Moral Hazard and the Banking Crisis*

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Abstract

The purpose of this paper is to explore the issue of moral hazard in banking as it has arisen in the current banking crisis. It has been argued that banks took on excessive risk because of moral hazard, implying that regulation and practice should change, such that banks would no longer enjoy the guaranteed support of the state. And yet Post Keynesian banking theory suggests that the functioning of a capitalist economy requires bank-issued money in which there is absolute confidence, implying that continued state support of banking is important. The paper begins by exploring these different positions in terms of theory of banking. But, in order to understand the source of these different positions, we then explore the different meanings given to moral hazard, and the underlying differences with the respect to the role of moral sentiments more generally. We consider first the mainstream interpretation of moral hazard as an expression of rational behaviour. Sentiment is separable from rationality, and is seen (if at all) as requiring an ex post modification of rational choice theory. Policy addressing moral hazard must therefore be formulated in terms of financial incentives. We then consider an alternative approach where knowledge and behaviour are built on (moral) sentiments, such that reason and sentiment are complementary. It is argued therefore that sentiments, including moral sentiments, are endemic to the functioning of the economy; this accords with the central role of market sentiment in Minsky's financial instability hypothesis. Policy addressing moral hazard and the banking crisis therefore needs to address social conventions within banking itself, and the society-wide convention of money. It is demonstrated therefore that the position taken on the issue of state support for banking follows from the position taken on the role of sentiment.

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Introduction

The financial crisis has aroused a public discussion of morals. There was first the issue of blame: was the crisis due to the greed of bankers, to weak regulation, to greed in society? This issue is all the more pointed because of the ensuing costs. Shareholders of failed banks lost out – was this a result of the normal market process, corporate malgovernance or a failure of regulation? Asset holders more widely lost value as markets collapsed. The fiscal cost of containing the banking crisis is now resulting in efforts by governments to reduce deficits by reducing public services and benefits and raising taxes, greatly increasing and spreading the on-costs society-wide.

Much of the focus of the resulting moral outrage has been on the remuneration of bankers. While regulators focus on the structure of remuneration having incentivised undue risk-taking, the general public focus on pay-offs to senior executives of failed banks and large bonuses paid to bankers whose activities were most closely involved in the run-up to the crisis. Much of the protest is about the perversity of apparent rewards for imposing costs on society. But much is a moral objection to the growing disparities in incomes more generally which resulted from the general process of deregulation dating from the 1980s, and the expectation that this will be reinforced by a disparity in the distribution of the costs of the crisis. This outcome seems to fly in the face of the principle of natural justice.

Ever since the marginalist revolution, questions of morals have been deliberately excluded from mainstream economic discourse as not being the concern of economists. This follows from the view that economics is a positive science. Bankers' remuneration is thus to be discussed by economists in terms of value of marginal product within a competitive labour market. Akerlof and Shiller (2009) have recently departed from this approach by bringing the moral concept of fairness into the discourse. Nevertheless they maintain the customary strict division between rationality and morals.

Yet at the centre of the mainstream analysis of the crisis has been the concept of moral hazard. The acceptance by banks of undue risk was seen as a consequence of the historical experience of central banks supporting the banking system in order to prevent crisis. The support given again in the current crisis reinforces this moral hazard, sowing the seeds of the next crisis. This mainstream framework presumes rational behaviour which, in the context of moral hazard, is opportunistic. But is it immoral? The ambiguity of moral hazard as a concept arises from the possibility that it can be captured as rational behaviour.

The purpose of this paper is to explore the concept of moral hazard in relation to the financial crisis, with a view to suggesting a policy response. Concern with moral hazard was central to the way in which the authorities responded initially to the onset of crisis. But first we consider the different approaches to understanding money and banking, and then set out the much broader context of the relation between morals, ethics and economics, exploring how far they can in fact be kept separate. We explore the background to the history of economics as a moral science. There is an extensive

literature about (moral) values in economic theory (see eg Brennan and Waterman, eds, 1994; Peil and van Staveren, eds, 2009). Morals can be identified in economics at a variety of levels, but the way in which they appear in economic theory depends on the methodological framework: the closed-system rational-choice framework or any of the open-system political economy frameworks. As a result the literature has involved a significant amount of talking at cross purposes, not least because of the different meanings attached to terms in the different frameworks. We will see that this will be significant for our discussion of moral hazard. Finally we consider morality in financial institutions more generally, allowing a discussion of the policy response to moral issues within the financial sector, which concludes the paper.

Moral Sentiment and the Financial Sector

The mainstream analysis of moral hazard assumes behaviour to be rational with respect to self interest, ie opportunistic opportunistic in the sense that it takes advantage of an opportunity for personal benefit even if it is at the expense of others. ('Personal benefit' is to be read more generally to refer to the benefit of the active party, whether an individual or a company.) Moral hazard in the financial sector has been analysed in relation both to loan contracts, and to state support for banks in the form of deposit insurance and the lender-of-last-resort facility. As far as the former is concerned, it relates to the relationship between borrower and lender. New Keynesian theory postulates opportunistic behaviour on the part of borrowers who conceal their increased risk exposure from the lender; were banks able to stipulate contracts to cover all the behaviour of borrowers, they could otherwise increase the interest charge in compensation (Stiglitz and Weiss 1981). The presumption is that risk is knowable; this presumption continues to underlie New Keynesian analyses of the crisis as resulting from information asymmetry (see for example Calomiris 2009).

But if, from a political economy perspective, full knowledge of risk is impossible for lender and borrower, because in an open system objective risk cannot be measured, then what borrowers are concealing is not true risk. Each party may estimate risk, but each will regard that estimate with some degree of confidence which falls short of absolute certainty. Borrowers may conceal information, and lenders may accordingly find it more difficult to assess risk. But even if there were no concealment, lenders are unable to identify true risk, and therefore can only arrive at a judgment to which they attach higher weight. Ultimately, since neither party can have full understanding of the future path of the conditions under which the loan contract is made, the lender-borrower relationship relies on trust. The lender trusts the borrower not to flout the understanding on which the loan was made by intentionally taking on additional risk. The borrower trusts the lender to attempt to reschedule the loan if the borrower has difficulty servicing it. While mainstream theory would analyse trust effectively as the exercise of rational self-interest, the open-systems approach analyses it in terms of conventional understandings about the exercise of agency (Hughes 2008). Moral hazard is the danger that these understandings break down, eroding trust.

The trust relation works both ways. The bank customer also faces moral hazard in a way similar to that between patient and health professional. The bank is regarded as having

financial expertise, as well as a position of trust in terms of managing their customers' finances; for many small businesses banks act as financial advisers as well as lenders. In a successful trust relationship, banks would not encourage borrowing which was not in the customer's best interests. Where banks instead encourage borrowing without reasonable expectation of ability to service debt (sub-prime mortgages, student credit cards etc), then the trust relationship is threatened – there is moral hazard.

But the discussion of moral hazard of longer standing refers to the possibility that banks take on higher risk because of protection from failure by central banks through the lender-of-last-resort facility, or depositor protection through state-sponsored deposit insurance (see for example Calomiris, 1998, with respect to IMF support). There was considerable discussion in the 1930s around the introduction of deposit insurance in the US (McCallie 1995), pointing to the risk that bank customers would not pressure their banks to hold prudent asset portfolios because they were protected by deposit insurance. The free banking literature, more generally, identified the activities of the state as lying behind banking crises, precisely because of the moral hazard problem. The argument has been revived for the modern context by a leading free banker, Dowd (2009).

Moral hazard in this context need not involve active concealment of information, just inattention on the part of bank customers and either poor monitoring by the central bank, or an inability of the central bank to prevent increased risk taking. But the current crisis involved all of these things. Structured products which incorporated securitised loans in an opaque way concealed the extent of risk attached to them; this concealment would appear to have been deliberate. Yet the products were traded in spite of their make-up, and therefore the lack of clarity as to the likely risk attached to their value. Market sentiment was such as to encourage optimism that downside risks were low and asset prices would continue their long rise.

Because of a longstanding conventional understanding that banks would not be allowed to fail, customers did not seek to place deposits on the basis of assessment of bank asset portfolios. Rather, although relative returns on deposits were a major factor in bank choice, nevertheless the inertia associated with a longstanding trusting relationship with a particular bank meant that many bank customers continued to deal with the bank they had always dealt with (often continuing family habits of trust in a particular bank). However, because banks themselves trusted the central bank to provide support to prevent them from failing, they took on additional risk which brought about the prospect of failure.

Free bankers argue that the moral hazard problem can be resolved by removing the state from banking altogether (Dowd 2009). Banks would succeed or not on the strength of their portfolios. Customers would signal to banks their unhappiness with an increased exposure to risk by withdrawing deposits and placing them with preferred banks. The market would thus discipline banks which did not behave prudently. This proposal falls squarely within the mainstream approach. It is presumed that there are objective risk measures to which everyone in principle has access. It is presumed that banks risk failure only at the micro level as a result of imprudent behaviour; there is no risk of systemic crisis, whereby, if one bank is in trouble it is reasonable to doubt other banks. And finally it is presumed that society will accept as money the liabilities of banks, where the value of the liabilities changes with the value of assets.

It is worthwhile to consider how state support for banks arose in order to address this proposal. Chick's (1986) stages of banking development framework provides the basis for this analysis. In the early days of banking, society needed new forms of money for trade, since coins were in limited supply. As confidence grew in deposit-taking banks, their IOUs (first notes, then cheques) became acceptable in payment, and now bank deposits form most of the money stock. This only continues to be the case if depositors are confident that their deposits keep their value, ie banks hold good enough assets to allow them to cash in deposits as required. As long as confidence is maintained, cashing-in deposits is in fact limited. But with bank deposits now the main form of money, the economic system would collapse if confidence in bank deposits failed.

Once depositors started keeping their deposits with banks and payments stayed within the banking system, banks learnt that, not only could they lend out the deposits already made, but they could also make additional loans by placing new deposits in the borrowers' accounts. This provided a boost to economic growth because investment could be financed ahead of saving. Banks' reserves were therefore less than deposits (ie technically not all deposits could be cashed in at once). But the system worked as long as depositors continued to keep their payments within the banking system, ie as long as confidence in the banks was maintained.

Central banks took on the role of promoting confidence in banks by encouraging prudent behaviour (normally in the form of specifying the ratio of total assets to be held liquid as reserves, as well as monitoring and supervising the banks). But they also undertook to provide liquidity as lender-of-last-resort; the fact that this facility was available made its use less necessary, since it promoted confidence in the banks. Finally systems of deposit insurance were set up in case rescue was impossible, again promoting customer confidence.

This system worked well and served the needs of bank customers and society more generally. But it created tensions. First, tensions grew between the central banks' need to control bank behaviour to maintain confidence and the banks' drive for profits. The success of the central bank supporting the banks provided the basis for the rapid growth of the rest of the financial sector in the 1960s and 1970s and banks saw their market share threatened. The financial sector (including banks) succeeded in pressuring governments to deregulate so that financial institutions could compete in each others' markets. As a by-product of banks' need to protect market share they became proactive in creating credit, pushing loans rather than responding to customers' needs, threatening the conventional trust relationship. Capital adequacy ratios were introduced in the 1980s to address this, but just encouraged banks to securitise loans and seek off-balance sheet sources of profit, all of which laid the foundations for the crisis.

The second tension was between the need for banking to be competitive in order to provide the best, low-cost service to customers on the one hand, and the need for banks to be large enough to make them less vulnerable to failure on the other. The natural state to which banking settles is oligopoly, which provides stability (which is in the interests of customers) but also gives banks market power (against the interests of customers). The

result of these two tensions is the 'too big to fail' issue. Larger banks were seen as more secure, not just because of their greater ability to protect themselves from adverse developments, but also because the authorities would not contemplate their failure (either for political reasons, or more generally because it would threaten the payments system and thus the whole functioning of the economy). This is the moral hazard, that insurance in the form of the lender-of-last-resort facility encourages banks to take higher risks.

The crisis which resulted was therefore due to two forces. One force was the increasingly imprudent behaviour of banks which was allowed by deregulation and the increasing fragility of the financial system as a whole as a result of increased leveraging by financial institutions, companies and households. Once some asset prices reversed their rise, cash flow problems arose, defaults occurred which caused asset sales and further falls in asset prices. The financial system was so-interconnected worldwide that the problems were systemic. The other force was the turnaround in confidence in banks. The state's promotion of confidence in banks had been so successful that customers had not considered failures as a possibility (in the UK at least). But once the banks' problems became a matter for public discussion and there was uncertainty as to whether the lender-of-last-resort facility would be used in practice and as to the details of deposit insurance, confidence in banks fell. This too was systemic; while Northern Rock was the main focus of attention in the UK, concerns grew as to the viability of other banks. Banking only works if confidence is maintained so that deposits are not withdrawn. If confidence fails, the system cannot work.

The conventional relationship between state and banks was thus based on the confidence that each would conform to the implicit agreement that the central bank would support the banks in exchange for the banks acting effectively as an arm of the state in supplying the bulk of money. Similarly moral sentiments played a part in the relations between banks and their customers. While mainstream theory would see moral hazard in the form of conditions allowing opportunistic behaviour, political economic theory sees a much wider erosion of moral sentiments in relations between banks, the central bank and bank customers. Before considering the implications of each of these views for policy, we consider more closely how each conceptualises moral hazard.

Morals and Moral Hazard in Mainstream Theory

Mainstream theory sets out to be positive in the sense of being value-free on the part of the economist, but providing the basis for others to make normative judgements. Indeed this methodological choice in favour of positivist economics rather than some other way of judging theories itself involves ideology, as Backhouse (2005) argues. Ideology involves a set of values (moral judgements, broadly understood), usually with a view to changing society. But the term also includes a way of understanding the world (an ontology) which arguably also carries over to morals more generally. To the extent that this is the case, there is therefore an epistemological angle also to morals – terms are given particular meanings, particular types of knowledge are regarded as acceptable or unacceptable, etc.

But it is in any case well-established that mainstream economics in fact employs a consequentialist moral philosophy based on utilitarianism and hedonism (Drakopoulos 1991; Graafland 2009; Hirata 2009). Welfare economics employs the liberal (potential for) no-harm principle with respect to maximizing pleasure and minimizing pain. The overall framework therefore is not value-free. Yet the language used ('rational', natural', etc) serves to reinforce the appearance of positivity that is (unreasonably) claimed.

Nevertheless agents may adopt particular value systems (such as altruism with respect to the family) which can be incorporated in utility functions (see eg Becker 1976). Moral values are thus incorporated as preferences as to goals, or ends, and are treated as commensurate. There is no scope for incorporating moral preferences about means. But in practice there are logistical limits to how far different preference sets can be operationalised, so that maximizing income subject to constraints remains the norm.

There has however been growing interest in using game theory to model interactions, with the potential for expanding the scope for introducing moral values. Indeed Adam Smith's (1759) *Theory of Moral Sentiments* has been invoked increasingly as a basis for introducing a social dimension to game theory analysis. Trust games would seem to introduce a moral dimension to relationships. However, this analysis has been shown by Hughes (2008) to collapse into optimising behaviour; individuals trust others when it is in their own calculative interests to do so. Any other incidence of trust is a sign of irrationality.

Indeed there are several indications in this literature that the word 'moral' is being used in the same way as the word 'rational'. Adam Smith (1759) discusses the role of an impartial spectator, whom we imagine expressing moral judgements on our behaviour. The impartial spectator is thus a moral check on our passions, promoting the interests of society as a whole. But within the mainstream framework, Ashraf et al (2005) discuss the impartial spectator as the voice of reason (with respect to personal self-interest) which prevails over short-term sentiment.

We find that the same applies to the word 'moral' in the expression 'moral hazard'. As Dembe and Boden (2000) explain, moral hazard had been a term used over more than two centuries in discussions of insurance to refer to the possibility that insurance would encourage the insured party to take on additional risk in a way which could not effectively be monitored. From the 1960s the term appeared in the (mainstream) economics literature on decision-making under uncertainty (eg Arrow 1963), referring to the subjective attitude to risk (or expectation of utility). Arrow considered the incomplete market for health insurance, and the significance of uncertainty (unquantifiable risk) as to the incidence of illness and the efficacy of treatment, and the different knowledge on the latter on the part of the consumer and supplier. Almost by definition, where there is uncertainty there will not be a complete insurance market. Arrow discussed the role of social convention, and trust in the ethics of medical professionals as playing an important role in limiting the scope for moral hazard under uncertainty. The moral hazard on which Arrow focuses is only partly the incentive to increase demand for medical care, but more

that medical professionals will alter treatment policy because of insurance; where market participants can influence the market, there is not a competitive equilibrium. Professional ethics are a constraint on moral hazard, implying that breach of ethics is immoral. Arrow considered solutions such as licensing arrangements for health professionals to monitor adherence to professional ethics.

But the emphasis of the ensuing literature shifted away from fundamental uncertainty and ethics towards more conventional analysis of response to incentives. Thus, in a comment on Arrow, Pauly (1968: 535) put it that: 'the response of seeking more medical care with insurance than in its absence is a result not of moral perfidy, but of rational economic behavior'. Within this more conventional mainstream analysis, all behaviour, whether moral or immoral is presumed to be rational. While the insurance literature made moral judgements on the behaviour of the insured, this economics literature intends no moral judgement. Thus in the other mainstream literature where moral hazard has arisen - credit rationing - the issue arises from borrowers concealing information from banks, who are unable to monitor the risk to which they are exposed. Information about risk (which borrowers are presumed to know) is concealed because there is an incentive to do so; were banks to identify higher risk, they would charge higher interest.

In short therefore, moral hazard in the mainstream literature is a rational response to incentives to take on increased risk and to conceal information about this. No explicit ethical judgement is involved. There is however an implicit value judgement in the conclusion that markets are being prevented from achieving the socially-optimal outcome. But there would be no reason to expect rational individuals to behave otherwise.

Morals and Moral Hazard within Open-system Economics

Fehr and Fischbacher (2002) construct a powerful argument that mainstream theory suffers from its inattention to social preferences, for which there is substantial evidence. But other-regarding behaviour, and thus the role of morals, is more integrated within a political economy framework. Several schools of thought employ some form of open-system framework which allows for any or all of the following: evolutionary change in institutions, creative individual behaviour and changing relations between individuals. In particular, institutional structures are an important source of stability in the face of an uncertain future (certain knowledge being limited by the openness of the economic system), and there is therefore a recognition of the importance of the social level (even if some schools of thought, eg neo-Austrians, notably in the work of Hayek, then focus on human agency). Indeed as Davis (2003) argues, individual identity is only defined in relation to others.

This approach supports a different reading of Smith's *Moral Sentiments* as analysing the social dimension to behaviour which underpins the functioning of society in general, and, by implication, markets in particular. There was considerable debate at the time on the origins of morals, but there was general concern about the establishment of 'civil

society', which would provide the stable basis for commercial activity (Boyd 2008). Since Smith saw moral approval (on the part of others, or the imaginary impartial spectator) as important to our sense of self, this provided a force for the cementing of social conventions. One of the most important of these conventions for the operation of markets is trust, that others will also follow the same conventions as ourselves. Breaking trust is then immoral, and undermines society.

Conventions are a form of constraint on individual choice in markets which, in the mainstream approach, would imply an inability to achieve a social optimum. In the political economy approach, such moral constraints are what enable market (and indeed all social) behavior in the first place. They enable partly through addressing the impossibility of calculative behaviour, eg with respect to bank balance sheets. But, as van Staveren (2001) argues, moral values are not commensurate in such a way as to be expressed as preferences, but rather require mediation and negotiation.

According to this approach, far from economics being a positive science, economics is a moral science (Young 1997). Values are seen as being embedded in ontology (how the world is understood), in choice of methodology, in theory and policy, and in the subject matter (either at the social or individual level). Unlike the closed-system approach, it is not a matter of incorporating moral values at a later normative stage, since they are already in the foundations (see further Dow 2010). Indeed the purpose of economic study was seen as promoting human betterment, where that included not only improved standards of living but also moral improvement. Hume and Smith saw the former as one way of promoting the latter, addressing fears at the time about the threat to moral values posed by commercial society. Insofar as individuals were incentivised by income, Smith (1759: IV.1.8) saw self-delusion, but with the positive externality of activities which promoted economic growth and thus improved living standards for others. But Smith himself emphasised the aim of living a life with propriety and self-command (Montes 2004), an emphasis on means rather than ends which Hayek (1976: 3) later echoed.

Not least because it refers to means rather than ends, within this approach the word 'moral' means something different from 'rational'. It refers primarily to social conventions as to what is desirable behaviour on the part of individuals (as well as institutions); this may or may not include religious principles. Moral hazard is therefore also understood differently. While we saw that moral behaviour is subsumed in rational behaviour in mainstream economics, ie apparently with no value content, moral behaviour in the political economy approach means conformity to one or other socially-established moral convention. This is not the exercise of rational self-interest which could undermine society, but in the nature of the behaviour of (social) individuals within a successful society. Immoral behaviour then undermines society. Moral hazard therefore involves the risk that an individual or group will behave immorally, flouting moral conventions and breaching trust.

This understanding of the nature and role of morals potentially has very wide application, ie wider than the mainstream application to insurance. While moral hazard applies in very specific circumstances in the mainstream literature (concealment of information which

allows an unmonitored increase in risk-taking), moral hazard in the political economy literature is the risk that individuals threaten the functioning of markets, and of society more widely. In this the financial sector has an important part to play, given the centrality of trust relations to its operation, and thus the scope for moral hazard as a breaking-down of that trust. But, as with other sectors, the financial sector is made up of institutions which are economic entities, but also social entities. They are organisations of people, and in this sector more than most the primary input is human capital. In considering moral hazard, the banking crisis, and policy to address them, we need to consider the sentiments which motivate behaviour at an individual and corporate level, and the institutional arrangements involved.

First, as far as the corporate level is concerned, there is a large literature on corporate behaviour which demonstrates the scope for motivations other than profit maximization or maximisation of shareholder value. Corporations may be guided by a sense of social responsibility to sponsor charity events for example. As employers, they may exercise social responsibility by exercising the principle of fairness in dealing with employees. In both, management may be motivated to cultivate the good opinion of others – the outside world, customers and employees. Within organisations, and between employees and customers, even more than in society at large, observance of some social norms is necessary for successful functioning. Thus for example even traders who only meet electronically can censure other traders who flout convention. Individuals within organisations may be incentivised by the prospect of monetary bonuses, but even here there is considerable evidence that it is the recognition of success (the approval of others), and the measure of that recognition in relative monetary value, which is of primary importance – the actual monetary value is secondary.

But of course these social conventions may not be moral. As Duran (2007) explains, the conditions which led to the Enron scandal arose because it became a social convention within large corporations to willfully deceive in their accounting practices. Accounting theory illustrates the uncertainty surrounding the ‘facts’ with respect to a company, in that the facts may be presented in a variety of ways and also interpreted in a variety of ways, such that companies can attempt to show their financial position in as favourable a light as possible. Accounting standards, professional accounting bodies, and company law are all designed to put bounds on this, which Enron overstepped. But there is still some scope here for moral hazard more generally, even within the law.

Policy Implications

While the moral hazard issue has loomed large in policy discussion in the wake of the banking crisis, how that issue is addressed depends on how it is understood. We have seen that the framework for mainstream theory produces a very different understanding from the political economy framework. Because mainstream theory focuses on rational optimising behaviour, it would suggest a change to regulatory restrictions on opportunities for optimising behaviour which allow undue risk exposure, and a change to incentives (eg the terms of bonus payments). All parties concerned are assumed to be

calculatively rational. A leading policy proposal is to use regulation to restrict retail banks, which would enjoy central bank support, to 'utility' functions, ie to traditional banking (King 2009). This would prevent much of the risk-taking activities which banks had become involved in, and force banks to focus much more on their traditional functions of providing payments services and creating credit. Instead of being 'too big to fail', the new utility banks would be 'small enough to fail'.

The policy implication of the political economy approach, rather, is that attention be directed to conventional behaviour. In their traditional role, Chick's analysis shows that banks acted, effectively, as agents of the state. They were able to rely on customers keeping their deposits with banks and running payments through their accounts because of the confidence that the deposits were safe. This confidence was based on the support of the central bank. In return the banks provided the economy with a payments system. This convention was threatened when banks strove to increase market share and profits by imprudent means, while still relying on state support. Rather than creating the possibility of banks small enough to fail, the opposite should be the case; the critical thing is to prevent bank failure. Confidence is potentially a fragile thing, and yet that is the foundation for money and banking. That is why retail banks should not normally be allowed to fail.

But if we are to maintain the payments system on which the economy depends, then the banks need to observe their side of the deal. They need to return to more prudent behaviour, which means restricting their activities and thus their exposure to risk. Other financial activities, by banks or other financial institutions, would still potentially be risky, exposing the institutions to the possibility of failure. These risks would be systemic because of interconnectedness of portfolios. But they would not be systemic in the sense of threatening confidence in the payments system if the banks were excluded from these activities. It is this latter type of systemic risk which the state needs to address as the highest priority, providing the lender-of-last-resort facility to banks (if regulation and supervision are not enough to protect them). As long as confidence is maintained, and trust conventions observed, banks are able to create credit again in the confidence that new deposits will stay in the system. A stable financial environment more generally further sustains banks' willingness to make loans to customers.

While banks were always motivated to make profit for their shareholders, there was a culture of prudence in traditional banking, promoted no doubt by informal exchanges with the central bank as well as by regulation. There are some simple regulations which could be introduced in an effort to return to that prudence, such as limits on mortgage loans in relation to income and value of property, and stricter conditions for customers to acquire credit cards.

But regulation is not enough, and is potentially counter-productive. We have seen that capital adequacy requirements encouraged behaviour which made the financial system more fragile. (And banks failed despite exceeding capital requirements.) Changing restrictions and incentives will not succeed in preventing crises if in fact behaviour does not conform to the rational, optimising model. If in fact behaviour is governed by

concerns with process, and trust has broken down to such an extent that processes are unacceptable (within banks, between banks and customers, between banks and the central bank), then policy needs to focus on making those processes work better, so that trust is restored. What is required is a change in banking culture so that it is more focused on customers' needs and the needs of society more generally (as a quid pro quo for central bank support). The cooperative/credit union/savings bank culture provides a good model, and indeed this sector has been notably successful in attracting business during the crisis. This model involves a closer relationship between bank and customer, with scope for the building up of trust, such that each regards the other's interests. Changing culture is not easy, but is nevertheless necessary if banks are to become fully functional again. The shocking experience of the crisis may provide enough of an impetus for change to happen (as it did for example in response to the Enron scandal, which was the outcome of a culture which sanctioned corporate deception).

The state therefore has a role to play in changing bank regulation in order to return to traditional banks which would then have central bank support. But it also has a role to play in changing banking culture. As Frey and Benz (2005) argued in the wake of the Enron scandal, there is scope for the private sector to learn from public governance. The current situation of government part-ownership of some banks points the way to an opportunity to change culture from within. Were the government to fully nationalise a bank, there would be scope for taking the lead in the change in culture. At the same time, it has been a major impediment for the government in the run-up to the crisis not to have the kind of detailed up-to-date expertise in banking which would have altered the government to what was happening, and also provided the knowledge on which to base the policy response. These opportunities are already available to governments which have traditionally had a presence in the banking sector, as in Portugal.

As long as the state provides society's money through private sector banks, however, the tensions noted above remain. 'Traditional' banks would be at a competitive disadvantage if they were denied access to profitable activities, such as in asset-backed securities and derivatives markets, and might therefore require some subsidy. However there would also be the tendency observed over history for banks to become large, and thus to exercise market power over customers, which might also require some ameliorative state intervention. It could be argued that the solution would be to completely nationalise the payments system, eg as a gyro system (as considered by Kregel 2010). But then we would lose the peculiar ability of banks to create credit on the basis of a fractional reserve system. A banking system which works well is a tremendous aid to the economy, but to achieve this again will require a new deal between banks and the state.

Further, given the normal potential for financial instability (as analysed by Minsky 1982, 1986), the central bank may again need to call on the lender-of-last-resort facility. Further costs may be incurred if there are systemic problems elsewhere in the financial system. And the problems may again be global. There is therefore a good argument for either a global insurance fund to cover deposits in extreme cases where retail banks cannot be rescued, or else a global transactions tax, along the lines of the original Tobin tax

proposal, which would have the additional benefit of reducing the velocity of international capital flows.

Conclusion

There is certainly scope for immoral behaviour in the financial sector, as elsewhere. But the analysis suggests that this goes much further than the conventional understanding of moral hazard, which does not depart clearly from the mainstream view of rational self-interested behaviour. Moral behaviour arises from successful social conventions, structured (and thus both enabled and constrained) by a sound institutional environment. Further, moral and immoral behaviour are not separable from rational behaviour, since sentiment (including moral sentiments) are foundational to knowledge and reason. Our analysis of what caused the financial crisis and how it should be addressed should therefore draw on theory which incorporates (moral) sentiments and social structures from the start.

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