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HOW DID RISK MANAGEMENT METHODS CHANGE AFTER THE 2007 SUB-PRIME MORTGAGE CRISIS IN THE UNITED KINGDOM?

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ABSTRACT
The fundamental objective of this study is to find out the key lessons we need to learn from the risk management failures of the financial sectors during financial or Sub-Prime mortgage crises (2007-2008) in UK and US to prevent or dampening future crises magnitude. The literature collected from academic articles and summarising books about the cause, events, and effects of the financial crisis, written before, during or after the event, to be able to reach a critical analysis of the differences on the viewpoints expressed about it. Moreover, we conducted semi-structured and confidential interviews to investigate the failures of risk management that originated the global financial crises. The respondents of our interview-based study are the professional risk management executives of the United Kingdom from different financial institutions. The significant finding of this research is that the United Kingdom organisations get involved in Moral hazard practices because they knew that if anything bad happens, the government will rescue them. Furthermore, the cause of sub-prime mortgage crisis is the insufficiencies in risk management models, and the majority of risk models failed because of known unknowns. Other explanations of the study empirically stating that financial institutions remained failure to manage risk appropriately during a crisis. The study is also concluding some key lesson from the financial crisis including, to improve the risk cultures among banking sectors of UK, risk-seeking manners of short-term bonuses, too much rely on standard models like Value at Risk (VAR), and a more cautious approach implemented to sub-prime loan management than before the crises.

Keywords: Risk Management, Sub-prime crisis, Moral Hazard, risk models, UK
JEL Codes: G32, D81

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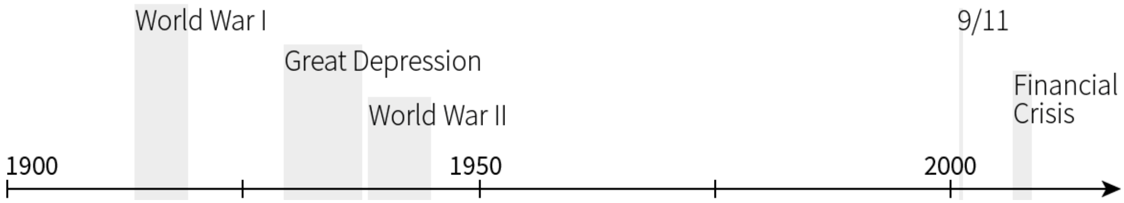
I. INTRODUCTION

"The best Wall Street minds and their best risk-management tools failed to see the crash coming," New York Times, January 2, 2009

The financial crises of 2007-08, which is also known as the subprime mortgage crises, recognised as the significant economic slump after the 1930's great depression. These crises left the millions of people in abject poverty throughout the world. The ***American economy*** has ***vital importance in the world*** because the ***dollar is an international currency*** and most of the countries financial reserves are dollar denominated. So, whenever there is a problem with the American economy, it has the worst impact not only on Americans but also the other countries. Additionally, in 2007-08 financial crises, there is no single reason or event that we can blame for the slump but a series of events involved in it. The following timeline chart is showing the major events of the world since 1900, and global financial crises of 2007-08 are one of them.



A financial crisis means a state in which the worth of assets or financial institution decreases dramatically. These types of changes are *frequently associated* with specific *financial institutions* like banks, stock exchanges, or house price market, etc. (Clifton, Olalla and Molyneux, 2017). To put in another way, it is a panic situation in which the investors have to sell off its assets or to withdraw their money from the financial institutions. The most common reason for these crises is the overvaluation of financial assets. Furthermore, it may be exaggerated with the ***irrational behaviours of investors***. When an investor sells its assets at lower prices, the other investors get panic, and this panic behaviour can lead to crises (Rey, 2015).

II. RISK MANAGEMENT AND SUB-PRIME MORTGAGE CRISES

If we talk about the risk management analysis with the perspective of Sub-Prime mortgage crises, then the principal thing comes to mind is "***Moral Hazard***" practices by economic agents. The moral hazard is a situation in which one party get involves in risky events because he/she knows that if anything wrong happens then, he/she will be rescued by the insurance companies or government bailout packages (in case of big corporations). The fundamental factor that boosts the financial crises was these moral hazard practices by the US and UK financial institutions (Saunders and Allen, 2010).

Four different types of risk are associated with the financial markets, for instance, market, credit, liquidity, and operational. Market risks are linked with the portfolios of unpredictable swings of market, credit risks result from the unable to repay obligations, liquid risks associated with those financial institutions that are not able to sell an investment without bearing a vast costs, likewise operational risks results from the functional inadequacies within the organization (Hawley, and Beyhaghi, 2011).

The "economics" filed is much diversified which consists of a different school of thoughts, and every school of thought has its distinctive theories and ideas. As far as a sub-prime mortgage or financial crises is concerned, they are unanimously agreed that the risk management played a crucial role in exacerbating this crisis (Saunders and Allen, 2010). The Presidents working group on financial regulations wrote the following lines in an editorial just before the collapse of Bear Stearns;

"risk management weaknesses at some large U.S. and European financial institutions" as one of "the principal underlying causes of the turmoil in financial markets".

Category	Meaning	Examples
Known Knowns	Risks we know about now and can predict and quantify with reasonable accuracy now	Current Volatility Short-term inflation Secular demographic factors Expected default rates
Known Unknowns	Risks we know about now, but cannot predict the timing of and/or quantify accurately now	Corporation/industry demise Long-term inflation Changes in consumer tastes Actual default rates
Unknown Knowns	Risks we forgot we knew about	Risks associated with universal banking Portfolio correlations in bear markets
Unknown Unknowns	Risks we cannot know about now	Terrorist attacks of September 11 Madoff fraud Arab uprisings 2011

Table Source: Risk Categories (Hawley, and Beyhaghi, 2011)

III. LINKAGES OF SUB-PRIME MORTGAGE CRISES WITH UK ECONOMY

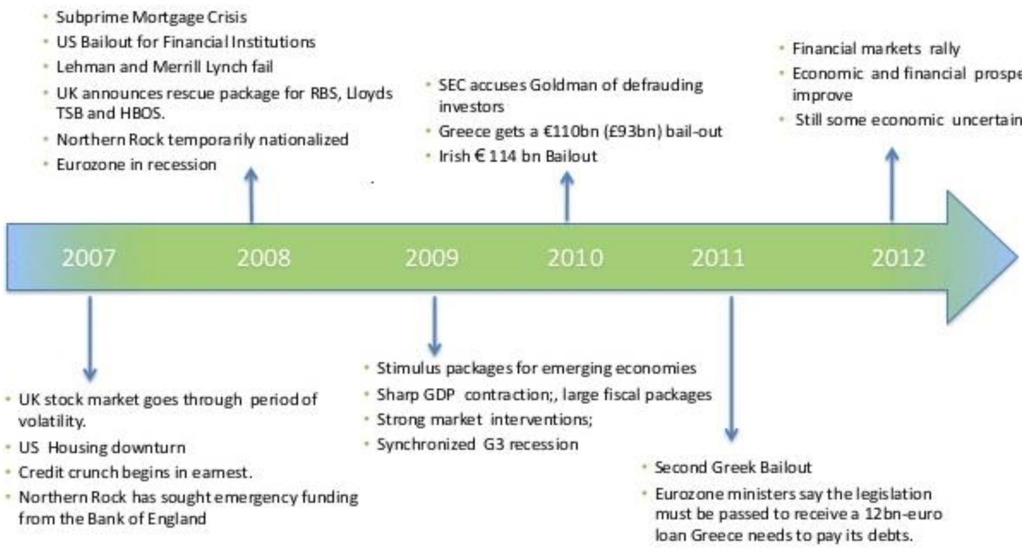
Another essential explanation of the Sub-Prime mortgage crises is the ***deregulation*** of the *financial institutions in the United Kingdom*, US and other western economies that initiated back in the 1970s and get the speed in very next decade. Additionally, these initiatives remove the controls of government across the world. In the 1960s, there were *merchant banks in the United Kingdom* that very active in building societies and insurance companies also functioning in their specialised trading domains. These all financial institutions were tightly controlled by the UK government, and everything was within their specified constraints. As these restrictions were relaxed and liberalised, a massive destructive bubble continues to build and burst in 2007 and 2008 (Christoffersen, 2012). Some significant *consequences of sub-prime mortgage crises on the UK economy* can be highlighted as follow:

- Sub-Prime mortgage crises first affected the UK when *Northern Rock* collapsed in 2007
- *Royal Bank of Scotland*, Lloyds and *Halifax Bank of Scotland* had to be rescued with taxpayers' money
- In 2008, *Bradford and Bingley building society* of UK nationalized and then partially sold to Spanish Grupo Santander Bank
- Struggling *Royal Bank of Scotland Group* nationalized by UK government
- *Halifax Bank of Scotland* (HBOS), the most significant lender of mortgage, forced into *Lloyds TSB* group and in 2009 UK government took 44 percent stake in the joint business
- *Barclays and HSBC* not nationalized but suggested to raise their capital via share issuance
- In 2009 *most significant deficit in UK financial history* - £175bn
- In 2011, the rate of Unemployment peaked at 2.6 million which is the highest since 1996
- Numerous renowned brands either shut down their business or had to close a substantial number of outlets
- A massive shortfall in the UK retail sales

The fundamental objective of this study is to find out the key lessons we need to learn from the risk management failures of the financial sectors during financial or Sub-Prime mortgage crises (2007-2008) in UK and US for the purpose of preventing or dampening future crises magnitude. A plethora of research is available which deal with the financial crises or Sub-Prime mortgage crises and how these crises happen and what was the reasons behind these. But there is no such a serious attempt has yet been made with the perspective of the UK that links these crises to risk management failures. The ***purpose*** of this qualitative research is to explore the strategies of risk management that are being adopted after the subprime mortgage as compared to the before crises of 2007-08. In this study we will try to find the answers to following fundamental research questions based on the practices of risk management in the financial sector of United Kingdom:

- What is the relationship between regulation and risks associated with derivative transactions?

- How did risk management methods change after the 2007 Sub-Prime mortgage crisis in the United Kingdom?
- How the risk management mechanism did force financial institutions to fail?
- What is the risk associated with regulations of financial intuitions?
- What are the key lessons we need to learn from the risk management failures for preventing or dampen the magnitude of future crises?



Timeline Chart: Global Financial Crises

IV. LITERATURE REVIEW

The *fundamental reasons* for global financial crises 2007-08 have not traced yet. However, the majority of the economists believe that the seeds of these crises sown in the 1970s with the community development act which forced the financial institutions to norm their credit requirements for the poor people and these initiatives create a new market which is known as subprime mortgages (Acharya, and Richardson, 2009). Also, a ***subprime mortgage*** is a particular type of mortgages which are given to the people or institutions who have lower credit ratings. Because there is a more significant risk element involved in these types of mortgages, so the lending institute often charges higher interest rate than conventional mortgages. The economists claim that sub-prime mortgages were the main reason behind the global financial crises of 2007-08 because the housing market crashed due to these types of mortgages that lead to the bankruptcies of major financial institutions. *General explanation* of subprime mortgage crises given by majority of economist can be summarised as follow;

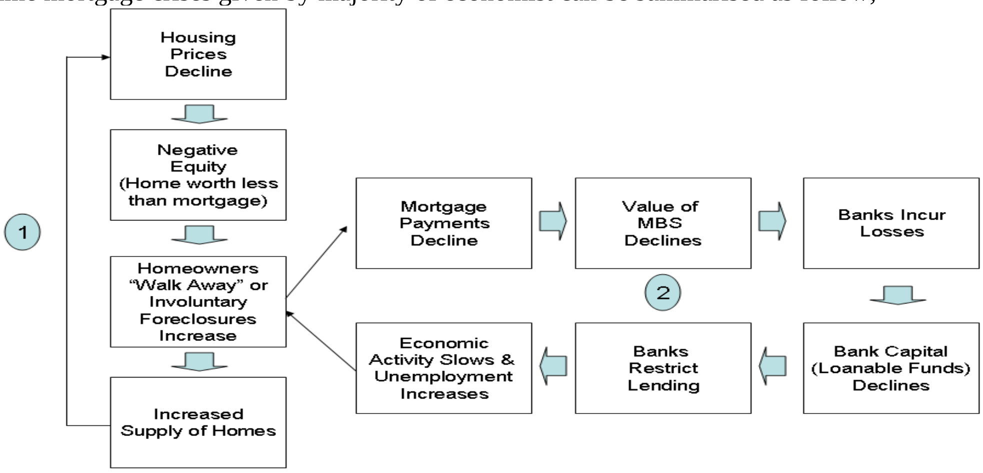


Figure Source: Made on the basis of (Rey, 2015)

Economist believes that there are two cycles of subprime mortgage crisis; Cycle 1 postulating that foreclosures shoot up the supply of the home with lower prices which create further negative equity. On the other hand, cycle two saying foreclosures lower the flow of cash into banks and mortgage-backed securities (MBS) that lead to banks losses. These periods slow down the economic activities and increase the unemployment which further increases the foreclosures and transforms the global economies into most awful crises. The credit rating agencies contribute a vital role to exacerbate the financial downturns of the economy by providing wrong ratings to the financial rating institutions. To put in simple words, they gave a very positive credit ratings to Collateralized Debt Obligation (CDO's) and Mortgage-Backed Security (MBs) which were not very liquid, too complicated, and not transparent (Lang and Jagtiani, 2010). These good ratings increase the demand for the Collateralized Debt Obligation (CDO's), and investment banks became part of it because the products are paying high returns to the bank. The yield curve of these types of product always positive slope (Stulz et al., 2012).

White (2009) postulate that the reduction in the prices of Collateralized Debt Obligation (CDO's) and Mortgage-Backed Security (MBs) proved that the rating given to these securities were hazardous and excessively optimistic. Another critical study conducted by Haubrich (2009) which claims that there is no guarantee that significant crisis or loss will not happen even if risk management is executed spotlessly.

Likewise, research by Stulz (2009) describing that the process of risk management consists of five different phases, for instance, identification, communication, measurement, management and monitoring of risks. The problem can arise from any of these stages. Moreover, the ***most widely adopted model*** before the sub-prime mortgage crisis was Value at Risk (VAR). Since Value at Risk models are not supposed to disclose the scattering of the losses that surpass the Value at Risk limit, they are of slight use if risk managers want to recognise potentially disastrous damages with a low likelihood of happening (Nelson and Katzenstein, 2011).

Harrington (2009) is conducted a study which covers the case of American International Group (AIG) and assesses its contribution in exaggerating the financial crisis 2007-2009. Moreover, the study examines the risks associated with the insurance companies and other nonbank financial institutions. Another essential paper by Mishkin (1996) describes the process of transforming the economic route before a financial crisis. The vital suggestion of this study was to develop an appropriate institutional structure to avoid this crisis.

If we talk about the significant reforms after sub-prime mortgage crises by our government, the central bank of America, Federal reserves, always remained active throughout the modern financial crises of 2007-08. The central bank lowers the rate of interest to reduce the cost of borrowing and increase the investment flows. Furthermore, when Bear Stearns was close to bankruptcy, the central bank guaranteed the significant liabilities of Bear Stearns for facilitating JP Morgan to overtake. The other executive entities like Federal Housing Finance agency along with the treasury department also remain active to stabilise the financial system. Furthermore, the government did not rescue the Lehman brothers and allow it to be bankrupt following the rescue of Fannie and Freddie (Bianco, and Katalina, 2008).

The remarkable response by the government to the global financial crises was a "Bailout Plan." The bailout plan was a suggestion by the treasury to buy the weakened assets forms the banks to make their balance sheet healthy. This plan was worth about $700 billion which initially refused, but on Oct 2008 voting of House passed the bill. Similar initiatives were taken throughout the world to stimulate the economy and stabilise the financial system (Crotty, 2009).

V. DATA AND METHODOLOGY

The risk management mechanism has significant importance in the financial markets of a country. A massive failure can be caused due to a small error in the policy-making process. As we examine in the literature review section, the *fundamental cause* of sub-prime mortgage crisis is the insufficiencies in *risk management models,* and the majority of risk models failed because of *known unknowns*. These contain model risk, liquidity risk, and counterparty risk (Tehranian, 2011). The financial crisis of 2007-2009 is considered as a major economic event after the great depression of 1929. There are so many studies have been conducted by the researchers that are covering the causes of these downturns and a review of essential studies are presented in the previous section.

As far as our study is concerned, the use of information gathered from scholarly articles and summarising books about the cause, happenings, and effects of the financial crisis, written before, during or after the event, to be able to reach a critical analysis of the differences on the viewpoints expressed about it. Moreover, we conducted *semi-structured* and *confidential interviews* to investigate the failures of risk management that originated the global financial crises. The respondents of our *interview-based study* are the professional risk *management executives of the United Kingdom* from different financial institutions. In a nutshell, our research is a *Qualitative Research* which is primarily e*xploratory research*. It is used to gain an understanding of underlying reasons, opinions, and motivations of the respondents on the issue of How did risk management methods change after the 2007 *Sub-Prime mortgage crisis in the United Kingdom*? To be concise, a semi-structured interview is a special type of interview which gives a chance to the respondents to explore a range of sensitive and complex issues related to the topic (Haubrich, 2001).

Interview Structure

- In your opinion what was the major underlying cause of the sub-prime crisis 2007-09?
- Are traditional corporate risk management practices effective at assessing/controlling systemic risk?
- To what extent is did boards/management have accurate and reliable information to allow them to monitor their firm's risk exposures and did they understand this information?
- How reliant were they on mathematical models and did they understand the inputs/outputs to these models? What was the situation in your firm?
- To what extent did weaknesses in corporate governance contribute to the current crisis? For example were warnings from chief risk officers/risk managers being heard prior to the crisis and if not why not? Plus were managers at all levels being properly incentivised to manage risk effectively? Can you explain the situation in your own firm?
- Going forward how should financial services firms be incentivised to implement effective risk management frameworks? Is more prescriptive regulation the solution or is there an alternative (e.g. improved disclosure, enhanced rating methodologies, changes to corporate governance rules, etc.)
- In the light of the financial crisis what changes have you/are you making to your company's risk management framework(s)?
- Do you have any other comments that you would like to make?

The size of the respondents consists of 20 people. To put in simple words, there are twenty interviews were arranged by the researcher across the whole financial sector of United Kingdom to acquire the answers to our research questions. The characteristics of all respondents summarised with the help of a chart which is showing in the Appendix one of this exploration work.

VI. EMPIRICAL FINDINGS

The interviews were asked to about the causes of this crisis then everyone responds that weakness in the organisational cultures. According to Risk Consultant 3, "I always believe in the internal organisational settings. If the internal environment is well cultured, then no crisis can affect the financial position of the organisation". Some of the respondents also augmented their views and said that there is a lackness of culture among senior management people of the UK organizations. All respondents in this study belong to financial markets and risk management field, so they did not accept that the risk management is failed during the financial crisis. They claim that the real failure was the implementation of financial institutions and over-reliance on a complex system of quantitative risk tools. Furthermore, they argued that poorly executed risk implements exposed the companies who were working beyond the risk limits. In sum up, respondents believe that the risk management failed due to, failure in the management of risky events, weakness inside the organisations, over-reliance on complex tools, and risk appetite.

According to the respondents, the following risk management practices are used by the United Kingdom banks and financial institutions during the economic crisis 2007-2009. Additionally, the table is also describing the winners and losers of these practices.

Practice	**Winners**	**Losers**
Organizational structure	-Cooperative	-Hierarchical
Business model	-Avoided CDOs, SIVs	-Exposed to CDOs, SIVs
Firm-wide risk analysis	-Shared information across firm	-No prompt discussion of risks across the firm
Valuations	-Developed in-house expertise	-Relied on credit ratings
Management of liquidity	-Charged business lines for liquidity risk	-Did not consider contingent exposures
Risk measurement	-Used both qualitative and quantitative analysis -Varied assumptions -Tested correlations	-Strict model application -Mapped to corporate AAA -No test of correlations

Furthermore, to find the risk management failure during recession a six C's assessment criteria is used in this study. The six C's of the financial crisis is communication, complexity, compensation, culture, competition and capital regime (Bouchaud and Potters, 2003). The interviewees were asked to rate these six C's as most important and least influential. According to the responses of them, the least important C's are compensation, competition, and complexity while the most essential C's are culture, communication, and capital regime. The most important among six C's is the weakness in the communication of UK organizations. The data must be communicated to the right people and should be cross-checked that whether the receiving parties able to understand the data. If we talk about the effectiveness of United Kingdom government measures, it is often believed that the policymakers learn a lot from their mistakes in the response of 1929 great depression where they tightened the monetary policy and restrict fiscal policy. In 2007-08 crises, the government provides a huge amount of liquidity to the financial system. However, there are some general policy measures which we can use to regulate the financial system to tackle crises. These measures include; Slash taxes, Reduce the government size, Cut government waste, Move to full reserve banking, Improve economic reporting, Raise economic literacy among people, Stop interest rate suppression, The golden rule of capital accumulation, etc.

VII. LEARNING LESSONS FROM THE FINANCIAL CRISES AND POLICY RECOMMENDATIONS

After the review of all studies before and after financial crises and taking the responses of all interviewees, we reached on the succeeding implications; The financial rescue plan, which is also known as the *bailout package*, by the United States and United Kingdom governments still evokes the anger of the taxpayer's public. The *key lesson from the whole discussion* is that to avoid these types of bailout reforms because it enables the companies to get involved in risky events because they know that if something bad happens, the government will rescue them. To put in simple words, the main focus of risk management policymakers of UK is to avoid the *practices of moral hazard* in the economy. We need to improve the risk cultures among banking sectors of United Kingdom. The lesson is we need to be more risk aware and should be prepared to act quickly if we found something unusual. What method should be used for this improvement? The answer is: we should give value to the expert's judgment and try to control the extreme risky experiences. Another important point raised by the interviews is that we should learn a lesson from the bonus and salary packages that were provided by the UK and US firms just before this major downturn. According to a risk consultant interviews, the real problem with bonuses was its time horizon. To put in simple words, if the bonuses are for a short period, then the parties will be more likely to involve in risk-seeking manners. The board of directors of UK organizations should involve in the process of the risk management policy-making process and try to an emphasis on the quality of reports related to risk management. Research and development always play a key role in the success of the organization (Scholes, 2000). The companies should conduct special training sessions of risk management experts for the employees and top management to realize them the importance well-cultured business practices. The United Kingdom government learned a lot from these financial crises and implemented sharp change in the poor risk management techniques used by financial institutions before the financial crisis, and assumes that the change is to avoid future crashes. On the other hand, investors rely too much on the rating agencies and traditional risk management metric. In other words, they were feeling secure themselves in the standard models like Value at Risk (VAR) metric. Another important lesson from the financial crises is misguided compensation structures of UK and US organizations that encouraged the people to involve in risky events. Lastly but the more important reason for the failure of risk management in the United Kingdom during and after crises was the isolation of risk management functions from the investment process. Some financial organizations, in their attempt to create an independent risk management function, ended up creating an isolated team that lacked an understanding of the investment process and had little ability to influence behaviour and positioning.

VIII. CONCLUSION

In this research, we thoroughly analyse the causes of global financial crises 2007-09 and its impact on the economy of United Kingdom. The perspective of these investigations was traditional risk management metric. The major finding on the basis of literature review and qualitative research interview of the risk managers of this research is that the United Kingdom organizations get involved in Moral hazard practices because they knew that if anything bad happen the government will rescue them. We need to improve the risk cultures among banking sectors of United Kingdom. The lesson is we need to be more risk aware and should be prepared to act quickly if we found something unusual. A more cautious approach implemented to sub-prime loan management than before the crises. During the period of crises, the common practice of risk manager was to observe the past data or past economic events. They did not make any serious attempt to forecast the future. There is a famous saying that they neglected "*history does not always repeat the same itself*." Similarly, the introduced financial instruments were very complex and not well suited to the US and European economies. These financial models were based on weak assumptions that reduce the effectiveness of these risk model implications.

REFERENCES

Acharya, V.V. and Richardson, M.P. eds., (2009). *Restoring financial stability: how to repair a failed system* (Vol. 542). John Wiley & Sons.

Adelino, M., Schoar, A., & Severino, F. (2018). The role of housing and mortgage markets in the financial crisis. *Annual Review of Financial Economics, 10,* 25-41.

Ashton, P., & Christophers, B. (2018). Remaking mortgage markets by remaking mortgages: US housing finance after the crisis. *Economic Geography, 94*(3), 238-258.

Bianco, K.M., (2008). *The subprime lending crisis: Causes and effects of the mortgage meltdown*. New York: CCH, Wolters Kluwer Law & Business.

Bouchaud, J.P. and Potters, M., (2003). Theory of financial risk and derivative pricing: from statistical physics to risk management. Cambridge university press.

Carey, M., Kashyap, A.K., Rajan, R. and Stulz, R.M., (2012). Market institutions, financial market risks, and the financial crisis.

Christoffersen, P.F., (2012). Elements of financial risk management. Academic Press.

Clifton, J., García-Olalla, M. and Molyneux, P., (2017). Introduction to the special issue: new perspectives on regulating banks after the global financial crisis.

Cornett, M.M., McNutt, J.J., Strahan, P.E. and Tehranian, H., (2011). Liquidity risk management and credit supply in the financial crisis. Journal of Financial Economics, 101(2), 297-312.

Crotty, J., (2009). Profound structural flaws in the US financial system that helped cause the financial crisis. Economic and Political Weekly, 127-135.

Crotty, J., (2009). Structural causes of the global financial crisis: a critical assessment of the 'new financial architecture'. Cambridge journal of economics, 33(4), 563-580.

Harrington, S.E., (2009). The financial crisis, systemic risk, and the future of insurance regulation. Journal of Risk and Insurance, 76(4), 785-819.

Haubrich, J.G., (2001). Risk management and financial crises. Economic Commentary, (Feb).

Hawley, J.P. and Beyhaghi, M., (2011). Modern Portfolio Theory and Risk Management: Assumptions and Unintended Consequences.

Hsu, C. M., & Liu, W. C. (2019). Bank Failure Model for Asian Financial Crisis and Subprime Mortgage Crisis: A Comparison. *Korea and the World Economy*, *20*(1), 65-104.

Jones, T., & Sirmans, G. S. (2019). Understanding Subprime Mortgage Default. *Journal of Real Estate Literature*, *27*(1), 27-52.

Kao, W. S., Kao, T. C., Changchien, C. C., Wang, L. H., & Yeh, K. T. (2018). Contagion in international stock markets after the subprime mortgage crisis. *The Chinese Economy*, *51*(2), 130-153.

Kolasinski, A. C., & Yang, N. (2018). Managerial myopia and the mortgage meltdown. *Journal of financial economics*, *128*(3), 466-485.

Lang, W.W. and Jagtiani, J.A., (2010). The mortgage and financial crises: The role of credit risk management and corporate governance. Atlantic Economic Journal, 38(2), pp.123-144.

Mishkin, F.S., (1996). Understanding financial crises: a developing country perspective (No. w5600). National Bureau of Economic Research.

Nelson, S. and Katzenstein, P.J., 2011, November. Risk, uncertainty, and the financial crisis of 2008. In International Political Economy Society Meeting, University of Wisconsin-Madison (pp. 1-46).

Ospina, J., & Uhlig, H. (2018). *Mortgage-backed securities and the financial crisis of 2008: a post mortem* (No. w24509). National Bureau of Economic Research.

Park, D. (2019). Us Subprime Mortgage Crisis and Global Financial Crisis, 2008–2009: A Short History. *World Scientific Book Chapters*, 279-284.

Rey, H., (2015). Dilemma not trilemma: the global financial cycle and monetary policy independence (No. w21162). National Bureau of Economic Research.

Saunders, A. and Allen, L., (2010). Credit risk management in and out of the financial crisis: new approaches to value at risk and other paradigms (Vol. 528). John Wiley & Sons.

Saunders, A. and Allen, L., (2010). Credit risk management in and out of the financial crisis: new approaches to value at risk and other paradigms (Vol. 528). John Wiley & Sons.

Scholes, M.S., (2000). Crisis and risk management. *The American Economic Review*, 90(2), 17-21.

Stulz, R.M., (2009). Six ways companies mismanage risk. *Harvard Business Review*, 87(3), 86-94.

Appendix

• Programme Director 1:	Large bank of United Kingdom
• Risk Consultant :	Large UK internationally active bank
• Chief Risk Officer:	1 UK investment bank
• Non Exec 1 (a) UK bank (c) European subsidiary of an international bank	
• Chief Risk Officer 2:	UK mutual life insurer and investment provider
• Risk Consultant 2:	Professional services provider
• FD 1:	Health insurance provider and ex large UK bank
• HOR (Head of Operational Risk) 1:	UK bank and insurance conglomerate
• HOR 2:	UK insurer
• FD 1:	Freelance risk consultant
• HOC (Head of Control) 1:	European bank
• HOR 3 UK insurer	
• DR (Director of Regulation) 1:	clearing house
• Non Exec 2:	UK building society
• Chief Risk Officer 3:	Demutualised bank
• Chief Risk Officer 4:	UK insurer
• FD 2	UK mutual insurer
• Chief Risk Officer 5:	UK building society
• Risk Consultant 4:	Financial services consultancy
• Chief Risk Officer 6:	International insurer

Characteristics of the interviewees who participated in this Study