculative way. But this is different from trust. Here again we see the choice of approach determining the scope of theory.

The Hume/Smith/Keynes approach outlined above takes other-regarding behaviour as a starting-point rather than a modification. Indeed according to this approach, market economies could not function without social conventions, the most important of which is trust. Rather than the calculative trust of the game theory approach, this conceptualisation sees trust as an alternative to calculation (where calculation would not be possible, given uncertainty). Hughes (2008) argues that trust refers to expectations with respect to agency (the actions of identifiable agents or organisations). Confidence rather refers to the successful build-up of trust with respect to the structure of organisations. But when confidence in structure is challenged, as during the crisis, the issue reverts to one of trust, and thus agency. What is at issue now is the agency of central bankers, bank CEOs and the borrowing and investing public.

A historical approach is called for, since confidence and trust are built up as a result of extensive periods of experience, and this is evidently the case with banking. As Chick (1986, 1993, 2008) demonstrates within her stages-of-banking-development framework, fractional reserve banking emerged as a result of the convention emerging of using bank liabilities for payments, a convention which relies on confidence in the banks managing their assets prudently. From a narrow rationalistic perspective, fractional

reserve banking should not work, since it relies on what cannot be strictly rational expectations as to risk of bank collapse. Instead it relies on a socio-psychological convention; the more confidence builds up, the less the possibility of bank failure is contemplated.

Central banking develops as the potential for instability in banking becomes recognised as a threat to the maintenance of confidence and thus to the successful working of the system. Central banks use banking regulation, and supervision and monitoring with respect to this regulation, to promote prudent bank behaviour. In addition, the central bank stands ready to supply liquidity to any bank in trouble through the lender-of-last-resort facility. The existence of this facility encourages confidence which in turn reduces the need for it to be brought into play. The banks are therefore providing a public good in the form of the liquidity of their liabilities, with the support of the central bank.

But there are tensions between the profit-seeking behaviour of banks and the central banks' need for them to behave prudently. Maintaining a balance between these tensions, which might in the past have rested on personal relations between bank Governors, was challenged in recent decades by the growth in scale and complexity of the banking sector. Banking now included a much wider range of functions than deposit-taking, direct lending and safe investments. Banks had been given more latitude to pursue profits in the 1980s with deregulation. But restrictive reregulation in the form of capital adequacy requirements had the unintended consequence of encouraging banks to seek profits off balance-sheet by securitisation and by activities in derivatives markets which were important ingredients in the build-up to the crisis. While banks continued to supply

the bulk of society's means of payment, with the lender-of-last-resort facility still in place, they were exposing themselves to increasing degrees of risk. With growing awareness of that risk (and the weakness of knowledge as to the extent of risk) trust between banks, as expressed by inter-bank lending, broke down and so the confidence in the market's capacity to supply liquidity broke down. The public's confidence in some banks broke down (amid general uncertainty about deposit insurance protection) leading to bank runs which led to a contagious lack of confidence in banks more widely. Both banks and the public in the initial crucial stages were unsure as to whether the central bank would use the lender-of-last-resort facility, further damaging confidence. Unlike the systemic risk which arises from interconnectedness of highly-leveraged portfolios, the systemic risk here refers to the loss of confidence in one bank spreading to others exposed to similar forces, something which does not lend itself to capture by deductive reasoning.

The mainstream approach to theory suggests that the resulting policy issue be addressed in terms of moral hazard: the unintended effect of insurance as encouraging the taking on of increased risk (where there is some limit on the scope for monitoring that risk) (see further Dow 2010b). In spite of the term 'moral', the issue is one of rational optimising behaviour, under asymmetric information. Because such behaviour is not other-regarding, it is opportunism. It may be regarded implicitly as immoral because the outcome is a reduction in social welfare because it impedes markets from finding the social optimum; but because this outcome is an unintended consequence, it may not be regarded as immoral. In any case, morality is equated with rationality in this approach; the impartial spectator, which Smith discussed as a mechanism for promoting moral

standards, is discussed by behavioural economists as a mechanism for ensuring rational choice (see Ashraf, Camerer and Loewenstein 2005).

The policy implications of this theoretical approach are, first, that opportunities for moral hazard be limited by regulation, hence the proposal to limit banks to their traditional functions to limit the scope for opportunistic behaviour. Second, in the spirit of calculative rational behaviour, financial incentives (bonuses etc) would be regulated in such a way as to incentivise more prudent behaviour on the part of bank management and employees. Third, the scope for irrational behaviour among borrowers from banks would be promoted by 'nudging', as a substitute for the impartial spectator (Thaler and Sunstein 2009). Trust between central banks, the banks and the public would be restored, ie it would be seen to serve calculative self-interest to trust.

But if we go back to the more general theory of knowledge under uncertainty, where social conventions, including trust, are essential building blocks for market activity, some important elements have been excluded from the mainstream theoretical approach. First, alternative approaches suggest that important influences on behaviour are non-calculative and thus not amenable to modelling as optimising behaviour. In particular, behaviour which observes moral norms with respect to trust, and then the breakdown of such behaviour and the breakdown of trust, are difficult to capture fully in a deductive framework. Indeed confidence entails quite the opposite of calculation, reducing the need even to pay attention to the possibility of bank failure.

Theories as to social conventions, and the nature and role of trust, have been explored by 'old' institutionalist theory, while the role of confidence in the development of banking has also, as we have seen, been analysed within the evolutionary approach.

Finally, since some social conventions involve moral judgement, eg as to standards of fairness, it is important for economic theory also to be able to address such considerations. Notions of fairness effectively fall outside the realm of rationality in the mainstream framework (Akerlof and Schiller 2009). Nevertheless, much of the public policy discourse surrounding the crisis has focused on issues of fairness. This is evidence of the other-regarding behaviour analysed by Adam Smith. Fairness issues may be raised for selfish or unselfish reasons (reflecting concern over one's own relative position, or that of others). The point is that it is an issue for individuals understood as members of society. Similarly, in the financial sector, employees may respond to bonuses as relative indications of standing, rather than being incentivised by absolute amounts. Since such considerations are important to the internal running of organisations, as well as to relations of trust between central banks, banks and the public, a theoretical approach is needed which can address them, in order to inform policy. Indeed, since corporate culture and issues of governance have arisen as sources of problems within financial institutions which gave rise to the crisis, a theoretical approach is required which focuses on institutions too in terms other than incentives based on (narrow) rational, fully-informed calculation. Behaviour within and between organisations, as between individuals, involves social empathy and uncertainty.

According to this alternative approach, moral hazard involves a wider range of issues surrounding the breaking of trust than the mainstream definition. If the banks had risked the trust of the central bank (as well as other financial institutions) by their opportunistic behaviour, the central bank also risked the trust of the banks by not clearly standing by the lender-of-last-resort facility from the start. Where trust is the outcome of

conventional judgements with respect to long experience, it is not calculative, but nevertheless an important element in relations within the economy. Breaking with the conventional behaviour which underpins trust bears the serious risk of breaking trust, requiring new prolonged experience for trust to be restored.

A return to traditional banking is being considered as a response to the moral hazard and fiscal problems associated with the lender-of-last-resort facility being provided to large banks. But it would be important for a clear commitment to be made to continuing to make the facility available to these narrower banks. In principle, if these traditional banks were to fail, deposit insurance would protect depositors. But, given uncertainties over the insurance process, exacerbated by differences in national regulation and practices in a global banking environment, it is hard to see how confidence would in fact be restored without such a commitment. Given uncertainty, particularly in the kind of circumstances where a bank might fail, rational calculation would not in fact justify trust. Rather, as the evolutionary approach demonstrates, it takes time, reassurance and experience for society to restore a convention of trust.

Conclusion

The aim here has been to point out that there are different possible approaches to economics which can inform policy (not just different theories within one approach). Each starts from its own view of the nature of the economy, categorises it accordingly, and established criteria for good argument. It has been suggested that a deductivist approach dominates mainstream economics and mainstream economic policy (in spite of challenges from evidence). But this should not be regarded as the only option. For all its

attractions, this approach limits coverage of important issues which have arisen with the crisis. The starting point of rational optimising individual behaviour limits the scope for understanding market sentiment (indeed any sentiment, eg with respect to fairness), and how it may change. It also limits the scope for analysing trust, and considering how it may be restored.

To argue for consideration of different approaches is to argue for methodological pluralism. This is not at all to advocate that 'anything goes', but rather that reasoned judgement be applied to considering which is most useful among the range of possibilities within which different sets of economic theory have been developed. (These approaches each represent a set of conventions among groups of economists as to how to build knowledge.) We have illustrated the significance of difference of approach in terms of policy to address the crisis.

Since the mainstream approach prioritises argument expressed in deductive mathematics, methodological pluralism also refers to the possibility of different types of argument (plurality of method); deductive mathematical reasoning itself precludes a wide range of subject matter which can more readily be analysed using a range of other methods (possibly alongside partial mathematical models). The issue is whether a deductive mathematical model can be sufficient argument in itself, or whether it can only yield partial arguments for input with other forms of argument. If the latter is the case, then the role of judgement, in choosing strands of argument addressed to a particular context, and considering how to put them together, becomes central.

As suggested earlier, the best place to start in exercising judgement is an account of the reality to be analysed. On this basis, emphasis was placed here on the significance

of fundamental uncertainty, for agents and for economists, which society addresses by developing conventions. But the urge to action requires animal spirits in spite of uncertainty. It is to be hoped that the extreme circumstances of the crisis may fire up the animal spirits of economists to reconsider and challenge their own conventions in a constructive way.

References

Aikman, D, Barrett, P, Kapadia, S, King, M , Proudman, J. Taylor, T, de Weymarn, I and Yates, T (2010) 'Uncertainty in macroeconomic policy making: art or science?' Paper delivered to The Royal Society Conference on 'Handling Uncertainty in Science', 22 March 2010, London

Akerlof, G and Schiller, R (2009) *Animal Spirits*. Princeton: Princeton University Press.

Ashraf**,** N, Camerer, C F and Loewenstein, G (2005) 'Adam Smith, Behavioral Economist', *Journal of Economic Perspectives* 19(3): 131-45.

Bank of England (1999) *Economic Models at the Bank of England*. London: Bank of England.

Berg, J, Dickhaut, J and McCabe, K (1995) 'Trust, Reciprocity, and Social History', *Journal of Games and Economic Behavior* 10: 122-42.

Blaug, M (1999) ‘The Formalist Revolution or What has Happened to Orthodox Economics after World War II’, in R E Backhouse and J Creedy (eds), *From Classical Economics to the Theory of the Firm: Essays in Honour of D P O’Brien*. Cheltenham: Edward Elgar.

Chick, V (1986/1992) ‘The Evolution of the Banking System and the Theory of Saving, Investment and Interest’, *Economies et Sociétés,* serie *Monnaie et Production* no. 3, 111-26, reprinted in P Arestis and S C Dow (eds) *On Money, Method and Keynes*. London: Macmillan.

Chick, V (1993) ‘The Evolution of the Banking System and the Theory of Monetary Policy’, in S F Frowen (ed.), *Monetary Theory and Monetary Policy: New Tracks for the 1990s*. London: Macmillan.

Chick, V (2008) ‘Could the crisis at Northern Rock have been Predicted?: An Evolutionary Approach’, *Contributions to Political Economy* 27: 115-24.

Chick, V and Dow, S C (2001) ‘Formalism, Logic and Reality: A Keynesian Analysis’, *Cambridge Journal of Economics*, 25(6): 705-22.

Davis, J B (1994) *Keynes’s Philosophical Development*. Cambridge: Cambridge University Press.

Davis, J B (2003) *The Theory of the Individual in Economics: Identity and Value.* London: Routledge.

DellaVigna, S (2009) 'Psychology and Economics: Evidence from the Field', *Journal of Economic Literature* 158(2): 315-72.

Dow, A C and Dow, S C (1985) 'Animal Spirits and Rationality', in T Lawson and H Pesaran (eds), *Keynes' Economics: Methodological Issues*. London: Croom Helm, 46-65.

Dow, S C (1990) 'Beyond Dualism', *Cambridge Journal of Economics* 14(2): 143-58.

Dow, S C (2004) 'Structured Pluralism', *Journal of Economic Methodology* 11(3): 275-90.

Dow, S C (2010a) 'Cognition, Market Sentiment and Financial Instability: Psychology in a Minsky Framework', *SCEME Working Paper*, forthcoming.

Dow, S C (2010b) 'Economics and Moral Sentiments: The Case of Moral Hazard', paper presented to the CES Seminar on Facts, Values and Objectivity, Coimbra, March.

Downward, P and Mearman, A (2008) 'Decision-making at the Bank of England: A Critical Appraisal', *Oxford Economic Papers* 60(3): 385-409

Earl, P E ed. (1989) *Behavioural Economics*, vols 1 and 2. Aldershot: Edward Elgar.

Hodgson, G M (1999) *Evolution and Institutions: On Evolutionary Economics and the Evolution of Institutions*. Cheltenham: Edward Elgar.

Hughes, P (2008) 'Trust in Behavioural Game Theory and Institutional Economics: A Smithian Approach', paper presented to the SGPE Conference, Dunblane.

Kahneman, D (2003) 'Maps of Bounded Rationality: Psychology for Behavioral Economics', *American Economic Review* 93(5): 1449-75.

Keynes, J M ([1921] 1973) *A Treatise on Probability , Collected Writings* vol. VIII. London: Macmillan, for the Royal Economic Society.

Keynes, J M ([1936] 1973) *The General Theory of Employment, Interest and Money , Collected Writings* vol. VII. London: Macmillan, for the Royal Economic Society.

Keynes, J M ([1937] 1973) 'The General Theory of Employment', *Quartlery Journal of Economics* 51, reprinted in *The General Theory and After: Defence and Development. Collected Writings* XIV. London: Macmillan for the Royal Economic Society.

Kreps, D M (1990) 'Corporate Culture and Economic Theory', in J E Alt and K A Shepsle (eds), *Rational Perspectives on Political Science*

Lawson, T (2009) 'The Current Economic Crisis: its nature and the course of academic economics', *Cambridge Journal of Economics* 33 (4): 759 - 77.

Rutherford, M (1994) *Institutions in Economics: the Old and the New Institutionalism*. Cambridge: Cambridge University Press.

Sent, E.-M. (2004) 'Behavioural Economics: How Psychology Made Its (Limited) Way Back into Economics', *History of Political Economy*, 36(4), 735-60.

Smith, A ([1759] 1976) *The Theory of Moral Sentiments*, edited by D D Raphael and A L Macfie. Oxford: Clarendon.

Soros, G (2008) *The New Paradigm for Financial Markets: The Credit Crisis of 2008 and What it Means*. London: Perseus Books.

Thaler, R H and Sunstein, C R (2009) *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New Haven NJ: Yale University Press.

Tuckett, D and Taffler, R (2008) 'Phantastic Objects and the Financial Market's Sense of Reality: A Psychoanalytic Contribution to the Understanding of Stock Market Instability', *International Journal of Psychoanalysis* 89 (2): 389-412.

Van der Lecq, F (1998) *Money, Coordination, and Prices.* Groningen: Rijksuniversiteit Groningen.