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Session 1: Anatomy of Crisis – The Living History of the Last 30 years: Economic  
Theory, Politics and Policy

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Economic theory has modeled itself on theoretical physics. It has sought to establish timelessly valid laws that govern economic behavior and can be used reversibly both to explain and to predict events. But instead of seeking laws capable of being falsified through testing, economics has increasingly turned itself into an axiomatic discipline consisting of assumptions and mathematical deductions – similar to Euclidean geometry.

Rational expectations theory and the efficient market hypothesis are products of this approach. Unfortunately they proved to be unsound. To be useful, the axioms must resemble reality. Euclid's axioms meet that condition; rational expectations theory does not. It postulates that there is a correct view of the future to which the views of all the participants tend to converge. But the correct view is correct only if it is universally adopted by all the participants -- an unlikely prospect. Indeed, if it is unrealistic to expect all participants to subscribe to the theory of rational expectations, it is irrational for any participant to adopt it. Anyhow, rational expectations theory was pretty conclusively falsified by the crash of 2008 which caught most participants and most regulators unawares. The crash of 2008 also falsified the Efficient Market Hypothesis because it was generated by internal developments within the financial markets, not by external shocks, as the hypothesis postulates.

The failure of financial economics brings the entire edifice of economic theory into question. Can economic phenomena be predicted by universally valid laws? I contend that they cannot be, because the phenomena studied by economics have a fundamentally different structure from natural phenomena. The difference lies in the role of thinking. Economic phenomena have thinking participants, natural phenomena do not. The thinking of the participants introduces an element of uncertainty into the course of events that is absent in natural phenomena. The uncertainty arises because the participants' thinking does not accurately represent reality.

In human affairs thinking serves two functions: a cognitive one and a causal one. The two functions interfere with each other: the independent variable of one function is the dependent variable of the other. When the two functions operate simultaneously, neither function has a truly independent variable. I call this interference reflexivity.

Reflexivity introduces an element of uncertainty both into the participants' understanding and into the situation in which they participate. It renders the situation unpredictable by timelessly valid laws. Such laws exist, of course, but they do not determine the course of events.

Economic theory jumped through many hoops trying to eliminate this element of uncertainty. It started out with the assumption of perfect knowledge. But as Frank

Knight showed in his seminal book, “Risk, Uncertainty, and Profit” published in 1921, in conditions of perfect knowledge there would be no room for profits.

The assumption of perfect knowledge was replaced by the assumption of perfect information. When that proved insufficient to explain how financial markets anticipate the future, economists developed the theory of rational expectations. That is when economic theory parted company with reality. Some great thinkers, including Friedrich Hayek in his Nobel Prize speech, kept reminding economists of the importance of uncertainty but advances in quantitative modeling led to the neglect of this so-called Knightian uncertainty. That is because quantitative methods cannot take into account any uncertainties that cannot be quantified. Collateralized Debt Obligations and Credit Default Swaps and risk management models produced by these quantitative methods played a nefarious role in the crash of 2008.

The meltdown of the financial system in 2008 forces us to go back to the drawing board and look for a more realistic approach. I believe that we have to start with recognizing a fundamental difference between human and natural phenomena.

This means that financial markets should not be treated as a physics laboratory but as a form of history. The course of events is time-bound and one-directional. Predictions and explanations are not reversible. Some timelessly valid generalizations can serve to explain events but not to predict them.

I have started to develop a set of generalizations along these lines by introducing the concept of reflexivity. Reflexivity can be interpreted as a two-way feedback mechanism between the participants' expectations and the actual course of events. The feedback may be positive or negative. Negative feedback serves to correct the participants' misjudgments and misconceptions and brings their views closer to the actual state of affairs until, in an extreme case, they actually correspond to each other. In a positive feedback loop a distortion in the participants' view causes mispricing in financial markets, which in turn affects the so-called fundamentals in a self-reinforcing fashion, driving the participants' views and the actual state of affairs ever further apart. What renders the outcome uncertain is that a positive feedback cannot go on forever, yet the exact point at which it turns negative is inherently unpredictable. Such initially self-reinforcing but eventually self-defeating, boom-bust processes are just as characteristic of financial markets as the tendency towards equilibrium.

Instead of a universal and timeless tendency towards equilibrium, equilibrium turns out to be an extreme case of negative feedback. At the other extreme, positive feedback produces bubbles.

Bubbles have two components: a trend that prevails in reality and a misconception relating to that trend. The trend that most commonly causes a bubble is the easy availability of credit and the most common misconception is that the availability of credit does not affect the value of the collateral. Of course it does, as we have seen in the recent housing bubble. But that is not sufficient to fully explain the course of events.

I have formulated a specific hypothesis for the crash of 2008 which holds that it was the result of a “super-bubble” that started forming in 1980 when Ronald Reagan became President of the United States and Margaret Thatcher was Prime Minister of the United Kingdom. The prevailing trend in the super-bubble was also the ever-increasing use of credit and leverage; but the misconception was different. It was the belief that markets correct their own excesses. Reagan called it the “magic of the marketplace”; I call it market fundamentalism. Since it was a misconception, it gave rise to bubbles. So the super-bubble was composed of a number of smaller bubbles -- and punctuated by a series of financial crises. Each time the authorities intervened and saved the system by taking care of the failing institutions and injecting more credit when necessary. So the smaller bubbles served as successful tests of a false belief, helping the super-bubble to grow bigger by reinforcing both credit creation and market fundamentalism.

It should be emphasized that this hypothesis was not sufficient to predict the outcome of individual crises. For instance, I predicted that the emerging market crisis of 1997/98 would lead to a collapse of global capitalism and I was wrong. Nor is it sufficient to fully explain actual outcomes. For that, one needs to take into account the specific historical circumstances. The hypothesis only helps to select the relevant circumstances.

Let me illustrate this by examining the origins of the super-bubble. For this, I need to go back beyond 1980 at least to the early 1970s.

At the end of World War II when I entered the financial markets, banks and financial markets were strictly regulated and international movements of financial capital were practically at a standstill. The restrictions were relaxed gradually, but at a glacial pace. As late as the beginning of the 1970s, the American banking system was still frozen into immobility. The industry was highly fragmented and regimented. A dull business attracted dull people who were more concerned with job security than with profits. Bank shares were traded by appointment. But I detected some signs of life. Walter Wriston at Citibank trained a new breed of profit oriented bankers who fanned out from Citibank to other banks.

Then in 1972, Citibank held a dinner meeting for security analysts – an unheard of event. I was not invited but it prompted me to publish a report entitled “The Case for Growth Banks” in which I argued that some banks were poised to embark on balanced growth by equity leveraging, i.e.: selling shares at a premium. The bouquet of bank shares I recommended did, in fact, rise by some 50% within a year.

Then came the first oil shock in 1973. The stock market tanked, ruling out equity leveraging. At the same time the recycling of petrodollars was left to the money center banks. They formed holding companies and established subsidiaries in London to escape the restrictions of the Glass-Steagall Act. That was the beginning of the eurodollar markets and of large-scale lending to emerging economies. It soon turned into a boom. Countries like Brazil experienced rapid growth, fuelled by foreign credit. The misconception in the lending boom was that the debt ratios which measured the credit-

worthiness of the borrowing countries were independent of the flow of credit. The relationship was, of course, reflexive.

Then came the second oil shock in 1979 and the determined effort of the Federal Reserve under Paul Volcker to bring inflation under control. The Fed fund rate shot up into the high teens and the boom turned into a bust. In 1982 Mexico threatened to default. This was the onset of the first major financial crisis the response to which fuelled the growth of a super-bubble.

The international banking system would have collapsed if the authorities had not banded together to save it. They established what I called the “collective system of lending”.

The central banks ordered the banks under their control to roll over their loans and the international financial authorities extended enough additional credit to the heavily indebted countries to enable them to remain current on interest payments and redemptions. The IMF imposed harsh conditions on the debtor countries while the regulatory restrictions on the banks were actually relaxed in order to allow them to earn their way out of a hole. After several years, when the banks built up sufficient reserves, the debtor countries were encouraged to reorganize their debts by issuing so called Brady bonds and the banks had to take some losses. The net result was a lost decade for Latin America but a big boost to the international banking system. Financial markets were deregulated and globalized. This stood in stark contrast with earlier financial crises of the nineteenth and twentieth centuries when each time a crisis occurred, regulations were

tightened in order to prevent a recurrence. That is how central banking and market regulations had developed and became an integral part of the financial system.

What set this occasion apart from previous ones? Undoubtedly it was the market fundamentalist belief that markets are self-correcting, and best left to their own devices. But the need of the banks to earn their way out of a hole also played a part. This was the specific historical context in which the super-bubble developed.

The system that emerged was called the Washington Consensus. It was characterized by what was called “moral hazard,” but was really an asymmetry between center and periphery. Countries at the periphery of the financial system were subject to harsh market discipline; but when the system itself was endangered, all bets were off. This gave the banks at the center a competitive advantage and they gradually came to dominate the global financial system.

The globalization of financial markets spread like a virus. Since financial capital is an essential ingredient of production, once the U.S and the U.K. embraced market fundamentalist principles, other countries could resist them only at their peril. The financial sector of the U.S. and U.K. grew like Topsy, accounting for more than a third of corporate profits towards the end of the super-bubble in 2006.

In the absence of systemic reforms, the international banking crisis of 1982 repeated itself fifteen years later with only minor variations. The banks had learned a lesson from 1982.



The collective system of lending taught them that it is better to securitize loans and sell them to others than to keep them on their books because that way the central bank could not compel them to roll over loans that have gone sour. By the time the next emerging markets crisis struck in 1997, most of the loans had been securitized, greatly complicating the task of the international authorities. As a result, there was no collective system of lending except in South Korea and there were no Brady bonds. The periphery countries had to bear an even larger share of the losses than in 1982.

Deregulation allowed financial innovators to introduce new forms of synthetic securities at will. Securitization was further encouraged by the misguided rule in the Basel II accord which allowed banks to hold securities on their balance sheets without any reserve requirements because the securities were readily saleable. This may be true for individual banks but not for the banking system as a whole, as the LTCM crisis in 1998 demonstrated. Since the synthetic securities were designed on the basis of false principles, they played a major role in the crash of 2008. But I shall leave the examination of what happened in 2008 to the other speakers.

The point I am trying to make is that developments in the financial markets cannot be understood without considering them in a historical context. Financial markets have changed out of all recognition during my lifetime. Things that would have been inconceivable 50 years ago have become commonplace. Conversely, it seems inconceivable today that the economy could function without derivatives and other complicated instruments.

What will happen now will also be greatly influenced by the historical circumstances.

The banks once again have been allowed to earn their way out of a hole and they are now lobbying to be allowed to carry on as before. Yet the danger of moral hazard is greater than ever before: all systemically important institutions have been effectively guaranteed against failure. We ought to impose strict regulations to ensure that the guarantee will never be invoked but that will be much more difficult to achieve than deregulation.

Globalization does not work in reverse. Regulation is still in the hands of national authorities and it will be difficult to get them to put the common interest ahead of their national interests.

I should like to emphasize, however, that it is not enough to study history, we must also learn some lessons from it. We need to abandon rational expectations and the Efficient Market Hypothesis and build our theory of financial markets on the recognition that imperfect understanding – I call it fallibility -- is the human condition. But what is imperfect can be improved, and right now there is plenty of room for improvement – both in rethinking economics and rethinking regulations. I am afraid the current discussions miss the main point: namely that the recent financial crisis was not only a market failure but also a regulatory failure. And what matters now is not so much who regulates, but how. Regulators ought to undertake a course of critical self-examination – Chinese style. But that will be the subject of another panel.

Thank you.