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IN THE EYE OF THE STORM: CHALLENGING THE REFORM OF FINANCIAL SYSTEM

Plamen D Tchipev

Introduction

The paper presented strives to offer a closer look at the mechanics of the global financial crisis (GFC). This objective comes because, in many instances, the debate tends to skip the detailed picture of the crisis events and to jump directly to recommendations. I believe, that if one does not try to understand, what happened and who is who in the unfortunate chain of events, we will not be able to draw correct overcoming plans. Specific and aggravating problem for the small post-transition economies of the East, is the negligence of the issue for reform of the financial system. If there is going, at least in the developed economies, a lively debate about the reform, the EEC just follow the trend, deal with the symptoms, and wait for the storm to pass out.

The paper focuses on the perception for the crisis launched by the main stream economics, its causes and the actions needed to be taken. Then, it offers a critical revision of that perceptions and offers a competing picture.

The more details are being revealed, the more clear it becomes, that the most needed change of the financial system is not part of it. It tends to be a change of the economic paradigm, which is responsible for the shortcomings of the financial regulation.

The paper finds out, than the belief in the automatic functioning of the market, imposed by the neoclassical paradigm, led to decisions of leaving unregulated or, even of removing the existing regulation in vast areas of trade in financial instruments. Another conclusion is, that, it is the paradigm to be blamed for abandoning of economic analysis of the risk and replacing it with a mathematical exercises. The major outcome of presented analysis into the mechanics of GFC, is the claim for change of the dominant economic paradigm .

1) Mainstream economics' perception on GFC

1.1. Causes of the crisis? The easy answer

The business cycle is not an issue in the present day mainstream economic paradigm. It is just accepted, that there is a cycle and that, the cycle is inevitable, pretty much as a calendar cycle. And, if there is an problem involved here, it is merely, to predict more or less correctly the next change in its direction and to get a maximum use of it. This way, even in the late 90s and early 00's, when it became apparent that the unprecedented boom could not last forever, there was a little effort to regulate the cycle.

Accordingly, when the crises burst, it was assigned more or less to a bubble, which was blown somewhere and which created the problem. Attempts to find a more precise reason explaining for example why the crises burst in that *particular* moment and why it is, *that particularly* severe, were either scarce, or missing at all.

As one may find for him/herself from the following statements of Ben Bernanke (FRB, 2009), for the authorities the "fundamental causes remain in dispute", but they are some specific observations. He put them that way: "... [the] global imbalances in trade and capital flows that began in the latter half of the 1990s. In the simplest terms, these imbalances reflected a *chronic lack* of savings relative to investment in the United States and some other industrial countries, combined with an extraordinary increase in saving relative to investment in many emerging market nations. "Like water seeking its level, saving flowed from where it was abundant to where it was deficient, with the result that the United States and some other advanced countries experienced large capital inflows for more than a decade, even as real long-term interest rates remained low."... "In certain respects, our experience parallels that of some emerging-market countries in the 1990s, whose financial sectors and regulatory regimes likewise proved inadequate for efficiently investing large inflows of saving from abroad. When those failures became evident, investors lost confidence and crises ensued."

Summarizing, according to the FED's official the GFC causal chain looks like this way:

- East Europe and Asia generated huge capital outflow
- US and others received it for cheap (low%), but misused it
- The process paralleled emerging market (bad) experience from 1990s

No more and no less, it is the tremendous inflow of money coming from the third world, which caused the crisis in the first one!

And the 1990s South-East Asian and Russian problems are more or less part of the situation in the West of 2000s. Not even a word for deficiencies of the system *in*

the west. Nothing about the relaxed regulation, wrong FED policies, deficient financial engineering.

It is all about the bad performance of Russian financial markets transferred to the markets in developed economies. This does not seem quite an explanation, not just because the Russian markets lack almost all of the troubled instruments, but also because in fact the trend is just the opposite: the markets on the East follow the trends on the West.

1.2. Broadening (?) the argument

The apparent explanatory gap creates some other arguments, meant to look like more specific, but in fact they make the picture even more vague. One is about universal people's greed.

Funny enough, according to that argument, various economic agents acted improperly, taking advantage of the boom. Chasing profit, they went too far buying and buying assets - mortgages, CDOs¹, whatever, thus pushing their prices beyond any reasonable levels.

Of course, it is clear to everyone that there are no "reasonable" limits set, neither the "greed" is condemned within the mainstream neoclassical paradigm. The only good reason for this argument to exist is, its "acceptability"; there is no problem with the markets, no problems with their regulation, the only "feature" to be blamed is the human weakness.

And accordingly, there are found a lot of scapegoats, whose bad performance lead all the society to disaster. Hence, all sorts of Madoffs, Dick-Fulds, etc., "villains"² are welcomed on front pages. In fact, all the "villains" of the market were present at all the time, and acted accordingly, but their actions, though undoubtedly damaging, sometimes even disastrous for their clients/shareholders/investors, were always localized and insolated; Nick Leeson's collapse of Barings in mid-1990s is a good example of such stories.

The greed is not just part of the economic game. It is a *recognized* one within the neoclassical paradigm, which states that the human beings act socially, just because of their non-altruist, egoistic motifs; the greed to be a perfect one in that set.

¹ An abbreviation for Collateralized Debt Obligation – a structured debt financial instrument

² "Is Lehman CEO Dick Fuld the true villain in the collapse of Wall Street, or is he being sacrificed for the sins of his peers?" S Fishman, New York Magazine 30. Nov 2008.

Regardless what is the role of the psychological behavior in the economic game, apparently, it is always possible to check it with an appropriate regulation.

The other argument is about pervasive social policy. This argument is meant to be the a specific one. when discussing the GFC causes. By this point of view, the US government policy, dubbed as '*cheap home for everyone*', is seen as a pervasive social one. The apparent targets, here, are the government-sponsored agencies in the financial markets - *Freddy Mac and Fanny Mae*, presented like monsters, not a market-driven giants, assisting the poor with cheap homes trough pervasive policy.

In fact, none of these institutions was a leading one in the most aggressive mortgage soliciting. They both were created before the last "innovations" on the mortgage market and they were doing pretty well with the mortgages securitized in a traditional way.

Moreover, as we shall see a bit further, they *were needed* by the private financial institutions, because of the specific requirements for risk-distribution.

The more precise look into the mechanism of the crisis shows, that mortgages themselves were not the problem, but rather it was the way their risk was measured and the way they were securitized.

The GFC reasons pointed out here, expose clearly, the attempts to deal with the crisis in general and to stay away from its factual picture. Instead of asking crucial questions, as why the risk of so many securitized mortgages were so carelessly assessed and priced, the debate goes about the insatiable human nature. That seems a bit peculiar.

1.3. Reform proposals

The crisis debate becomes even more peculiar when one look at the proposals for overtaking the crisis. The key elements of Bernanke's "reforms to the financial architecture" include focusing on:

- the problem of institutions that are too big-to fail;
- preventing regulatory policies and accounting rules from inducing excessive procyclicality_in the financial system and the economy
- creation of an authority specifically charged with monitoring and addressing systemic risks to protect the system from financial crises.

Those measures were addressed more or less in Geitner-Obama "Financial Regulatory Reform Plan":

- Federal Reserve to receive expanded powers
- New Consumer Financial Protection Agency to be created

- Reform of the industry - incl. return to “plain vanilla” financial products; recommendation of the best loans for borrowers, and verification that they can afford the mortgages
- Close regulation of the risky investments (“weapons of financial mass destruction”)
- Private money pools [Hedge funds] to register with the SEC

One can easily see, that those proposals “admit” much more serious problems in the system than just an enormous inflow of money, which are not invested properly. In this proposals, there is an indirect recognition of the fact, that some institutions “outgrew” the market; the market does not provide for the market behavior of some agents, and it does not account for the interests of other agents.

The most important “admitting” here is, that the system could not continue to function further, without a deep and comprehensive regulation.

If one looks out further for more radical proposals, he/she will easily come across some, like the idea for *zero interest rate* for example. Some economists already proposed (Mosler and Forstater (2004), Wray (2004,) and Tymoigne (2008)) that the interest rate on overnight advances offered by central bank should permanently set at zero. All that, indicates that the required reform of financial system is expected to be deep, and even radical one.

2) Criticism of the mainstream economics perception for the GFC

2.1. Contradictions

At this point, one starts feel quite uncomfortable with the perception on GFC within presented by the dominant economic paradigm. It seems quite contradictory. On the one hand, the causes of crisis look more or less standard: it is, just, a less efficient way of handling a large monetary inflow. Well, after a certain turbulence on the markets, the latter are going to find their way and to become more successful in the near future.

Surprisingly, on the other hand, there are offered extraordinarily deep reforming measures, going up to the point of recognition that some of the institutions operating on the market are not subordinated to the market. (What else does it mean *too-big-to-fail?*)

If the problem is a standard, and relatively simple one, why then, it is needed a so deep regulatory intervention?

Apparently, the reason for such a contradiction might be, that the problem is much more serious than a simple “inefficiency”.

And that problem might be searched for in two different, though intertwined directions.

First possible area to search, might be *the managing practices* of the financial élite in several developed economies. Taking seriously all the scandalous stories, plus the “greed” argument, one may assume, that during the last decades there were carried out, systematically, blameworthy practices in banking and financial sector.

That would mean that appropriate élites broke a substantial set of norms, ethics, standards etc. of the market behavior. The largely-condemned struggle of some banks on bail-out program to continue with the bonuses for their management, feed this view point, quite well.

Although, such a logic seems to me oversimplified. Any society finds, sooner or later, the way to overcome the unsocialized behavior of any of its groups or strata.

The second direction for finding an explanation of the contradictory picture on GFC presented by the main street economics, is within the area of mechanics of the functioning of the financial markets. If one assumes, the possibility of “deficiency” in the *engineering practices*, carried out on those markets he/she may find quite an interesting details.

2.2. Mortgages: the convenient sinner

Mortgages were the immediate, and are the most blamed, factor of the crisis whatsoever. An apparently weak link in the chain of financial instruments; the one that started the downfall: a lot of “greedy” people, readily assisted by the “pervasive” social policy of the government, received so many cheep credits and pushed the real estate prices too high. When the market realized what happened, it reacted swift and raised the interest rates; the nonperforming mortgages followed causing the crash.

And if that is not enough convincing, here there come the *subprime mortgages*: “not-trustworthy” (or again, “greedy”) people obtained loans, they cannot service. Indeed, for just three years (2005-2007), 7.2 million “high-interest” or subprime loans were sold. And, when the heat began, 20 of the top 25 subprime lenders have closed, stopped lending, or been sold to avoid bankruptcy. Most were not banks and were not permitted to collect deposits, according to analysis of Public Integrity Center (Dunbar, Donald 2009).

This perception on crisis does not hesitate to skip the facts, which it does not quite like.

The mortgage frenzy simply would not happened, if the brokerage companies were not backed heavily. Backing was twofold: institutional and operational one.

The first was done by the banks: at least 21 of the top 25 subprime lenders were financed through direct ownership, credit agreements, or huge purchases of loans for securitization by banks that received bailout money.

And the second - by the frenzy on another market; the one of CDO (Collateralized Debt Obligation): the trade in those instruments rose, for a short period, from 275 billion dollars (2001) to 4.7 trillion dollars in 2006, and peaked at the unbelievable 6.8 trillion dollars in 2007. That Including, 1.3 trillion dollars in subprime lending; 72% of them (nearly \$1T) originated by top 25 institutions mentioned above (Dunbar, Donald 2009).

One more market exploded as well, that of CDS (credit default swaps). From about 1 billion (2001), the trade in those derivatives reached 62 trillion dollars in 2007.

2.3. Specifics of the mortgage market

Important questions arise about the independence of the mortgage market: does it depend on the market of collateralized debt and why both markets burst so dramatically at the same time?

The first answer is neither new, not surprising. Banks are eager to fuel the trade in mortgages by issuing against securitized debt (CDO). CDOs are very attractive for the investors, since they are backed with property.

Unfortunately, there is an impediment of the rapid exposure of that business, and it is in the very nature of the mortgages. The latter appear quite disordered in financial terms: first, their income is not fixed enough, since the income they bear depend heavily on the proportion between performing and non-performing loans, and it is quite fluctuating in any given moment. Second, the mortgages do not have a firm fixed maturity date, since people easily and often resale, refinance, or simply pay back earlier their debts.

In principle, those difficulties might be forgiven, if the analyzers are able assess precisely the risk of non-performance, and price them accordingly. Although, to make this for many different mortgages packed together and sold together is extremely difficult and time consuming task.

The only known "traditional" solution of that problem is to "slice" the pool of securitized bonds into "tranches" with different rating: some with prime (AAA) and others with lower ratings. That way, by assigning different risk and charging different prices to the investors, the banks are able to make mortgages more predictable, hence attractive, and to enlarge substantially their sales.

This practice is based on the assumption, that the individual mortgage-holders do not fail synchronically and when one does not perform, the other will continue to pay his/her debt. That assumption is quite *primitive*, since there exist always events, which are not individual, but affect more or less large groups of holders. The

risks of fallen the price of your home, if your neighbor's home price plunges down, is real, and not accounted by the "tranching". And this is a bad news for those who invest in mortgage-securitized bonds on property in your neighborhood. That risk remains and it makes al the game quite uncertain.

Before the last-decade "innovations", the only case for the "greedy" investors to take keenly that risk, was, if it had been entirely eliminated, i.e. if the government guaranteed securitized bonds in any way.

This is actually, the "little family secret" for existence of the gigantic government - sponsored structures with tender names, like *Fanny Mae and Freddy Mac*. Those, awkward from any liberal point of view, structures, fitting much better the concept of "ripe socialism", were always needed, since they have had that little nice feature of eliminating private risk on public account.

The contingency between mortgage and CDO markets indicate that the cause for the burst in mortgage market was *outside* that market, and more precisely in the developments of the CDO market.

Before looking what happened there, one may notice two important facts: First, the frenzy in mortgage market was not for free. It paid back, and heavily, one must say. During the 90's, the financial industry had barely touched 30% share in total business profits; by 2005 it peaked at 41 percents (Johnson, 2009).

Second, this development in mortgage market was not just happened, it was well backed. A. Greenspan, said before the Fourth Annual Community Affairs Research Conference: "Innovation has brought about a multitude of new products, such as subprime loans. ... With these advances in technology, lenders have taken advantage of credit-scoring models and other techniques for efficiently extending credit to a broader spectrum of consumers... Where once more-marginal applicants would simply have been denied credit, lenders are now able to quite efficiently judge the risk posed by individual applicants and to price that risk appropriately. ... These improvements have led to rapid growth in subprime mortgage lending ... fostering constructive innovation that is both responsive to market demand and beneficial to consumers." (FRB, 2005).

Doubtlessly, the subprime business was not just approved officially, but it was, also, inspired by the lenders which saw a good opportunity in this "innovation" to extend the credit to the people, who deserved denial just few years ago.

3) "Innovative" David Li and his "Formula from the Hell"

Here there comes the most controversial part of the story. The unbelievable and unexplainable story of how all the financial community was made to believe

that a simple mathematical trick could replace the thorough evaluation of the risk of complex financial product.

The protagonist of the story is China's ex-pat, specialist in life insurance actuary, David Li. Driven by his determination for success, he learns French for 4 months, collects degree after degree from different Canadian universities, decides to stay there and "anglicizes" his name. Eventually, Li embarks on a carrier, that has little to do with his MBA from *Laval*, but fits excellent with his believe "that if you are an actuarial guy, you can earn a lot of money" at Canadian Imperial Bank of Commerce (CIBC). Later he moves to JPMorgan Chase, was global head of credit derivatives research at Citygroup and at the peak of his carrier he headed up his own credit quantitative analytics team at Barclays Capital. After the crisis started, he disappeared from the public eye and found a quiet harbor in China International Capital Corporation, a Chinese investment bank.

This unbelievable, sky-rocketing career (Li was once considered for Nobel Prize), has a simple explanation: the guy claimed to be able *to calculate the risk* of default correlation in any pool of CDOs, i.e. to make manageable the reaming risk, discussed above.

When calculated, the risk might be priced, the uncertainty reduced (even removed, as some believed) and market pushed up.

Further, since the differences in default correlation are big enough, the pricing margin between the different "tranches" might be huge. Hence, the *speculation comes into the picture* and the market push becomes quite an explosive one.

That was exactly what happened.

3.1. Li's "breakthrough" model

How, an *outsider* to investment business as Li, was able to instigate such a development?

As an actuary, Li had dealt with the so called - broken heart syndrome, a sad phenomenon shortening the live span of the survived spouse, after the loss of the beloved partner. His colleagues already used *the Gaussian copula*, to quantify the risk of dying for the survivor during a period of time after the death of the first partner in order to increase or decrease the premiums assigned in certain life policies.

The inspired LI declared, that the problem of measuring risk of default correlation is exactly the same, and that "default is like the death of a company, so we should model this the same way we model human life." (Hsu, 2005). He introduced a new variable "*time-until-default*" to denote the survival time of each defaultable entity or financial instrument. Then he defined the default correlation between two credit risks as the correlation coefficient between their survival times.

Beyond the smoke curtain of bold claims, the important thing is, that the advocated process is *pure mathematical*. Just as, the life policies' engineers do not need any specific information for the observed couple in order to predict their survival time, the engineers of financial derivatives do not need any company information to predict the default correlation. Instead, they obtain a kind of public market information and claim, that it is good enough to predict the companies correlation index.

Here, the second tricky "breakthrough" of industrious Li comes. He postulated, that the correlation into a pool of CDOs might be assessed by the financial instruments used to insure their default CDS (credit default swaps). This derivative indicates that default risk has risen, if its price goes up and vice versa. When the prices of credit default swaps on two CDOs move in the same direction, then there is a strong correlation between the underlying default risks, as priced by the market.

Instead of gathering real-world default data on structured debt, Li's model, based on *Gaussian copula*, substituted CDS prices daily quoted at the stock Exchange. An implicit assumption was, that financial markets in general, and CDS markets in particular, can price default risk correctly.

The model was launched in "*The Journal of Fixed Income*" in 2000, and his author soon become a five-star celebrity on the financial skyline. On 10 October 2004, the model was approved by Moody's as standard practice for pricing; Standard and Poor were just one week late.

3.2. "Merits" of the model:

Simplified model allowed for Li to "avoid" the need to calculate all the immense relationships between the various loans inside the pool, all the complications when the number of bonds increases or when negative correlations mix with positive ones. According to his formula the only thing that matters was the final correlation number. Instead of complex picture the potential investors received a single, all-sufficient figure that sums up everything.

Soon after Li's paper came out, both markets, that of CDSs and that of CDO exploded; ironically, the former soon became a bigger and more liquid than the latter on which it was supposed to be based.

3.3. Blowing the balloon

As long as, one can price the risk, there is no need to use the old techniques to diversify the eggs in the basket; he simply gets the right price for the particular basket. Hence, there were no more obligations to invest in just AAA-rated instruments for all types of investors. One can buy mixed "packages" of AAA and lower-level rated stock or even the ones created completely out of subprime instruments, since financial engineering can produce AAA instruments out of all low-rated instruments.

Accordingly, the boom in both markets provided for the boom of mortgages (est. 6.8 trillion dollars for 2007), that including a tremendous jump in trade with subprime mortgages (\$1.3 trillion est.). The roles reversed: now the banks started to chase would-be homeowners and the brokers turned blind on who was receiving credit and how he/she will repay it.

By the mid 2007, there were constructed more than 37 000 top-rated structured issues Scholtes and Beales, 2007). According to an estimate of the Fitch (2007), about 60% of all structured products globally were 3-A, compared to the less than 1% of the “traditional” corporate stock.

3.4. Crash

The crash arrived quite quick - within less than 4 years. The time of long kept low interest rates expired and the rising rates soon revealed the true story for that market boom. The falling domino of subprime mortgages cut the trend in real estate market, suppressed the prices to a more realistic level. The severe downfall virtually wiped out the market and very soon the banks appeared the biggest home owner in some US regions.

Of course, this was just the beginning; the next blew up the CDOs indiscriminately to their high ratings and made the insuring derivatives enforceable. Then the real panic burst, since nobody knew who owns what, and which institutions are the most exposed to “poisoned” financial instruments. On *15 September 2008* the full-scale crash came together with the end of the *calculated risk era*.

3.5. Flaws of the model

After a short period of record breaking collapses, spectacular government bailouts with 15-digit figures, disgraceful arrests of Ponzi-scheme tycoons etc., the public attention switched on more boring, but much more adequate issues, like the mechanic of the crisis.

And the first question to be asked was, how it was possible? How it could be degraded so deeply (and easily), an enormously complex and expensive technology, like that of creation, valuation, pooling, selling and distribution of debt instruments? Why the calculating of risk on financial instruments managed to break apart all the global financial system of the market societies, just like turning down domino tales? What a weird behavior it is, to invest in instruments, so unstable, to deserve branding as “toxic” ones, keeping at the same time appearance that everything is under control?

The answer came quite soon; the David Li’s model was flawed, it was so flawed, that Forbes did not hesitate to call it “formula from the hell” (Lee, 2009).

A non-comprehensive list of those flaws would encompass:

Improper application of the model; the problem is not the Gauss copula itself; it is arguable that the company default correlation follows the human's death model.

Improper assumptions about the housing prices; the model implicitly disregarded the assumption for down-turning real estate market.

Improper pricing base - short statistical ranges of historical prices of derivatives.

The list could be extended further, but the important point is clear enough: all that led, practically, to incorrect measuring of the risk of derivatives, tremendous in value and number. That aggravated by the fact, that the trade in derivatives and structured debt market was practically unregulated and certainly unrestrained. There were no limits of how much "insurance" might be issued over a single issue of structured debt.

3.6. Early warnings

The situation with derivatives market did not pass unnoticed. The first alarm was raised in 1998 by Brooksley Born, the chairwoman of the Commodity Futures Trading Commission (CFTC). She declared the unregulated contracts a "grave danger" to the economy and led a severe battle to regulate the derivatives.

From theoretical point of view, the very idea for using the correlation in finance was attacked, for one is quite unstable and compromises the model. Wilmott (2001) wrote, that "the correlations between financial quantities are notoriously unstable" and theory should not be build on unpredictable parameters.

Ironically, Li himself also warned about the way its model has been exploited and about the expectations it creates; he complained in Wall Street Journal (Whitehouse, 2005), that "few people understand the essence of the model".

The most severe critics was expressed by Nassim Taleb, a manager of strong hedge-fund, who insisted that anything that relies on correlation *is charlatanism*.

Nevertheless, the avalanche of lucrative business based on "calculated risk" model proved unstoppable. The CFTC chair B. Born lost the fight with Alan Greenspan and Robert Rubin over policing the deals. The contracts were exempted from oversight in 2000 and the market multiplied several times just in months. That growth, including CDOs and CDSs, contributed later to the almost \$1 trillion of global bank losses.

The critics on David Li's risk assessment model were just ignored, making the default swaps 'the fuel for what has become a global credit crisis' as it put Christopher Cox, the current chairman of CFTC (Leising and Runnigen, 2008).

4) The problem in the perspective of changed economics paradigm

Here is the crucial point of the discussion. Who is the real culprit for so irresponsible pricing of the risk on financial instruments with value amounting to trillions of dollars?

Doubtlessly, the responsibility for launching the particular analogy between human's life and corporate default, lays with David Li, though there are some voices in his defense. The most common argument says, that Li can't be blamed, since those were the bankers, who misinterpreted and misused it. The rating agencies and the investment banks were those rushing to use the model and tremendously benefiting on it. All in the same direction of consideration one may take into account the explicit impediments and lobbying against regulation of the derivatives.

Thus, though he substituted, quite irresponsibly, one reality for another, and disregarded the possibility for change in social and economic conditions, when measuring the default correlations, it seems that the problem goes beyond that frame. The biggest issue here seems not to be, the deficiencies of financial engineering, but rather, the opportunity left for it, to play such a major role.

And, though the reforming calls demanding regulation of derivatives business and simplification of the financial instruments, back to "plain vanilla", might prove important tools against the crisis, the central problem remain still elsewhere.

The problem to be addressed, concerns the framework, the paradigm, which allows such events to happen. Application of mechanistic, oversimplified models on complex economic phenomena, as Li does it, has been possible due to the particular paradigmatic perception of people and economy as mechanistic elements.

It is the mainstream economics, which *reduces* the human beings to utility maximisers. It is again the same paradigm, which reduces the society to a process of mass bargaining, performed by optimizing strategies and in accordance with utility incentives.

The general picture of the whole economy, as a process of maintaining equilibrium by "agents" (not necessarily humans; corporations are also agents), without preferences, tastes, morals, etc., is in fact postulating of a mathematical task. [To open a bracket here, buying more, when cheaper, is not a preferential choice, at least in neoclassical economics, it is just following a mathematical algorithm. Hence, by enforcing the concept of rational individual (behavior), the "agents" are deprived from preferences.] Moreover, this is an automatic process; it is "an invisible hand" [of market], which solves almost all the social problems.

Thus, the neoclassical economics, *ex ante*, postulates the economic phenomena as mathematical ones and opens the door widely for any kind of bold “assumptions” like the one we discussed above.

This is the background, which besides the “greed”, besides probably the corruption in the banking practice, made possible for so many people to overlook the elementary fact of business cycle. The reasonable answer of the question why it was used a model, which does *not provide* for decline of housing prices, on such an enormous scale, might be only - the blind belief that the *automatic force of market* will always produce effective and equilibrium prices, which one can use in any model.

The reality proved different. Neither, the model was accurate, nor the prices of derivatives, taken for calculation of the correlations were correctly provided by the market under the changing conditions of the business cycle dynamics. The proper modeling of the economic process might be done, just, within another scientific paradigm, which will bring into the picture factors and conditions ignored within the current one.

5) Conclusions

The claim for reassessment of the current economic paradigm receives some support, maybe quite *unexpectedly*, from such a prominent neoclassical economist as A. Greenspan. In his *Testimony before the House Committee on Oversight and Government Reform* about financial crisis and his tenure at the Fed, A. Greenspan acknowledged that after forty years, he had “found a flaw” in his ideology. “Those of us who have looked to the self-interest of lending institutions to protect shareholder’s equity, myself especially, are in a state of shocked disbelief” (Greenspan, 2008).

In other words, the market proved unable to regulate itself.

P. Krugman (2009) provides a much more convincing claim on changing economic paradigm here: “Few economists saw our current crisis coming ... (the economics profession) mistook beauty, clad in impressive-looking maths, for truth. ... as memories of the Depression faded, economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets, this time gussied up with fancy equations. [...] Unfortunately, this romanticized and sanitized vision of the economy led most economists to ignore all the things that can go wrong. They turned a blind eye to the limitations of human rationality that often lead to bubbles and busts; to the problems of institutions that run amok; to the imperfections of markets – especially financial markets – that can cause ... sudden, unpredictable crashes; and to the dangers created when regulators don’t believe in regulation.

... economists need to abandon the neat but wrong solution of assuming that everyone is rational and markets work perfectly."

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