A BEHAVIORAL APPROACH TO THE GLOBAL FINANCIAL CRISIS

Dedu Vasile
The Bucharest Academy of Economic Studies

Turcan Ciprian Sebastian
The Bucharest Academy of Economic Studies

Turcan Radu
University of Oradea

The purpose of this paper is to reflect the behavioral biases that led to this global financial crisis. The paper presents briefly the real causes of the crisis (structural and cyclical factors) and puts a greater accent on the behavioral factors. The authors considered to structure the paper in three main pillars: behavioral factors, the collapse of ethical behavior and the role of behavioral finance in studying, regulating and assessment financial risks. The first pillar consists in a brief presentation of the behavioral factors such as: optimism and wishful thinking, overconfidence, greed, regret, pessimism, passing the responsibility, herding - groupthink, anchoring, representativeness biases, informational cascades and "this time is different" syndrome. The second pillar of the paper presents the collapse of ethical behavior that led to the global financial crisis: predatory lending practices, inappropriate compensation schemes, rating agencies behavior, corporate governance reforms and financial institutions opacity in their reporting. The third pillar presents the mismanagement of risk and regulations that led us into this global mess. The paper concludes with the need of integrating biases of human behavior into regulations in order to make them more effective and people become less financially vulnerable.

Keywords: Behavioral finance, regulation, crisis, biases, ethics
Jel Classification: D23, D82, G01, G15, G20, G28

Many reputed professors in economics like Robert Shiller ("Irrational Exuberance"), Nouriel Roubini, Stephen Roach (Morgan Stanley) and analysts from the Bank of International Settlements have been feted for foreseeing the global financial crisis (*Karabell, 2009*), but none of them could see the exact form that it would take and the timing of its onset and ferocity. The risk of the system as a whole rather than of any specific asset or institution has been mismanaged for more than a decade, being precisely the reason for all the imbalances in the global economy and the subsequent global financial meltdown. Individual risks have been small and often properly managed but the risk to the system as a whole was huge and nobody took serious care of, causing global interconnected imbalances that no single authority could manage.

Asset bubbles and financial crises are not new to mankind. Even if risk managers tend to call them "*six sigma events*" or events that happen a couple of times in a hundred years, actually they happen more frequent. The first asset bubble and burst happened in 1636-1637 (the Dutch tulip mania) and many further examples can be given: the crisis of 1825, 1873, 1890 (Baring Crisis), the panic of 1907, which started in the US after the stock market fell close to 40% from its peak (*Kamalodin, 2011*), the Great Depression (1930s), the Latin American debt crisis (beginning in 1982), the Stock Market Crash (1987), the crisis after the Technology bubble in 2000, the Nordic Financial Crisis (1990s), the European currency crisis (George Soros's speculations against the sterling pound), the Tequila effect (the massive devaluation of Mexican Peso, leading to a bank crisis), the Asian Flu in the second half of the 1990s, the Brazilian fever and the Russian Cold causing LTCM to fill for bankruptcy, endangering the US financial system (1998). Flash Crash is another "six sigma event" and refers to the US stock market crash on May 6, 2010, in which the

DJIA plunged about 900 points (about 9 percents) only to recover those losses within minutes. It was the second largest point swing, 1010,14 points and the biggest one day point decline, 998.5 points, on an intraday basis in DJIA history (Wikipedia). The only **common denominator** of all those events is **human behavior**. Studying the crisis from a behavioral perspective, allows us to understand how human psychology (so called "**animal spirits**" by Keynes) drives the financial actors' decisions and the human behavior impact on economics and financial markets. When anxiety, emotional pain and behavioral biases interfere in the judgments and decisions about risk and reward, the success can be systematically compromised. A behavioral approach in studying the "animal spirits" that led to the current global crisis, might lead us to understand what must be changed in society, in economic thinking, in principles, in the approach to economic events in order to avoid similar scenarios in the future (*Florescu, 2009).* We have to learn lessons from the past crises but the solutions applied successfully then might not resolve the problems from now.

According to Daniel Daianu (2008) the roots of the current crisis might be found at both macro and micro level, classifying them in **structural and cyclical factors**: *Structural factors*: the increasing role and the complexity of financial markets in the financial intermediation, securitization that spread the risk across national borders due to globalization, making markets less understandable (opaque), inadequate risk and econometric models, conflict of interests among market participants (CEOs, independent directors, financial institutions vs. customers, rating agencies), intensive run for short term profits (promoting greed and hubris) without regarding the long-term goals (inadequate compensation schemes), imbalances in saving and spending of a number of countries and not last, the over reliance on the self-regulatory virtues of markets. Among *cyclical factors* might be the excessively low risk free interest rates in major economies promoted by authorities in order to avoid a deflationary bust after September 11. Through easy money policies, it has been made easier than ever the use of high leverage in all sectors, including household sector through sub-prime mortgages, corporate sector and thus the financial system as a whole.

The increase in leverage at a systemic level through financial innovations, introduced fragility into the system without noticing for a long time. The acerb competition among financial institutions and the continuous run for high yields, made them to lose lending standards and increase the use of credit derivatives. Due to the complexity in the design of financial innovations, the accounting and reporting standards used for more than several decades, could not reflect and integrate the whole embedded contingent liabilities, leading to opacity and making very difficult to value them especially in moments of increasing uncertainty in the financial markets.

From **a behavioral point of view**, the behavioral factors of the global financial crisis might be multiples. There are so many behavioral biases involved in the investment decision process leading to crisis, that we could write a book about them. Unfortunately we will have to resume to a brief presentation. The main **behavioral factors** met are:

- *Optimism / wishful thinking:* household sector, corporate and the financial sector have increased the use of leverage, underestimating the fragilities and the imbalances that might appear. They all had the illusion that interest rates will remain for a prolonged period at very low levels; there will be liquidity available for all, causing the so called "Irrational Exuberance" (Shiller) necessary for the asset bubbles. The optimism caused even predatory lending practices and the collapse of ethical behavior, in the permanent search for higher yields. They all underestimated the risk of costs while overestimating gains.
- *Greed and over indebtedness:* the mentality of people: "Get rich or die trying" or "Buy now, pay later".
- *Regret:* manifested after the asset bubble burst, when panic conditions installed and everyone wanted to have a ticket for the so called "flight to quality" program. No one

wanted to admit from the beginning that he was probably wrong – despite evidence, so they wanted for confirmation data (confirmation bias) until the panic and pessimism burst.

- *Herding behavior and Group thinking:* individuals tend to mimic other people's gestures and decisions. During the dot.com bubble they all wanted to have a slice of the grubstake, and when the bubble busted, they wanted to get out all together, if possible in the same time. There is so called "social pressure to conform" with the crowd, even among professionals and financial markets analysts (reputational risk). Herding tends to reduce regret, because mimicking others behavior, makes you feel more comfortable that you did not perform worse than your peers (*Muradoglu, 2010)*. Herding amplifies economic and credit cycle effect, as decisions become more uniform (*Rizzi, 2009)*. Before 2007 almost nobody doubt about risk models, now it's a real fashion among researches to doubt risk management practices.
- *Informational cascades:* "It's more likely that I'm wrong than that all those other people are wrong. Therefore, I will do as they do." (Wikipedia)
- *Pessimism:* the downturn came when investors adjusted simultaneously their positions triggering a decline in asset prices (*Rizzi, 2009*). October 2008, was probably the moment when the level of irrational pessimism was the highest in a generation (*Martin, 2008)*.
- *Overconfidence:* risk managers and investors had the illusion of control by using quantitative risk models; but they did not understand their limitations (Nassim Taleb)
- *Passing the responsibility:* Risk managers used to internalize success while externalizing failures. They attributed success to their skills of predicting the markets, managing individual risks, while passing the responsibility on FED, SEC, speculators, or any other authority, but not ever recognizing that it was only, and absolute only their fault for not taking cautionary measures, not having a contingency plan.
- *Anchoring:* people anchored their expectations based on past data (years of euphoria)
- *Familiarity biases:* many actors had the illusion that they knew what they were doing. Even Greenspan (2008) finally admitted that he was "partially" wrong.
- *Representativeness biases:* people tend to see patterns where they are not, based on stereotypes. Trading financial markets is not a science but an art, that's precisely why you cannot ever rely on past events and statistics in order to predict the risks of the future. People assumed to continue the "easy money" policies for an indefinite term and the housing prices market would not decline as a whole.
- *"This time is different" syndrome:* people were convinced that housing prices would continuously increase and the stock markets overall will get higher and higher.

The collapse of ethical behavior of many actors in the financial markets was probably the most important factor that endangered the viability of the financial system as a whole. If twenty years ago, people obtained their mortgages from their local bank officer, having a close relationship with him for years, nowadays, people obtain their mortgages from agents that come "out of the blue" convincing to finance / refinance their home just like an ordinary car assurance. The agents were paid exclusively on quantity ("*How many mortgages did you bring me today?*") not quality ("*How many good mortgages you bring me today*?") (*Greycourt White Paper)*. Agents struggled for selling as many mortgages so they could afford the comfortable living they needed, without ever taking in considerations the risk of default for the contracts signed – *""I have to close thirty loans a month, because that's what my family's lifestyle demands"*. The atmosphere among agents *„was like this giant cocaine party you see on TV" - „It was like this giant rush of urgency."* – according to Sylvia Vega Sutfin, an ex account executive at BNC Mortgages. Agents recurred even in falsifying documents and lying people about the real cost of the mortgages: *"Every closing that we had really was a bait and switch", „'Cause you could never get them to the table*

if you were honest." Some of them were very creative in falsifying documents: *„They used scissors, tape, Wite-Out, and a photocopier to fabricate W-2s, the tax forms that indicate how much a wage earner makes each year. It was easy: Paste the name of a low-earning borrower onto a W-2 belonging to a higher-earning borrower and, like magic, a bad loan prospect suddenly looked much better*." (*Hudson, 2010*). Nobody cared about those practices, because nobody ever thought of carrying the paper on their own balance sheets. Once a mortgage was signed and approved, the agent got paid and would never see again the borrower again. The lenders (Mortgage companies) soon afterwards sold them all further to investment companies that securitized them in a pool, and got also the papers off the balance sheet by selling as an innovative financial product to other investors from all over the world. Lending money and underwriting standards declined since it was in no one's interest to hold the loans in their books, but concentrate on volume and pass the risk to greedy and naive institutional investors. The lenders made lobby among politicians, lawmakers and other influential figures (the so called „Friends of Angelo" (FOA) VIP Loans program that offered below market terms on mortgages for influent people) (*Darrell, 2009)* to attract the support of authorities for the subprime market. Their argument for support was making the American Dream come true and making houses affordable for every citizen. Attracting Government Sponsored Entities like Fannie Mae and Freddie Mac into this business, made possible that risk to be „nationalized" and profits „privatized". Practically, the risks were passed to them, because they were the entities among other greedy private investors that hold billions of dollars worth of these mortgages on their balance sheets.

Rating agencies were the one who should have protected investors from buying risky financial products, but probably they did not understand the risk very well, either. Probably the rating agencies did not have enough information about the „content of the packages". Even the brightest minds and quants of Wall Street, nor regulators did not fully understand what was happening in the markets. Some voices argue that the rating agencies should have foreseen the high default rates for subprime borrowers, and they should have given these CDOs much lower ratings than the 'AAA' rating given to the higher quality tranches. If the ratings had been more accurate, fewer investors would have bought into these securities, and the losses may not have been as bad (*Petroff – Investopedia)*. How could they do that, knowing that they receive fees from the security's creator, how could they maintained their objectivity when running the risk of the underwriter going to a different rating agency that would sell their ratings for a higher bidder?

More ethical failures can be seen among the bonuses that many top executives received even if those „performances" were because of taking too much risk, endangering their companies and causing the global financial meltdown we are passing through. All the compensation schemes, profits, glory and keeping the job measures made people have the will of taking more and more risk, even if they half suspected that it would end badly. Shorting the securities you are selling to your clients cannot be called ethical job, but it's legal (*Greycourt, 2008)*. That's precisely what Goldman Sachs did and proudly said it in the 3rd quarter of 2007 Report (*„Significant losses on non-prime loans and securities were more than offset by gains on short mortgage positions").* Customers and investors of the so called „innovative products" were abandoned when they need to convert them in cash, besides of the fact that previous buying them they were assured (banks ensured that the auctions would not fail) of being *„Safe as cash but with a higher yield!"*(*Greycourt, 2008*). The main problems with banks were that they assumed risks and role that should not have had. Commercial banks are not investment funds, nor hedge fund to take risks, are leverage of more than 25-30 times their equity. Banks have a different role in the financial system. There is more than an ethical issue here, is a behavioral matter: group thinking and herding. Chuck Prince (ex-CEO of Citi) once said: *„When the music plays you have to dance"*. No one would listen to risk managers in good times. Corporate governance reforms

stimulate instituting independent directors or non-executive board members, committees composed of independent directors. They are supposed to induce more rationality, ethics in corporate governance and a fostering debate of flawed exposures policies before they become lethal – render corporate disasters rarer. Morck (2007) say that corporate officers and directors are more loyal to their direct boss (CEO) than to their shareholders and to the law (Enron, WorldCom, Hollinger, AIG), even under clear signs of impending financial doom. Behavioral factors, such as cognitive dissonance, reciprocal favor trading or group conformity may significantly weaken the independence and the authority of directors. According to Higgs Report (2003), almost half the so-called independent directors on British boards were recruited by the CEO through personal contacts or friendships. There is no wonder why we have got into this mess.

Financial markets have been understood based on conventional assumptions of rationality, profit maximization and being informational efficient (EMH), using complex econometric models. Standard models are being put in doubt because they do not take in account the whole picture, especially the behavioral aspects of the markets. As human beings, we have the tendency to make mistakes, to have biases and interpret differently the information available, depending on our own state of mind. People cannot be called rational agents, but „animal spirits", just like Keynes said. David Tuckett (2009) finds the reason why so many people rely on economic and finance modeling, without questioning too much about their validity: the comfort value of mapping the future. The complex calculus, tables, statistics, charts and many sophisticated and less intelligible information, „*manage anxiety and to create the impression that risk is being managed. Such stories disguise the fact that in many ways we have not come very far from the casino."* But uncertainty and risks cannot be managed without taking in consideration the emotional part of the decision making process: imagination, desire, behavioral biases like herding, confirmation and many heuristics that provoke anticipated financial consequences depending on the context - „*...financial markets will always tend to be subject to greed, over-excitement, anxiety and panic and divided states of mind"*. (D. Tuckett). Probably the world's most prolific skeptic about risk models is Nassim Nicholas Taleb. „*Taleb says that Wall Street risk models, no matter how mathematically sophisticated, are bogus; ... risk models have done far more harm than good. And the essential reason for this is that the greatest risks are never the ones you can see and measure, but the ones you can't see and therefore can never measure. The ones that seem so far outside the boundary of normal probability that you can't imagine they could happen in your lifetime — even though, of course, they do happen, more often than you care to realize (Nocera, 2009)"*. Taleb detests the original VaR - portfolio risk management tool, because it is based on the past two decades of euphoria data when predicting the risk. Taleb is more concern of the risk that models do not take in consideration, the 1% case event, the so called „six sigma events", „fat tails" or „black swans". According to him, „*Any system susceptible to a black swan will eventually blow up."* David Einhorn, the founder of Greenligh Capital hedge fund, affirmed the useless of VaR as a risk management tool, because „*its use creates a false sense of security among senior managers and watchdogs. This is like an airbag that works all the time, except when you have a car accident."* (*Brown, 2008)*. Goldman Sachs realized the limits of VaR and the potential loss that might arise from a subprime market meltdown and decided to „get closer to home" – reducing the overall exposure to the residential housing market: „*We proceeded to sell certain positions outright and hedge our long positions in an attempt to achieve this result*" (*Testimony)* though it lost money on residential mortgage products in 2008 *(Harper, 2010)*. Our personal belief is that you cannot blame equations for being wrong. As Nocera stress it: „*The math alone was never going to be enough"*. You know the principle „garbage in, garbage out" - the most important thing is the data input in the models. As long as the data will include behavioral aspects of the markets (the equations / indicators will be adjusted to the moods of the markets), the models

would do a good work. No one of us is perfect so we couldn't blame models for not being perfect. Humans are error-prone. As a trader, as an investor, as a risk taker or manager you have to always consider the human condition. What matters most in trading is how much money you lose when you are wrong and how much you win when you are right. Nobody is right all the time. Nobody could be consistently Mr. „Know it all". LTCM considered knowing it all and you all know the story -*„There are two kinds of people who lose money: those who know nothing and those who know everything". With two Nobel prize winners in the House, Long Term Capital clearly fits the second case"* (Robert Lenzner).

The lack of financial institutions and regulatory oversight over the risk – creating behaviour of mortgage lenders and repackages (*Grosse, 2010)*, over the valuations that were assigned to made this mess happen. Neither securitization, nor complex derivatives instruments should be prohibited, but there is a clear need of improvement in regulation. As Jesse Livermore puts it, *„Wall Street never changes, the pockets change, the suckers change, the stocks change, but Wall Street never changes, because human nature never changes"* – the solution might be regulating greed and speculation. There is need for integrating greed and all the biases of human behavior into regulations, to make it more effective. Even Alan Greenspan, former FED chief and a vehement opposer of regulation, admitted he was „partially" wrong to resist regulation of derivatives – „*Partially, ...I made a mistake in presuming that the self-interests of organizations, specifically banks and others, were such that they were best capable of protecting their own shareholders and their equity in the firms" (Clark & Treanor, 2008)*

As a ***conclusion***, we think that an external constraint is needed when the market alone cannot optimize social welfare because of its imperfections, inefficiencies and participants' psychological characteristics, such as: greed, hubris, jealousy, fear, ignorance, group thinking, herd behaviour, incomplete information and lack of knowledge. Once we form a profound understanding of our own psyche, we should be able to manage better the impending crises.

References:

1. Brown, Aaron, Einhorn, David, "*Private Profits and Socialized Risk"*, Global Association of Risk Professionals (GARP) Risk Review, June/July 2008, pp 10-26

2. Daianu, Daniel, Lungu, Laurian, "*Why is this financial crisis occurring? How to respond to it?"*, Romanian Journal of Economic Forecasting, 4/2008

3. Florescu- Gherghel, Laura, "*Human behavior, economic theories and financial crisis"*, The International Conference on Economics and Business, November 14-15th, 2009, Iasi, Romania

4. Greycourt White Paper no. 44, "*The financial crisis and the collapse of ethical behavior"*, 2008

5. Grosse, Robert E., The Global Financial Crisis – A Behavioral View (January 16, 2010).

6. Harper, Christine, "*Goldman Sachs to face Levin in Post Crisis Reckoning"*, Bloomberg Business Week, April 27, 2010.

7. Hudson Michael, "*The Monster – How a gang of predatory lenders and Wall Street bankers fleeded America and spawned a global crisis"*, Henry Holt and Company, 2010, Book Review

8. Kamalodin, Shahin, "*Asset bubbles, financial crises and the role of human behaviour",* Economic Research Department, Rabobank, Nederland, January 6, 2011

9. Karabell Zachary, "*The One Who Saw It Coming"*, Newsweek Magazine, January 10, 2009

10. Martin, Paul, "*Irrational pessimism signals greatest buying opportunity of a generation"*, Martin Capital Advisors LLP, October 24, 2008

11. Morck, Randall K., "*Behavioral Finance in Corporate Governance - Independent Directors and Non-Executive Chairs"* (April 11, 2007). Available at SSRN: http://ssrn.com/abstract=979880

12. Muradoglu, Yaz Gulnur, "*The banking and financial crisis in the UK: What is real and what is behavioural?"* Qualitative Research in Financial Markets, Emerald Group Publishing, vol 2(1), April 2010, pp 6-15.
13. Nocera, Joe, "*Risk Mismanagement",* The New York Times Magazine, January 4, 2009
14. Petroff, Eric, "*Who is to blame for the subprime crisis?"*, Investopedia,
15. Rizzi, Joe, "*Behavioral Basis of the Financial Crisis"*, Senior Investment Strategist, CapGen Financial, January 12, 2009
16. Testimony by *David A. Viniar to the Senate Permanent Subcommittee on Investigations*.
17. The Higgs Report on Non Executive Directors, Summary Recomandations, January 2003, source: http://www.fide.org.my/publications/reports/0007_rep_20081211.pdf
18. Tuckett, David, "*Addressing the Psychology of Financial Markets"*, Economics, The Open Access, Open Assessment E-Journal, vol. 3, 2009-40
19. US House of Representative Staff Report – 111th Congress, Darrell Issa, "*Friends of Angelo: Countrywide's Systematic and Successful Effort to Buy Influence and Block Reform"*, Committee on Oversight and Government Reform, March 19, 2009
20. Wikipedia - http://en.wikipedia.org/wiki/2010_Flash_Crash