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The crisis, information, and the market

Xavier Vives

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Information is at the heart of the recent liquidity crisis: Who bears risks? Who has losses? Who is insolvent? This column, which draws on the author's recently published book, 'Information and Learning in Markets', explains why solving the crisis requires closing such information gaps.

The current financial crisis, as other previous crises, raises concerns about the irrationality of traders and other decision makers. How can it be that a modern interbank market blocks in gridlock? Why do sound banks suffer for the sins that other banks have committed? What explains contagion from a risky to a supposedly safe market? How can the oscillations of markets be much more pronounced than the oscillations of fundamental values of assets?

An easy answer is that traders and other market operators overreact and tend to follow the crowd as in Keynes's beauty contest metaphor, where investors try to guess what other investors will do instead of looking at the fundamental values. This view of the market, at the mercy of fads and fashion and short-term speculation, contrasts with the view of Hayek of the market as a marvel that aggregates the dispersed information of the actors in the economy.

Indeed, when Lange argued in the 1930s that socialism was viable, Hayek responded that a centrally planned economy would never manage to replicate the collective knowledge of the market. The superiority of the market was informational. The price system provides the right guide to economic actors who only need to have local knowledge of the part of the economy in which they operate. This does not mean that the market can always avoid trouble, and the root causes are precisely information problems compounded with coordination failures. In fact, without dismissing the potential contribution of

irrationality to market outcomes, crises and crashes are natural outcomes of trade by rational actors if information in the market is dispersed enough.

In a recently published textbook, *Information and Learning in Markets*,¹ I analyse Hayek's and Lange's points systematically, studying how markets aggregate information and examines the impacts of specific market arrangements (i.e. microstructure) on the aggregation process and overall performance of financial markets. Applying a coherent game-theoretic framework, it brings together the latest results from the rational expectations and herding literatures.

As far as the current crisis is concerned, the main result is that that one does not need to assume "irrational" agents to explain herding behaviour, booms and crashes. Theories like informational efficiency and herding – which seem to be at odds with each other – can in fact be viewed as applications of Bayesian decision-making. As the book shows, the microstructure of a market is the crucial factor in the informational efficiency of prices.

In the present financial crisis, [liquidity in the interbank market has dried out](#) and central banks are having trouble normalising the situation. At the base of the crisis are the sophisticated packages of securitised loans, including subprime tranches, for which the market has collapsed. The reason for the related collapse of the interbank market is informational, with banks not trusting the positions of each other because of lack of common information. The problem has been aggravated by the lack of control of who was monitoring the subprime loans. In the old-fashioned banking system, institutions would monitor loans, in the world of securitised packages the market failed to provide the monitoring because [rating agencies did not do their job properly](#) and fund managers took the risk knowing that the upside was to be cashed in bonus form, and the downside protected by limited liability. This has lead to a lemons problem like that in the market for used cars: if you want to sell it to me, I do not want to buy from you.

The implications for policy are far-reaching. It means that the only solution to the current crisis is the revelation of the losses of the different entities eliminating this source of differential information in the market. Pumping more liquidity will soften the crisis temporarily but not eliminate the cause.

First of all, the massive liquidity interventions of central banks may

have a pessimistic reading: what does the central bank know that the market does not to intervene in such a massive way? The central bank has to take into account that market actors will try to read into its actions because both central bank and actors do not share the same information. For example, the central bank has access to supervisory information not in the hands of the market. In fact, the central bank has to worry that the information it conveys, either by actions or words, does not destabilise the market. This is so because market actors may use the information released by the central bank to coordinate expectations on a pessimistic outcome, making it self-fulfilling. The central banker has to maintain a delicate balance between providing information and making sure that expectations are under control. This is an art at which Alan Greenspan was grand master.

A second aspect of the question, made evident in the present crisis, is that, if the central bank intervenes to help institutions that are not under its supervision, it may lack the necessary information to assess whether the origin of the need is [a liquidity or a solvency problem](#). How does the Federal Reserve know when mounting the rescue operation of a non-bank financial firm, for example, that the institution is solvent? By helping an insolvent institution, taxpayers' money is put at risk and the disciplining effect of failure eliminated. The consequence is that the moral hazard problem is exacerbated and bank managers will feel more secure in the future to take excessive risks.

Still a third aspect of the crisis relates to the dynamics of information revelation. Participants in the interbank market may have incentives to defer disclosure of their losses to delay the punishment of the market and hopefully profit from an eventual improvement in the general situation. This waiting strategy may find support in the liquidity injections of central banks that try to stabilise markets but lead to a collectively bad outcome.

The conclusion is that without understanding the informational underpinnings of the current crisis, we cannot start to propose measures that will help to resolve it in the medium run. Or, even worse, we may get the policy measures wrong and sow the seeds of a future crisis.

1 *Information and Learning in Markets: The Impact of Market Microstructure*, Princeton University Press

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