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What lessons have we learned since the outbreak of the global economic crisis?

Recent turbulence in world markets and economies have brought significant and radical paradigm shift defying conventional rules. Before the crisis, our world view was built upon four pillars:

1. Rational expectations
2. Deregulation
3. Market based accounting standards
4. Reliance of quite sophisticated risk management techniques.

Rational expectations theory suggests that expectations about the future reflect the entire cumulative knowledge available. The inaccuracies in expectations should be coincidental, not systemic. Otherwise, this information would already be included in the pricing decisions. It was further assumed that markets always clear and therefore there was no need for exogenous correction and hence less is the best as regulation is concerned. Deregulation process that gained pace during the last quarter of 20th century has augmented the role of pricing mechanism in the equilibration of the markets. As a byproduct of confidence in market forces, accounting standards were based on "fair value" models and rating agencies were incorporated in the Basel II framework, under the assumption that the invisible hand of markets would provide the perfect guidance. Last, but not least, the pre-crisis period was the time the risk was supposed to be controlled, even disappeared, thanks to the use of very sophisticated techniques, including instruments like Credit Default Spread, CDS.

In summary, most of us believed that this time it was really different, global financial system was indestructible, just like Titanic, the giant transatlantic which had once believed to be unsinkable.

It turned out that all four pillars upon which the global economic order was established were not as strong as we thought they were. In retrospect, however, the conflicts and contradictions regarding the underlying philosophical framework were clear.

There was too much emphasis on rational expectations theory and its worldwide applicability to every aspect of human behavior, which was misleading, since it was only theory, and let me add, not a scientific one. As you all know knowledge must be falsifiable to be recognized as scientific, as Popper said, whereas rational expectations theory was based on some Freudian self-proving psychoanalysis, which by construction cannot be proved to be wrong. It has become such an all encompassing concept that any human behavior was fitted in the concept of rationality, which makes its opposite, irrationality, a redundant concept.

There was also an excessive confidence on market forces and over reliance on the working of the invisible hand to correct all errors. However, excessive deregulation did not facilitate an efficient decision-making process that maintains the trade-off between long-term tail risks and short-term financial gains. The same is also true for Basel II standards which were based on the assumption that the assessment of credit agencies would reflect the reality on the ground. In the aftermath of the crisis we are witnessing a complete pendulum swing from one extreme to another, from excessive deregulation to excessive re-regulation, as witnessed by the recent decision of Germany on banning short sales, strict rules and restrictions on compensation of top executives in financial institutions and popularity of capital controls in emerging markets. The same is true for accounting standards as well. Fair value models are proven to exacerbate imbalances in financial systems, leading to excessive borrowing in good times and excessive losses in bad times. Now, we are observing a rise in popularity of cost based models.

As for risk management techniques that were created to manage the risk, they became a source of systemic risk themselves, amplifying the destructive powers of external shocks and causing their spread across the financial sector, regions and individual countries. It turns out that the first law of thermodynamics was applicable in financial markets as well, i.e. risk cannot be eliminated, it only changed form and place. Tools we used to distribute and manage the risk were only leading to their accumulation in somewhere else, in most cases unknown to the risk holder.

At the end it turned out that this time was in fact not that different from other times, the history repeated itself, as it did many times since the birth of mankind and the unsinkable Titanic actually sunk.

Before I proceed to the aftermath of the crisis, let me say a couple of worlds about the Turkish experience at that time as well.

Unlike Its peers, the leverage ratios in Turkey for both public sector and private, stayed at moderate levels during the period of excess global liquidity, thanks to policies of the Turkish Treasury, the Banking Regulatory and Supervision Agency and the Central Bank of Turkey. In fact most of those policies implemented in Turkey at that time are renamed today as macro-prudential tools and recommended to the world through Basel III principles. Banks were subject to additional capital adequacy requirements and hence not allowed to increase their leverage to toxic levels. Households' indebtedness was kept below certain limits, very safe compared to Turkey's peers. Corporates were leveraged but since monetary policy was not accommodative, we observed neither excessive lending nor asset bubbles. Debt level of the public sector has also been reduced significantly since 2002, thanks to a quite ambitious fiscal discipline that resulted in a primary surplus of 5 percent of GDP on the average over the five years period prior to 2008. The real strength of the economy, however, came from the management of FX risks, which as you may all agree the most critical aspect of a small, open economy. Thanks to prudent regulations and oversight, the overall FX position of the Turkish banking sector was balanced. Since FX loans to individuals were prohibited, but FX deposits were not, households carried a significantly large long position in FX. The public sector was in short position, but it was less than 5 percent of GDP. It was the corporate sector that carried a significant FX position, about 10 percent of GDP. However, since the duration of their assets was short, whereas the duration of liabilities were long, the short term FX position of the Turkish firms were almost balanced as well. As it turned out, low leverage and low currency exposure became a major source of strength that contributed to the resilience of the Turkish economy to the global crisis.

In the today's challenging financial environment, which is likely to persist in the foreseeable future, the Central Bank of Turkey continues to focus on financial stability and shapes its policies based on three principles.

The first one is to discourage excessive leverage and keeping the debt ratios of banks and the corporate sector at modest levels. To that end in Turkey we raised the required reserve ratios in TL liabilities and stopped remuneration of required reserves. We also enacted a technical adjustment in our policy rates to encourage better liquidity management within the baking system and to reduce the dependence of banks on our lending facilities. As of today capital adequacy ratios of our banks are close to 20 percent. More importantly, the quality of capital is exemplary. Both core capital and Tier-I core capital ratios are in excess of 15 percent. The same is true for households, as well as the corporate sector. Household debt to GDP and bank credit to GDP ratios are well below the EU average, even lower than most EMs.

The second issue that I would like to emphasize is strengthening the FX position of both the public and private sector. To that end the Central Bank of Turkey made a significant change in the method of FX buying auctions a few weeks ago and accelerated the pace of reserve accumulation. We apply a higher required reserve ratio for FX liabilities and increased that ratio in recent months as well. Our regulatory and supervisory agency also applies various rules and mechanisms to keep FX position of banks in check and prohibits the use of FX denominated or indexed loans by households.

The third issue is keeping fiscal discipline as tight as necessary but not going too far. The government announces a Medium Term Program regularly every year that covers the projected economic and fiscal outlook for the next three years. According to the most recent program, the budget deficit of Turkey will fall below Maastricht criteria (3 percent) next year and public debt ratio will decline more than 6 percentage points to 37 percent in 2013, lower than the pre-crisis level.

Dear Participants,

This crisis, in some respects, was a warning sign that cautions us about the inner conflicts of the global system. The problems we face today do not arise from some operational failures that can be corrected by some fine tuning (core capitals a little higher, leverage ratios a little lower), but from the system itself and the underlying philosophical framework. This is a crisis of, first, the economic world view, second, the institutional structure of globalization, and third, the theory of economics.

Let me go very briefly above each of them one by one.

Our current economic world view is based on the assumption that it is beneficent for individuals to pursue their self interest (in fact this kind of selfish behavior is encouraged), because the social welfare can only be maximized through a single minded pursuit of individual maximization of utility. As we all know, the main contribution of Adam Smith to the theory of economics is that he, being an academic on moral philosophy or ethics, for the first time argued that individual immorality, i.e. selfishness results in a collective virtue, which is social welfare. This crisis showed that the underlying principle of invisible hand, creating common good from individual vices, is fundamentally wrong. A drastic shift from moral valueless view to a system based on moral value needs to be revisited 225 years after the Wealth of Nations.

Second this is a crisis of the institutional structure of globalization, or lack thereof. Since early 1990s we have been increasingly living in a de factor global system lacking institutional infrastructure. As you may know, akin to Mundell's impossible trinity theory, Dani Rodrik argued that democracy, national sovereignty and global economic integration are mutually incompatible. We can combine any two of the three, but never have all three simultaneously and in full. The problems we face today may be seen as a manifestation of this conflict. Policy makers are quite willing to assume the benefits of globalization, but reluctant and sometimes quite hostile to give up their grip over national policies, in part fearing backlash from voters who insist on saying the final word in democratic societies. The events since 2007 have shown that internal conflict within globalization, due to lack of institutional infrastructure is no longer sustainable.

Third, this is a crisis of the economic theory. That theory is based on cost and benefit analysis performed quite rationally. The utility maximizing behavior implies that humans maximize the expected sum of net present value of the utility over time. Empirical evidence suggests that there is a fundamental problem with this theory. First, the concept of utility is nothing but a reductionist fallacy. Second, human nature is not capable of recognizing all possible alternatives, even if it is a finite number. That's why we need abstractions – to shrink immensely complex real life situations into smaller and manageable abstract prototypes – in fact this is also what we do as economists. We recognize our own shortcomings and use abstracts for a better understanding of the real world. Then, we use the same models to re-create the big picture and make extrapolations about the real world. The problem is that you can reduce a three-dimensional view to two-dimensional picture for a better understanding, but not the other way around.

Third, human nature cannot comprehend the meaning of small probabilities even if the outcome is extreme. For example, the probability of having a car accident on a given day is very small, may be one in a million. But the consequence is extreme, injury or even death. Think of multiplication of two terms, one of which approaches zero as the other goes to infinity. What would be the result? It is not defined. Yet, we assume that individuals are able to solve this undefined problem. That is why we need traffic regulations and heavy fines to motivate the use of seat belts. Because it is extremely demanding for human beings to fully comprehend and deal with tail events. Insurance deals underwritten by AIG on credit defaults are another perfect example of ignoring realization of tail events. One can put CDS contracts on US sovereign debt under the same category as well.

Fourth, our conventional models ignore the role played by socio-psychological factors in decision making of human beings. Many people in fact were aware of the problems in the housing market in 2007. Still, they continued to maintain their long position because everybody else was doing so. However, since they were in alert, the moment they felt a shift in market perception, they immediately unloaded their position. One can be forgiven to make a loss if everybody else is losing as well, but you cannot survive with a smaller but positive return, while others are making big gains. As conceptualized by Kuhn, it is preferable to follow the majority of the community, since the cost of being odd would be too large. Thus, even if you recognize that something is wrong, you would prefer to wait until someone makes the first move and points that out. One can call this "King is naked" syndrome. As the story implies, sometimes you should be less educated to recognize the obvious since education and sophistication tend to strengthen the existing biases. This kind of multiple equilibrium in the market leads to herding behavior and causes jumps in decision variables from one extreme to another. Each state, framework, etc. has its own consistency in a comprehensive way. It is not allowed to break the whole, a partial change or modification is not acceptable, which makes it impossible to experience a smooth adjustment. That is why we face boom and bust cycles and transition from one stage to another is so sudden and abrupt.

In my opinion discount factor in people's preferences, which is likely to be more discrete than continuous also plays a major role in explaining that sudden shifts. Humans are focused on immediate costs and rewards. This is not simply the issue of having the appropriate discount factor calibrated to match the reality. If that were the case, we should have paid more attention to extreme events of the future regardless of how distant they are. The problem is many people not only discount but simply ignore extreme events of the future. In other words for many people discount factor is not continuous, but discrete. There is certainly more room for additional research in this area, especially for behavioral economists. Recent advances in neuropsychology are also likely to be an important component of that research as well.

Due to aforementioned vulnerabilities of our mind, we rely on simple abstracts, ignore tail events, and become overconfident (ignoring the cost of extreme failures). It is not that we do not take lessons from disasters or forget these lessons. The problem is we ignore these lessons because extreme events are not part of simple abstracts; they occur with very small probability and even if they are likely to happen, they would take place far in the future. That is why we need regulations, traffic police, social security system, financial regulators and of course central banks.

Before I delve into issue of how to build a new world order, let me raise an important point. These facts, observations and criticisms are not completely ignored and stayed out of the scope of economics. There are several important studies and a quite promising literature focusing on these issues as well. However, they have left out of the mainstream economics until now and I hope one indirect benefit of this crisis would be to change that.

Dear Participants,

I believe it is of critical importance to build a new world order for the sake of all human beings, and I believe such an order is a far fetch idea with remote possibility to get realized.

At the beginning of my speech I referred to three features of human nature that makes the market system prone to crises: inability to recognize numerous alternatives, inability to deal with extremely small probabilities that carry extremely large costs; and myopia due to discreteness of our discount factor.

There are also other features of human characteristics that make it possible to build a new and better world order. The first one is altruism. As Keynes once said “In the long run we are all dead.” However, we still care about the future and think about the consequences of our action far beyond our life time, because not only we care about the well being of our own children, through which we challenge our mortality, but also we very often care for other people through high personal qualities, such as pity, empathy and respect. Our concern for our off-springs and for other people extends our horizon in decision making and gives us a broader world view. Quite often, we fail to observe these high qualities in our life, not because of their absence in our character, but due to lack of enough awareness of our surrounding, the lives and concerns of other human beings.

The second feature of human characteristic that I would like underscore is our tendency for justice and fairness. In fact many empirical studies in the field of behavioral economics have shown that individuals are willing to take suboptimal decisions contrary to their self interest (which is far from rational and is an anathema to profit maximizing motive of homo economicus), when they confront in situations where "optimality" would offend their perceptions of fairness. Thanks to fairness inherent in our genes, we pay attention to the well being of others who have no political or financial power to reciprocate (think of donations to earthquake victims even from poor countries) and we insist on making choices that is harmful to our private interests (such as the resistance of Europeans to assist Greece, although it was clear that the doom of Greek economy would impair the economic environment for everyone).

So we have three human traits that put our world in chaos and two human characteristics that give us hope for the future. You can easily identify the potential conflicts between the two. Myopia of human being that gives priority to today's happiness versus our concern for future generations. Our selfishness which is praised as rationality and deemed necessary for the collective welfare, versus our concern for other human beings, including unborn generations. As economists and policy makers, it is our responsibility to design institutions based on the latter and regulate the former.

Before I conclude my remarks, I would like to once again thank you for your kind invitation and organizing this important event.