The Influence of Credit Risk Management Strategies on the Performance of Commercial Banks: A Comparative Case Study of UAE and UK Commercial Banks

Abstract

This study undertakes a comparative investigation of the influence and adoption of credit risk management strategy on the performance of commercial banks in the United Arab Emirates (UAE) and the United Kingdom (UK). The research assesses the uses and approaches to credit risk management in the UAE in comparison to the UK, beginning with a thematic literature review that identified key theories, strategies and principles of the extant credit risk assessment literature, whilst contextualising the distinctiveness of Islamic banking.

Adopting a deductive ontological and positivist epistemological position, the research prioritised an 'action research' design that used both quantitative and qualitative data within a mixed methods research design. Using non-probability convenience sampling, primary data was first collected from 100 middle-level bank managers (50 managers from the UK and 50 managers from the UAE) by means of a self-administered questionnaire. Qualitative data was subsequently collected from 20 top managers (10 managers from Emirati banks and 10 managers from UK banks) through semi-structured interviews. From the analysis of this data, 18 key variables were identified and defined across three categories: credit risk management strategies, factors influencing risk management and commercial bank profitability.

This research contributed to the limited literature on credit risk management in conventional versus Islamic banks, and the research findings present a novel comparative analysis of the differences between UK commercial banks and Emirati financial institutions and two key differences were identified. First, the results showed that Emiratis banks prioritised financial statement analysis and credit score analysis in their credit risk management, while UK banks prioritised credit portfolio models and exposure limits. Second, in respect to organisational profitability, the Emirati banks implementing creditworthiness analysis and internal ratings to measure their potential credit risks achieve higher returns on equity, compared to those in the UK who use stress testing and exposure limits. The research has policy implications for Emirati financial institutions, such as the exploration and adoption of more profitable risk management strategies and assessment techniques and also provides valuable information to researchers who are interested in understanding the role of credit risk management in organisational profitability in both the conventional and Islamic banking sector.

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List of Abbreviations

CAR	Capital Adequacy Ratio
CDS	Credit Default Swap
CPM	Credit Portfolio Models
CSA	Credit Score Analysis
CWA	Credit Worthiness Analysis
EXP	Exposure Limit
FSA	Financial Statement Analysis
GDP	Gross Domestic Product
IMF	International Monetary Fund
INS	Inspection by Branch Manager
INT	Internal Ratings
NPLR	Non-Performing Loan Ratio
ROA	Return on Assets
ROE	Return on Equity
RRM	Risk Rating Method
STR	Stress Testing
UAE	United Arab Emirates
UK	United Kingdom

Chapter 1: Introduction

1.1. Topic and Background Information

This study is a comparative study of the influence and adoption of credit risk management strategy on the performance of commercial banks in the UAE and the UK. Credit risk management is one of the most important factors in modern business management and it is particularly relevant in the financial sector where credit risk is one of the main factors influencing the revenue of banks and financial institutions (Waemustafa and Sukri, 2015). The concept of risk is the potential for an uncertain event to occur and have an adverse effect on an organisation's ability to achieve its objectives (Aven, 2016). For banks, lending to consumers, risk is a double-edged sword as higher risk consumers offer higher returns, and vice versa for low risk consumers (Chen at al., 2016). In the context of credit risk, uncertain events refer to the potential for a debtor, such as an individual who has taken out a loan or mortgage, being unable to repay the debt (Waemustafa and Sukri, 2015). To reduce levels of risk, organisations engage in a process of risk management, which involves identifying the loss exposure from a range of events varying in probability and developing techniques to either reduce the likelihood of the events and/or reduce the organisation's overall level of exposure to the risk(s) (Aven, 2016). Risk management is therefore an extensive topic and covers a wide array of the organisational activities of banks.

In the financial sector, risk management is pursued in a very specific manner, based on the combination of risks faced by any given bank. Unfortunately, evidence indicates that many financial institutions struggle to manage the variety of risks and factors that can impact them (Lambert and Cooper, 2000). This is particularly relevant to the field of credit risk, where banks can struggle to understand the risks associated with a given loan or investment, as well as the overall levels of credit risk in their portfolios (Alshatti, 2015). Such an issue is concerning given that ineffective credit risk assessment strategies can have major negative impacts on the business performance of any given financial institution, even leading to liquidity issues (Epure and Lafuente, 2015). The same situation has happened in my organisation, where due to lack of understanding of variety of risks associated with loan and investment made as well as overall levels of credit risk in our portfolios put us in a crunching liquidity situation. Being a banker and having 14 years financial institution experience, I have gone through various ineffective credit risk assessment strategies, which had major negative

impacts on our business performance. However, recently my branch has gone through a major setback when three of our major customers (two “A” grade and one “A+” grade) became bankrupt. Being an assistant branch manager when I investigated the matter, it was deducted that our regional risk management department was relying completely on our risk assessment methods (Inspection by Branch Manager, Financial Statement Analysis, and Internal Ratings) without having any specialized risk assessment tools and techniques to measure the reliability and validity of the assessment made by branches. This scenario persuaded me to analyse the credit risk assessment strategies other financial institutions are utilizing to assess, analysis, mitigate and control credit risk.

The awareness of the impact of credit risk management failures has been increased by the financial crisis of 2007/08 and the associated credit losses incurred by almost all major financial services institutions (Blundell-Wignall et al, 2008). It provides a rationale for the importance of this study to analyse credit risk management strategies and their impact on the financial performance of commercial banks.

To contribute to the extant literature and provide additional insight on the role of risk management in banking performance, this thesis undertakes a comparative study of the risk assessment strategies used in the UK and UAE banking systems. The thesis undertakes a comparative assessment of culturally distinct countries since risk management strategies can be influenced by national and cultural factors (Li et al., 2013; Abdou et al., 2014). For this project, the UAE was chosen because it represents a financial centre where both conventional and Islamic banking systems operate side by side. This is important as “the Islamic system places equal emphasis on the ethical, moral, social, and religious dimensions, to enhance equality and fairness for the good of society as a whole”, whilst western banking systems place limited emphasis on these dimensions (Iqbal, 1997, p. 42). Islamic banking differs from conventional banking in that Islamic banks cannot charge interest or usury on loans and investments, thus influencing risk management strategies. As a comparison, the UK was selected as one of the leading financial epicentres of the financial markets, and as a very developed and mature market (Aizenman et al., 2016). Additionally, the UK and UAE have been shown to be culturally distinct contexts (Rees-Caldwell and Pinnington, 2013), which is important since maximising the diversity along the countries in the sample allowed the researcher to explore the scope of the phenomenon by studying the generality of the findings

(Ember and Ember, 2009). Further, more markets were not added as it would have diluted and limited the comparative analysis of the research (Ember and Ember, 2009).

1.2. Problem Statement

The existing literature on risk management is predominantly focused on its role in organisational performance (Gakure et al., 2012). Most projects in the risk management field have been aimed at the nomenclature of systematic risk management, paying close attention to areas such as risk assessment, risk analysis, risk mitigation and risk control (Idode et al., 2014). Risk management in the banking sector is particularly important as commercial banks bear significant financial risks associated with their business operations (Bouteille and Coogan-Pushner, 2012). This study focuses exclusively on credit risk as it is considered by many scholars and researchers as the greatest threat to stability of financial institutions (Gill et al., 2011; Carling et al., 2007). Boahene et al. (2012) argue that ineffective credit risk management can lead to large financial losses and even to bankruptcy. Interestingly, credit risk management is still approached by some banks as a complementary activity (Abiola and Olausi, 2014), thus, the ability of banks to effectively identify, measure and mitigate credit risk is limited.

Commercial banks are among the institutions most significantly affected by credit risk (Ramachandran and Gavoury, 2011). It has been argued that this position is even more complicated for financial institutions operating in Islamic countries such as the UAE because of certain aspects of Islamic banking (Al-Tamimi, 2002). The main source of revenue for conventional banks is interest charged on lending operations, however, this principle is forbidden by the Islamic religious law, according to which debt securities are considered as Riba (Abdul-Majid et al., 2010; Hachicha and Amar, 2015). Differences between conventional banking and Islamic banking have impacted the way, in which credit risk is identified, measured and managed by traditional and Islamic banks (Beck et al., 2013). Nevertheless, there is a lack of evidence on this subject in the existing literature on credit risk (Hachicha and Amar, 2015). This study examines how credit risk management is used by Islamic and traditional commercial banks. For this purpose, Emirati commercial banks, which are subject to Islamic Banking law, are considered as target organisations and UK financial

institutions were selected to represent traditional commercial banks for the reasons previously discussed.

Credit risk assessment methods and techniques are well-covered in the extant body of scholarly and empirical literature (Carbo and Rodriguez, 2007; Bouteille and Coogan-Pushner, 2012). Inspections by branch managers, financial statement analysis, establishing standards, credit scoring and risk rating are among the most common strategies to assess credit risk in the banking sector (Gakure et al., 2012; Al-Tamimi and Al-Mazrooei, 2007; Abdelrahim, 2013). The impact of these methods on the organisational profitability of commercial banks has also been assessed (Hachicha and Amar, 2015). However, there is a profound absence in the existing literature of research on the current credit risk assessment strategies of banks in Islamic countries (Hilary and Hui, 2010). Islamic finance is a relatively new concept and it is still not clear whether there are significant differences between Islamic and conventional banking in terms of credit risk management (Aggarwal and Goodell, 2009; Di Mauro et al., 2013; Misman et al., 2015). Therefore, it is important to compare the current credit risk assessment strategies of conventional and Islamic banks to bridge the identified gap. This purpose is fulfilled by comparing Emirati commercial banks, which are subject to Islamic Banking law, with traditional UK financial institutions.

1.3. Study Rationale and Contribution

This study contributes to the existing body of the empirical literature on credit risk and its impact on organisational profitability in the banking sector in three main ways. First, too little empirical emphasis has been put on the comparison of Islamic and conventional banking in terms of credit risk assessment (Olamide et al., 2015) and indeed, only recently has research turned to examine the issue of risk within Islamic banking (Abedifar et al., 2015; Azmat et al., 2014). Furthermore, the extent to which credit risk assessment strategies influence the organisational performance of Islamic and traditional commercial banks is an important issue for examination and should also be further investigated and compared (Gill et al., 2011).

Second, the topic was selected in the context where the income and profitability levels of European financial institutions have continued to face significant challenges (Beck et al., 2013) as return on equity continues to decrease in many banks across European countries

(Hachicha and Amar, 2015). At the same time, the spread of Islamic banking globally and its further penetration in non-economic spheres of life (Abduh and Omar, 2012) and despite the most recent global financial crisis of 2007/08, Islamic finance is reported to remain strong and continue to grow globally (Cihak and Hesse, 2010; Azmat et al., 2015; Cerović et al., 2016). This makes it important to have a better understanding of how conventional and Islamic banking may be different or similar. The risk assessment models used by Emirati banks' managers may differ significantly from those adopted by their UK counterparts (Abdul-Majid et al., 2010) and this is one area of difference that makes it critical to evaluate whether the UK's experience of risk management in the financial sector is applicable and relatable to the UAE context.

Finally, from a practical perspective, further knowledge of the factors that drive credit risk makes it possible to develop and implement more effective credit risk assessment strategies at all levels of middle management decision-making, including formulation, evaluation, and implementation (Morris, 2001). The identification of the variables that underpin the credit risk assessment models of banks in the UK and the UAE plays an important role in this project (Boahene et al., 2012; Kolapo et al., 2012). The identified antecedents of credit risk in the UAE and the UK can be used to gain a better understanding of the differences and similarities in the credit risk assessment strategies adopted by both Emirati and UK commercial banks (Masood et al., 2012). Knowing these differences and similarities, it is possible to develop and implement more effective credit risk assessment strategies at all levels of middle management decision-making, including formulation, evaluation, and implementation (Morris, 2001).

1.4. Research Aim and Objectives

The primary aim of this study is to conduct a comparative study on the influence of credit risk management strategy on the performance of commercial banks in the UAE and the UK. A sample of 20 financial institutions were examined in total (10 U.A.E financial institutions and 10 UK financial institutions) to assess the impact of risk-based managerial decision-making on a bank's performance. The objectives of the thesis are as follows:

1. To critically review the principles and components of Islamic and traditional banking with specific reference to credit risk assessment;
2. To determine the most important variables that underpin the credit risk assessment models of banks in the UK and the UAE;
3. To identify the current credit risk assessment strategies of banks in the UK and the UAE at the formulation, evaluation and implementation levels of middle management decision-making;
4. To determine the extent to which credit risk assessment strategies and techniques and profitability are linked in UAE and UK banks; and.
5. To develop practical policy recommendations concerning the improvements to the current credit risk assessment strategies of banks operating in the UAE.

1.5. Research Approach

This research thesis was undertaken within the vein of action learning, which is a method of experiential learning in which a participant learns by way of doing and then reflects on what has been done (Revans, 2011). This is very important as a learning approach, since it allows the participant to develop skills that are vital for organisational flexibility, achieve key organisational tasks and outcomes, and bring in new and innovative ideas into the organisation (Revans, 2011). Action learning is effective because the participant has genuine responsibility, there is better transfer to learning to the job, and participants have to learn self-management (Revans, 2011).

Within this context, this thesis examines the influence of credit risk management strategies on the performance of commercial banks in the UAE and UK, adopting a deductive research approach based on a positivist epistemological position.

The thesis adopted a mixed-method research design. Self-administered questionnaires and semi-structured interviews were used as the principal methods of collecting the primary data (Easterby-Smith et al., 2008). The selection of these techniques was justified by their complementarity and the need to gain deep understanding of credit risk management practices and techniques employed by conventional and Islamic financial institutions through those engaged in the exact practices (Hachicha and Amar, 2015). The data collection process

followed two discrete steps. Firstly, quantitative data was collected from 100 middle-level managers (50 middle-level managers from the UAE-based banks and 50 middle-level managers from the UK-based banks) using a questionnaire. Secondly, qualitative data was gathered from 20 top managers (10 top managers from the UAE-based banks and 10 top managers from the UK-based banks) using interviews. Non-probability convenience sampling technique was used to collect this data, and the quantitative data from the surveys was processed in the Excel and Statistical Package for Social Sciences (SPSS) software packages, while the qualitative data from interviews was analysed using content analysis (Saunders et al., 2016).

1.6. Summary of Results

The results showed significant differences between the UK-based commercial banks and the UAE-based financial institutions in terms the credit risk management strategies used by each. The graphical analysis demonstrated that the Emirati banks give preference to financial statement analysis, credit score analysis, creditworthiness analysis and risk rating method in dealing with their credit risks, while UK commercial banks tend to use inspections by branch managers, credit portfolio models, exposure limits and stress testing to assess their credit risk exposure. The UK approach is a more active way of assessing credit risk in comparison with the Emirati banks.

Further analysis revealed that there are significant differences between the UK and Emirati commercial banks in terms of the relationship between the adopted credit risk assessment methods and organisational profitability. Specifically, the more actively the UK-based commercial banks use stress testing, exposure limits and inspections by branch managers to measure their credit risk exposure, the higher return on equity ratio they achieve on a year-to-year basis. Furthermore, the statistical analysis has demonstrated that the more actively the UK-based commercial banks use the risk rating method to measure their credit risk exposure, the higher return on assets ratio they achieve on a year-to-year basis. These results contribute significantly to the limited literature in this area, highlighting that credit risk is assessed differently in conventional and Islamic banks and that organisational profitability is substantially affected by the adopted credit risk assessment methods. This provides important information for those dealing with these different types of banking systems.

1.7. Dissertation Structure

This study consists of five distinct chapters: introduction, literature review, research methodology, findings and analysis, and discussion and conclusion. This first chapter provides a thematic overview of the extant literature on credit risk management and the role of risk-based managerial decision-making in banks' performance, attempting to identify gaps where applicable. The literature review's assessment of current theories of credit assessment management informs the research's design and analysis. The second chapter reviews the most relevant scholarly and empirical literature on credit risk management and assessment strategies. The core concepts of risk management and organisational performance as well as their dimensions and relationships are discussed. The variables that underpin the credit risk assessment models of Islamic and European banks are also identified.

The third chapter elaborates the research strategy, design, data collection and sampling methods and analysis techniques. The methodological choices of this study are outlined and justified, and their advantages and disadvantages critically discussed. Key ethical issues are discussed alongside acknowledgement of the research's limitations. Following this, the findings of the study are presented, describing in detail the assessment of credit risk management strategies in the UAE, how they compare to the UK, and ultimately how they relate to the profitability of financial institutions. The conclusions of the research are finally explicated with a reflection on the research's theoretical framework and practical implications for the managerial context. Relevant recommendations relating to the improvement of the current credit risk assessment strategies of banks operating in the UAE are also formulated and presented in the discussion and conclusion chapter.

Chapter 2: Literature Review

2.1. Introduction

This literature review aims to assess the extant theoretical and empirical academic literature on credit risk management and assessment strategies used by financial institutions (Sundarajan, 2007; Bekhet and Eletter, 2014). First, the core concepts of risk management and organisational performance are critically discussed. Second, a multitude of variables underpin the credit risk assessment models of Islamic and European financial institutions and these are identified and discussed. By way of structure, the chapter reviews the extant literature on credit risk in the banking sector and then focuses on credit risk assessment theories and strategies in the UK and the UAE. From this discussion, the literature on the principles and components of Islamic and traditional banking and the effect of credit risk assessment strategies on organisational profitability and performance are reviewed. The overall purpose of the chapter is to outline past research assessing risk management and its application to the banking sector, as well as the nature of credit risk management in the UK and the UAE.

2.2. The Principles and Components of Islamic and Traditional Banking

The Islamic banking sector has lately witnessed a rapid growth and has become a global phenomenon (Hachicha and Amar, 2015). Since their inception in the 1970s, Islamic banks have become widespread, not only in Arab countries but also in many European and Asian countries, including the UK, Italy, Germany, Ireland, the People's Republic of China, Australia and Singapore (Di Mauro et al., 2013; Misman et al., 2015). This phenomenal global success is seen in the total assets value of Islamic banks, which grew from $1.8 trillion estimated in 2013 to more than $2.2 trillion in 2015 (Kumru and Sarntisart, 2016). One reason behind this rapid growth, which is widely cited in the scholarly literature on the Islamic finance system, is the liberalization of the Muslim world from colonial powers (Mohamad et al., 2008; Carbo and Rodriguez, 2007; Abdul-Majid et al., 2010). As a result, Islamic ideology has become widespread across Muslim societies that started looking at the social systems existing outside the Arab world (Abdul-Majid et al., 2010).

The world's economic and social systems were challenged by the Muslim thinkers and scholars, according to whom most relationships in these systems are built on the principle and philosophy of capitalism (Rashwan, 2012). This social system was criticized by Cihak and Hesse (2010) because of its general acceptability in the majority of developed countries and societies. In a capitalist society, there are four major factors of production, namely land, labour, capital and entrepreneurship (Hanif and Iqbal, 2010). Siddiqi (2006) acknowledged that while the reward of three factors was fixed, all risks were associated with the fourth factor alone, which is entrepreneurship. Given that capital is one of the factors of production, it should gain the fixed reward in the form of risk-free interest (Abdul-Majid et al., 2010).

In line with broad theories of capitalism, the bank plays the role of a money dealer. Therefore, interest is the form of reward for using financial resources (Weill, 2011). This statement implies that the main source of revenue to traditional financial services providers is charging interest through lending. It is commonly accepted that interest is the main driver of traditional banks' operations (Mohamad et al., 2008). However, the operations of these financial institutions are not limited to this type of interest. Services such as funds transfer, facilitation in international trade and guarantees are also among banks' services provided to their clients for reward (Hilary and Hui, 2010). However, charging interest is forbidden under the Islamic religious law, which regulates all aspects and social and economic life of Muslims (Aggarwal and Goodell, 2009). Taking into consideration the fact that the conventional or traditional banking system is based on the principles of capitalism, Muslims had no other choice but to establish their own banking system under Islamic principles (Hassan et al., 2017).

Despite the most recent economic crisis of 2007/08, Islamic finance is reported to remain strong and continues to grow all around the world (Cihak and Hesse, 2010). Nevertheless, the overall magnitude of Islamic banking is still limited in Europe (Bodla and Verma, 2009). This can be explained by some differences between European banks' and Islamic banks' financial systems (Bader et al., 2008; Sensarma and Jayadev, 2009). For example, since the Islamic finance system to a considerable degree is based on Islamic religious law, called Sharia, interest is considered unlawful or Haram (Zaher and Hassan, 2001) and Islamic investors are forbidden to invest in conventional debt securities since they are considered as Riba (Hachicha and Amar, 2015). Riba means "charging predetermined additional amount of

a loan extended based on length of credit period" (Hanif, 2011, p. 167). This action is considered as unethical by Islam (Hassan et al. 2017). Hence, those who believe in revelations should avoid charging interest. Interestingly, charging interest on loans is forbidden by most religions. For instance, borrowing money for interest is not allowed by Christianity (Bader et al., 2008). Nevertheless, the role of religion in the Christian world is different nowadays than Islam is in Arab countries, since Islam is used to guide all actions in a Muslim's everyday life, but Christianity is not used to directly affect financial dealings in Western countries (Hilary and Hui, 2010; Mohamad et al., 2008).

To comply with Sharia, the philosophy and design of commercial banking had to be changed in Islamic countries to meet the religious obligations (Dicevska, 2012). It should be noted that while the risk-free return is prohibited by Sharia, the profit on capital, which involves risk, is allowed (Abdul-Majid et al., 2010). The Islamic banking system is predominantly based on this principle. Kumar et al. (2011) distinguished between two Islamic modes of financing, namely Sharia-compliant and Sharia-based. The former mode of financing implies that the lender's return, which is within Sharia constraints, is predetermined and fixed (Hilary and Hui, 2010), while the latter mode of financing is based on the profit and loss sharing principle. Under Sharia-based modes, the financier's return is not fixed in advance but is dependent on the result of a study (Bader et al., 2008). Nevertheless, the loss must be shared among the parties according to their capital contribution.

As a result of what some see as the 'limitations' placed on Islamic banking by Sharia law, many have been sceptical about these banks and their ability to survive and make profit (Cerović et al., 2017). However, they have been able to make profit without charging interest and indeed Cerović et al. (2017) argue that interest-free banking allows Islamic banks to be "a more stable and secure ethical alternative, because instead of interest, Islamic banks receive fees and commissions for their services, participate in a profit(loss)-sharing with their clients, and they are protected with contracts" (p. 241). This is supported by Erol et al.'s (2014) findings showing that Islamic banks performed better than conventional banks in terms of their profitability and asset management ratios, however, they were less sensitive to market risks. These results provide support for the idea that Sharia-based modes of financing are the key difference between Islamic and traditional banking and that these significant differences between Islamic and European banks affects all areas in which the banks operate. This extends to the practice of risk assessment, analysis, monitoring and control (Hilary and

Hui, 2010), which is the focus of this research. These differences can also be explained by the influence of the Islamic religious law on the financial system of Muslim countries such as the UAE.

A more detailed comparison of Islamic and traditional banking was drawn by Hanif (2011), who outlined differences between Islamic financial institutions and traditional banks in several aspects such as deposits, financing and investment, credit operations, loans and investments. For instance, even though both types of banks gather deposits from savers for reward, the main difference between the banking systems lies in the agreement of reward since traditional financial institutions approach reward as fixed and predetermined, while contracts such as Musharaka and Mudaraba are used in the Islamic financial system where the reward to the depositor is variable (Azmat et al., 2015; Hanif, 2011; Mokni et al., 2014). Loans were another area in which Islamic and European financial institutions differ (Beck et al., 2013). Traditional banks provide loans to their customers to meet their working capital requirements (McCleary and Barro, 2006), which plays a significant role in an organisation's ability to invest in inventories and cover its expenses (Olamide et al., 2015).

Islamic banks provide inventory investment through Murabaha, which is "a cost-plus sale contract whereby disclosure of cost to the buyer is necessary" (Hanif, 2011, p. 174). As noted by Mohamad et al. (2008), this type of financing is useful in a short-term perspective. Unlike traditional financial institutions, Islamic banks are not able to ask for an extra amount of money in case their customers delay their payment on the loan (Abdul-Majid et al., 2010), although they can impose penalties on these clients if stipulated in the original contract of Murabaha (Barro and McCleary, 2006). Importantly though, these fees do not add to the banks' profitability since the penalty is not included in the income of a bank, instead banks can spend the obtained financial resources on charity. Despite the many differences there are also similarities, for example, both Islamic and traditional banking systems imply that return is higher on long-term deposits (Barro and McCleary, 2003). Others have argued that Islamic banks that operate in the same society with traditional financial services establishments perform the same functions (Kumar et al., 2011), which may indicate that differences between Islamic and traditional banking are not significant. However, a significant gap in the literature remains as there is currently no consensus as to whether Islamic and traditional banking systems function in the same way. In sections 2.3 and 2.4, credit risk and credit risk assessment are discussed from the perspective of conventional financial theory used to guide

traditional banks guided by non-Islamic principles, examining the extent to which Islamic and traditional banking systems function similarly in this specific area. Based on this general understanding developed, Section 2.5 examines theoretical and empirical research comparing credit risk assessment used in the UAE (based on Sharia law) and the UK (based on traditional financial principles).

2.3. Credit Risk in the Banking sector

2.3.1 Defining Credit Risk

From the perspective of the banking sector, financial institutions are subject to specific risks, which can be divided into exposure risks, investment risks, operational risks, strategic risks, credit risks and market risks (Shawtari et al., 2015). All these risks have different considerations, and the process of their identification and assessment may significantly differ from traditional risk management (Bouteille and Coogan-Pushner, 2012). As an area of study that started post-World War II (Dionne, 2013), credit risk refers to "the possibility of losing money due to the inability, unwillingness, or untimeliness of a counterparty to honour a financial obligation" (Bouteille and Coogan-Pushner, 2012, p. 1). Given the rise of personal bankruptcies, the cyclical nature of consumer credit and the unfolding impact of new information technologies (Livshits, 2015), credit risk is an important area of study since any significant default on the part of borrowers can lead to a crisis for individual banks and for entire banking systems (Waemustafa and Sukri, 2015).

It is commonly accepted that there are two main reasons behind losses from credit risk (Saunders and Cornett, 2014; Bekhet and Eletter, 2014). As noted by Gill et al. (2011), obligors' inability to pay their financial obligations is one of these reasons that extensive risk assessment is needed. It is for this reason that it has been argued that a proper risk assessment is one that assesses the likelihood of credit loss from 'genuine business factors' (Chen et al., 2016). In most cases, organisations fund expansion plans by borrowing, however, the company's cash flows may end up being insufficient to repay the lender (Laeven and Levine, 2009). Enterprises whose revenues no longer cover their financial and operating costs can also be attributed to the most common causes of credit risk (Boahene et al., 2012). In turn, less common causes of losses from credit risk include an obligor's unwillingness to pay,

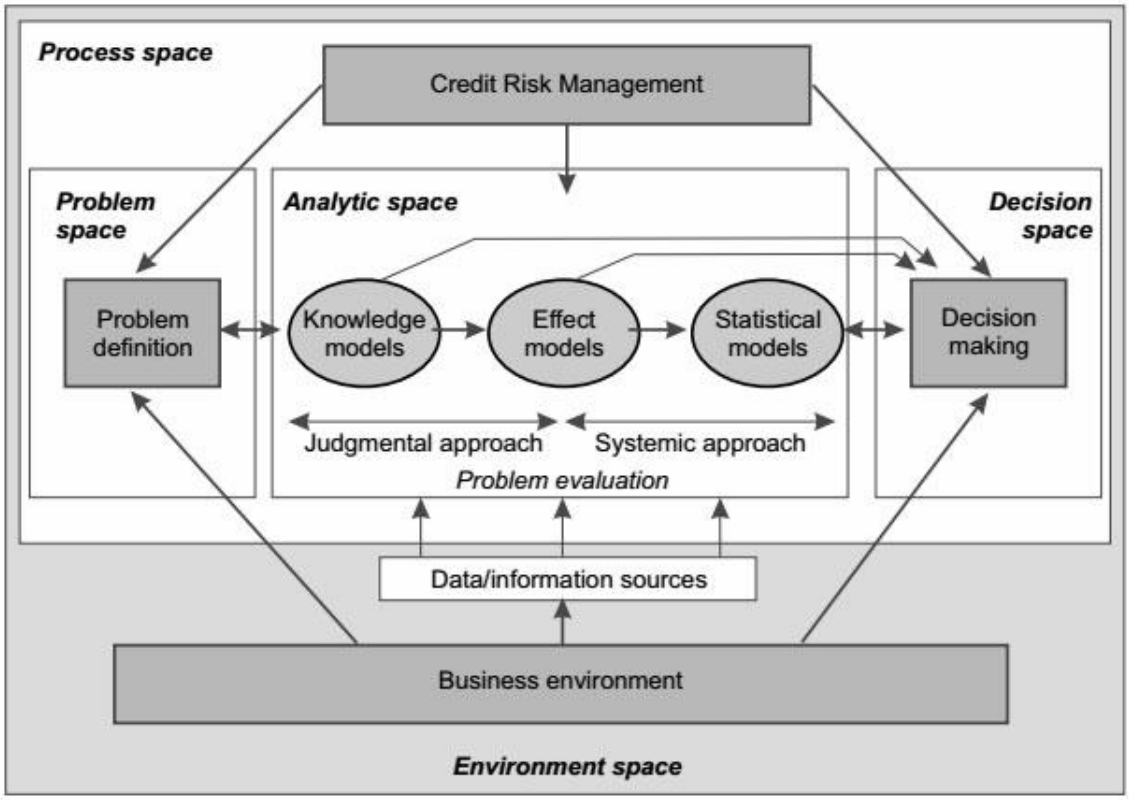
which stems from commercial disputes over contract validity (Alsaeed, 2005). In any case, managing credit risk is of strategic importance to financial institutions since it allows bank managers to identify situations that can potentially lead to a financial loss. However, it should be acknowledged that managers are themselves a considerable source of risk as outlined within Dias' (2015) agency driven analysis of the 'rise and fall' of the CDS market. While credit risk relates to the creditor's ability and willingness to pay, bank-specific policies can affect the institution's level of risk, including having inadequate knowledge about borrowers, using inappropriate credit policies, lax credit assessment, and poor lending practices (Waemustafa and Sukri, 2015). The next section discusses specific steps that can be taken by financial institutions to manage their level of credit risk.

2.3.2 Managing Credit Risk

The traditional framework of risk management was developed by Gray and Larson (2006) and Larson and Gray (2010), who singled out such consecutive stages as identification of risks, risk assessment, risk response development and risk response control. Simultaneously, it should be noted that this model describes risk management in general and it is not focused on credit risk management in the banking sector (Fathi et al., 2012). Furthermore, this framework does not illustrate the connection between risk management strategy and organisational performance. This is a significant limitation of their framework, undermining its ability to provide insight and understanding around the nature of risk management as a driver of organisational performance. However, this limitation was bridged by Dabari and Saidin (2014), who recognized the relationship between risk management practices and performance within financial institutions. The level of risk management in the banking sector can be affected by factors including board characteristics, external auditing, regulatory influence and internal audit practices (Paape and Spekle, 2011; Huber and Scheytt, 2013). For example, board members may approach credit risk management as a complementary activity meaning that the banks' ability to identify, measure and mitigate credit risk in an effective manner is limited (Abiola and Olausi, 2014). Similarly, the quality and frequency of internal and external auditing, to a considerable degree, determines the extent to which a financial institution can manage its risks in an effective way (Sundarajan, 2007) and these are in turn dependent on regulator decisions and requirements and senior management decisions (Bekhet and Eletter, 2014).

Potential credit risks are analysed using a wide range of models and methods, such as credit portfolio models, internal ratings, exposure limit, stress testing, inspection by branch managers, creditworthiness analysis, and risk rating method (Ramachandran and Gavoury (2011). For ease of understanding, these models can be divided into three broad groups, as shown in Figure 1: knowledge models, effect models and statistical models (Carbo and Rodriguez, 2007).

Figure 1: The Credit Risk Management Process



Source: Brown and Moles (2014, p. 13)

As shown in Figure 1, the credit risk management process can be viewed along a continuum (Brown and Moles, 2014). The first step of this process is to define the problem, which is necessary before any analysis and decision can be undertaken (Alkhatib and Harsheh, 2012). Within the analytic space, credit risk can be assessed in various ways: knowledge models have a degree of subjectivity, effect models can combine some elements of systematic analysis and subjectivity, while statistical models are considered more systematic in approach (Bouteille and Coogan-Pushner, 2012; Brown and Moles, 2014). It should be noted that the decision to use of a particular model or method depends heavily on the nature and availability

of information from the business environment such as financial statements, a borrower's credit and payment history and news reports (Sundarajan, 2007). As such, the value of these models can be limited, as can their effectiveness, by the availability of high-quality data which can be used to assess performance outcomes and implications.

Although Brown and Moles' (2014) theoretical framework presents a detailed representation of the credit risk management process, the researchers failed to identify specific factors that would influence the quality of a commercial bank's credit risk management, which is highlighted by Laeven and Levine (2009) as being an important feature of risk management. Furthermore, this model does not account for cultural factors that may affect credit risk management strategies, which was identified by Sundarajan (2007) to play an important role in social and economic processes. For example, the Islamic financial system, which is to a considerable degree is based on the principles of Sharia, refuses the fundamental theory of capitalism (Bekhet and Eletter, 2014). As a result, the Islamic and conventional financial systems have radical differences in the way assets, loans and profits are treated by commercial banks (Boahene et al., 2012). These differences show that cultural and religion are important factors that credit managers should take into consideration when deciding on granting credit. At the same time, the role of religion as a cultural phenomenon in Western banking is not a significant consideration, where *inter alia* corporate culture is a more common issue (Alkhatib and Harsheh, 2012).

Compared to non-financial companies and households, financial institutions have the largest credit portfolios since they are in the credit business (Lepetit et al., 2008). As a result, commercial banks are considered to have the most advanced and effective risk management strategies and policies (Carling et al., 2007). Interestingly, Laeven and Levine (2009) reported that the appetite of large commercial banks for credit risk had declined over the last two decades. This can partly explain the persistence of lower profit between 1999-07 compared to 1992-98 (Goddard, et al., 2010). However, increasingly demanding and stricter regulatory capital requirements and the current low interest rate environment also contextualise the difficult market conditions banks face (Azmat et al., 2015). As such, global banks have shifted their focus towards fee-generating financial services, including debt and equity issuance and mergers and acquisitions (M and A) advisory services (Kolapo et al., 2012). This behaviour may indicate issues with the ability of banks to handle and manage credit risk, causing them to pursue alternative avenues of profitable business activity.

Nevertheless, lines of credit, as well as loans, are still the main sources of credit risk to financial institutions (Hyun and Rhee, 2011). Since these operations represent the potential for significant financial losses, banks usually have large teams of risk managers who analyse borrowers' credit risk (Sundarajan, 2007).

2.3.3 Credit Risk Management and Profitability

The management of a bank's credit portfolio should be strong and effective to avoid financial loss and maintain long-term competitiveness (Bekhet and Eletter, 2014). By putting significant emphasis on credit risk management, financial institutions are able to maintain or improve their performance (Bouteille and Coogan-Pushner, 2012). However, given that there are numerous performance indicators, it is important to identify the most objective measurements of organisational performance in the banking sector. Profitability can be viewed as a bank's ability to generate earnings as compared to its relevant costs incurred during a certain period (Bouteille and Coogan-Pushner, 2012). In addition to profitability, return on equity (ROE) is seen as the most essential aspects of the performance of a financial institution (Carbo and Rodriguez, 2007). In the context of low-margin businesses such as financial services, a key profitability strategy is to minimize losses. The major portion of a financial institution's profit is generated by the fees, which it charges for its services (Lepetit et al., 2008). Another portion comes from the interest that a bank earns on its assets (Boahene et al., 2012). On the contrary, the interest paid on liabilities is the main expense of any bank (Abor, 2005).

Although credit risk was not identified by Laeven and Levine (2009) to be among banks' expenses, it should be considered as a significant threat to the performance or even survival of a financial institution. Credit risks can lead to large losses and ultimately to bankruptcy (Fathi et al., 2012; Gheeraer, 2014). Although credit risk poses a serious threat to the survival of companies as well as their performance, it is argued by many scholars and researchers to be controllable (Gill et al., 2011; Olamide et al., 2015; Kurawa and Garba, 2014). It is possible to understand credit risk in terms of its root causes to anticipate and properly manage it (Hassan, 2009). It should be critically remarked, however, that credit risk is a product of human behaviour and unpredictability which create unexplainable 'Minsky Moments'.

Hence, it is not always possible to properly assess risks and take preventive actions to mitigate or avoid financial losses (Kane, 2010).

Return on equity is another performance indicator, which is usually by commercial banks to measure organisational performance (Carbo and Rodriguez, 2007). ROE can be defined as the amount of a bank's net income returned as a percentage of the equity of its shareholders. This measurement allows for assessing a financial institution's performance by identifying how much profit it generates with the money its shareholders have invested (Bekhet and Eletter, 2014). It is impossible to effectively run a business at a sufficient ROE if its management holds too much equity capital. In turn, holding a large amount of debt capital is not considered an appropriate solution either (Kolapo et al., 2012). According to Ahmad and Ariff (2007), debt does not absorb financial losses, meaning that it is capable of introducing a larger amount of risk into the equation. Therefore, a sufficiently high amount of equity capital, which is complemented by effective credit risk management, can be viewed as the key to a bank's long-term survival in a highly competitive market (Bouteille and Coogan-Pushner, 2012). However, the internal conundrum facing banks is that more highly capitalised banks are on average less profitable (Goddard, et al. 2010).

Return on assets (ROA) is a profitability measurement, which is widely cited in the existing banking literature (Greuning and Bratanovic, 2003; Fathi et al., 2012). This indicator demonstrates how profitable a financial institution is relative to its total assets (Bonin et al., 2005). ROA allows for assessing the extent to which a company's management is efficient at using its assets to generate earnings. A higher ROA means that a financial services enterprise has earned more profit to its available capital (Sundarajan, 2007). Alkhatib and Harsheh (2012) assessed the financial performance of five Islamic banks, using ROA as the key performance metric. They found a strong positive link between the size of the financial institutions and their ROA. However, it has also been argued that organisational structure is among the most important factors that impacted ROA in the banking sector (Singh, 2015). Large banks usually have a complex and bureaucratic organisational structure, which makes it difficult to implement an effective credit risk assessment strategy (Ramachandran and Gavoury, 2011). In this thesis, both organisational size and structure are considered to be significant factors impacting the quality of credit risk management in the banking sector.

2.4. Assessing Credit Risk

Credit risk can be assessed using three different theories, namely portfolio theory, arbitrage pricing theory and information theory (Gakure et al., 2012). The first, portfolio theory, has already successfully been implemented in the banking sector as a part of their risk assessment strategy (Abor, 2005). Many enterprises use value to inform their risk models to manage market risk as well as interest risk exposures (Mutua, 2015). Nevertheless, the practice of applying portfolio theory to credit risk identification and assessment is not commonly accepted even though this type of risk is considered as the most threatening to financial organisations' performance and profitability (Idode et al., 2014). The present study uses profitability as the key measure of organisational performance in the banking sector to identify the influence of credit risk management strategy on the performance of commercial banks in the UAE and the UK. Whilst using profitability as a key indicator, its limitations must be recognised. For example, estimations of the skills of bankers ebbs and flows with the business cycle, suggesting a structural determination of profitability over agency (Thakor, 2015).

An asset-by-asset approach has been the traditional way of assessing credit risk in the banking sector (Jones and Perignon, 2013). Although each firm's method varies, in most cases, this approach involves the evaluation of the quality of credit exposures using a credit risk rating on a regular basis (Ramona, 2011). The employment of this method allows risk managers to promptly identify portfolio trends or changes in an individual's credit position (Bouteille and Coogan-Pushner, 2012). Based on this information, managers take necessary actions to increase the supervision of credits and make it more effective and careful (Abiola and Olausi, 2014). Notwithstanding the fact that the asset-to-asset method is considered by many scholars as the most basic component to assessing and managing credit risk, its role in this process is still limited. The point is that the asset-to-asset approach does not provide risk managers with a complete view of portfolio credit risk (Boahene et al., 2012). Furthermore, by adopting this approach, it is impossible to measure unexpected losses. Therefore, it is important to complement this method with quantitative reviews to make the process of credit risk assessment more effective and efficient (Margrabe, 2007).

The arbitrage pricing theory suggested by Ross (1976) offers an interesting insight into the issue of credit risk assessment. By moving away from the 'risk versus return' logic, the

researcher “exploited the notion of pricing by arbitrage to its fullest possible extent” (Gakure et al., 2012, p. 224). In accordance with this theory, managers should calculate the covariance of returns between every pair of a firm’s assets to estimate the benefits of diversification (Kauko, 2012; Ross 1976). However, practitioners can face difficulties in using this approach and the theory implies that managers should account for a set of factors that may have an impact on the assets under consideration (Bouteille and Coogan-Pushner, 2012).

The aforementioned challenge was overcome by Morris (2001) according to whom it was possible to achieve the same results by calculating the covariance of every asset in relation to a general market index. It should be critically remarked, however, that this approach is much more time-consuming comparing to that offered by Ross (1976). Furthermore, risks can never be fully comprehended, measured, or even controlled. Hence, the approach suggested by Morris (2001) has limited practical application since it is impossible to consider every potential risk. Furthermore, market indexes represent average values, which may significantly differ depending on a certain situation and circumstances (Shawtari et al., 2015).

Finally, information theory implies that financial institutions should screen borrowers to identify credit risks and take preventive actions to minimize these risks (Derban et al., 2005). The collection of reliable information on prospective borrowers is a critical factor that influences the accomplishment of effective screening (Gill et al., 2011). Interestingly, practitioners can use both quantitative and qualitative methods to assess credit risk in a more effective way. By employing these techniques, financial institution managers are capable of minimizing processing costs and reducing subjective judgments (Greuning and Bratanovic, 2003). Furthermore, quantitative models of credit risk assessment allow for identifying factors which explain default risk and screening out bad loan applicants (Tabari and Emami, 2013). At the same time, the use of qualitative models is associated with one major challenge, which relates to their subjective nature (Gill et al., 2011). It is impossible to properly assess credit risk only by using qualitative assessment methods since the nature of financial relationships is much more complex (Morris, 2001). Regulatory pressures, complex requirements, rivals’ actions and market fluctuations should also be considered by risk managers while assessing their bank’s exposure to credit risk (Greuning and Bratanovic, 2003). That is why qualitative methods should be used with quantitative analysis tools in combination to ensure a financial institutions’ to properly identify, assess and manage their risks.

This study is predominantly based on information theory, which provides the main theoretical underpinning for the research. This selection is justified by the fact that the majority of all credit risk assessment methods and techniques discussed in this study use statistical inference to derive appropriate links for decision-making (Shawtari et al., 2015). Nevertheless, some strategies such as inspections by branch managers and stress testing are based on an assessor's experience and understanding of a particular credit situation (Tabari and Emami, 2013).

Credit risk management in the banking sector has recently been given close attention by scholars and researchers (Misman et al., 2015). A close emphasis has been put on the factors, which drive credit risk since this issue is of close importance not only to the management of financial institutions but also to regulatory authorities (Olamide et al., 2015). The majority of studies on credit risk management in the banking sector can be broadly divided into two groups. According to the first group, credit risk is predominantly driven by a set of specific variables such as loan quality, loan growth, capital and management quality and size (Abor, 2005). In turn, macroeconomic factors, including gross domestic product (GDP), interest rates and unemployment form the second group of factors that impact the credit risk of financial institutions. Interestingly, the majority of previous studies on credit risk in the banking sector used either bank-specific variables or macroeconomic factors to explain the performance of banks (Psillaki et al., 2010).

The aforementioned limitation was overcome by Louzis et al. (2012) in their empirical investigation in which the researchers attempted to identify the determinants of credit risk in Greece's banking sector by using both internal and external factors. Louzis et al. (2012) argued that credit risk was predominantly explained by macroeconomic variables such as an unemployment rate, interest rates, and GDP. In turn, the role of internal factors such as loan quality, loan growth, capital and management quality, and size was identified by the researchers as insignificant. However, in contrast to Louzis et al. (2012), Misman et al. (2015) focused on Islamic financial institutions and argued that both external and internal factors have an impact on the credit risk of Islamic banks. Being more precise, the researchers argued that financing quality was the strongest internal factor that drove banks' credit risks in Malaysia (Misman et al., 2015). These outcomes may indicate that any deterioration in the quality of financing forces Islamic financial institutions to allocate higher

loss provisions and, in turn, increase their credit risk level (Hussain and Al-Ajmi, 2012). Nonetheless, more research is needed in this area of credit risk assessment in Islamic financial institutions, as understanding of how this works remains limited and is a gap in the research.

2.5. Credit Risk Assessment Strategies in the UK and the UAE

Credit risk management is considered by many researchers as a cornerstone of prudent banking practice (Park, 2012; Chong and Liu, 2009). In today's volatile business environment, financial institutions face numerous risks (e.g. credit risk, foreign exchange risk, liquidity risk and interest rate risk), which pose a serious threat to their long-term survival and success (Alshatti, 2015). In this situation, effective risk management strategies and policies are required. The importance of these risk management tools is especially high considering that any bank is focused on the maximization of its shareholders' wealth and revenues by offering a variety of financial services, which are associated with risk (Drehmann et al., 2010). Although the body of literature on risk management in the banking sector is large, the number of empirical studies on risk assessment strategies and practices in the context of the UK and the UAE was found by the researcher to be relatively small (Olamide et al., 2015). Overall, there is a lack of literature that compares credit risk assessment methods and techniques adopted by Islamic banks in the UAE and traditional financial institutions in the UK. The following can be viewed as an attempt to summarize the key conclusions of the most relevant studies in the field.

An attempt to investigate the extent to which commercial banks used risk assessment strategies in dealing with different types of risk by several researchers. With a focus on the UAE, Al-Tamimi (2002) argued that UAE financial institutions were mainly facing credit risk. Another key finding was that the key methods of risk assessment were financial statement analysis and inspection by branch managers (Al-Tamimi, 2002). These findings align with Hanif and Iqbal's (2010) acknowledgement that commercial banks actively used the analysis of financial statements as a tool for credit risk assessment. Consistent with this, Abdul-Majid et al. (2010) identified credit score, creditworthiness analysis and risk rating as being among the main methods used in risk management. At the same time, the role of alternative risk assessment techniques such as establishing standards was not examined by

Abdul-Majid et al. (2010). This can be viewed as a limitation and a gap in the literature which this study attempts to address by identify how risk assessment techniques are used within traditional and Islamic commercial banks.

The findings may demonstrate the willingness of the UAE financial establishments to employ the most effective and sophisticated risk assessment techniques and methods (Al-Tamimi, 2002). However, these researchers did not consider macroeconomic and individual bank-level variables (Olamide et al., 2015). Financial institutions do not operate in isolation, and their performance and business operations, including risk management, are impacted by both external and internal factors (Derban et al., 2005). Therefore, these factors should be considered by commercial banks in determining credit risk.

Salas and Saurina (2002), for example, investigated credit risk in European commercial banks using both types of variables. The researchers found that there were numerous explanatory factors to understand credit risk, including the GDP growth rate, portfolio composition, market power and capital ratio (Salas and Saurina, 2002). The role of unemployment and the overall political situation in the host country was emphasized by Rime (2001) as important determinant of credit risk policies. These findings are supported by later research by Louzis et al. (2012), who reported that credit risk in Greek banks was explained to a great degree by macroeconomic variables that include GDP growth rate, unemployment, interest and, public debt, as well as by the quality of management.

In other research in this area, Al-Tamimi and Al-Mazrooei (2007) examined the extent to which the UAE commercial banks used risk assessment strategies and practices in dealing with credit risk. The researchers gathered primary data from 46 financial institutions in the UAE by means of questionnaires and reported that foreign exchange risk was the main type of risk faced by the UAE financial institutions (Al-Tamimi and Al-Mazrooei, 2007). In contrast, Hachicha and Amar (2015) identified credit risk as the most important type of risk facing by commercial banks, while Abu Hussain (2012) identified credit, liquidity and operational risks to be the most important risk types for both Islamic and conventional banks. Al-Tamimi and Al-Mazrooei (2007) argued that inspections by the bank risk manager, credit score analysis, risk survey, financial statement analysis and physical inspections at the middle-management level were the most important methods of risk assessment. This is

consistent with other findings showing that Islamic banks tend to use traditional tools in their risk mitigation to a large extent (Ben Selma Mokni et al., 2014).

An important gap in the literature in this area relates to the fact that many of these research papers did not give close emphasis on credit risk (Al-Tamimi and Al-Mazrooei, 2007), which is the key area of interest of this project. Nevertheless, the researchers managed to point out some differences between the UAE financial institutions and foreign banks that provide important insights for this research (Al-Tamimi and Al-Mazrooei, 2007). One of the most significant differences between the banks identified in the literature was in the practice of risk assessment, analysis, monitoring and controlling (Abu Hussain, 2012; Al-Tamimi and Al-Mazrooei, 2007). However, this does not mean there is a consensus in the literature, as other researchers have argued that there were no significant differences between Islamic and European (traditional Western) financial institutions in risk management practices, including the practice of credit risk analysis (Arman et al., 2009). This research seeks to contribute to this area by examining credit risk management practices in both conventional and Islamic banks to ascertain whether there are significant differences.

Despite growing regulations, risk governance rules and methods (Dionne, 2013), prior to the global economic crisis of 2007/08, credit risk had not been effectively managed by European financial institutions (Hanif and Iqbal, 2010). Even though this issue has always been a serious concern for banks, the most recent financial crisis has pointed out the weakness of the existing risk management system across European countries (Kauko, 2012). As a result, banks have realized that their current methods of managing credit risks were not always sufficient (Abiola and Olausi, 2014). Today, financial services providers are highly interested in more adaptive and innovative risk assessment methods and procedures (Hachicha and Amar, 2015). Nevertheless, credit risk assessment is still approached by some European banks as a complementary activity, meaning that their ability to effectively identify, measure and mitigate credit risks is limited (Li and Zou, 2014). Given past instances, the rapidly changing and unpredictable economic world of today, the lack of attention to credit risk management issue remains a significant source of potential financial loss.

It appears that most European banks are carrying out rigorous credit analysis using different methods and models such as credit portfolio models, internal ratings, exposure limit, establishing standards and stress testing (Kumru and Sarntisart, 2016). Indeed, many financial

institutions across Europe tend to use their own credit portfolio models as the main credit risk management tool (Yang, 2012). The selection of this assessment method is justified by its ability to consider a wide range of parameters and factors (e.g. the industry, credit grade and geography) that may influence credit risk (Chen and Pan, 2012). By using this assessment method, bank managers can make decisions on how the portfolio should be composed to minimize the risk of loss (Abdul-Majid et al., 2010).

At the same time, the application of these models results in the generation of numerous potential scenarios, which should be taken into consideration by risk managers (Hallara, 2012). Adeusi et al. (2013) argued that it is impossible to consider all potential factors that may have an impact on credit risk. Hence, there is a possibility that some scenarios might be overlooked by risk managers. Nevertheless, by prioritizing the most important and influential factors, credit risk managers can minimize their financial institution's risk exposure.

Internal ratings are also commonly used by European financial institutions to estimate the creditworthiness of an entity (Psillaki et al., 2010). In general terms, credit ratings can be viewed as a reflection on the ability of the entity to repay debt. By using this assessment tool, risk managers can get a deeper understanding of the extent to which their clients are financially strong. As a result, it is possible to make an informed decision on whether to lend assets (Hanif and Iqbal, 2010). Although internal credit ratings are viewed as an effective risk assessment technique, rating bias and misinterpretations may pose a serious threat to the validity and reliability of these ratings (Abdul-Majid et al., 2010). Furthermore, the financial market is subject to rapid change, meaning that produced forecasts may not be accurate enough (Derban et al., 2005).

Rapid internationalization and globalization have eliminated most of the differences between risk assessment methods and techniques employed by European and Islamic financial institutions (Hassan et al., 2017). Nevertheless, it cannot be stated that banks in both contexts use the same credit risk assessment strategy. The review of the existing scholarly and empirical literature on this issue has demonstrated that Islamic banks, including those located in the UAE, prefer carrying out financial statement analyses and inspections by branch managers (Shawtari et al., 2015). Risk surveys and physical inspections at the middle-management level are also among the most popular credit risk assessment techniques employed by the UAE-based banks (Masood et al., 2012). At the same time, European

financial institutions put a heavier emphasis on risk assessment techniques such as credit portfolio models, internal ratings, exposure limit and stress testing (Ibrahim, 2015). These differences can be partly explained by the fact that the Islamic finance system significantly differs from the traditional finance system adopted by European banks (Hassan et al., 2017). A summary of the most relevant credit risk assessment strategies applied by Islamic and conventional commercial banks is presented in Table 1.

Table 1: A Summary of the Most Relevant Credit Risk Assessment Strategies

Assessment Strategy	Advantages	Disadvantages	Literature Source
Financial statement analysis	Demonstrates potential and patterns.	Data based on the market at the given time.	Al-Tamimi (2002), Gakure et al. (2012)
Inspection by branch managers	Allows for saving time and cutting down on expenditures.	May be biased and subjective.	Abdul-Majid et al. (2010), Abdelrahim (2013)
Credit score analysis	Increased productivity in the credit department.	Impossible to precisely measure credit risk.	Al-Tamimi (2002), Abdul-Majid et al. (2010)
Creditworthiness analysis	Allows for assessing the likelihood that a borrower is going to default on his/her debt obligations.	Increases the cost of operations. The risk of incurring financial losses because of non-payment.	Abdul-Majid et al. (2010), Carbo and Rodriguez (2007)
Risk rating method	Objective methods are used to evaluate potential credit risks.	The values of credit risk impacts are based on subjective opinions.	Ramona (2011), Gakure et al. (2012)
Credit portfolio models	A wide range of parameters and factors can be considered.	Impossible to consider all potential factors that may impact credit risk.	Kumru and Sarntisart (2016), Carbo and Rodriguez (2007)
Internal ratings	Allows for getting a deeper understanding of the extent to which bank clients are financially strong.	Rating bias and misinterpretations may threaten the validity and reliability of internal ratings.	Kumru and Sarntisart (2016), Abdul-Majid et al. (2010)
Exposure limit	Allows banks to limit the size of their exposures to a single borrower.	Limits a bank's profitability.	Ibrahim (2015), Carbo and Rodriguez (2007)
Stress testing	Allows for measuring a bank's exposure to credit	Estimates the exposure to a specific event, rather than	Ibrahim (2015), Carbo

	risk.	the probability of this event.	and Rodriguez (2007)

2.6. The Effect of Credit Risk Assessment Strategies on Organisational Profitability and Performance

There have been empirical investigations of the relationship between organisational profitability and credit risk assessment strategies. An important paper in this vein is Gakure et al. (2012), who attempted to measure the impact of credit risk identification and assessment on the organisational performance of financial institutions. They gathered primary data from 39 management staff members working in commercial banks at different levels, including the top and middle-level managers, and found that risk identification and assessment influenced the performance of the financial institutions (Gakure et al., 2012). The results also showed that inspection by branch managers, financial statement analysis, establishing standards, credit scoring and risk rating had a strong statistical impact on the performance of unsecured bank loans (Gakure et al., 2012). At the same time, it should be critically remarked that Gakure et al. (2012) put a heavy emphasis on alternative risk management stages, including risk analysis, risk appraisal, risk monitoring and credit approval, while risk identification was of minor importance to the researchers. Nonetheless, these findings to a considerable degree are in keeping with those produced by Al-Tamimi and Al-Mazrooei (2007) according to whom inspection by the bank risk manager, risk survey, financial statement analysis and physical inspections at the middle-management level were the most important methods of risk assessment in Islamic financial organisations.

Also consistent with these results is research carried out by Alshatti (2015), who examined the impact of credit risk management on the financial performance of Islamic commercial banks in the Hashemite Kingdom of Jordan. He used return on equity and return on assets as the key profitability measures and reported that there was a statistically significant link between non-performing loans and the financial performance of banks as measured by return on assets and return on equity. This is further supported by Abdelrahim (2013), who found that non-performing and gross loans positively influence the performance of financial institutions in Saudi Arabia. At the same time, Alshatti (2015) failed to establish any relationship between the capital adequacy ratio and credit interest on the profitability of the Islamic financial institutions. However, this specific outcome is not in line with those

produced by Kurawa and Garba (2014), who report that credit risk management measured by capital adequacy positively impacts organisational performance in the context of Nigerian financial institutions.

Similarly, Berrios (2013) used profitability measures such as ROE and ROA in analysing the data from 200 financial institutions and reported that the more banks lend their financial assets to borrowers, the more they are exposed to credit risk. Hence, the role of effective risk management assessment strategies becomes more considerable in times of financial instability (Goddard et al., 2004). At the same time, Lee (2000) was convinced that by reserving for loan losses or ensuring higher provision, banks could manage credit risk more effectively. Nevertheless, not all banks might have sufficient financial resources to successfully perform these actions (Margrabe, 2007). Berrios (2013) limited his investigation into the link between credit risk management and bank profitability to the context of the recent global financial crisis, times during banks bear more considerable credit risks (Lambert and Cooper, 2000). This is due to fluctuations in currency rates and consumer disposable income as well as changes in governmental tax policies (Boahene et al., 2012). Therefore, the findings produced by Berrios (2013) cannot be fully applied to modern Islamic and European financial institutions. Nevertheless, the most recent changes in the geo-political situation and oil prices are considered by some scholars as the beginning of a new long-lasting crisis (Margrabe, 2007). Indeed, these changes have negatively affected the national currency of many Islamic countries, including Saudi Arabia and the UAE (Hussain and Al-Ajmi, 2012). Additionally, Berrios (2013) examined only American-based financial institutions and hence the extent to which it is possible to apply the produced outcomes to the UK is limited. Indeed, there are considerable differences between the UK and the US financial systems in terms of banking institutions, activities and structures (Beck et al., 2012). At the same time, rapid globalization and internationalization suggest that these differences are changing and becoming less considerable over time (Booth et al., 2001). Both the US and the UK financial systems have experienced the key competitive challenges (e.g. financial market innovation, intensified competition and regulatory reforms) over the last decade (Amarjit et al., 2011). Even though the UK government undertook a set of regulatory changes in response to the recent economic crisis, the UK financial system is still considered to remain at risk of upheaval (Rieck and Schuknecht, 2018).

In contrast to the previously discussed works, Hosna et al. (2009) investigated the relationship between credit risk management and profitability in commercial banks in the context of a European country. Similar to Kurawa and Garba (2014) and Alshatti (2015), Hosna et al. (2009) used ROE as the main profitability indicator although they did not use ROA since this approach to credit risk assessment did not consider the risks related to the referred assets (Ruziqa, 2013). The use of ROE is reasonable since it demonstrates that financial institutions reinvest their earnings to generate future profit (Alessandri and Drehmann, 2010). Banks that actively use capital were reported to have a higher ROE (Parramore and Watsham, 1997), while a rise in this ratio may indicate increased risks, which is explained by the fact that higher risks might bring greater profits (Kabir et al., 2015).

Hosna et al. (2009) argued that credit risk management indeed impacted organisational profitability. The researchers discovered that a bank's credit risk assessment strategy to a considerable degree defined its profitability level. Nevertheless, these outcomes are not applicable to all banks since their non-performing ratio and capital adequacy ratio may not define ROE (Khediri et al., 2015). In other words, financial institutions' profitability might be influenced by the alternative to ROE predictors. It should be critically remarked that Hosna et al. (2009) used only two independent variables that predicted ROE, which can be considered as a threat to the validity and reliability of their findings. In comparison, Samy and Magda (2009) used 15 variables to identify the role of capital regulations in the performance of banks. According to the researchers, higher capital requirements add to financial institutions' profitability. Therefore, by adding more predictors to the regression model, Hosna et al. (2009) could have achieved higher predicting ability. Despite all the differences between Islamic and traditional banking, both Hosna et al. (2009) and Kurawa and Garba (2014) found that credit risk management measured by capital adequacy positively influenced a bank's organisational performance. At the same time, both sets of researchers failed to identify specific credit risk assessment strategies, which might influence the key areas of bank profitability.

In more recent research, Al Ajlouni and Shawer (2013) examined bank profitability in the post-crisis period, namely from 2008 to 2011, and reported no statistically significant relationship between the capital structure and the profitability indicators. These outcomes suggest that the profitability of Islamic organisations is not impacted by their capital structure. Similarly, Khalid and Amjad (2012) argued that capital structure did not form any

link with firm profitability, although they found that this conclusion held only in case of tax absence. This situation is highly relevant to those banks that operate in some Islamic countries such as the UAE and the Kingdom of Saudi Arabia (Masood et al., 2012). In contrast, Diamond and Rajan (2009) demonstrated that financial institutions that actively used capital had a higher ROE and Yegon et al. (2014) acknowledged that a firm's capital structure to a considerable degree impacted its profitability. They argued that short-term loans are preferable since they are less expensive, meaning that incremental short-term debt in a banks' capital structure would lead to an increase in its profit. In addition, the researchers found that the tax shield had no effect on the relationship between a firm's capital structure and profitability (Yegon et al., 2014). It should be noted that these findings are applicable only to conventional commercial banks and thus further research is required to identify whether capital structure influences firm profitability in the context of the Islamic financial system (Samy and Magda, 2009). The reason for these contradictions is possibly explained by the fact that Al Ajlouni and Shawer (2013) examined Saudi companies, while Diamond and Rajan (2009) was focused on conventional financial institutions. However, it is not confirmed that this is the reason for the contradictory results and therefore further research is needed.

Li and Zou (2014) investigated the effect of credit risk management on the profitability of European commercial banks. The researchers gathered secondary data from the annual reports of 47 European banks from 2007 to 2012. ROA and ROE were used by Li and Zou (2014) as proxies for profitability, while capital adequacy ratio (CAR) and non-performing loan ratio (NPLR) were used as proxies for credit risk management. According to Gill et al. (2011), there is a positive link between CAR and the noted profitability indicators. At the same time, Al Ajlouni and Shawer (2013) were convinced that this relationship was not significant and Li and Zou (2014) also argued that there was no statistically significant link between ROA and CAR and ROE and CAR. These outcomes can be explained by the controversy theoretical prediction of this link (Ogden et al., 2003). In addition, the model modification used by Li and Zou (2014) was not perfect, which is another potential reason behind the produced results. Finally, the effect of systematic risks during the economic crisis was neglected by the researchers.

Another interesting outcome produced by Li and Zou (2014) is that NPLR and return on equity, as well as non-performing loan ratio and ROA, were negatively related to each other.

Therefore, the higher the NPLR is, the fewer capital investment opportunities a financial institution has. These results are not in keeping with those produced by Goddard et al. (2004), who found that higher CAR leads to greater profitability. Organisational structure and culture were also reported by to Al Ajlouni and Shawer (2013) as factors that may influence the effectiveness of credit risk assessment strategies in the banking sector.

Considering the previous discussion of the available literature, there are conflicting results in terms of the link between profitability (however measured) and credit risk assessment strategies. The extent to which these conflicting results are (at least partially) due to different types of banking systems (conventional versus Islamic) remains under-research and is a gap in the literature. This research contributes to understanding in this area by examining the extent to which credit risk assessment strategies and techniques and profitability are linked in UAE and UK banks.

2.7. Summary

Credit risk is considered a central factor impacting a financial institution's losses (to Al Ajlouni and Shawer, 2013). It is for this reason that credit risk management should be given exceptionally close attention by managers of commercial banks. Nevertheless, credit risk assessment is still approached by some banks as a complementary activity (Bouteille and Coogan-Pushner, 2012) and examples, such as the Great Financial Crisis in 2007/08, show that it is still a considerable and veritable source of financial instability (Berrios, 2013). A key issue within the comparative context of this research is that traditional banking systems, such as the UK, are based on the principle of charging interest, which is not allowed under Islamic religious law (Ogden et al., 2003). Factors such as inspection by branch managers, financial statement analysis, establishing standards, credit scoring and risk rating have strong statistical impact on the performance of unsecured bank loans (Gakure et al., 2012; Al-Tamimi and Al-Mazrooei, 2007; Abdelrahim, 2013). Organisational structure, board structure, culture and internal and external audit are also important factors, which may impact the effectiveness of credit risk assessment strategies in the banking sector (Forssbaeck, 2011; Iannota et al., 2007). All of these factors are considered within the research comparative analysis of the credit risk management strategies and techniques in the UAE and UK, and their underlining link to the profitability of banks.

However, there remain several gaps in the literature that have to be addressed, three of which have been highlighted in this chapter and will be addressed in this research. First, a significant gap in the literature remains as there is currently no consensus as to whether Islamic and traditional banking systems function in the same way. Second, more research is needed in this area of credit risk assessment in Islamic financial institutions, as understanding of how this works remains limited and is a gap in the research. Third, there remains uncertainty about how risk assessment techniques are used within traditional and Islamic commercial banks and the role of alternative risk assessment techniques in determining profitability in these banking forms. Considering the findings from the literature review and the gaps in the literature based on the understanding of the credit risk assessment strategies applied by Islamic and conventional commercial banks and the impact on profitability, the following five hypotheses are proposed to guide the empirical part of this research:

H1: There is a difference between UAE Islamic banks and UK conventional banks in terms of the risk assessment strategies used most.

H2: The use of credit risk management strategies positively influences the profitability of the UK-based commercial banks in terms of return on assets.

H3: The use of credit risk management strategies positively impacts the profitability of the UK-based financial institutions in terms of return on equity.

H4: The use of credit risk management strategies positively influences the profitability of the UAE-based commercial banks in terms of return on asset.

H5: The use of credit risk management strategies positively affects the profitability of the UAE-based financial institutions in terms of return on equity.

Chapter 3: Research Methodology and Design

3.1. Introduction

This chapter is an in-depth elaboration of the research setting, methodological considerations, and the development of the research design. The methodological decisions of this study, their advantages and disadvantages, and inevitable trade-offs, are identified and discussed and from this, the most appropriate research methods and strategies are selected and justified. The chapter begins with an elaboration of the research philosophy and approach, and then discusses and justifies the selection of data collection and analysis methods. This includes an overview of the questionnaire's design and measurement, as well the sampling technique. The chapter rounds off with a discussion of the research's ethical considerations and limitations.

3.2. Research Philosophy

The issue of research philosophy requires the researcher to reflect on their assumptions of the world (ontology) and how knowledge is created (epistemology) (Saunders et al., 2016). In the social sciences, there are two main research philosophies used: positivism and interpretivism. As shown in Figure 2, these philosophies differ significantly in terms of their ontology (objectivism and subjectivism, respectively), epistemology, and the methodologies usually used to support them. Positivism is a "value-free" approach to creating knowledge and positivist researchers position themselves as external to the process of data collection, meaning that they neither affect nor are affected by the subject of a study (Robson and McCartan, 2016). This is based on the objectivist ontology underlying positivism, which leads researchers using this philosophy to see the nature of reality as being real, external, and independent and to understand knowledge as something created by using a 'scientific' method in which observable and measurable facts are developed (usually from quantitative methods) to support law-like generalisations (Saunders et al., 2016). This approach is particularly useful for explaining relationships between variables to provide explanatory and predictive information, "achieved by subsuming individual instantiations of the phenomenon under broad general laws or identifying causal mechanisms that support antecedent-consequent pairs" (Hovorka, and Lee, 2010, p. 188).

Figure 2: Philosophical Assumptions of Positivism and Interpretivism

Ontology (nature of reality or being)	**Epistemology** (what constitutes acceptable knowledge)	**Axiology** (role of values)	**Typical methods**
	Positivism		
Real, external, independent One true reality (universalism) Granular (things) Ordered	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Typically deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analysed
	Interpretivism		
Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations New understandings and worldviews as contribution	Value-bound research Researchers are part of what is researched, subjective Researcher interpretations key to contribution Researcher reflexive	Typically inductive. Small samples, in-depth investigations, qualitative methods of analysis, but a range of data can be interpreted

(Saunders et al., 2016, p. 129)

However, it is often argued that rich insights into the social world of management are lost if its complexity is reduced to a set of law-like generalisations produced from quantitative methods, while interpretivism permits new insights into phenomenon, usually from qualitative methods (Collis and Hussey, 2003; Tashakkori and Teddlie, 2003). Developed from the subjectivist position, interpretivism is based on a view that the world is rich and complex, socially constructed, has multiple meanings, and can be understood only by examining people's experiences and practices (Saunders et al., 2016). This philosophy focuses on narratives and seeks to contribute to knowledge by creating new understanding "connected to the intentionality, thoughts, and motivations of the human subjects under study" (Hovorka, and Lee, 2010, p. 188). This philosophy is best applied when researchers want to explore the nuances of a phenomenon, particularly by exploring participant's perceptions and experiences (Robson and McCartan, 2016). In contrast, positivism is best used for research seeking to examine cause-and-effect relationships, as is the case in this research, which seeks to determine the relationship between credit risk assessment strategies and techniques and profitability in UAE and UK banks, *inter alia* (Saunders et al., 2016). For this research, a positivist epistemological position was selected as being most appropriate for this research.

Additionally, the desire to produce objective knowledge, including law-like generalisations about credit risk assessment strategies and techniques in UAE and UK banks, was a key goal of the research, also making positivism the most appropriate approach (Saunders et al., 2016). Only by producing law-like generalizations is it possible to examine the influence of credit risk management strategy on the performance of commercial banks in the UAE and UK. Further, positivism is consistent with the researchers' epistemological position that only an observable social phenomenon can lead to the production of strong evidence and credible data (Gummesson, 2000).

3.3. Research Approach

The research approach used can be inductive or deductive. Inductive research is usually used by interpretivist researchers because it allows for deep understanding of the research context, going from the general to the specific, and drawing conclusions (forming theories) based on observations (Tashakkori and Teddlie, 2003). This is usually a suitable approach when there is little previous research on the topic being investigated or researchers are seeking to extend understanding and theory in the area (Saunders et al., 2016). Neither of these were the case for this research, and thus instead of relying on induction, a deductive approach was employed in which theoretical assumptions and hypotheses are tested using empirical analysis (Saunders et al., 2016). There is significant existing literature on credit risk management and organisational performance in the banking sector, thus allowing the researcher to develop and test hypotheses to address the research aim and objectives (Tashakkori and Teddlie, 2003). A deductive approach was justified also by its compatibility with positivism being a key approach to establishing cause-and-effect relationships between variables (Easterby-Smith et al., 2012). This is in keeping with the aims of this study, which attempts to identify the impact of credit risk management strategy on the performance of commercial banks in the UAE and the UK. Further, using the deductive approach allowed the researcher to employ a highly structured methodology to facilitate replication (Robson and McCartan, 2016). However, deductive projects are usually criticised for the lack of novelty as well as highly predictable research outcomes because these studies use existing theory to deduce hypotheses instead of formulating new theories based on observation (Easterby et al., 2012). However, a key part of the scientific method is testing hypotheses to support or

disprove these, which is particularly important in contexts where these tests have not been done (Saunders et al., 2016). In this work, there is little empirical evidence that compares traditional and Islamic commercial banks in terms of the link between their credit risk management strategy and performance, making the testing of these relationships especially important.

3.4. Research Methods

The next issue is for the researcher to select whether quantitative or qualitative procedures and techniques will be employed for data collection and analysis (Saunders et al., 2016). In this research, both of these are used, which is called a mixed method design and is defined by Johnson and Onwuegbuzie (2004, p. 17) as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study." While some researchers have argued that quantitative and qualitative research methods cannot/should not be mixed, there are a range of reasons that this 'third way' is increasingly being selected by researchers. First, in line with the goal of this research, the use of qualitative and quantitative methods can support the richer understanding of the phenomenon being examined (Johnson and Onwuegbuzie, 2004). Thus, using mixed methods gives the research the ability to get a deeper and clearer understanding of credit risk management as well as its influence on the performance of commercial banks in the UAE and the UK. Second, mixed methods have been selected for this study to contribute to the validity and reliability of the research outcomes since the weaknesses of one method can be offset by the other (Easterby-Smith et al., 2012). This is because the use of both qualitative and quantitative data allows for methodological triangulation and thus it is possible to explain the complex relationship between the credit risk management strategy and performance of conventional and Islamic commercial banks more substantially (Johnson et al., 2007). Additionally, survey and fieldwork (interview) approaches to data collection complement each other, being alternative (rather than mutually exclusive) sources of data (Johnson and Onwuegbuzie, 2004).

Nonetheless, there are limitations of using this approach that must be considered. For one, the adoption of a mixed method approach may lead to the production and multiplication of unanticipated outcomes (Coghlan and Brannick, 2014). The lack of predictability was noted

by Gummesson (2000) as the key limitation of the mixed method. The greater potential for unanticipated results may make it more difficult to interpret these findings and arrive at reasonable conclusions and thus, Easterby-Smith et al. (2012), argues that researchers employing the mixed method should be highly experienced in collecting data and processing it using different methods of analysis so as not to compromise the validity and reliability of a mixed-method study. This is because the involvement of both data types implies that researchers should have highly developed skills in collecting, analysing and interpreting quantitative and qualitative data (Bryman, 2006). This dovetails with Robson and McCartan's (2016) position that limited research experience and knowledge is another potential challenge to the adoption of the mixed method approach. Given that the researcher has previous experience of the collection and interpretation of quantitative and qualitative data, the selection of the mixed method is justified.

3.5. Data Collection Techniques

In line with the mixed methods approach used, data for this research was collected using two different methods. First, a survey strategy, usually associated with the deductive approach, has been chosen for this study (Collis and Hussey, 2003). The adoption of the survey strategy provided the researcher with close control over the research process, as well as allowing for the generation of findings that are representative of the population of UAE and UK financial institutions at a lower cost (Gummesson, 2000). According to Saunders et al. (2016), there are two major data collection techniques that are usually associated with the survey strategy, namely questionnaires and structured interviews. Self-administered questionnaires are used in this study as the principal source of quantitative data. As noted by Tashakkori and Teddlie (2003), the data collected by means of this technique is standardized, meaning that it can be easily compared. Each questionnaire sample contains the same questions about credit risk management strategy and the performance of financial institutions. Therefore, there is no need to design a unique set of questions for each respondent. Furthermore, the data gathered with the help of questionnaires can be processed quantitatively using inferential and descriptive statistics, which is another reason behind the selection of this technique for this study (Easterby-Smith et al., 2012).

Self-administered questionnaires also allow for the collection of a large amount of data from a large population of bank employees and is also advantageous because it can increase the validity and reliability of research (Easterby-Smith et al., 2012). By involving a large number of participants, it is possible to minimise participant bias, which is as one of the main drawbacks of using a questionnaire (Bell and Waters, 2014). Finally, it is possible to distribute self-administered questionnaires via social media and email to bring down financial and time costs associated with the data collection process, which was a key practical consideration that supported the selection of this technique for this study (Robson and McCartan, 2016).

At the same time, the use of self-administered questionnaires may be associated with several drawbacks and limitations that should be discussed in the research methodology chapter. Firstly, participant error is a potential threat to the validity and reliability of analysis results, as survey participants may misinterpret some questions (Saunders et al., 2012). This is why it was important to attempt to eliminate any ambiguity from the questionnaire before the full-scale data collection process. Another drawback of self-administered questionnaires as a data collection technique is that they limit participants' ability to give honest and detailed answers (Bryman and Bell, 2015). The point is that self-administered questionnaires offer respondents to select from a determined set of short answer variants, which are usually constructed using the Likert scale methodology (Bell and Waters, 2014). At the same time, the use of this data collection technique does not imply the provision of participants with an opportunity of giving their own responses. This is another reason behind the selection of semi-structured interviews as one of the principal sources of evidence in this project. Alternatively, to self-administered questionnaires, semi-structured interviews do not limit interviewees' creativity since that are free to give detailed answers during the data collection process (Easterby-Smith et al., 2012). Considering the limited time and financial resources available for the completion of this project, primary qualitative data was gathered from a small number of UK and Saudi commercial banks' employees.

Second, semi-structured interviews are also used as another source of primary evidence. According to Tashakkori and Teddlie (2003), by conducting semi-structured interviews, researchers can gain a deep insight into the social phenomenon being under study. The employment of this data collection technique allows the researcher to overcome the previously discussed limitations associated with self-administered questionnaires, namely the

limited creativity of questionnaire participants (Robson and McCartan, 2016). Indeed, during semi-structured interviews, interviewees are able to give any answer at their disposal. Furthermore, it is possible to collect addition information from interviewees during the data collection process, which is another advantage of this technique (Easterby-Smith et al., 2012). For instance, interviewees' body language, facial expression and voice tone can be used as additional sources of data.

Finally, in contrast to self-administered questionnaires, semi-structured interviews allow the researcher to collect a lot of information from participants on a large range of issues (Saunders et al., 2016). While it is guided by an initial set of questions, additional questions can be asked during the interviews as needed and overall allows researchers to collect information on what the participants have to say and explore their reasoning (Kaczynski et al., 2014). Data gathered by means of semi-structured interviews is more wide-ranging compared to data gathered from self-administered questionnaires and thus, it is possible to gain a deeper insight into the issue of credit risk management in both Islamic and European financial institutions (Kaczynski et al., 2014). However, semi-structured interviews are more time-consuming in comparison with self-administered questionnaires and has other practical disadvantages, since the researcher may face difficulties in arranging interviews, for example, busy bank managers (Bryman and Bell, 2015). Further, semi-structured interviews do not provide structured data and this data cannot be processed using graphical or statistical analysis methods (Zikmund et al., 2003). Nonetheless, interviews were selected, in conjunction with questionnaires, to collect data for this study so that the explanation available from questionnaire data can be supported by greater understanding based on interview data (Hovorka and Lee, 2008). Finally, the data gathered by means of self-administered questionnaires was compared and contrasted with the data collected from the semi-structured interviews, however, it is acknowledged that the differences in the design of the data collection techniques may pose a challenge to the researcher's ability to triangulate the sources as well as the obtained information (Bryman and Bell, 2015).

3.6. The Operationalisation of the Key Variables

Given that this study attempts to assess the impact of credit risk management strategy on the performance of commercial banks, it involves both dependent and independent variables (Zikmund et al., 2003). Each variable is defined as presented in Table 2.

Table 2: Variable Definition

Questionnaire Section	Question	Variable	Definition	Relevance to the Research Objectives of This Project	Literature Source
II. Credit risk management strategies	7	FST	Financial statement analysis	1, 3	Al-Tamimi (2002)
	8	INS	Inspection by branch managers	1, 3	Abdul-Majid et al. (2010)
	9	CSA	Credit score analysis	1, 3	Al-Tamimi (2002)
	10	CWA	Creditworthiness analysis	1, 3	Abdul-Majid et al. (2010)
	11	RRM	Risk rating method	1, 3	Ramona (2011)
	12	CPM	Credit portfolio models	1, 3	Carbo and Rodriguez (2007)
	13	INT	Internal ratings	1, 3	Alkhatib and Harsheh (2012)
	14	EXP	Exposure limit	1, 3	Kumru and Sarntisart (2016)
	15	STR	Stress testing	1, 3	Abdul-Majid et al. (2010)
III. Factors influencing risk management in the banking sector	16	RMF	Risk management framework	2	Bouteille and Coogan-Pushner (2012)
	17	CHR	Independent chairman	2	Paape and Spekle (2011)
	18	RMT	Regular meetings	2	Huber and Scheytt (2013)
	19	STR	Risk management strategies	2	Margrabe (2007)
	20	EXT	External audit	2	Huber and Scheytt (2013)
	21	INT	Internal audit	2	Paape and Spekle (2011)
	22	STR	Organisational structure	2	Abdul-Majid et al. (2010)
	23	CUL	Organisational culture	2	Huber and Scheytt (2013)
IV. Commercial bank profitability	24	ROE	Return on equity	4	Al-Tamimi (2002)
	25	ROA	Return on assets	4	Abdul-Majid et al. (2010)

3.7. Instrument Design

The interview script (Appendix C) sought to gain understanding of bank managers' assessment of the methods and techniques employed in their bank relating to credit risk management and the effectiveness of these strategies (Gakure et al., 2012; Al-Tamimi and Al-Mazrooei, 2007). It served as a compliment for the questionnaire, which consisted of four sections:

1. Respondent profile;
2. Credit risk management strategies;
3. Factors influencing risk management in the banking sector; and
4. Commercial bank profitability.

The first section (Q1-Q6) focused on the collection of background data on the participants' age, gender, education, current position and working experience. Despite the fact that this data did not lead to the achievement of the research's main aim and objectives, it allowed the researcher to construct detailed respondent profiles (Cihak and Hesse, 2010). In turn, these profiles were used to gain a deeper understanding of credit risk management in the UAE-based and the UK-based commercial banks (Hassan et al., 2017). Furthermore, this data increased the validity and reliability of results and analysis. A strength of the sampled cohort of participants, as argued by Easterby-Smith et al. (2012), is that experienced employees have a strong understanding of the internal processes taking place in their organisation.

The second questionnaire section (Q7-Q15) asked participants to identify and delineate the extent to which they agreed or disagreed with the credit risk management strategies (i.e. financial statement analysis, inspection by branch managers, credit score analysis, credit-worthiness analysis, risk rating method, credit portfolio method, credit portfolio models, internal ratings, exposure limit and stress testing) adopted in their financial institution. According to the literature review, there are significant differences between traditional and Islamic financial institutions in terms of the employed credit score analysis tools and instruments (Kabir et al., 2015). It was expected that financial statement analysis, credit score analysis and risk rating analysis are more actively used by Islamic banks to assess their credit risk exposure (Ramona, 2011; Jones and Perignon, 2013). The literature review also suggested that credit portfolio models and exposure limit are more actively used by traditional commercial banks (Ibrahim, 2015). The second section of the questionnaire was

designed in a way to identify whether these differences were relevant with respect to UK and UAE commercial banks.

The third section of the questionnaire (Q16-Q23) was responsible for the identification of the most important factors that impact risk management in the banking sector. According to the literature review chapter, the quality of external and internal audit has a strong impact on the extent to which a commercial bank can manage its credit risks in an effective manner (Sundarajan, 2007). Culture is another important aspect that should be considered by credit risk managers in reaching a decision as to whether to grant credit (Alkhatib and Harsheh, 2012). The existence of a sound risk management framework in place and board characteristics (e.g. board independence and frequent meetings) were also identified in the literature review chapter as factors that can influence risk management in the banking sector (Hanif and Iqbal, 2010; Alkhatib and Harsheh, 2012). According to Berrios (2013), the extent to which credit risk assessment strategies are systematically formulated, evaluated and implemented is another important factor that affects the quality of risk management in the banking sector.

As noted in the literature review chapter, bank profitability is usually measured by two indicators: ROE and ROA (Al Ajlouni and Shawer, 2013). These measures were adopted by this study to assess the impact of credit risk management strategy on the performance of commercial banks in the UAE and the UK (Q24-Q25). Another reason for the selection of these measures is that bank insiders have easy access to this information and can share it with the researcher. It should be critically remarked that the profitability of conventional and Islamic banks is measured only for a year. Otherwise, the validity and reliability of the responses provided by those employees who have been working for a bank less than a year would be invalid.

Prior to full release of the questionnaire to participants, the questionnaire was piloted with changes made to improve the clarity of the questions. Piloting the questionnaire is an effective way of identifying unanticipated interpretive and validity issues (Rowley, 2014). Twenty questionnaires were distributed among the individuals employed in the banking sector and 17 were returned. Based on the feedback from those that completed the questionnaire, relevant changes were introduced on the questionnaire to eliminate all possible ambiguity and vagueness (Rowley, 2014). Most notably, a new section on the effectiveness

of risk credit assessment strategies, was inserted in the questionnaire. Research participants were offered to evaluate the effectiveness of the risk credit assessment strategies employed in their bank in the fifth section of the questionnaire (Q26) (Iannota et al., 2007). This action has allowed the researcher to evaluate the key areas of bank profitability, which are impacted by credit risk assessment strategies in a more precise way. Therefore, the final questionnaire, which can be found in Appendix A, consists of five sections and 26 questions. The analysis methods used in this study to achieve the main aim and objectives are discussed in detail in the following sections of the research methodology chapter.

3.8. Measurement, Sampling and Analysis

At the research design development stage, it is important to ensure that participant responses were measurable and valid. For this purpose, a 5-point likert scale from 'Strongly disagree' to 'Strongly agree' was used in the questionnaire to ensure that all individual responses were measurable. The gathered responses were rated using a 5-point Likert scale where 1 is Strongly disagree and 5 is Strongly agree.

One of the key advantages of the Likert scale methodology is that it allows for degrees of opinion rather than a simple yes or no answer (Joshi et al., 2015). Therefore, by using this scaling method, researchers can gain quantitative data which is highly structured in nature and can be easily processed graphically and statistically (Joshi et al., 2015). However, the validity and reliability of all scaling measurement techniques, including the Likert scale, can be compromised as participants may give dishonest answers to convey either positive or negative representations (Easterby-Smith et al., 2012). Nevertheless, by making the questionnaire fully anonymous, it is possible to minimise social desirability bias and further reduce social pressure (Saunders et al., 2016), and to encourage individuals to give more honest and representative responses.

Considering the limited financial and time resources available to complete this study, it was important to ensure the collection of the primary data in an effective and efficient manner. For this purpose, non-probability convenience sampling technique was employed. Compared to probability sampling, non-probability sampling does not establish specific and demanding selection criteria (Sekaran and Bougie, 2016). In other words, all managers and subordinate

employees from the UAE-based and the UK-based commercial banks did not have an equal chance to be included in the sample of this study (Sensarma and Jayadev, 2009) and so there is no guarantee that the sample is representative of the whole population of managers and non-managers employed in the UAE-based and the UK-based commercial banks (Robson and McCartan 2016). Instead, the most easily accessed manager and non-managers of Islamic and conventional financial institutions were included in the study (Bader et al., 2008). This has its limitations but still allows for significant results to be gained (Saunders et al., 2016).

This study sought to collect primary quantitative data from 100 employees of the UAE-based and the UK-based commercial banks (50 middle-level managers from each country). Finally, this study is also interested in the collection of qualitative data, which can be viewed as another explanation of the selected sample. The inclusion of 50 employees from each context is explained by the need to make the comparison fair. The profiles of the respective samples varied little between the UAE and the UK. The 10 participating banks from UK were Barclays Bank Plc, HSBC Bank Plc, Lloyds Bank Plc, Bank of Scotland Plc, Standard Chartered Plc, J.P. Morgan International Bank Limited, Union Bank UK Plc, Morgan Stanley Bank International Limited, Bank of London, and The Middle East Plc. The professional status of the top managers contacted were mainly Group Chief Risk Officers, Head of Risk Management and Head of Credit Risk Management. The 10 participating banks from UAE were Dubai Islamic Bank, Abu Dhabi Islamic Bank, Emirates Islamic Bank, Sharjah Islamic Bank, Emirates NBD, RAK Bank, First Gulf Bank, Habib Bank AG Zurich, Commercial Bank International, and Mashreq Bank. The professional status of the top managers contacted were mainly Group Chief Risk Officers and Head of Credit Risk.

The management of the largest Islamic and conventional financial institutions in the UAE and the UK were contacted between March 2016 and October 2016 by the researcher via phone and email and asked to participate in the interview survey. Interviews were conducted using a variety of means including: face-to-face, skype and telephone. A pragmatic and flexible approach was essential given the range of factors impacting and, more often, impeding the scheduling of the interviews. The interviews were recorded but only with the express permission of the participants. This allowed the data to be transcribed verbatim for analysis using a content analysis approach (Zikmund et al., 2003).

Furthermore, these top managers were asked to provide the researcher with access to their subordinates. In turn, these workers were asked to participate in the questionnaire. This approach allowed the researcher to contribute to the response rate of the questionnaire, which was 33%. The majority of those offered to take part in the questionnaire agreed to participate. Regarding the validity and reliability of the questionnaire, a key indicator is Cronbach Alpha that provides an overall reliability coefficient for a set of variables. The Reliability Statistics table that provides the actual value for Cronbach's alpha is shown below:

Table 3: Reliability Statistics (Cronbach's Alpha)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.727	.719	26

Table 3 demonstrates that the reliability (alpha) coefficient for all 26 questionnaires is .727, suggesting that the questionnaires have comparatively acceptable internal consistency, since .70 or higher reliability coefficient is considered "acceptable" in most of the social science research conditions (Morgan et al., 2007, Abdou et al., 2014).

In addition to calculating the reliability (alpha) coefficient, we can also use factor commands to examine the dimensionality of the scale. In this regard, the last column of Table 4 demonstrates that what would be the value of Cronbach's alpha if a particular question was removed from the scale. It can be observed that deletion of any particular question will result only a lower Cronbach's alpha. Hence, no question should be removed from the questionnaire.

Table 4: Item-Total Statistics (Cronbach's Alpha)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
q1	86.6900	90.762	.039	.918	.733
q2	88.2800	91.436	.078	.352	.727
q3	86.3900	90.503	.090	.808	.728
q4	88.1700	91.496	.068	.358	.728
q6	86.6000	90.364	.062	.937	.731
q7	85.9800	84.484	.284	.329	.717
q8	85.8000	84.263	.286	.268	.717
q9	86.0200	84.929	.264	.280	.719
q10	85.8300	85.516	.255	.306	.719
q11	86.1100	85.654	.227	.278	.722
q12	86.0700	85.924	.225	.320	.722
q13	86.0800	84.943	.265	.336	.719
q14	85.8300	85.577	.244	.394	.720
q15	85.6900	83.873	.367	.310	.711
q16	85.9000	85.162	.308	.313	.715
q17	86.0100	85.283	.254	.206	.719
q18	85.7300	84.583	.331	.295	.713
q19	85.5700	84.389	.403	.356	.709
q20	85.5600	83.966	.409	.363	.709
q21	85.5000	86.111	.323	.259	.715
q22	85.6400	84.596	.370	.377	.711
q23	85.7100	85.582	.269	.195	.718
q24	85.6700	83.698	.408	.357	.708
q25	85.6800	85.028	.320	.288	.714
q26	85.5700	85.136	.340	.398	.713

The data gathered by means of the questionnaire was processed using both graphical and statistical analysis methods. Excel was used to create a simple overview of the raw data and to construct graphs, charts, and histograms (Quinlan, 2015), and SPSS was used for the more multivariate statistical analyses (Bryman and Cramar, 2011, Carver and Nash, 2011). The descriptive statistics function in SPSS was used to identify the main trends in participant responses. In turn, the ordered logistics regression was executed to evaluate the link between a bank's profitability factors that impact credit risk assessment strategies and decision-making (Sekaran and Bougie, 2016). The outcomes of the statistical analysis are presented in the Findings and Analysis Chapter.

3.9. Ethical Considerations and Research Limitations

Prior to conducting the research, the researcher applied for and received ethical clearance from the University's research ethics board. Evidence of this ethical clearance is provided in Appendix F. Given the high degree of human involvement in both the self-administered questionnaires and semi-structured interviews, ethical issues were given close attention (Zikmund et al., 2003). Respondent and interview safety and security are the main concerns to the researcher. In addition to receiving ethical clearance from the University's ethical clearance board, participants were informed about the ability to opt out of the research at any time.

During the questionnaire design stage, it was important to ensure risks to participants associated with their financial and personal security and safety were minimised and avoided (Sekaran and Bougie, 2016). For this purpose, no sensitive data was collected from participants, including respondents' nationality, addresses, telephone number or sexual orientation were asked during the data collection process (Saunders et al., 2016). In addition, the process was anonymised, meaning that the questionnaire participants were not asked to report their names (Sekaran and Bougie, 2016). These measures were also useful for increasing the willingness of individuals to participate in a questionnaire and to provide honest answers (Quinlan, 2015).

Questionnaires often have a low response rate**,** which usually does not exceed 35% (Zikmund et al., 2003). It is possible to explain this low response rate by the lack of potential participants' interest in a certain study (Sekaran and Bougie, 2016). For this purpose, each questionnaire contained detailed information about the main purpose of the study as well as its expected and intended outcomes. By providing this information, the response rate of questionnaires can be significantly increased (Zikmund et al., 2003). Next, the informed consent of all respondents and interviewees was obtained before collecting any data, which allowed the researcher to ensure their voluntary participation in this study (Easterby-Smith et al., 2012). Finally, the issue of respondent confidentiality was addressed by safely storing all data collected via the survey and the interviews on the researcher's personal computer and was protected by a password. Only the researcher has direct access to this information, which cannot be accessed by any third-party individual or organisation without the written permission from respondents and interviewees (Robson and McCartan, 2016).

One of the main limitations of this study refers to the number of subordinate employees and managers from the UAE-based and the UK-based banks. It is relevant to note that it is almost impossible to achieve a 100% response rate in a questionnaire (Sekaran and Bougie, 2016). Only a proportion of those who are invited to take part in a questionnaire would participate. Furthermore, the total population of commercial bank workers in the UK only stands at about 1.5 million, which is very large to be covered in a piece of academic research. Limited access to banking sector insiders is another limitation of this study that did not allow the researcher to get data from a greater number of commercial bank workers.

Considering the usual low response rate of questionnaires, it was decided to increase the number of questionnaires distributed among potential respondents. This action was expected to ensure that the researcher would get enough responses for both graphical and statistical analyses. Therefore, questionnaires were distributed among 300 potential respondents. The most easily accessed population members were contacted via social media and asked to participate. However, only 100 individuals returned their questionnaire. Thus, the response rate of the carried-out questionnaire is equal to 33%. 100 actual responses are enough for a valid analysis. Considering the total target population, the confidence interval for this sample is equal to 10% and the confidence level is 95%. A 95% confidence level and +/-10% confidence interval or margin of error indicate that if the same questionnaire is repeated 100 times under the same conditions, 95 out of 100 times, the responses would deviate only by +/-10% from this questionnaire.

Another limitation of this study concerns the number of financial institutions that could be analysed. Only large banks were included in the sample. This decision is justified by their relatively easy access. Nevertheless, there are numerous smaller Islamic and European financial institutions that could be used in this study (Quinlan, 2015). It should be critically remarked, however, that by increasing the sample, the researcher could face considerable challenges in getting access to these banks. In addition, there is no much information on these banks is publicly available at present (Gummesson, 2000).

3.10. Summary

The aim of the research methodology is to outline and justify the steps taken in conducting the empirical portion of the research. In this chapter, the research philosophy that guided the research was outlined, and based on the positivist stance taken in this research, the rest of the research approach and design was laid out. Based on a deductive approach, a mixed method design was used in which both quantitative and qualitative data were gathered to address the research questions (Tashakkori and Teddlie, 2003). Questionnaires using a 5-point Likert scale were distributed to 10 UAE-based and 10 UK-based banks and a total of 100 middle-level managers (50 from the UAE-based banks and 50 from the UK-based banks) formed the sample. Additionally, qualitative data was collected from 20 top-managers (10 from the UAE-based banks and 10 from the UK-based banks) via semi-structured interviews. A non-probability convenience sampling method was used to gain access to the target population, however, valuable data was still collected despite the limitations of this sampling strategy. The qualitative data was analysed using content analysis while the quantitative data was analysed using both descriptive and inferential statistics. The results are combined and presented in the next chapter.

Chapter 4: Findings and Analysis

4.1. Introduction

The purpose of this fourth chapter is to present the findings of the research. As outlined in the Research Methodology and Design Chapter, self-administered questionnaires and semi-structured interviews were used to collect the primary quantitative and qualitative data. Quantitative data was gathered from 100 middle-level managers of the UK-based and the UAE-based commercial banks and 20 upper managers of the largest Islamic and conventional financial institutions were interviewed. The analytical methods employed included ordered logistics regression, descriptive statistics, diagnostic tests, graphical representation and thematic analysis. By way of structure, the Findings and Analysis chapter first provides an overview of the demographic details of the sample, before presenting the formal analysis of the data. The analysis firstly compares the credit risk assessment strategies of UK-based and UAE-based banks, then reviews the impact of credit risk assessment strategies on bank profitability and the factors affecting risk management. The effectiveness of the risk assessment strategies rounds off the chapter.

4.2. Respondent Background

Demographic information on respondents allows researchers to analyse data by various characteristics and groups. This section of the findings and analysis chapter presents the characteristics of the questionnaire sample.

The participants' age is presented in Figure 3. The majority (38%) of those who returned the questionnaire reported that they were between 36 and 45 years, while 27% of the participants asserted that they belonged to the 26-35 age group. The employees of the largest UK-based and UAE-based financial institutions who were between 46 and 55 years accounted for 25% of the sample. Only a minority or 5% of the individuals indicated that they were older than 18 years but younger than 26 years. Finally, the remaining 5% of the sample were older than 56 years. These outcomes demonstrate that the sample consists of the individuals of different age. Figure 4 shows that males formed the majority (61%) of the sample. In turn, only 39% of those who participated in the questionnaire reported that they were females. These findings

can be explained by the fact that women in the UAE still have limited rights and freedoms in comparison to males. In 2009, only around 20% of all Emirati women were part of the labour force (IMF, 2012). At the same time, 56% of the female population aged 15 and older is economically active in the UK (The World Bank, 2016).

Figure 3: Age

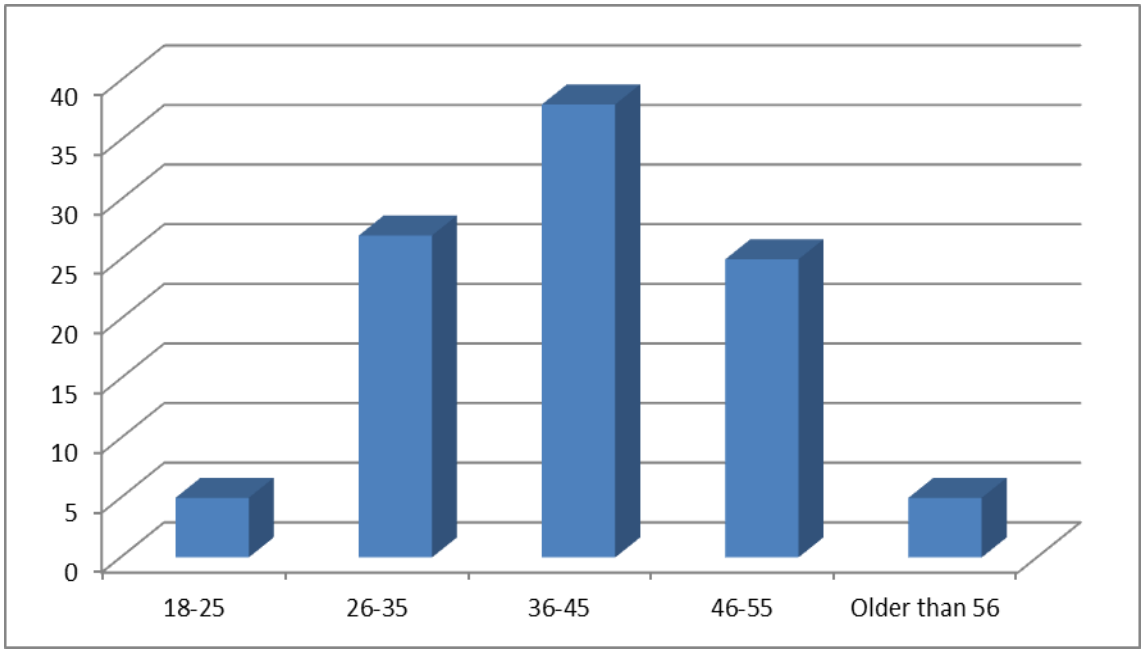


Figure 4: Gender

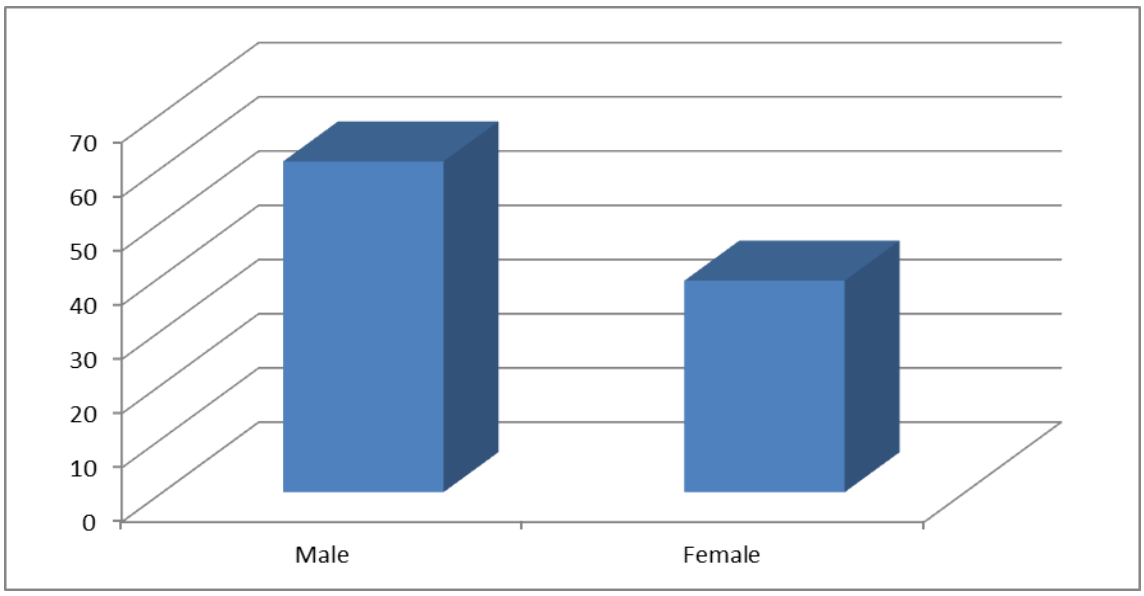
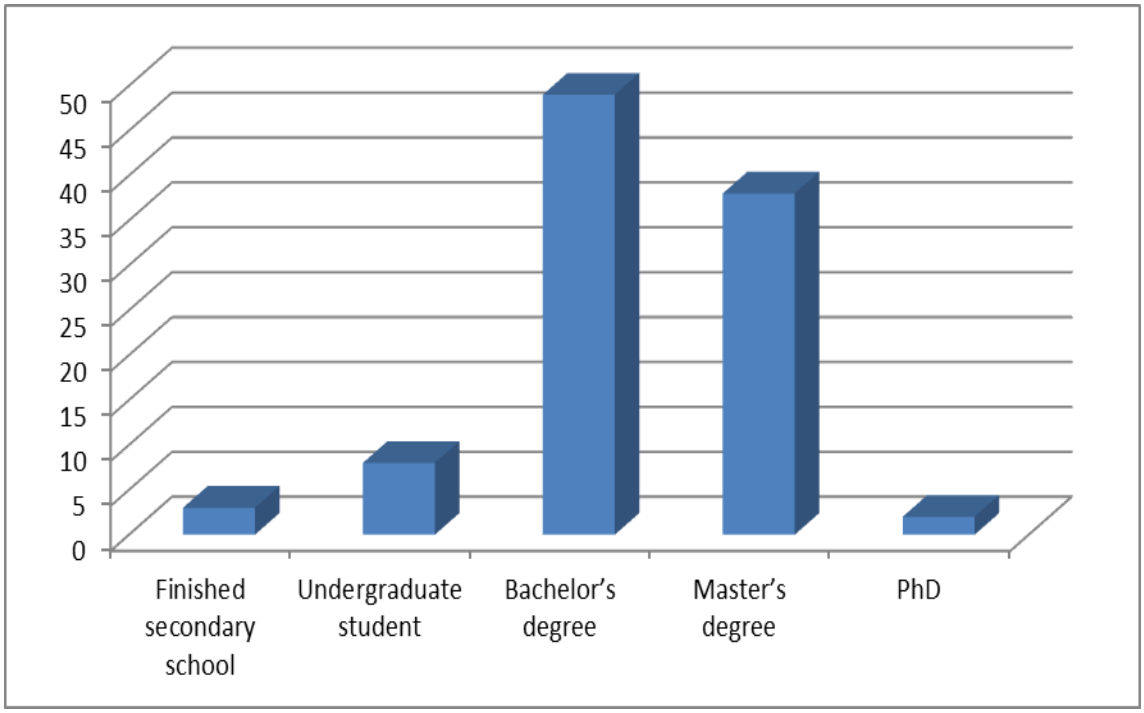


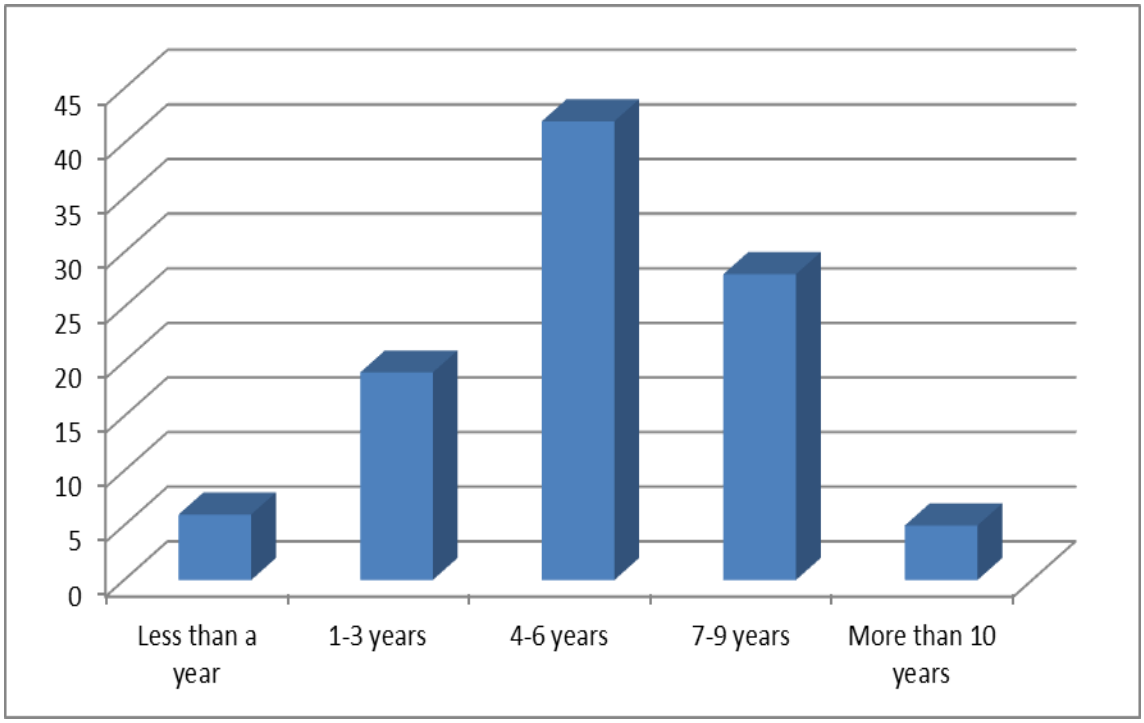
Figure 5 shows that almost half (49%) of the participants reported that they had a Bachelor's degree. More than one-third (38%) of those surveyed indicated that they had a Master's degree. The participants who either had finished secondary school or was an undergraduate student accounted for 3% and 8% of the sample, respectively. The remaining 2% of participants asserted that they had a PhD. degree. It is possible to explain these results by the fact that only managers were included in the sample. According to Hosna et al. (2009), organisational managers usually have better education in comparison with their subordinates.

Figure 5: Level of Education



The participants' working experience is presented in Figure 6. The overwhelming majority (42%) of those surveyed reported that they had been working as bank managers for 4-6 years. Almost one-third (28%) of the individuals indicated that their working experience as a bank manager was from 7 to 9 years. Respondents who asserted that they had been working as bank managers for 1-3 years accounted for 19% of the sample. These results suggest that most respondents are highly experienced bank managers whose knowledge of their financial institutions' credit risk assessment methods and techniques should be considerable. It is discovered that the upper managers included in the sample were highly experienced professionals (see Appendix E). Overall, the examination of the survey respondents showed that they were educated, middle-aged and experienced banking professionals, and more than half of them were male.

Figure 6: Length of Time as a Bank Manager



4.3. An Analysis of the Current Credit Risk Assessment Strategies of the UK-Based and the UAE-Based Banks

As outlined in the thematic literature review, there are numerous credit risk assessment techniques and methods used by banks (Al-Tamimi and Al-Mazrooei, 2007). These methods may include inspection by branch managers, financial statement analysis, establishing standards, credit scoring and risk rating (Gakure et al., 2012; Abdelrahim, 2013). The analysis of the most actively used credit risk assessment methods and techniques by the UK-based financial institutions is carried out with the help of the descriptive statistics and have been presented in Table 5. As shown in these results, the mean of the exposure limits and stress testing variables were the highest among the variables and equal to 4.08 and 4.00, respectively. The standard deviation of these variables is not far from 1, indicating that the majority of those surveyed either agreed or strongly agreed that exposure limits and stress testing were the most popular credit risk assessment strategies adopted by their UK commercial bank.

Table 5: The Most Popular Credit Risk Assessment Strategies in the UK Banking Sector

Variable	Mean	Std. Deviation
FST	3.360	1.258
INS	3.800	1.229
CSA	3.300	1.298
CWA	3.660	1.239
RRM	3.320	1.316
CPM	3.900	1.035
INT	3.720	1.144
EXP	4.080	0.966
STR	4.000	0.990

N = 50

This is supported by previous research highlighting exposure limit and stress testing as being among the most frequently used credit risk assessment methods and models by European commercial banks (Kumru and Sarntisart, 2016; Kabir et al., 2015; Ibrahim, 2015). However, it is important to note that stress testing may mean different things in each bank, as researchers have identified inconsistencies in the way these banks use these procedures (in terms of the statistics they would use) (Oliveira et al., 2011). The risk rating method and credit score analysis had the lowest among the variables, indicating that these were perceived by most of the managers as the least actively used strategies to measure the credit risk exposure of their UK commercial bank. This is in contrast to the general literature showing that credit scoring is one of the commonly used methods by banks, often because they are relatively inexpensive to use, and they rely less on subjective criteria (Abdou and Pointon, 2011; Emel et al., 2003). However, UK banks have a lot of information available to them about their creditors as well as sophisticated analysis techniques, making it easier for them to use more contemporary approaches to risk assessment such as stress testing as they move away from more traditional approaches such as credit score analysis. This is consistent with the research showing European banks are carrying out rigorous credit analysis using tools such as exposure limit and stress testing (Kumru and Sarntisart, 2016) and generally like to develop their own models to drive their credit management process (Yang, 2012).

Table 6 shows the results in terms of the most popular credit risk assessment strategies in the UAE-based financial institutions. In line with previous research showing that UK and Emirati commercial banks vary in respect to their perception of credit risk assessment methods and techniques (Li and Zou, 2014; Al Ajlouni and Shawer, 2013) these results show that the UAE

bank managers relied on different strategies compared to their UAE counterparts. As shown, financial statement analysis, creditworthiness analysis, and credit score analysis were the most actively used strategies to assess their UAE-based bank's exposure to credit risk, with means equal or >4.00.

Table 6: The Most Popular Credit Risk Assessment Strategies in the UAE Banking Sector

Variable	Mean	Std. Deviation
FST	4.020	1.116
INS	3.940	1.284
CSA	4.000	1.050
CWA	4.020	1.078
RRM	3.800	1.125
CPM	3.300	1.298
INT	3.460	1.297
EXP	3.600	1.355
STR	3.960	1.195

N = 50

These results are in line with the general research showing that financial statement analysis, creditworthiness analysis, and credit score analysis are commonly used across countries because they are easy to implement (Abdou and Pointon, 2011; Emel et al., 2003). In contrast, in the UAE, credit portfolio models and internal ratings are the least popular credit risk assessment methods with Emirati commercial banks, with means of 3.30 and 3.46, respectively. The limited reliance on credit portfolio models in the UAE is likely to be based on the fact that these banks are less likely to have a wide range of parameters and factors (e.g. the industry, credit grade and geography) available to them to develop valid credit portfolio models (Chen and Pan, 2012). Similarly, the validity and reliability of internal ratings is threatened by the increased potential for bias misinterpretations compared to other models (Abdul-Majid et al., 2010), and without access to a wide range of information to develop these ratings, it is understandable that bank managers in the UAE are more likely to rely on financial statement analysis, creditworthiness analysis, and credit score analysis since these are less open to bias.

This preliminary analysis supports the hypothesis that there are differences in the usage of credit risk assessment strategies between the UK-based and the UAE-based commercial

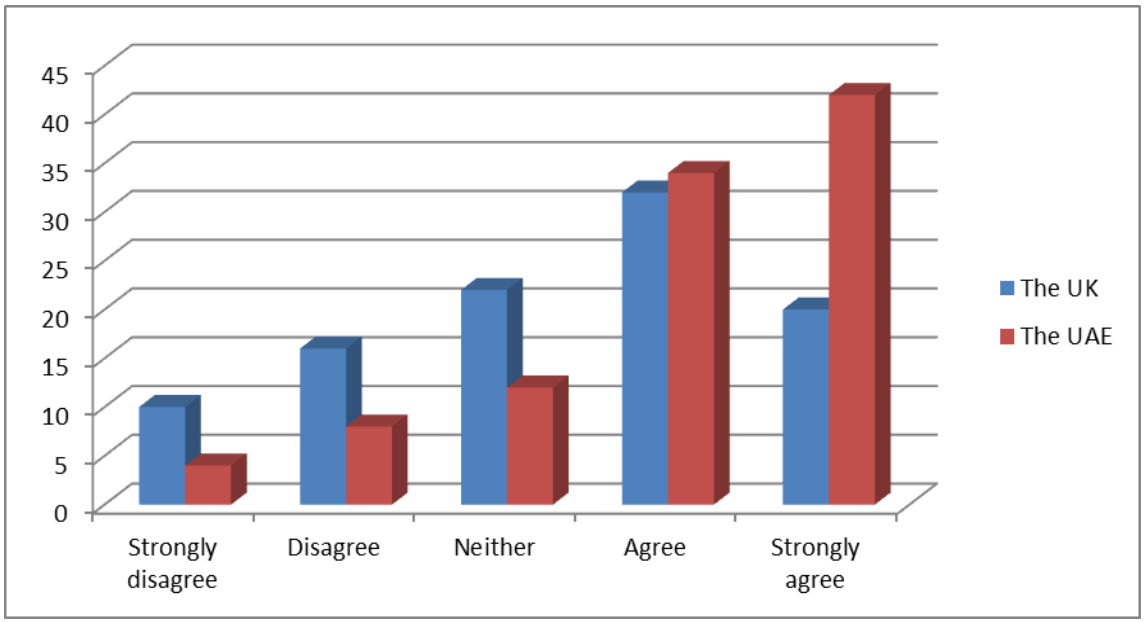
banks as one of the most used methods in the UAE – credit score analysis – is one of the least used methods in the UK. This provides preliminary support for H5: *There is a difference between UAE Islamic banks and UK conventional banks in terms of the risk assessment strategies used most.*

These results are consistent with previous empirical investigations. For example, European commercial banks have been identified as putting a heavier emphasis on exposure limit and stress testing in comparison with Islamic banks as a tool to measure their credit risk exposure (Kumru and Sarntisart, 2016; Ibrahim, 2015). Further, in their empirical investigation, Al-Tamimi and Al-Mazrooei (2007) found that credit score analysis was a popular risk assessment method in the context of Islamic finance and Abdul-Majid et al. (2010) reported that creditworthiness analysis was also actively used by Islamic banks, however, it appears that these are not a popularly used methods for risk assessment in the UK. Similarly, risk rating method is considered as a popular credit risk assessment method across countries (Ramona, 2011; Jones and Perignon, 2013), however, it is rated more highly in this sample among UAE bank managers than among UK bank managrs as an actively used risk assessment method. Further, consistent with the literature showing that credit portfolio models are actively used by European commercial bank to assess their credit risk exposure Kumru and Sarntisart (2016) but being less popular with Islamic banks (Abdul-Majid et al., 2010), the results of this preliminary analysis shows that credit portfolio models have a mean of 3.9 among UK bank managers but only 3.3 among UAE bank managers. These outcomes align with Al Ajlouni and Shawer's (2013) argument that the way in which financial institutions assess their credit risk exposure differs across cultural contexts.

The extent to which the questionnaire participants perceive financial statement analysis to be actively used by their bank is presented as follows.

Figure 7 demonstrates that in total, the Emirati bank managers who either agreed or strongly agreed that their financial institution actively used financial statement analysis accounted for 34% and 42% of the sample, respectively. At the same time, a total of 12% of those surveyed either disagreed or strongly disagreed that their Emirati bank actively used this credit risk assessment strategy. This indicates that financial statement analysis is a regularly used tool by UAE banks.

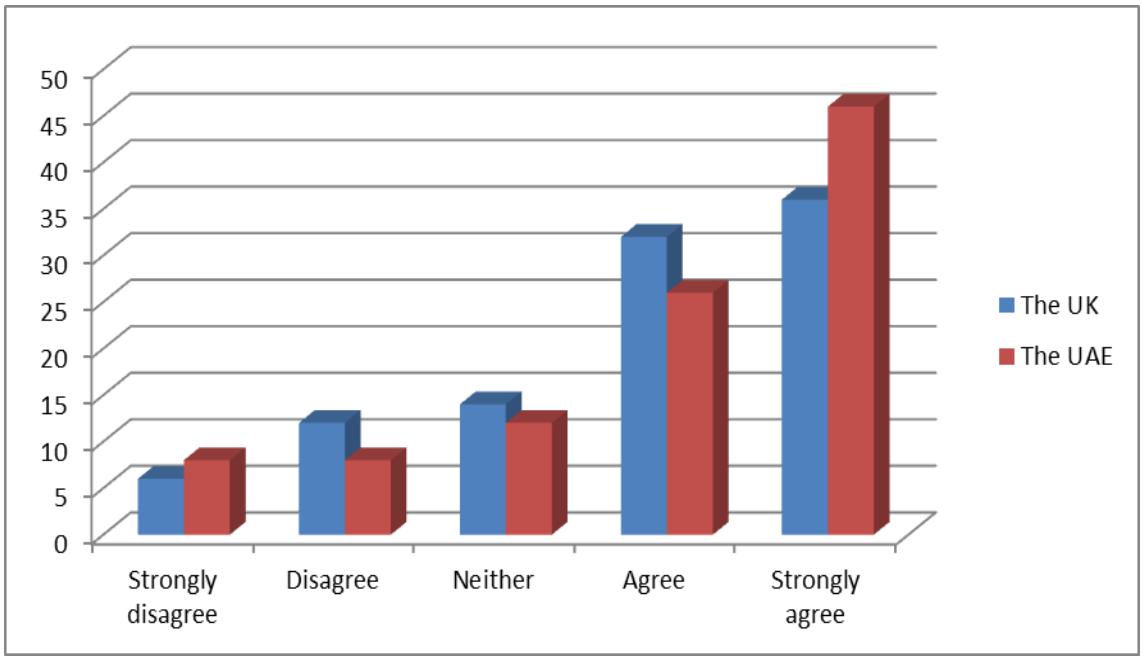
Figure 7: Financial Statement Analysis



In turn, in total more than half (52%) of the UK managers either agreed or strongly agreed that their commercial bank actively used financial statement analysis to assess its potential credit risks. By contrast, the UK managers who either disagreed or strongly disagreed with this statement totalled 26% of the sample. More than one fifth (22%) of the UK-based banks' managers responded neutrally. These outcomes demonstrate that financial statement analysis as a credit risk assessment tool is more popular with Emirati commercial banks in comparison with UK financial institutions. However, this difference is not considerable since the managers from both cultural contexts evaluated this credit risk assessment technique as popular with their bank. This shows that financial statement analysis is one of the tools that are popular in all types of banks as part of their portfolio of credit assessment tools (Oliveira et al., 2011).

As reported by Carbo and Rodriguez (2007), inspections by branch managers are among the most common credit risk assessment strategies employed in the banking sector. The extent to which inspection by branch managers is perceived by both UK and Emirati managers as an actively employed by their bank credit risk assessment technique is presented in Figure 8. In total, the overwhelming majority or 82% of the Emirati bank managers who returned their questionnaire either agreed or strongly agreed that inspections by branch managers were actively used by their bank to assess credit risk. At the same time, the Emirati managers who either disagreed or strongly disagreed with their counterparts totalled 16% of the sample.

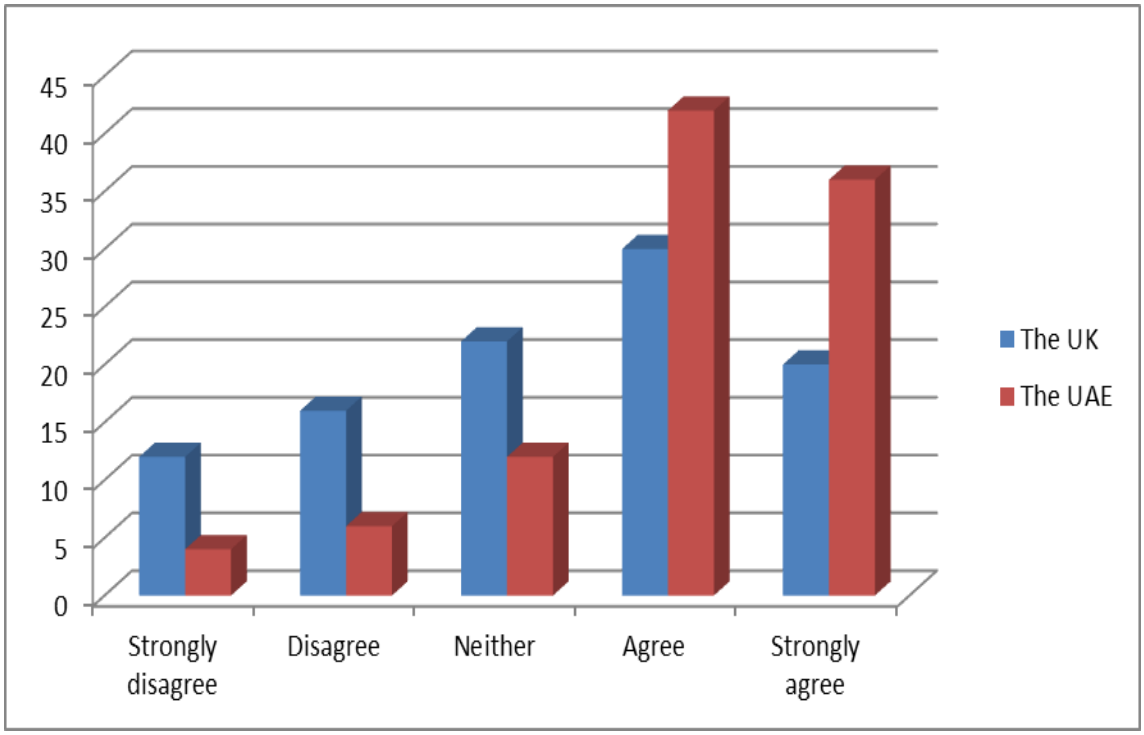
Figure 8: Inspection by Branch Managers



In contrast, the UK managers who either agreed or strongly agreed that their commercial bank actively used inspection by branch managers accounted for 32% and 36% of the sample, respectively. The participants who reported that this credit risk assessment technique was not among the most actively used by their UK financial institution totalled 16% of the sample. Finally, 14% of respondents responded neutrally to this statement. Therefore, according to the produced analysis results, inspection by branch managers is perceived by the questionnaire participants to be more popular with Emirati commercial banks comparing to UK financial institutions; only 68% of the sample from the UK agreed that they used inspection by bank managers, while 82% of the Emirati sample agreed. This is in line with previous research showing that both financial statement analysis and inspection by branch managers are among the most common strategies used for assessing credit risk in the banking sector (Al-Tamimi, 2002). These are more traditional methods, which is likely to explain why they are used more by the Emirati banks than the UK banks, since Islamic banks tend to use traditional tools in their risk mitigation to a large extent (Ben Selma Mokni et al., 2014).

Next, the extent to which credit score analysis is used by both UK and Emirati banks to measure credit risk is presented in Figure 9. In total, almost fourth fifths (78%) of participants either agreed or strongly agreed that credit score analysis was actively used by their Emirati financial institution. By contrast, a total of only 10% of the UAE-based banks' managers indicated that this credit risk assessment strategy was not actively used by their bank.

Figure 9: Credit Score Analysis



In contrast, half of the questionnaire participants either agreed or strongly agreed that their UK-based bank actively used credit score analysis to assess potential credit risk. The UK respondents who asserted that this strategy was not employed by their financial institution totalled 28% of the sample. Finally, as much as 22% of the managers from the UK-based banks responded neutrally. Hence, credit score analysis is more popular with the UAE-based commercial banks comparing to the UK-based financial institutions in dealing with credit risks; only 50% of the sample from the UK agreed that they used inspection by bank managers, while 78% of the Emirati sample agreed. This again supports the previous discussion in this section, which showed that Emirati managers are likely to rely on credit scoring to a greater extent than UK managers since the latter have access to a wide array of information and sophisticated analysis techniques to use more contemporary methods. This conclusion is also supported by the point above that Islamic banks are more likely to rely on traditional risk management tools (Ben Selma Mokni et al., 2014).

Creditworthiness analysis was argued by Abdul-Majid et al. (2010) to be actively used by Islamic banks to assess their credit risk exposure. This statement is tested, and the results presented in Figure 10. In total, the overwhelming majority (80%) of participants either

agreed or strongly agreed that their Emirati financial institution actively used creditworthiness analysis as a credit risk assessment strategy. The participants who either disagreed or strongly disagreed with their counterparts accounted for 8% and 4% of the sample, respectively. Figure 10 also showed that in total, two thirds (66%) of the managers who returned their questionnaire either agreed or strongly agreed that their UK-based commercial bank actively used creditworthiness analysis to assess its credit risk exposure. At the same time, the UK managers who reported that this strategy was not used by their bank to assess credit risk totalled 16% of the sample. The remaining 14% of the UK-based commercial banks' managers responded neutrally to this question. Similar to the previously reported outcomes, the histogram demonstrates that creditworthiness analysis is more popular with the UAE-based financial institutions in comparison with the UK-based commercial banks, even though this is still a widely used method across both countries, consistent with previous research in this area (Abdul-Majid et al., 2010; Gakure et al., 2012).

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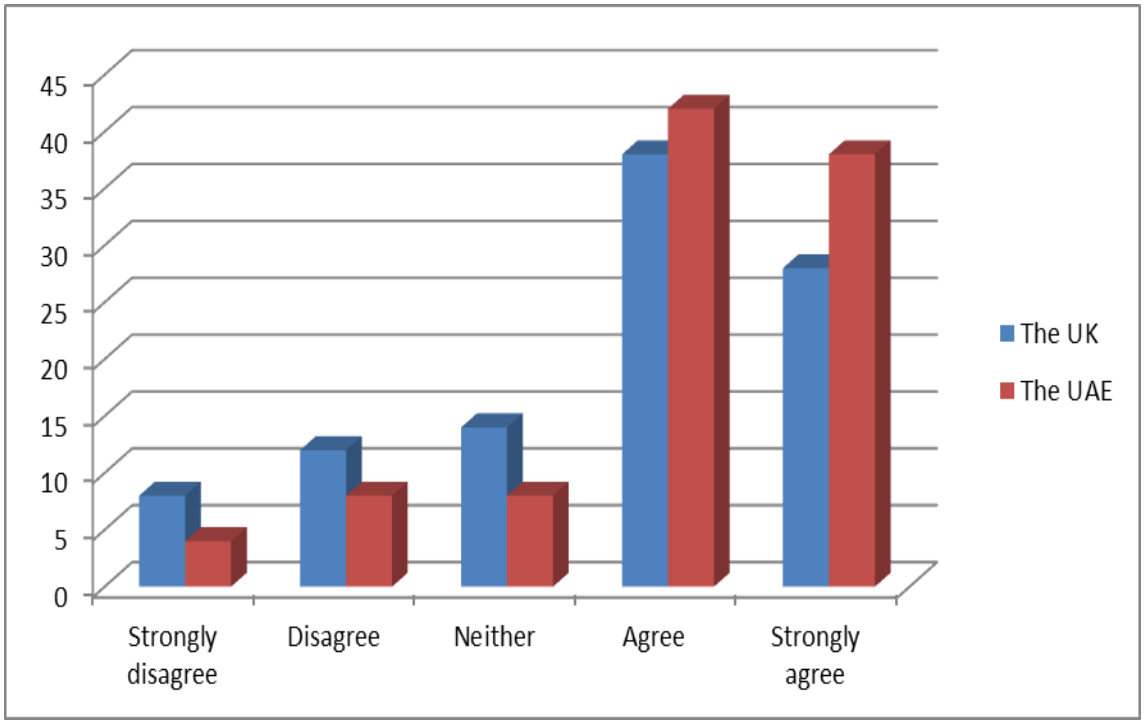
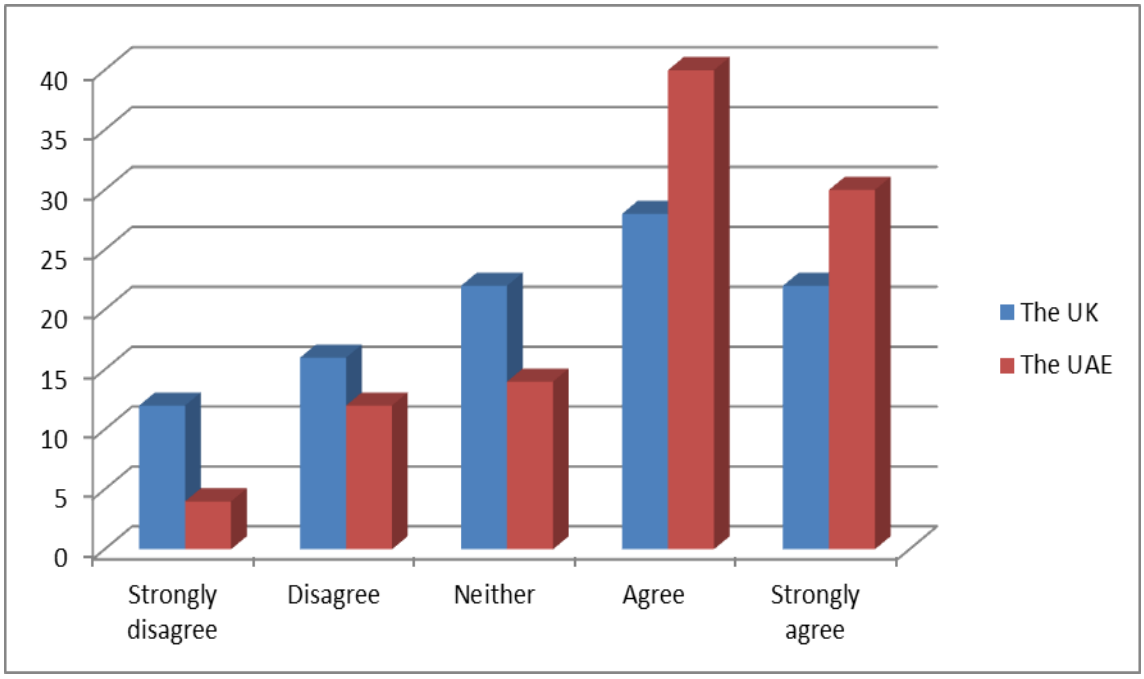
Figure 10: Creditworthiness Analysis



The risk rating method is considered as a popular credit risk assessment method across countries (Ramona, 2011; Jones and Perignon, 2013). The results presented in Figure 11 support this conclusion.

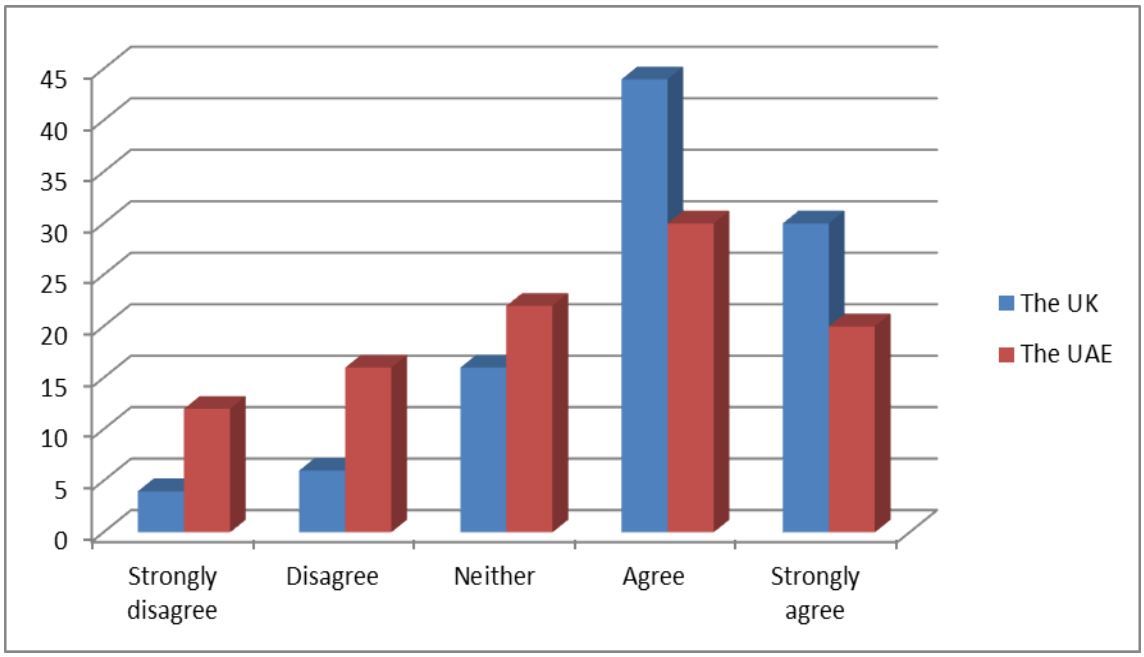
Figure 11: Risk Rating Method



In total, 70% of the Emirati managers either agreed or strongly agreed that the risk rating method was highly demanded by their commercial bank in assessing its credit risk exposure. The managers who either disagreed or strongly disagreed with this statement accounted for 12% and 4% of the sample, respectively. Finally, 14% of the participants selected the 'Neither' response option. This method was also popular with the UK managers, as respondents who either agreed or strongly agreed that their UK financial institution actively assessed its credit risk exposure with the help of the risk rating method totalled almost two thirds or 60% of the sample. In total, 28% of the managers indicated that this method was not followed by their UK-based commercial bank to assess its potential credit risks. The remaining 22% of those surveyed gave neutral responses to this question. The graphical analysis outcomes suggest that the risk rating method is more common to the UAE-based financial institutions comparing to UK commercial banks. Nevertheless, it cannot be denied that this technique is also highly popular with traditional commercial banks. Hence, the produced results to a considerable degree are consistent with those achieved by Ramona (2011) and Jones and Perignon (2013).

The extent to which credit portfolio models are perceived by the research participants to be actively used by their financial institution is presented in Figure 12.

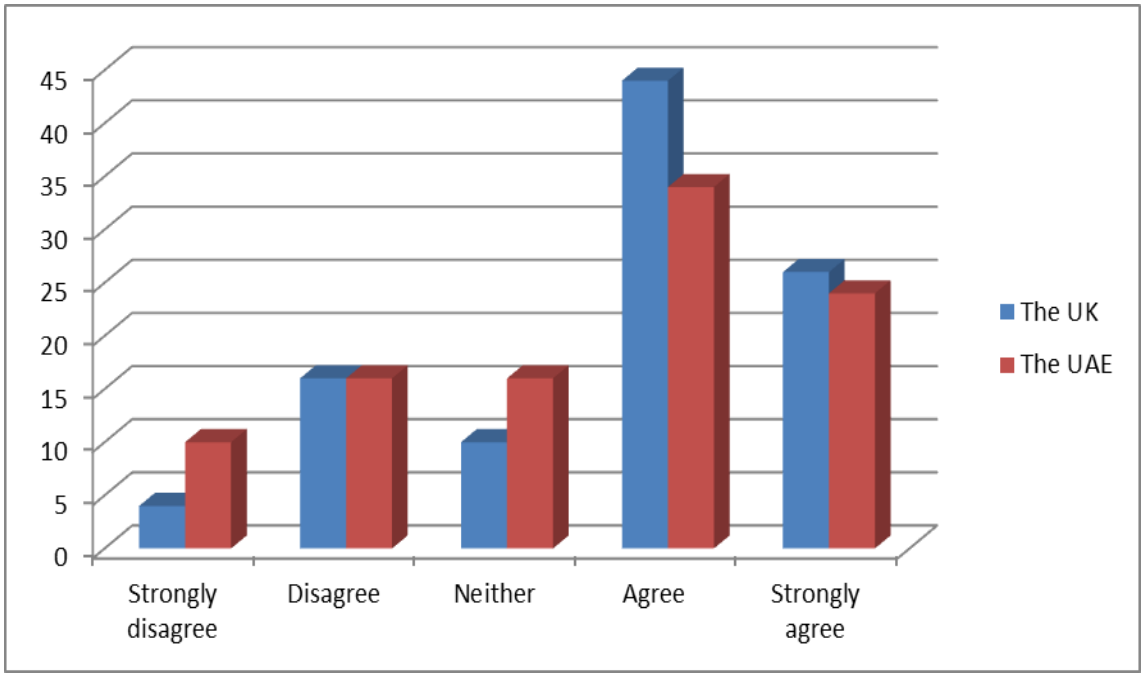
Figure 12: Credit Portfolio Models



In total, half of those surveyed either agreed or strongly agreed that credit portfolio models were actively used by their Emirati commercial bank to measure its credit risk exposure. The managers who indicated that these models were not highly popular with their UAE-based financial institution in measuring potential credit risks totalled 28% of the sample. Finally, more than one fifth or 22% of the individuals gave neutral responses to this question. For the UK sample, the graphical analysis outcomes also indicate that the questionnaire participants who either agreed or strongly agreed that their UK-based commercial bank assessed its credit risk exposure with the help of credit portfolio models accounted for 44% and 30% of the sample, respectively. At the same time, the managers of UK banks who either disagreed or strongly disagreed with this statement totalled 10% of the sample. The remaining 16% of the UK-based financial institutions' managers responded neutrally to this statement. This is the first tool surveyed so far that was more popular with the UK sample than the UAE sample, showing that credit portfolio models are used more in the UK banks than in the UAE banks. These results are in keeping with Kumru and Sarntisart's (2016) research showing that UK commercial banks used credit portfolio models to assess their credit risk exposure more actively in comparison with the UAE-based financial institutions. This is also consistent with the previous discussion above the UK banks' greater reliance on credit portfolio models because of the information and tools at their disposal, compared to their UAE counterparts (Kumru and Sarntisart, 2016; Yang, 2012).

Internal ratings are also among the most commonly used techniques to measure the credit risk exposure of conventional commercial banks (Psillaki et al., 2010). Figure 13 demonstrates if the research participants agree that internal ratings are actively used by their bank as a credit risk management tool. In total, more than half (58%) of the managers either agreed or strongly agreed that internal ratings were actively used by their UAE-based commercial bank as a tool to measure and assess its potential credit risks. By contrast, the questionnaire participants from the UAE who either disagreed or strongly disagreed with their counterparts accounted for 16% and 10% of the sample, respectively. The remaining 16% of the managers selected the 'Neither' response variant.

Figure 13: Internal Ratings

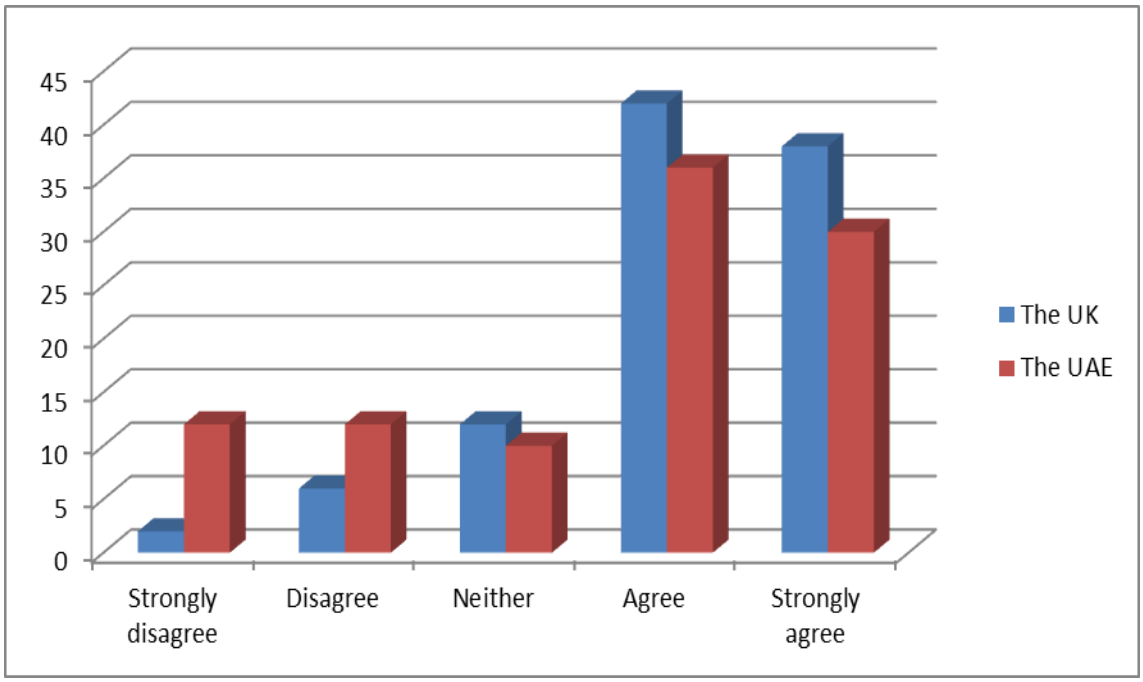


In turn, the managers who either agreed or strongly agreed that their UK commercial bank employed internal ratings as a unit of credit risk measurement totalled more than two thirds or 70% of the sample. At the same time, in total, 20% of participants indicated that their UK-based financial institution did not use internal ratings to assess its credit risk exposure. Finally, only a minority or 10% of the participants responded neutrally to this question. Therefore, internal ratings are perceived by respondents to be more actively used by the UK-based commercial banks compared to the UAE-based financial institutions in dealing with potential credit risks. These results correlate closely with those produced by Psillaki et al.

(2010) and is again consistent with the idea that the UK banks reply on contemporary methods to a greater extent than the UAE banks, for a variety of reasons (Yang, 2012).

In their study, Kumru and Sarntisart (2016) argued that exposure limit was among the most frequently used credit risk assessment methods and models by European commercial banks. This statement is tested, and the results presented in Figure 14. Exposure limit was reported by a total of 66% of the managers to be actively used by their Emirati financial institution. Respondents who either disagreed or strongly disagreed with their counterparts totalled less than one fourth or 24% of the sample. The remaining 10% of the individuals responded neutrally to this question.

Figure 14: Exposure Limit



In contrast, the overwhelming majority or 80% of those who participated in the questionnaire either agreed or strongly agreed that their UK commercial bank actively measured its credit risk exposure with the help of exposure limits. The participants who indicated that this credit risk assessment strategy was not popular with their UK-based financial institution totalled only 8% of the sample. Finally, as much as 12% of the bank managers gave neutral responses to this statement. These findings are in keeping with Kumru and Sarntisart's (2016) research, since exposure limit was identified by the researchers to be more actively used by conventional banks in comparison with Islamic financial institutions.

The managers from both cultural contexts were asked whether their bank actively used stress testing to measure it potential credit risks to test this statement. The graphical analysis outcomes are presented as follows. In total, more than two thirds (74%) of those surveyed either agreed or strongly agreed that stress testing was actively used by their UAE-based financial institution as a tool to assess credit risk. The managers who reported that this credit risk assessment method was not actively employed by their UAE-based commercial bank totalled 14% of the sample. The remaining 12% of respondents selected the 'Neither' response variant.

Figure 15: Stress Testing

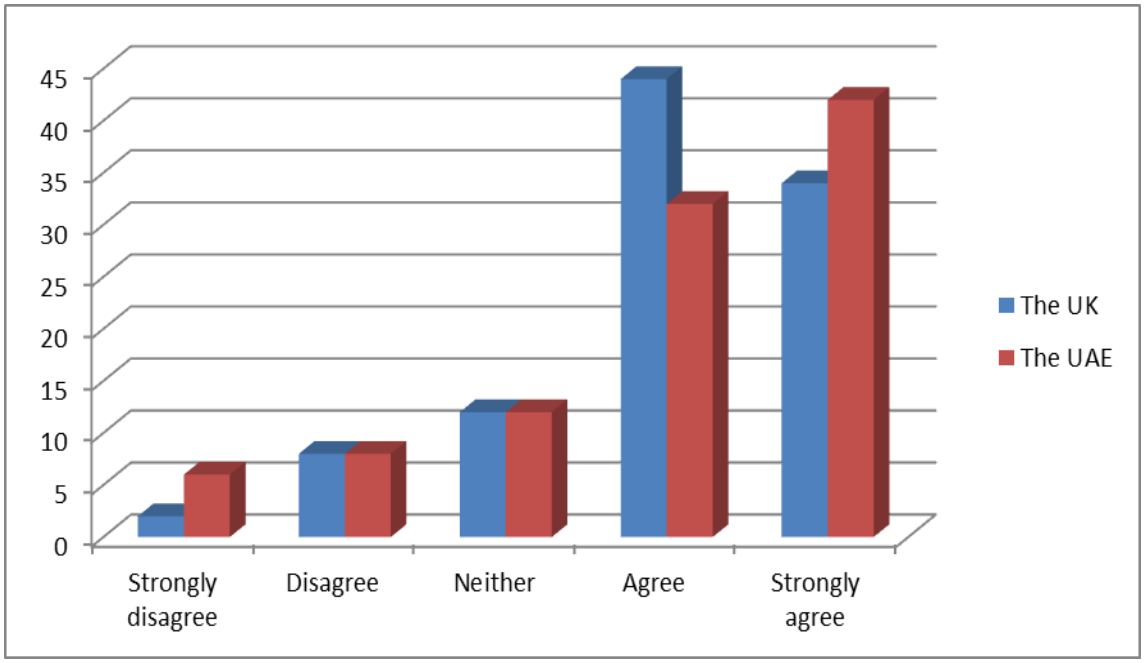


Figure 15 also shows that the survey participants who either agreed or strongly agreed that their UK-based bank actively used stress testing to assess its credit risk exposure totalled 78% of the sample. By contrast only 10% of participants either disagreed or strongly disagreed with their counterparts. Finally, the remaining 12% of the managers from the UK-based commercial banks provided neutral responses to this statement. This is contrary to past research, such as Ibrahim (2015;) and Kabir et al. (2015). According to the analysis outcomes, stress testing is perceived to be highly popular with both UK and Emirati commercial banks in dealing with their credit risks, with little difference between the perception among the managers in the country.

4.4. The Impact of Credit Risk Assessment Strategies on Bank Profitability

The effect of the previously discussed on the profitability of commercial banks was assessed using both interviewees' responses and survey data. The first issue assessed was the extent to which the interviewees perceived that the credit risk assessment methods and techniques used within their bank was linked significantly to the level of profitability. Responses indicated that this was the case, as highlighted below by UAE respondents:

> "…our various and successful techniques have reflected that effective credit risk assessment and management is essential to being able to generate profits sustainably and consistently, which is reflecting in terms of positive trends in our return on assets and return on equity ratio for the last few years in this region" (UAE Bank Manager 1).
>
> "…our financial statements are showing very positive sign for the last few years, which I believe is through emphasizing on strict risk assessment and management principles and robust governance structure, which is the core strategy of my organisation" (UAE Bank Manager 4).
>
> "…based upon the fact that the main advantage and function of Moody's Banking Financial Strength Model is to ensure and implement risk related policies and procedures to keep risk within the acceptable range, which is definitely leading to higher profitability of our bank for the last two years or so. Yes, I also believe that implementation of this risk management system has impacted our return on assets and return on equity ratios" (UAE Bank Manager 8).

Similar results were obtained from the top managers of the UK-based financial institutions, as the overwhelming majority of those interviewed reported that the adopted credit risk assessment strategies had a positive effect on their bank's profitability, as shown below:

> "…we would not be able to achieve these financial results without having a proper risk management framework in place. So, yes, these profitability indicators have been positively impacted by our risk assessment methods" (UK Bank Manager 1).
>
> "…there is a direct relationship between the risk assessment strategies adopted by my bank and its profitability. The adoption of these strategies has allowed the bank to

> achieve better financial results and generate a larger amount of revenue" (UK Bank Manager 4).

It should be critically remarked, however, that not all UK interviewees linked the profitability of their commercial bank with the adopted credit risk assessment strategies, as shown by excerpts from two interviews:

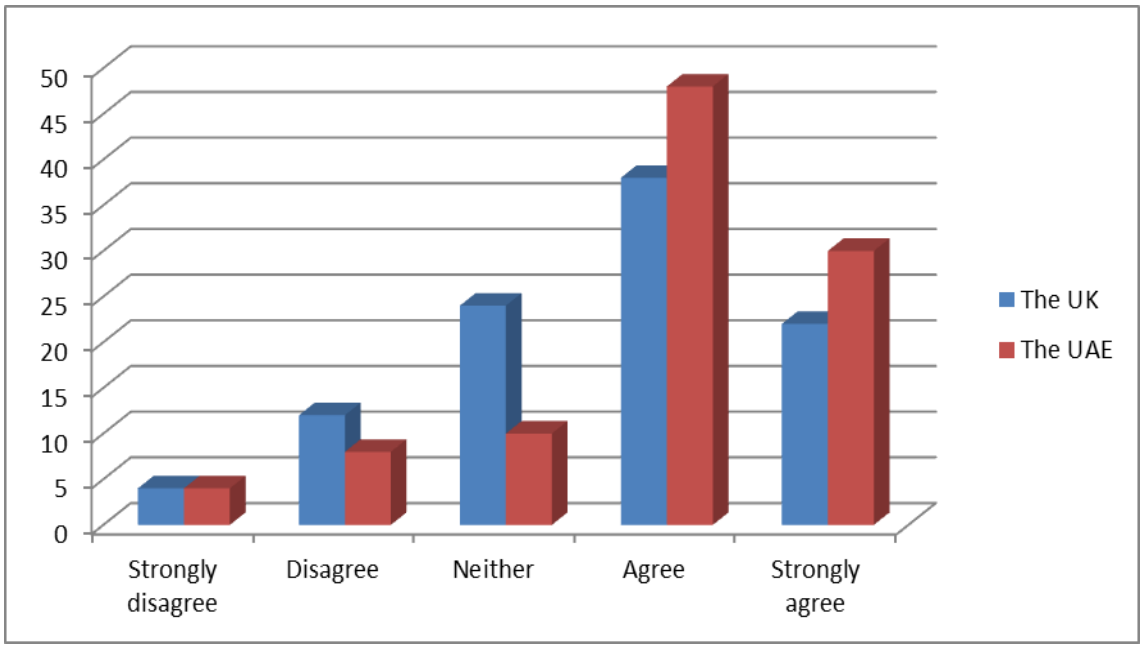
> "…our risk management effectiveness has been improved lately. Our profitability in terms of ROA and ROE has also been improved. However, I can't say if there is a direct link between the bank's credit risk assessment methods and its profitability" (UK Bank Manager 3).
>
> "I can't say whether or not there is a statistical link between the bank's credit risk assessment methods and its profitability in term of ROE or ROA. Nevertheless, our risk management effectiveness has been improved lately. In addition, our profitability has also been improved" (UK Bank Manager 10).

Nonetheless, based on this preliminary analysis, it appears that both UAE and UK bank managers link the adopted credit risk assessment strategies had a positive effect on their bank's profitability. However, the analysis of the qualitative data does not allow for establishing statistical links between these variables and thus a quantitative analysis method, namely ordered logistics regression was employed to identify whether there is a relationship between the previously identified credit risk assessment strategies and the banks' profitability. Overall, the results from this section supports H5*: There is a difference between UAE Islamic banks and UK conventional banks in terms of the risk assessment strategies used most.*

4.5. Factors Affecting Risk Management in the UK and UAE Banking Sectors

This section is focused on the identification of the extent to which credit risk management is impacted by various risk management factors in both UK and Emirati financial institutions. Figure 16 shows if the questionnaire participants perceive their bank to have a sound risk management framework in place.

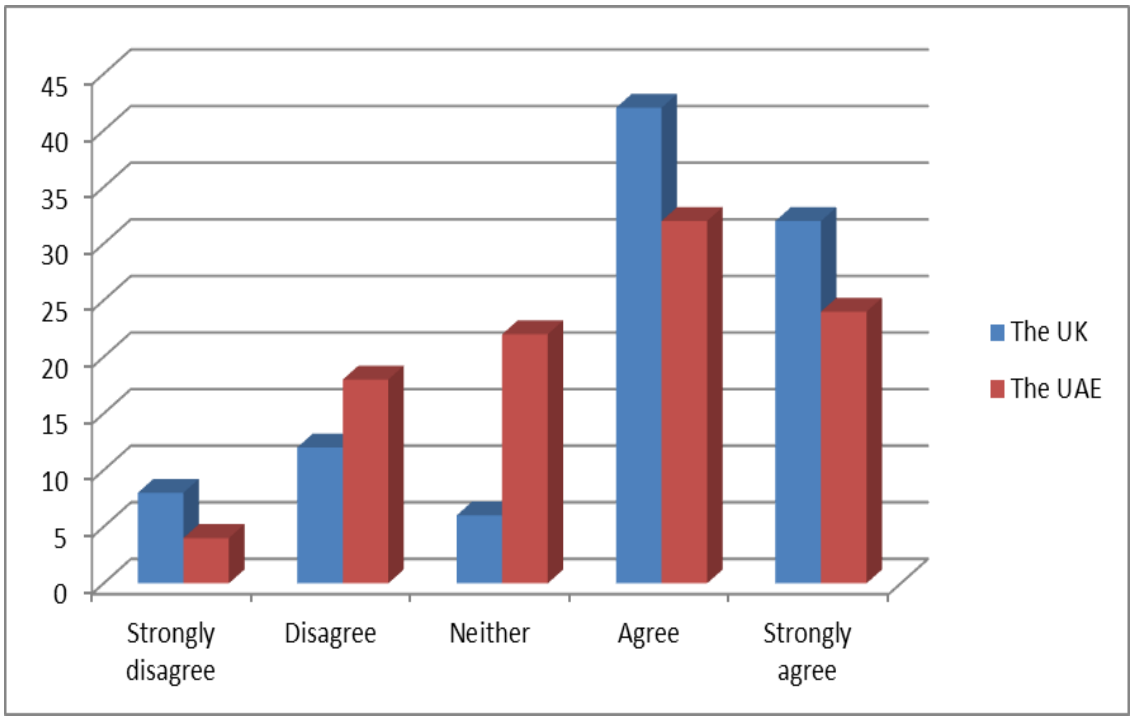
Figure 16: My Bank Has a Sound Risk Management Framework in Place



The research participants who either agreed or strongly agreed that their UAE-based financial institution had a sound risk management framework in place accounted for 78% of the sample and only a minority 12% of the managers reported that their Emirati bank did not have any established credit risk assessment framework. Consistent with this, the majority 60% of UK respondents either agreed or strongly agreed that their UK bank had a comprehensive credit risk assessment framework and only 16% of the UK-based financial institutions' managers either disagreed or strongly disagreed with their counterparts. These outcomes may demonstrate that the credit risk management of Emirati commercial banks are perceived by the managers to be more effective comparing to that of UK financial institutions. These findings are not in line with Hanif and Iqbal (2010) who argued that the Islamic banking system was less developed comparing to European banking. This statement can be explained by the fact that the Islamic banking sector is still growing, while the UK banking sector has reached its saturation point (Abdul-Majid et al., 2010; Hassan et al., 2017).

Board structure and characteristics were identified by Forssbaeck (2011) to be among the most important factors that influenced the effectiveness of a bank's credit risk assessment strategies. Figure 17 indicates whether there is an independent Chairman on the Board of the banks included in the sample.

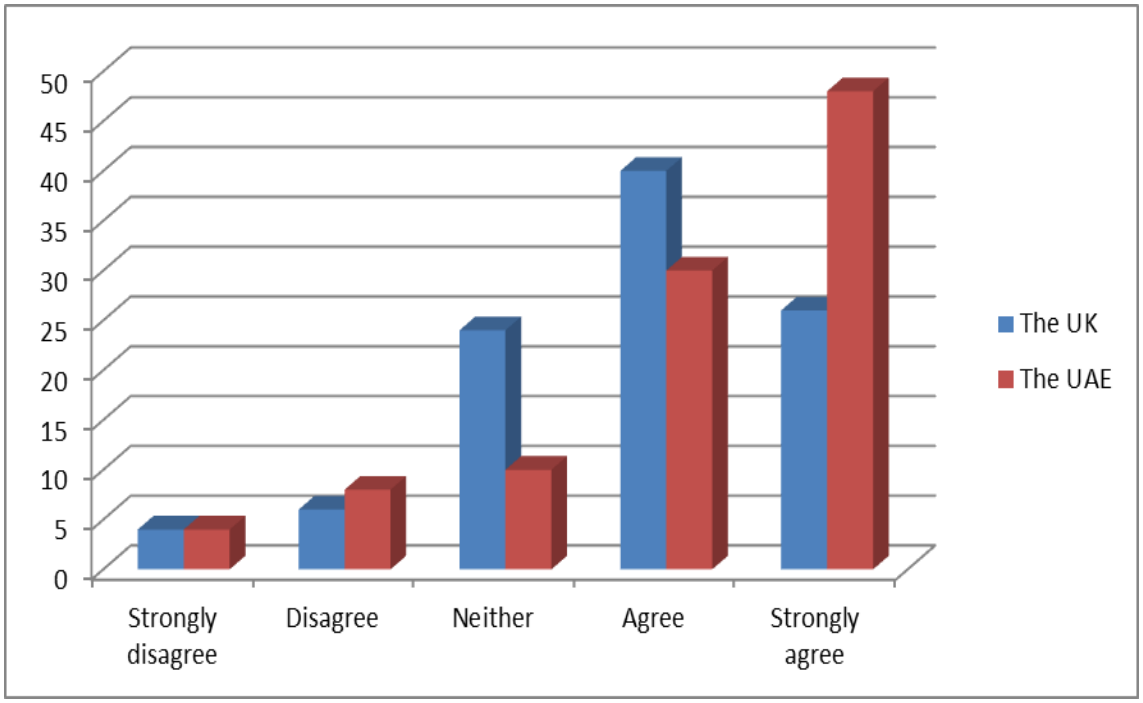
Figure 17: We Have an Independent Chairman on the Board



The chart above shows that respondents who either agreed or strongly agreed that their UAE-based commercial bank had an independent Chairman on the Board totalled more than half or 56% of the sample. By contrast, in total, 22% of participants asserted that there was no independent Chairman on the Board of their Emirati financial institution. Similarly, the UK managers who either agreed or strongly agreed that their bank had an independent Chairman on the Board totalled 74% of the sample, while 20% either disagreed or strongly disagreed. Having an independent Chairman on the Board was argued by Iannota et al. (2007) to positively impact organisational productivity and profitability since no personal gain was involved, although Gakure et al. (2012) were convinced that emotionally attached directors were more interested in the success of their company.

Another Board characteristic that may have an impact on risk management in the banking sector is the frequency of meetings (Iannota et al., 2007). Figure 18 shows how frequently the Board members of the banks included in the sample have regular meetings.

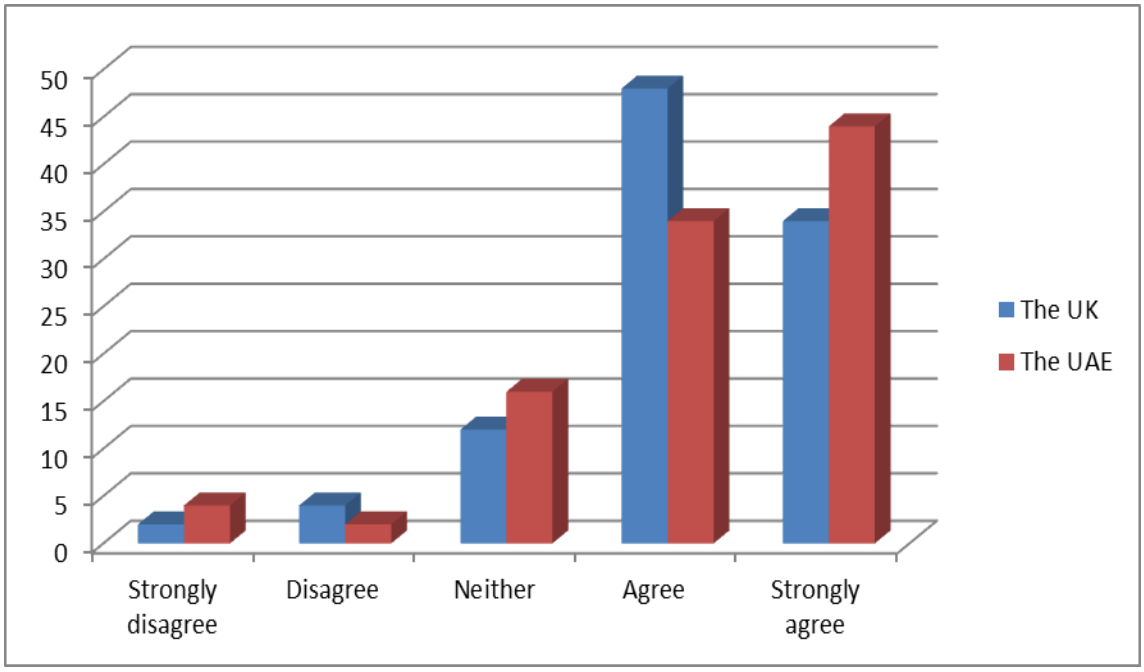
Figure 18: The Board Members Have Regular Meetings



The managers who indicated that the Board members of their Emirati commercial bank had regular meetings totalled 78% of the sample, while 12% of the participants either disagreed or strongly disagreed with their counterparts. Much less of the UK respondents agreed with the statement (66%) of those surveyed either agreed or strongly agreed that the Board members of their UK commercial bank held meetings on a regular basis. These findings indicate that the Board members of the UAE-based financial institutions report that they arrange meetings on a more regular basis in comparison with their UK counterparts. As a result, the credit risk management practices and methods adopted by the Emirati banks may be more comprehensive. However, further analysis is required to test this assumption.

Although the banks included in the sample have a complex and bureaucratic structure, their credit risk strategies are systematically formulated and implemented. This statement is made based on Figure 19.

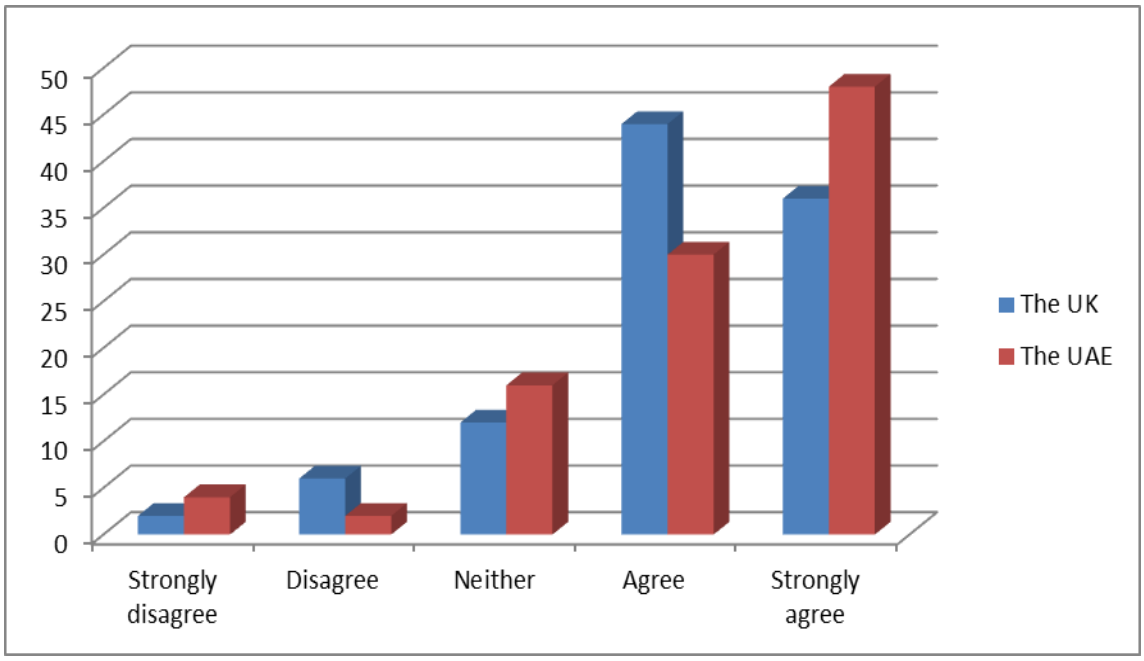
Figure 19: Our Credit Risk Assessment Strategies Are Systematically Formulated, Evaluated and Implemented



The overall response to this question was very positive. In total, 78% of participants either agreed or strongly agreed that their Emirati commercial bank's credit risk assessment strategies were systematically formulated, evaluated and implemented, while only 6% disagreed. The UK-based banks' managers who either agreed or strongly agreed that accounted for 82% of the sample, while 6% disagreed. These results may demonstrate that the more frequently a bank's management reviews and revises its credit risk assessment strategy, the more effective it is in dealing with its potential credit risks. However, this assumption requires further analysis to establish any relationship between these variables.

As noted by Huber and Scheytt (2013), external audit impacts the quality and effectiveness of credit risk assessment strategies in the banking sector. Figure 20 demonstrates the extent to which the participants agree that their bank's credit risk is regularly examined by external auditors.

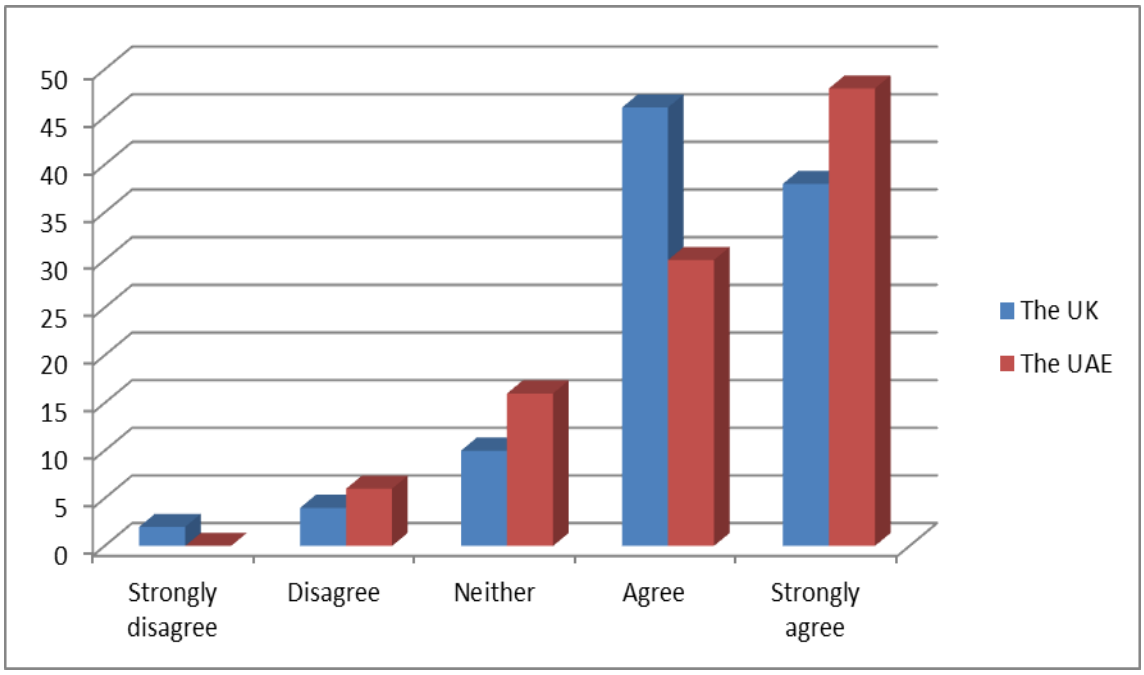
Figure 20: Our Bank's Credit Risk Strategy Is Regularly Examined by External Auditors



The results of the graphical analysis suggest that external audit is regulatory used by the Emirati commercial banks as a method to review and improve their credit risk assessment practices and methods. According to the chart above, the managers who either agreed or strongly agreed that their UAE-based commercial bank's credit risk framework was regularly examined by external auditors accounted for 78% of the sample, while 6% disagreed. Similar results were obtained from the managers of the UK-based commercial banks, with 80% of the managers either agreed or strongly agreed that the credit risk strategy of their UK bank was regularly examined by external auditors, while 8% disagreed.

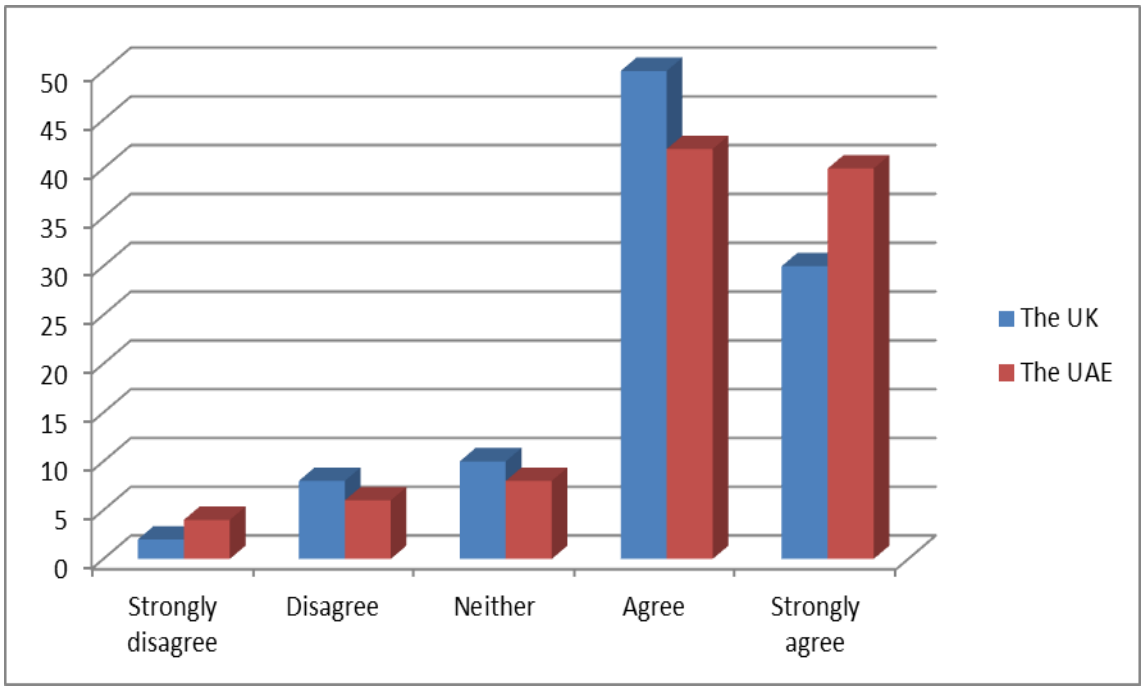
These results may demonstrate that external audit is actively used by both UK and Emirati commercial banks to improve the quality of their credit risk assessment strategies. In turn, the role of internal auditors in this process is presented in Figure 21. This indicates that in total, 78% of participants either agreed or strongly agreed that their UAE-based commercial bank assessed the quality of its credit risk strategy with the help of its internal auditors, while only 6% disagreed. In the UK sample, 84% either strongly agreed or agreed with the statement, while 6% disagreed. Similar to external audit, internal audit is commonly used by both UK and Emirati commercial banks to assess and evaluate their credit risk management practices and introduce relevant changes and modifications to improve their quality and effectiveness.

Figure 21: Our Internal Auditors Assess the Credit Risk Strategy on a Regular Basis



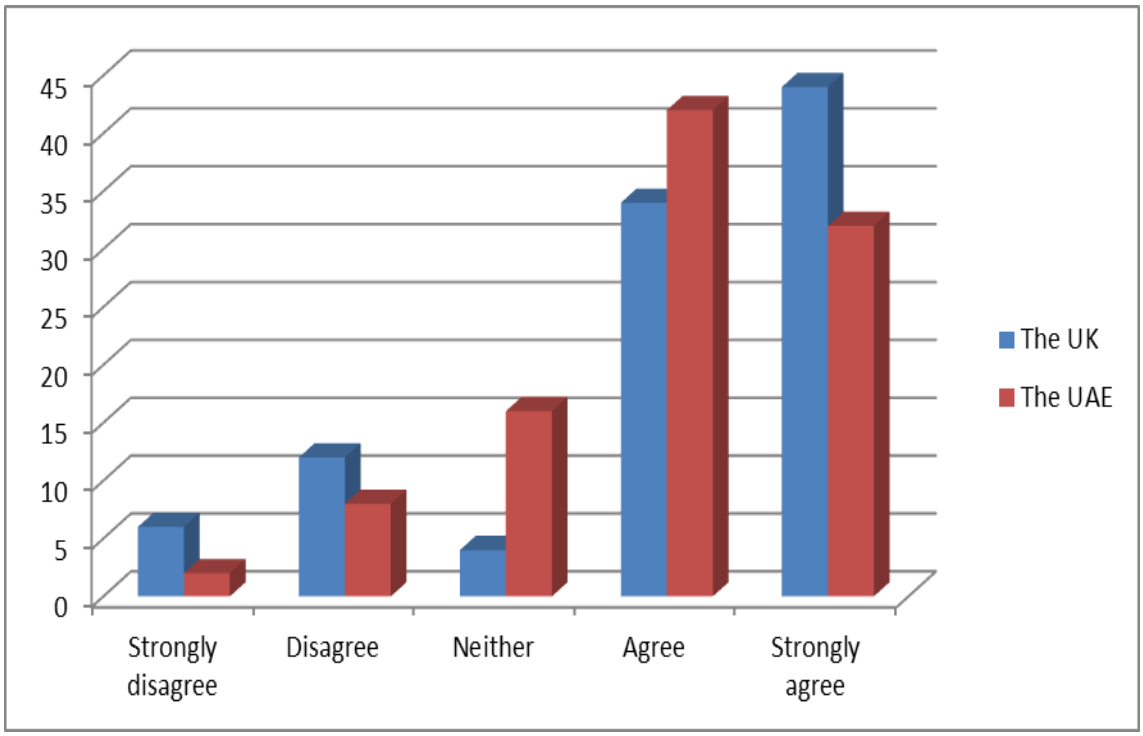
The role of organisational structure in the quality and effectiveness of the applied credit risk assessment methods and techniques was acknowledged by Al-Tamimi and Al-Mazrooei (2007). According to the researchers, companies with a more complex structure must employ highly effective risk assessment tools to consider all potential risks to their financial sustainability and remain competitive in a long-term perspective (Al-Tamimi and Al-Mazrooei, 2007). Respondents' perceptions of their bank's organisational structure are presented by means of Figure 22. The results of the graphical analysis demonstrate that in total, the overwhelming majority or 82% of those surveyed either agreed or strongly agreed that their Emirati financial institution had a complex and rigid organisational structure, while only 10% of the sample disagreed. Comparable results were found in the UK sample, with 80% either agreed or strongly agreed and 10% disagreed. These results are in line with Al-Tamimi and Al-Mazrooei (2007) who also reported that the organisational structure of the majority of commercial banks was complex and rigid.

Figure 22: Our Bank Has a Complex and Rigid Organisational Structure



As argued in the literature review chapter, credit risk management is still approached by some banks as a complementary activity (Abiola and Olausi, 2014). As a result, these banks' ability to effectively identify, measure and mitigate credit risk is limited. The extent to which the questionnaire participants agree that credit risk management is considered by their bank as a primary activity is presented in Figure 23. In total, 74% of the managers either agreed or strongly agreed that their UAE-based financial institution's organisational culture implied that credit risk management was of primary importance, while 10% disagreed. Again, comparable results were found in the UK sample, where 78% agreed or strongly agreed with the statement, although a full 18% of those surveyed reported that credit risk management was of secondary importance to their UK-based commercial bank's owners. These findings suggest that credit risk management is given close attention not only by traditional commercial banks but also by Islamic financial institutions.

Figure 23: Our Organisational Culture Implies That Credit Risk Management Is of Primary Importance

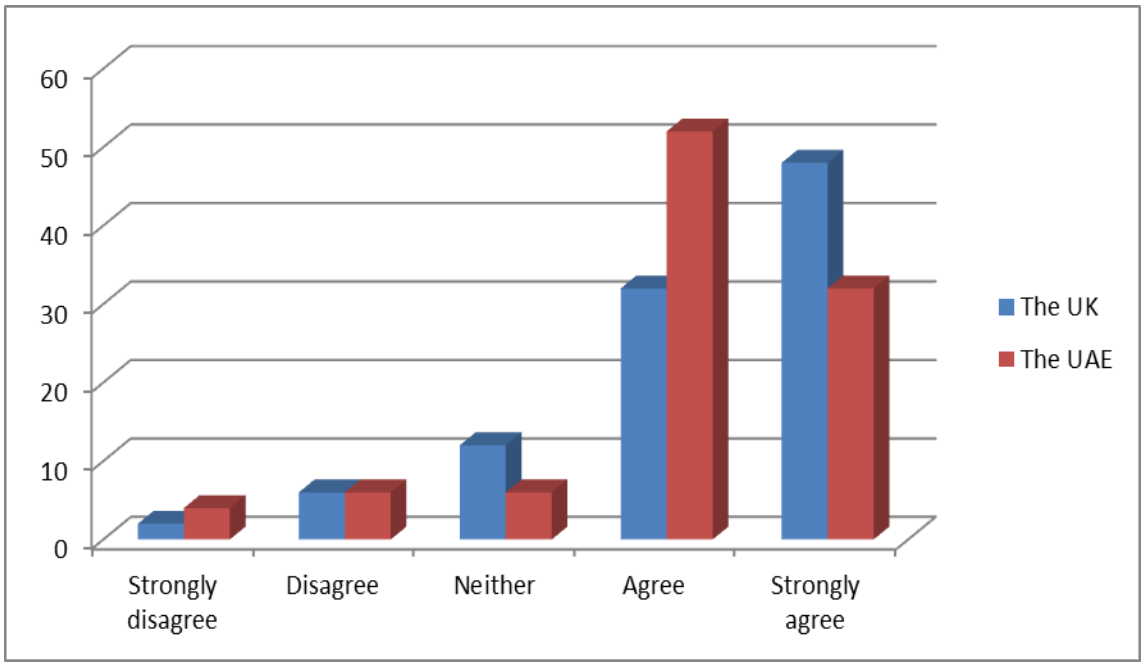


4.6. The Effectiveness of Risk Assessment Strategies

The effectiveness of the credit risk assessment strategies employed by both UK and Emirati commercial banks is assessed and compared in this section of the findings and analysis chapter. This comparison is made using the outcomes of the graphical analysis, which are presented in Figure 24. The effectiveness of the credit risk assessment strategies adopted by the Emirati commercial banks was assessed as high by in total, 84% of those surveyed. At the same time, the UAE-based banks' managers who either disagreed or strongly disagreed with their counterparts accounted for 10% of the sample.

The results of the graphical analysis also demonstrate that the effectiveness of the UK-based commercial banks' credit risk assessment methods and techniques was perceived as high by 80% of the participants, while 8% disagreed.

Figure 24: Our Credit Risk Assessment Strategies Are Highly Effective in Dealing with Credit Risk



The outcomes from the survey are supported by the responses received during the interviews. Specifically, the effectiveness of the credit risk assessment methods and techniques adopted by the UAE-based commercial banks was evaluated as high by most interviewees, as highlighted below:

> "[These strategies] are really allowing us to effectively manage the credit risk on the product basis. For example, we are considering for approval each credit application on the basis of approved product program, which has been developed according to the guidelines set out in our credit risk policy manual. We are also using statistical validated scoring policy and model as a base to evaluate and determine the creditworthiness of a customer and performing a detailed credit reviews on the periodic basis to track and monitor portfolio performance" (UAE Bank Manager 3).

> "[The methods and approaches we used] have been proactive and very much respondent to identify the credit risks, assess it objectively and wherever require provide appropriate response to manage the situation actively. These approached are also providing us an ability to anticipate and wherever possible mitigate or minimize credit risks instead of dealing with their significances or consequences later on" (UAE Bank Manager 5).

These results are in line with other research showing that Islamic banks are efficient in credit risk analysis, risk monitoring, and understanding risk, including credit risk analysis (Abu Hussain and Al-Ajmi, 2012; Nazir et al., 2012). This supports the general literature that argues that having a comprehensive framework of risk management is important in Islamic banks as much as they are in conventional Western banks (Hassan et al., 2017). Further, the impact of Sharia law on Islamic banking practice is expected to have an impact on Islamic banking systems, and it appears that it helps these firms to seek to monitor and control their risks (Nazir et al., 2012).

Similar to their Emirati counterparts, the top managers from the UK-based commercial banks reported that the effectiveness of their credit risk assessment methods and techniques in dealing with credit risk was high, as shown in the excerpts presented below:

> "…our risk assessment and management practices and strategies allow us to avoid significant risks and remain competitive" (UK Bank Manager 1).
>
> "…by adopting these strategies, we are able to identify and assess potential risks and decide whether to give a loan" (UK Bank Manager 2).

It should be noted that only one top manager acknowledged the need to keep these strategies updated:

> "…although these strategies have proven to be effective, we must improve and enhance them on a regular basis. Otherwise, their effectiveness might decrease over time. As a result, our ability to accurately measure our credit risk exposure would be compromised" (UK Bank Manager 8).

This again points to several areas of similarity between conventional and Islamic banking, with many areas of overlap such as having a comprehensive framework of risk management framework (Abu Hussain and Al-Ajmi, 2012; Hassan et al., 2017). Nonetheless, there are still areas of difference, as the mean responses of UAE bankers on their perceived effectiveness is higher than UK bankers, in line with other research in this area (Abu Hussain and Al-Ajmi, 2012).

4.7. Summary

This research has shown that a comprehensive framework of risk management is important in Islamic banks as much as they are in conventional Western banks, in line with other research in this area such as Nazir et al. (2012). Nonetheless, the results of the analysis indicate that there are significant differences between the UK-based commercial bank and the UAE-based financial institutions in terms of the **most actively used credit risk management strategies**. The graphical analysis has demonstrated that the Emirati banks give preference to financial statement analysis, credit score analysis, creditworthiness analysis and risk rating method in dealing with their credit risks, while UK commercial banks use inspections by branch managers, credit portfolio models, exposure limits and stress testing to assess their credit risk exposure. Overall, these results provide support for the hypothesis that UK-based conventional banks and UAE-based Islamic banks rely on different credit risk management strategies. This provides support for the literature in this area showing that these different types of banks have significantly different risk management strategies (Nazir et al., 2012), which may be partially explained in part by the fact that Islamic and conventional banks have significantly distinct understandings of risk and risk management (Abu Hussain and Al-Ajmi, 2012).

Further analysis has also revealed that there are significant differences between the UK and Emirati commercial banks in terms of **the perceived relationship between the adopted credit risk assessment methods and organisational profitability.** It can be summarized that the more actively the UK-based commercial banks use stress testing, exposure limits and inspections by branch managers to measure their credit risk exposure, the higher return on equity ratio they achieve on a year-to-year basis. Furthermore, the statistical analysis has demonstrated that the more actively the UK-based commercial banks use the risk rating method to measure their credit risk exposure, the higher return on assets ratio they achieve on a yearly basis. In contrast, the more actively the Emirati commercial banks use creditworthiness analysis and internal ratings as tools to measure their potential credit risks, the higher return on equity ratio they can achieve on a yearly basis.

Finally, the statistical analysis results have demonstrated that the more the Emirati commercial banks use credit score analysis as a tool to assess their credit risk exposure, the higher return on assets ratio they can achieve on a year-to-year basis. These findings clearly

indicate that there are significant differences between traditional and Islamic finance in terms of the application of credit risk assessment methods and their impact on organisational profitability.

Chapter 5: Discussion and Conclusion

5.1. Introduction

This chapter provides a detailed discussion of the main research findings and presents the conclusions of the research. The research outcomes are discussed in the context of the constructed theoretical framework as well as the managerial context (Li and Zou, 2014; Yegon et al., 2014; Hussain and Al-Ajmi, 2012). Relevant practical recommendations to improve current credit assessment strategies of commercial banks operating in the UAE are proposed, and the chapter concludes by outlining the limitations of the study and possible avenues for future research.

5.2. Summary of Key Conclusions

The aim of this study was to conduct a comparative study on the influence of credit risk management strategy on the performance of commercial banks in the UAE and the UK. This section is arranged based on the research objectives and summarises the results of the study to outline how each objective has been addressed.

5.2.1. The Principles of Islamic and Traditional Banking

The first research objective was to *critically review the principles and components of Islamic and traditional banking, with specific reference to credit risk assessment*. This was achieved through a critical analysis of the existing literature in this area. Considering the findings of the literature review, the Islamic banking sector has demonstrated a rapid growth primarily due to the liberalization of the Muslim world from colonial powers (Abdul-Majid et al., 2010; Misman et al., 2015) and is based on eschewing the capitalist principle of gaining interest in the form of reward for using financial resources (Rashwan, 2012; Hanif and Iqbal, 2010). The analysis of the literature confirmed the conclusion that Islamic commercial banks differ from conventional financial institutions in several aspects, including deposits, investments, loans and credit operations (Hachicha and Amar, 2015; Hanif, 2011; Sensarma and Jayadev, 2009; Barro and McCleary, 2003).

However, even though the Islamic and conventional financial systems to a considerable degree are different, there are many similarities between them as well (Kumar et al. (2011; Psillaki et al., 2010; Barro and McCleary (2003). Therefore, it is arguable that differences between Islamic and conventional banking are not significant. However, this statement is relevant only when Islamic and traditional financial institutions operate within the same context (McCleary and Barro, 2006), which has been supported by the empirical results of this research.

Specifically, this research has shown that Islamic and traditional financial institutions have significantly different credit risk management strategies to go with their significantly distinct understandings of risk and risk management (Abu Hussain and Al-Ajmi, 2012; Nazir et al., 2012). This research therefore lends support to the existing body of empirical literature that has found that Islamic and conventional banking differ in terms of their risk assessment and management strategies, particularly when these banks are operating in different countries (for example, one governed by Sharia law and one that is not so governed).

5.2.2. Variables Underpinning Use of Credit Risk Assessment Models

The second objective was to *determine the most important variables that underpin the credit risk assessment models of banks in the UK and the UAE.* The variables that underpin the credit risk assessment of UK and Emirati banks were explained with the help of the key credit risk assessment theories discussed in the literature review, specifically arbitrage theory, the asset-by-asset approach, and information theory (Gill et al., 2011; Bouteille and Coogan-Pushner, 2012; Tabari and Emami, 2013). The examination of the literature showed that the practice of applying portfolio theory to credit risk identification and assessment is not commonly accepted even though this type of risk is considered as the most threatening to financial organisations' performance and profitability (Idode et al., 2014). Additionally, while the asset-to-asset method is considered by many scholars as the most basic component to assessing and managing credit risk, its role in this process is still limited as it does not provide risk managers with a complete view of portfolio credit risk and it makes it impossible to measure unexpected losses (Boahene et al., 2012).

Thus, the focus turned to arbitrage pricing theory to offer insight into the issue of credit risk assessment (Ross, 1976). However, this approach was shown to face practical difficulties in application since it is impossible to consider every potential risk and the market indexes used represent average values, which may significantly differ depending on circumstances (Shawtari et al., 2015). For these reasons, this study is predominantly based on information theory, which relies on the collection of reliable information on prospective borrowers and can accommodate quantitative and qualitative methods to assess credit risk more effectively (Gill et al., 2011). Using this approach, researchers have divided the factors affecting credit risk management in the banking sector into two groups: (1) credit risk is predominantly driven by a set of specific variables such as loan quality, loan growth, capital and management quality and size (Abor, 2005), and/or (2) macroeconomic factors, including gross domestic product (GDP), interest rates and unemployment impact the credit risk of financial institutions. Both external and internal factors appear to have an impact on the credit risk of Islamic banks (Hussain and Al-Ajmi, 2012; Misman et al., 2015), although some researchers have argued that credit risk in conventional banks was predominantly explained by macroeconomic variables (Louzis et al., 2012).

5.2.3. The Current Credit Strategies of UK and Emirati Banks

The third research objective of this study was to *identify the current credit risk assessment strategies of banks in the UK and the UAE at the formulation, evaluation and implementation levels of middle management decision-making.* The findings from the literature review as well as the results of this research shows that there are wide range of credit risk assessment strategies employed in the banking sector (Abdul-Majid et al., 2010). The most relevant strategies and methods include financial statement analysis, inspection by branch managers, credit score analysis, creditworthiness analysis, risk rating method, credit portfolio models, internal ratings, exposure limits and stress testing (Kumru and Sarntisart, 2016; Ibrahim, 2015; Al-Tamimi, 2002; Abdul-Majid et al., 2010). It is commonly accepted in the existing literature on credit risk management that financial institutions tend to use these credit assessment techniques and methods in combination to reduce the threat to their long-term survival (Psillaki et al., 2010). At the same time, the number of empirical studies on these strategies and their popularity with UK and Emirati financial institutions reported in the literature review chapter was relatively small (Drehmann et al., 2010).

This study attempted to overcome the aforementioned limitation and to identify the specific credit risk assessment strategies are actively used by both UK and Emirati commercial banks.

In line with other literature in this area, the study's findings lead to the conclusion that there are substantial differences between these banks in terms of the most actively used credit risk management strategies. Specifically, the Emirati financial institutions use financial statement analysis, credit score analysis, creditworthiness analysis and risk rating method more actively comparing to the UK banks. These findings correlate closely with Al-Tamimi's (2002) research in which they report that financial statement analysis was actively used by UAE-based commercial banks. Financial statement analysis is used by many to assess credit risk, since the financial information of a company plays a key role in investment decision-making of investment activities (Chen and Pan, 2012). This kind of analysis is also useful for comparing a company's results with others in the same sector or in the wider economy using ratios, providing clues about the underlying conditions in a company and have been found to be useful in predicting business failure (Chen and Pan, 2012).

In contrast, the UK-based financial institutions were found to prefer using inspections by branch managers, credit portfolio models, exposure limits and stress testing to assess their credit risk exposure, in line with Kumru and Sarntisart (2016). While financial statement analysis is useful, by using these methods in combination, UK commercial banks can consider a greater number of important parameters and factors such as the industry, geography and credit grade (Chen and Pan, 2012). It should be critically remarked, however, that some European financial institutions still consider credit risk assessment as a complementary activity (Bouteille and Coogan-Pushner, 2012). As a result, their ability to accurately assess their credit risk exposure would be highly limited (Gakure et al., 2012).

5.2.4. The Link between Credit Risk Assessment Strategies and Organisational Profitability

The fourth objective of this study was *to determine the extent to which credit risk assessment strategies and techniques and profitability are linked in UAE and UK banks*. It is commonly accepted that there is a link between credit risk assessment methods and techniques and the profitability of financial institutions, specifically ROA and ROE (Gakure et al., 2012; Al-

Tamimi and Al-Mazrooei, 2007). The findings of the statistical analysis revealed that the more actively UK-based commercial banks use stress testing to measure their credit risk exposure, the higher their return on equity (on a year-to-year basis). These outcomes indicate that by employing the stress testing strategy, UK-based commercial banks can consider a wider range of factors and parameters, which may have an impact on their financial sustainability (Chen and Pan, 2012). As a result, these banks can measure their credit risk exposure in a more precise manner (Demirguc-Kunt and Huzinga, 1999).

Further analysis demonstrated that the more actively UK financial institutions assess their credit risk exposure using inspections by branch managers, the higher return on equity ratio they achieve on a year-to-year basis. Similar outcomes were produced by Al-Tamimi and Al-Mazrooei (2007) who also reported that inspection by branch managers was an actively used credit risk assessment strategy, which positively impacted banks' financial sustainability. At the same time, the researchers' findings apply to the UAE context and Islamic commercial banks. Given that this study is in keeping with Al-Tamimi and Al-Mazrooei (2007), it is relevant to conclude that the traditional and Islamic banking systems have much in common in terms of credit risk assessment.

Similar to this study, Hosna et al. (2009) found that there was a significant link between a traditional bank's credit risk assessment strategies and its profitability in terms of ROE. In their investigation, Berrios (2013) also acknowledged that the more financial institutions lend their assets to borrowers, the more they are exposed to credit risk. This finding implies that the role of exposure limits in a bank's profitability is hard to overestimate. Interestingly, this study managed to statistically link the exposure limit strategy with the profitability of UK financial institutions. It can be argued that the more actively UK-based commercial banks use exposure limits to assess potential credit risks, the higher return on equity ratio they achieve on a yearly basis. As noted by Abdul-Majid et al. (2010), total exposure to a single counterparty must not exceed 25% of an Islamic bank's total capital. The same percentage applies to most of conventional financial institutions, including those based in the UK (Kurawa and Garba, 2014).

The produced outcomes correlate strongly with Kumru and Sarntisart (2016). In their empirical investigation, the researchers discovered that most European commercial banks, including those operating in the UK, gave preference to stress testing, internal ratings and

exposure limits in their credit risk assessment activities (Kumru and Sarntisart, 2016). At the same time, this study failed to statistically link internal rating with the profitability of UK-based commercial banks in terms of ROE. Alternatively, to this project, Gakure et al. (2012) found that risk assessment and identification produced a strong effect on the performance of commercial banks. Nevertheless, the researchers were more focused on risk analysis and risk monitoring strategies, while risk identification was of secondary importance for Gakure et al. (2012).

Hypothesis 2, which states that the use of credit risk management strategies positively influences the profitability of the UK-based commercial banks in terms of return on equity, has been partly confirmed. On the one hand, the statistical analysis revealed that the active use of exposure limits to assess potential credit risks leads to the higher return on equity ratio in the UK banking sector. On the other hand, the employment of credit risk assessment strategies such as financial statement analysis, credit score analysis, creditworthiness analysis, risk rating method and credit portfolio models does not have any statistically significant impact on UK banks' profitability in terms of their return on equity.

It can also be argued that credit risk assessment techniques statically predict the profitability of UK commercial banks in terms of ROA. According to the findings and analysis chapter, the more actively UK-based commercial banks use the risk rating method to measure their credit risk exposure, the higher return on assets ratio they achieve on a yearly basis. Similarly, Abdul-Majid et al. (2010) demonstrated that by using the risk rating method, banks can evaluate potential credit risks more objectively. On the contrary, the credibility of the results produced by using this credit risk assessment strategy was questioned by Ramona (2011). According to the researcher, the values of credit risk effects are predominantly based on subjective opinions rather than objective facts.

Hypothesis 1, according to which the use of credit risk management strategies positively influences the profitability of the UK-based commercial banks in terms of return on assets, has been partly confirmed. This study has demonstrated that the active use of the risk rating method by UK commercial banks to measure their credit risk exposure is associated with the higher return on assets ratio. At the same time, it has been discovered that there is no statistically significant link between credit risk assessment strategies and a banks' ability to reduce their credit risk exposure and achieve better financial performance in terms of return

on assets. Only the risk rating method statistically predicted the UK banks' profitability in terms of ROA. These outcomes are not in keeping with Li and Zou (2014) who argued that credit risk assessment strategies such as financial statement analysis and creditworthiness analysis allowed commercial banks to achieve better financial results.

The analysis of the individual responses of the Emirati banks' managers has demonstrated that the role of credit risk assessment strategies in their profitability is significant. It can be argued that the more actively Emirati commercial banks use creditworthiness analysis as a tool to measure their potential credit risks, the higher return on equity ratio they can achieve on a yearly basis. These outcomes are in keeping with Abdul-Majid et al. (2010) who reported that by employing this credit risk assessment method, commercial institutions can minimize their credit risk exposure and achieve better profitability in terms of their return on equity. Similarly to Abdul-Majid et al. (2010), Hosna et al. (2009) were also convinced that a financial institution's credit risk assessment strategy to a considerable degree defined their profitability level. Alternative to the UAE context, this study failed to statistically link between creditworthiness analysis and the profitability of UK commercial banks in terms of ROE. These differences demonstrate that there are considerable differences in the extent to which specific credit risk assessment techniques and methods are used by commercial banks in each context.

Further statistical analysis has indicated that the more actively the UAE-based financial institutions use internal ratings to assess their credit risk exposure, the higher return on equity ratio they achieve on a year-to-year basis. Interestingly, this study is not in line with Psillaki et al. (2010) argued that internal ratings were commonly used by European commercial banks. Furthermore, Kumru and Sarntisart (2016) acknowledged that internal ratings were among the methods used by European banks to carry out rigorous credit analysis. At the same time, this credit risk assessment strategy is less popular with Islamic financial institutions in general and Emirati banks, in particular (Hanif and Iqbal, 2010). Considering the produced results, it can be argued that Hypothesis 4, which implies that the use of credit risk management strategies positively influences the profitability of the UAE-based commercial banks in terms of return on equity, has been confirmed.

It was found in the findings and analysis chapter that the more the Emirati commercial banks use credit score analysis as a tool to assess their credit risk exposure, the higher return on

assets ratio they can achieve on a yearly basis. These findings indicate that the role of credit risk assessment methods and techniques in the extent to which Emirati banks are profitable in terms of return on assets is significant. Similar to this thesis, Alshatti (2015) found that effective credit risk management had a strong positive impact on the financial performance of Islamic commercial banks. By contrast, Coghlan and Bell (2005) were convinced that the credit score analysis strategy was limited by its accuracy. According to the researchers, commercial banks that put an emphasis on this credit risk assessment method were not able to precisely measure their credit risk exposure (Al-Mazrooei, 2007). It is relevant to conclude that Hypothesis 3, according to which the use of credit risk management strategies positively influences the profitability of the UAE-based commercial banks in terms of return on asset, has been confirmed.

Although both UK and Emirati commercial banks put an emphasis on credit risk assessment, it can be argued that the traditional and Islamic financial systems differ from each other in terms of credit risk management (Hanif and Iqbal, 2010; Kumru and Sarntisart, 2016). However, these outcomes of the graphical and statistical analyses are not in line with the interview results. Most managers from the Emirati and UK commercial banks failed to identify the differences and similarities in the credit risk assessment strategies of their bank (see Appendix B). Only a minority of the interviewees managed to express their opinion on this matter. For instance, the Interviewee 1 (the UK) asserted that “I can’t tell for sure since I don’t know how banks operate in the UAE. However, the rules of the market are the same across countries. So, in my opinion, there are few differences in the credit risk assessment strategies of banks in the UK and the UAE, if any” (see Appendix B).

5.3. Recommendations

The final research objective was *to develop practical recommendations concerning the improvements to the current credit risk assessment strategies of banks operating in the UAE.* This section provides practical recommendations on how the established relationship between credit risk management strategy and the performance of commercial banks in the UAE and the UK could be translated into practice.

First, it is recommended that Emirati banks should put a heavier emphasis on creditworthiness analysis, credit score analysis and internal ratings in their credit risk management practices. This study has demonstrated that the more actively Emirati commercial banks use these methods and techniques to assess their potential credit risks, the higher profitability in terms of both return on equity and return on assets ratios they can achieve on a yearly basis. For instance, according to Abdul-Majid et al. (2010), creditworthiness analysis allows financial institutions to assess the likelihood that their borrowers are going to default their debt obligations. As a result, their credit risk exposure could be reduced.

Second, commercial banks operating in the UAE should adopt the credit risk assessment methods and techniques, that are actively used by their UK 'counterparts'. Differences between conventional and Islamic financial institutions in their risk assessment methods and techniques are becoming less significant due to rapid globalization and internationalisation (Hassan et al., 2017). Considering this statement, it is relevant to recommend that the UAE-based financial institutions should use stress testing, exposure limits, inspections by branch managers and risk ratings more actively in their credit risk management activities. The outcomes of the statistical analysis have shown that the more actively UK-based commercial banks use these methods and techniques to measure their credit risk exposure, the higher ROE and ROA ratios they achieve on a year-to-year basis. Therefore, by employing stress testing, exposure limits, inspections by branch managers and risk ratings, commercial banks in the UAE can contribute to the key areas of their year-end profitability.

5.4. Limitations

The first key limitation of this research is the response rate for the survey, which is considered to be low. The response rate of this study is equal to 33% and since this rate does not exceed 45%, meaning that an insufficient proportion of those invited to participate took part in a study (Tashakkori and Teddlie, 2003). Further, this study used ordered logistics regression to link credit risk assessment strategies and organisational profitability. Hence, the increase in the respondent number could allow for establishing additional relationships between the variables and adding to the reliability of the statistical findings (Saunders et al., 2016). A second limitation to this study was the fact that only managers of the largest Emirati

and UK banks were included in the sample, while no managers from smaller financial institutions were included in this project. The inclusion of these managers could have added to the generalisability of the produced analysis findings (Bryman and Bell, 2015). Finally, this study investigated the role of credit risk assessment strategies on organisational profitability at the example of Emirati and UK financial institutions and the inclusion of commercial banks from different cultural contexts could have implications for the validity of the research results (Saunders et al., 2016).

5.5. Suggestions for Future Research

Considering the discussed limitations, it can be recommended that the future researchers should include both large and small financial institutions in their sample, although approaching smaller banks would require significant time and financial resources since it may take longer to gain access and collect data from smaller organisation (Easterby-Smith et al., 2012).

Another recommendation is that future researchers to increase the number of surveyed since this will contribute to making the results more reliable (Bryman and Bell, 2015). Finally, it is recommended that future researchers include Islamic banks from more countries to expand the breadth of the comparative findings and add to the generalisability of the conclusions (Saunders et al., 2016). By including these cultural contexts, future researchers can analyse the influence of credit risk management strategy on the performance of commercial banks in a more precise and detailed way (Saunders et al., 2016).

5.6. Actionable Knowledge Plan

This thesis has contributed significantly to my knowledge in the areas of risk management in banking and specifically credit risk management in banks. As noted in the Introduction, in my organisation a lack of understanding of the variety of risks associated with loan and investment made, as well as overall levels of credit risk in our portfolios, has led to a liquidity issue. From my practical experience in financial institutions, I also have ample experience with ineffective credit risk assessment strategies and how these significantly affect business performance. The recent bankruptcy of three ‘high grade’ customers has shown me the

problems with relying on inspection by branch manager, financial statement analysis, and internal ratings, without also using more specialized risk assessment tools and techniques. This research has confirmed my feelings that inspections by branch managers should be combined with credit portfolio models, exposure limits, and stress testing to significantly improve the effectiveness of our credit risk management practices. The results of this research will significant affect the approach I take in the future to undertaking credit risk management, as well as the recommendations I will make to those in senior management positions in the financial institution that I am currently working.

A second important actionable piece of knowledge for me is that Islamic and conventional banks are both similar and different, and can use similar credit risk management practices, while making changes as needed by Sharia law. At the moment, there are differences between Islamic and conventional banks in terms of the credit risk management practices they prefer, however, that does not mean that both sets of practices are equally effective. As long as practices do not contravene Sharia law (or can be made complaint to Sharia law), then I think that the most effective credit risk management practices should be employed in Islamic banks. This again will affect my approach and my recommendations in this area, as I seek to get my bank to be more active in its credit risk management activities.

References

Abdelrahim, K. (2013), "Effectiveness of credit risk management of Saudi Banks in the light of global financial crisis: a qualitative study", *Asian Transactions on Basic and Applied Sciences,* 3 (2), pp. 73-91.

Abdou, H., Muslem, O. and Ismal, R. (2014), "Risk Management Practices in the Republic of Yemen: are Islamic banks different?", *Journal of Islamic Economics, Banking and Finance,* 10(3), pp. 46-73.

Abdou, H. and Pointon, J. (2011), "Credit scoring, statistical techniques and evaluation criteria: a review of the literature", *Intelligent Systems in Accounting, Finance and Management,* 18(2-3), pp. 59-88.

Abduh, M. and Omar, M. (2012), "Islamic banking and economic growth: the Indonesian experience", *International Journal of Islamic and Middle Eastern Finance and Management,* 5 (1), pp. 35-47.

Abdul-Majid, M., Saal, D. and Battisti, G. (2010), "Efficiency in Islamic and conventional Banking: an international comparison", *Journal of Productivity Analysis*, 34 (1), pp. 25-43.

Abedifar, P., Ebrahim, S. M., Molyneux, P., and Tarazi, A. (2015) "Islamic banking and finance: recent empirical literature and directions for future research", *Journal of Economic Surveys*, 29 (4), pp. 637-670.

Abiola, I. and Olausi, A. (2014), "The Impact of Credit Risk Management on the Commercial Banks Performance in Nigeria", *International Journal of Management and Sustainability,* 3 (5), pp. 295-306.

Abor, J. (2005), "The effect of capital structure on profitability: empirical analysis of listed firms in Ghana", *Journal of Risk Finance,* 6 (5), pp. 438-445.

Abu Hussain, H., and Al-Ajmi, J. (2012) "Risk management practices of conventional and Islamic banks in Bahrain", *The Journal of Risk Finance*, 13 (3), pp. 215-239.

Adeusi, S., Akeke, N., Adebisi, O. and Oladunjoye, O. (2013), "Risk Management and Financial Performance of Banks in Nigeria", *Journal of Business and Management*, 14 (6), pp. 52-56.

Aggarwal, R. and Goodell, J. (2009), "Markets and institutions in financial intermediation: national characteristics as determinants", *Journal of Banking and Finance*, 33 (1), pp. 1770-1780.

Ahmad, N. and Ariff, M. (2007), "Multi-country study of bank credit risk determinants", *International Journal of Banking and Finance*, 5 (1), pp. 135-152.

Ahmed, N. et al. (2011), Risk Management Practices and Islamic Banks: An Empirical Investigation from Pakistan. *Interdisciplinary Journal of Research in Business*, 1 (6), pp. 50-57.

Aizenman, J., Jinjarak, Y., Lee, M., and Park, D. (2016) "Developing countries" financial vulnerability to the eurozone crisis: An event study of equity and bond markets", *Journal of Economic Policy Reform*, 19 (1), pp. 1-19.

Al Ajlouni, A. and Shawer, M. (2013), "The effect of capital structure on profitability: evidence from the petrochemical companies in the kingdom of Saudi Arabia", *International Journal of Research in Commerce, IT and Management*, 3 (11), pp. 56-63.

Alessandri, P. and Drehmann, M. (2010), "An economic capital model integrating credit and interest rate risk in the banking book", *Journal of Banking and Finance*, 34 (1), pp. 730-742.

Alkhatib, A. and Harsheh, M. (2012), "Financial Performance of Palestinian Commercial Banks", *International Journal of Business and Social Science*, 3 (3), pp. 175-184.

Alsaeed, K. (2005), "The association between firm-specific characteristics and disclosure: the case of Saudi Arabia", *The Journal of American Academy of Business*, 7 (1), pp. 310-321.

Alshatti, A. (2015), "The effect of credit risk management on financial performance of the Jordanian commercial banks", *Investment Management and Financial Innovations*, 12 (1), pp. 338-345.

Al-Tamimi, H. (2002), "Risk management practices: an empirical analysis of the UAE commercial banks", *Finance India*, 16 (3), pp. 1045-1057.

Al-Tamimi, H. and Al-Mazrooei, F. (2007), "Banks' risk management: a comparison study of UAE national and foreign banks", *The Journal of Risk Finance*, 8 (4), pp. 394-409.

Amarjit, G., Biger, N. and Mathur, N. (2011), "The effect of capital structure on profitability: evidence from the United States", *International Journal of Management*, 28 (4), pp. 3-15.

Arman, A., Bin, A. and Hassan, B. (2009), "Risk reporting: an exploratory study on risk management disclosure in Malaysian annual reports", *Managerial Auditing Journal*, 24 (1), pp. 39-57.

Aven, T. (2016) "Risk assessment and risk management: review of recent advances on their foundation", *European Journal of Operational Research*, 253 (1), pp. 1-13.

Azmat, S. Skully, M. and Brown, K (2014), "Credit risk in Islamic joint venture bond", *Journal of Economic Behaviour and Organisation*, 103, Supplement Special Issue on Islamic Finance, (July), pp. S129-S145.

Azmat, S., Skully, M. and Brown, K. (2015), "Can Islamic banking ever become Islamic?", *Pacific-Basin Finance Journal*, 34 (1), pp. 253-272.

Bader, M., Mohamad, S., Ariff, M. and Hassan, T. (2008), "Cost, revenue, and profit efficiency of Islamic versus conventional banks: international evidence using data envelopment analysis", *Islamic Economic Studies*, 15 (1), pp. 23-76.

Barro, R. and McCleary, R. (2003), "Religion and economic growth across countries", *American Sociological Review*, 68 (1), pp. 760-781.

Barro, R. and McCleary, R. (2006), "Religion and economy", *Journal of Economic Perspectives*, 20 (1), pp. 49-72.

Beck, T., Demirgüç-Kunt, A., and Levine, R. (2010) "Financial institutions and markets across countries and over time: The updated financial development and structure database", *The World Bank Economic Review*, 24 (1), pp. 77-92.

Beck, T., Demirguc-Kunt, A. and Merrouche, O. (2013), "Islamic vs. conventional banking: business model, efficiency and stability", *Journal of Banking and Finance*, 37 (1), pp. 433-447.

Bekhet, H. and Eletter, S. (2014), "Credit risk assessment model for Jordanian commercial banks: Neural scoring approach", *Review of Development Finance*, 4 (1), pp. 20-28.

Bell, J. and Waters, S. (2014), *Doing your Research Project*, 6th ed., Buckingham: Open University Press.

Ben Selma Mokni, R., Echchabi, A., Azouzi, D., and Rachdi, H. (2014) "Risk management tools practiced in Islamic banks: evidence in MENA region", *Journal of Islamic Accounting and Business Research*, 5 (1), pp. 77-97.

Berrios, M. (2013), "The Relationship between Bank Credit Risk and Profitability and Liquidity", *The International Journal of Business and Finance Research*, 7 (3), pp. 105-118.

Blundell-Wignall, A., Atkinson, P. and Lee, S. H. (2008), *The current financial crisis: Causes and policy issues.* OECD.

Boahene, S., Dasah, J. and Agyei, S. (2012), "Credit Risk and Profitability of Selected Banks in Ghana", *Research Journal of Finance and Accounting*, 3 (7), pp. 6-15.

Bodla, B. and Verma, R. (2009), "Credit risk management framework at banks in India", *The ICFAI University Journal of Bank Management*, 8 (1), pp. 47-72.

Bonin, J., Hasan, I. and Wachtel, P. (2005), "Bank performance, efficiency and ownership in transition countries", *Journal of Banking and Finance*, 29 (1), pp. 31-53.

Booth, L., Aivazian, V., Demirguc-Kunt, A. and Maksimovic, V. (2001), "Capital structure in developing countries", *Journal of Finance*, 56 (1), pp. 87-130.

Bouteille, S. and Coogan-Pushner, D. (2012), *The Handbook of Credit Risk Management: Originating, Assessing, and Managing Credit Exposures*, Chichester: John Wiley and Sons.

Brown, K. and Moles, P. (2014) "Credit risk management", [online] Available at: https://www.ebsglobal.net/EBS/media/EBS/PDFs/Credit-Risk-Management.pdf [Accessed on 14 April 2016].

Bryman, A. (2006), "Integrating quantitative and qualitative research: how is it done?" *Qualitative Research*, 6 (1), pp. 97-113.

Bryman, A. (2007), "The research question in social research: what is its role?", *International Journal of Social Research Methodology*, 10 (1), pp. 5-20.

Bryman, A. and Bell, E. (2015), *Business research methods*, 3rd ed., Oxford: Oxford University Press.

Bryman, A. and Cramar, D. (2011), *Quantitative data analysis with IBM SPSS 17, 18 and 19*, Hove: Routledge.

Burke Johnson, R., Onwuegbuzie, A.J., & Turner, L.A., (2007) "Toward a Definition of Mixed Methods Research", *Toward a Definition of Mixed Methods Research,* 1(2), pp.112-133.

Carbo, S. and Rodriguez, F. (2007), "The determinants of bank margins in European banking", *Journal of Banking and Finance*, 31 (1), pp. 2043-2063.

Carling, K., Jacobson, T., Linde, J. and Roszbach, K. (2007), "Corporate credit risk modelling and the macroeconomy", *Journal of Banking and Finance*, 31 (1), pp. 845-868.

Carver, R. and Nash, J. (2011), *Doing data analysis with SPSS: version 18.0*, Boston: Cengage Learning.

Cerović, L., Suljić Nikolaj, S., and Maradin, D. (2017) "Comparative analysis of conventional and Islamic banking: Importance of market regulation", *Ekonomska misao i praksa*, (1), pp. 241-263.

Chen, K. and Pan, C. (2012), "An Empirical Study of Credit Risk Efficiency of Banking sector in Taiwan", *Web Journal of Chinese Management Review*, 15 (1), pp. 1-16.

Chen, N., Ribeiro, B., and Chen, A. (2016) "Financial credit risk assessment: a recent review", *Artificial Intelligence Review*, 45 (1), pp. 1-23.

Chong, B. and Liu, M. (2009), "Islamic banking: interest-free or interest-based?", *Journal of Pacific-Basin Finance*, 17 (1), pp. 125-144.

Cihak, M. and Hesse, H. (2010), "Islamic banks and financial stability: an empirical analysis", *Journal of Financial Services Research*, 38 (1), pp. 95-113.

Coghlan, D. and Brannick, T. (2014), *Doing Action Research in Your Own Organisation*, 4th ed., London: Sage.

Collis, J. and Hussey, R. (2003), *Business research: a practical guide for undergraduate and postgraduate students*, 2nd ed., Macmillan Business.

Dabari, I. and Saidin, S. (2014), "A theoretical framework on the level of risk management implementation in the Nigerian banking sector: The moderating effect of top management support", *Procedia - Social and Behavioral Sciences*, 164 (1), pp. 627-634.

Demirguc-Kunt, A. and Huzinga, H. (1999), "Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence", *The World Bank Economic Review*, 13 (2), pp. 379-840.

Derban, W., Binner, J. and Mullineux, A. (2005), "Loan repayment performance in community development finance institutions in the UK", *Small Business Economics*, 25 (1), pp. 319-332.

Di Mauro, F., Caristi, P., Couderc, S., Di Maria, A., Ho, L., Grewal, B., Masciantonio, S., Ongena, S. and Zaher, S. (2013), "Islamic finance in Europe," ECB Occasional Paper No. 146.

Diamond, D. and Rajan, R. (2009), "The credit crisis: conjectures about causes and remedies", *American Economic Review*, 99 (2), pp. 606-610.

Dias, R. (2015), "The role of managerial risk-taking in the 'rise and fall' of the CDS market", *Accounting and Finance,* 57 (1), pp. 117-145.

Dicevska, S. (2012), "Credit risk – creating system of credit risk management in changing economic conditions in Macedonian banks", *Procedia – Social and Behavioural Sciences,* 44 (1), pp. 460-469.

Dick, B. and Greenwood, D.J. (2015), "Theory and method: Why action research does not separate them", *Action Research,* 13(2), pp. 194-197.

Dionne, G. (2013), "Risk Management: History, Definition, and Critique", *Risk Management and Insurance Review,* 16 (2), pp. 147-166.

Drehmann, M., Sorensen, S. and Stringa, M. (2010), "The integrated impact of credit and interest rate risk on banks: a dynamic framework and stress testing application", *Journal of Banking and Finance*, 34 (1), pp. 735-751.

Easterby-Smith, M., Thorpe, R., and Jackson, P. (2012), *Management research*, 3rd ed., London: Sage.

Ember, C. and Ember, M. (2009) *Cross-cultural research methods*. Plymouth, UK: Altamira Press.

Emel, A. B., Oral, M., Reisman, A., and Yolalan, R. (2003), "A credit scoring approach for the commercial banking sector", *Socio-Economic Planning Sciences*, 37(2), pp. 103-123.

Epure, M., and Lafuente, E. (2015) "Monitoring bank performance in the presence of risk", *Journal of Productivity Analysis*, 44 (3), pp. 265-281.

Erol, C., F. Baklaci, H., Aydoğan, B., and Tunç, G. (2014) "Performance comparison of Islamic (participation) banks and commercial banks in Turkish banking sector", *EuroMed Journal of Business*, 9 (2), pp. 114-128.

Fathi, S., Zarei, F. and Esfahani, S. (2012), "Studying the role of financial risk management on return on equity", *International Journal of Business and Management*, 7 (9), pp. 215-221.

Forssbaeck, J. (2011), "Ownership structure, market discipline, and banks' risk-taking incentives under deposit insurance", *Journal of Banking and Finance*, 35 (1), pp. 2666-2678.

Gakure, R., Ngugi, J., Musangi, P. and Waithaka, S. (2012), "Effect of credit risk management techniques on the performance of unsecured bank loans employed commercial banks in Kenya", *International Journal of Business and Social Research*, 2 (4), pp. 221-236.

Gheeraer, L. (2014), "Does Islamic finance spur banking sector development?", *Journal of Economic Behaviour and Organisation*, 103 (1), pp. 4-20.

Gill, A., Biger, N. and Mathur, N. (2011), "The effect of capital structure on profitability: evidence from the United States", *International Journal of Management*, 28 (4), pp. 3-15.

Goddard, J., Molyneux, P. and Wilson, J. (2004), "The profitability of European banks: a cross-sectional and dynamic panel analysis", *The Manchester School*, 72 (3), pp. 363-381.

Goddard, J., Liu, H., Molyneux, P, and Wilson, J.O.S, (2010) "Do Bank Profits Converge?", *European Financial Management*, 19(2), pp. 345-365.

Gray, C. and Larson, E. (2006). *Project management: The managerial process*, 3rd ed. New York, NY: Irwin/McGraw – Hill.

Greenwood, D.J. (2015), "An analysis of the theory/concept entries in the SAGE Encyclopaedia of Action Research: What we can learn about action research in general from the encyclopaedia", *Action Research,* 13(2), pp. 198-213.

Greuning, H. and Bratanovic, S. (2003), *Analysing and managing banking risk, a framework for assessing corporate governance and financial risk,* 2nd ed., Washington: The World Bank.

Gummesson, E. (2000), *Qualitative Methods in Management Research,* 2nd ed., Thousand Oaks: Sage.

Hachicha, N. and Amar, A. (2015), "Does Islamic bank financing contribute to economic growth? The Malaysian case", *International Journal of Islamic and Middle Eastern Finance and Management,* 8 (3), pp. 349-368.

Hallara, D. (2012), "The current models of credit portfolio management: a comparative theoretical analysis", *International Journal of Management and Business Research,* 2 (4), pp. 271-292.

Hanif, M. (2011), "Differences and similarities in Islamic and conventional banking", *International Journal of Business and Social Science,* 2 (2), pp. 166-175.

Hanif, M. and Iqbal, A. (2010), "Islamic financing and business framework: a survey", *European Journal of Social Sciences,* 15 (4), pp. 475-489.

Hassan, M. (2009), "Risk Management Practices of Islamic Banks of Brunei Darussalam", *The Journal of Risk Finance,* 10 (1), pp. 23-37.

Hassan, M., Aliyu, S., and Brodmann, J. (2017). An introduction to Islamic banking and finance. In Gup, B. (ed.), *The Most Important Concepts in Finance* (p. 250-276). Edward Elgar Publishing.

Hilary, G. and Hui, K. (2010), "Does religion matter in corporate decision making in America?", *Journal of Financial Economics,* 93 (3), pp. 455-473.

Hosna, A., Manzura, B. and Juanjuan, S. (2009), "Credit risk management and profitability in commercial banks in Sweden", *Working Paper*, pp. 1-70.

Hovorka, D. and Lee, A. (2010, December) "Reframing interpretivism and positivism as understanding and explanation: consequences for Information Systems research", in *ICIS* (p. 188).

Huber, C. and Scheytt, T. (2013), "The dispositive of risk management: Reconstructing risk management after the financial crisis", *Management Accounting Research,* 24 (2), pp. 88-99.

Hussain, H. and Al-Ajmi, J. (2012), "Risk management practices of conventional and Islamic banks in Bahrain", *The Journal of Risk Finance,* 13 (3), pp. 215-239.

Hyun, J. and Rhee, B. (2011), "Bank capital regulation and credit supply", *Journal of Banking and Finance,* 35 (2), pp. 323-330.

Iannota, G., Giacomo, N. and Sironi, A. (2007), "Ownership structure, risk and performance in the European banking sector", *Journal of Banking and Finance,* 31 (1), pp. 2127-2149.

Ibrahim, M. (2015), "Issues in Islamic banking and finance: Islamic banks, Shari'ah-compliant investment and Sukuk", *Pacific-Basin Finance Journal*, 34 (1), pp. 185-191.

Idode, P., Adeleke, M., Ogunlowore, A. and Ashogbon, O. (2014), "Influence of capital structure on profitability: empirical evidence from listed Nigerian banks", *Journal of Business and Management,* 16 (11), pp. 22-28.

IMF (2012) *Kuwait: Selected issues and statistical appendix*, Washington DC: Business and Economics.

Iqbal, Z. (1997), Islamic Financial Systems. *Finance & Development,* June p. 42-45.

Johnson, R. and Onwuegbuzie, A. (2004) "Mixed methods research: a research paradigm whose time has come", *Educational Researcher,* 33(7), pp. 14-26.

Johnson, R., Onwuegbuzie, A. and Turner, L.A., (2007) "Toward a definition of mixed methods research", *Journal of Mixed Methods Research,* 1(2), pp.112-133.

Jones, R. and Perignon, C. (2013), "Derivatives clearing, default risk, and insurance", *Journal of Risk and Insurance,* 80 (2), pp. 373-400.

Joshi, A., Kale, S., Chandel, S. and Pal, D.K., (2015), "Likert scale: explored and explained", *British Journal of Applied Science and Technology,* 7(4), pp. 396-403.

Kabir, N., Worthington, A. and Gupta, R. (2015), "Comparative credit risk in Islamic and conventional bank", *Pacific-Basin Finance Journal,* 34 (1), pp. 327-353.

Kaczynski, D., Salmona, M., and Smith, T. (2014) "Qualitative research in finance", *Australian Journal of Management,* 39 (1), pp. 127-135.

Kane, E. (2010), "Redefining and containing systemic risk", *Atlantic Economic Journal,* 38 (1), pp. 251-264.

Kauko, K. (2012), "External deficits and non-performing loans in the recent financial crisis", *Economics Letters,* 115 (2), pp. 196-199.

Khalid, S. and Amjad, S. (2012), "Risk management practices in Islamic banks of Pakistan", *The Journal of Risk Finance,* 13 (2), pp. 148-159.

Khediri, K., Charfeddine, L. and Youssef, S. (2015), "Islamic versus conventional banks in the GCC countries: a comparative study using classification techniques", *Research in International Business and Finance,* 33 (1), pp. 75-98.

Kock, N., McQueen, R. and Scott, J. (1997), "Can action research be made more rigorous in a positivist sense? The contribution of an iterative approach", *Journal of Systems and Information Technology,* 1 (1), pp. 1-23.

Kolapo, F., Ayeni, K. and Oke, O. (2012), "Credit risk and commercial banks' performance in Nigeria: a panel model approach", *Australian Journal of Business and Management Research,* 2 (2), pp. 31-38.

Kumar, A., Page, J. and Spalt, O. (2011), "Religious beliefs, gambling attitudes, and financial market outcomes", *Journal of Financial Economics,* 102 (1), pp. 671-708.

Kumru, C. and Sarntisart, S. (2016), "Banking for those unwilling to bank: Implications of Islamic banking systems", *Economic Modelling,* 54 (1), pp. 1-12.

Kurawa, J. and Garba, S. (2014), "An evaluation of the effect of credit risk management (CRM) on the profitability of Nigerian banks", *Journal of Modern Accounting and Auditing,* 10 (1), pp. 104-115.

Laeven, L. and Levine, R. (2009), "Bank governance, regulation and risk taking", *Journal of Financial Economics,* 93 (1), pp. 259-275.

Lambert, D. and Cooper, M. (2000), "Issues in supply chain management", *Industrial Marketing Management,* 29 (1), pp. 65-83.

Larson, E. W., and Gray, C. F. (2010). Project management: The managerial process 5th ed. New York, NY: Irwin/McGraw – Hill.

Lee, J. (2000), "Embedded Options and Interest Rate Risk for Insurance Companies. Banks and Other Financial Institutions", *The Quarterly Review of Economics and Finance,* 40 (1), pp. 169-187.

Lepetit, L., Nys, E., Rous, P. and Tarazi, A. (2008), "Bank income structure and risk: an empirical analysis of European banks", *Journal of Banking and Finance,* 32 (1), pp. 1452-1467.

Li, K., Griffin, D., Yue, H., and Zhao, L. (2013), "How does culture influence corporate risk-taking?" *Journal of Corporate Finance,* 23, 1-22

Li, F. and Zou, Y. (2014), "The impact of credit risk management on profitability of commercial banks: a study of Europe", *Working Paper*, pp. 1-86.

Livshits, I. (2015), "Recent Developments in Consumer Credit and Default Literature", *Journal of Economic Surveys,* 29 (4), pp. 594 – 613.

Louzis, D., Vouldis, A. and Metaxas, V. (2012), "Macroeconomic and bank-specific determinants of non-performing loans in Greece: a comparative study of mortgage, business and consumer loan portfolios", *Journal of Banking and Finance,* 36 (4), pp. 1012-1027.

Margrabe, K. (2007), "The incidence of secured debt: evidence from the small business community", *Journal of Financial and Quantitative Analysis,* 24 (1), pp. 379-394.

Masood, O., Al Suwaidi, H. and Thapa, P. (2012), "Credit risk management: a case differentiating Islamic and non-Islamic banks in UAE", *Qualitative Research in Financial Markets,* 4 (2/3), pp. 197-205.

McCleary, R. and Barro, R. (2006), "Religion and political economy in an international panel", *Journal for the Scientific Study of Religion,* 45 (1), pp. 149-175.

Misman, F., Bhatti, I., Lou, W., Samsudin, S. and Rahmana, N. (2015), "Islamic Banks Credit Risk: A Panel study", *Procedia Economics and Finance,* 31 (1), pp. 75-82.

Mohamad, S., Hassan, T. and Bader, M. (2008), "Efficiency of conventional versus Islamic banks: international evidence using the stochastic frontier approach (SFA)", *Journal of Islamic Economics, Banking and Finance,* 4 (1), pp. 107-130.

Mokni, R., Echchabi, A., Azouzi, D. and Rachdi, H. (2014), "Risk management tools practiced in Islamic banks: evidence in MENA region", *Journal of Islamic Accounting and Business Research,* 5 (1), pp. 77-97.

Morgan, A. G., Leech, L., Gloeckner, W. G. and Barrett, C. (2007), *SPSS for Introductory Statistics: Use and Interpretation*. 2nd ed. Lawrence Erlbaum Associates, Inc.

Morris, J. (2001), "Risk diversification in the credit portfolio: an overview of country practices", *Working Paper*, pp. 1-34.

Nazir, M., Daniel, A., and Nawaz, M. (2012), "Risk management practices: a comparison of conventional and Islamic banks in Pakistan", *American Journal of Scientific Research,* 68, pp. 114-122.

Ogden, J., Jen, F. and O'Connor, P. (2003), *Advanced corporate finance: policies and strategies,* Trenton: Prentice Hall.

Olamide, O., Uwalomwa, U. and Ranti, U. (2015), "The effect of risk management on bank's financial performance in Nigeria", *Journal of Accounting and Auditing: Research and Practice,* 1 (1), pp. 1-7.

Oliveira, J., Rodrigues, L. L., and Craig, R. (2011), "Risk-related disclosure practices in the annual reports of Portuguese credit institutions: an exploratory study", *Journal of Banking Regulation,* 12(2), pp. 100-118.

Paape, L. and Spekle, R. (2011), "The design and adoption of enterprise risk management practices: An empirical study", *European Accounting Review*, 21 (3), pp. 533-564.

Park, J. (2012), "Corruption, soundness of the banking sector, and economic growth: a cross-country study", *Journal of International Money and Finance,* 31 (5), pp. 907-929.

Parramore, K. and Watsham, T. (1997), *Quantitative methods in finance*, Oxford: Thomson.

Psillaki, M., Tsolas, I. and Margaritis, D. (2010), "Evaluation of credit risk based on firm performance", *European Journal of Operational Research,* 201 (3), pp. 873-888.

Quinlan, C. (2015), *Business research methods,* New York: South-Western Cengage Learning.

Ramachandran, A. and Gavoury, C. (2011), "The Impact of Capital Structure on Profitability with Special Reference to IT industry in India", *Managing Global Transitions*, 9 (4), pp. 371-392.

Ramona, S. (2011), "Advantages and disadvantages of quantitative and qualitative information risk approaches", *Chinese Business Review*, 10 (12), pp. 1106-1110.

Rashwan, M. (2012), "How did listed Islamic and traditional banks perform: pre and post the 2008 financial crisis", *Journal of Applied Finance and Banking*, 2 (1), pp. 149-175.

Rees-Caldwell, K., and Pinnington, A. (2013) "National culture differences in project management: Comparing British and Arab project managers" perceptions of different planning areas", *International Journal of Project Management*, 31 (2), pp. 212-227.

Revans, R. (2011) "Action learning: Its origins and nature", in Pedler, M. (ed.) *Action learning in practice* (p. 5-14). Gower Publishing, Ltd.

Rieck, A., and Schuknecht, L. (2018), "Political economy of government solvency: the institutional framework for stability and sustainability", in Eusepi, E. and Wagner, R. (eds.), *Debt Default and Democracy* (pp. 65-83). Cheltenham: Edward Elgar.

Rime, B. (2001), "Capital requirements and bank behaviour: empirical evidence for Switzerland", *Journal of Banking and Finance*, 25 (4), pp. 789-805.

Robson, C. and McCartan, K. (2016), *Real World Research*, 4th ed., Oxford: Blackwell.

Ross, S. (1976), "The arbitrage theory of capital asset pricing", *Journal of Economic Theory*, 13 (1), pp. 341-360.

Rowley, J. (2014) "Designing and using research questionnaires", *Management Research Review*, 37 (3), pp. 308-330.

Ruziqa, A. (2013), "The impact of credit and liquidity risk on bank financial performance: the case of Indonesian conventional bank with total asset above 10 trillion Rupiah", *International Journal of Economic Policy in Emerging Economies*, 6 (2), pp. 93-106.

Salas, V. and Saurina, J. (2002), "Credit risk in two institutional regimes: Spanish commercial and savings banks", *The Journal of Financial Services Research*, 22 (3), pp. 203-216.

Samy, N. and Magda, K. (2009), "The impact of capital requirements on banks' cost of intermediation and performance: the case of Egypt", *Journal of Economics and Business*, 61 (1), pp. 70-89.

Saunders, A. and Cornett, M. (2014), *Financial institutions management: a risk management approach*, New York: McGraw-Hill.

Saunders, M., Lewis, P. and Thornhill, A. (2016), *Research Methods For Business Students*, 7th ed., London: Prentice Hall.

Sekaran, U. and Bougie, R. (2016), *Research Methods For Business: A Skill Building Approach*, 7th ed., New York: John Wiley and Sons.

Sensarma, R. and Jayadev, M. (2009), "Are bank stocks sensitive to risk management?", *Journal of Risk Finance*, 10 (1), pp. 7-22.

Shawtari, F., Saiti, B., Razak, S. and Ariff, M. (2015), "The impact of efficiency on discretionary loans/finance loss provision: a comparative study of Islamic and conventional banks", *Borsa Istanbul Review*, 15 (4), pp. 272-282.

Siddiqi, M. (2006), "Islamic Banking and Finance in Theory and Practice: A Survey of State of the Art", *Islamic Economic Studies*, 13 (1), pp. 1-48.

Singh, A. (2015), "Effect of credit risk management on private and public sector banks in India", *International Journal of Academic Research in Business and Social Sciences*, 5 (1), pp. 97-106.

Sundarajan, V. (2007), "Risk characteristics of product", *Implications for Risk Measurement and Supervision,* 25 (1), pp. 36-50.

Tabari, N. and Emami, M. (2013), "The effect of liquidity risk on the performance of commercial banks", *International Research Journal of Applied and Basic Sciences,* 4 (6), pp. 1624-1631.

Tashakkori, A. and Teddlie, C. (2003), *Handbook of Mixed Methods in Social and Behavioural Research,* Thousand Oaks: Sage.

Thakor, A.V. (2015) "The highs and the lows: A theory of credit risk assessment and pricing through the business cycle", *Journal of Financial Intermediation,* 25(1), pp. 1-29.

Waemustafa, W., and Sukri, S. (2015) "Bank specific and macroeconomics dynamic determinants of credit risk in Islamic banks and conventional banks", *International Journal of Economics and Financial Issues,* 5 (2), pp. 476-481.

Weill, L. (2011), "Do Islamic banks have greater market power?", *Comparative Economic Studies,* 53 (1), pp. 291-306.

World Bank, The (2016) "Labour force participation rate, female (% of female population ages 15+) (modeled ILO estimate)", [online] Available at: http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS [Accessed on 2 April 2016].

Yang, C. (2012), "Service, investment, and risk management performance in commercial banks", *The Service Industries Journal,* 32 (12), pp. 2005-2025.

Yegon, C., Cheruiyot, J., Sang, J. and Cheruiyot, P. (2014), "The effects of capital structure on firm's profitability: evidence from Kenya's banking sector", *Research Journal of Finance and Accounting,* 5 (9), pp. 152-159.

Yin, R. (2008), *Case study research: design and methods,* London: Sage.

Zaher, T. and Hassan, K. (2001), "A comparative literature survey of Islamic finance and banking", *Financial Markets, Institutions and Instruments*, 10 (1), pp. 155-199.

Zikmund, W., Babin, B., Carr, J. and Griffin, M. (2003), *Business research methods*, 7th ed., Mason: Cengage Learning.

Appendices

Appendix A: Questionnaire Design

Pilot Questionnaire

I. Respondent Profile

1. How old are you?
   - ❑ 18-25
   - ❑ 26-35
   - ❑ 36-45
   - ❑ 46-55
   - ❑ Older than 56

2. What is your Gender?
   - ❑ Male
   - ❑ Female

3. What is your education?
   - ❑ Finished secondary school
   - ❑ Undergraduate student
   - ❑ Bachelor's degree
   - ❑ Master's degree
   - ❑ PhD

4. My bank is located in…
   - ❑ The UK
   - ❑ The UAE
   - ❑ Other (*please, do not proceed with the questionnaire*)

5. What is your current position?
   - ❑ Managerial
   - ❑ Non-managerial (*please, do not proceed with the questionnaire*)

6. How long have you been working as a bank manager?
   - ❑ Less than a year
   - ❑ 1-3 years
   - ❑ 4-6 years
   - ❑ 7-9 years
   - ❑ More than 10 years

II. Credit Risk Management Strategies

Please, identify the degree to which you agree that the following credit risk assessment strategies are actively used in your bank.

7. Financial statement analysis.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

8. Inspection by branch managers.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

9. Credit score analysis.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

10. Creditworthiness analysis.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

11. Risk rating method.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

12. Credit portfolio models.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

13. Internal ratings.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

14. Exposure limit.

- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

15. Stress testing.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

III. Factors Influencing Risk Management in the Banking Sector

16. My bank has a sound risk management framework in place.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

17. We have an independent chairman on the board.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

18. The board members have regular meetings.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

19. Our credit risk assessment strategies are systematically formulated, evaluated and implemented.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

20. Our bank's credit risk strategy is regularly examined by external auditors.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree

- ❑ Strongly agree

21. Our internal auditors assess the credit risk strategy on a regular basis.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

22. Our bank has a complex and rigid organisational structure.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

23. Our organisational culture implies that credit risk management is of primary importance.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

IV. Commercial Bank Profitability

24. The return on equity ratio has significantly increased comparing to the previous year's results.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

25. The return on assets ratio has significantly increased in comparison with the previous year's results.
    - ❑ Strongly disagree
    - ❑ Disagree
    - ❑ Neither
    - ❑ Agree
    - ❑ Strongly agree

Final (Administered) Questionnaire

I. Respondent Profile

1. How old are you?
   - ❑ 18-25
   - ❑ 26-35
   - ❑ 36-45
   - ❑ 46-55
   - ❑ Older than 56

2. What is your Gender?
   - ❑ Male
   - ❑ Female

3. What is your education?
   - ❑ Finished secondary school
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   - ❑ Bachelor's degree
   - ❑ Master's degree
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4. My bank is located in…
   - ❑ The UK
   - ❑ The UAE
   - ❑ Other (*please, do not proceed with the questionnaire*)

5. What is your current position?
   - ❑ Managerial
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6. How long have you been working as a bank manager?
   - ❑ Less than a year
   - ❑ 1-3 years
   - ❑ 4-6 years
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   - ❑ Disagree
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   - ❑ Agree
   - ❑ Strongly agree

8. Inspection by branch managers.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

9. Credit score analysis.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

10. Creditworthiness analysis.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

11. Risk rating method.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

12. Credit portfolio models.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

13. Internal ratings.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

14. Exposure limit.
   - ❑ Strongly disagree
   - ❑ Disagree
   - ❑ Neither
   - ❑ Agree
   - ❑ Strongly agree

15. Stress testing.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

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- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

17. We have an independent chairman on the board.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

18. The board members have regular meetings.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

19. Our credit risk assessment strategies are systematically formulated, evaluated and implemented.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

20. Our bank's credit risk strategy is regularly examined by external auditors.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

21. Our internal auditors assess the credit risk strategy on a regular basis.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither

- ❑ Agree
- ❑ Strongly agree

22. Our bank has a complex and rigid organisational structure.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

23. Our organisational culture implies that credit risk management is of primary importance.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

IV. Commercial Bank Profitability

24. The return on equity ratio has significantly increased comparing to the previous year's results.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

25. The return on assets ratio has significantly increased in comparison with the previous year's results.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

V. The Effectiveness of Risk Credit Assessment Strategies

26. Our credit risk assessment strategies are highly effective in dealing with credit risk.
- ❑ Strongly disagree
- ❑ Disagree
- ❑ Neither
- ❑ Agree
- ❑ Strongly agree

Appendix B: Interview Schedule

1. What is your position in the bank? How many years have you been working in this financial establishment?

2. What assessment methods and technique are usually used in your bank to assess credit risk?

3. In your opinion, what are the current credit risk assessment strategies of your bank?

4. Do you consider these strategies to be effective?

5. What are the advantages of the credit risk assessment strategies of your financial institution?

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?

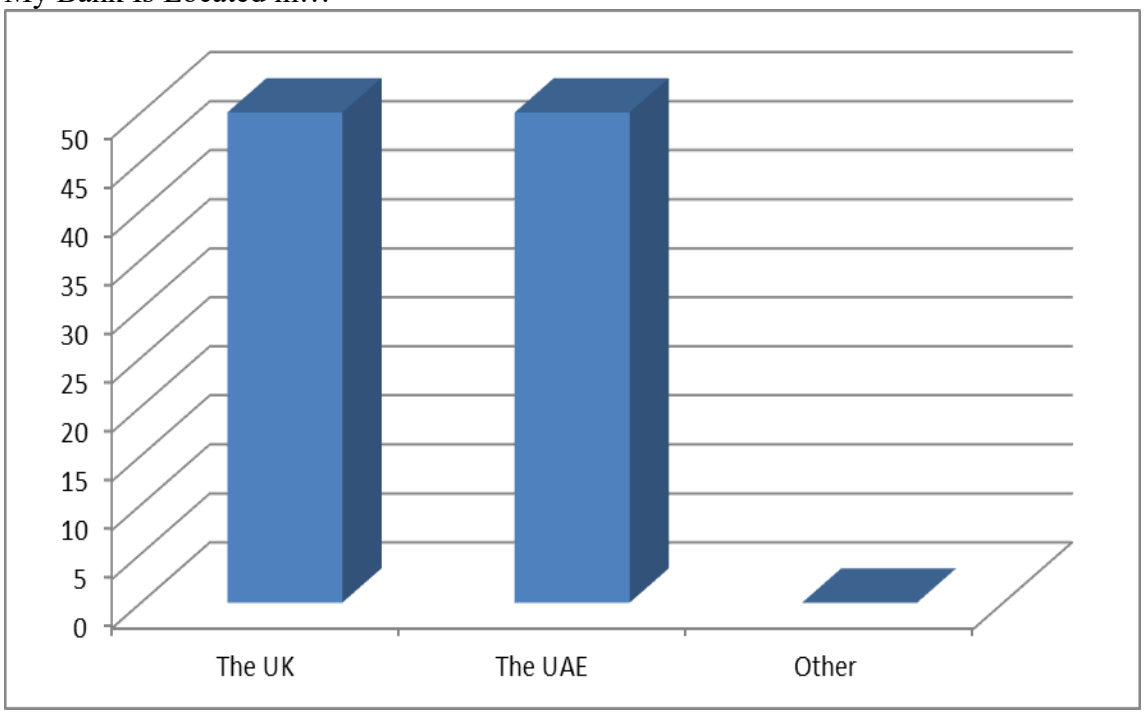
8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?

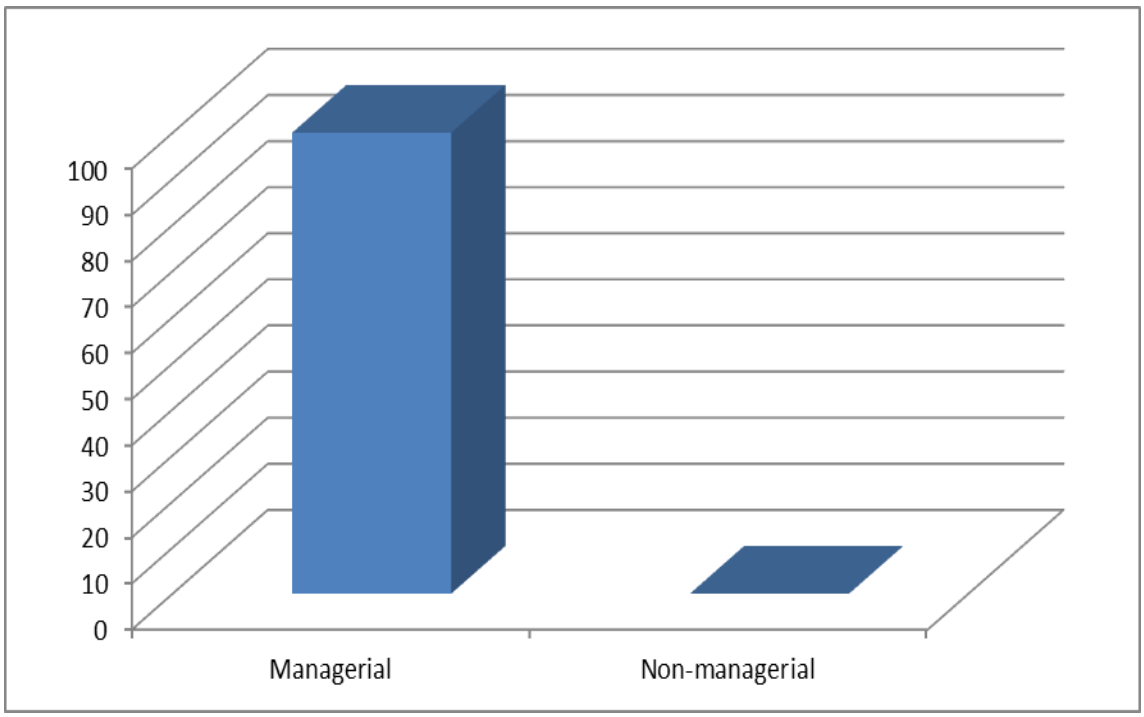
10. What changes could be introduced to your assessment strategies to make credit risk management more effective?

Appendix C: Graphical Analysis Results

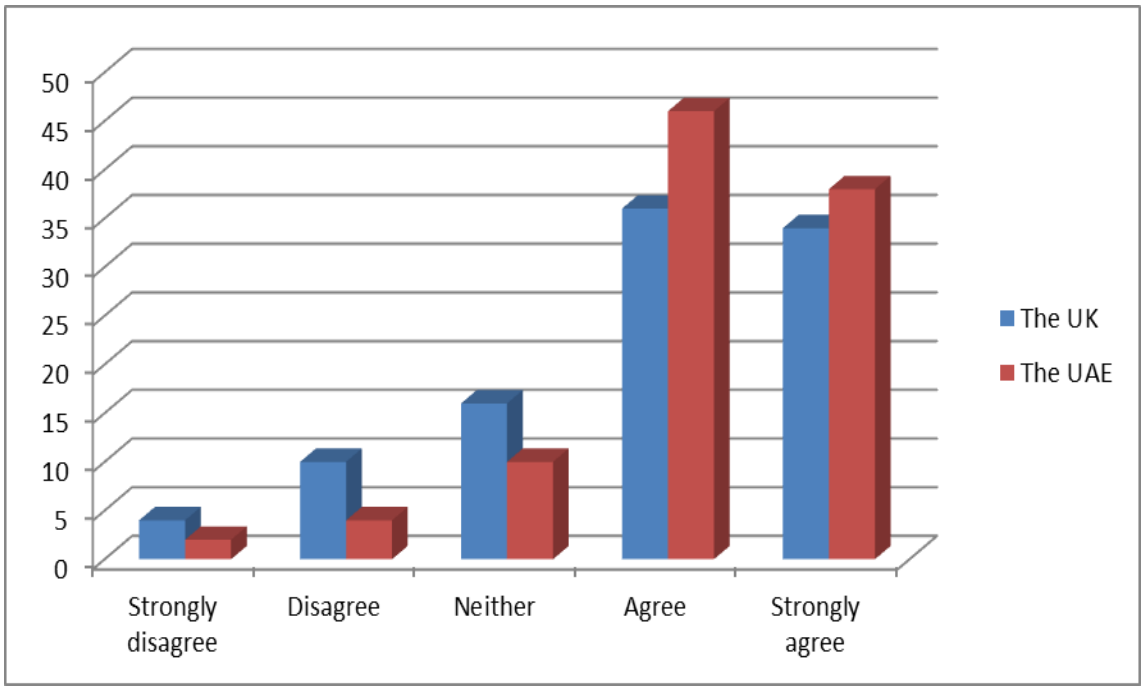
My Bank Is Located in…



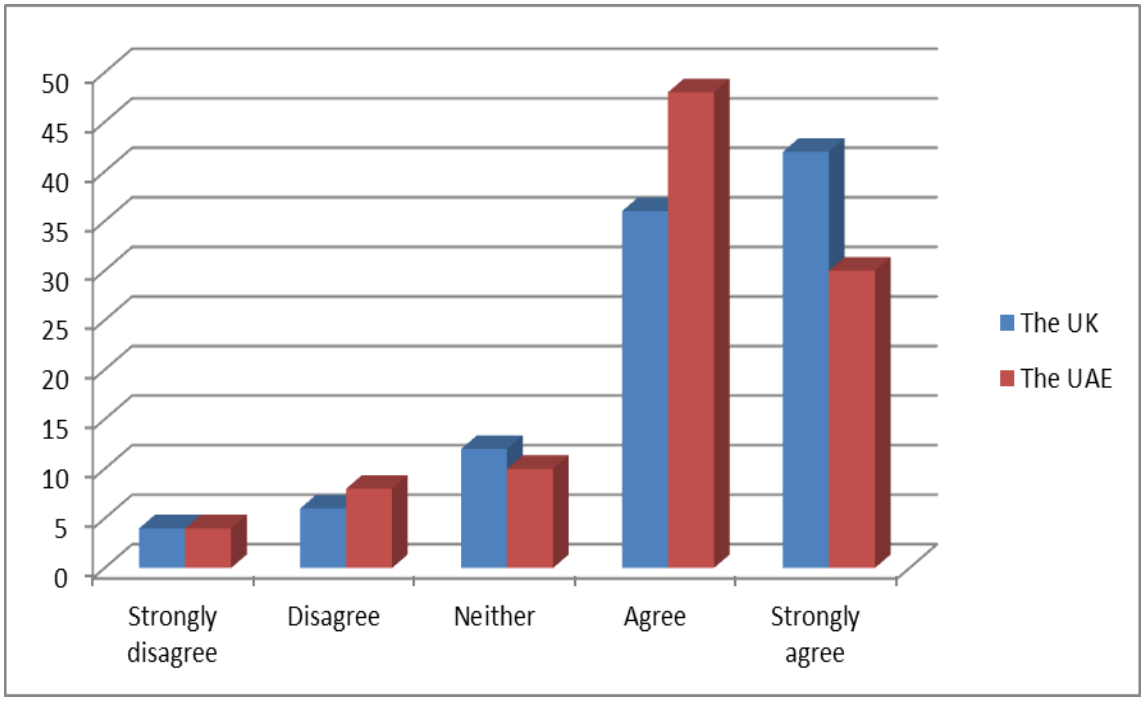
What Is Your Current Position?



The Return on Equity Ratio Has Significantly Increased Comparing to the Previous Year's Results



The Return on Assets Ratio Has Significantly Increased in Comparison with the Previous Year's Results



Appendix D: Interview Results

Interview 1 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Senior Credit Risk Officer in this bank for the last 7 years with overall 26 of banking system experience.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: I may confirm that the assessment and management of credit risk lies at the heart of our day to day business. We have in place the Group Risk Committee who has an approval authority to set risk exposure and risk limits. We utilize Standardised Approach (SA), Foundation Internal Rating Based Approach as well as Advanced Internal Ratings based (IRB) approach under the regulatory framework of Basel II along with Standard Alphanumeric credit risk grade system (CG) to calculate credit risk for commercial, institutional and corporate clients. This framework allows us to run numeric grades to judge the likelihood of defaults. The substantial majority of our credit exposure is covered under Advanced IRB model, which allow us to assess credit risk at a portfolio and customer level as well as help us to set strategy and enhancing our risk return decisions.

Along with these frameworks, we also utilize three lines of defence model, where each line describes specific sets of responsibilities for risk assessment and management. In the first line of defence all employees are required to make sure that the effective assessment and management of credit risk within the latitude of their organisational duties. In the second line of defence the risk control owners are responsible to make sure that the risk remains within the appetite within the range of their duties. The third line of defence belongs to the internal audit that provides their independent assurance with regards to assessment and management of credit risk.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: Our current credit risk assessment strategy is to address potential credit risks by de-risking the base of clients and by improving our levels of CDD. This de-risking programme includes an exit of substantial number of clients and extensive CDD remediation action, which reflects our commitment to raise the bar on the quality of CDD. This programme has allowed us to migrate a significant number of our client base onto an electronic platform. As a part of this programme, our bank has introduced a set of principles which describes the credit risk assessment and management culture we wish to tolerate. This framework is helping us to assess and manage enterprise-wide credit risks through above mentioned risk management guidelines to maximize our risk-adjusted returns while remaining within our credit risk tolerance. While keeping in mind the interests of our stakeholders, we are trying to assess and manage credit risk to form a workable franchise. In this regard, our bank only takes credit risk within our risk appetite and tolerances and within our approved strategy. We are also trying to retain the confidence of our investors' confidence by assessing and managing our credit risk profiles to keep a low probability of an unexpected event of loss.

4. Do you consider these strategies to be effective?
Ans: I think yes, because by balancing our risk and return strategy, we have somehow been able to build a workable franchise in the interest of our investors and stakeholders. This confidence has also been boosted with the fact that we are only taking credit risk within our risk appetite and tolerance, which is definitely consistent with our approved strategy.

5. What are the advantages of the credit risk assessment strategies of your financial institution?

Ans: Our various risk assessment and management strategies have helped us to form a globally enhanced and consistent operating platform, which includes appointing new corporate clients and moving towards a globally reliable organisational model. This strategy has definitely impacted our business performance for the last few years and have generated a more competitive and robust platform for us to grow the business further. This strategy has also allowed us to keep our credit portfolio predominantly short term and well diversified with high level of collaterals for non-investment loans. We are also consistently trying to maintain our focus on our core markets as well as on our chosen customers and a disciplined approach towards the assessment and management of risks.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: N/A

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I believe our various and successful techniques have reflected that effective credit risk assessment and management is essential to being able to generate profits sustainably and consistently, which is reflecting in terms of positive trends in our return on assets and return on equity ratio for the last few years in this region.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: N/A

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: N/A

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I believe that our credit risk assessment and management technique and frameworks are fully compatible and effective to mitigate various risks and to win the confidence of our investors and stakeholders in our operations policies.

Interviewee 2 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Head of Risk Management Department in this organisation with 10 years of banking system experience.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: We are analysing and monitoring the many facets of credit exposure by portfolio composition, concentration trends and diversification, whilst ensuring appropriate security is available. We also perform credit line reviews and stress test the portfolio by applying different models. Compliance with relevant policies and processes viz. Islamic Financing Policy Framework, Classification of Receivables and Provisioning policy, Internal Risk Rating, Sectorial Capping, and Stress Testing policies, that are in place to control, assess, manage, and mitigate Credit Risk and Credit Concentration Risk. Our credit risk assessment and management process takes into account the risk profile of the bank, supported by well formulated and prudent policies and processes to identify measure, monitor and control credit risk (including counterparty risk).

We also use Risk Rating Model which provides us a more objective consistent framework, for risk measurement across the bank, delivering a predictive PD rating of the corporate portfolio, Prudent facility structuring and collateral risk mitigation, calculation of risk adjusted pricing and profitability measurement and to optimize regulatory capital allocation and facilitate the application of portfolio management techniques.

We also utilize Risk Appetite Statement (RAS) which is approved by the BOD on an annual basis. This RAS is a written articulation of the aggregate level and types or risk that the bank will accept or avoid in order to achieve its business objectives. This risk process is reviewed on a periodic basis to ensure that we are well within the approved Risk Appetite/ Risk Limits.

We also utilize Basel II – Pillar 2 (ICCAP) which carries out a full assessment of risks enterprise wide, under this Regulatory process, which are not covered under Pillar 1. The capital charge is added when aggregating capital requirement along with the Stress test results. This is reported to the Central Bank in the ICAAP process.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: Appropriate credit risk assessment and management strategies are documented and approved by the Board. As per regulatory requirements, the Board ensures that policies and processes for risk-taking are developed, appropriate limits are established, and senior management takes the steps necessary to ensure proper monitoring and control of credit risk by the relevant stakeholders. Our credit risk management strategies include relevant credit / credit risk policies, processes and limit which are reviewed and updated regularly communicated within the bank and adhered to in practice. Exceptions to established policies, processes and limits are dealt with immediately with authorization by appropriate level of management and board where necessary.

We also ensure that relevant credit risk processes and systems for identifying, classifying, monitoring and addressing credit quality problems in a timely manner is adequate. We also ensure that appropriate information about the credit quality of the credit financing portfolio and related provisions is provided to the board of directors and senior management on regular and timely basis. Our CRO report along with the Executive Risk Dashboard highlights the risk indicators for the current and preceding quarter along with brief explanation for each indicator, which provides an environmental Scan of Risks carried out regularly and Reported to the RMC. Last but not the least, we ensure that proper policies and controls are in place for

monitoring large exposures and non-performing accounts, in line with Central Bank regulations.

4. Do you consider these strategies to be effective?
Ans: Yes, we do, which is mainly based upon the fact that as an Islamic Bank we are controlled by an additional layer in the form of Sharia Control. Risk management practices have been effective and in compliance with regulatory and Basel II requirements. Any risk related issues are identified and alleviated to Senior Management / RMC. Relevant Reporting also ensures that our assessment strategies are in line with best practice. (e.g. Risk Reporting include a high profile CRO report, AML/KYC Monitoring, reporting to the RMC, reporting under Pillar 1 & 2 to the Central Bank. Furthermore, compliance with regulatory and statutory requirements and internal policies supported by effective internal Lines of Communications, proper system solutions, Training and Knowledge Sharing Sessions, etc., ensures that our risk strategies are sufficient and effective. We are also ensuring through ownership of risk, where every staff in the bank is a risk manager and risk is everyone's responsibility.

Above all, the main objective of our risk strategy is to enhance the shareholder value by maximizing the Risk-Return profile, through on-going assessment and control of risks, driven by relevant objectives of our Risk Strategy such as defining the risk appetite in terms of loss tolerance, risk-to-capital leverage and target debt rating, supported by an integrated risk measurement and management framework as per Basel II Framework with due consideration to regulatory requirements and national discretions.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: I believe the biggest advantages of these policies are as follows;

Strict adherence to Islamic Financing Policy Framework duly approved by the Board. Exceptions if any are to be approved by the relevant Approval Authorities.
Well diversified portfolio.
Maintaining Asset Quality in line with our Risk Appetite Statement.
Ensuring sound credit process is followed through proper identification, measurement and understanding of the risk to be undertaken, including regular field visits.
Better underwriting process and procedure.
Tightening of Credit facilities to certain sectors of the economy (e.g. Real Estate).
Mitigation of Credit Risk by establishing proper control and responsibilities at various levels.
Proper/Relevant Collateral/Security Management.
Relevant tools, models strategies used in assessing, monitoring and mitigating risk are in place including effective use of KYC and KYCC policies.
Adopting Risk-based pricing whilst taking into consideration purpose, credit rating and LTV ratio.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: N/A

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I believe that the profitability of a bank mainly depends on good asset quality maintained on a constant basis. Our well formulated and developed credit risk assessment and techniques is reflected in the robust growth of profitability which has shown an upward trend for the past five years. Return on Assets and Equity has been stable.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: N/A

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: N/A

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: We consider our CRM assessment strategies to be sufficient. Adoption of advance approaches for Credit Risk under Basel II /III, is based on Central Bank regulations and time lines.

Interviewee 3 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Head of Risk Management Department in this organisation for the last three years now with well diverse experience of same field in other banks as well. I have overall 31 years of banking system experience.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: As like other U.A.E banks and while working in the guidelines of U.A.E Central Bank, we are using various approaches to assess credit risk. For example, we are foremost approach to assess credit risk is the Standardized Approach. Along with that we are also using Advanced Internal Rating Based (AIRB), as well as Foundation Internal Rating Based (FIRB) approaches. The Standardized approach is basically allowing us to comply with U.A.E Central Bank guidelines. However, remaining two approaches are facilitating us to robust our credit risk simulation model by developing our own EL model which includes LGD and PD parameters

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: The current credit risk assessment strategy of our bank is to set-up a robust credit risk management structure to monitor and manage various risks which would arise out of our day to day operation by adopting the best available practices in this field. These various structures are facilitating us to evaluate the creditworthiness of each and every counter party and establish appropriate credit limits through the adoption of practical credit risk structure relevant to that kind of risk. These approaches and our internal risk rating system is allowing us to assess the credit quality of counter-parties and corporate borrowers. We assign internal rating between MRS 1 to MRS 25 to each corporate (performing) borrower and assign internal rating of non-accrual under restructure (NAUR) rating to each corporate (non-performing) borrower.

4. Do you consider these strategies to be effective?
Ans: I think yes, because these various systems are really allowing us to effectively manage the credit risk on product basis. For example, we are considering for approval each credit application on the basis of approved product program, which has been developed according to the guidelines set out in our credit risk policy manual. We are also using statistical validated scoring policy and model as a base to evaluate and determine the creditworthiness of a customer and also performing a detailed credit reviews on periodic basis to track and monitor portfolio performance.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: I think the biggest advantage of our bank's credit risk assessment strategy is the fact that it clearly defines the credit risk assessment and management policies and applied procedures for us to monitor and manage the same actively and efficiently. For example, being an international bank and by utilizing our various assessment approaches and set metrics such as overall fiscal position, external debts, external debt service ratios and foreign exchange reserves it has become very easy for us to set limits for each and every country on individual basis as per their stability and financial strength.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Sorry cannot be disclosed.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: It is definitely having a very positive impact on our return on assets and return on equity ratios. For further details and financial figures kindly refer to our Annual Financial Statements.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No comments.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No comments.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I believe that we are doing very well at present in terms of our credit risk assessment and management strategies. My only concern is that we need to adopt more intense and internationally recognized approaches to have more accuracy and effectiveness in our prevailing approaches, which need more investment and resources to be allocated to this department. Even on this matter, I am sure that our bank's senior management is fully aware of this fact and are fully dedicated to this matter, which have been reflected in their conversation during different meetings on this matter.

Interviewee 4 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Senior Credit Risk Manager. I am working in this bank for the last 6 years with vast experience of working in different senior risk management position in banks in U.A.E., with overall 28 years of banking system experience.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: To unsure trust and loyalty in our banking abilities, we took a detailed and comprehensive method to identify and manage various kinds of risks. In our bank, we adopted an Enterprise-wide integrated Governance Risk Management and Compliance Framework **based on ISO 31000:2009 under the guidelines of Lloyd's Register Quality Assurance (LRQA). This approach facilitated us to establish an effective system through which credit risks assessment system is controlled and directed within the regulatory and legal framework of supervising and managing operations of my organisation.**

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: Our main credit risk assessment strategy is to actively monitor and manage credit risks in accordance with the defined credit procedures and policies. In order to cope with changing landscape of risk and opportunities, we are trying our best to assess with accuracy the creditworthiness of each and every counter party in order to establish appropriate credit limits. Broad diversification of credit risk policy has also been adopted by establishing credit limits for different products, sectors as well as for the countries, which is helping us to avoid undue concentration on one particular sector. We are also reviewing and updating regularly the actual level of exposures along with established limits.

4. Do you consider these strategies to be effective?
Ans: Yes, if you will go through our Annual Statement of the last few years, you would understand that our financial position and performance is reflecting a positive sign, which I believe is through emphasising on strict risk assessment and management principles and robust governance structure, which is the core strategy of my organisation. These strategies and strong financial results have enabled us to fulfil or sometimes exceed our shareholders expectations and needs by providing consistent increase in their share values.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: As stated above, our detailed and comprehensive method to identify and manage various kinds of risks has strengthen our ability to classify, evaluate, set suitable risk limit controls and to observe various risks by way of dependable and up to date information system. This framework is also providing us privilege to revise our policies and emerge best practice in light of any changes in products and markets.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Sorry cannot be disclosed.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: As I stated above, our financial statements are showing very positive sign for the last few years, which I believe is through emphasising on strict risk assessment and management principles and robust governance structure, which is the core strategy of my organisation.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No comments.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No comments.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I think there is still something remains to be done to make sure that we as a bank respond efficiently and effectively to the changing landscape of opportunities and risks. Our bank need to adopt sustainability management system which will provide us wide-ranging opportunities for modernization and improvements which would need lead to increase our business and lending capacity to improve shareholder value. It will also safeguard us against evolving risks which can be address through accountability, transparency and governance best practices. Based upon the fact that our bank's culture from credit risk point of view is dedicated to achieve and maintain risk assets of high quality, therefore we need rigorous commitment to prudence, soundness, discipline and professionalism in applying a high standard of credit risk management. Above all, I believe that we need to practice a robust universal risk management culture to make sure that successful management and control of risk has been adopted, which will help to minimize credit related losses and would enhance our risk adjusted returns and will contribute to the overall success of the bank.

Interviewee 5 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Group Chief Risk Officer. I am working in this bank for the last 26 years. I also hold the position of Regional Head of Credit, Wholesale Banking.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: Actually, we are using various methods to assess credit risks in our bank. For example, we are using Standardised Approach, which is somehow similar to the Basel 1 framework, but provide better risk sensitivity due to additional comprehensive classification of asset types. We are also using Internal Ratings Based (IRB) approach, where we are using bank's internal models to derive risk weights. By improvising the things, we have further sub-divided this approach in to two alternative applications, Foundation and Advanced. Under Foundation IRB (FIRB) approach we tried to develop our own various methods to evaluate the Probability of Default for the groups of clients as well as for the individual clients, where we also tried to practice controlling values for EAD (exposure at default) and LGD (loss given default) estimates. We are also using Advanced IRB (AIRB) approach, which is allowing us to develop our own model of quantify requirements of capital for credit risk.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: Our current credit risk assessment strategy is to somehow totally control various credit risks by observing credit exposure of various entities as well as of the sectors, by making a limitation for transactions with particular counter-parties and by persistently assessing the creditworthiness as well as solvency of counter-parties. In addition to observing the credit limits, we are also entering into various agreements like Master Netting and Collateral Arrangement with counter-parties in some particular circumstances in order to manage their credit exposure related to their trading activities and in some situation also limiting the duration of their exposure.

4. Do you consider these strategies to be effective?
Ans: I think yes, because all above-mentioned methods and approaches have been proactive and very much respondent to identify the credit risks, assess it objectively and wherever require provide appropriate response to manage the situation actively. These approached are also providing us an ability to anticipate and wherever possible mitigate or minimize credit risks instead of dealing with their significances or consequences later on.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: The foremost advantage of above mentioned policies and procedure is the establishment of well-defined responsibilities and roles of our bank's credit risk structure. This structure is responsible to formulate the credit processes and policies and sanction of high value credits in line with the economic growth as well as risk management and strategic objectives. Our system is also helping us to calculate the duration of exposure and how much appropriate securities to be obtain against the credit exposure. It is also helping us to formulate and limit the derivative financial instruments to only those with positive fair values. These credit risk assessment strategies of out bank is also helping us to completely identify and analyse the credit risk in order to fix our applicable risk appetite, controls and limits and adherence to different limits by way of timely and reliable data. These systems are also useful to regularly analyse and manage the ability of current or potential borrowers to meet their capital and interest repayment obligations.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: No comments please.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Yes, I think that these policies and procedures are definitely having positive impact on the return on assets and return on equity ratios of our bank.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No comments.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No comments.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: However, I think that some of our bank's credit risk assessment policies needs to be review on regular basis like; 1) valuation of various collaterals and consideration of their enforceability, 2) we are also keep considering and classifying impaired loans as impaired until otherwise they are completely current and the collection of scheduled principal as well as interest is considered as probable. I also think that my bank needs to consider to set up a specialized unit to observe some key areas where the probability of credit risk occurring is comparatively smaller than the level of impact on the bank. I think these steps will allow our bank to understand as well as cover the negative effects of probable unlikely events that may occur.

Interviewee 6 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Head of Credit Risk and I am working in this bank for the last 9 year and overall 24 years of international banking along with big 4 experience.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: Based upon the U.A.E Central Bank guidelines set for internationally active larger financial institutions and U.A.E banks, we have adopted Standardised Approach to access Credit Risks. This approach allows us to assess all credit exposures according to the classifications of counterparties and against the External Credit Assessment Institutions ("ECAI"). At the same time, we are also moving towards implementing and migrating to the Foundation Internal Rating Based (FIRB) system. I believe that this framework would extensively help us to strengthen our risk management strategies and market discipline, while enabling us to enhance soundness and safety of our bank.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: My bank's current credit risk assessment strategy is to fully adopt Integrated Stress Testing Framework, which would allow us to encompass the forward-looking assessment of various economic scenarios, which I believe would be an added advantage specially with the today's unpredictable financial environment. Our risk management team has also come up with an early warning process, which we are using proactively at the moment for portfolio management. This process is allowing us to identify various flaws related to the customer's credit worthiness. This process is also helping us to monitor various market related risks as well.

4. Do you consider these strategies to be effective?
Ans: In the current scenario, I presume that going with above mentioned frameworks would allow us to recognise and evaluate the implication of various credit risks or I should say all risk that the bank may potentially face.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: I believe that the major advantage these new frameworks and guidelines have brought in for my bank is the enhancement in our ability to apply effectively Asset Class Basis along with Risk Weighting, which has been determined by External Credit Assessment Institutions as well as approved by U.A.E Central Bank for ratings purpose.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: I do not think so that if there is any disadvantages of our bank's credit risk assessment strategy as long as we comply with U.A.E Central Bank guidelines and frameworks.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I believe that there is a huge impact of these strategies and guidelines on our various returns, which can be seen in our Tier 1 Capital and Total Capital ratios.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No idea.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No idea.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: I believe that our Credit Risk assessment and management strategies in particular and overall risk management and assessment strategies in whole are very much effective and any improvement or changes would only be introduced under the guidelines of U.A.E Central Bank.

Interviewee 7 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Head Enterprise risk management and I am working in this bank for the last 8 year and overall 15 years in banking system.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: We use actually the Rating models, **which leads to probability of defaults and LGD (loss given default), it is mainly from Moody's.**

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: The general strategy we use to minimize our credit loss, which leads to greater efficiency in terms of availability and liquidity of funds to be available for customers.

4. Do you consider these strategies to be effective?
Ans: Sure, yes we do.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: Definitely, the main advantage will be lower non-performing loans and better risk base pricing.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Confidential, no comments.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Yes, as per my own experience and especially the time we adopted Moody's Analytics System, I may say that employment of credit risk assessment methods and techniques is definitely having positive effect on profitability of my bank as well as on the return on assets and return on equity ratio.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No idea, as I do not have an exposure of working in UK banks, hence I cannot provide any comment on differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: Again, no idea.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I think the best way is that our risk assessment should leave analysing with Risk Pricing **and this risk pricing will differentiate between the good and bad customers. Whilst, instead and prior to leave to the risk pricing we need a well establish internal rating methods for the bank, which assess the company or let say the corporate customers mainly or the non-corporate customers also from different areas, let say may financial analysis, financial qualitative, quantitative and I think in addition to models we also need experts' opinion for the final decision. Overall, I believe that if you have strong internal rating system it will be helpful.**

11. Based upon the fact that you worked in two U.A.E banks, do you think that if there is any similarities or differences in the credit risk assessment strategies of these two banks?

Ans: I believe in terms of assessment if you have corporate customers, you much look at their financial, so this is the similarity between these two banks. But in terms of dissimilarity, here we have better methods to assess the subjective criteria more than my previous bank. Hence, I believe here we have more structured model

Interviewee 8 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a SVP-Head of Risk Management Department and I am working in this organisation for the last 9 years. I also worked in two different banks in Pakistan with overall 20 years in banking system.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: We are using our Internal Rating Tools personalized to assess the default probability of various individuals, corporates and sectors. We also internally developed some models to assess Real Estate projects. We are using Moody's Banking Financial Strength Model which since December 2013 has been calibrated to our bank's core rating scale, which is now greatly helping us to assess all kind of risks related to Contracting, Corporate and SME business in order to improve the financial strength of the bank.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: With the induction of Moody's Banking Financial Strength Model, we are looking forward to improve our NPF ratio to further, with the combination of increase in financing growth, write-offs, reclassification which will follow a continued performance of restructured exposures. We are also looking forward on-going improvements and enhancements in our operating situation.

4. Do you consider these strategies to be effective?
Ans: Yes, this enabled us to somehow restructure our sector exposure criteria, where we have remarkably reduced our overall exposure to the real estate segment. This system has also helped us to reduce our risk appetite while improving our risk management functions with large investments and exposure in IT sectors. This diversification strategies have helped us to improve our credit risk exposure and investment activities by avoiding excessive concentration of risk with individual or group of customers in business or specific locations. Overall, I believe that this system has positive development and effects on the bank's credit profile.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: Yes, as I stated before the system has greatly helped us to restructure our exposure to various sectors. It is also complying with management's goal to diversify our geographical locations which definitely requires effective identification, measurement, management and aggregation of various risks identified with the banking system.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: No comments.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Yes, based upon the fact that the main advantage and function of Moody's Banking Financial Strength Model **is to ensure and implement risk related policies and procedures to keep risk with the acceptable range, which is definitely leading to higher profitability of our bank for the last two years or so. Yes, I also believe that implementation of this risk management system has impacted our return on assets and return on equity ratios.**

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No idea, as I do not have an exposure of working in UK banks, hence I cannot provide any comment on differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No idea.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I believe that we need to introduce more of conventional qualitative methods of operational, market and credit risk assessment. In the meanwhile, I also believe that we need to utilise various quantitative methods and analysis to review and support our risks and business policies as and when require. Our bank also needs to run stress scenarios test that would help in case any extreme events would arise.

Interviewee 9 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Head of Risk Management Department and I am working in this organisation for the last 8 years. I also worked in various other banks in U.A.E as well as in Egypt with diverse experience of various heads of Risk Management like Market Risk, Operation Risk, Internal Audit and Compliance Department with overall 20 years' experience in banking system.

2. What assessment methods and technique are usually used in your bank to assess credit risk?
Ans: In our bank, we are using various methods to assess different heads of risk. For example, we are using Standardized Approach to calculate Credit and Market Risk. At the same time, we are using Alternative Standardized Approach to assess Operational Risk.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: In our bank, we have developed very consistent and systematic approach to identify and manage counterparties and borrowers risk contain in all corporate, retail as well as in SME assets. This strategy is allowing us to recognise and manage credit risk both at portfolio and transaction levels to ensure that all the related procedures have been followed in consistent with the outline set by the bank policies and procedures. We are also trying to control and limit concentration of credit risk whenever and wherever it has been identified specially to counterparties, groups, individual as well as to the industries and countries. We also have in place Product Program Guide which allow us to fix limit of lending and exposure criteria.

4. Do you consider these strategies to be effective?
Ans: Yes, based upon the fact that our Credit Risk management criteria begins with the implementation of a formally governance arrangements under the credit risk management committee, which provide us oversight, monitoring and strategic direction for the Credit Risk Framework. In addition, this framework helps us to standardise credit risks those are based on best codify and practice under the core governance ideologies for credit risk management. These strategies are effective for us in a way that it ensures that evaluation, identification, measurement, control, monitoring as well as reporting of credit risks are consistent across the organisation.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: Yes, the biggest advantage of policies and procedures sets with regards to credit risk assessment strategies in our organisation is the fact that it has stratified for us the level of credit risk we may undertake by placing various limits on the amount of risks acceptable with regards to various borrowing entities as well as to the industry or geographical segments. These criteria helping us to monitor such risks on continuing basis.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: No comments.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Yes, all above mentioned policies and procedure has led to positive impact on the return on assets as well as on return on equity ratio. Further details cannot be disclosed.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I only have an exposure of GCC countries hence cannot comment on this question.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: No idea.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I think we are well on track by implementing all above-mentioned credit risk management criteria. However, in general I think that we need more efforts to be put on to understand the customer's cycle of working capital as well as business model in order to extend our suitable products for those segments. We also need to assess further (from credit risk point of view) our recently developed tailor-made trade finance and working capital products, because this procedure sometime involves trade line over and above our loan granting limit in order to meet the ever evolving requirements (trade) of our customers, which may be consider as a risk factor from credit risk assessment and management point of view.

Interviewee 10 (the UAE)

1. What is your position in the bank? How many years have you been working in this financial establishment?

Ans: I am a Group Chief Credit Risk Officer in this organisation with overall 29 years' experience of working in risk management departments of various banks in India and Middle East banks.

2. What assessment methods and technique are usually used in your bank to assess credit risk?

Ans: In my organisation, we are assessing and managing credit risk through a framework that sets out appropriate procedures and policies covering the management and measurement of credit risk. We have a clear segregation of different duties between the originators of transaction included in the business units and approvers of transaction in the risk function. We also have in place a defined credit approval framework who approve all credit exposure limits. As we strongly believe that risk assessment and management along with experience and judgment plays a central in informing portfolio management and risk-taking decisions. Hence, we are using various credit risk assessment systems, which enable us to assess and manage the credit portfolio. We have adopted Internal Risk Based System (IRB) to assess credit risk under Basel II and III, which enable us to calculate nominal exposure, LGD, EAD and PD on a counterparty, portfolio and transaction basis. We have also executed single risk reporting system to aggregate all risk data. We are using this data to produce management information to help risk users and business with risk assessment and management.

Along with IRB system we also carry out a comprehensive three levels of defence mechanism, where first level of defence belongs to the credit analysis and business units to assess credit risk on each and every facility and customer level. The second level of defence pertain to the credit risk management unit that assess credit risk on portfolio basis and keeps credit risk rating policy and rating models up to date. The third level of defence belongs to the internal audit to review and analysis the credit risk function on regular basis and make sure that procedure is complying with the policies and procedures of the bank.

3. In your opinion, what are the current credit risk assessment strategies of your bank?

Ans: Our current credit risk assessment strategy is to add value to our clients and generate substantial returns for our investors and shareholders by assessing and managing all types of risks in line with the risk appetite and strategy. It is one of our core bank-wide strategy and start right at the front-line activities to maximize the interest of our shareholders and stakeholders by generating profit consistently. We are also working on a strategy to extend credit to a selected segment of clients and to offer products which enable them to lay off their liquidity and price risks to the bank. Our Risk Management Framework has also enabled us to establish common standards and principles for the assessment, control and management of all risks and to inform behaviour across the organisation. The basis mechanism of our Risk Management Framework includes its risk standards and principles, definitions of responsibilities and roles, risk classification and governance structure.

4. Do you consider these strategies to be effective?

Ans: I believe that our various framework especially Risk Management Framework has enabled us to accomplish our core purpose and values to being a world class organisation by maximizing our risk adjusted returns for our investors, stakeholders and shareholders. It has also enabled us to establish an enterprise wide risk assessment, control and management framework across all the local and international branches of the bank. This framework is also providing a reasonable degree of assurance to my organisation that the risks which are threatening the achievement of our core purpose are being duly monitored, measured, identified and controlled through an efficient and integrated risk assessment and management system.

5. What are the advantages of the credit risk assessment strategies of your financial institution?

Ans: I believe that our various frameworks have facilitated us great significance to manage credit risks at single customer level, group level, and economic sector level as well as at portfolio level. This framework and strategies have also facilitated our Risk and Compliance Department to adopt an acceptable risk limits to commensurate the risk ceilings and appetite, which helps them to set credit risk limits for each customer, groups and economic sector to mitigate the exposure of the bank to credit risk concentrations. This framework is also helping us to detect the credit risk at the early stages in order to mitigate and address the risk before it rises. In terms of credit risk monitoring and controlling, this framework is facilitating and providing assurance to our BOD and senior management that established controls in the shape of exposure limit is functioning effectively and properly.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: N/A

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Definitely, above mentioned frameworks and techniques have enabled us to achieve positive impact on our return on assets and return on equity ratios.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: N/A

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: N/A

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: N/A

Interviewee 1 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Customer Service Director. I've been working for 5 years already.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: In most cases, we use different models of credit portfolio management such as Moody's KMV model and Credit-Metrics model. However, our risk assessment management activities are not limited to these techniques.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: The role of internal risk management is performed by branch managers who report their analysis results and forecasts to the top managers.

4. Do you consider these strategies to be effective?
Ans: Yes, I do. Our risk assessment and management practices and strategies allow us to avoid significant risks and remain competitive.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: As I said, without these strategies we would definitely lose our market position. The role of risk assessment in our bank is crucial and we are doing our best to adopt the best-suited risk assessment strategies and techniques.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: We are all humans and as any person our branch managers' forecasts and analysis results may be inaccurate at some points. However, we usually use several data sources to minimise this risk and take informed business decisions.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: If you ask me, we would not be able to achieve these financial results without having a proper risk management framework in place. So, yes, these profitability indicators have been positively impacted by our risk assessment methods.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I can't tell for sure since I don't know how banks operate in the UAE. However, the rules of the market are the same across countries. So, in my opinion, there are few differences in the credit risk assessment strategies of banks in the UK and the UAE, if any.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: We can learn from other bank's experience in dealing with risks.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: I think we have already developed a highly effective risk assessment strategy, which is constantly being modified in response to market changes.

Interviewee 2 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Chief Operating Manager. I have been working in this organisation for 7 years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We use a wider range of risk assessment methods such as financial statement analysis, stress testing, internal inspections and credit score analysis.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: It is hard to distinguish a single strategy, but I think we use financial statement analysis more often comparing to other risk assessment strategies.

4. Do you consider these strategies to be effective?
Ans: I do consider them effective. By adopting these strategies, we are able to identify and assess potential risks and decide whether to give a loan.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: In my opinion, the key advantage of these strategies is that they allow for establishing our clients' behavioural patterns. On the basis of these patterns, we are able to assess potential risks and their worthiness.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Financial statement analysis provides us with historical data, rather than contemporary information. The most recent changes may not be understood from this king of analysis. Hence, we tend to combine this method with other risk assessment techniques to get a more comprehensive understanding of potential risks.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I think the effect of these methods is strongly positive. Without adopting these methods, we would not be able to consider all potential risks and avoid financial losses.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I know that Islamic banking to a considerable degree is different from what we have here. I also know that Islamic banks are not allowed to charge interest though lending. These differences might have impacted the credit risk assessment strategies in the UK and the UAE.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: We are moving towards greater globalisation and internationalisation. So, these differences are going to become less significant over time.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: I think we should give closer attention to risk identification since this aspect plays the most crucial role in the whole process of risk assessment management and its effectiveness.

Interviewee 3 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: Chief Operating Officer. My working experience in this financial establishment is around 5 years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We extensively use the most effective risk assessment methods, including inspections by the banks' managers, credit scoring, risk rating and financial statement analysis.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: In most cases, our branch managers are responsible for assessing potential risks and presenting this information to the top managers in the form of reports.

4. Do you consider these strategies to be effective?
Ans: These strategies save us a lot of time and effort. So, yes, they are definitely effective.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: There is no need to purchase risk assessment services from third-party organisations. Hence, inspections by the branch managers save us a lot of money as well.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: We totally trust our branch managers' analyses and forecasts since in most cases they are accurate. However, there is a possibility that some risks or factors could be overlooked.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Our risk management effectiveness has been improved lately. Our profitability in terms of ROA and ROE has also been improved. However, I can't say whether or not there is a direct link between the bank's credit risk assessment methods and its profitability.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: The UK banking system is based on the principle of interest, which is not allowed in the context of Islamic finance. In my opinion, this major difference puts much more considerable pressure on UK-based banks in terms of assessing and dealing with risks.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: We should learn from each other and apply only the most effective risk management tools.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: Our risk assessment management is quite effective and I don't see how it can be significantly improved or enhanced.

Interviewee 4 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: Vice President. 7 years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We use numerous methods of risk assessment, the most widely used of which are financial statement analysis and inspections by branch managers.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: Since we are a multinational company, we put a heavy emphasis on our executives who are in charge of our branch offices. These managers are responsible for approving loans as well as lines of credit.

4. Do you consider these strategies to be effective?
Ans: Yes, they are indeed effective.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: Our branch managers' inspections allow the bank to cut its operating costs and expenditures since less control is needed over the branch offices.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: This strategy is a double-edged sword. The lack of control over the branch managers' actions and their risk assessment activities is the key disadvantage. Their forecasts and analysis results may be biased.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I think there is a direct relationship between the risk assessment strategies adopted by my bank and its profitability. The adoption of these strategies has allowed the financial institution to achieve better financial results and generate a larger amount of revenue.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I can't really tell about either of differences or similarities since I don't know anything about Islamic finance.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: We are living in the world of globalisation so it is inevitable that our financial systems will become very similar one day. So, the best we can do is to adapt the most effective risk assessment methods from each other.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: We should take a more diversified approach to risk assessment, meaning that more risk assessment methods should be used to get a more realistic picture of potential financial risks and threats.

Interviewee 5 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I have been working as a Bank Branch Manager in the bank for 3 years already.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: Credit portfolio models, internal ratings, exposure limit and stress testing.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: Although we extensively use the mentioned methods to assess risks, I think that the strategy of the bank's risk assessment to a considerable extent is based on inspection by its brand managers.

4. Do you consider these strategies to be effective?
Ans: Yes, I do.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: Our work significantly reduces the amount of time needed to take business decisions by the top managers since they do not need to analyse financial statements or assess clients' creditworthiness by themselves. Several branch managers report potential risks to the bank's top managers who take final business decisions.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Although the analysis results are based on several professionals' reports, they may be inaccurate since some factors could be overlooked in the course of study.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I don't know for sure, but without proper risk management it is impossible to achieve good financial results in the banking sector.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: Unfortunately, I don't know anything about Islamic finance.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I don't know.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: I think we could use market data more extensively in our forecasts and risk analyses.

Interviewee 6 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Branch Manager. I have been working for the bank for two years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We use a variety of methods such as a what-if analysis, checklists and failure more and effect analysis.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: It is hard to define this strategy and give it a name. In every particular situation, we use the most effective methods of risk assessment and management. The quality of the risk management strategy is given close attention in order to be able to accurately identify all sources of potential risks and quantify the level of risk.

4. Do you consider these strategies to be effective?
Ans: Of course, our risk assessment strategy is effective in minimising and dealing with financial risks.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: In my opinion, the key advantage of the bank's risk assessment strategy is that it allows for taking grounded business decisions based on numerous analyses and examinations.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Although the strategy is effective in dealing with risks, it is impossible to consider all of them. There is always a possibility that some factors that can cause financial losses are not taken into account.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I would say so. I can definitely say that with an effective and high-quality risk assessment strategy in place, our financial institution has become more profitable.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: These financial systems have much in common. UK-based and UAE-based banks bear the same risks and operate on the same market. The main difference between these banks is that UK financial institutions' business operations are based on the principle of interest. On the contrary, most UAE-based banks are not allowed to charge interest. This difference may influence a certain bank's decision to adopt this or that risk assessment strategy.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: It is important to learn from other banks and their risk assessment practices and methods in order to remain competitive.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: I think we should give closer attention to credit risk management, its quality and effectiveness.

Interviewee 7 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: Vice President. 5 years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We are using multiple methods to properly assess all potential risks associated with our business activities. We use internal ratings, stress testing, what-if analysis and checklists among other methods and techniques.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: All relevant data was processed by our branch managers and the results of their analysis are reported to the upper management. So, inspection by branch managers is the strategy we have adopted to deal with potential risks.

4. Do you consider these strategies to be effective?
Ans: Yes, they are quite effective.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: The bank's upper management can focus on strategic issues instead of dealing with current operations. The bank's top managers base their business decisions on the branch managers' forecasts and analysis outcomes.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: I think the top managers do not have full control of the branch managers. As a result, it is barely possible to ensure that their forecasts are accurate and all potential factors are considered.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: In my opinion, effective risk assessment management is one of the core components of a successful financial institution. Without using effective risk assessment techniques and methods it is impossible to achieve good financial results and high profitability.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I have no idea.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: Gaining experience from each other I guess.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: We are looking forward to make our risk assessment strategy more efficient and transparent.

Interviewee 8 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: Head of the Division. I have been working in the organisation for 4 years already.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We use a variety of different methods and techniques such as Moody's KMV model, what-if analysis, stress testing and exposure limit and many more.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: I think the risk rating method is the credit risk assessment strategy we have adopted.

4. Do you consider these strategies to be effective?
Ans: Although these strategies have proven to be effective, we must improve and enhance them on a regular basis. Otherwise, their effectiveness might decrease over time. As a result, our ability to accurately measure our credit risk exposure would be compromised.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: In my opinion, the adoption of this strategy has allowed our financial institution to evaluate potential credit risks in a more effective manner.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: Just as many other risk assessment methods and strategies, the risk rating method is predominantly based on our professionals' expertise and knowledge. Hence, there is a possibility that their forecasts can have a bias.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: Although I don't think there is a direct link between the bank's risk assessment methods and techniques and its profitability, I certainly think they are related. Effective risk assessment methods minimise our credit exposures and financial losses.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I've heard that Islamic banks are not allowed to charge interest from their clients. Maybe this fact has some connection with these differences. Concerning the similarities, I personally think that our finance system has much in common with that of the UAE.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: Differences are bad for business. In my opinion, one day, there will be no differences between the credit risk assessment strategies on UK-based and UAE-based banks.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: Our risk assessment strategy is highly effective.

Interviewee 9 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: Chief Executive Officer. I have been working in this position for 3 years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: Just as any other commercial bank, we use a variety of risk assessment methods and techniques to ensure that all potential risks are considered before we can take our final business decision.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: The bank's branch managers report their analysis results to its upper management.

4. Do you consider these strategies to be effective?
Ans: They are effective, yes.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: The branch managers have a more comprehensive view of certain factors both local and global, which may have an impact on our business actions. In turn, the upper management has more time to consider more strategically important issues.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: We have to rely heavily on the information provided by the branch managers. We usually notice some inconsistencies in this information, which demonstrate that the adopted risk management methods and techniques are not perfect.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I believe so. Effective risk assessment management definitely allows for minimising financial losses.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I don't really know anything about the Islamic finance system. I've heard Islamic banks are not allowed to charge interest, but it is all I know.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: In my opinion, it is important to learn from our 'counterparts' from other contexts in order to learn from them and bring a wealth of experience to them.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?
Ans: More control over the branch managers' inspection in order to eliminate all inconsistencies in their reports.

Interviewee 10 (the UK)

1. What is your position in the bank? How many years have you been working in this financial establishment?
Ans: I am a Customer Service Director. I have been working in the bank for 2 years.

2. What assessment methods and techniques are usually used in your bank to assess credit risk?
Ans: We use a range of models and methods of credit portfolio management, including Moody's KMV model and Credit-Metrics model. I must say that our risk assessment management activities are not limited to these methods.

3. In your opinion, what are the current credit risk assessment strategies of your bank?
Ans: In my opinion, we tend to use financial statement analysis more often in comparison with other risk assessment strategies.

4. Do you consider these strategies to be effective?
Ans: Yes, I do consider them quite effective.

5. What are the advantages of the credit risk assessment strategies of your financial institution?
Ans: I would say that the main advantage of our bank's credit risk assessment strategy is that it allow for establishing our clients' behavioural patterns. Using this information, the bank can assess potential risks in a more precise way.

6. In your opinion, what are the disadvantages of the credit risk assessment strategies of your bank?
Ans: The key disadvantage of the financial statement analysis is that it does not provide us with contemporary information. It is impossible to consider the latest changes using this king of analysis. That is why we combine this method with other risk assessment techniques to get a more comprehensive understanding of potential risks.

7. What is the effect of the employed credit risk assessment methods and techniques in the profitability of your bank? Is there any impact of these strategies on the return on assets or return on equity ratio?
Ans: I can't say whether or not there is a statistical link between the bank's credit risk assessment methods and its profitability in term of ROE or ROA. Nevertheless, our risk management effectiveness has been improved lately. In addition, our profitability has also been improved.

8. In your opinion, what are the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: I don't know.

9. What are the implications of the differences and similarities in the credit risk assessment strategies of banks in the UK and those in the UAE?
Ans: In my opinion, the best we can benefit from the Islamic finance system is to adapt the most effective risk assessment methods from it.

10. What changes could be introduced to your assessment strategies in order to make credit risk management more effective?

Ans: We should use more risk assessment methods to get a more realistic picture of potential financial risks and threats.

Appendix E: Evidences of the Ethical Approval Process

Ethical Clearance Letter

Dear Shahzad Karim,

I am pleased to inform you that the DBA Ethics Committee has approved your application for ethical approval for your study. Details and conditions of the approval can be found below:

Committee Name: DBA Ethics Committee
Title of Study: *"The Influence of risk management strategies on the performance of commercial bank: A comparative case study of UAE and UK commercial banks"*
Student Investigator: Shahzad Karim
School/Institute: School of Management
Approval Date: 8th January 2016

The application was APPROVED subject to the following conditions:

 The researchers must obtain ethical approval from a local research ethics committee if this is an international study

 University of Liverpool approval is subject to compliance with all relevant national legislative requirements if this this is an international study.

 All serious adverse events must be reported to the Sub-Committee within 24 hours of their occurrence, via the Research Integrity and Governance Officer (ethics@liv.ac.uk)

 If it is proposed to make an amendment to the research, you should notify the Committee of the amendment.

This approval applies to the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, the Committee should be notified.

Kind regards

DBA Ethics Committee
University of Liverpool Management School in Partnership with Laureate Online Education

Participant Consent Form

Title of Research Project: The influence of risk management strategies on the performance of commercial bank: A comparative case study of UAE and UK commercial banks.

Researcher(s): Shahzad Karim

1. I confirm that I have read and have understood the information sheet dated Jan 2016 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐

3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish. ☐

4. I agree to take part in the above study. ☐

Participant Name	Date	Signature
Shahzad Karim	**28.12.2015**	**Shahzad Karim**
Name of Person taking consent	Date	Signature
Shahzad Karim	**28.12.2015**	**Shahzad Karim**
Researcher	Date	Signature

Principal Investigator:
Name: **Shahzad Karim**
Work Address: **Bank Saderat Iran, SHZR Branch, Dubai**
Work Telephone: **+971 4 3311187**
Work Email: **shaazek@hotmail.com**

Student Researcher:
Name: **Shahzad Karim**
Work Address: **Bank Saderat Iran, SHZR Branch, Dubai**
Work Telephone: **+971 4 3311187**
Work Email: **shaazek@hotmail.com**

Optional Statements

- The information you have submitted will be published as a report; please indicate whether you would like to receive a copy. ☐
- I understand that confidentiality and anonymity will be maintained, and it will not be possible to identify me in any publications. ☐
- I agree for the data collected from me to be used in future research and understand that any such use of identifiable data would be reviewed and approved by a research ethics committee. ☐
- I understand and agree that my participation will be audio recorded and I am aware of and consent to your use of these recordings for the following purposes (to be utilized to analyse the data in the various tests to be carried out, which include ANOVA test, Cronbach's reliability assessment and ordinal regression model in SPSS) ☐
- I understand that I must not take part if I do not hold Senior management position in risk management department of my respective bank based upon the fact that this research project purely relates to Financial institutions and would be revealing the credit risk management strategies of banks at the formulation, evaluation and implementation levels of middle management decision making. ☐
- I agree for the data collected from me to be used in relevant future research. ☐
- I would like my name used and I understand and agree that what I have said or written as part of this study will be used in reports, publications and other research outputs so that anything I have contributed to this project can be recognised. ☐
- I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. ☐
- I understand and agree that once I submit my data it will become anonymised and I will therefore no longer be able to withdraw my data. ☐

Source: University of Liverpool, UK

Participant Information Sheet

1. Title of Study

The influence of risk management strategies on the performance of commercial bank: A comparative case study of UAE and UK commercial banks.

2. Version Number and Date

Version 1.1 / Jan 2016.

3. **Invitation Paragraph**

Referring to subject matter, let me take this opportunity to invite you to partake in my research project. In this regard, please be aware that before you elect whether to partake or no, it is vital for you to comprehend the purpose of this research project, what it involves and why this research is being done. Hence, you are kindly requested to go through below mentioned information cautiously and feel free to ask me if there is something that you did not understand or in case you would require further information. You are also free and encourage to discuss with your colleagues, friends and anybody else you deem fit. Please also be aware that this invitation to partake in my research project is free from any obligation on your part and you are only require to accept this invitation if you are agree to do so.

Thank you for reading this.

4. What is the purpose of the study?

The primary aim of this research is to carry out a comparative study on the differences and similarities in the credit risk assessment strategies of 25 UAE and 25 UK commercial banks and identify if and how they influence year-end profit at the middle management level of decision making. It is also based upon the view that as Islamic banks are increasing their reach around the globe, and with the removal of tawarruq, and questions over the presence of riba in the institutions, there is a need to better understand risk assessment in this institution. At the same time, the work aims to further understanding and knowledge in the area of risk assessment as part of the overall risk management approach of a financial institution.

5. Why have I been chosen to take part?

Based upon the fact that the primary aim of this research is to carry out a comparative study on the differences and similarities in the credit risk assessment strategies of commercial banks and identify if and how they influence year-end profit at the middle management level of decision making, it can be stated that this research project purely relates to Financial Institutions. Hence, the suitable participants for this research project are the senior risk management department managers. Secondly, please be aware that this action research procedure is a part of my research (being a banker at a middle management level) project prescribed by DBA Programme of University of Liverpool, UK, which aims to carry out research in its real-life context in order to develop practical recommendations and solutions to problems faced by individuals in said context. These kinds of interactive interviews will be held with 50 senior managers like you in each of the identified banks.

6. Do I have to take part?

Please be aware that as stated above, your participation is completely voluntary and free from any obligation on your part and you are free to pull out at any time without any elucidation and without incurring any disadvantage.

7. What will happen if I take part?

Please be aware that an interactive interview along with 16 closed and open-ended questions by means of likert scale questionnaires will be held between you and me. The questionnaires will be pilot tested will be presented in the form of the statements that require responses graded using the Likert scale, i.e. you will range from “strongly agree” to “strongly disagree” and should not last more than 1 hour. The interview questions will be validated with you prior to administering them. The interactive interview sessions will be carried out during the course of your one day to day actions and activities, in order to engage with you as you deal with credit risk management issues in your respective organization which may arise. This will help provide direct insight into the actions taken by you during your operations and thus provide more valid action research insight. Please also be aware that the interviews will be tape recorded and transcribed for subsequent analysis using content analysis software.

8. Expenses and / or payments

Please be informed that as this interactive interview section would be held at your premises, hence your participation would be completely voluntary without any reimbursement and may include any refreshments on my part if so require.

9. Are there any risks in taking part?

Please be aware that to the best of my knowledge, there should not be any perceived risks or disadvantages involved on your part in order to partake in the interactive interview section as questionnaires include questions related to normal day to day activities of a senior risk department manager, hence does not include any psychological, physical, economic, legal or professional risks on your part. In case if you experience any disadvantage, risks or discomfort, please let me know immediately.

10. Are there any benefits in taking part?

As stated above, please be aware that your participation would be completely voluntary without any intended benefits or reimbursement either at the time of participation or in the future.

11. What if I am unhappy or if there is a problem?

Please be aware that in case if there is a problem or if you are unhappy, please feel free to let me know by contacting Shahzad Karim on Mobile: +971507642710 and I will try to help. But in case if you remain unhappy or have a complaint which you feel you cannot come to me with, then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of my name mentioned above or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

12. Will my participation be kept confidential?

As stated above, the empirical data for the quantitative aspect of the study will be collected by means of likert scale questionnaires that include a total of 16 closed and open-ended questions, which will be stored on a password protected personal Laptop computer. This

research report will not include the name of the participants and the research data will not be used for any purposes other than this particular research. Hence, this data would be used for this specific project only and would be accessible to principal investigator, supervisor and Ethics Research Committee. This data would be stored for at least 5 years and would be deleted thereafter.

Disclosure of criminal activity

There is no disclosure of criminal activity as all the participants would be on duty senior managers risk management department in each of the identified banks.

13. What will happen to the results of the study?

Please be aware that the detail of the results will be made available to you via a copy of my thesis upon completion and upon getting degree approval from the University of Liverpool, UK. Please also be informed that you will not be identifiable from the results unless you have consented to being so.

14. What will happen if I want to stop taking part?

Please be informed that you can withdraw at any time, without explanation. Results up to the period of withdrawal may be used, if you are happy for this to be done. Otherwise you may request that they are destroyed, and no further use is made of them.

15. Who can I contact if I have further questions?

In case if you have any further questions, you may contact me, Shahzad Karim, Mobile # +971507642710, Bank Saderat Iran, SHZR Branch, Dubai, UAE.

16. OPTIONAL SECTION - Criminal Records Bureau check (CRB)

Please be informed that this research does not involve any vulnerable people (e.g. children, the elderly, those with learning disabilities etc). Hence, there is no need to obtain a Criminal Records Bureau (CRB) Disclosure.

Source: University of Liverpool, UK