

The Impact of Financial Crisis on the Profitability of the UK banks

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Abstract

The primary purpose of this study is to find out the impacts of the financial crisis on the profitability of UK banks by collecting and analyzing panel data from five well-known banks from 2003 to 2012. A quantitative research approach is applied to the study, and secondary financial data is analyzed using T-tests for all five UK banks. ROCE, ROA, LIQUIDITY, GEARING, ROSHF, and PBFIT are measured to determine the profitability performance of UK banks. The effect of capital adequacy, managerial efficiency, bank size, earning quality, loan performance, asset quality, and liquidity is also explained to have a better understanding of the profitability measures of the banks. The empirical results indicate that macroeconomic and microeconomic factors were the leading causes of the financial crisis after the US subprime mortgage in 2007. Secondary data is collected from different sources, including the banks' annual reports, and analyzed using descriptive statistics on the profitability of the five UK banks. T-tests are applied to have thorough information about the profitability performance of the banks. The data collected is from reliable sources, and efforts are made to minimize the risk of prejudice. The strategies used by the banks did little to prevent the losses, and effective policies must be adopted to avoid unexpected events such as financial crises in the future. The UK banking sector is severely affected by the financial crisis, and the main reasons for that are the irregularities within the banks and the greediness of the banks' management. The management bodies of the banks must endeavor to reinforce the recognized important factors, and government bodies should review the adopted policies to provide a safer financial environment to the banks.

Keywords: Financial Crises, Profitability and Banks

Introduction

Background of Research

Since the immense economic melancholy experienced in the US in 1940, the banks' profitability has been given outstanding consideration. As of the US subprime mortgage crisis, which took place in 2007, enormous losses were incurred by the banking sectors of many developed countries. The financial crisis mainly influenced the EU and the US. The growth of the global economy has slowed down due to the financial crisis until recently. The financial crisis had significant effects on the UK and US economies. The effects of the financial crisis were also felt in Asia, but the banking sectors did not incur any severe losses compared to UK and US banks.

The banking sector is the central part of the financial institutions in the UK and anywhere else and is essential in contributing to a state's financial system. Plus, if the banking industry does not live up to the Standard and shows poor performance, it may significantly affect the economy. The recent financial crisis shows that banks' profitability is significant nationally and globally and must be monitored at all times so that fewer losses are incurred in case of any unexpected event. It is also generally agreed that internal and external factors are the main factors that influence banks' profitability. The recent global financial crisis is believed to be caused by massive default on sub-prime mortgages, high leverage, fault in regulation, short-term funding, not managing the risk effectively, and many other factors about the banking industry in the USA.

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According to the Seventh report of session 2008-2009 published by the treasury committee of the UK, the beginning of the banking crisis is said to be numerous and different, including low real interest rates, a search for yield, evident surplus liquidity as well as lost confidence in financial modernism. These elements form an atmosphere well-off in over-confidence, over-optimism, and the boiling of conflicting views. The culture in fractions of British banking has progressively been one of risk attractive, pushing to the collapse that has been perceived. Bankers have prepared an astounding disorder of the financial system. This disaster was not merely in personal banks but also in the supervisory system intended to look after the community from systematic risk.

Statement of Problem

The current study aims to analyze the impact of the financial crisis on the profitability of UK banks from 2003 to 2012 to investigate how the financial crisis influenced the profitability of UK banks. In addition, it explores the causes of the financial crisis and discusses the strategies adopted by the banks pre and post-financial crisis. An attempt has been made to explore the determinants of the banks so that a thorough investigation can occur. Capital adequacy, asset quality, liquidity, bank size, managerial efficiency, earning quality, and loan performance are examined to discuss their influence on the banks' profitability measured by Return of capital employed, Profit before interest and tax, and return on asset. Descriptive statistics and t-tests are used to quantitatively examine the profitability of the chosen UK banks in the financial crisis.

Rationale of Research

This research will focus on the financial crisis's impact on UK banks' profitability. The research aims to investigate to what extent the banks' profitability is affected by the financial crisis. Many scholars argue that no particular victim is held accountable for the financial crisis. Macroeconomic and microeconomic factors caused the financial crisis. However, many other factors directly or indirectly caused the financial crisis. This research attempts to explore the causes of the financial crisis and how the profitability of the UK banks was affected by the crisis.

Research Questions

The following research questions are used as guidelines for the research work.

- 1 What impact did the financial crisis have on the profitability of the UK banks?
- 2 What are the leading causes of the financial crisis?
- 3 What are the determinants of the profitability of the banks?
- 4 What strategies are adopted during the financial crisis?

Objectives and Aim of the Study

The foremost aim of the study is to measure the impact of the financial crisis on the profitability of UK banks. Precisely, this study discourses the below objectives;

- To define the causes of the financial crisis
- To explore the determinants of the Profitability of UK banks
- To explore how financial crisis impacts the profitability of the UK banks
- To examine the significance of the preventive measures taken by banks during financial crisis
- To investigate the strategies adopted by banks during the financial crisis

Research Philosophies

Positivism is the best basis for conducting quantitative and data collection tools through T-tests in terms of the financial crisis, the profitability of the banks, and the comparison of the bank's profitability. The requirement of the current research is the study, which presents the positivism paradigm as it stands on facts. The key features of the positivism approach are presented in Table 1 below:

Table: 1(Ramanathan 2008)

Positivism	
The observer	Ought to be independent
Human interest	Must be irrelevant
Explanations	Must demonstrate causality
Research progress through	Hypotheses and deductions
Concepts	Should be operationalized for measurement
Units of analysis	Needs to be condensed to the easiest terms
Generalisation through	Statistical probability
Sampling requires	Randomly selected a great number

Research Design

The two broad methods referred to in research are deductive and inductive approaches. Deductive reasoning works from the very general to the very specific. According to Reyes (2004), the deductive approach extends the existing literature on the subject. Grattan and Jones (2004) believe that deductive reasoning may be the safest path to follow in the research since it gives the exact results and guarantees it. The deductive approach is sometimes casually named a “top-down” approach.

The inductive approach functions differently, from exact explanations to common generalizations and theories. Inductive research needs more resources and time since theories are gradually needed to collect data (Grattan & Jones, 2004). Saunders' et al. (2007) opinion shows that inductive theory is risky. It involves a degree of uncertainty. This approach is sometimes called a "bottom-up" approach; a deductive approach will be employed for this research. The deductive approach works from very general to very specific. For the profitability analysis of the bank, the theories regarding the determinants of profitability will be worked out, and then they will be related to the real event. For instance, factors for the banks' profitability, such as capital adequacy, asset quality, liquidity, size of the bank, and earning quality, are established throughout the research and can be analyzed during a learning relationship between theories and events.

The central part of this section is the research design. Research design is considered a framework that assists in collecting and analyzing the data. Bell and Bryman (2007) state that research design is the glue that holds research projects together so that central research questions are answered. Consequently, research design has a vital role that must be employed in this research. It is essential to choose a specific research design related to the timeline, degree of knowledge, and all other data variables.

Research Methods

The quantitative method used in this research depends on numbers and data. Secondary data is collected from the published data of the companies; the primary sources of data collection were FAME and banks' annual reports, based on which the researcher was able to conduct the research. Quantitative data analysis can take place both manually and on a computer basis. It primarily depends on the amount of data and the types and number of analyses to decide which approach to use. The quantitative data analysis that will be undertaken will use descriptive statistics and t-tests. It is important to know the characteristics of the descriptive statistics and t-tests.

Return on Capital Employed

A measure of the returns that a company is attaining from the capital employed is known as ROCE. ROCE is typically stated in percentage terms. Capital employed equals a firm's equity plus Non-current liabilities. ROCE shows the competence and profitability of a company's capital investments. ROCE needs to be greater than the rate at which the firm borrows, or any rise in borrowing may decrease shareholders' earnings. Superior to the rate at which the corporation is borrowing is a good enough ROCE.

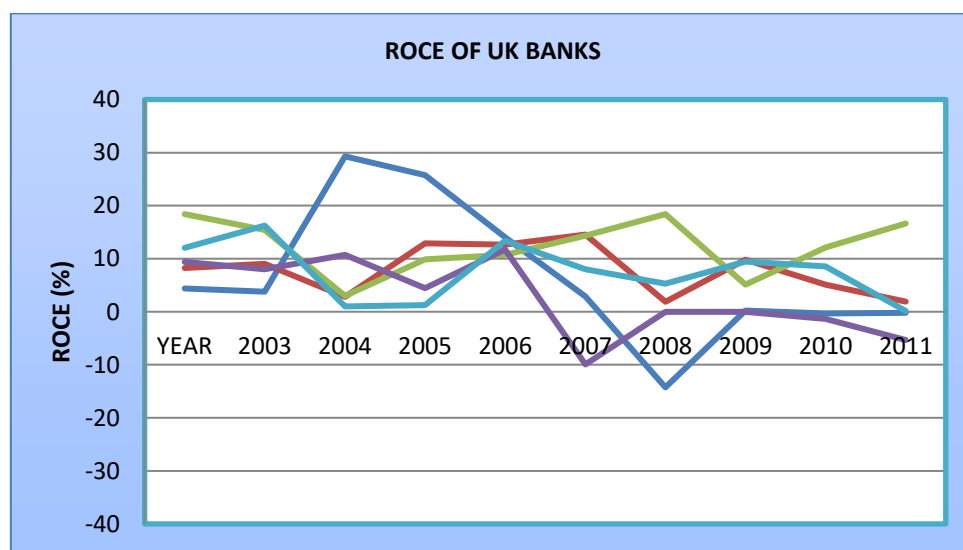


Figure 1: ROCE of UK Banks

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

The return on capital employed by the five central UK banks was steady, and from 2003 to 2008, in no year was there a loss reaching into capital. The subsequent next year's income absorbed loan losses. In 2008, due to financial instability or, in other words, the Eurozone financial crisis, RBS was affected severely and witnessed a significant loss of capital before the government bailed it out in December 2009. The post-crisis ROCE ratio of Lloyds and RBS banks are adversely affected; HSBC, Standard Chartered, and Barclays banks have, to some extent, consistent performance.

In 2009, Barclay's ROCE decreased from 7.98% to 5.28%. This is because the non-cash impairment charges and other credit provisions increased considerably in 2009. 2008 Barclay's ROCE was 7.98% better than in 2009 but was very poor compared to 13.36% in 2007. This was due to the profit before tax, down by 14% in 2008% compared to 2007. In 2009, Lloyds ROCE dropped a record low of -14.25 from 2.85% in 2008. Lloyds and RBS were harshly affected by the financial crisis, and both banks saw very low returns on their capital from 2009 to 2012. Standard Chartered and HSBC had year-to-year improved results, and Barclays was consistent in its returns on capital until it saw a decrease in 2012.

Using 95% significance and a hypothesized mean of zero, two Sample T-tests on ROCE are examined, and the outcome of the two Sample T-tests assuming unequal variance is presented below in Table 2.

Table 2: t-Test: Two-Sample Assuming Unequal Variances

	<i>Pre-crisis</i>	<i>Post-crisis</i>
Mean	10.738	4.118
Variance	1.27917	2.53742
Observations	5	5
Hypothesized Mean Difference	95	
Df	7	
t Stat	-101.1582355	
P(T<=t) one-tail	1.21566E-12	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	2.43132E-12	
t Critical two-tail	2.364624252	

(Self-extracted; source: FAME and financial reports of all five banks)

The above table shows that with 95% significance and ROCE means of 10.738 compared to the post-crisis of 4.118 of 2008-2012 and one tail P-value of 101.1582355, which is less than 5%, meaning that the difference between the performances for the period is statistically significant. Therefore, the null hypothesis must be rejected. Moreover, looking at the T-statistic, it can be understood that the difference between the pre and post-crisis performance period is not likely to be zero because the T-test of the ROCE is greater than zero. To have a conclusion for the examination output of the T-test on ROCE of UK banks, it can be said clearly that the performance of the banks in the pre-crisis and post-crisis scenarios is higher than the post-crisis scenario.

Profit before Interest and Tax

Profit before interest and tax (PBIT) is net income, operating profits, or operating earnings. The calculation can be done by taking business earnings and subtracting business expenses. The amount left over, PBIT, can then be used to analyze business profitability.

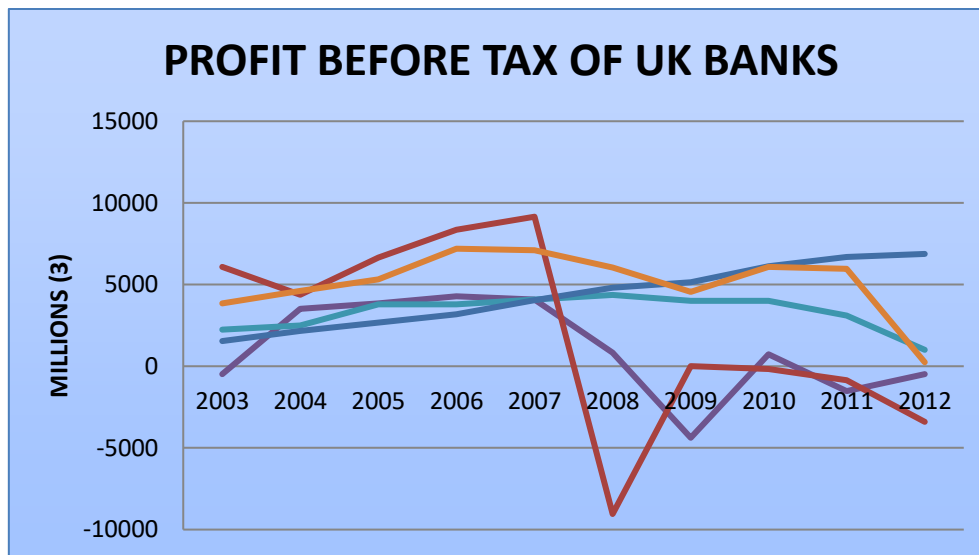


Figure 2: Profit before Tax of the UK Banks

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

The performance of all five UK banks from 2003 to 2005 was consistent and satisfactory. All five banks delivered improved results. In 2006, RBS was the only major bank to report a substantial rise in PBIT. It reported a pre-tax profit of £8354million, 16% up on the previous year. Barclays announced a 35% rise in pre-tax profits to £7197million for 2006, while Lloyds profits were up 11% to £4,282million; Standard Chartered bank's profit before interest and tax rose by 3.9% to £3178 in 2006. Market turmoil significantly affected the 2008 financial results, with profit before tax and interest falling at all five banks. The Royal Bank of Scotland has incurred significant losses. Royal Bank of Scotland saw the most considerable reduction in profit before tax and interest with a decrease of 9,045million. HSBC reported a profit before tax and interest of 4,366 million (up by 285 million). Lloyd's TSB suffered a heavy profit reduction before tax and interest from £4,089 to £825 million. Lloyd's TSB reported a year-to-year decline in profit before tax and interest by 79.8 percent for the year ended December 2008. The reduction in profit was mainly driven by an increase in impairment by £ 1,216 million and market allocation of £ 1,270 million, as well as an increase in insurance and policyholder interest volatility losses of £ 720 million. Standard Chartered Bank's pre-tax profit was 19% up compared with a year earlier.

Royal Bank of Scotland reduced its losses from 2008 marginally, and some other measures were also taken by the Bank of England, which improved its profitability in 2009. Standard Chartered Bank's profits also improved as the bank provided improved performance with no noteworthy one-off items. After removing fair value movements on their kindness write-offs in 2008, HSBC's profits enlarged year-on-year. Barclays also presented a robust increase year-on-year driven by the results of Barclay capital that made a profit before tax and interest of £ 2.5 billion compared to a loss of £ 1.0 billion in 2008. The £ 11.2 billion accounting gains vitally slant Lloyds' numbers due to obtaining HBOS for less than fair value. On a like-for-like basis, Lloyds enthused from a profit in 2008 to a loss in 2009, mainly owing to the massive increase in credit losses in the legacy HBOS wholesale book.

The Eurozone's financial crisis influenced their exposure to Ireland (Lloyds and RBS) and Spain (Barclays). However, overall profit before interest and tax has improved year-on-year, with HSBC, Standard Chartered Bank, and Barclays posting higher profits than in 2009. Royal Bank of Scotland and Lloyds are reporting a return to profitability. HSBC, Lloyds, and Standard Chartered witnessed a significant drop in impairment, resulting in improved profitability. HSBC and Standard Chartered are exposed to the Asian economies and continue outperforming others.

Standard Chartered and HSBC delivered improved results, as did Barclays in 2011. Lloyds TSB and RBS delivered reduced profits, primarily driven by margin reductions and performance slump in investment banking, respectively. 2012 Standard Chartered Bank's profit before interest and tax increased 1.5 percent from 2011. HSBC reported a reduction in its profit before interest and tax in 2012. The total credit impairment charges on loans for Barclays, RBS, Lloyds TSB, and HSBC have dropped by £6.9 billion, while only Standard Chartered has seen an increase. HSBC, Barclays, and Standard Chartered posted a profit, whereas RBS and Lloyds TSB reported a loss.

A T-test with a sample assuming unequal variances is conducted for the profit before interest and tax and the results are presented in Table 3 below.

Table 3: t-Test: Two-Sample Assuming Unequal Variances

	<i>Pre-crisis</i>	<i>Post-crisis</i>
Mean	4317.76	2028.76
Variance	1645237	997818.9
Observations	5	5
Hypothesized Mean Difference	95	
Df	8	
t Stat	3.017647	
P(T<=t) one-tail	0.008309	
t Critical one-tail	1.859548	
P(T<=t) two-tail	0.016619	
t Critical two-tail	2.306004	

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

Regarding profit before interest and tax ratio, it shows that banks had better performance in pre-crisis (2003-2007) than post-crisis (2008-2012). The mean for a profit before interest and tax pre-crisis is 4317.76 compared to the post-crisis (2008-2012), which is 2028.76. the P-value for Profit before interest and tax is 0.008309, so the differences for the pre and post-crisis periods are statistically significant as the P-value is below 5%, and the null hypothesis is therefore rejected, which gives the conclusion that profitability worsened during 2008-2012. Banks significantly progressed in profitability during 2003-2008.

Return on Shareholders’ Funds

Return on shareholders' funds is one of the ratios of the total profitability group that shows a company's profitability in connection to the funds delivered by the shareholders or owners. From the owner's point of view, this ratio is very significant; as it helps the company distinguish whether it has earned sufficient returns to pay back its shareholders.

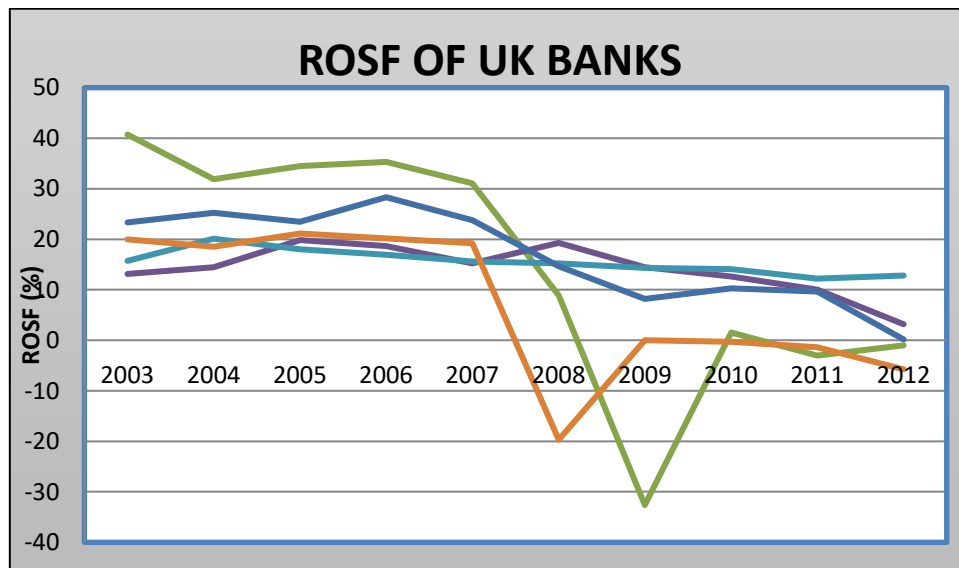


Figure 3: ROSF of UK Banks

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

Pre-crisis data indicates that all five major banks have delivered very well, and a significant consistency in performance can be seen in the figure. All five major banks were delivering to the expectations of the shareholders.

RBS and Lloyds were the only banks with consistently strong returns on shareholders' funds, but a decline in ROSHF had been seen during the financial crisis of 2008-2009. All financial institutions were directly or indirectly affected by the financial crisis; among the five major banks, RBS and Lloyds were affected to a greater extent. To overcome the crisis, RBS has taken the initiative to reduce costs; its cost-to-income ratio has decreased by 9.1 percent. Lloyds also had to reduce its costs to 1.8 percent. To improve its performance, both banks had to take specific measures, but none of them have been able to overcome the crisis so far.

The above graph shows a decrease in the return on shareholders' funds for all banks in 2011-2012. Lloyds reported a considerable decrease in its return on shareholders' funds from 2010. Barclays reported a lower return on average shareholders' funds from 7.2% in 2010 to 5.8% due to worsening macroeconomic conditions and significant one-off charges. RBS shareholders' return reduced from 13.3% in 2010 to 10.5% in 2011, with performance in the second half of the year having a particularly negative impact. HSBC's performance was to the level, and Standard Chartered reported a decrease in normalized return on shareholders' funds of 12.2% from 14.1%. From 2011, RBS, Lloyds, HSBC, and Barclays have committed by Project Merlin deal to sustain recent gross lending of £190billion to UK Companies that should be creditworthy.

To provide a clear image of the performance on the return on shareholders' funds, a two-sample T-test assuming unequal variances has been examined, presented in Table 4 Below.

Table 4 : t-Test: Two-Sample Assuming Unequal Variances

	<i>Pre-crisis</i>	<i>Post-crisis</i>
Mean	22.564	4.702
Variance	1.27823	10.19712
Observations	5	5
Hypothesized Mean Difference	95	
Df	5	
t Stat	-50.9179	
P(T<=t) one-tail	2.76E-08	
t Critical one-tail	2.015048	
P(T<=t) two-tail	5.52E-08	
t Critical two-tail	2.570582	

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

Due to the financial crisis, the return on shareholders' funds has fallen significantly. The mean for the pre-crisis and post-crisis, 22.564 and 4.702, respectively, show that Return on Shareholders' Funds have been stable and steady in pre-crisis (2003-2007) situations compared to the post-crisis (2008-2012) in terms of ROSHF, so with p-value being 2.76 the difference is statistically significant. Thus, the null hypothesis for the two periods is rejected, concluding that the return on shareholders' funds has been exacerbated post-crisis.

Gearing Ratio

The gearing ratio relates several measures of owner's equity to borrowed funds. In financial terms, gearing compares the amount of a company's undertakings backed by borrowed funds to the owner's funds. The gearing ratio also measures a company's financial leverage or risk. It is the secondary measure of the firm's business risk. The gearing ratio measures the quantity of the company's debt to equity. The gearing ratio also measures the volatility of the business company. Financial gearing measures the risk of the firm not receiving interest payments on its debt and other fixed costs, such as lease payments. The firm may have too ample debt or too little cash flow if it has to tussle to have sufficient cash to pay its interest payments on debt and other fixed costs like lease payments.

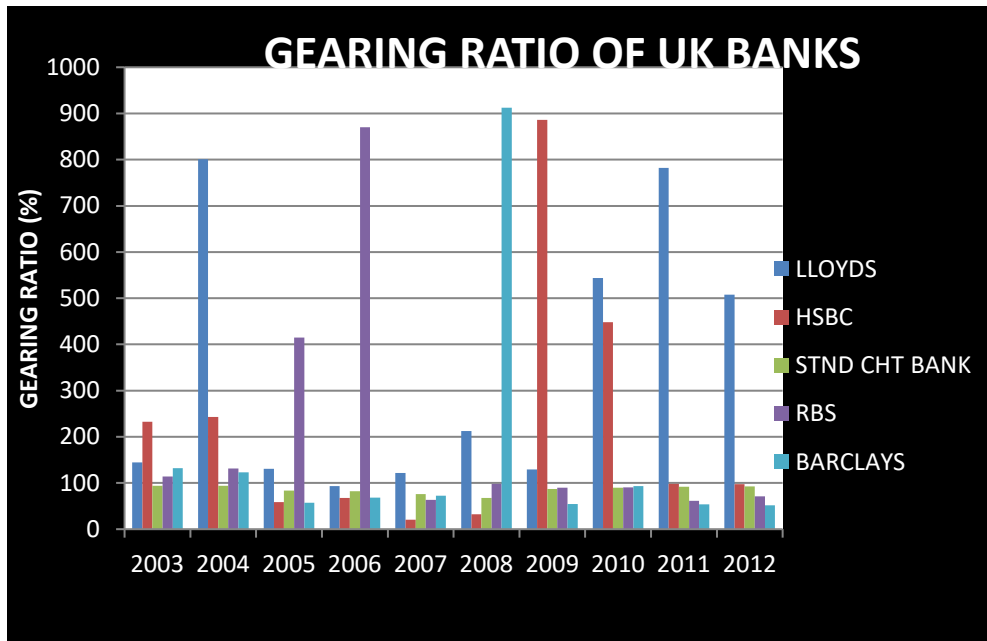


Figure 4: Gearing ratio of UK Bank

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

In 2003-2004, all central UK banks except Standard Chartered were highly geared, meaning that these banks had more debts than equity. In 2005-2006, a decrease was seen in all banks except RBS, increasing its gearing from 415% to 870.43%. The gearing of Lloyds TSB bank has decreased from 121.8% in 2007 to 782.35% in 2011; Barclays bank's gearing has reduced from 912.12% in 2008 to just 53.09% after three years, which means Barclays bank has used less debt in its capital structure, which shows that Barclays bank has less financial risk than Royal Bank of Scotland which is severely affected by the financial crisis. The gearing ratios of the top five UK banks from 2007 to 2012 show that during the financial crisis, the ratios have increased, as seen in the figure above. The figures show that all banks except Royal Bank of Scotland and Barclays Bank have 10-12 times more debt than their equity.

To obtain thorough information about the gearing ratio of the performance of UK banks' pre- and post-financial crisis, two Sample T-tests assuming unequal variance were performed. The outcome is presented in Table 5 below.

Table 5: t-Test: Two-Sample Assuming Unequal Variances

	Pre-crisis	Post-crisis
Mean	175.61	229.664
Variance	6744.593	1648.18
Observations	5	5
Hypothesized Mean Difference	95	
Df	6	
t Stat	-3.63811	
P(T<=t) one-tail	0.00543	
t Critical one-tail	1.94318	
P(T<=t) two-tail	0.010859	
t Critical two-tail	2.446912	

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

The above table shows that 95% statically significance is taken into consideration, which indicates that the pre-crisis (2003-2007) gearing mean of 175.61 compared to 229.664 of the post-crisis, tells us that pre-crisis performance had a low-risk level compared to the post-crisis scenario. One tail P-value is 0.00543, which is not

bigger than or equal to 5%, indicating no dissimilarity between the two periods, with a null hypothesis in the context of the gearing being rejected. In addition, total T-statistics superior to zero, which is 2.446912, shows that the difference between the Pre and post-financial crisis performance is not likely to be zero (0). To conclude the examination of the T-test on the gearing of pre and post-financial crisis performance of the UK banks, the post-crisis period is adequately high compared to the pre-crisis gearing.

Liquidity Ratio

Liquidity is buying or selling an asset or security in the market without influencing the asset's price. It is categorized by a far above-the-ground level of trading movement. Those assets which may be sold or bought are recognized as liquid assets. Many see liquidity as the trustworthy source of the financial crisis, where a lack of liquidity risk management functioned collectively to intensify exertions caused by credit losses. Due to the interconnectedness of markets, it rapidly infected all markets.

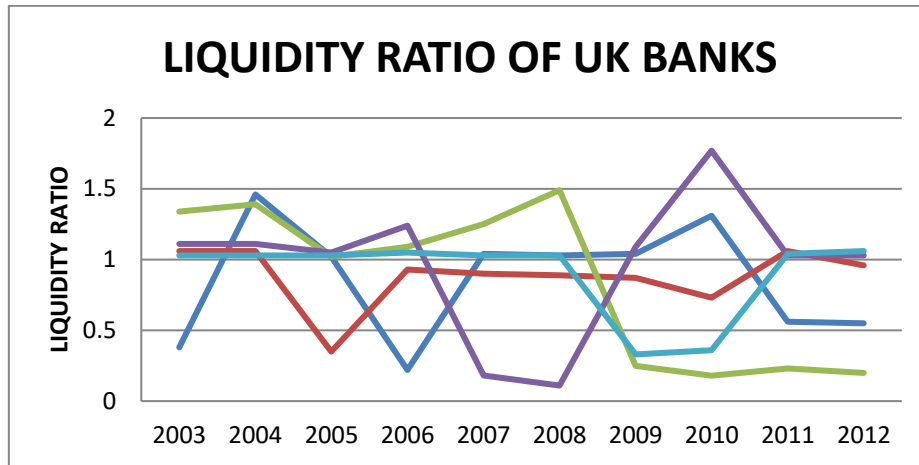


Figure 5: Liquidity ratio of UK Banks

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

Most UK banks' pre-crisis performance was healthy, except Lloyds had trouble with its liquidity in 2003. Barclays Bank is the only bank that has posted a healthy short-term position during the six years. HSBC bank remained liquid in standard and stress conditions but not in 2007, 2008, and 2010. However, the other three banks, RBS, Lloyds TSB, and Standard Chartered, did not uphold adequate short-term liquidity positions under normal conditions or stress scenarios. The success of the Barclays bank was due to its holding of billions in cash with central banks and loans from other banks. Lloyds TSB's total liquid assets seldom surpassed half of its total cash outflow; as an effect, it continued to be illiquid.

HSBC's total cash outflows were restricted, helping it continue liquid in normal conditions in 2008 when the UK economy confronted a sharp recession. RBS experienced serious short-term liquidity glitches, too, during the same period. Its total cash outflows were £548 billion in 2010, but the normal value of the liquid asset was just £150 billion. Standard Chartered Bank had unevenly the exact size of cash flows as HSBC bank, but its size of high-quality liquid assets was less than 31% of the size of HSBC's, so it caused the bank to continue illiquid in both normal and stress conditions.

Two Sample T-tests on liquidity are examined, and the two-sample T-test's outcomes assuming unequal variance are presented in Table 6.

Table 6: t-Test: Two-Sample Assuming Unequal Variances

	<i>Pre-crisis</i>	<i>Post-crisis</i>
Mean	0.974	0.836
Variance	0.01893	0.00403
Observations	5	5
Hypothesized Mean Difference	95	
Df	6	

t Stat	-1399.881703	
P(T<=t) one-tail	4.48459E-18	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	8.96917E-18	
t Critical two-tail	2.446911851	

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

As a result of the financial crisis, liquidity levels have been falling. The means for the pre-crisis (2003-2007) and post-crisis (2008-2012) are 0.974, while for the post-crisis, 2008-2012 is 0.836. this shows that banks have been more liquid in pre-crisis (2003-2007) compared to post-crisis (2008-2012) in terms of liquidity; therefore, with the P-value being 4.48459, the differences are statistically significant, so the null hypothesis of equality for the two different periods is rejected. Looking at the T-statistic, it can be understood that the difference between the pre and post-crisis performance period is not likely to be zero because the T-statistics of the liquidity is greater than zero.

Return on Assets

Return on asset (ROA) shows how much profit a firm earns compared to its total assets. The value of return on asset differs from company and industry. In common, the higher the value, the better a company or industry is. ROA is a vital indicator of a firm's asset intensity. A low ROA ratio means a firm is more asset-intensive, and a more asset-intensive firm requires more money to develop and generate revenue. Investors can assess a firm's financial strength and efficiency using the return on asset ratio. It is also important for the firm's management to measure its performance against market competitors and planned business goals.

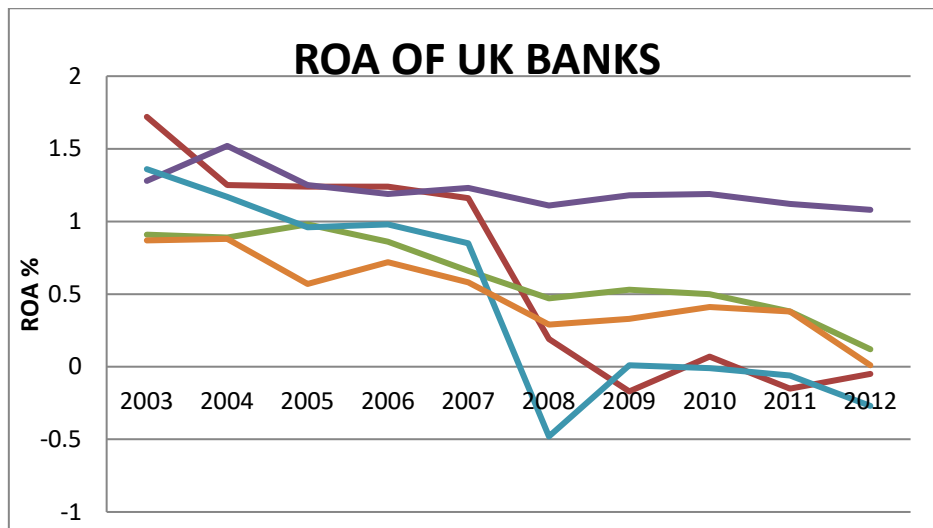


Figure 6: ROA of UK Bank

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

All major banks in the pre-crisis scenario were delivering to the expectations. Lloyds TSB, Barclays Bank, and Standard Chartered were living up to expectations in 2003 and 2004, but all major banks observed a slight decrease in their return on asset performance in 2005 and 2006. The post-crisis scenario is ugly for all major banks, notably Royal Bank of Scotland and Lloyds TSB. Core results in terms of statutory results: HSBC and Barclays posted a profit compared to Lloyds TSB and Royal Bank of Scotland, which reported a loss. For all the major banks, cost control has still been a priority.

In order to compare the pre and post-crisis performance of the UK banks in terms of ROA, a T-test assuming unequal variances is examined. The results are in Table 7.

Table 7: t-Test: Two-Sample Assuming Unequal Variances

	Pre-crisis	Post-crisis
Mean	1.05	0.328

Variance	0.01805	0.00877
Observations	5	5
Hypothesized Mean Difference	95	
Df	7	
t Stat	-1287.259117	
P(T<=t) one-tail	2.25464E-20	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	4.50928E-20	
t Critical two-tail	2.364624252	

(Self-extracted; source: Fame and 10 years financial reports of all five banks)

Concerning Profitability, ROA indicates banks performed better in 2003-2007, which was pre-crisis. The mean for ROA was 1.05 in 2003-2007 compared to 0.328 in 2008-2012. The conducted T-test shows that the ROA mean is higher, with 95% significance. The P-value for ROA is 2.25464. Thus, the difference between the performances for the period is statistically significant as the P-value for ROA is below 5%. Therefore, the null hypothesis should be rejected, leading to the conclusion that profitability deteriorated in 2008-2012. Furthermore, the overall T-statistic shows 2.36462452, which is greater than zero (0), and authenticates that the difference between Pre and Post-crisis banks' performance is not likely to be equal to zero.

Looking at the results of the student T-tests conducted, the financial crisis has been influencing all financial institutions in and around the UK. To a greater extent, the UK banking sector is influenced, too; the T-tests conducted show that statistically significant differences were seen in the overall performance of the UK banks. The differences were observed in the UK banks' Profitability and liquidity performances during the two periods. The reason behind the poor performance of UK banks during the financial crisis was that they had direct exposure to subprime mortgage markets.

Conclusion

We examined how UK banks did during the financial crisis from 2003 to 2012. By gathering and studying data from several sources, we were able to provide a clear picture of how the UK banks did during the financial crisis. Descriptive statistics and T-tests were used to gain detailed information about UK banks' profitability. In addition to the gearing ratio and profitability, we also looked at ROCE, PBIT, ROSHF, and liquidity ratios. We used T-tests on all the ratios and found that the banks' overall performance got worse during the financial crisis of 2008–2012, which was better before the crisis. There were also significant differences in profitability performance between 2003 and 2007 and the years after the crisis, from 2008 to 2012. The main reasons for lower profits are the direct effects of subprime mortgages on UK banks, higher operating costs, and the institutions' low-income levels during the global financial crisis.

Recommendations

The current paper has explored many questions that can be beneficial for future research. Five banks are chosen without considering the banks' size. The number of banks may be increased, or the size can be stated in future research, making the research more meaningful and authentic. Many other factors can also be considered to justify the impact of the financial crisis on the profitability of UK banks, such as inflation, monetary policy, and efficiency. Only a few factors or causes of the financial crisis and their impact on the Profitability of UK banks are used in this research, realizing that these were insufficient and for more precise results, more factors need to be considered in future research. For the impact of the financial crisis on the profitability of the UK banks, only descriptive statistics and T-tests were applied; it would be better to use different statistical tools to compare UK banks' profitability during the financial crisis. The overall profitability of the UK banks is explored from 2003 to 2012; it is believed that the financial crisis will continue beyond 2012, so it is recommended that the researcher discuss the recovery period for future research.

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Conflict of Interest

The authors affirm that no conflicts of interest are linked with this publication. The research was conducted autonomously without financial or non-financial assistance from external entities.

Author Contribution Statement

The author developed the study, formulated the methodology, executed the investigation and data analysis, draughter the original manuscript, and conducted the review and editing of the document. The author independently conducted all facets of the research and manuscript development.

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