# CHAPTER 6

# CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Introduction

This study is the first to discuss bank performance by analyzing credit and liquidity risk exposures tools. It provides both theoretical justification and empirical evidence for the analysis. The current study analyzed the relationships between credit and liquidity risk exposures, and the financial performance of banks. Moreover, the study developed an integrated risk management model and compared between Jordanian, Saudi Arabian, and Qatari banks. In addition, the study compared between conventional and Islamic banks. It provides useful insight into whether Islamic principles play a significant role in the banking sector. The results are useful for bank users to understand the factors that influence bank performance.

This chapter presents the overall conclusion for the results of the thesis. It is arranged as follows: Section 6.2 shows the main results according to each research objective. Section 6.3 presents the key contributions of the study. Section 6.4 provides the implications of the study. Section 6.5 delineates the limitations of the study. Finally, Section 6.6 recommends the directions for future studies.

## 6.2 Summary of the Study

This section summarizes the results according to the arrangement of the study objectives:

1. To examine the relationships between credit and liquidity risk exposures, and the performance of Jordanian listed banks.

2. To compare credit and liquidity risk exposures between Jordanian, Qatari, and Saudi Arabian banks.
3. To compare credit and liquidity risk exposures between CBs and IBs in Jordan, Saudi Arabia, and Qatar.

The study analyzed 170 observations of 25 CBs and 9 IBs in Jordan, Saudi Arabia, and Qatar in 2013-2017 using the random and fixed effects regression models to test the formulated hypotheses.

### 6.2.1 The Impact of CRE on Bank Performance in Jordan

The first objective of this study was to explore the impact of credit risk exposures on bank performance in Jordan. The credit risk exposures variables were NPL (H1), CAR (H2), CPL (H3), LLR (H4), and LGR (H5). The study found a significant negative relationship between NPL and bank performance. However, there were significant positive relationships between CAR and TQ. Well-capitalized banks can minimize the costs of bankruptcy, withstand against problems emerging from unpredicted losses, and exploit investment opportunities. All these positively affect the financial performance of banks. However, there was a non-significant positive relationship between CAR, ROA, and ROE.

According to the stakeholder theory, CAR is an indicator of external corporate governance. A higher CAR leads to more implementation of good corporate governance practices and minimizes risk-taking behavior of banks. These would motivate depositors to buy the shares of the banks and deposit their money there, thus increasing their profitability (Fanta et al., 2013).

The results also indicated a significant negative relationship between CPL and bank performance. This may be due to effective management and control, which

reduced the banks' costs. The negative relationship is in line with the stakeholder theory: the firms influence and are influenced by various stakeholders. The management's role is to balance between the competing demands of several stakeholders groups (Harrison & Freeman, 1999). The managers should balance between customer and shareholder interest, because increasing the costs associated with enhancing customer service will negatively affect the profitability of banks (Ogden & Watson, 1999). Moreover, it also supports the financial intermediation theory, that the adverse selection of bank management leads to higher operating expenses and higher cost to income ratio (Berger & Deyoung, 1997).

In addition, there were significant positive relationships between LLR and bank performance. Finally, there was a non-significant negative relationship between CGR and bank performance.

### 6.2.2 The Impact of LRE on Bank Performance in Jordan

The second objective of this study was to explore the impact of liquidity risk exposures on bank performance in Jordan. The variables of liquidity risk exposures were CR (H6), LDR (H7), LAR (H8), CDR (H9), and LR (H10). With respect to CR (H6), this study found that CR had a significant positive impact on bank performance. According to the stakeholder theory, managing the current ratio is a very sensitive area. It includes making decision on the composition and amount of current assets and the financing of these assets (Joshi, 1995) as cited in John (2015). A very high level of liquidity is bad because the assets do not earn anything. On the other hand, the lack of liquidity will reduce creditors' confidence, resulting in bad credit image and lawsuits that may threaten the continuity of the firm.

LDR (H7) had a significant negative relationship with bank performance. Jordanian banks lack the capacity to liquidate assets, when necessary, which may reduce customer confidence, especially if withdrawal demands cannot be met.

The study hypothesized that LAR (H8) positively and significantly affects bank performance. This may be due to the greater loan component in the total assets structure of Jordanian banks, which leads to better financial performance on the credit level (Syaifuddin et al., 2018).

This study pointed that CDR (H9) had a negative and significant relationship with ROA, ROE, and TQ. These results imply that the higher CDR, liquidity, and profitability allow the banks to increase their funds for more assets and meet anticipated and unanticipated liabilities at acceptable costs (Olarewaju & Adeyemi, 2015).

Lastly, with respect to LR (H10), the study found that the relationship between LR and ROA was a negative and insignificant, positive insignificant with ROE and TQ. According to the stakeholder theory, the success of the firm is dependent on the creditors, and creditor power relies on the degree to which the firms depend on debt financing (Roberts, 1992). Therefore, if the firms depend mainly on debt financing, they are more likely to be seen as low-risk firms , as they embody a superior environmental performance strategy in their strategic planning decision (Elijido-Ten, 2007).

### 6.2.3 CRE between Jordan, Saudi Arabia, and Qatar

The study showed that managing CRE in GCC banks was better than Jordanian banks. More specifically, Jordanian banks were less efficient in managing credit risk

because they had the highest NPL, CPL, and LLR. Qatari banks had the lowest CPL and LLR, while Saudi Arabian banks the lowest NPL and LGR.

In addition, Saudi banks have enjoyed stability and steady growth during the last decades. Saudi Arabia is considered as one of the fastest growing banking markets around the world (Almazari, 2014). As clearly shown by the findings, Saudi banks were the most profitable, followed by Qatari and Jordanian banks. The Saudi banking sector had the lowest NPL compared to the other two nations; this could be the reason for its higher profitability (ROA, ROE, and TQ).

### 6.2.4 LRE between Jordan, Saudi Arabia, and Qatar

The study showed that Jordanian banks had the lowest mean for LDR and LAR and the highest mean for CDR and LR. The Saudi Arabian banking sector had moderate values for these ratios. Finally, the Qatari banking sector was the highest LRE, likely because the banks had the highest level of loans and the lowest percentage of CDR and LR.

### 6.2.5 Difference in CRE and LRE between Conventional and Islamic Banks

According to the stakeholder theory, the responsibility of IBs is not limited to maximizing profit but also to preserve the welfare of all stakeholders. IBs focus on the moral side by being aware of social norms, culture, and religion, as well as being accountable towards both internal and external stakeholders. IBs have the Islamic board, whose members are religious scholars, that preserve the rights of all stakeholders (Al-shamali et al., 2013).

The results showed that the NPL of IBs was significantly lower than CBs. This means that the quality of loans or assets in IBs is better than CBs (Hanif et al., 2012).

In addition, there was a negative relationship between LLR and bank performance. The LLR of IBs was significantly lower than CBs, indicating IBs have better asset quality and more profitable than CBs. There were non-significant differences in CAR, CPL, and CGR between the two bank types. IBs are exposed to less credit risk than CBs. Because IBs want to establish and preserve good reputation in the market, their managers are perhaps more cautious about channeling credit, and they are aware that they cannot bear bad credit (Rozzani & Abdul Rahman, 2014).

As for LRE, IBs tended to have higher CR and CTD than CBs. IBs cannot borrow funds from the central bank or any other sources because they are interest-bearing (Abu Loghod, 2010). Thus, IBs are less risky, and so they are able to repay their debt obligations, as liquidity problems generally occur due to failures in the management of funds (Khan et al., 2016).

In addition, IBs had higher LTD and LTA than CBs. These indicate that customers are more attracted to Islamic finance because they adhere to Islamic principles. In addition, IBs focus on financing operations rather than receiving deposits (Abu Loghod, 2010). Finally, CBs had higher leverage than IBs because they have diverse products, country-wide branches, rich experience, aggressive marketing strategies, and trained staff. On the other hand, IBs cannot pursue these opportunities because their targeted market and products are limited and small (Khan et al., 2016). Overall, these results suggest that IBs are less risky and have higher liquidity compared to CBs.

Moreover, there were no differences in ROA between IBs and CBs. Measured by ROE and Tobin's Q, IBs were more profitable than CBs. These could be due to some factors related to CRE and LRE.

## 6.3 Key Contributions

This section presents the main contributions outlined in the first chapter. This study has contributed too many aspects, which will be discussed in the following subsections.

### 6.3.1 Development of CRETY Model

First, this study contributes to existing practical and theoretical knowledge by developing a new model called CRETY. It is a comprehensive model for measuring risk disclosures practices, particularly credit and liquidity risk, which includes a unique set of financial structure and bank-specific determinants of bank performance. The model has contributed novel findings to the literature. Second, it provides empirical evidence about the relationships between CRE, LRE, and bank performance.

This model was developed based on various studies that measure credit and liquidity risk, and their development has considered all variables used by those studies (Al-Rdaydeh et al., 2017; Abiola & Olausi, 2014; Kithinji, 2010). The results of this research support previous studies (Ramadan et al., 2011; Iannotta et al., 2007; Adeusi et al., 2014), suggesting that effective practices for managing CRE and LRE practices are significant determinants of the financial performance of banks. This model improves the measurement of CRE and LRE in banks, taking into account technical requirements by combining numerical mathematics and statistics and analyzing the main characteristics of banking risk. This model provides a new approach to assessment based on the latest methods of data analysis, determine prospective directions for banking information system improvement and suggest the possibility of their implementation.

### 6.3.2 Understanding Bank Performance in A New Contextual Benchmark

This study adds a contextual benchmark for Islamic and conventional banks in Jordan and selected GCC countries (Saudi Arabia and Qatar). In addition, this thesis supports previous studies on the performance of banks in GCC countries (Ben Khediri et al., 2015; and Almazari, 2014). Furthermore, this thesis provides financial evidence for a more recent period that includes major events in the financial sector, such as oil price fluctuations and the Qatar crisis. Finally, this thesis used two accounting-based measures, ROA and ROE, and a market-based measure, Tobin's Q. These enhanced the robustness of the results and confirmed that the financial performance and risk management proxies used in the thesis are appropriate for Jordanian and GCC banks.

In addition, this thesis has enhanced the understanding on loans, deposits, loan growth, loan loss reserve, operating costs, current assets, and current liabilities. Thus, it contributes an integral model for the banking context. Furthermore, the study provides some methodological contributions through its data analysis methods: firstly by using fixed effects and random effects model, and secondly by repeating the analysis using feasible generalized least square regression to ensure the robustness of the results.

The results indicated that board size and bank size influenced the financial performance of banks. The results are consistent with various authors, who stated that financial performance may differ from a bank to another based on bank size and board size (Regehr & Sengupta, 2016; Mester, 2010; Yermack, 1996; Klein, 2002). Furthermore, this study showed that the performance of banks is sensitive to macroeconomic conditions, even though this sector focuses on financial techniques and geographic diversification to manage risk. Gross domestic product remains one of

the most important macroeconomic indicators to measure the total economic activity within an economy.

### 6.3.3 Comparative Risk Exposures Model

To the best of the researcher's knowledge, this is the first study to examine CRE, LRE, and bank performance together using the CRETY model. It is also the first to compare them between three countries (Jordan, Saudi Arabia, and Qatar). This study has successfully examined three banking sectors that comprise Islamic and conventional banks of different number and sizes. Banks with different ownership characteristics will differ in their capital, risks, and profitability management behavior. Saudi Arabia has the most Islamic banks and largest capitalization. Furthermore, the comparative risk exposure model is one of the novel contributions of the thesis to the theoretical aspect of banking.

The extant literature has mainly concentrated on the financial performance of banks in Europe and the USA. In addition, this study is unlike previous Asian literature on bank performance and risk management (Chowdhury & Rasid, 2015, Zarrouk, 2014; Bougatef & Korbi, 2018), which collected data from various Asian countries. This thesis covered the Middle East because it has not attracted the attention of researchers, and it is considered a significant economic region. This thesis analyzed the panel data of Jordanian, Saudi Arabian, and Qatari banks in 2013-2017. This period witnessed major economic reform initiatives by the governments of the three countries as they faced a surge in public debt and fluctuating economic growth.

### 6.3.4 Islamic Rules Have a Significant Impact on Bank Performance

This study extends the knowledge on the relationship between CRE, LRE, and bank performance by comparing between conventional and Islamic banks. The study revealed that Islamic banks had higher liquidity, profitability, and efficiency in managing CRE than conventional banks. This thesis shows that different bank types will have different perceptions of risk management and different quality in financial performance. This is the first study to investigate the effect of bank type on bank performance in Jordan, Saudi Arabia, and Qatar.

This study offers some insights into the applicability of stakeholder theory, institutional theory, and financial intermediation theory to Islamic and conventional banks. This has been supported by the empirical results of this thesis.

The empirical findings of this thesis evince that bank type has a significant impact on ROE and the market value of bank's assets. However, bank type did not have any significant impact on ROA. The results of the current thesis are consistent with past studies (Khan et al., 2016; and Abu Loghod, 2010).

This thesis has enhanced the understanding of risk exposures, IFSB, and financial performance of Islamic banks. This thesis found that Islamic banks have more advantages than conventional banks, as they have lower credit risk, NPL, and loan loss reserve, as well as higher credit and liquidity.

## 6.4 Implications of the Study

This thesis contributes important evidence to the literature on the impact of CRE and LRE on bank performance in developing countries. The results are useful to enhance Basel practices in the Middle East, particularly in Jordan and the GCC. The

results of this thesis can be generalized to other developing countries with comparable economic and cultural contexts.

This study also evinced the applicability of the institutional theory, stakeholder theory, and financial intermediation theory to explain the financial performance of banks in Jordan and GCC countries. Firstly, the factors that were found to significantly affect the performance of listed banks support the stakeholder theory, which stated that both internal and external determinants affect bank risk and profitability. The findings suggest that banks that comply with Islamic laws and implement sound risk management principles established by the IFSB have effective CRM, lower NPL, LLR, and liquidity risk, as well as higher profitability, as represented by the market value of total assets.

However, IBs use the term receivable instead of loans because their transactions are asset against money, not money against money. Their customers are more interested to use Islamic banking financing instruments like *murabahah*, *ijarah*, and *musharakah* (Abu Loghod, 2010). These differences indicate that regulators and policy makers should take into consideration the specific features of Islamic compliant contracts in developing effective risk management tools and apply them the whole banking sector. It is also interesting if CBs expand their investments by opening Islamic windows to benefit from the improvement in the regulatory framework for Islamic finance and the growing demand for Islamic-compliant products.

Secondly, the results support the financial intermediation theory and moral hazard hypothesis, which indicate that decreasing the cost efficiency measure would lead to higher CPL, NPL, and LLR. These results were evident in Jordanian banks, which had higher CPL, NPL, and LLR, as well as lower capital ratio and profitability.

In contrast, Saudi Arabian and Qatari banks had lower costs, NPL, and LLR, in addition to higher capital ratio and profitability.

So, the results imply the sustainable and deliberate reduction of NPLs in the balance sheet of banks is beneficial to the economy from both macro prudential and micro prudential perspective. Therefore, Jordanian banks should have the intention to expand the scope of the guidance based on the stronger focus on enhancing the timeliness of write offs and provisions, and the continuous monitoring of developments concerning NPLs. In another meaning , the banks should apply the central bank guidance for NPL proportionately, because it is a supervisory tool that identify, manage, measure, and write off NPLs in areas where the existing regulations or guidelines are lack of specificity or silent (European Central Bank, 2017).

Furthermore, based on the findings, one of the main policy implications is that better coverage of information sharing system can help economic development. In addition, it can provide much needed information about the true financial status and debt obligations that borrowing firms hold, significantly increasing the information flow between borrowers and lenders. Consequently, it is expected that information sharing should weaken the adverse effect of NPLs on economic growth.

In addition, CAR is generally considered "good deleveraging" by regulators, therefore Jordanian banks can increase their regulatory capital ratios by two ways, they can shrink their risk-weighted assets (the denominator of the capital ratio) or they can either increase their levels of regulatory capital (the numerator of the capital ratio) (Gropp et al., 2018).

Thirdly, the relationship between leverage ratio and the financial performance of Jordanian banks also supported this hypothesis. Equity capital is considered to be riskier than debt financing because the latter has the advantage of tax treatment.

Interest payments are deducted from tax liabilities, but the dividends of equity capital are taxed as income. Additionally, the cost of equity capital exceeds debt financing. According to the adverse selection hypothesis, bank managers use the leverage ratio to increase, not decrease, the riskiness of their assets by adopting assets with more highly correlated returns. In other words, the leverage ratio does not differentiate between the types of bank assets according to their riskiness. This could mean that bank managers promote the idea of expanding their off-balance sheet activities and enhancing economic growth without making the bank safer (Avgouleas, 2015).

Therefore, regulatory bodies should ensure that Jordanian listed banks avoid excessive risk-taking behavior and guarantee the soundness and safety of their actions. They could penalize banks that hold excessive leverage ratio and a large portfolio of highly liquid assets. In addition, the regulatory authorities in Jordan and GCC countries should focus more on managerial performance, risk management systems, and the measurements used to determine potential financial instability and NPL.

The negative effect of CAR on bank performance in Saudi Arabia and Qatar suggests that they need to spend more money to develop their human expertise and resources in managing financial performance and risk, so as to enhance their supervision and monitoring of investments projects and loans. Meanwhile, the positive relationship between CAR and the financial performance of Jordanian listed banks suggests that the regulatory bodies in Jordan need to improve the application of Basel III, which improves the bank's protection against risk and enhances their efficiency and profitability.

Furthermore, because of the fluctuations and challenges in the banking sector, it is necessary to review and evaluate Basel III so that it considers the emerging needs of Jordan and GCC countries. Thus, the regulatory bodies in Jordan and GCC countries

should provide training courses for risk management committee members, regulators, and bank employees to help them to fully understand the issues, challenges, and requirements of risk management.

It is also interesting to note that Jordanian listed banks had a larger board size than their Saudi Arabian and Qatari counterparts. Nonetheless, board size had a non-significant relationship with bank performance. The association between board size and bank performance is therefore still inconclusive and requires further empirical investigation. This study recommends that Jordanian listed banks should decrease their board size and select board members based on their expertise and not on the basis of family and cronyism.

This study found a positive and significant relationship between the size of Jordanian listed banks and TQ, and the descriptive results showed that Jordanian listed banks had the smallest size. Therefore, Jordanian banks should increase their size if they want to increase their profitability. Larger banks have a positive relationship with borrowing capacity. They can exercise greater effect on other stakeholders along with globalization, and they have more effect in the corporate environment. These will lead to lower costs and higher market value (Abid Azhar & Ahmad, 2019).

## 6.5 Limitations of the Study

While the research objectives have been accomplished and the findings contribute to certain aspects, the study still has some limitations. Firstly, the study sample was only Islamic and conventional listed banks. Therefore, the findings are not applicable to non-listed banks, cooperative banks, insurance firms, and development banks, all of which play an active role in Jordan and GCC economies. Secondly, the sample consisted of three countries from a single region that apply almost similar

legal requirements. Thus, the results cannot be readily generalized to other GCC countries and are not applicable to other developing and developed countries.

Thirdly, this study only investigated two types of risk, that is, credit risk and liquidity risk, and considered some observable bank-specific characteristics such as bank size, bank type, board size, and GDP. However, board independency was ignored because of the difficulty of collecting these data in GCC countries. The study also ignored other types of risks, such as market risk, operational risk, legal risk, and interest rate risk. Finally, the study collected all required data based on the availability of annual financial reports of listed banks on Amman Stock Exchange, Saudi Stock Exchange, and Qatar Stock Exchange. Some banks were dropped because they had insufficient information.

## 6.6 Recommendations for Future Studies

Based on the findings and limitations, several suggestions were proposed for future studies. First, for a more comprehensive analysis of bank performance, risk management, and difference between CBs and IBs in risk management behavior, future studies may compare Jordanian banks and GCC banks to banks from other regions. Therefore, future research can conduct comparative studies between banks in Jordan, the GCC, and other developing and emerging economies, such as Southeast Asia.

Second, as mentioned in the previous section, the study sample consisted of Islamic and conventional listed banks. Future studies can expand this scope to include the risk management and financial performance of insurance firms, cooperative banks, and development banks.

Third, the results showed that the effects of CRE and LRE on the performance of Jordanian and GCC listed banks differed according to the measure of performance. Therefore, it is necessary to use other performance measures, for instance return on investment, growth, and added value.

Fourth, future studies could investigate the impact of other mechanisms of risk management related to credit and liquidity risk—such as lagged NPL, central bank lending rate, financial development, and sensitivity of market risk—on bank performance. Such analyses may provide deeper understanding on the management of credit risk and liquidity risk.

Fifth, the control variables (bank type, bank size, board size, and GDP) provide valuable information for researchers. It would be useful to examine the impact of the characteristics of risk committee in banks as control variables. These include risk committee member, number of risk committee, and Islamic committee member. In addition, it would be useful to look at the differences in ownership structure between IBs and CBs on top of other economic factors, such as inflation rate.

Sixth, this thesis used a panel data approach. It is appropriate for analyzing cross-sectional and longitudinal data. However, this method perhaps failed to catch the unique behaviors in the model. Therefore, further research could consider other approaches, such as interview or questionnaire, to examine this issue from other perspectives. The aim of qualitative analysis is to gather the perspectives of risk management committee members, senior or top management, and investors regarding LRE and CRE policies. A case study focusing on the viewpoint of risk management committee members on the bank's financial policies is also a possible research topic.

Seventh, this thesis focuses on the period of 2013-2017, during which the banks applied Basel III standards. Therefore, further research can compare CRE and LRE

under Basel III standards and IFRS 9 to determine whether the new standard has a real impact on the performance of banks in Jordan and GCC countries.

Eighth, the results showed Jordanian banks have a huge amount of NPL, CPL, and the lowest CAR, and that have a negative impact on their financial performance but CAR effected positively, therefore further research should focus more on data analytics to determine their range of appetites, thus strengthens governance and compliance, insures risk-informed decision making, and achieving its business plan and strategic objectives.

Finally, this thesis focused on the financial performance of banks. Future studies can investigate another important variable related to banks, which is the stability of the banking system. It is the ability of banks to function in a sustainable equilibrium under several economic circumstances and ensure that the system does not require infusions of external resources to maintain its operations. It is the totality of methods, measures, and functions implemented by the central bank, government, supervising institutions (if they are separate from the central bank), and banks themselves (Saksonova & Solovjova, 2012).