CHAPTER 2
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Chapter 2 deals with the review of literature with detailed overview of the selected area of study. It revealed information of the research done in the part. Based on the review of literature the researcher identified the gaps in the existing literature and adopted a new approach to the current study. The review of literature were taken from various International Journals, National Journals, Working papers and Books to understand the concept and to find the research gap about the role of CDS in the global financial crisis. The present study is undertaken by reviewing the following literature available. The review of literature relates to five areas and is being presented under five sections viz., global financial crisis, credit risk management, derivatives, CDS and regulation on CDS.

2.1 GLOBAL FINANCIAL CRISIS

Randall Wray L (2007) examined that the current crisis is an outcome of an unsustainable explosion of real estate prices, mortgage debt, leveraged positions in collateralized securities and innovations of financial products leading to generating of huge losses. He suggested that the new practices and instruments must be validated.

Anushkapadia, Arjunjayadev (2008) in their study clarified that there was massive deregulation of regular banking. Therefore, they used innovations in structured finance and took advantage of easy credit conditions and regulatory loopholes to float off-balance sheet entities that conducted some business of borrowing short and lending long while incurring no capital charges and having no recourse to a lender of last resort. This was the shadow banking system, it's leading to massive booms and searing bursts.

Stephen Lumpkin (2008) examined that financial instability was generated from a number of sources such as, sudden changes in policy, weaknesses in accounting and auditing systems, regulatory and supervisory frameworks, poor asset classification, and inadequate control of operational risks, inadequate disclosure and lack of transparency. The financial crisis has often occurred because market participants suffer a loss of confidence in the financial integrity of the financial counterparties.
Shanta Devarajan (2008) reported that the lenders became the “originators” of the loan, yet they were not “holders” of the loan. Therefore, lenders could afford to be more aggressive in selling loans to the mortgage borrowers, without worrying about credit scoring or credit history of the borrower. The author also discussed that the dangers arise due to the use of credit derivatives and concludes that India learnt from the American experience as to how the unregulated environment and complex financial instruments can bring a downfall of the whole economy.

Christopher Whalen. R. (2008) documented that three basic issues are at the root cause of the problem, first is the public private partnership and a government agency to enhance the availability of affordable housing via use of creative financing technique. Second, the Federal regulation has actively encouraged the rapid growth of Over the Counter (OTC) derivatives and third the lack of market transparency, standardization of contracts and accounting treatment.

Gheorghe Voinea, Sorin Gabriel Anton (2008) the current financial crisis had revealed significant weaknesses in risk management practices across the financial services industry. The development of risk management could not evolve at the same pace as financial innovation. The financial innovation leads to reduction of transparency and increase in the market interconnectivity. The reports about risk exposure are too complex and not very clear. So, in order to assure the financial stability, the policy makers and regulators should upgrade the actual regulation and settlement systems.

Stulz Rene (2008) found that the risk management systems can break down because of failure to use appropriate risk metrics, miss measurements of known risks, failure to communicate risks to top management, failure in monitoring and managing risk and failure to take known risks into account.

Jeffrey Friedman (2009) highlighted that the financial crisis happened not because of a typical economic fluctuation but both regulatory action and regulatory inaction may have played a role, it is the result of government policy.

Candace C. Archer (2009) Proposed that an evolutionary framework can help shed light on the response to the financial crisis and in order to better understand globalization and the transformation of financial architecture.
Jaime Caruana (2009) estimated that the financial institutions and other investors were optimistic about the prices of asset and risk. A low interest rate environment and the interconnectedness of the financial activities led to crisis. So, regulators need better information on off-balance sheet risks and risks of financial interconnectedness.

Philippe Jorion (2009) argued that 2007 and 2008 financial crisis have highlighted serious deficiencies in the risk models. Risk models largely failed due to unknown regulatory and structural changes in capital markets. The credit rating agencies offer a prime example of inconsistent risk management. So, the risk managers should concentrate on reacting to weaknesses in the models.

Daron Acemoglu (2009) found that companies and individuals make decisions through imperfect information and they shall learn from each other and from past practices. This learning process will introduce additional correlation and co-movement in the behavior of economic agents, which will also extend the realm of creative damage from the micro to the macro. The study also suggested that one should not criticize the financial innovations that played a role in the crisis, which have been remarkably productive and will continue to be given the right regulations.

Viral V. Acharya, Mathew Richardson (2009) confirmed that the fundamental causes of the crisis were the combination of the credit boom and the housing bubble and also repackaging mortgage loan into mortgage backed securities.

Akerlof and Shiller (2009) demonstrated that the causes of the crisis were focusing on behavior within the financial sector such as, irrational behavior, non-profit maximizing incentives, lack of transparency of new and complex products and the ability of banks to manage their exposures with complex value risk models.

Taylor J.B (2009) confirmed that the origin of the crisis is mainly because of the housing bubble, the cheap money and loose monetary policies which allowed excess money in the economy.

Frank Partnoy (2009) clarified in his paper that the primary reason for the crisis was over dependence on credit ratings and credit rating agencies. The credit rating agencies evolved to play an informational intermediary role. But, the rating agency's role went beyond the standard model. The overreliance on ratings led to the regulators
misperception on the speculation of subprime mortgages. So, the author stated that the credit rating agencies is a central component of the financial crisis.

**Mary Meller (2009)** explained that people were encouraged to invest in pensions, stock market and other income generating schemes, turning their savings into risk capital and the people on median or low income were able to access credit cards and mortgages. The author concluded that the roots of the crisis were complex, that the deregulation of the financial sector that enabled a complex range of structured financial instruments to be developed, was one of them.

**Dorit Samuel (2009)** observed that the professional investors found a way to increase their profits without taking the risk. The current financial crisis is a result of inadequate transparency, corruption and lack of disclosure. The author concluded that new and restrictive system of regulation must create an environment that will promote full disclosure to all market participants that in turn will lead to serious monitoring of financial institutions, rating agencies and related entities.

**Prem Sikka (2009)** confirmed that the auditing firms receive considerable income from all distressed banks. Because of receiving unqualified audit opinions, many financial institutions collapsed or had to be bailed out with-in short periods.

**Graphame F. Thompson (2010)** examined that the international financial system is quite differentiated, being made up of domestic, national and international aspects. So, the first step is thorough audit to find out the necessary information based on what each country had installed in terms of regulatory structures before the crisis hit and what has been done to reform them.

**Rosa M. Lastra, Geoffery wood (2010)** analyzed the causes of the financial crisis of 2007-08 and outlined some of the regulatory responses. The crisis was divided into two types, banking and financial crisis. Banking crisis affects the money stock and thus threatens the economy. The financial crisis may destroy wealth, but not endanger the economy as a whole. They concluded that the main factors of the financial crisis were easy money, excessive leverage, risk management failures, bad lending, inadequate supervision and ill thought-out regulation.

**Venugopal Reddy Y (2010)** analyzed the role of public policy in causing the crisis. He summarized some of the factors contributing to the financial crisis; they were
loose monetary policy, high level of current account surplus and financial innovation led to the crisis. So, public policies on the global economy are needed to be reviewed and found of the costs and benefits of the globalization of finance in different countries.

Imliaz Mazumder M. Nazarene Ahmad (2010) discussed how liquidity crisis has evolved with poorly supervised financial products, especially the CDS and subprime mortgage loans. He also indicated the laxity in regulations that encouraged high financial leverages, shadow banking system and excessive stock market volatility which worsened the recent financial crisis. Finally, the authors concluded that banks and financial institutions need to revise their financial models and adhere to strict financial regulations not only to recover from the current crisis but also to prevent such financial calamities in future.

Tobias F. Rotheli (2010) attempted to analyze the important determinants of financial crisis. The credit cycle of the banks is mainly connected with the crisis. So, he discussed some of the shortcomings on the side of monetary policy, rating agencies and bank regulation. Finally, the author proposed some measures to strengthen the market stability, risk management, monetary policy and changes in regulation to restrain financial boom-bust cycles in the future.

Manuel Sanchez (2010) highlighted that the financial innovation acted as a vehicle in the credit boom and this led to the crisis. It should be recognized that financial innovation holds dangers, if it is improperly used, which is the results of the complexity of instruments, insufficiency of information and inappropriate risk assessment.

Arnold King (2010) examined that the root cause of financial crisis. It was revealed that both a market failure and government failure were responsible for the crisis. The author has indicated that the failure to regulate in time was not due to lack of tools, nor it was due to lack of will but due to the lack of knowledge among the key policy makers.

Sharma R.B and Shyam Lal Devpandey (2010) in their study empirically analyzed the investors’ psychology, particularly investing in the financial market. The authors point out that during recession period several factors like high volatility, fluctuating
interest rate and reduction of economic growth rate that led to the investor’s attitude
towards financial market are changing negative. So, investors like to invest their
money in government securities and banks because they are safest financial avenues.
Finally, they suggested that there is a need to identify investors’ psychology and
motivating them to invest in the financial market and take corrective steps to improve
the capital generation activities.

**Luiz Carlus Bresser Pereira (2010)** reported that the 2008 crisis was basically
caused by the deregulation of financial markets and wild speculation in using the
derivative instruments. The US Federal Reserve Bank’s monetary policy after
2001 and the interest rate being kept too low for too long had caused increased high
credit supply and this produced higher leverage levels associated with the crisis.

**David G. Mayes (2011)** the author analysed that the key features of the recent
development of financial markets and suggested that the substantial regulation is
important to encourage growth and reduce the impact of shocks; it needs to be smarter
rather than simply tougher.

**Leela Cejnar (2011)** explored that the impact of the global financial crisis was
particularly on competition policy and regulation. Deregulation helped greater
competition in the financial system, introduced financial innovation; global
interconnectedness and banking practices became more irresponsible. He suggested
that the regulators need to interact more with the government, business community
and other regulatory authorities to promote international coordination and consistency
in the global financial system.

**Fairborz Moshirian (2011)** in his study identified the elements of international
financial architecture that contribute to global financial stability and successful
implementation of international agreements is essential to sustained economic growth.
The crisis provided an opportunity to capture cross-border financial data to help
measure and manage financial risk more effectively by national and international
institutions.

**Pietro Cattee, Pietro Cova, et.al, (2011)** investigated the two issues that led to the
financial crisis. They are over expansionary US monetary policy and absence of
effective macro prudential supervision leading to financial imbalances.
Pasquale Tridico (2012) in his study showed that uneven income distribution and poor wages are two sides of the same coin in the financial crisis.

Mascia Bedendo, Brunella Brune (2012) in their study have focused on the usage and the effect of securitization and credit derivatives in US commercial banks with specific reference to the global financial crisis and found that the Credit Risk Transfer (CRT) tools such as CDS and other derivative instruments are used by banks to actively manage the credit risk but it was mainly used to increase the return on bank assets with higher risk exposure.

Tabias Adrian and Adam B. Ashcraft (2012) observed that the shadow banking contributed to the credit boom and collapsed financial sectors during the crisis of 2007-09. It created new channels of contagion and systemic risk transmission between traditional banks and the capital markets. A key lesson emerging from the financial crisis is that through regulatory reform strengthening the stability of the shadow banking system can be strengthened.

Refaqot Ali and Muhammad Afzal (2012) empirically assessed the impact of the recent global financial crisis on stock market of Pakistan and India from 1st Jan 2003 to 31st Aug 2010 of KSE 100 and BSE 100 indices, representing stock market and found the negative impact on stock market and enhanced volatility in Pakistan and Indian stock exchanges. Impact on Indian stock market is stronger, because India is the biggest economy and stock market than Pakistan.

Matthias Bodenstedt and Daniel Rosch (2012) focused in their study on the ability of rating agencies to adjust their ratings prior to the impairment of structured finance transactions and also identify the macroeconomic factors that explain differences in Moody’s performance. The Rating depends upon the volume of transaction, rating quality, competition, amount of default etc. An empirical study of 13679 impairments rated by Moody’s shows that ratings are generally adjusted prior to default. It allowed investors to adapt to the increased portfolio risk. Finally, they suggested that investors and regulators should consider other than ratings such as volume, asset type, time since origination and the overall economic situation.
2.2 CREDIT RISK MANAGEMENT

Davis A, Kearns M (1992) emphasized that institutions should have procedures for overall exposures to credit risk and exposure to connected parties, products and customers

Gregory R Duffee (1996) analysed two major problems with the standard measurement approach for measuring credit risks of derivative instruments. For that, he uses the models of the stochastic behavior and ignoring their over implication of uncertainty in their parameters. Therefore, proper measurement of credit risk is crucial by important to the derivatives market.

Gregory R Duffee, Chunsteng Zhou (1999) explained that credit derivatives are more flexible at transferring risks than other established tools. They found that when the asymmetric information problem is sufficiently served, the credit derivatives will be valuable to the bank.

Udo Brock, Thilo Pausch, Peter Welzel (2002) analysed that the credit risk is the oldest and an important risk faced by banks as financial intermediaries. So, managing credit risk is one of the predominant challenges in running a bank.

Finnegan, Mawdsley (2004) argued that banks should use credit risk transfer instruments for three reasons. One is bank can sell assets which can be recycled for further business growth. Second diversify their risks, third is intermediation, for which they earn income as fees.

Norvald Instefjord (2005) investigated about the innovative credit derivative instruments. It is important for hedging and securitizing credit risk, but many commentators have expressed opinions that this credit derivative instrument may destabilize the banking sector

Wolf Wagner, Ian W Marsh (2006) highlighted that the transfer of credit risk from banks to non-banks is more beneficial than credit risk transfer within the banking sector. The recent innovative credit derivative markets have given banks a new risk management tool. This market has shown a rapid growth and received the attention of policy makers and regulators. Regulators are less concerned about the risk involved in
the instruments due to the low number of market participants, lack of transparency, which makes more difficult to evaluate risk exposure.

**Kosmas Ntanike (2009)** empirically identified the factors contributing to the banking crisis; such as poor corporate governance, inadequate risk management systems, foreign currency shortages and diversion from core business to speculative non-banking activities. Finally, he concluded that banks must adopt sound corporate governance practices, manage their risks in an integrated approach, focus on core banking activities and adhere to prudential banking practices.

**Roshanthi, Dias, Nicholas, Mrocz Kowaski (2010)** has shown that the credit risk management is the forefront of the risk management process. The evidence indicates that credit derivatives reduce risk, making bank sounder through transferring credit risk. They suggested that there is need for a necessary regulation of credit derivative markets and credit risk management system that would make banks concentrate more while dealing with credit derivatives.

**Bhagyashree K S, Surat Kumari. M (2010)** remarked that the credit is the real activity that should be managed to generate profitability. In a liberalized economy only those banks which have an efficient risk management system will survive in the market for long. Finally, they concluded that credit risk management is a big challenge in today’s deregulated and volatility market. So, there is a need for smart analysis and specialized applications in managing credit risk.

**2.3 DERIVATIVES**

**Beaumier. M. Carol (1997)** argued that the potential consumers of credit derivatives are commercial banks which use them mainly for risk management purposes. Credit derivatives help redesign their portfolios, reduce borrower risk and lay off undesirable concentration of credit risk.

**Charles Smithson, Gregory Hayt (2000)** stated that credit derivatives have the ability to hedge and diversify the portfolio quickly at market prices. Through credit derivatives bank can get many advantages, such as highly liquid market, flexibility, pricing information and timely controlling management.
Gregory R Duffee, Chunsheng Zhou (2001) found that bank can use swaps to temporarily transfer credit risks of their loan to others; these instruments are more flexible and easier for banks to transfer risk than other established tools. They concluded that the asymmetric information problem sufficiently serve opportunity to use credit derivatives that will be valuable to the bank.

Drik Effenberger (2003) the CDS is most common form of credit derivatives used to transfer the credit risk. The large banks are better positioned to use these instruments. At the micro level, the credit derivatives create new opportunities for the lending business with strategic focus.

Rene. M. Stulz (2004) documented that derivatives allowed firms and individuals to hedge risks and to transfer risks effectively. He found in his study that those in charge of taking derivative positions must have the proper training, well defined policies for derivative use and regulators have to make sure to monitor carefully while using the derivatives. It has made the whole economy gain from the derivatives market.

Nader Naifar (2005) in his study pointed out that it is a modern financial tool for managing credit risk. Credit derivatives represent one of the fastest growing businesses in banking today. Investing and managing credit risk are a major aspect of capital market and corporate finance. He used many variables in his study; they are credit rating, maturity, interest rate, slope of the yield curve and volatility of equities. Finally, empirically found that the credit rating is the most determining factor in the credit derivative market.

Insterfjord N (2005) in his study showed that the use of credit derivatives has a double effect on the risk of financial institutions. It promotes better transmission and distribution of credit risk to financial institutions.

Michael S. Gibson (2007) discussed the growth of credit derivatives from two surveys of derivative dealers, ISDA and BIS semiannual statistics from 2001 to 2006. He explained how credit derivatives are used by three market participants that is, commercial banks used credit derivatives to transfer credit risk; Investment banks used credit derivatives to manage credit risk, and investors use credit derivatives for risk management because it is more flexible and less expensive than transacting other
type of securities. He concluded that to develop credit market faster, the market participants must address these risk management challenges.

Gao (2007) documented that United Kingdom’s regulation of credit derivatives dealers characterized “an accident waiting to happen” He showed that inability of credit derivatives market infrastructure. OTC credit derivative transactions occur between private parties and are not traded on regulated exchanges, so that they are not subject to regulation in the United States.

Lily Tijoe (2007) analysed that the credit derivatives are highly liquid, complex and valued according to intricate computer models. So, credit derivatives are no longer hedge instruments used exclusively by sophisticated market players.

Dawood Ashraf, Yener Altunbas et.al, (2007) in their study found that banks are major players in credit derivative business and involved in both buying and selling credit protection. They empirically investigated that the number of banks' transacting credit derivatives is a small number of large banks and banks can use the credit derivatives in order to reduce the losses that occur through defaults. The authors concluded that an expansion in the size of the credit derivative market globally; banks require substantial financial human and intellectual capital resources as well as the advanced internal control system.

Yingying Shao, Timothy J Yeager (2007) examined the risk and return relationship by using credit derivatives. It offers two advantages to the banks, one, it offers banks to get a new source of income, next, it offers opportunity to reduce their regulatory capital. So, the credit derivatives are useful and flexible instrument in banks risk management tool kits.

David Mengle (2007) found that the credit derivatives emerged for the purpose to rectify two long standing problems in banking. First, hedging the credit risk and the second one is diversification of credit risk. Credit derivatives provide solutions to both of the foregoing problems.

Hal S Scott (2007) expressed that the financial institutions use derivatives as a flexible credit risk management tool or as an easy way to receive extra returns. The credit derivative market is largely self-regulated, opaque in nature and ISDA
documentation is not freely available. He suggested that the more transparency in the market should be fostered to speed up the identification of operational issues.

**Bank of International settlement (BIS) (2008)** in its action plan drawn up in Washington declaration, insisted that market participants support exchange traded or electronic trading platforms for CDS contracts and also expand OTC derivatives market transparency, so that it will helps the infrastructure for derivatives to support growing volumes.

**Bernadette A. Minton, René Stulz et.al., (2008)** investigated the use of credit derivatives by US bank holding companies and found that only 23 large banks out of 395, use derivatives and most of their positions are held for dealer activities rather than hedging loans. They also documented that the large firms use derivatives more.

**Reserve Bank of India (2009)** reported that the complex credit derivatives and excessive risk transfer by adoption of the originate-to-distribute model is recognized as one of the root causes of the current financial crisis. It concluded that the development of the credit derivative market requires reforms and appropriate safeguards before introduction of such products.

**WTO (2009)** according to world trade report, it is found that the recent financial crisis caused collapse in the international trade resulting in the fall in imports by 28.6 percent, fall in exports by 15.2 percent and fall in GDP by 3.9 percent.

**David Love (2010)** documented in his study that the well-designed CCP can reduce the risks and contribute to the global financial stability. Introducing CCP does not remove the counterparty credit risk, but it manages and redistributes the risks. The author concluded that centralized clearing reduces the systemic risk of making the CCP. So, the regulatory authorities need to pay close attention to this issue so as to reform the OTC derivatives market

**Daniela Russo (2010)** in his study confirmed that the financial market turmoil was occurring because of shortcomings in risk management process and market transparency. These experiences helps the public authorities and regulators describe the solution to the problem such as sound market infrastructures, counterparties for settlement and trade repositories and increase cooperation between regulators and market participants.
Millivoje Davidovic, Vera Zolenovic (2011) explained the importance of credit derivatives as effective instruments in the function of risk transfer. They found that risk management plays a crucial role in achieving profitability and stability of the banking system. If credit risk is transferred through derivatives, the market participants’ very clear and accurate information regarding the level of risk and value of financial instruments become more efficient and transparent.

Dayanand Arora and Francis Xavier Rathinam (2011) analyzed the regulatory framework of the OTC derivatives market in India. The OTC derivatives contributed to the financial market growth and efficiency in the way of help in risk management tool in financial institution, promote the price discovery process and provide liquidity to financial markets. They concluded that Indian OTC derivatives markets did not contribute to global financial crisis because it is well monitored and better regulated. So there is no need for tightening the regulatory rope. But need is concerned towards increased disclosure, transparency and standardization.

Kevin Lester (2011) reported in his study that credit derivatives appear to be a potentially attractive and cost effective credit risk management tool and facilitate the implementation of innovative approaches to managing liquidity risk and funding costs.

Luis Otero Gonzalez, Luis Ignacio Rodriguez Gil (2012) empirically concluded that bankers are the major participants in the credit derivative market. They found that European banks use credit derivatives for hedging purpose, it enhance the improvement in their financial stability but those who opt for the speculative purpose, it leads to negative impact on the financial market.

Jomon Mathew Sreenilayam (2012) found in their study that the crisis has affected the entire global economies including India. The study examines the trends in export, import, foreign remittances, earnings from business services, overall Balance of Payment position, and GDP growth rates in the context of Indian economy against the background of global financial crisis and subsequent global recession. India is considered to be highly vulnerable to a crisis because of its greater integration with the rest of the world.
Ashish C Makwana (2012) examined the role of FIIs and found that they are key to success of financial system. It is observed that Foreign Institutional Investment (FII) has shown significant improvement in the liquidity of stock market in India. It has increased during the years 2006 and 2007 later on, it has experienced drastic decline. This is mainly because of global economic meltdown.

2.4 CREDIT DEFAULT SWAPS (CDS)

Lars Norden, Martin Weber (2004) studied the response of rating announcements made by the rating agencies about the financial transaction in the market. According to him, rating agencies are very important institutions, which mitigate problems of asymmetric information among the participants. One can determine the significant impact on the market depending upon the rating announcements made by the rating agencies.

Philippe Jorion, Gaiyan Zhang (2007) in their study examined that the CDS is the most popular credit derivative product. This new instrument allowed financial institutions to exchange the credit risk and are considered to be essential tool for the management of credit risk.

Anil Kumar (2007) in his study found that the credit risk management is a major area of concern for financial stability. Credit derivatives will help banks in India to transfer credit risk and hence free up capital resources. Further, observed that to have an efficient market for CDS, it is important that there are a large number of market makers, because of absence of large numbers, the market will be very unstable and right price realizations will be difficult.

Acharya V, Johnson T (2007) argued that transparency helps to improve the correct assessment of counterparty risk, greater efficiency in contracts and improving information about the risk involved in each transaction.

Boeri T, Guiso L (2008) clarified that financial literacy was very low among the subprime mortgage borrowers and one third of the borrowers do not know how to measure interest and do not understand the effect of inflation on their mortgages.

Nicholas Varchaver (2008) studied that the CDS is fastest growing and major type of financial derivatives. The big problem is that no one really knows what exposure they
have got from the CDS contracts. However, it is attractive to the investors because it is easy to create and dealers can the transaction in one minute phone conversation or instant message. So, CDS could be called a gaming contract.

**Stafford Johnson (2008)** confirmed that the troubles associated with CDS were the result of inadequate regulation. As per the author view, CDS performs two important functions that are; it removes the unwanted risk and enhances free-up capital for productive uses. But the big culprit is the credit rating agencies which issued high ratings to the less credit worthy institutions. So, the government needs to adopt reforms in the wake of crisis to limit some of the risks associated with CDS.

**Michael Comiskey, Paujan Madhogarhia (2008)** studied that the investors foolishly believed that home prices could never fall and then, the process of securitization transformed from home loans to high risk borrowers into safe investments. So, authors found that extending credit to the marginal borrowers through the degradation of lending standards led to the crisis.

**Kent Cherny, Ben R. Craig (2009)** explained that the CDS market is neither transparent nor regulated but it became a major risk management tool of both financial and non-financial institutions and reported that the lack of transparency and regulations permitted the signs of global financial crisis.

**Peter J Wallison (2009)** said that there are so many potential culprits in a financial crisis. But almost every media report mentioned that the CDS is one of the contributing causes of the financial crisis. So, he argued that the potential role of CDS in the financial economy and how it operated as an effective risk profile of the financial institutions. The author also explained many myths about CDS and found that the reason for failure of CDS was mainly because of misunderstanding of how CDS works.

**Mathew A Zoinor (2009)** found that financial crisis is the result of a loosely regulated innovative financial instruments and complex mortgage lending system. A CDS is a unique and relatively novel type of credit derivative contract and it facilitates the liquidity and risk shifting opportunities. But, it is beneficial only if the market participants sufficiently internalize the risk inherent in CDS transactions.
Welin Erik (2009) clarified in his study that the primary reason for the current financial crisis was not the fault of OTC derivatives; it was improper use of them. He proposed some of the regulatory measures that the policy makers are urgently required to concentrate; they are improved transparency, timely information regarding the trading position of the market participants, central counterparties for the purpose of easy liquidity and tighten the regulation and supervision which would facilitate to reduce fraud, market manipulation and other market exploitation.

Caitlin Ann Greatrex (2009) reported that credit derivatives have been widely praised as risk management tools that mitigate credit risk by dispersion of risk to another parties.

Giovanni calice, Christor Ioannidis (2009) in their study stated that the market offers a number of instruments to deal with different aspects of credit risk. They examined the impact of CDS market volatility on equity return of Large Complex Financial Institutions (LCFIs) and found that when decreasing equity values and increasing volatility, it led to market deterioration of financial stability and raises systemic risk.

Jeremy C kress (2009) identified that the major risks associated with credit derivatives particularly, CDS increased interconnections in the financial system, thus creating systemic risks. So, the author suggested that a new reform legislation in CDS so that it must be traded through centralized counterparty (CCP) which is the best way to reducing these interconnections and systemic risk.

Houman B Shadap (2010) proposed that the CDS transactions must have Central Clearing Party (CCP) for easy liquidity, enhanced transparency and record keeping requirements for all CDS transactions. The SEC also disseminates the CCP for CDS transaction and it trades must be reported to central trade repository for the purpose of disclosed CDS positions and for reducing operational risk.

Marco Avellaneda, Ramacount (2010) in their study found that increasing transparency in OTC markets and particularly CDS markets helps to enhance the fairness and efficiency of the CDS instruments.

Rene M Stuiz (2010) documented that financial derivatives increase economic welfare by facilitating risk sharing among investors, by improving price discovery and making the allocation of capital in more efficient way. The author concluded that
derivatives especially, CDS contributed significantly to social welfare and played an affirmative role in the development of economic growth.

**Virginie Coudert, Mathieu Gex (2010)** reported that all financial derivatives have been designed for hedging risks, but in practice they were widely used for speculation. They also examined the failure of this instrument on account of causes such as, the lack of regulation of OTC market, the interlocking positions of participants and the market opaqueness. They suggested that recording of transaction is important to mitigate the major opaqueness in the transactions and also discussed that the regulatory measures are being designed in collaboration with industry in order to ensure better market practices and higher risk management standards.

**Rama Cont (2010)** stated that Central Counter Parties (CCP) provide market based solutions for mitigating counterparty risk. But, it cannot be generalized to all categories of CDS. Finally, he concluded that the regulators have to collect a reliable data on counterparty exposures across dealers and mandatory reporting of trade details to the trade repositories helps to reduce the counterparty risk in CDS instrument.

**Suresh Rao (2010)** assessed the feasibility of introducing CDS instruments in the Indian market, on the basis of American experience. The RBI has issued certain guidelines for regulating the CDS in 2007, and made some observations in this regard to improve the regulations.

**Michael Greenberger (2010)** documented that CDS generated global financial crisis and many economists, regulators, market observers have described that the unregulated CDS played central role in the crisis. The lack of reporting, record keeping and interconnectedness among financial institution would have destabilized the world economy that leading to systematic risk.

**Hoje, Claudia lee et.al, (2010)** examined that the root cause of global financial crisis of 2008, began with stock market and dotcom bubble. They found in their study that the CDS market where unregulated transactions did not pass through clearing house and where no one could be sure of the value of CDS that this was the result of uncertainty in the psychology of investors regarding the economic impact of the misuse of derivative securities.
Imtiaz Mazumder, Nazeen Ahmad (2010) explored in their study has to how the liquidity crisis has evolved with poorly supervised innovative financial products especially the CDS. The laxities of regulation, innovation of complex securities are generally blamed for causing the crisis. Limited disclosures, less regulatory oversight on CDS markets attracted investors towards buying CDS which became very popular. So, the ineffectiveness of monetary policy tools and stock market volatility adversely affects the investors’ confidence. The authors concluded that the interest rate should not be kept too low for too long. Therefore, it is very important for banks and financial institutions must follow the strict financial regulation to prevent such financial calamities in future and there must be transparent corporate governance globally.

Terry yong, Linnea Mccord et.al., (2010) reported that the CDS was considered low risk method to generate cash and also a possible cause of bad side of CDS and described that “CDS are good idea that some ways went bad” The failure of the instruments was because of greed, irresponsible and misguided use of the instruments. They pointed out the universal idea support that the CDS must be subjected to regulation and it required clearing houses and should be traded through exchange and electronic system.

Ronald W. Anderson (2010) reported that CDS can help promote market liquidity, facilitate risk shifting, price discovery and reduce the cost of borrowing. He also suggested that CDS market is still young and little research has been done to assessing the cost and benefit in CDS market. So, increasing awareness and knowledge about the instruments would have much greater scope for success of this innovative financial product in the financial market in future.

Report on the Internal Group (2011) explained that the inadequate management of counterparty risk, interconnectedness of large market participants and non-transparency of transactions risk positions revealed the financial crisis. So, legislators, regulators and market participants should give more attention on the issues relating to the CDS.

Kathryn Chen, Michael Fleming, et.al., (2011) analyzed three months of global CDS transactions through the level of standardization, trade size, market participants and trading patterns in the CDS markets and reported that majority of CDS trades use
offsetting transactions on the same reference entity and within the same or next trading day. They concluded that price reporting is beneficial and meaningful, and requires coordinated and comprehensive collection of trade data and consistent standards.

Robert A. Jarrow (2011) explained the key causes for housing price boom were low interest rates, lax lending standards and easy credit. The credit rating agencies faulty rated the financial institutions, resulted in excess demand for subprime mortgage credit derivatives and also some asymmetric information on derivative instruments such as, no transaction cost, perfectly liquid, no restriction on trade, a complex market, high leverage are attractive features of derivative instruments especially CDS. The author concluded that the credit derivatives play a welfare role in the financial and real economy, but it must need greater transparency in trading and regulatory reforms must be properly implemented.

Nuray Terzir, Korkmazuluçay A (2011) investigated the role of CDS on financial market stability and reported that understanding about the potential loss before embarking on CDS trading, its impact, market mechanism and liquidity requirements etc., are very important to reduce the systemic risk and failure of the CDS.

Suresh Chandra Bihari (2011) in his study showed that through CDS, banks can manage their loan portfolio through diversification, expand their lending, increasing returns and lowering the credit risk.

Eliana Angelini (2012) explored how the developments of the CDS market have played an important role in the credit risk markets. CDS help financial institutions to hedge and trade credit risk, better managing their exposures through managing risk return profile of a portfolio. But, the recent crisis has revealed several shortcomings in CDS market practices and structures. So, the regulators should concentrate on this issue relating to the CDS market.

Vincent Lannoye (2012) in his study points out that the CDS played a very important role in the 2008 global financial crisis. It helped to spread the risk before the 2008 crisis and CDS were praised as a risk management tool by many market observers. After that the financial markets started to panic and the bubble finally busted.
Eric Arentsen, David C Maver et al, (2012) they found that CDS definitely play a useful role in helping market participants to hedge the credit risk, which ultimately exacerbated the subprime mortgage crisis.

Andre Guettler (2012) focused on the largest US corporate bond funds and the use of CDS. CDS is used to increase the credit exposures rather than to hedge credit risk and empirically analyzed that the use of CDS of top 100 US corporate bond funds between 2004-2008. From the study the author found, the use of CDS has been increased from 20 percent in 2004 to 60 percent in 2008. The reason behind that was this instrument being mainly used for risk shifting due to higher liquidity and lower trading cost as compared to other corporate bonds.

2.5 REGULATION ON CREDIT DEFAULT SWAPS (CDS)

Andre Scheerer (2000) has shown that credit derivative activities are subject to supervision by Federal banking supervisors. Both dealers and end-users in the United States must integrate their internal risk management processes and banks must be aware of regulatory capital implications before entering into credit derivative activities.

Kaamer Levin (2008) concluded that the objective of the new regulation is to improve the trading infrastructure, reduce the systemic risk and enhance transparency in the market and the CDS is required for trading on an organized exchange through a centralized counterparty.

Anne Duquerroy, Mathieu Gex et al, (2009) reported that it is important for regulators to regulate the CDS market. Such initiative contributes to the ultimate objective of financial stability and improves the transparency of the CDS market.

Dick Nanto (2009) in his study found that the financial architecture should include three key principles, viz., efficiency, transparency and accountability and also there is a need for strong regulation of credit rating agencies and reviewing incentives for risk taking is very important. The author considered the IMF suggestion that the transaction must be comprehensive, timely, clearly communicated and operationally transparent.
Adam Reiser (2009) identified the most significant issue in the current credit crisis and it required immediate legislative action on CDS regulation. They are promoting efficient and transparent market through establishing clearing house, implementing moderate disclosure to reducing systemic risk and improving lending requirements.

Rym Ayadi, Patrick Behr (2009) study showed about the credit derivative market in light of the recent financial crisis. The benefits of credit derivatives can only be obtained, if it is used responsibly by all market participants. They argued that the current regulatory framework of derivatives is not so sufficient to motivate market participants to use in a desirable way. Therefore, it required strict supervisory action to prevent market participants from misusing credit derivatives and to create stability of the financial system.

Oscar Arce, Javier Gonzalez Pueyoetal (2010) examined the recent proposals and deficiencies in the CDS markets. According to them it is important that the CDS transactions are subject to appropriate supervision, capitalization and transparency. The group of G20 agreed and proposed that all standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, cleared through CCP and the contract should be reported to trade repositories. They concluded that the regulatory amendments would help to increase the transparency of the transaction, thus ensuring better supervision, more efficient price formation and thereby help to reduce the counterparty risk.

Ice (2010) reported that the credit default swaps market has made significant improvement to its overall market structure over the last two years. The major reforms help to increase the confidence of existing and potential market participant and to support the credit markets.

Shyamala Gopinath (2010) examined that the OTC derivative markets in general and in specifically, credit derivatives perceived as the weak link in the financial system that increased systemic risk because of their complexity and non-transparent nature with a light touch regulatory approach of the derivative instruments resulted in excessive counterparty exposure and increased the systemic risk.

Maria Lopez-mellado (2010) noted that credit derivatives have been used by different market players and its expansion has gone from financial institutions to non-financial institutions. The crisis has shown the weaknesses of the current regulatory
framework for counterparty credit risk exposures arising from derivatives. He concluded that to develop the derivative markets, the market participants should increase their knowledge about the new reforms in the regulatory framework and risk exposures involved in derivative transactions.

Howard Margolin, Doug Henderson (2010) analysed that the OTC derivatives have been largely unregulated in the wake of global financial crisis in 2008. On July 2010 the Dodd Frank Wall Street reform and Consumer Protection Act was signed into law by US President Barack Obama. It touches on every facet of the financial sector.

Subir Gokarn (2011) noted that the derivative instruments are an important component of the overall financial sector strategy that are consistent with both financial development and the contribution of financial markets to the economic growth. The recent global financial crisis has brought to light the weaknesses of the OTC derivatives market that the infrastructure for clearing and settlement became a major impediment.

Steven L Schwarlz (2011) revealed that the financial regulation helps to maximize economic efficiency by correcting market failures, to increase the awareness, stabilize the financial system and reduce systemic consequences.

Shikha Gupta (2012) suggested that there is a need for the introduction of new CDS trading conventions with implementation of CDS big bang and small bang protocols. It is helping to achieve same day trade matching, elimination of offsetting trades, centralized clearing and improving the standardization of CDS contracts. The author concluded that systemic risk can be avoided by launching CCP’s in systemic information about the transaction.

The Hindu (2013) RBI has issued revised guidelines for CDS for corporate bonds. CDS shall be permitted even for non-infrastructure companies and also permitted on securities with original maturity up to one year like commercial paper, certificate of deposits and non-convertible debentures. Whereas by allowing risk transfers such products increase investor interest in corporate bonds and would be beneficial to the development of the corporate bond market.

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