Behavioral Explanation to Financial Crisis of 2008

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Abstract

Financial meltdowns are cyclical occurrences appearing time and again in all market economy . Though each case of melt down appears to be unique, researchers could find resemblance of crises with each other. Again, analyses found that 2008 crisis, dot com bubbles & other financial meltdowns have the presence of various anomalies in the financial markets. The epicenter of subprime crisis of 2008 was USA while the contagious effects spread fast to all financial markets around the globe and the world has not yet recovered fully from this crisis. Attempts are made to explain the severity of subprime crisis through psychological biases of all players of the financial markets. Psychology comprising of desires, perceptions, emotions, and values, are at the center of behavioral finance. The paper have attempted to explore the behavioral traits influencing financial decision and its reflection among investors , financial institutions, companies and even the government . The paper first focuses on genesis of subprime crisis of 2008 stepwise and then analyses the effect of behavioural biases to explain the intensity of the crisis. Various behavioural biases like herding, over confidence, confirmation bias and greed found to be responsible for causing great financial crisis of 2008.

Keywords: *Behavioral biases, Herding, Global financial crisis, Subprime crisis*

Introduction : Genesis of the subprime crisis , 2008 in USA

The financial crises occur sporadically and virtually in almost all market driven economies around the world and have contagious effects induced by various psychological behaviors of investors and financial institutions. Main factors for the occurrence of 2008 subprime crisis leading to global melt down are the greed at the cost of regulations on the part of financial institutions and absolute faith of the investors on the market signals. Financial institutions such as banks, credit rating agencies and other financial partners overstepped financial rules & regulations for which global community in general had to experience economic slowing down, unemployment and collapse of business worldwide.

Analysis of the Crises:

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Every financial crisis is distinctive, but each has certain similarities with other. While at the outset, various factors like excess of debt, miscalculation of risks, quick outflow of capital, lack of experience with financial innovations having no scrutiny are found to be prime causes for the financial crisis of 2008, other factors cited in the research are excessive leveraging of the credit system engineered by the financial institutions, lack of regulatory system to control excess out flows of capital internationally and off balance sheet operations by banks. While financial sector is the backbone of economic activities and growth, occurrence of financial crisis is very expensive for the health of both the economy as well as financial system.

Unregulated Global Capital Inflows, Greed and Irrational Expectation:

A huge funds from countries especially China having excess dollar reserve created through trade surplus was invested on US Govt. securities which led to low yields on them. On the other hand, inflows of fund from these surplus countries at a low rate of interest resulted into huge credit creation in the housing market in USA leading to bubble in the prices of real estate and other assets. Encouraged by the boom in the property market, the US Fed took steps to cut the key rate to 1% during 2003-04. The process of leveraging of credit system by the financial institutions and support from Fed, built up overconfidence in the real estate sector on the expectation of property prices to rise further. Irrational expectations that prices of houses would continue to rise had been built up in the market. Driven by this, Banks were extending loans even to people without collateral on the expectation that future increase in prices of houses would be enough to realize debts as well as interests. On the home buyers side, people of low income category with low credit score, basically subprime borrowers found it as an opportunity to fulfill their dreams to have a home with availability of cheap and easy loans. Housing market could not sustain the bubble of ever growing expectation of higher prices and huge unchecked investment in the real estate through over leveraging. The market got overheated and collapsed as home prices slumped to more than 35% resulting in to the burst of the bubble. As the house prices started spiraling down, subprime borrowers began defaulting their installments and the number was increasing day by day. Banks started having huge nonperforming assists. Even the process of securitization of non performing assets were over leveraged driven by greed of the financial institutions and irrational faith on the part of the house buyers.

Financial economics assumes that people on the whole are extremely rational but the presence of these bubbles forces us to focus our attention to various anomalies present in the market especially financial market . Moreover, recent researchers noticed that people's deviation from judgment are often systematic and influences players in the market . "Behavioral finance relaxes the traditional assumption of financial economics by incorporating these observable, systematic and very human departures from rationality into standard models of financial markets" (Barber and Odean, 1999). Fischhoff, Slovic and Lichtenstein (1977) showed that investors are often overconfident and they inappropriately draws resembles between the past and future certainties that cannot be actually justified. "Any system vulnerable to black swan will ultimately burst" (Fischhoff, Slovic and Lichtenstein 1977) i.e. any irrational expectation would definitely meet with unpredictable turn very often for the worst situation.

Subprime crises: stepwise analysis

1. Financial Innovations in the Housing Mortgage Market :

Financial inventions in the area of mortgages and securitization of subprime mortgage have been in practice aprior 2008 crisis. Usually there are two types of mortgages viz. variable/Adjustable rate and fixed. VRM/ARM rates are attached with some bench mark rate which may increase or decrease above or below the bench mark rate. Plain vanilla variable rate mortgages are helpful if they are attached with significant down payments. It has been seen that interest rates in fixed mortgages are comparatively higher than the plain vanilla variable mortgage rates. The plain variable mortgage rates are gives protection to the lenders to some degree as compared to fixed rate mortgages (Statman, 1982). A homeowner opting for ARMs might have to pay higher payments if the inflation pushes the interest rate. Though this increase in mortgage payments might be hedged

against the corresponding increase in the value of home fueled by inflation (Shefrin, 2011). During subprime crisis, home prices began to fall in 2006 while ARMs were set at higher interest rates. As a consequence of this, Subprime Home owners started defaulting the monthly payments as value of their houses for which the loans were taken, were down spiraling. Moreover, borrowers were unable to refinance their loans due to the fall in property price. As unpaid and unserviced debt started accumulating creating potential threats for the financial system, the banks innovated asset restructuring through securitization - a new financial instrument to reconstract bad assess of banks.

Why asset reconstruction through securitization failed

Lewis Ranieri and Salomon Brothers team innovated securitization in late 1970 in which they suggested repackaging of pool of non performing assets and issuing securities on the basis of them to sell in the market for asset reconstruction. These repackaged collateralized debt obligations were divided into tranches and got them rated. As these securities have collateral created through raising funds by selling them, they were expected to be more secure at the event of default of original loan. Rating agencies rated top tranche of the these leveraged securites in tranches as AAA. Eventually, even most of the subprime mortgages were also rated AAA and thus converted in to highest safety bonds of the investment banks while basically they were subprime debts having no possibility of repayment in the event of fall in the housing price. This was reflection of over confidence and thus was genesis of the problem of 2008 subprime crisis. Common investors were misguided by Credit Rating Agencies which were supposed to be the most reliable evaluators of securities. The overconfidence in the ratings assigned by the rating agencies was the behaviour explanation of the crisis. Even AIG, the world renowned insurance company was the part of the game of subprime crises as they entered into the market Credit Default Swap (CDS) – a financial instrument insuring against default of debt. Banks bought the financial instrument (Credit Default Swap) from renounced Insurance company , AIG to reduce the risks in the event of default of payment. But the subprime securities became so toxic that AIG turned out to be the ultimate looser in the game as they had to pay to the insurers a huge amount when repayment of debts started defaulting in large scale.

"Securitization is not the villain. Abuses in securitization are to blame" (Lewis Ranieri 2012). Yet all market players lenders, speculators, finance companies, rating agencies took advantage of loop holes in securitization to gain personal advantage. Ownership of house for the buyers was so appealing that Psychological satisfaction considered to be exceeding actual benefits (Shefrin, 2011). Aspiration for home and easy availability of loan consequently prompted these subprime borrowers to take risks. Lenders soon started lending to subprime borrowers. "I will tell you that most people are so focused on getting into their new home that they have no idea what it was they just signed." (Sanders, 2007). The researcher (Statman, 2011) pointed out that people with ambitions exceeding wealth were prone to risk taking behavior. The buyers belief that investors are rational and efficient markets mechanism generate right pricing and overconfident environs created a strong premise of the bubble which had to burst one way or the other.

Behavioural Explanation to Subprime crisis

As early as 1936, Keynes emphasized the role of psychological behavior on economic decision making. His analytical framework incorporated emotions viz. greed, herd behaviour and fear that could create hyper economic activities leading to bubbles. Following Keynes, rational expectation theory based on human psychology attempted to predict market behaviors. Mechanism showed how securities prices could deviate from their intrinsic values. After Keynesian economists, Minsky (1986) pointed out that financial innovations could create economic excitement for some time but eventually leading to crisis. Thus Keynes' framework developed in the context of in 1930, for Great depression was relevant to financial crisis of 2008. Though Subprime crisis has some resemblance to the Great Depression of 1930's this has some additional features. In fact, in the 2008 crisis, over leveraging by all the participants disrespecting all signals of overheating contributed a real estate "bubble". Real estate prices were driven up to excessively high levels triggering the burst of the bubble and spiraling fall of all assets.

Behavioral Biases among Almost all the Financial Institutions.

All the parties from home buyers, rating agencies and investment banks were afflicted by behavioural biases. Aspirations for buying home, availability of cheap credit, financial innovation of mortgaged backed securities, so called safe credit default swaps and their high ratings by credit rating agencies were outcome of irrational behaviour.

Overconfidence is a cognitive bias. It is the outcome of heuristic generalization. It occurs when people tend to think that they are better than they really are (Trivers 1991). It is being expressed when aspirations for wealth and status blinded both buyers for homes as well as bankers when they securitize nonperforming assets . Overconfidence of executives of Merrill Lynch exposed the company to subprime mortgages. These executives were unduly swayed by **confirmation bias** who were confirming their own assessments to be correct rather than relying on the assessments of their risk managers and analysts. Analysts of AIG also miscalculated the categories of securities and put the single CDS and pool of mortgages in to same category leading to categorizing errors by analysts. Moreover, AIG unreasonably failed to track the proportion of subprime mortgages in the pools being insured, thereby miscalculating the risk of CDS and eventually mispriced CDS. AIG also reflected conservatism bias which influenced them to believe that the past mortgage default rates would apply.

American culture of owing the homes, encouraged by the government, deepened the crisis further. The culture of owing homes gets substantiate by the statement from President Clinton who declared in 1994, "More Americans should own their own homes, for reasons that are economic and tangible, and reasons that emotional and intangible, but go to the heart of what it means to harbor, to nourish, and to expand the American Dream". The whole institutional set up was encouraging the subprime borrowers to go for mortgages. The biases at the background were overconfidence to confirmation errors and then to extrapolation of the trend.

Risk managers and investors had the **illusion of control** by using quantitative risk models; but they did not understand their limitations (Nassim Taleb). The belief in efficient financial markets blinded many, economists, if not most. And efficient-market theory also played a significant role in inflating the housing bubble in the first place. The belief that prices are always right gave further flip to the house prices. These prices were deviating from their intrinsic value which gave rise to bubble. Presence of bubbles and various anomalies were entailed by cognitive biases. Rational markets often does not have such anomalies. Even the risk management tools like value at risk could create false sense of security among managers (David Einhorn). "This is like an airbag that works all the time, except when you have a car accident." (Brown, 2008). No model could predict the perfect storm of asset price declines and snowball effect of mortgage defaults on Collatralized Debt Oblisation (CDO) values that occurred in 2007-2009.

Investors were perpetrated by Herding behavior. Prechter (2001) studied human behavior and concluded that it would provide a psychological basis for financial market performance. 'Herding', based on 'impulsive mental activity' is a response to the actions of others. The reason behind this type of herding is simply lack of knowledge and a social tendency to follow others thinking that what they all are doing is right. Herding behavior which is uncontrollable and is embedded in the complex system (Prechter, 2001). Herding tends to reduce remorse as impersonating others behavior, makes you feel more contented that you did not perform worse than your peers (Muradoglu, 2010). People have tendency to follow others that even at the time of burst of dotcom bubble in 2000 they all wanted to get out of it together and before that they were enjoying. (Dedu Vasile). Many of the borrowers were buying houses simply because their neighbors were borrowing to acquire houses on mortgage clearly vindicating the herding behavior in the financial markets.

Over extrapolation of Credit Rating agency

Trading in the financial markets is not a static activity but dynamic in nature and one cannot rely on historic events to predict uncertainties prevailing in future market. Credit rating agencies exhibited irrational behavior by not properly assessing the risk. Credit rating agency (Standard and Poor's) with ostentatious purpose for expanding their own business, gave higher ratings to those securities which did not

deserve as they relied on past increase in prices of houses which phenomenally increased in 2006. They could not judge the happening of subprime defaults in future as they became overconfident that prices shall be increasing in future too. Credit rating agencies applied representative heuristics (as explained by Teversy & Kahneman, 1981), use of past under-standings to guide judgement. Fewer investors would have bought such mortgage backed securities and made losses if the rating given by these credit rating agencies would have been more reasonable and accurate (Petroff, 2015).

As Ben Bernanke (2010), Chairman of the Federal Reserve, pointed out irrationality in his speech "during the worst phase of the financial crisis, many economic actors –including investors, employers, and consumers– metaphorically threw up their hands and admitted that, given the extreme and in some ways, unprecedented nature of the crisis, they did not know what they did not know. The profound uncertainty associated with the 'unknown unknowns' during the crisis resulted in panicky selling by investors, sharp cuts in payrolls by employers, and significant increases in households' precautionary savings."

Conclusion:

There is increasing realization of the role of psychological factors in financial market especially after the subprime crisis of 2008. Learning from 1930s great depression, Keynes and Keynesian economists developed theoretical concept on how financial behavior is influenced by expectations and herd psychology causing actual outcome to deviate from efficient market outcome in the financial market. While this was the first realization of influence of human behavior on financial market, subprime crisis once again brought the focus back on psychological factors and all researches now point to these factors for creating illusion of all stakeholders about market opportunities. As observed, for the house buyers of America, illusion was that market had been providing opportunity to ownership of house through low rate having no collateral. Even the US Govt. played on the American pride of ownership of house . For the financial institutions, surplus reserve from China being invested in the US Govt. securities was an opportunity to create credit at the lower rate thus expanding unchecked credit creation. Then greed over took rationality when they explored subprime market through engineering financial assets. Gradually rating agencies, insurance companies even Federal Bank through rate cuts, got involved in the psychological game of greed. No heed was paid to warning of the analysts. The trend continued unabated till the collapse of the system affecting not only US economy but the entire world especially the developed countries who were part of integrated global financial market. Lessons learnt from the great crisis induced policy makers of both USA and all developed countries to create regulatory frameworks for the banks and financial institutes but as predicted by researcher (D. Tuckett,2011) financial markets will always be surrounded by greed, apprehension and fear. Hence, the probability of emergence bubble in the financial market and its rupture in the future are always realistic outcome.

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