ECONOMICS

…it is ideas, not vested interests, which are dangerous for good or evil.

John Maynard Keynes, *The General Theory of Employment, Interest and Money*, Chapter 24.

The Roots of the Crisis

by Sanjay G. Reddy[1]

ABSTRACT: The crisis has its origins in part in the 'high theory' provided by mainstream economists, who have helped to create the perception that a deregulated financial market could be an instrument of market efficiency, failing to emphasize the ways in which it could be instead a source of systemic instability. . Economists generally failed to understand the significance of the micro-structure of a financialized market economy and therefore the origins of the current crisis. Although bearing some similarities with previous crises, the recent financial crisis was different in having at its core the epistemic confusion generated by complex and often ill-defined instruments. Economists can play a constructive role in future discussions on economic policy, beginning with a recognition that they have recently failed to serve the public interest.

The financial crisis itself has made it possible to have a new kind of conversation across the trenches of disciplines. I do not think it would have been possible to have this sort of conversation five or ten years ago. There is a sense of shock which accompanies an unexpected event of this magnitude, and a search for answers, which has rightly undermined previous disciplinary prerogatives and created a more welcoming atmosphere for new approaches.

Academics in various disciplines as well as ordinary citizens quite legitimately want to know what exactly happened, and how it is going to affect their futures. There is a new level of interest in economic questions and some skepticism about the previous answers provided. Economists in particular have been scrambling to provide answers. Few of them predicted the crisis or had the tools to understand the form it took. In particular, very few understood the microstructure of the contemporary financial markets and why it was so central to the unfolding of these particular events.[2] As a result, there is a crisis of legitimacy of the field of economics just as there is a crisis of legitimacy of the banking system.

How can we take advantage of this moment to reflect *together* about the political and institutional arrangements which undergird the contemporary economy? Can we not only understand better how this system has worked (or not, as the case may be) but how it might be revised so as better to promote desirable ends?

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This chapter is based on transcription of an oral presentation made at the conference which gave rise to this volume.

[2] A notable exception is Stiglitz and Greenwald (2003), *Towards a New Paradigm in Monetary Economics*, Cambridge: Cambridge University Press, which presented a theory of why microstructure matters in the dynamics of macroeconomic and financial crises, based in part on the experience of 'emerging market' financial crises of the 1990s.

It is helpful to begin by taking seriously the title of this volume as a whole, *The Intellectual Origins of the Financial Crisis*. What are the intellectual origins of the present global financial crisis? In intellectual history it's necessary to think about the relationship between previous ideas and current ideas, as well as to explore the relationship between ideas and events, or occurrences in the world. How is the relation between ideas and facts in the world manifested? Of course, the individual actors who possess those ideas are consequential. Who were the actors in this case, what are the ideas they possessed and what effect did they have? Economists were very much involved in providing an intellectual rationale for the complex financial derivatives that were developed (which were the basis of the various kinds of toxic assets at the heart of the crisis) although they played a subsidiary role in the empirical development of the markets in which such assets were actually traded.

Toxic assets which have been at the center of this crisis were developed by 'practical men, who believe themselves to be quite exempt from any intellectual influence', (to use Keynes's phrase) but also very much supported by (not so defunct) economists. Very often the work of financial economists such as Fischer Black and Myron Scholes in the 1970's and earlier, on the pricing of options and other derivatives, is pointed to as the origin of these developments, but there is a deeper origin still. General equilibrium theorists such as Kenneth Arrow and Gerard Debreu put at the very center of modern economic theory the idea of complete contingent claims markets. Their implied conception of a market utopia was a world in which it would be possible to write contracts involving all possible states of the world, which would specify what each of us would owe one another if one of many possible contingencies would arise. Derivatives contracts are precisely such securities. Arrow and Debreu argued that a world of complete contingent claims markets, would under certain conditions be efficient (or Pareto optimal) and indeed that if such markets were 'missing' that could be a reason for a failure of efficiency. The implied heaven of the economists rested on certain premises about the rationality of the agents and their ability to foresee the future. However, these assumptions were frequently treated (by the economists who taught and further developed the theory) as not wholly implausible. If one wished to lay ultimate blame, one could do so in part on the shoulders of the followers of Arrow and Debreu, even if not on the great men themselves.[3] In particular, such arguments may have provided the 'high theory' of financial deregulation, even if it was not constructed with this intent.

I remember personally in graduate school talking to a then Ph.D. student at the Harvard Business School, who is now a tenured professor at one of the foremost business schools in the United States, who was previously a banker working on a derivatives desk of a leading investment bank in New York. I had been reading some of the semi-popular work of people such as Randall Dodd, one of the unsung heroes of this debate, who from the early 1990's had been pointing out the possible dangers of derivatives for systemic stability. It says much about the times that such persons were accused of understanding very little economics by the mainstream economists who saw no danger in the explosion of the derivatives markets, if they had noticed it at all. Indeed, my friend informed me that I understood very little about economics, obviously, and I must have had no idea what derivatives were if I thought that they could generate systemic instability. I was told that it was immediately obvious, from their very definition, that derivatives were risk-reducing instruments and

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[3] Indeed ,Kenneth Arrow ("Economic Theory and the Financial Crisis", speech at the 2009 Beijing Forum) has recently described how some of those who have invoked general equilibrium theory to justify financialization of economies have crucially misunderstood the pre-requisites for market efficiency, and in particular that the contingent contracts involved cannot turn on market variables (such as prices).

could not be risk-increasing ones. This point of view was not uniquely held and was even a dogma of the time. Distinguished financial economists such as Robert Shiller, who is associated with the view that there can be "irrational exuberance" in financial markets, recognized that manias, crashes and panics (to use the memorable phrase of Charles Kindlebeger) are endemic to all financial markets, but did not give importance to the possible role of derivatives in generating systemic instability, emphasizing to the contrary, that derivatives can play an important role in proving insurance against sources of risk and instability[4].

The recent historical experience provides an important example of economic ideas influencing the world, but other ideas also lie behind the crisis — for instance, political ideas concerning the degree of deference that should be given to technocrats. What degree of deference should be given to claims to technocratic expertise in the organization of an economic system? This is a discussion which has unfortunately been avoided in the last three decades, at considerable social cost. Contributors to the conference leading to this volume have rightly focused on this issue, as well as the more general question of the appropriate relation between 'capitalism' and the institutions of democracy, including the regulatory state. Let me therefore focus on the question of whether 'capitalism' is the root of the financial crisis, which has been posed by the organizers the conference. The most fruitful way to approach this might be to note that "manias, crashes and panics" are endemic in market systems. One can find historical examples going back a very long time indeed. There are deep reasons why. At root, the source of 'bubbles' is that financial assets have indeterminate valuations that are influenced by expectations of the future, which in turn are influenced by the psychology of market participants. Therein lies the problem for the 'science' of economics.

Negative feedback mechanisms diminish deviations from 'equilibrium' or fundamental prices which are experienced in financial markets at least over the short or intermediate term. For instance, higher prices for financial assets without an increase in the returns perceived to be attached to them may lead to decreased demand for the assets. On the other hand there are also positive feedback mechanisms in financial markets, which can exacerbate deviations from 'equilibrium' or fundamental prices. For instance, higher prices for financial assets may lead to greater perceived wealth which may in turn lead to higher demand for such assets. Such positive feedback mechanisms can generate bubbles, which involve bloating of asset prices, at least for a period.

Those who have studied economic theory at an advanced level will be familiar with a mathematical concept known as the 'transversality condition'. It is usually imposed in macroeconomic models of the standard type, and has the effect of simply wishing away the occurrence of bubbles. We know that a central economic reason why bubbles emerge is that it is entirely rational to hold a financial asset which one does not believe has a sound valuation (in relation to 'fundamentals') if one believes that one can with considerable likelihood pass it on to someone else at a higher price. As long as there are "suckers", there is the possibility of bubbles, and indeed of rational bubbles. The transversality condition asserts that one cannot do that forever; there is some point at which one cannot find a "sucker". As long as that point is "not yet," then it's perfectly rational to participate in the bubble, although of course one does not want oneself to be left "holding the bag". It is clear that there can thus be systematic overshooting of the "fundamental" or warranted price of assets in financial markets, although it is also difficult to establish what such a price is.

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[4] Shiller, Robert (1998), *Macro Markets: Creating Institutions for Managing Society's Largest Risks*, Oxford: Oxford University Press.

What separates the recent financial crisis from the "garden variety" of manias, crashes and panics? I asking this question I am not taking the view that all such crises are not important, or that they cannot have tremendously disruptive effects. Take for example the Japanese real estate bubble of the late 1980's, which when it collapsed, seemed to propel Japan into a deep depression from which it has not yet fully emerged. Although that was a bubble with enormous macroeconomic consequences, it was of a recognizable form. In particular, the value of the asset, a square foot of central Tokyo real estate, was known by the primary market participants, just as hundreds of years earlier the price of tulip bulbs was known by all of the participants in the infamous historical bubble of the Dutch Golden age. At a moment in time (from month to month or week to week even if not from minute to minute) the market participants had some idea of the market price at which the key asset traded. At a certain point in time the asset traded at a very high market price and then at another point in time, the bubble had burst and it traded at a very low market price. However, the price was transparent to all of the participants (and, more fundamentally, the object was well defined).

The current crisis has, to a greater degree than previously, involved an epistemic problem. The market prices and warranted values (e.g. the stream of returns which might be expected by holding them to maturity) of the financial assets, which were traded (or, more pointedly, not traded) during the unfolding of the recent crisis — were to an unprecedented extent opaque to the market participants themselves. The uncertainty concerning the appropriate values to ascribe, and the market valuations which would emerge if these assets were actually observed to be traded, led to considerable confusion on the part of the market participants.

It is remarkable that major financial institutions with enormous sophistication and resources were not able to determine what their net assets and liabilities were (despite the considerable work on accounting conventions for derivatives which preceded the crisis). The crisis has made bare that accounting involves conventions, that those conventions are based on underlying theories as to how the world works and that those theories can be up-ended, in which case, rampant confusion can be sown among all concerned. There can be as a result such deep uncertainty about the values to be attached to the assets being held that trade in those assets might for a time altogether stop. The story of how markets temporarily 'froze' has many elements to it and may have yet to be fully written, although there have recently been illuminating and accessible contributions[5].

The recent financial crisis has shown us that markets can go missing temporarily as a result of radical uncertainties (in turn tied to the informational complexity involved in valuing the underlying assets and in certain cases to their being ill-defined) and that such problems in valuation can lead to various knock-on effects, for instance by decreasing confidence in the liquidity and solvency of the major actors in the financial markets and causing a resulting decrease in economy-wide credit. This is a quantitatively different feature of the recent crisis although it also has had aspects of traditional manias, crashes and panics. From this standpoint, the *financialized market economy*, which has emerged over the past forty years of intense financial engineering, is one of the most important roots of this crisis. This is not to deny that there are other crucial causal factors as well, in particular the long-term stagnation of the real economies of the countries concerned and the resulting accumulation of debts, which created a background of vulnerability to a financial market collapse.

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[5] See, e.g., Gillian Tett (2009), *Fool's Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe*, New York : Free Press.

The primary lesson of the crisis is that we must establish a new role for the public interest in the governance of the economic system. The public interest has in the years preceding the crisis been insufficiently respected, even if often invoked.[6] We can begin by changing the public conversation about the 'economic', recognizing that the most important economic questions ought to be of interest to the whole society. Economists have a constructive and vital role to play, which must begin with taking responsibility for the 'utopia' they have advanced.

[6] It is appropriate here to recall the insistence of Hannah Arendt that the 'public' is not grounded merely in overlapping interests but rather in the recognition that we live together in the world, sharing it 'in common', and that it is from this recognition that our sense of public responsibility must stem. See e.g. Quinn, Kevin (2008), "Markets, Politics and Freedom in the Work of Hannah Arendt", *real-world economics review*, No. 45, pp. 59-65.