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The Effect of Credit and Liquidity Risk Management on Financial Performance in Libyan Commercial Banks

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ABSTRACT

Financial performance analysis is the process of determining the operating and financial characteristics of a firm from accounting and financial statements.The literature provided some evidence to support a positive association between strategies that banks follow while mange the liquidity and credit risk and banks performance. In Libyan context, no studies have explored the characteristics of risk management in general and specifically liquidity and credit risk management, or the effect of such management on banks performance.Libyan commercial banks operating in the western region were identified as the study's population. Boards of directors and members of risk committees, executive managers, and department heads of Libyan commercial banks were among the potential constituents. Credit and liquidity risk management, as well as financial performance, were the primary criteria for selecting these special interest groups. Sample size was carefully chosen, and structured questionnaires were given to participants to elicit their opinions and knowledge about the impact of bank risk management on the financial performance of universal banks in this study.A partial least squares (PLS) technique was used to analyse the empirical data using structural equation modelling (SEM).banks' credit risk management and financial performance, as measured by bank managers' perceptions, had a significant positive relationship. The study also discovered a positive correlation between liquidity risk management and financial performance, Thus, credit risk management and liquidity risk management are major antecedents for the financial performance in the Libyan banking industry.

Keywords: credit risk, liquidity risk, financial performance, commercial bank, Libya

1.0 Introduction

The financial institution or banks are the crucial ways not only for financing activities but also provides all types of activities related to finance. The main thing in the mind of financial performance researcher and learner is that increasing financial performance is the way to improve financial activities. Financial performance of financial institutions is well advanced in its measurement within the field of finance and management. And these financial institutions are constituent of good financial system and assist the investors to obtain capital and money market in a country (Ansari, Munir, & Gregg, 2012).

Unlike other private corporations, commercial banks (CBs) are unique in the special service they offer starting from the smallest service mobilizing deposit, lending of money, remittance service, and international banking service up to the top one assistance in the implementation of monetary policy. In addition to that CBs are unique in the level of regulatory attention they receive, they are highly regulated and also unique in the type of assets and liabilities they hold. Like any for profit organization, however, the ultimate measure of a CBs performance is the value of its common equity to its shareholders. Therefore, at the time of performance evaluation special treatment and considerations should have to be taken for CBs.

Measures of financial performance reduce a large amount of information into a convenient form for analysis. No single measure of financial performance is adequate for evaluating CBs. Evaluation of several financial measures may be more useful in directing the researcher to ask the right questions than in providing solutions to the financial problems of the business. Both the magnitude of the measure and its relationship to other measures should be evaluated.

Bendickson, Gur, & Taylor (2018) and Zarook, Rahman, &Khanam (2013) defines performance as the result of activities of an organization or investments over a given period of time. Performance can be measured in financial and non-financial terms. Financial performance measures the results of a firm's operation in monetary terms whereas non-financial performance is all measurements other than financial results of a firm. The main focus of this study is in the financial performance and the non-financial measures of performance are not the concern of the study.

According to Brauers, Ginevičius, and Podviezko (2014) financial performance analysis is the process of determining the operating and financial characteristics of a firm from accounting and financial statements. The goal of such analysis is to determine the efficiency and performance of firm's management, as reflected in the financial records and reports.The ability of an organization to analyze its financial position is essential for improving its competitive position in the marketplace. Through a careful analysis of its financial performance, the organization can identify opportunities to improve performance of the department, unit or organizational level (Brauers, Ginevicius, &Podvezko, 2014). Financial analysts often assess the firm's liquidity, solvency, efficiency, profitability, operating efficiency and financial stability in both short-term and long-term. Ratio analysis provides relative measures of the company's performance and can indicate clues to the underlying financial position. For measuring financial position and financial efficiency, appropriate level of financial performance indicators is required with whom comparison can be made. Generally, liquidity ratio, debt equity ratio, interest coverage ratio, inventory turnover ratio, return on investment ratio and debt to net worth ratio are highly useful in determining financial position, financial performance and the financial stability or otherwise of such management (Brauers, Ginevicius, et al., 2014).

Credit risk is the risk of suffering financial losses for financial institutions due to customers or market counterparties fail to the contractual obligation to the institutions or banks (Merton &Thakor, 2019). Credit risk is the risk of loss due to a borrower's nonpayment, while default rate is the probability that a debtor will default, by failing to repay principal and interest at time. Credit risk management involves the policies and procedures made to assess, identify measure, control and

monitor the risk that can arise from the potentiality of the loan nonpayment or default. Financial institutions, finance banks face the high credit risk from the unsecured loans (Guégan&Hassani, 2019). Credit risk management can be measured by the ratio of nonperforming loans and the cost of bad debt. In the credit risk management, it is important to establish a clear structure of the institution, the responsibility allocation and accountability (Gregory, 2010).

Furthermore, liquidity has always been a specific priority area for financial managers. Liquidity-related risks can often lead to deterioration of the financial situation and even bankruptcy (Raykov, 2017). Therefore, it is necessary to manage the liquidity risk to mitigate its negative effects on the business. There is a common knowledge that even the most profitable company may go bankrupt if it does not manage its liquidity in a proper way (Blach, Wieczorek-Kosmala, Gorczynska, & Dos, 2014). To maintain optimal liquidity of a business entity, specific business management activities are required. In the liquidity management process, the management needs to view comprehensively and deeply the financial condition of the business entity in question. With regards to liquidity, this implies monitoring the asset structure and sources of asset financing, the relationship between short-term and long-term asset financing sources, as well as the key activities that affect the speed of asset circulation in the business process. Liquidity management maintaining the current assets and current liabilities balance on a proper level is an important condition for improving performance of the company and its value enhancement (Hiadlovský, Rybovičová, &Vinczeová, 2016).

This study examines the existence of organized risk management of business and financial risks, the knowledge and use of liquidity risk and methods in business operations, as well as the assessment of business subjects about the importance of liquidity risk management in business. Many studies have shown that liquidity is important both for businesses and investors. First, it is a source of risk (Brunnermeier& Pedersen, 2008); second, illiquid forms must deliver higher returns; and third, liquidity is an important determinant of the cost of capital (Karanović et al., 2018). Duse, liquidity risk is an important risk component. A very important factor influencing liquidity is the type of business that a business entity is dealing with. The activity of a business entity is a very important factor influencing liquidity; however, the structure of assets and liabilities is just as important. The structure of assets and liabilities is closely related to the size of a business entity (Hryckiewicz&Kozłowski, 2017).

In Libya, commercial banks play an important role in mobilizing financial resources for investment by extending credit to various businesses and investors (Barghathi, Collison, & Crawford, 2017). Lending represents the heart of the banking industry and loans and advances are the dominant assets as they generate the largest share of operating income. Loans however expose the banks to the greatest level of risk. Many banks that collapsed in the recent years such as Al-Ahli Commercial Bank and Umma Bank in Libya were as a result of the poor management of facility which was portrayed in the high levels of non-performing loans (Elsakit, 2017). Looking at the emphasis that is laid on credit risk and liquidity risk management by commercial banks in the recent time, the level of contribution of this factor to financial performance has not been analyzed which called for this study. Researcher has therefore turned to the study of credit risk management, which

offers natural experiments for the betterment performance assessment of commercial banks in Libya (Barghathi et al., 2017; Elsakit, 2017).

In Libyan context, no studies have explored the characteristics of risk management in general and specifically liquidity and credit risk management, or the effect of such management on banks performance. Thus, the purpose of this research filling the gap through concentrating on the Libyan Commercial Banks (LPCB) taking into account the effect of credit risk management (risk identification, risk analysis) and liquidity risk management and it is effect on banks financial performance.

2.0 Literature Review

Risk Management Theory

David (1997) developed this theory aiming to study why risk management was required, and outlines theoretical underpinning under contemporary bank risk management; its emphasis is on market and credit risks. The theory indicates that market and credit risks would have either direct or indirect effect on banks survival (Eichhorn, 2004). One would expect the credit risk indicators to influence banks profitability if there is no effective and efficient credit risk management (Ngugi, 2001). This theory identifies major source of value loss as Market risk being a change in net value of asset due to change in interest rate, exchange rate, equity and commodity prices (Wu & Olson, 2010).

Regulators are concerned with overall risk and have minimum concern with individual risk of portfolio components as managers are capable of window dressing the bank position. The need for total risk show that measurement of risk cannot be centralized as risk of a portfolio is not just a sum of component as per Markowitz theory. This implies that portfolio risk must be driven by portfolio return which is invariant to changes in portfolio composition (Beverly, 2015).

Regulatory requirements and alternative choices require managers to consider risk return trade off, Measurement of risk is costly thus bank managers compromise between precision and cost (Sovan, 2009). Trade off will have profound effects on any method adopted by the bank. They have one risk measurement goal knowing to a high degree with precision and the maximum loss that the bank will likely experience (Muhammad & Bilal, 2014). Regulators may set capital requirements to be greater than estimated maximum loss to ensure non-failure. Risk management theory has two principle approaches to measurement of risk, scenario analysis and value at risk (Sovan, 2009). Scenario analysis approach does not require distribution assumption of the risk calculation and it's very subjective and assumes that future results will resemble those of the past (Wilfred, 2006).

Value at risk (VAR) uses asset return distribution to estimate the potential losses. Monte-Carlo simulation and analytical VAR method are two principle method of estimating VAR and they enable managers to estimate forecast. They have advantage of computational efficiency and tractability though they may show non-normal distribution experiencing fat tails reflecting inconstancy of return volatility. This method incorporates sound economic theory that incorporates market structure (Muhammad & Bilal, 2014). Where there is non-normal distribution student t is appropriate, it's useful for fat tails distribution since it's aimed at describing the category of portfolio returns. Analytical value at risk uses standard portfolio theory; the return distribution is described in

terms of variance and covariance representing risk attributes to a portfolio over horizon (Sovan, 2009). In this research market risk measurement category value at risk (VAR).

Liquidity Preference Theory

Bibow (2005) Keynes describes liquidity preference theory saying that people value money for both "the transaction of current business and its use as a store of wealth. Thus, they will sacrifice the ability to earn interest on money that they want to spend in the present, and that they want to have it on hand as a precaution. On the other hand, when interest rates increase, they become willing to hold less money for these purposes in order to secure a profit.

Elgar (1999) One needs money because one has expenditure plans to finance, or is speculating on the future path of the interest rate, or, finally, because one is uncertain about what the future may have in store so it is advisable to hold some fraction of one‟s resources in the form of pure purchasing power. These motives became known as transactions-, speculative and precautionary motives to demand money. The banks‟ liquidity preference approach suggests that banks pursue active balance sheet policies instead of passively accommodating the demand for credit.

In the context of both developing and developed countries, it is recognized that thebanking industry plays a fundamental role with regard to improving and further enhancingfinancial and economic stability (Gamal et al., 2017). Similar to other countries in the region, the banking sector in Libya is the main provider of financial services to the economy (Troug&Sbia, 2015). With 11 commercial banks totaling LYD 73.2 billion of assets (in the end of 2013), the banking sector represents 81% of the total assets in the financial sector. These banks can be subcategorized into three groups: 7 private owned banks (including 3 with foreign participation of 49%), and 2 joint banks held by the Libyan Government (51%) and foreign states (UAE and Qatar), 4 large state owned banks (including 2 banks with a 19% stake owned by foreign strategic partners (Troug&Sbia, 2015).

The literature provided some evidence to support a positive association between strategies that banks follow while mange the liquidity and credit risk and banks performance under high uncertainty dynamism (UD) (Chi & Li, 2017; Zhongming, Mpeqa, Mensah, Ding, &Musah, 2019). Conversely, under conditions of low Perceived environment uncertainty there is no relationship found, or may be negative relationship between risk management and organization performance. These literatures suggested that the relationship between risk management and banks performance is dependent upon the degrees of environmental uncertainty in which the bank operates (Li &Simerly, 1998; Sicotte&Bourgault, 2008). Even though the external environmental is considered a dominant variable, and is the foundation of contingency- based management accounting research (Chenhall, 2003), no studies have investigated the moderating effect of UD on the relationship between risk management and banks performance.

Financial Performance

Financial accounting is the process that culminates in the preparation of financial reports on the enterprise for use by both internal and external parties. Users of these financial reports include investors, creditors, managers, unions, and government agencies (Kieso et al., 2012). Financial accounting is the process of systematic recording of the business transactions in the various books of

accounts maintained by the organization with the ultimate intention of preparing the financial statement there from. These financial statements are basically presented in two forms. One, profitability statement which indicates the result of operations carried out by the organization during a given period of time and second balance sheet which indicates the state of affairs of the organization at any given point of time in terms of its assets and liabilities (Drake, 2010). Main purpose of financial accounting is to ascertain profit or loss and to indicate financial position of an enterprise. Two fundamental statements of financial accounting are income and expenditure statement and balance sheet.

Credit Risk

Banks loans are major source of credit risk other sources are interbank transactions, foreign exchange, trade financing, futures swaps, options, bonds and extension of commitment of guarantee. The sound practices set by Basel 1 committee include establishing credit risk environment which the board of directors have the responsibility of periodically reviewing and implementing credit risk strategy approved by the board of directors then setting procedures for controlling, monitoring and measuring risk (BCBS, 1999).

Secondly banks should operate within sound well credit granting criteria by establishing overall credit limits at the level of individual borrower depending on exposure and should have a process of approving new credit extension of credit limits which should be done at arm's length (Muhammed, 2012). The thirdly, banks should maintain appropriate credit administration measurement and monitoring process that is on-going, administration system of monitoring overall composition of credit portfolio and develop to utilize an internal risk rating system in managing credit risk. Thus they should take into consideration potential future changes in economic conditions during assessment of credit and credit exposure (BCBS, 1999). Banks should ensure adequate control over credit risk by establishing independent on-going assessment system and ensuring credit granting is properly managed and is within credit limits and has in place early remedial action on deteriorating credits and similar work situation. Credit management principles applicable in banking institutions include the six Cs of character, capability, context, credibility, collateral and conditions (Aduda&Gitonga, 2011).

In a bid to maintain adequate level of profitability, most banks take excessive risk but greater risk taking results into insolvency. Major banking problems are related to low credit standard for borrowers and poor management of portfolio. Muhammed (2012) posits credit risk may lead to credit events such as bankruptcy, failure to meet obligation due. Owojori (2011) indicate that available statistics from liquidated banks show that inability to collect loans and advances given to customers related to managers was a major contribution to distress. Anila (2015) in his research paper on factors affecting performance of commercial banks in Albania banks size was used as one of the independent variable. Capital adequacy had a strong negative and significant relationship with performance of the banks. Other authors who got contradicting results where Capital adequacy had a positive relationship with performance (Frederic, 2014), similar findings by other previous research was by (Obamuy, 2013; Ongore&Kusa, 2013; Syafri, 2012).

Credit Risk Identification on Organizational Performance

Kargi, (2011) posited that in every financial institution the first way in determining credit risk is profiling customers and understanding the risk environment which surrounds loan products. In cases where these risks have been concluded and put under control there the organization can conclude that it has successfully identified credit risk. However, in circumstance where risks have been identified, assessed and are not been put under control, the management will be made aware so as to come up with mechanism and plans to manage them. Kargi (2011) concluded by pointing out that risk identification is a key component of any financial institution regardless of size and economy. Lack of a risk identification process, Kargi (2011) warned that the organization could likely be unable to effectively manage its strategic risks and determine whether they are in control

Wambugu et. al (2010) carried out a research on credit management practices in SACCOs offering front office services in c. He established that risk identification is an important stage in credit risk management and should be applied effectively to identify the current credit risks confronting the organization, provide the likelihood of these risks occurring and reveal the type and amount of loss these risks are meant to cause if they occur. He concluded that an organization should establish a system that provide timely, accurate and relevant risk information in a clear, easily understood manner for the organization to operate and perform in the present unstable market.

It is also prudent for financial institutions to consider the risk categorization that it always implementing. Kimeu, (2008) advised that risk categorization will help organizations effectively and systematic comprehensive risk identification. In cases of SACCO's Kimeu, (2008) argued that it is advisable to use a combination of identification tools ranging from ategoriz data and building a collective view and also analyzing factors or risk groups.

Credit Risk Analysis on Organizational Performance

After risk identification, Tchankova (2002) indicated that analysis should follow, this will provide a greater understanding of risk, and is important to the organization as it helps in making risk based. It further assist organizations as it will help to make comparison of risks against each other, which in the long run help organizations to make prioritize on risk events Nawaz et al (2012) did a study on risks management in banks and identified that an effective analysis would typically assess the impact and probability of risks, which could be understood across the organization. They further cited that credit risk analysis should be reviewed regularly to ensure it stays relevant and appropriate to the nature and level of risk within the organization. In addition, the frequency of review should reflect the profile of the risks in the organization which it maybe quarterly or after six months but not yearly.

Kolapo, Ayeni and Ojo (2012) carried out a study in Nigeria and he used panel data regression for the period 2000 to 2010. In this study he found that the effect of credit risk on performance of banks as indicated by the Return on Asset (ROA) of banks is cross sectionally invariant. Kolapo, Ayeni and Ojo (2012) concluded that the nature and managerial pattern of individual firms do not determine the impact. Also, Hosna et. al (2009) recommended the effect of credit risk management on profitability level of banks. They concluded that huge capital base commitment contributes in a positive way to bank's profitability. Nawaz et al (2012) used

correlation, regression and descriptive methods to study whether credit risk affect banks performance in Nigeria from between the years 2004-2008. They also found that credit risk management has a significant impact on profitability of Nigerian banks.

Ouma, (1996) carried out a study on effects credit risk on loan portfolio performance and from the study findings it was concluded that the analysis of inherent risk provides numerous benefits. Among the benefits identified by the study done by Ouma (1996) is that it assists the organization to understand credit limit figures in the event of a sudden huge control failure of an institution. In addition, it helps in ategorized major controls and their effectiveness plus providing a clear understanding of the nature of association between risks and their control mechanism

Credit Risk Monitoring on Organizational Performance

According to Margrabe, (2007) risk management is the identification, analysis, prioritization assessment of risks which is then is followed by a well-coordinated and economically allocation of resources so as to lessen, observe and finally control the impacts which may be caused by credit risk.

Crockford (1986) indicated that credit risk management is a practice of systematically selecting the cost effective approach so as to minimize the effects of threats to the overall organizational performance. It can be concluded that all risks can never be avoided because of financial situations and other variables. Hence, all financial organizations should have to accept a certain minimum level in their day to day doing of business, (Crockford, 1986).

According to Hubbard and Douglas (2009), risk management involves assigning an officer in charge of risk or a team member who is not the project manager responsible for predicting possible problems in the projects they carry out. Major characteristic of a person in charge of risk is a healthy skepticism. It also includes maintaining live project risk record in the organization. Every risk should have the following features: opening date, title, a brief description, likelihood and significance. Optionally a risk can be assigned a person in charge of its resolution and a date when the risk must be determined by that time

Trevisani, Daniele (2007) recommended that “risk management involves; coming up of anonymous risk reporting network and every team member should have the likelihood to report risks that he/she predicts in the project”. Consequently, it involves coming up of mitigation plans for certain risks that are chosen to be mitigated within the institution. The importance of the mitigation plan is to define how a particular risk will be controlled what, when, by whom and how will it will be executed to avoid it or reduce the subsequent consequences if it becomes a problem later. Finally, risk management always include summarizing premeditated and possible risks, effectiveness of mitigation actions, and work spent for the risk management itself

Liquidity Risk

Liquidity risk management entails maintenance of sufficient cash, marketable securities, and availability of funding for committed credit facilities (CBK, 2016). BCBS (2008) asserts that fundamental role of banks in the transformation of short-term deposits into long-term loans makes banks vulnerable to liquidity risk. A liquidity shortfall at a single bank can have system-wide

repercussions. The global sub-prime crisis of 2007 to 2008 emphasized the importance of liquidity management in banking sector. The Basel Committee issued its "Principles for Sound Liquidity Management and Supervision which gave two concepts of liquidity, funding liquidity and market liquidity. Funding liquidity refers to the ease which an organization can attract funding. Market liquidity is high if it's easy for an organization to raise funds by selling an asset, other than borrowing against it as collateral. Liquidity becomes a risk factor if the magnitude of impact changes randomly over time (Clemens, Iman& Robert, 2015).

Liu (2011) put forward various methods to measure liquidity risk including cash in hand to asset ratio, liquidity ratio, borrowing fund-asset ratio, borrowing fund-deposit ratio, cash reserve ratio, deposit-credit ratio, lending fund-deposit ratio, and debt paying ability. Norazwa, Mohamad, and Hawati (2015) in their research on Liquidity Risk and Performance, The Case of Bahrain and Malaysian Banks. Panel data for the period 2008 to 2014 was used the measures of liquidity risk were change in current ratio, growth of total asset loan volatility, bank capitalization, deposit volatility, loan to deposit ratio, management efficiency, interbank ratio and bank size. The result showed that deposit volatility, bank capitalization, growth of total asset loan volatility, management efficiency, size of bank and loan to deposit ratio are important to liquidity risk. Deposit volatility and liquidity risk had a significant negative relationship for banks in Bahrain only thus higher volatility on deposit leads to a lower liquidity hence increases liquidity risk exposure. Result also found that coefficient of bank capitalization had a positive and significant relationship with the liquidity risk for all banks.

Bessis (2010) considers liquidity risk from three perspectives. The first one is considered where the bank cannot raise funds at a reasonable cost due to conditions related to level of interest rates, transaction volumes, and difficulties in funding counterparty. The second perspective looks at liquidity as a safety cushion that helps to gain under difficult situations. Thus liquidity risk is a situation where there is mismatch and short term assets are inadequate to pay for short time liabilities. The final perspective is where liquidity risk is considered as the extreme situation. Such situations arise if there is a large loss creating liquidity issues. Large-scale withdrawal of deposits can cause liquidity risk in the banking sector but it may not be a major source of liquidity risk. Other factors that may lead to liquidity risk include large commitments or having a large exposure in longterm lending thus they may face liquidity problems (Ahmed &Anees, 2012).

Sufian and kamarudin (2011) examined the determinants of Bangladesh banking sector profitability, where bank-specific and macroeconomic determinants were evaluated. The research findings revealed that liquidity levels significantly affect the bank's profitability this is consistent with (Dang, 2011) who found that adequate level of liquidity is positively related with bank profitability. Other authors found contradicting findings where the relationship between liquidity risk and bank profitability was insignificant (Ongore&Kusa, 2013).

Kim (2015) investigated the impact of liquidity risk on banks performance in European Union countries panel data for the three-year period to 2009 and sample data from 23 European Union countries was used. The findings were a negative relationship between liquidity ratios and performance. On the hand other authors in their research on liquidity risk and performance in EU countries found the ratio of loans to deposits as a proxy for liquidity risk significant and positively

related to net interest margins (Chortareas, Girardone&Ventouri, 2011). Umar, Muhammad, Asad and Mazhar (2015) in their study on impact of liquidity risk management on firms' performance in the conventional banking of Pakistan. Two banks were used in the study for the period 2009 to 2013 the results indicated that current ratio was negative and significant to performance. Similar studies have shown significant negative correlation between current ratio as a proxy of liquidity risk and performance (Naceur&Kandil, 2009; Pasiouras&Kasmidou, 2007).

Arif and Anees (2012) undertook a research on liquidity risk and its effects on banks profitability in Pakistan. The research found that there existed significant negative relationship between liquidity, deferred loans, liquidity gap with performance. In a similar research done by (Ahmed & Ahmed, 2012) where 22 banks in Pakistan were used for the period 2004 to 2009. The findings were bank deposit and cash had a significant positive relationship to performance while non-performing loans ratio had a negative relationship to performance similarly (Chen, Shen & Kao, 2010) studied the pattern of liquidity risk of bank on performance for commercial banks in 12 advanced economic countries for the years 1994-2006 and found that liquidity risk was a determinant of bank performance. Alper and Anbar (2011) examined special and macroeconomic determinants of Turkey's bank for the years 2002-2010 using panel data and found that liquidity had positive effects on the bank's performance, similar results from research by other authors based on 15 banks of Iran during the years 2003 to 2010, liquidity risk had a significant negative effect on performance (Naser, Mohammad &Ma'someh, 2013).

Nora and Maytham (2015) in their research on empirical analysis of iquidity Risk and Performance in Malaysia Banks, in these research 21 commercial banks in Malaysia were studied for the period of 2005-2013. Panel data for this period was utilized in this research. The independent variables were loan to deposit ratio, liquid assets to total assets ratio and capital to asset ratio the dependent variable was performance measured by return on assets and return on equity. The results of loan to deposit ratio showed insignificant relationship with measures of bank performance. As for liquid assets to total asset ratio and capital ratio, both liquidity risk indicators had a significant relationship with measures of banks performance. The negative result of liquid asset to total asset implies inverse relationship thus disadvantage of banks holding higher liquid assets. For capital ratio, the mixed results, which is positive significant effects with return on assets and negative with return on equity cause the effects on performance not to be inferred. The authors concluded that measures of liquidity risk may differ due to many factors like bank regulations and policy that may influence the way they handle the effects of liquidity risk recommending further research to clarify the relationship.

Relationship between Credit Risk Management and Financial Performance of Commercial Banks

The main purpose of a bank existence is to accept deposits as well as to grant credit facilities, therefore inevitably exposed to credit risk. Credit risk is the most significant risk faced by banks and the success of their business depends on accurate measurement and efficient management of this risk to a greater extent than any other risks (Gieseche, 2004). According to Chen and Pan (2012), credit risk is the degree of value fluctuations in debt instruments and derivatives due to changes in the underlying credit quality of borrowers and counterparties.

Empirical evidences and results of various studies show a mixed trend on the effect of credit risk on bank performance. While some established a negative relationship between credit risk and bank performance, other found a positive relationship. In the extreme is the study that found no relationship between credit risk and bank profitability. Also, some of the studies considered the overall risk as a determinant of bank performance, others focus on credit risk as the major risk affecting bank profitability.

Hosna et al. (2009) studied the relationship between non-performing loan and capital adequacy ratios and profitability for four Swedish banks covering a period of 2000 to 2008. The study showed that rate of nonperforming loan and capital adequacy ratios was inversely related to ROE though the degrees vary from one bank to the other. Such inverse relationships between profitability, performance and credit risk measures were also found in other studies (Achou and Tenguh, 2008; Kolapoet al., 2012; Musyoki and Kadubo (2011).

Kithinji (2010) analyzed the effect of credit risk measured by the ratio of loans and advances on total assets and the ratio of non-performing loans to total loans and advances on return on total asset banks from 2004 to 2008. The study found that the bulk of the profits of commercial banks are not influenced by the amount of credit and non-performing loans. The study provides the rationale to consider other variables that could impact on bank's performance and also a longer period of the study so as to capture the real picture of the banks' performance. Hence this study included the impact of liquidity and market risk as components of the financial risk.

Marshal and Onyekachi (2014) carried out an empirical investigation on the effect of credit risk and performance of banks in Nigeria over the period of 15 years (1997-2011) on five banking firms that. Data were sourced from the annual reports and accounts statements/sheets of the banks in the sample which was timeseries and cross sectional data and estimated using panel data regression techniques. The result shows that there is a positive relationship between Ratio of non- performing loans to loan and advances (LogNPL) and banks performance (LogROA). Their study indicated that banks in the study carry a very minimal level of nonperforming loans in their loan portfolio and as such this does not conform to our apriori expectations. Their findings were also that there exist a positive relationship between ratio of loan and advances to total deposit (LogLA) and banks performance (LogROA). The conclusion was that increase in loan and advances increases banks performance through interest income generated from loan and advance. According to this discussion the following hypotheses is proposed.

H1a: There is a positive relationship between credit risk Identification and financial performance

H1b: There is a positive relationship between credit risk analysis and financial performance

H1c: There is a positive relationship between credit risk monitoring and financial performance

Relationship between Liquidity Risk Management and Financial Performance of Commercial Banks

Konadu (2009) in a study in Ghana found no positive relationship between liquidity trend and profitability and concluded that there is a negative relationship between liquidity and profitability in the Ghana banking sector. Lamberg and Valming (2009) findings suggested that the adaptation of

liquidity strategies do not have a significant impact on ROA. Only increased use of liquidity forecasting and short-term financing during financial crisis had a positive impact on ROA. Moreover, it was found that the importance of key ratios, which monitors companies liquidity have not changed between the studied time points.Li(2007) found that the result for liquidity on profitability is mixed and not significant, indicates that conclusion about the impact of liquidity remains questionable and further research is needed.

Larteyet al. (2013) found a weak positive relationship between the liquidity and the profitability of the listed banks in Ghana in their 2013 study. Olagunju et al. (2011) in their study in Nigeria concluded that for the success of operations and survival, commercial banks should not compromise efficient and effective liquidity management and that both illiquidity and excess liquidity are "financial diseases" that can easily erode the profit base of a bank as they affect bank's attempt to attain high profitability-level. A study in Canada by Bordeleau& Graham (2010) suggest that a nonlinear relationship exists, whereby profitability is improved for banks that hold some liquid assets, however, there is a point beyond which holding further liquid assets diminishes a banks‟ profitability, all else equal (Mwangi, 2014). At the same time, estimation results provided some evidence that the relationship between liquid assets and profitability depends on the bank‟s business model and the risk of funding market difficulties. Adopting a more traditional (i.e., deposit and loan-based) business model allows a bank to optimize profits with a lower level of liquid assets. Likewise, when the likelihood offending market difficulties is low (proxied by economic growth), banks need to hold less liquid assets to optimize profits. With this background in mind, the following hypothesis is proposed.

H2. There is a positive relationship between liquidity risk management and a financial performance.

3.0 Methods

A standard rating questionnaire was developed and administered to the sampling population's personnel. the majority of questionnaires were distributed and collected by hand – participants were only emailed a questionnaire if the hand-delivered version had produced no response – and the participants were given adequate time to complete the survey before it was collected.Questions were created based on a review of pertinent literature to give useful insight into the study's aims. Copies were distributed to four academic staff at University of Misurata, who were asked to give their comments about the questionnaire survey in general. Likewise, two executive managers who have work experience in Libyan banking sector and two heads of departments in the Central Bank of Libya. This pilot test was done with the questionnaires to identify potential measurement errors, clarify unclearly phrased topics, and, most significantly, monitor non-verbal actions. The questionnaires were then modified as necessary prior to performing the research. Face and content validity were used to determine validity. Reliability analysis was performed to assess each construct's internal consistency, guaranteeing a high degree of generalizability across test items. Additionally, it was stated that participation was voluntary and that respondents might withdraw from the research at any moment. The items of perceived financial performance were adopted from SıtkıIlkay, M., & Aslan, E. (2012)with 5 items, ranging from 1=strongly disagree to 5=strongly agree.

This survey employed pre-coded questions as this type typically records a good response rate. Answers were measured on five-point Likert scales, which are widely used in social science research to measure perceptions, beliefs, opinions and attitudes, as indicated in participants' responses to a set of statements (DeVellis, 2003). Respondents gave information on gender, age, department and period of work.The empirical data was analyzed by utilizing structural equation modelling (SEM) by employing a partial least squares (PLS) technique.

The study population was identified Libyan commercial banks operating in the western region. Accordingly, the potential population comprised four key groups: boards of directors, risk committee member, executive managers and head of department of selected commercial banks in Libya. These groups were selected primarily as being the most directly engaged with credit and liquidity risk management and financial performance. The sample size for this study was purposively selected, and structured questionnaires were administered to find out their views and knowledge of the consequence of bank risk management on the performance of these universal banks. Due to the topic's sensitivity, all replies were kept anonymous. All completed surveys were securely stored in locked boxes located around the organization. A freelance research assistant was hired to conduct surveys and gather data. Additionally, the research assistant was informed on the issue in order to help respondents who required clarification on certain questions.

4.0 Results and Discussion

The questionnaire distributed to 300 target respondents. Of these 300 questionnaires, 233 were received.The final useable questionnaires were 216 with percentage 72%, which considered sufficient for data analyses.From the demographic data, the gender of the respondents was identified as 93 percent as male and 6.5 per cent as female. According to the data, the minority of respondents' ages fell in the age from 50 and more with a percentage rated of 37. Meanwhile the percentage of the percentage of 38.9 of the respondents' ages fell in the age range from 30 to 39. In terms of the respondents' Job were categorized as department head (30.1 per cent). Followed by external auditor (23.1 per cent). Most of respondents qualified as master degree with percentage 51.9 followed by respondent who has diploma 24.5 per cent. Regarding the experience, the majority of respondents have experience rage from 10 to less than 20 years with percentage of 38.9 meanwhile the minority of has experience less than 5 years. Furthermore, 87.5 percent of the samples were collected form respondents who work in public bank and 12.5 from private bank.

Table 1Characteristics of respondents

Demographic characteristics	Categories	Frequency	%
Gender	Male	202	93.5
	Female	14	6.5
	Total	216	100 %
Age	From 20 to 29 years	39	18.1

	From 30 to 39 years	84	38.9
	From 40 to 49	50	23.1
	From 50 and more	37	17.1
	Missing	6	2.8
	Total	216	100 %
Job	Chairman	33	15.3
	Board member	36	16.7
	Manager director	32	14.8
	Department head	65	30.1
	External auditor	50	23.1
	Others	0	0
	Total	216	100 %
Qualification	Diploma	53	24.5
	Bachelor	39	18.1
	M.a	112	51.9
	Ph.d	12	5.6
	Total	216	100 %
Specialization	Accounting	71	32.9
	Finance	79	36.6
	Administration	52	24.1
	other	14	6.5
	Total	216	100 %
Experience	Less than 5 years	11	5.1
	From 5 to less than 10 years	34	15.7
	From 10 to less than 20 years	84	38.9
	More than 20 years	87	40.3

	Total	216	100.0
Type of bank	Public	189	87.5
	Private	27	12.5
	Total	216	100.0

The measurement modelwas assessed by examining the internal consistency reliability (composite reliability),indicator reliability (individual loading, cross loading), convergent validity (the average variance extracted) and discriminant validity, which have been also suggested Hair et al. (2011) as rule of thumb for model evaluation. Further, to test the reliability of the variables, Cronbach‘s alpha test was carried out, which indicates that all the variables are reliable.

Table2 Reliability test Crobach’s Alpha

Variable	**Cronbach’s Alpha**	**Number of items**
Risk identification	0.841	6
Risk analysis	0.930	8
Risk monitoring	0.758	5
Liquidity Risk management	0.942	10
Financial performance	0.870	6

Assessment of structural model

Structural model represents the relationship between latent variable that hypothesized in the research model (Duarte &Raposo, 2010). After establishing the appropriateness of the measures, it is necessary to provide evidence supporting the theoretical model as exemplified by the structural portion of the model (Chin, 2010). The prime evaluation criteria for the structural model are the R^2 measures and the level of significance of the path coefficients as it explains endogenous latent variables variance (Hair et al., 2011). In PLS, R3 result represents the amount of variance in the construct in question that is explained by the model. The value of R^2 is important in the research and there are variations regarding satisfactory level of R^2 value. According to the guideline by Cohen (1988), R^2 value between 0.02-0.12 is weak, 0.13-0.25 is moderate, and 0.26 and above is substantial. However, in this issue, Hair et al. (2011) also suggest that the judgment of what R^2 level is high, depends on the specific research context. In the current study, the results show that R^2value for Financial Performance is 0.445. It suggests that the credit risk management and liquidity risk management can explain 44.5 percent of the variance in Financial Performance.

Path coefficients represent the hypothesized relationship among the constructs (Hair et al., 2013a). The individual path coefficients of the PLS structural model can be inferred as standardized

beta coefficients of ordinary least squares regression. Paths that are non-significant or show signs of contrary to the hypothesized direction do not support the given hypothesis in the research (Hair et al., 2011). The path coefficients have standardized values between -1 and +1. Estimated path coefficients close to +1 represent strong positive relationship and vice versa for negative values (Hair et al., 2013a).

Results of Direct Relationships

Based on the hypotheses of this study, the direct effects between the variables were tested and findings of the result have been given.

Table3 Results of Direct relationships

Hypotheses	relationship	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
H1	CR -> FP	0.173	0.069	2.495	0.013	Supported
H2	LR -> FP	0.404	0.073	5.542	0.000	Supported

CRI= Credit risk identification, CRA = Credit Risk Analysis, CRM = Credit Risk monitoring, LRM = Liquidity Risk management, EU = Uncertainty Dynamism, FP = Financial performance

The results suggest that credit risk management has significant relationship with financial performance (β=0.173, p = 0.013). In addition, liquidity risk management has positive significant relationship with financial performance (β=0.404, p = 0.000).

The financial performance, which is the degree to which financial objectives being or has been accomplished. The financial performance of the Libyan banks according the sample experience is acceptable. This result is consistent with those of other studies that refer to the accepted of financial performance (Mohammad, Prajanti, &Setyadharma, 2020).The descriptive analysis ascertain, as there is somewhat acceptable financial performance, which it is mean 3.6. The relationship between the risk management dimensions, i.e., risk identification, risk analysis and risk monitoring with financial performance where examined. The result indicated that the credit risk management is positively related to the financial performance.There is a continuing debate about the nature and degree of the effective credit risk management effect on financial performance. On objectives of this study to identify the relationship between credit risk management and financial performance of Libyan banks. In doing so, previous studies on credit risk management have been reviewed and it is summarized that the financial performance of bank is usually affected by financial performance (Adekunle, Alalade, Agbatogun, &Abimbola, 2015; Taiwo et al., 2017). According the statistics analysis the result showed that banks credit risk management and financial performance which measured by the perception of banks' managers had significant positive relationship. This finding is in line with previous studies such as (Alshatti, 2015; Bastomi, Salim, &Aisjah, 2017; Serwadda, 2018). It can therefore be concluded that credit risk management has a strong and significant impact on the financial performance of commercial banks in Libya.

The result found that there is a positive relationship between liquidity risk management and financial performance.Liquidity problems if unchecked it will adversely affect a given bank's

financial performance. In addition, a bank having liquidity problems may experience difficulties in meeting the demands of depositors, however, this liquidity risk may be mitigated by maintaining sufficient cash reserves, raising deposit base. Thus, the finding indicated that liquidity risk management has a direct an effect on financial performance, this result consistence with the finding of previous studies (Muriithi&Waweru, 2017; Musembi, 2018; Wisdom, Isiaka, &Ogunlowere, 2018).

The study suggests some policy implications for the managers and prospective investors in the country. It is emerging that credit risk management and liquidity risk management influence the Libyan banks level of financial performance. It is important therefore; that banks establish the required cash in each product segment and maintain the optimal level with will help in reducing the cash balance level. At the same time, banks should consider targeting the corporate clients who will be willing to retain a large cash base in the banks for a longer duration.

5.0 Study Limitations

Several methodological limitations were taken into account to conduct an effective study. While the research design was tailored to address the research objectives and focused on the critical elements of this study, this research is still not spared from the limitations. Firstly, many of the respondents were not interested to fill up the questionnaire. Especially, due to the political unstable situation and being afraid of sensitivity of the current situation in Libya, made the research challenging.

Secondly, this study was based on a self-reported by the top and middle management of the Libyan banking industry. Since the questionnaire was structured in such a way that individual banking managers were approached to fill in the questionnaire, the issue of common method variance was inevitable. The common method variance is a problem in research where variability of response overlaps due to data being collected from single source. The Harman-single factor test with un-rotated factor analysis was used to check this potential problem. Since, the 1st factor did not explain most of the variance; the common method variance nevertheless posed a limitation in this study.

6.0 Future Research Recommendations

Based on findings from the empirical analysis, the study offers the following recommendations, through which they can work to improve credit risk management and to have an effective role in achieving financial benefits. Libyan commercial banks should take into consideration, the importance of risk identification in credit risk management, risk analysis in credit risk management and risk monitoring in credit risk management that the elements of credit risk management in this study. Banks in order to design an effective credit risk management system need to establish a suitable credit risk environment; operating under a sound credit granting process, maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk. Banks need to place and devise strategies that will not only limit the banks exposition to credit risk but will develop performance and competitiveness of the banks, and banks should establish a proper credit risk management strategy by conducting sound credit evaluation before granting loans to customers. Further, the current study has focused credit risk management and liquidity risk management of the bank to determine the performance of bank. Based on the study

other factors not studied in this research has a very significant contribution of 55.5 % to bank financial performance; since the considered factors explain 44.5 %. Thus, Further research may take a broader view of other factors may have in impact on banks financial performance.

Moreover, since risk management in general has very significant contribution to bank financial performance, the banks are advised to put more emphasis on risk management. In order to reduce risk on loans and achieve maximum performance the banks need to allocate more funds to default rate management and try to maintain just optimum level of capital adequacy.

Taking the external contextual factors (environmental dynamism) into consideration in investigating banking issues is a very important step in reaching an accurate conclusion. To be more precise, it can be said that any attempt to understand the low performance of Libyan banks, financially or non-financially, requires understanding the external factors, particularly the dynamism environment that shaped the risk management of the commercial banks in Libya.

7.0 Conclusion

Credit risk management and liquidity risk management are major antecedents for the financial performance in the Libyan banking industry.This study imparts an important theoretical contribution with managerial implications, which are deemed significant for the realistic scenario in the context of the Libyan banks. It is of sure that if the Libyan banking industry considers these findings of the study, they can perform well and most importantly, they can achieve superior financial performance.

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