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Global Financial Meltdown – Systematic Literature Review A Qualitative Research Study

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ABSTRACT

Global Financial Meltdown was a major economic crisis in the recent past. It had devastating effects throughout the world. A clear understanding of the global financial meltdown is very necessary as it raised lots of concerns on the contemporary financial system. The complexity of this crisis event demands a detailed descriptive analysis for its understanding, which cannot be captured through a mere quantitative study. We have to see this economic crisis from various perspectives and angles, for which systematic literature review approach is used in this study and the global financial crisis is taken as an intrinsic case. Taking different perspectives of various researchers, thinkers and intelligentsia will also help in driving out an unbiased and factual view of these crises.

The financial meltdown started from subprime crises. Financial derivatives and securitization were the main elements of the subprime mortgage. Financial derivatives are innovative financial products, whereas securitization is the process of converting mortgage loans into tradable securities. The unprecedented volume of derivatives trade and multiple cycles of securitization within a short span of time caused subprime crises in the USA. Since lots of financial institutions from various parts of the world have stakes in subprime mortgages, therefore resonance of subprime crises traveled across the globe. The shrinkage of profits forced financial institutions for rapid divestitures of investment from stock markets, which caused a dramatic drop in indices. This scenario destabilized numerous companies and dire effects of financial sector spilled over to other economic sectors in the various economies of the world.

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INTRODUCTION

Background of the Study

Economic or financial crises have become a recurrent feature of the contemporary economy. When we look back into the recent past, the wave of crises can be traced with the deregulation of financial markets in the 1970s. From the US stock market crash of 1973 to Global Financial Meltdown in 2008, financial innovations seemed to have been the most critical aspect to investigate. These financial innovations include financial integration, financial derivatives, and securitization, etc. For example, Ghysels and Seon (2005) have pointed out financial derivatives as the main culprit for the US stock market crash in the 1980s. Okina, et al. (2001) exhibited the involvement of hybrid instruments in fuelling the bubble of Japanese Asset

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(1986-1994); Radelet and Sachs (1999), and Wei and Kim (1999), have blamed foreign investors for the East Asian crisis 1997, quick withdrawal of foreign portfolio investment was made possible because of financial integration; Leathers and Raines (2004) have stated that 'Enron, with the help of credit derivatives, company concealed billions of dollars of debt in off-balance-sheet partnerships during Dot-com Bubble 1996-2001.

Awful performance of stock exchange in the Dot-com bubble led to the shifting of the focus of banks from stock markets to real estate. New financial instruments with increased complexity were introduced; obviously, most of them were mortgage-based and this was the start of Subprime Mortgage. Securitization and financial derivatives were blamed to be instrumental in Subprime Crises. Todt (2009) has elaborated the process of securitization that firstly bank gives loan in the form of mortgages, then sale out mortgages to securitize, which change loans in tradable bonds. These bonds become a source of cash flow for the banks, these funds are then used for further mortgage based loaning. This inexpensive money from the market enhances leverage to expand the volume of real estate credits. This cycle is repeated again and again.

Subprime Crisis precipitated Global Financial Meltdown. As the financial crisis was quickly spreading in all other sectors of the US economy, its resonance was also heard in the financial markets of various countries. Derivatives trade, at a global level in huge volumes, increased the destabilizing effect. Depressing performance of economies resulted in large scale unemployment. Antonopoulou (2010) has discussed that every month thousands of people are joining the unemployed class in the advanced capitalist economy. In much of the rest of the world, the condition is worse. The outcomes of the contemporary financial system have shaken the trust of people on financial innovations. These financial innovations are characterized by financial engineering and financial derivatives.

Research Problem

Most of the studies on economic crises are in the domain of economics or finance, such studies are primarily quantitative. Quantitative studies, by their very nature, can neither capture abstract issues nor deconstruct complex phenomenon. Economic crises are indeed complex and include multifaceted aspects most of which are abstract. There are some qualitative studies on financial crises, few of them are one dimensional and lacks neutrality while others were limited to some specific issue.

Thorough introspection global financial meltdown is necessary for the clear understanding of its nature, causes, and issues. We have to see this economic crisis from various perspectives and angles. There was enormous criticism on derivatives in the aftermath of the subprime crisis but this criticism was of reactionary nature. Considerable time has now been passed after financial meltdown; a study at this time may dilute the immediate reactions on such a devastating event. Taking different perspectives of various researchers, thinkers and intelligentsia will also help in driving out an unbiased and factual view of these crises.

Objectives of the Study

The main objective of this study is to develop an in-depth understanding of the Global Financial Meltdown through systematic literature review and meta-analysis of literature that appeared just after the financial crises. In the process of analyzing this crisis event, this study will also shed some light on related phenomena occurred during the crises.

Global Financial Meltdown was a multifaceted phenomenon; it was the combination of various multiple crises events. This complexity demands a thorough description and detailed analyses of the financial meltdown, which cannot be encompassed by numerical reductionism. Academic research output can be one of the important sources for an in-depth understanding of any social mechanism like economic crises. Meta-evaluation of the literature can give us a thorough description of this crisis event. Studies on financial meltdown are from various angles, which can help us to evaluate this event from different perspectives.

Preliminary literature review suggests that the financial meltdown started from subprime crises. It is, therefore, necessary to have a clear understanding and critical evaluation of subprime crises, such evaluation will also be the part of this study. Financial innovation especially financial derivatives and securitization are the main elements of subprime mortgage. The secondary objective of this study is to ascertain the role of financial derivatives and securitization in the financial meltdown.

Significance of the Study

In the contemporary setup of the global economy, the financial sector is like a hub. Sound financial sector helps smooth functioning of other economic sectors and contributes towards economic growth. While a weak and risky financial sector is a source of a volatile economy. It creates problems for other economic sectors and causes fragility in the whole system. Financial innovations are now dominating the financial sector around the world. Financial derivatives are the most influential financial innovation. The volume of derivatives trade has increased manifolds within a short span of time. With the increased stake of derivatives in the economy, their effects are also becoming evident.

This research will be helpful in policy decision making. Regulators can refer this study for devising a regulatory strategy for the functioning of the financial system especially financial derivatives and securitization. There is a tendency in developing countries to follow the course of action of developed countries. In Pakistan, much debate is going on across the board to introduce options in Karachi Stock Exchange; Pakistan Mercantile Exchange has already been established for commodity derivatives. In view of all these developments, this study will shed light on the contemporary western financial system and its issues, which in turn will give the fruit of thought to our policymakers.

Scope & Limitations

This will be qualitative research, based on a systematic literature review. The primary scope of the research is in the field of finance and economics. But, this study can be referred to in the domains sociology. Although the focus will be on the USA this study will not be economy specific as the financial meltdown was on a global scale. Usually, the systematic review of literature is performed in the framework of grounded theory, but this study is different from grounded theory framework, as logical connections are established among researches rather than constant comparison. Most of the paper included in this study as data are of secondary nature which may put limitations on the synthesis and conclusion of this study.

RESEARCH METHODOLOGY

Research Objectives

The purpose of this study is to perform introspection of the global financial meltdown, a social event which is of economic nature. This research is carried out to have an in-depth

understanding of this economic crisis, its causes, and consequences. A detail description of crisis phenomenon is sorted to comprehend it. Through a systematic literature review, I will try to analysis this crisis in such a way that a chronology of the events can be developed during the crisis.

Research Questions

- What was the nature of the global financial meltdown?
- What were the causes of the global financial meltdown?
- What were the components of the global financial meltdown?
- What were the effects, extent, and consequences of the global financial meltdown?
- Is there any role of financial derivatives in the global financial meltdown?

Research Design

This study is qualitative in nature. It is a sort of case study, the case being the global financial meltdown. The case will be analyzed through a systematic literature review. Usually, the design in qualitative research is emergent and flexible; the design of this study is flexible in the sense that the articles, which will be included in this study, are of specific duration viz. immediately after the crisis but this timeframe is not very restricted. On some occasions, I refer to those articles which were written or published during the subprime phenomenon; few appeared even earlier. Since resonance of the meltdown is heard even today, therefore, there may be some recent studies as well.

Case Study as a Design Strategy

According to Yin (2003), a case study design should be considered if the focal point of the research is to answer the questions of why and how. This is what the objective of my study as well. I want to develop an understanding of how global financial meltdown took place; how and why the contemporary financial system of the developed region failed. Yen (2003) further discussed that the case study is useful when you want to emphasis on context because you believe it is relevant to the phenomenon under study. The context of the global financial meltdown is the key to its comprehensive understanding.

Global financial meltdown as the case is basically a high impact case but at the same time, it is unique in various aspects. Miles and Huberman (1994) stated that the case is, in effect, unit of analysis. The reason to take this crisis event as the case is to study it from various angles, capture its diversified components and get an in-depth understanding. Creswell (2003) discussed time and place as binding factors for a case. The case can also be bound by activities, events, and theory. Although, primarily this case study is descriptive and the case of the global financial meltdown is taken as intrinsic. I am starting this study by taking this case as self-study. The global financial meltdown is also a very good teaching case as it gives lots of opportunities to students for learning.

Philosophical Paradigm

Stake (1995) and Yin (2003) used a constructivist paradigm as their approach to the case study. Constructivists argue that it is one's perspective and that's why it is relative truth. According to Baxter and Jack (2008), constructivism emphasizes on the significance of the subjective creation of meaning by a human but doesn't out-rightly reject the notion of objectivity. The concepts of society and economy are social constructs, having multiple

realities and different perspectives. Thus, constructivism is a more suitable paradigm and framework for this study than any other framework. Constructivism would allow us to accommodate various perspectives in this study; it would not only provide the flexibility needed to study such complex phenomenon as a global financial meltdown is but it would also help us in determining the causes, which are not straightforward.

Since data in this study is text that is research papers, therefore, the philosophical discipline of hermeneutics is relevant to this study as well, which deals with the interpretation of the text. Wilhelm Dilthey (1833-1911) identifies interpretation as the central task of the human sciences (Forster, n.d.). Basic tenants of hermeneutics are not different while interpreting the research paper. It does involve the problem of Hermeneutic Circle, Fusion of Horizons, and Cycles of Interpretation.

Data Collection

This study is taking published research papers, articles and studies primarily in the domain of finance and economics. These papers are collected from a database "Social Sciences Research Network (SSRN)" and a search engine Google Scholar. Papers will be downloaded from time to time as study progress. While downloading the papers, searching will be done with the following keywords:

- Global Financial Meltdown
- Financial Crisis(es)
- Subprime Mortgage / Crisis
- Financial Derivatives
- Securitization

The duration of publication although not fully restricted but from 2007 to 2011. As far as numbers of papers are concerned it would be around 25. This range, in my opinion, would be a good tradeoff between breadth and depth to cover as many aspects as possible without compromising the detailed study of each paper.

Sampling

Innumerable papers have been published containing the above-mentioned keywords. It is, therefore, necessary to employ a rigorous method for the selection of papers as this study will include an only very limited number of papers. This situation demands a very thoughtful process for selection so that essence and important aspects of this case do not remain uncovered. Purposeful sampling will be the best choice.

Purposeful sampling is applied in a way that only those papers are included which are thoroughly describing this crisis event. Obviously, it would be very difficult to completely read out every paper being downloaded. The task of selection of papers will be done in two steps: firstly, abstracts are studied, if abstract of any paper gives the impression that the paper is describing the crisis event then it is selected for next step. Secondly, scanning of selected papers is done with a special emphasis on its discussion part.

A systematic review of the literature as a design

This study would be more of a systematic review than meta-analysis. Cooper et al. (2012) defined systematic review as it gives a framework for both summarizing the evidence based on

a particular issue or event, and evidence-related information for practice in used and future research. They further described that a systematic review can handle quantitative data, like measurements, quantifications, and its measuring effectiveness, as well as it will evaluate the root of the problem and human experience in the course of qualitative analysis. Littell et al. (2008) have stated that the term meta-analysis refers to a summary of outcomes in somewhat statistical form resulted from the systematic review. My focus, in this study, would be on the understanding the crisis event through creating logical links among various developments instead of gathering and contrasting pieces of evidence. Pettigrew and Egan (2006) have argued that the systematic review design is less of a discussion of the literature, and more of a scientific tool.

Report Writing

The answers of the research questions will not be presented separately rather they have meshed in one integrated text. Findings are reported in the sequence as financial meltdown actually took place and unfolded. The naturalistic sequence of the events will give the impression and feel of storytelling; thus making this study more comprehensible. Global financial meltdown includes various complex and typical sub-phenomena; which will be discussed thoroughly under subheadings. These sub-phenomena may include financial products like Financial Derivatives or they may be in the form of some important developments during the crises like Subprime Mortgage. In conclusion, I will try to draw a clear picture of this event, highlighting the causes and consequences.

THE GLOBAL FINANCIAL MELTDOWN

The wave of crises

While looking back into the recent past, the wave of crises can be traced with the deregulation of financial markets in the 1970s. From US stock market crash of 1973 to Global Financial Meltdown, there are several financial crises such as Oil Price Shock and Crash of US Stock Market in 1970s, Latin American Debt Crisis, Norway Banking Crisis in 1980s, Sweden and Finland Crisis, Japanese Asset Price Bubble, East Asian Currency Crisis, Russian Crisis, Brazilian Crisis in 1990s, Dotcom Bubble Burst, Argentinean Crisis in 2001, and finally Subprime Mortgage Crisis in 2008. The wave of crises came when the deregulation of financial markets started. Globalization was finding its way through the advancement of communication and opening of economies. And most importantly, it was the time when financial innovations and financial integration was introduced. There was also a similarity in these crises that they emerged from financial markets and spread over different sectors of the economy. Due to their emergence from the financial sector, economic crises are also called financial crises.

Subprime Mortgage is the key factor

According to Ashcraft and Schuermann (2007), in 2006, the top three Subprime mortgage originators were HSBC with USD52.8 billion, New Century Financial with USD51.6 billion and Countrywide with USD40.6 billion, whereas top three Subprime mortgage servicers were Countrywide with USD119.1 billion, JP Morgan Chase with USD83.8 billion and CitiGroup with USD80.1 billion. In March 2007, HSBC disclosed loss from its exposure in the US mortgage market, and a never-ending series of bad news started since then. Leijonhufvud (2009) reported that in 2008, the failures of Bear Stearns, Landes Bank Sachsen, and Northern

Rock was just a starting. Lehman, Fannie May and Freddie Mac, AIG, Fortis, Bradford & Bingley, Washington Mutual, Wachovia, Hypo Real Estate, The Banks of Iceland, Dexia, and a long list to follow, failed within one year.

The analysis of Subprime Crisis by Jones and Consult (2009) suggests that the guiltiest instrument during the current financial crisis was CDO on ABS which was bought by highly leveraged SIVs and hence remained off-balance sheet. Credit Rating agencies rated them "AAA". The ratings were neither challenged by the regulators nor doubted by the bankers or risk managers. CDO has fundamentally obscured and highly customized instruments. There were multiple problems with the use of such securities. First, the level of risk the financial institutions were carrying with them in case default, then hypothetical ratings by the credit rating companies, the miscalculation in the assessment of risk by the banks, and the approach of the regulators to believe all of such valuations of risk at face value. According to Williams (2009), CDS is blamed by some experts as one of the lethal financial products, contributed in the collapse of credit markets and failure of financial institutions, especially insurance companies like American International Group (AIG). CDS are traded in the OTC market and this is the most traded OTC product. CDO and CDS caused serious troubles in the wake of the financial crisis particularly in the case of Bear Sterns and then the Lehman debacle.

Above mentioned literature reviews clearly suggest that the subprime mortgage, its components like securitization, MBS, CDO, and CDS were the main actors in initiating as well as igniting the financial crises at the global level. The phenomenon of subprime mortgage is rather complex. In the next session, this phenomenon is elaborated in detail:

What is Subprime Mortgage?

Awful performance of stock exchange in the Dot-com bubble led to the shifting of focus from stock markets to real estate. New financial instruments with increased complexity were introduced; obviously, most of them were mortgage based. Continuation of easy monetary policy of Federal Reserve and excessive underwriting of mortgages by Government Sponsor Entities (GSE, Fannie Mae and Freddie Mac) paved the way for the credit-led housing boom. Williams (2009) quoted the range of interest rates on govt. securities, from 2003 to 2005, which was around 1% to approximately 4%, based on the terms plus tenures. Risk-averse investors yet searching better returns, switched to mortgage securities. Mortgage lenders were mostly “non-banks” but they had huge credit lines from commercial banks and there were no worries of funds for them. Murdock (2010) gave few instances of credit lines that mortgage lenders had from commercial banks like “USD3 billion credit line from Bank of America, USD1 billion from Barclays, USD800 million from Bear Stearns, USD1.5 billion from Credit Suisse First Boston, USD3 billion from Morgan Stanley, and USD450 million from Goldman Sachs”.

Almost at the same time, investment bankers also jumped into the mortgage sector. They aggressively financed the mortgage lenders through financial derivatives and PLS (Private Level Securities) underwriting. Murdock (2010) explained the scenario that large investment banks, by financing the Subprime mortgagors, purchasing their mortgages and slicing them through securitizing to construct Collateralized Debt Obligations (CDO), and trying to get superior investment ratings for speculative-grade securities from the rating agencies. The process of securitization started with the inclusion of investment banks. In this process, banks

lend money in a particular sector and then issue securities backed by the cash flows of that lending, so the money they lend will come back to them through the issue of securities and that money will again be lent. Usually, the buyers of asset back securities are investment banks, mutual funds, hedge funds, and security houses, etc. Securitization increased the dimensions, and thus complexity, of the financial markets. "Follow the leader" became "blind man's bluff" (Haldane, 2009).

On one hand, securitization and derivatives kept the risk of bank and other financial institutions off-balance sheet, and on the other hand, they provided a virtually unlimited source of fund to the banks as if they can finance each and every individual American or American firm. Gerding (2009) has argued that three trends, firstly, huge trading of risky asset-backed securities, secondly, the expansion of derivatives, and thirdly, the growth of hedge funds, are intertwined. Todt (2009) has elaborated the process of securitization that firstly bank gives loan in the form of mortgages, then sale out mortgages to securitize, which change loans in tradable bonds, hardly few investors understand the risk these securities. These bonds become a source of cash flow for the banks; these funds are then used for further mortgage based loaning. This inexpensive money from the market enhances leverage to expand the volume of mortgage-based credit, which is then subject to further securitization. This cycle is repeated again and again.

Elizalde and Gallo (2008) discussed in detail the various types of credit derivatives. Credit Default Swaps (CDS) are the most liquid and widely used credit derivative products. Their underlying asset is an unsecured debt to an entity. The purchaser of derivatives makes period payments till the completion of security tenure; meanwhile, if there is a default on ABS then the issuer of derivatives will purchase the defaulted security and compensate the investor. CDS is an effective method of risk transfer. In Loan CDS, underlying is the secured debt. CDS Indices give exposure to a portfolio of CDS through a single contract. The investor pays annual fee whereas derivative writer compensates for the losses if there is default in any of the index companies till the maturity of CDS Index. Collateralized Debt Obligation (CDO) slices the risk of default of a portfolio of credit securities; each slice is called tranche. If CDO is composed of bonds it is called CBO, if underlying is a loan it is CLO, and if there is a synthetic obligation as underlying then it is CSO. Blackburn (2006) has discussed that the financial institutions could package together and divide up the loan into 10 tranches, each of which represents a claim over the underlying contracts but with the lowest tranche representing the first tenth to default, the next tranche the second tenth to default, and so on up to the top tenth.

Henke, et al. (1998) also discussed a few types of credit derivatives, for instance, TRS (Total Return Swap) is a contract where return financier make payment to the return recipient the whole sum of return of the underlying asset, whereas the return financier get a benchmark return against the whole sum of return. In contrast to the CDS, the TRS does not only shift the risk of default but also the risk of price volatility of the underlying asset. CDLN (Credit Default Linked Note) is constructed by incorporating credit derivatives in notes. CDS and TRS are off-balance sheet items, whereas CDLN is on balance sheet in nature. For off-balance-sheet derivatives funding is not required; whereas credit-linked notes have the advantage of avoiding counterparty default risk. Options are also written on credit and credit swaps. The volatility of the credit market is the focal point in options.

Besides housing boom due to the securitization of mortgages, fundamentals in the corporate sector of the USA were also showing positive signs because of the low cost of fund and credit led consumption economy. Elizalde and Gallo (2008) have discussed that the near to zero discount rates for quite a few years in the start of this century enhanced the motivation of commercial banks to excessively borrow money, which was afterward lent to individuals and companies. Securitization gave commercial banks an avenue to contract out the risks derived from their loaning activities from their balance sheets. The availability of credit to companies decreased their cost of capital and therefore highlighted their fundamentals. Better fundamentals in corporate sector helped the US stock market to regain its momentum. Investment banks expanded the range of derivatives from credit derivatives to equity derivatives, and the volume of derivatives trade went sky high. According to the Comptroller of the Currency "in the third quarter of 2007, US commercial banks held USD204.3 trillion of derivative contracts, which were only USD56 billion in the last quarter of 2002. It is also reported that from 2003 to 2007, CDS grew at a hundred percent annual growth rate on a compounding basis". Excessive mortgage lending, trading of derivatives in unprecedented volumes and virtually unlimited securitization contributed an economic bubble.

Excessive synthetic liquidity made financial institutions to compromise on credit quality. In fact, the quality was compromised in the mortgage sector rather than the corporate sector, the reason being the availability of then thought strong collateral of real estate. In the start of the boom, mortgages were offered in two asset classes i.e. Jumbo class and Subprime class. Ashcraft and Schuermann (2007) define these asset classes that the Jumbo category includes financing to sophisticated customers with an actual principal amount greater than the maximum limits set by Congress on the agencies and the Subprime category includes financing to customers with poor credit history.

Guidelines for Subprime Lending Program–2001 further elaborates Subprime borrowers that these are borrowers who may have two or more delinquencies within last one year or at least one delinquencies during the last two years. They might be facing lawsuit and foreclosure during the last two years, their debt payment to income ratio might exceed fifty percent rate. In nutshell, their probability of default is quite high as compared to jumbo category borrowers.

In other words, Subprime borrowers were either defaulters or likely to default. Jumbo borrowers may have been catered within one or two cycles of securitization. Since then, Subprime borrowers were remained to target. Securitization kept on pouring liquidity into the banking sector. Bankers had no other option but to focus on the Subprime asset class. This was the emergence of Subprime Mortgage. Dowd (2009) has stated that the frailest mortgage broker was getting the approval of subprime mortgages for the weakest borrowers without any problem. The risk of default was incorporated into the pricing in a very artistic manner for subprime mortgages.

A so-called vibrant credit rating culture exists in the USA; investors heavily rely on credit ratings of Standard & Poor's, Fitch, and Moody's. These rating agencies helped bankers in the issuance of asset-back securities and credit derivatives by easing their rating criteria. After all, rating agencies are paid by the banks. Credit Rating Agencies were grading Mortgage Backed Security (MBS) very high and MBS trading along with their derivatives was at full swing. USA's mortgage sector became the center of gravity. Williams (2009) presented the historical

growth of the mortgage sector in the USA, mortgage originations rose moderately from 1990 until 2001; they then blasted, particularly with respect to refinancing. The volume of mortgage debt almost doubled from 1990 to 2001; however, and it again doubled from 2001 to 2006, (in the span of just five years). By Dec 2006, the monthly mean business of a subprime dealer was USD1.6 million. The number of mortgages amplified from USD100 billion in 2000 to USD600 billion in 2006, a seven times growth. Ashcraft and Schuermann (2007) have also given some details about the growth of mortgage sector, 'in 2001, banks originated USD1.433 trillion in conforming mortgage loans and issued USD1.087 trillion in mortgage-backed securities secured by those mortgages. In contrast, the non-agency sector originated USD680 billion (USD190 billion Subprime, USD60 billion Alt-A, USD430 billion Jumbo) and issued USD240 billion of mortgage-backed securities. Most of these securities were in the Jumbo sector, while Subprime sector relatively small, together comprised only 12% in total origination during 2001. By 2006, non-agency origination of USD1.480 trillion was more than 45% larger than agency origination, and non-agency issuance of USD1.033 trillion was 14% larger than agency issuance of USD905 billion'.

Mortgages were structured in a tailor-made fashion so that they can accommodate everyone. Most of the Subprime mortgages were on floating rate with very nominal rates at the initial stage while progressively high rates afterward. Murdock (2010) quoted some of the innovative Subprime mortgage types, for instance:

A. Mortgages with 2%-28% or 3%-27% rate: Starting lower rate would remain for 2 or 3 years, afterward the mortgage rate would higher level, usually resulting in defaults. These floating interest rate loans increased to over 70% in 2004-2006.
B. Alt-A loans: basically fewer documentation mortgages that were primarily structured for high credit quality rated businessman, these people were not fulfilling the documentation requirements for the mortgages. The value of such finance was only USD25 billion in the year 2000 but jumped to USD 400 billion in the year 2006, a seventeen times increase.
C. Pic-a-pay: mortgage gives the choice to the borrower, for a specific time, to select payment amount. Most of the times, such payments were quit below than the interest amount. This difference of interest was then treated as principal. Consequently, such loan becomes a reverse amortization of debt making it difficult for the borrower to pay even principal afterward.

The abovementioned examples were nothing but dodging techniques. Compromising documentation means compromising credit quality. Low teaser rates and negative amortization candidly meant that either you are making yourself a fool or fooling your customer. Low initial interest rates on Subprime mortgage and increasing housing prices also attracted speculators to the real estate sector. Their inclusion made the situation highly fragile in the sense that they were looking for short term gains by the subsequent sale of the mortgaged property, paying back the loan and making a profit from the increased price of the property before the interest rate got high. There was an increase not in real estate prices but in the interest rates.

Transformation of Mortgage into Crises

Todt (2009) stated that during late 2007 interest rates were raised. Since most of the mortgages were on a floating rate, therefore, mortgagees were unable to pay their installments and

consequently defaulted. These defaulters had to face litigation and their financed property was auctioned. Murdock (2010) has reported 'the Subprime mortgages default rate mounted from 16% in 2004 to 32% in 2006'. Speculators were trapped in the situation; they were not able to sell a property profitably which resulted in more foreclosures. This was the end of the economic bubble and the beginning of a disaster. Todt (2009) further stated that the auction of mortgage property caused an unprecedented supply of mortgaged houses, which resulted in a drastic decline in real estate prices. This was the time when the reckless vehicle of subprime mortgage crashed. The consequences of these crises were far more disturbing than the Great Depression in many aspects.

The impact of the foreclosures must have been transmitted into the credit securities. Excessive defaults on mortgages halted the process of securitization. Stop on securitization ensued into liquidity crunch, mortgage lenders were in great trouble. The ratio of Subprime MBS issuance to Subprime mortgage origination was close to 75% in both 2005 and 2006 (Ashcraft &Schuermann, 2007). Since mortgage securities were hedged through credit derivatives (CDS), therefore the risk, which commercial banks and mortgage lenders had passed on to the investment banks, was further transferred to insurance companies and other risk purchasers. Defaults on such a huge scale trembled risk purchasers and they couldn't honor the claims, hence systematic risk emerged. There was a cascade effect; failure of one financial institution caused the failure of other financial institution, and the whole system collapsed.

What was wrong in the Mortgage?

The subprime mortgage was all about securitization and credit derivatives. Various authors have highlighted the malfunctioning of securitization and derivatives in global financial crises. Antonopoulou (2010) has argued that the credit derivatives have converted financial assets into financial liabilities, and all banks have become debtors from creditors. Profits of these banks were in the form of "paper securities" or rather in "papers" to be more realistic. As the bubble has burst, these profits have dissolved in hot water; there is no value of these paper assets. "Papers securities" have become just papers. Financial Institutions report huge losses. According to the IMF's report in April 2009, the losses from the "toxic" assets of the US banks were more than USD3 trillion.

Subprime Crisis sabotaged the banking model of the USA. That model was to give bank loan to anyone and then distribute risk among investors and institutions. In reality, the securitization process of Subprime mortgage was a Pandora box of flaws and frictions. For example, banks were not diligent and prudent in the perusal of borrowers, because they were not keeping these loans with them; risk of loans was transferred to investment banks, which have no direct interaction with borrowers. Investment banks issued asset-backed securities, which are credit rated, but credit rating companies were hired by investment banks.

These securities were largely purchased by mutual funds and brokerage houses and got themselves hedged through credit derivatives issued by few insurance companies, so the risk was again concentrated in insurance companies. Securitization process was not limited to the banks' loan but the asset-backed securities were again used as the underlying asset, and securities based on securities were issued. Elizalde and Gallo (2008) have stated that credit derivatives, being credit securities themselves, were used as the underlying asset for other credit derivatives. This cycle was performed again and again, which means papers based on

papers were traded without additional loaning in the real sector. This was how risk was increasing without any real utility. This process also linked the whole financial system into a chain. This was a vicious circle, a source of contagion.

There were trillions of dollars of mortgages showing the high-risk category of borrowers in US banks portfolio. But their risk of default was spread over the whole system through derivatives. When high-risk borrowers defaulted, not only banks, but all other institutions, like investment banks, mutual funds, brokerage houses, and insurance companies, also collapsed. Foreclosures on large scale dragged down the real estate prices, which added up the losses for the banks and other financial institutions. As the default rate shot-up and real estate prices plunged, banks' losses raised sky high. Although banks had hedged their exposures, they didn't receive compensations from risk purchasers.

Jones and Consult (2009) have reported that in the top 5 most recent bankruptcies, payments from buyer of Credit Default Swaps risk were considerably smaller than security holder losses. For instance, In Lehman Brother case, losses of senior creditor were USD101 billion, while payments from risk buyer were USD5 billion only. Actually, risk purchasers were undone by the large scale defaults, and they too had to declare bankruptcies. AIG was among the top risk purchasers, which collapsed during the Subprime Crisis.

Financial Crises led to a disturbance in the US Economy

As the subprime crises aggravated firstly it trickled down to other sectors of the US economy and then crossed the boundaries of the USA. The bubble of Subprime mortgage was bigger and multifaceted, consequently more devastating. US stock exchanges had to tremble, as not only derivatives, but shares and bonds of infected institutions were also traded. The series of the collapse of financial institutions and a continuous drop in stock indices, until March 2009, was a disaster for the US capitalist economy and for the people of America. One black day followed the other. Institutions were closing down and people were getting fired. The dismal financial sector, after the Subprime Crisis, laid off a large number of employees.

The financial sector attracted the best human resource when it was booming; now this resource is unemployed. Unemployment creates depression. Financial activities were drying, which slowed down economic activities. Banking institutions with huge losses stopped further lending; individual investors, after suffering from Subprime Crisis, withdrew their investments; resultantly, capital became an extinct commodity. Cost of capital increased, which increased cost of production, and so the production sector got in trouble. Increased production costs not only discouraged the production process, but it also caused inflation as the increased cost had a trickledown effect on prices. Inflation, at the time when the unemployment rate is increasing, is the worst scenario for an economy. In economics, it is called stagflation, which is bound to cause depression at a mass level. Panic and risk had transferred from the financial sector to the real sector.

The high-risk borrowers, who were promised to have their own home, had to live in encampments due to foreclosures. They were being provided with food by NGOs, while millions of others followed, whose houses were on the list of foreclosure (Antonopoulou, 2010). Although it was evident at the initial stage of the securitization process that this segment of borrowers had a high tendency of default, then why were they offered mortgages?

And why was the risk generated out of nothing? Was it not the lust at the cost of systematic risk? People are used to living in their limitations but when you make them dream to have a luxurious life, they would definitely jump to it. The dream they saw was actually the nightmare. In the Subprime Crisis, they lost what they owned previously. They are now living miserably; they are in dejection; they are in mass depression. The scenario of the USA for the ordinary person after subprime crises were elaborated by Bob Herbert of the New York Times (cited in Murdock, 2010) that millions of US citizens are trapped in an economic crisis. During the recession, due to defaults, most of them lost their houses or were at the edge of losing houses.

Financial Crises Reaching Out to Globe

This mass depression did not remain confined to the USA. Subprime Crisis precipitated a global recession. As the financial crisis was quickly spreading in all other sectors of the US economy, its resonance was also heard in the financial markets of various countries. During the global financial meltdown, developments in the rest of the world were very similar to the USA. Tweedie (2008) has discussed that lending from banks has emaciated because banks were recapitalizing. Investment managers were still examining their losses from the US Subprime Crisis. As an outcome of this exceptional situation, economies throughout the world were getting slow and there was a rise in the unemployment rate in various economies. This was all happening at a time when the specter of inflation had come back. Many foreign or multinational banks, like HSBC, had direct or indirect exposure through credit derivatives in US financial markets. Todt (2009) reported that not only US insurance companies and investment banks, but also investors from around the globe, like French, German and English banks incurred huge losses when the bubble burst. Datta and Mukherjee (2008) argued that because of the huge current account deficit of the USA, a global macroeconomic imbalance occurred. The resulting overspending of USA has created an atmosphere conducive to financial mismanagement.

US financial crisis took the easiest route and reached Europe in the first instance. Why I am saying the easiest route is because financial setup in Europe is similar to the USA. This contagion took place primarily because of credit derivatives, and London has a major share in derivatives trade. Haldane (2009) has reported that since the beginning of 2007, 23 of the largest US banks and European have witnessed their market capitalization decline by 90%. Antonopoulou (2010), while referring to the IMF estimates of October 2008, has quoted that financial institutions around the globe lost more than 1 trillion dollars from "toxic" and precarious assets. But these figures were constantly being updated on the increasing side. On January 2009, the amount of loss was 2.2 trillion dollars, and in early April, it was again revised to 4 trillion dollars. The banking system of Europe and the USA is likely to reduce by USD5 trillion, an amount representing 36.2% of US GDP.

When two hubs of finance were in dilemma, a wave of fear traveled across the globe. Camilleri (2003) has stated that when the economic crisis emerges in a state, foreign investors re-assess their investments in the context of other regions, which might be subject to the same risks. Consequently, funds are withdrawn from these countries. He was very right; there was hardly any financial market in the world which remained undisturbed by the Subprime Mortgage Crisis; most of the markets lost more than 50% of their capitalization and price levels. Stock exchange index is just like the pulse of an economy; if the pulse is going down, we can easily

make an idea about the sickness of the economy. Let's take a view of the following graph, which is showing percentage decline in points of some indices of the major stock exchanges of the world, and feel the depression of the global economy.

Figure 1: Crash of Major Stock Markets during Global Financial Meltdown.

Data retrieved from finance.yahoo.com on 25th March 2014

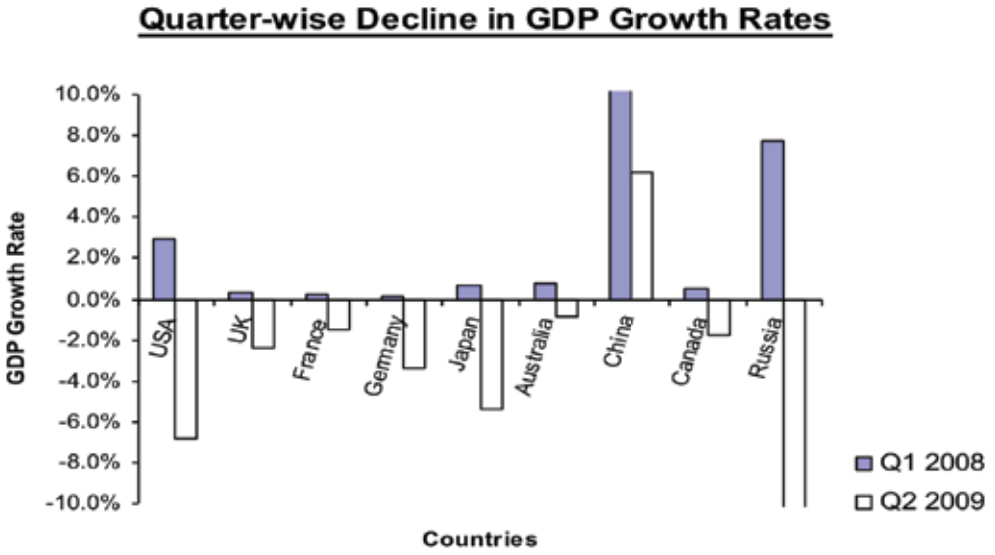
This freefall of stock exchanges of various countries is the reflection of the conditions of their economies. Of course, derivatives have potential in themselves to disturb the real economy. Derivatives trade, at a global level in huge volumes, increases their destabilizing potentiality. But there is another aspect of derivatives, which makes them even more disturbing. Leading currencies of the world dominate the derivatives trade. Most of the derivatives are denominated in US dollar, Euro, Pound, Yen, etc. International trade is also denominated in these currencies. When derivatives ignite crises, these currencies also come under pressure due to which international trade and commerce suffered. Derivatives denomination, in the world's leading currencies, is an important reason for the worldwide expansion of crises. Risk is concentrated in a few currencies, and this concentration becomes a systemic risk. Derivatives trade on a huge scale enhances the demand for these currencies, which causes an appreciation of exchange rate. But as the downward trend starts, so does the devaluation. This phenomenon has injected exchange rate volatility in the system and disturbed the world economy deeply.

Not only trade but international debt is also denominated in these currencies; countries also maintain their foreign reserves into these currencies. According to Antonopoulou (2010), in 2005, 66.5% of the global foreign reserves were in USD, 24.4% in EUR, 3.7% in GBP, 3.6% in JPY, and 1.7% in other currencies. A significant drop in USD today would lead to contraction of the global foreign reserves and trillions of dollars of wealth around the world would be evaporated. The volatilities of exchange rates disturb the economic planning of these countries. Besides the denomination of the derivatives into leading currencies, derivatives are

also written on the volatilities of the exchange rates. These derivatives are called exchange rate derivatives; they are more often speculatively trade. The speculative trade of exchange rate derivatives fuels the exchange rate volatility.

Barry Eichengreen (2004 cited in Griffith & Jones, 2009) gives the stunning estimates that over the last quarter of a century, banking and currency crises have reduced the incomes of developing countries by 25%. Reduction of income means an increase in miseries. Due to the global financial meltdown, people around the world have to face unemployment, inflation, financial losses, and depression. The panic of stock market crash and burden of currencies have been transmitted to industry and consequently to the overall economy. The USA and Europe are also the main importers of commodities produced in developing countries. Foreign reserves of various countries are also in dollars and euros. And most importantly, investors, especially institutional investors, were having large exposures in the USA and Europe. All these factors caused radiation of crises to the whole world. There were business closures on a large scale, which were enhancing the unemployment. Most of the economies were showing negative growth rates. Gross Domestic Product (GDP) is a good macroeconomic indicator, which can sum up this whole situation. Here the GDP growth rates of 9 important economies of the world from different regions, including the USA, UK, France, Germany, Japan, Australia, China, Canada, and Russia, are presented. There is only one country, China, which was showing growth in the second quarter of 2009.

Figure 2. Quarter-wise Decline in GDP.



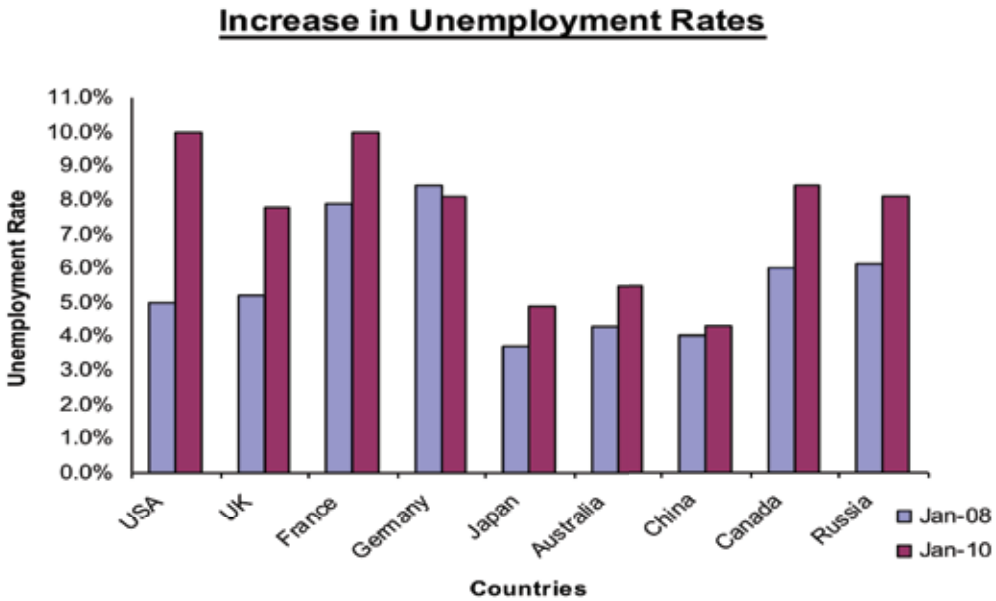
Growth Rates of selected countries. Data retrieved from www.tradingeconomics.com on 2nd Nov. 2014.

The Social Aspect of the Global Financial Meltdown

Depressing performance of economies resulted in large scale unemployment. Antonopoulou (2010) has discussed that every month thousands of people are joining the unemployed class in the advanced capitalist economy. In much of the rest of the world, the condition is worse. It

is expected that 25 million people will have been supplemented to the unemployed class in the OECD countries (Organization for Economic Co-operation and Development) by the end of 2010. The large scale of unemployment and the slide of broad strata of the population into poverty are already creating social issues. The following chart presents an increase in the unemployment rate of selected countries during the global meltdown.

Figure 3. . Increase in Unemployment Rates During Financial Meltdown.



Data retrieved from www.tradingeconomics.com on 5th Nov. 2014

The outcomes of global financial crises have shaken the trust of people in the financial system. Trust is the spinal cord of the economy; global debt crises have often transmitted from the hub through capital flows, interest rates, and commodity prices, thus shocking the investor's confidence. Nobel Prize winner economist Joseph Stiglitz (cited in Tonkiss, 2009) has argued that the current financial crisis evolves from a catastrophic collapse in confidence, or should I put it in this way that the collapse of confidence springs present-day crisis. Tonkiss (2009) has argued that trust has a double role both as an economic resource and as a social value. Several researchers have endorsed the positive relationship between economic prosperity and social trust. As the financial system has become more complex, and market within them are interconnected yet depersonalized via telecommunications and information technology, the issue of trust has grown more deeply. Securitization and credit derivatives have tested systemic resource of trust to breaking-point.

CONCLUSION

Systematic literature review illuminates Global Financial Crises very clearly. In the USA, after the Dot-com bubble in 2000, financial institutions especially banks shifted their focus from the corporate sector to real estate. This was the time when interest rates were also very low in the USA. Financing in real estate in the form of mortgage gradually picked the pace. Financial derivatives especially credit derivatives and securitization process augmented the growth of

the mortgage sector. The process of securitization was initiated by the commercial banks but its mechanism attracted investment bankers and other financial institutions as well. Securitization process gave an avenue for banks for an unlimited source of fund for lending. As the lending in the mortgage sector increased credit quality of borrowers declined.

The compromise on credit quality and sudden increase in interest rates resulted in defaults on a large scale. These defaults, on one hand, put pressure on the bank's profits; on the other hand, caused a decline in real estate prices. This situation aggravated the crises. Default on mortgages means default on AAA-rated mortgage-based securities, which created problems for credit rating agencies and investment bank. Since most of the MBS were hedged through CDS, therefore, there were enormous claims against CDC, which put pressure on insurance companies and resulted in bankruptcies. All these happenings finally brought commercial banks, the initiators of subprime mortgage, into the limelight. They had no choice but to write off mortgages. As the losses piled up in the US banking sector, US stock market plunged. This failure of the whole financial system of the US had two types of trickledown effect. Firstly, it spilled over to other sectors of the economy; secondly, it resonated in the whole world because various financial institutions and financial markets have some kind of stake in US economy and contemporary financial system is too much integrated.

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