***Econometica* workshop (November 30, 2009)**

First Session: The economist's profession responsibility in the face of the global economic crisis

Discussion of Professor Alan Kirman's presentation

by

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The basic issue of this session is: what are the responsibilities of economists in front of the 2007-2009 financial-economic crisis?

1. Do we (i.e. the academic economic profession) have a responsibility for our inability to forecast the crisis? We do not have a *direct* responsibility for that, since it is not our job to make forecasts. However, many non-academic economists (e.g. in financial institutions, central banks) do make forecasts, and they base their work on models provided by academic economists. They failed not only to forecast the exact nature and timing of the crisis – which is of course impossible – but also to raise concerns about the high level of risks accumulating within the financial system and the likely macroeconomic implications of those risks (with some exceptions, not involving the economic profession as a whole). So either they made an incorrect use of such models (e.g. they have overlooked some evidence) or such models are (partly) wrong. In the latter case, academic economists do have some *indirect* responsibility for the failure to predict at least the danger of some turmoil coming out of the risks undertaken by financial institutions.

2. Do we have a responsibility for contributing to produce the crisis? Again, we do not bear a *direct* responsibility, since the crisis was originated by the behaviour of practitioners and supervisors in the financial industry. However, these actors' behaviour is heavily influenced by the models designed by academic economists. For example, the pricing of securities is made by using the tools provided by financial economists/mathematicians. The design of regulation and supervision of financial markets and institutions is framed upon ideas formulated by economists. So we do have an *indirect* responsibility, and we have the duty to analyse the ways in which the behaviour of practitioners and supervisors has been misguided by the mainstream economic analysis.

Under this regard, a major problem derives from the commonly used technique of building up models under a set of *strong assumptions*, which are often known to be unrealistic. We are aware that the results of such models depend on such strong assumptions and they are reliable only under some conditions. We can give advice to practitioners and policymakers about the limitations of our

models. But even this kind of advice may be of little help: unless we provide an alternative model, they are forced to use the model at hand, overlooking its limitations. So on one side economists are happy to build up models which are internally consistent, but on the other hand practitioners and policymakers have to use our models under real conditions quite different from the ones assumed in the model. Examples of strong assumptions:

- *rational expectations*, implying that all the agents in the economy are able to solve the model designed by the economist (or to behave as if they were able to do so);
- *unlimited computational ability*: think of the representative consumer maximizing his utility function over his own entire life-time or even over an infinite time horizon;
- *informationally efficient markets*, implying that prices incorporate all the available information about the value of any asset traded in financial markets.
- *normality* of the statistical distribution of returns on which portfolio management and pricing models rely.

These assumptions have become standard in the main stream literature. So it is quite difficult for alternative theories to be accepted (published in the main stream top journals). Hence the incentive for researchers to improve on existing models, rather than explore new lines of research, based on alternative approaches.

On the other hand, sometimes economists are blamed for some specific problems, which in my view are actually due to mistakes made by practitioners and supervisors. Examples:

- the use of *derivatives* to take highly risky positions in financial markets. Any good finance text-book makes clear that derivatives may be used to hedge but also to take risks. So this is not a conceptual problem.
- excessive *leverage*. This is not a theoretical problem, since it is even trivial that the risk of failure is proportional to the leverage of an institution. This issue is empirical: the supervisory authorities should regulate and monitor the leverage of intermediaries.

3. Are we responsible for failing to provide an adequate <u>interpretation</u> of the financial crisis (origin, consequences, remedies), so as to avoid repeating the same mistakes in the future? It is too early to answer this question. Some efforts are being made (e.g. literature on propagation mechanisms of liquidity shocks), and the current economic research can provide some useful insights. Of course, much work has to be done, since many issues are still left unexplained (e.g. the complete failure of the originate-to-distribute model in banking).

The theory of banking actually provides some tools for understanding the *propagation* mechanism of an initial (credit/liquidity) shock hitting some intermediaries. The well-known model of "bank runs" points to *coordination failures* among depositors as a basic source of financial instability. This insight has turned out to be extremely useful in the design of banking supervision: in particular, it stresses the crucial role of the safety net (central bank, deposit insurance, etc.) in coordinating the expectations of depositors. This framework has been extended to the inter-bank market. Here the notion of *network* has been applied extensively, providing another crucial insight: inter-bank relations are a way to diversify the liquidity risk across the banking system, but they can also become the vehicle for the transmission of a liquidity shock hitting a specific region of the system, so they may become a source of instability. The potential for a contagion taking place in the inter-bank market does depend on the structure of the network connecting market participants.

This approach has turned out to be useful but not completely satisfactory to understand the 2007-2008 liquidity crisis. The reason is that its focus is on the behaviour of *retail* depositors, while the recent liquidity crunch has affected mainly the *wholesale* money market (e.g. inter-bank market), with only a marginal role for bank runs at the retail level. Here the issue of coordination failure among market participants is relevant, but other issues come into the picture and have to be considered: financial constraints faced by intermediaries (e.g. capital ratios); pro-cyclical behaviour of market participants (induced by target levels on leverage, and by capital ratios together with market value accounting). The analysis of these propagation mechanisms – leading to an amplification and diffusion of an initial shock – is under way and it is quite promising.

The analysis of the *origin* of the crisis, namely the failure of the originate-to-distribute model in banking, is much less satisfactory, as far as I know. This model has broken up the traditional relationship between lending bank and borrowing firm, where the former was given the right incentive to perform screening and monitoring activity on borrowers. The securitization process brings into the picture an agency problem: the originator's incentive to screen and monitor are reduced, since he does not bear the consequences of exerting a low effort in doing such activities. This agency problem raises two crucial issues:

- RISK: the reduced incentive to control the riskiness of borrowers presumably leads to an increase of the overall risk undertaken by the financial system;

- PRICING: in the standard model, the market is able to correctly price the agency cost due to the reduction of originators' incentives; so those buying asset-backed securities (ABS) pay the fair price (at least on average), and they do not suffer systematic losses. As we know, the evidence is quite different: apparently the market has not been able to correctly price the agency cost of securitization, so ABS have been over-priced for a long time. The sub-prime crisis made market

participants realize such over-pricing, leading to a sharp correction of ABS prices (possibly with an overshooting effect, where the price correction was even too large).

Thus the current theoretical models of securitization are unable to explain the failure of the originate-to-distribute model in practice. This weakness is part of a more general weakness of the principal-agent model, together with rational expectations and efficient markets assumptions. Buyers of ABS are by assumption unable to observe the effort exerted by the originators in screening and monitoring borrowers, but they are assumed to perfectly know the incentive structure of the originators and more importantly to be able to compute the price of the incentive distortion: this is clearly an extreme assumption, which does not hold in the real world. More generally, financial theory allows for opportunistic behaviour of firms issuing securities: this cannot be avoided, due to asymmetric information. But the market is assumed to be able to give the correct price to any incentive distortion, so those buying securities "pay what they get", and they do not incur in losses (on average). Does this extreme result meet reality? I doubt.