

CHAPTER FOUR :CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

4.1 Introduction

The liquidity, profitability and insolvency risks factors of banks are divided into bank specific factors and macroeconomic factors. Bank specific factors that determine profitability and insolvency risks are the variables that are under the control of the management of the bank. These include capital adequacy ratio, assets quality, management efficiency, earnings quality and liquidity. The macroeconomic factors are those variables that are beyond the control or cannot be controlled by the management of the bank such as GDP, inflation, unemployment, concentration among others. Banks maximize profits and control insolvency risks by employing the resources that are controlled under the management (i.e., internal factors). Besides, banks also seek the advantage of the macroeconomic factors that are not under their control.

In discussing the issue of bank profitability and insolvency risks, it is good to know precisely why the maximization of profits becomes an essential issue for banks. Shareholders of the banks are naturally inclined to its profits and their main concern is the maximization of these profits. By maximizing their revenue and minimizing the costs, their returns on investments are maximized and they are distanced from insolvency risks. Bank management has the option to select between the combination of inputs and outputs through which profits are maximized. They may have many preferences, preferring high-risk investments, acquire high-return opportunities, and improve towards profit maximization (Bikker & Bos, 2008).

In this chapter, a discussion on the economic concepts concerning the bank's liquidity, profitability and insolvency risks will be made. It should be noted that the banks that earn enough profits have distanced themselves from insolvency risks while the banks that earned less profits are prone to the insolvency risks. Many concepts confirming the investigation on the bank profitability and insolvency risks factors will be discussed. According to Sudin (1997) and Sudin & Wan Azmi (2004), the majority of studies related to the factors that determine liquidity and profitability in banks have focused on the following concepts; The Structure-Conduct-Performance (SCP), Relative Market Power (RMP), Efficient-Structure (ES), Balanced Portfolio, Risk Absorption concept, the Moral Hazard of Too Big To Fail, Risk-Return Trade-Off concept, Expense Preference concept, concept of uncertainty, Bad Management, Franchise Value Paradigm, Fragility Crowding out Effect, Fragility Channel, Liquid Assets as a Buffer concept etc.

These concepts are dedicated to bank's performances in terms of liquidity, profitability and insolvency risks and have been used in various studies such as Sudin (2004), Mousa (2007), and Muda, et al (2013). This section developed conceptual framework based on the literature reviewed and concepts discussed. Finally, the chapter develop research hypotheses.

4.2 Risk Absorptions and Financial Fragility Crowding out Effect Concepts (Capital Adequacy)

Two sub-concepts are related to the banks capital, liquidity creation, profitability and insolvency risks; these are; "financial fragility-crowding out effect" and "risk absorption effect." "The fragility-crowding out effect" concept cited a negative relationship between capital and liquidity creation. The concept found an

increase in the bank's capital requirements would hinder liquidity creation by banks. Gorton & Winton (2000), studied the crowding-out effect, they found that providers of cash have two options for investments: (i) saving and (ii) investing directly in illiquid assets. It means that capital ratios increase causes a relatively shifting of funds from liquid deposits to illiquid bank capital, thereby decreasing the overall bank's liquidity creation. Diamond & Rajan (2000) found that the increase in liquidity creation by banks is a result of vulnerable capital structure. Liquid funds from the depositors are collected by the banks and invested in an illiquid asset. Through this process, the banks generate money. However, it left the banks vulnerable to early withdrawal by depositors. When there is a massive demand for withdrawal banks have no option than to sell off illiquid assets (at a lower price) to honor its obligations. As a result of this, low capital ratio or fragile capital structure encourages banks to increase borrowers' supervision strength and regularly absorb deposits. This leads to the creation of more liquidity by banks. Conversely, the "risk absorption concept" suggests that liquidity creation has a positive relationship with the bank's capital. Bhattacharya & Thakor, (1993), and Vonthadden (2004), found that the higher capital enables the banks to absorb risks taking through increase lending. On the other hand, it is expected that an increase in lending can create more liquidity. Allen & Santomero (1998) argues that the increase in liquidity creation by banks leads to higher liquidity risk. In order to avoid high losses as a result of the liquidity risk, banks will increase capital ratios.

According to the above concepts and studies, the effect of capital on liquidity, profitability and insolvency risks produced an inconclusive result. Thus, there is a need for further study on this issue. This study used this concepts to measure the relationship between banks capital, liquidity, profitability and insolvency risks. It is hypothesized that there is a *(i) significant positive relationship between capital adequacy ratio and*

banks profitability (F1). (ii) significant positive relationship between capital adequacy ratio and and insolvency risks (F8). In addition, this study contributes to the research by investigating how bank capital influences financial stability through liquidity. Hence it is hypothesized that there is a positive relationship between capital adequacy ratio and bank's liquidity (C1).

4.3 Balanced Portfolio and Commercial Loan Concepts (Assets Quality)

The portfolio itself is balanced in a way that its overall risk is lower than some of its underlying investments. The covariances among the individual assets determine more of the overall portfolio risk. Therefore, investors can reduce individual asset risk by combining a diversified portfolio of assets. Modern portfolio concept (MP) is a concept on how risk-averse investors can construct portfolios to maximize expected return based on a given level of market risk. Harry Markowitz pioneered this concept in his paper "Portfolio Selection," which was published in the Journal of Finance in 1952. He was later awarded a Nobel Prize for his work on modern portfolio concept. One of the most prominent concept in the studies of banks' performance is balanced portfolio concept (Nzongang & Atemnkeng, 2006). Based on the balanced portfolio concept of diversification of asset, the decision to hold optimal asset in the company's portfolio is a policy based on many factors. These includes a vector of risks associated with the ownership of each financial asset, a vector of rates of return on all assets held in portfolio, and size of the portfolio. The quality of the assets held are mainly determined by sound management policies to reduce the unit costs incurred during the productions (Nzongang & Atemnkeng, 2006). This means diversification of portfolio and preferred composition of a portfolio for commercial banks are results of implemented management decisions. In addition, generating more profits depends on

the qualitative set of assets and liabilities held in the bank's portfolio. This research uses this concept to measure the between assets quality and profitability. The study expects a positive relationship of assets quality on profitability and insolvency risks. *Hence it is hypothesized that there is a (i) significant positive relationship between assets quality and banks profitability (F2), and (ii) significant positive relationship between assets quality and banks insolvency risks (F9).*

As economic concept, the commercial loan or the Real Bills Doctrine evolved from 18th century economic thought, such as Adam Smith's The Wealth of Nations. Smith suggested that real bills were a prudent asset for commercial banks to purchase and hold. The Doctrine is often part of the larger debate about the appropriate role of central banks in managing money supply. Many economists argue, for example, that the recently created Federal Reserve adhered too strictly to the real bills doctrine, contributing to the Great Contraction and Great Depression of 1929-1932. The commercial loan or the real bills doctrine concept states that a commercial bank should forward only short-term self-liquidating productive loans to business organizations. Loans meant to finance the production, and the evolution of goods through the successive phases of production, storage, transportation, and distribution are considered as self-liquidating loans. This concept also states that whenever commercial banks make short term self-liquidating productive loans, the central bank should lend to the banks on the security of such short-term loans. This principle assures that the appropriate degree of liquidity for each bank and appropriate money supply for the whole economy. The central bank is expected to increase or erase bank reserves by rediscounting approved loans. When the business started growing, and the requirements of trade increased, banks are able to capture additional reserves by rediscounting bills with the central banks. When business went down, and the requirements of trade declined, the

volume of rediscounting of bills falls, the supply of bank reserves and the amount of bank credit and money would also contract. *Thus, it is hypothesized that there is significant positive relationship between assets quality and banks liquidity (C2).*

4.4 Efficient Structure Concept (Management Efficiency)

The criticism of SCP concept by Demsetz (1973) and Peltzman (1977) leads to the emergence of Efficient-Structure hypothesis (ES). ES proposed that the bank's efficiency explains the association between the structure of the market and the performance of a bank. Banks that have superiority of management or use highly productive technology lowers their cost and experience an increase in its profitability. The efficiency structure idea is developed based on the fact that the reduction in the management cost through experienced staff and new technologies tends to increase the overall bank's profitability.

Two hypotheses are associated with the efficient structure idea viz: (i) Efficient-Structure-X-efficiency (ESX) and (ii) Efficient-Structure-Scale-Efficiency (ESS). The ESX hypothesis states that superior management practices and high technology usage leads to cost reduction and increase profitability. On the other hand, the ESS hypothesis states that the scale efficiency (i.e. banks operating on a large scale) is the backbone behind the increase in the bank's profitability rather than the quality or superiority of the management. In other words, the ESS hypothesis concluded that banks that have achieved large operational scales incurred lower costs, low operating costs increased profitability. Various scholars used this concept to study the impact of management efficiency on banks liquidity and profitability (Muda et al. 2013). *This study hypothesized (i) a significant negative relationship between management inefficiency and profitability (F3), (ii) a negative relationship between management inefficiency and*

banks insolvency risks (F10) and (iii) a negative relationship between management inefficiency and banks liquidity (C3).

4.5 Signaling Concept (Earning Quality)

Signalling concept was originally developed to clarify the information asymmetry in the labor market (Spence M. 1973). It has also been used to explain voluntary disclosure in corporate reporting (Ross, 1977). The concept argues that the existence of information asymmetry can also be taken as a reason for good companies to use financial information to send signals to the market (Ross, . 1977). Information disclosed by managers to the market reduces information asymmetry and is interpreted as a good signal by the market. With an intent to signal their performance, management of a company will engage in earning management (Sun L, Rath S. 2008). Further, the concept depicts that managers maneuver earnings to convey their inside information about firms' prospects and thus it serves as a signalling mechanism. Managers engaging in earnings management to creating a smooth and growing earnings string over time that will enable them affect the stock price. Studies have modelled some form of information asymmetry and showed earning management as rational equilibrium behavior (Hunt, et al. 1997, Bartov, et. al. 2000, and Lev, 2003). These studies documented signalling evidence of earnings management.

Further, the signalling perspective also implies that earning management is sometimes demanded by shareholders. Beidleman, (1973) and Easton & Zmijewski., (1989) argue that shareholders will demand for earning management for two reasons. First, managers can reduce the cost of capital through a smoother, more predictable income stream. Second, Dye (1988) states that a more stable income stream influences prospective investors' perception of firm value. Easton & Zmijewski., (1989) and

Chaney & Lewis., (1995) revealed that current shareholders will sell their shares to the next generation of future shareholders and managers will act on behalf of the current shareholders and has an incentive to manage earnings for their advantage. Empirically, several studies have studied signalling influence on reported earnings and have concluded that performance measures, namely: profitability, firm size and liquidity, motivate managers to engage in earning management (Watson, et al. 2002, and Haniffa, & Cooke., 2002).

The concept argues that directors who believe their company can perform better than other companies will signal its shareholders in order to attract more investments. Directors may do this in a sort of disclosure in excess of any information that is required by regulations. Signalling concept suggests that when a corporation's performance is good, managers will signal companies' performance to their investors, stakeholders and the market by making disclosures that poorer companies cannot make. By enhancing disclosures, directors wish to receive more benefits: a better reputation and the firm's value will increase (Abdulla, 2011). Applying this scenario in the banking sector will reveal a positive relationship between earning management and banks overall profitability. This is possible because by signalling to the shareholders a positive earnings, the banks will be attractive to the investors, an increase by the investors will have a positive impacts on the banks earnings and its overall profitability. Accordingly, *this study hypothesized (i) a significant positive relationship between earnings quality and banks profitability (F4) (ii) a significant positive relationship between earnings quality and insolvency risks (F11) and (iii) a significant positive relationship between earnings quality and banks liquidity (C4).*

4.6 Uncertainty Concept (Inflation)

The assertion made by the efficient market hypothesis is that markets incorporate all known information and instantly change to reflect new information. The hypothesis has been challenged in the fallout from nearly all of the recent episodes of financial crisis. Before turning to the alternative, it is important to describe the terminology and the setting used in this section. Market prices reflect the “known information set”, which comprises all information, all knowledge, and all experience available at the time. In addition to the “known information set”, there is also information, knowledge, and experience that is unavailable at the time and will be further referred to as the “unknown information set”. The core point is that in an efficient market the “unknown information set” is not and cannot be reflected in market prices. The notion that markets are always right in their present discounting of the future state of affairs is only correct with reference to the “known information set”. The use of the term “right” is, thus, different to its usage in common discourse. The rightness or correctness of markets is restricted exclusively to available information, available knowledge, and available experience at the time. Although market prices are based on the “known information set”, both information sets, also the “unknown information set”, are relevant for understanding the sources of market instability.

The two information sets are affected by two antagonistic processes. First, over time new information and new knowledge become available, so the “known information set” expands and the “unknown information set” contracts. Second, as the socio-economic system constantly changes, available information and knowledge become outdated, and thus the “known information set” shrinks and the “unknown information set” expands. Whenever new information becomes available, efficient market prices adjust to it. This process usually occurs in slow adjustments as bits and pieces of new

information, knowledge, and experience enter the “known information set”. However, it cannot be excluded that some new information, new knowledge, or new experience will be of such significance that it will substantially alter previous beliefs about the socio-economic state of affairs. Thus, whenever the “known information set” is undergoing a substantial change, it is natural to expect substantial revaluations of efficient market prices. Substantial changes in information and knowledge can occur gradually over time, but they can also occur suddenly. When this happens, it is natural to expect market prices to change substantially in line with the changes in the “known information set”. As a rule of thumb, the bigger is the “public awe” related to new information, new knowledge, or new experience the more impactful is the rebalancing of the “known information set” and market prices.

In a market economy there is always an element of uncertainty that the “known information set” could change substantially, or to put it differently, that the “unknown information set” may contain some substantial information, knowledge, or experience that could in the future significantly alter the “known information set”. Thus, the “unknown information set” conceptually represents the uncertainty of the correctness of efficient market prices. Since there is no ultimate knowledge, prices in efficient markets can never be completely correct or right. The validity of efficient market prices should always be understood as implicitly uncertain. The concept of market uncertainty is deducible from the basic postulates of the prevailing paradigm, but interpreted in this way it allows us to view the markets from a different dimension that is necessary to interpret market behaviour and market instability. It is important to stress that market uncertainty is not related to market risks, since the measured market risks are part of the “known information set”. Market risks do not challenge the validity of efficient market pricing, because as part of the existing knowledge set they are incorporated in market

prices. The validity of efficient market prices is challenged by the lack of information, the lack of knowledge, and the lack of experience. Under the market uncertainty theorem, market behaviour is interpreted with reference to market prices and market uncertainty. Market price is based on available knowledge and market uncertainty conceptually represents the uncertainty of the validity of that knowledge.

This research used uncertainty hypothesis explained above to study the relationship between inflation and bank's liquidity, profitability and insolvency risks. When inflation is high, the cost of goods and services is high while the income remains constant. In his study, Perry (1992) suggests that the degree in which inflation affects bank profitability rests on whether inflation is anticipated or unanticipated. If it is anticipated, the bank managers can prepared to take the necessary adjustments in their interest rates in order to increase their revenues over costs. This will lead to higher profits (positive). However, if banks do not adjust their interest rate on time, their costs may exceed their revenues which will lead to a reduction in profits (negative). This study assumed that the banks did not anticipates any inflation. *Thus, it is hypothesized that there is; (i) a significant negative relationship of inflation on banks profitability (F5), (ii) a significant negative relationship of inflation on banks insolvency risks (F12), and (iii) a significant negative relationship of inflation on banks liquidity (C5).*

4.7 Life-Cycle Concept of Consumption (Gross Domestic Products)

Life-cycle concept of consumption developed by Franco Modigliani and his student Richard Brumberg in the early 1950s and extended further by Lawrence in 1995 (Deaton, 2005). The concept explains that probability of default depends on the GDP, unemployment rate and inflation rate and the amount of loan taken. Thus, when the GDP is stable, the banks are expected to have enough liquidity, profitability and stability

as the customers repaid the loans taken on time. Accordingly, this study expect the GDP in Malaysia to be stable over forceable future and thus, *hypothesized (i) a significant positive relationship between GDP and banks profitability (F6) (ii) a significant positive relationship between GDP and banks insolvency risks (F13) (iii) a significant positive relationship between GDP and banks liquidity (C6).*

4.8 Structure Conduct Performance (SCP) vs Relative Market Power Concepts (Concentration Risk)

Initially, the Structure-Conduct-Performance (SCP) was developed by Bain (1968). He argues that the performance of the industry depends on the firm's conduct, and the performance conduct depends on the markets structure. A highly concentrated market influences a firm to conduct itself in a confident manner. This will better improve the firm's performance (Goddard et al., 2004). Moreover, the concentration level determine the firms' profits. The concept of SCP posits that the level of concentration of the market is the major factors that determine firms' performance (profitability).

SCP is used as a framework to analytically presents relations amongst the performance of the market, the structure of the market, and the conduct of the market. The SCP model is viewed as a pillar of "industrial organization concept." Since its inception, the concept has been a starting point for markets and industries analysis in Economics, as well as business management. For example, the main line of Michael E. Porter's researches on competition based mainly on-premises derived out of this paradigm.

Through this perspective, industry performance is determined by the firm's conduct within the industry's boundaries and, in turn, depends on the market structure.

With this, both consumers and society are considered as the potential benefits to market performance. The origin of the structure conduct performance framework was from the neoclassical market analysis, in which SCP concept posits that, price and product quality are the main outcomes of firms' performance and depend on the market conducts e.g. pricing behavior, legal tactics, merger and acquisition. SCP concept was first used by a manufacturing firm, the banking sector later adopted it in the 1960s to measure their performance (Sudin, 1996). Many researches in 1970s and 1980s continued to study the banks' performance based on the SCP concept (Bourke, 1989; Molyneux & Thornton, 1992; Abreu & Mendes, 2002; Mamatzakis & Remoundos, 2003; Girardone, 2004; Goddard et al., 2004; Athanasoglou, 2006; Kosmidou et al., 2006; Athanasoglou, 2008; Dietrich & Wanzenried, 2009).

The SCP concept has been countered by the Relative Market Power (RMP). Debate on the advantages of market share rather than market concentration as a criterion of the market power is proposed by Shepherd in 1972. This leads Rhoades (1997) to develop a phrase called "relative market power". Relative Market Power (RMP) concept proposes that firm that have a greater market share and well-differentiated products tend to be efficient and earn higher profits. Furthermore, a relatively large market share for firm benefits them from the exertion of market power, independent of market concentration.

Shepherd (1972) discussed the advantages and disadvantages of higher market shares and profitability by raising the neoclassical expectation of higher market share, which leads to higher profitability. In order to explain profitability, Shepherd used a regression model with size, market share, advertising intensity as well as growth as independent variables using the Fortune directory of the 500 largest firms. The findings indicated a significant positive relationship between market share and profitability. In

addition, a positive and significant relationship is noticed between both advertising intensity and growth with profitability.

Many scholars contributed to this area, including; Gale (1972), Dalton and Levin (1977), Porter (1979), Ravenscraft (1983), and Rhoades (1995). These researchers followed the same procedure with Shepherd by using regression models relating the determinants factors with profitability. Gale (1972) concluded that high concentration in the form of high market share has a positive relationship with high rates of return and the effect of share on profitability depends on other firm and industry characteristics. Dalton & Levin (1977) concluded that, Market shares and profit rates are directly related only in the high concentration subgroups. When concentration is low (i.e. there is competition in the market), market share and rates of return are not related (this postulates an insignificant relationship between low concentration and profitability). On the other hand, employing LB regression, Ravenscraft (1983) concluded that, high concentration's effect on profit is significant and negative in the LB regression model.

In overall, the scholars used the market power concept and SCP concept to study banks performance using both bank specific factors and macroeconomic factors.

This study used HHI to measure the concentration ratio. The main reasons as explained in section 3.3.7 for using HHI is to capture the degree of concentration of market share in the banking sector, a high value of this ratio indicates that banks in Malaysia are concentrated while a low value shows that the banks are competitive. Accordingly, other bank specific factors (i.e. Capital adequacy, assets quality, management efficiency, earnings quality liquidity etc.) that are used by banks to acquire large market share that led to the concentration are examined using this concepts. This study will follows the above concepts to examine the bank's performance in terms of profitability as done in previous researches. Thus, the study hypothesized (i) a

significant positive relationship between concentration and banks profitability, (F7) (ii) a significant positive relationship between concentration and banks insolvency risks (F14), and (iii) a significant positive relationship between concentration and banks liquidity (C7).

4.9 Risk-Return Trade-Off Concept (Liquidity Risks)

The capital market concept views risk-return trade-off as a mechanism that can eventually lead to equilibrium. It means higher risk is associated with higher returns and vice versa. Researchers such as Fama & MacBeth (1973); and Ghysels, et al, (2005) extensively analyzed this relationship in the context of liquid assets that are being traded in an organized market. However, a little is known about the implications of this behavior on the bank's risk managers and profit maximizers. Behr et al. (2007) and Hayden, et al, (2007) and others analyzed the aggregate profits of the banks. The finding shows that more specialized banks have higher returns; however, they took a higher risk level. Accordingly, this study aims to use this concept to measure the trade-off between banks' liquidity and profitability in Malaysia and it *hypothesized (i) a positive relationship between the bank's liquidity and profitability (F15) and (ii) a significant positive relationship between the bank's liquidity and insolvency risks (F16).*

4.10 Concept of Moral Hazard of Too Big to Fail (2008 Financial Crisis)

Although recently, there is sharp explosion in interest, “too big to fail” in banking remains an unclear concept, “too big to fail” is caused by the fact that financial system as it exists today, is structured in such a way that failure of big financial firms leads to the large, undesirable external effects. The crisis results in the disruption of the financial system stability and the inability of the system to provide households and

businesses with credit and other essential financial services. Consequently, the financial sector disrupted, and the troubles spread over into the real economy.

When the market value of the bank's assets is lower than its deposits and other debts, the bank is considered economically insolvent. This leads to the bank's net worth to be negative and negatively affects its ability to pay off its creditors on time. Under standard resolutions, in such an event, the charter of the bank will be terminated, and it will be placed on receivership. The bank's shareholders take the position of first to lose their shares in the bank. Subsequently, depositors and other creditors accrues two types of losses based on the legal priorities: 1) credit losses, explained as the pro-rata shortfall of the proceeds of the assets from the par value of the deposits and other counterparty debt claims and 2) liquidity losses, which is delays in the receipt of the proceeds of the realized recovery amounts. This research will use this concept to investigate the effect of the 2008 world financial crisis on the bank's liquidity, profitability and insolvency risks in Malaysia. It is expected that the 2008 financial crisis negatively impacted on the bank's profitability, insolvency risks and liquidity in Malaysia.

4.11 Conceptual Framework

The relationship between the factors that determine liquidity, profitability, and insolvency risks is captured through several concepts. Figure 4.1 and 4.2 shows the relationships for these concepts connected diagrammatically. As for the model I specifications (i.e., X on Y), generally, the Structure-Conduct-Performance, Relative Market Power, Efficient-Structure, Balanced Portfolio concept, Expense-Preference Behavior, are concepts widely used in the empirical studies of factors that determine bank profitability such as Sudin (2004), Mousa (2007) and Muda, et al (2013). However, many researchers do not restrict themselves to use only the bank specific

factors as the possible explanatory variables of bank profitability. Macroeconomic factors that include the annual inflation, gross domestic product growth and the GDP per capita are widely used.

For model II specifications (X on M), generally, the researchers employed the “balanced portfolio concept” to examine the relationship between a bank specific factors and macroeconomic factors and the bank's liquidity. In particular, the relationship between capital and bank liquidity is facilitated by the ‘Risk Absorption concept’; a relationship between banking crisis and liquidity is facilitated by “moral hazard concept,” while the relationship between asset quality and liquidity is facilitated by “commercial loan concept.” As for M on Y, the researchers generally also used the “risk-return trade-off concept” to examine the relationship between bank liquidity and profitability.

Furthermore, Figure 4.1 and 4.2 indicate the proposed conceptual model. Bank liquidity (M) in this study measured by LCR and NSFR is the mediator latent variable for the relationship between factors that determine liquidity (X) and bank profitability and insolvency risks (Y). X, M and Y are referred to as variables that will be measured by clear indicators, $x_1..x_3$, $m_1..m_3$ and $y_1..y_3$, respectively. The structural model equation is $Y = \beta_0 + \beta X + \beta M + \varepsilon$, where: Y is the endogenous variable, β is the vector-matrix of regression coefficient to the vector of exogenous variables X and M, and ε is the residual for the structural equation model (inner model). The standard error and the estimation parameter in the structural model are estimated using the bootstrap procedure

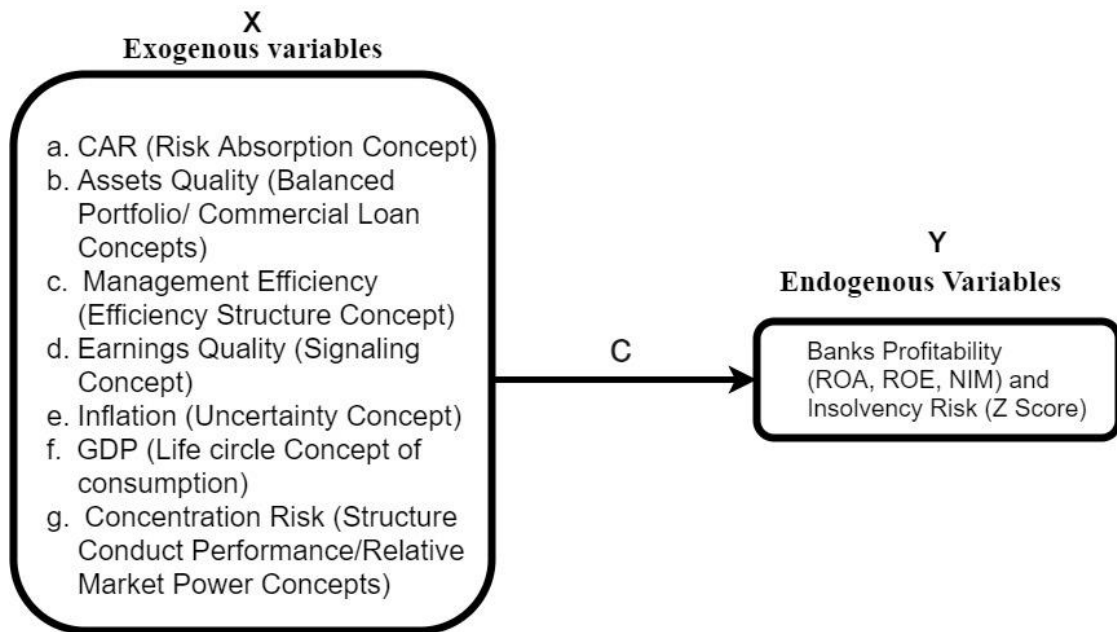


Figure 4. 1: Direct relationship between the bank specific factors and macroeconomic factors and bank profitability and insolvency risks

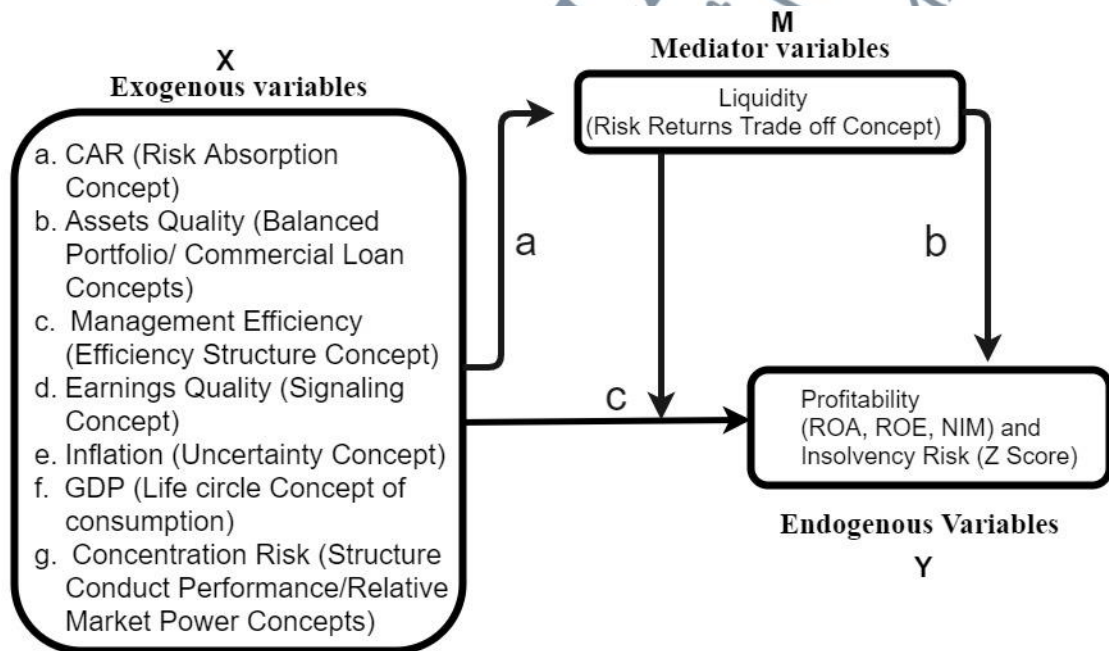


Figure 4. 2: Mediating effect of liquidity between the relationship of bank and macroeconomic specific factors and bank's profitability and insolvency risks.

Hypotheses Development

- i. H1: Relationship between the bank specific factors and macroeconomic factors and banks profitability (RO1) (F1-F7)
- ii. H2: Relationship between the bank specific factors and macroeconomic factors and the banks' insolvency risks (RO1) (F8-F14)

- iii. H3: Relationship between the bank specific and macroeconomic factors and the banks' liquidity (RO2) (C1-C7)
- iv. H5: Effect of liquidity on the profitability and insolvency risks (RO3) (F15-F16)
- v. H4: Effect before and after the crisis period based on their liquidity, profitability and insolvency risks (RO4).

4.12 Summary of the Chapter

The major concepts of the bank's performance and liquidity were reviewed and based on it, conceptual framework for this study is developed in this chapter. Figure 4.1 (i.e. X on Y) shows the direct relationships for these concepts and variables connected diagrammatically. Furthermore, figure 4.2 (i.e., X on M and M on Y) show the mediating conceptual framework of the study. The relationship between bank concentration and profitability is represented by Relative Market Power concept and Structure-Conduct-Performance. On the other hand, the relationship between management efficiency and bank profitability is represented by Efficient Structure (ES) concept and expense preference concept, assets quality is represented by "balanced portfolio concept". Earnings quality is represented by signalling concept, inflation is represented by uncertainty hypothesis while GDP is represented by life circle concept of consumption. On the other hand, the relationship between capital adequacy ratio and bank's liquidity is captured through the risk absorption concept. However, the researchers also did not restrict themselves to only the relationship between capital and liquidity; several other bank specific factors and macroeconomic factors were used to analyze this relationship. The relationship between liquidity and profitability is analyzed using the risk-return trade-off concept

Based on the above concepts, the conceptual framework as well as research hypotheses of the study were developed.