Financial Viability of Banks in Emerging Economies: A Literature Review

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Abstract: Currently, with the implementation of Basel III accord for banking system, occurrence of adverse events like financial crisis & bank failure in the world economy, increased level of competition and globalization, there is a need for more studies relating to the success and failure of banks especially in emerging economies. This study adds to the literature by investigating the role of banks’ survival in the well being of financial system in developed as well as developing countries. This also examines the financial viability and its main dimensions that affect the successful survival of banks. The paper first introduces conceptual framework of financial viability in context of banks. And then discusses the proposition after reviewing the relevant studies occurred during the last few decades. The findings indicate that three main dimensions (liquidity, profitability and solvency) describing financial viability of banks have a significant influence on the successful survival of banks in emerged as well as in emerging economies.

Key Words: Liquidity, Profitability, Solvency, Viability, Distress and Commercial Banks

I. INTRODUCTION

Banks play an imperative role in the economic life of the nation. The wellbeing of an economy is strictly interconnected with the soundness of its banking system [1]. Banks help in proper allocation and optimum utilization of financial resources in the society. All over the world, there has been an extensive work on the performance of the banks done by various researchers [2], [3], [4], [5] and [6]. These authors have used different methods to analyze the performance of the banks in different economies during different time periods. The studies also attempted to compare the performance of the banks across the different categories of the banks, public, private and foreign banks.

A sea level changes has taken place in the banking environment since the initiation of reforms in the banking sector across the world. Globalization, deregulation, financial innovation and automation have been the major forces leaving their impact on the performance of the banks [7]. Emerging economies are being no exception. The main objective of these reforms is to increase the operational efficiency of the banking sector. Financial liberalization has been found positive effect on the performance of the banks [8]. Subsequently, a number of studies have been conducted to examine the efficiency and productivity of the banks.

Over the past years, the bank regulators have introduced a number of measures to link the regulation of commercial banks to the level of risk and financial viability of these banks [9]. A simulation of liquidity and
solvent contamination reveals that failure of large banks can significantly impact the banking system. An analysis of the components contributing to banking stability shows that tight liquidity, deteriorating assets quality and reducing soundness are the major contributors to the decline in the stability of the banking system [10].

During the last few years, the global economy has been experiencing high profile cases of bank failure. Consequently, there has been increasing attention being paid to the successful survival of the banks [11]. Indeed Basel Committee on Banking Supervision (BCBS) has also stressed for the need to study, understand and improve the solvency and soundness of the banks in different economies of the world. Financial viability of banks is a matter of policy concern, especially in developing counties because here the failure in financial intermediation can disrupt the whole development process [12]. So the present study is an attempt in this direction to review the existing and relevant literature in this particular issue.

II. OBJECTIVES AND METHODOLOGY
The primary objective of the present study is to provide a brief review of empirical work on the financial viability and various aspects related to successful survival and failure of banks across different countries of the global economy. Research in this area would add to one’s understanding of the factors that affect the successful survival of banks. It would also helps in assessing the strengths and weakness of extensively used models in banking.

III. CONCEPTUAL FRAMEWORK OF FINANCIAL VIABILITY
Financial viability of the banks is related to the consistent performance of the banks that ensures the long term survival of the banks. It mainly depends on the ability of the banks to cope up with the challenges by optimum utilization of resources, through the timely solution of the financial problems by reducing the operating expenses and by improving the quality of their loan portfolios. Financial viability assessment is a crucial condition for solvency, soundness of the banks and also to ensure the low probability of bankruptcy in the banking system. Liquidity, profitability and solvency are the three main dimensions of financial viability that ensures the successful survival of banks. These dimensions are extensively reviewed as under:

A Liquidity and Financial Viability of Banks
Basel Committee on banking supervision defined liquidity as the ability of bank to fund increase in assets and meet obligations as they come due without incurring unacceptable losses [13]. Nikolaou discussed different types of liquidity i.e. central bank liquidity, funding liquidity and market liquidity and their relevant risks [14]. The study found that the main causes of liquidity risks lied in information asymmetries and also due to existence of incomplete markets. The study concluded that central bank liquidity played important role in managing a liquidity crisis. An illiquid bank could rapidly become insolvent and an insolvent bank became illiquid. Goodhart examined the liquidity risk management in the banks of France and pointed out that liquidity and profitability are indistinguishable [15]. Similar study had been conducted by Malviya and Mishra on liquidity and liquidity risk management in case
Indian commercial banks. He put forward the Basel committee recommendations for liquidity risk management [16]. The study concluded that liquidity risk management was essential as the liquidity risk could give rise to the crisis at any time.

Barua assessed the liquidity position of commercial banks in Bangladesh for the period of 1980s and 1990s [17]. He pointed out that the liquidity shortage was hasty by the expansion of economic activity; increase in import and investment activity and also from excessive government credit from the banking system. A study carried out by Bordelean and Graham analyzed the impact of liquid assets holdings on bank profitability for a sample of large US and Canadian bank [18]. The study concluded that profitability was improved for banks having some liquid assets. But after a point holding more liquid assets diminished the bank’s profitability. Cornett et al. studied how banks managed the liquidity shocks that occurred during the financial crisis of 2007-2009 by adjusting their holdings of liquid assets [19]. The study found that bank with high liquid assets and stable sources of income continued their lending to other banks. The study concluded that efforts to manage the liquidity crisis by banks led to a decline in credit supply. On the same line of thought Cetorelli and Goldberg evaluated the importance of globally active banks in linking market [20]. It highlighted how a bank managed liquidity across their entire banking organization. When the bank hit by a funding shock, reallocate liquidity in the organization according to a locational pecking order.

Agbada and Osuji investigated the efficiency of liquidity management and banking performance in Nigeria [21]. The study found a significant relationship between efficient liquidity management and banking performance. The study concluded that efficient liquidity management could enhance the soundness of banks. The results of Kumar and Yadav supported the results of preceding study that a close association between liquidity and solvency of banks [22]. Liquidity risk is one of the reasons for financial distress and it cannot be ignored. Ratnovski examined the role of liquidity and transparency in risk management of banks [23]. The study pointed out that liquidity buffer had provided complete insurance against small shocks while transparency covered large shocks. The liquidity requirements could compromise bank’s transparency and increase refinancing risk. On the basis of above literature, following proposition can be advanced:

**Proposition 1:** Liquidity does have a varying impact on the financial viability of the banks.

**B Profitability and Financial Viability of Banks**

Kheechee defined profitability as an index of profits expressed as the rate of return on funds [24]. According to Qin and Pastory profitability in commercial banks is determined by the ability of the banks to preserve capital, absorb loan losses, sustain future growth of assets and provide return to investors [25]. Coyne carried out an empirical study on bank profitability using data collected from 510 chief executive officers from different commercial banks [26]. He analyzed the cost, price and profit functions using real estate, installment, commercial and agricultural loans for banks stratified by size of deposits. The study found that using different approaches bank could determine its most profitable lending functions. Verghese evaluated the profits and profitability of Indian commercial banks after nationalization [1983]. The study found that there was a declining trend in the profitability and productivity of banks.
The study suggested for reversing this declining trend to ensure the financial viability of Indian commercial banks. In the similar study, Flamini et al. analyzed the profitability of 389 banks in 41 Sub Saharan African countries [28]. The study found that credit risk, return on assets was significantly associated with larger bank size, activity diversification and private ownership. The study supports to the policy of imposing higher capital requirements in the region in order to strengthen financial stability.

Several factors have different impact on the profitability of the banks. The determinants of bank profitability varied from country to country. Short examined the relationship between profit and concentration of banking market in the 60 banks selected from Canada, Western Europe and Japan [29]. The study found that greater market power led to higher profit rates among the banks. The study also found that institutional and legal environment had small effect on the concentration and thus on bank profit rates. Bourke carried out a study on the determinants of international bank profitability in the banks of Europe, North America and Australia [30]. It had extended the earlier research of Short (1979) and support the results that concentration was positively and significantly related to banks’ profitability. The study of Molyneux and Thornton conducted across 18 European countries between 1986 and 1989 confirmed the traditional theories of US concentration and bank profitability [31]. The study found a significant and positive relationship between return on capital and bank concentration. Bashir analyzed the impact of bank characteristics and overall financial environment on the performance of Islamic banks across 8 Middle Eastern Countries between 1993 and 1998 [32]. The study found that implicit and explicit taxes had negative impact on the profitability of banks.

Similarly, Ketkar and Ketkar assessed the impact of various market and regulatory initiatives on the profitability of Indian commercial banks for 1997 to 2008 using data envelopment analysis technique [33]. The study concluded liberalization and deregulation of banks had raised the efficiency and profitability of Indian banks over the time. Different authors investigated the effect of bank specific and macro-economic determinants of bank profitability [34], [35], [36]. They found that bank specific variables as capital adequacy and cost efficiency significantly affect the bank profitability while macro economic factors had no significant effect on the bank profitability. Kheeechee compared the profitability of different groups of commercial banks in India for 2003-04 to 2009-10 [24]. The study found a significant difference in the profitability of public, private and foreign banks. Rao and Lakew carried out a study to explore key factors that influence the profitability of commercial banks in Ethiopia over the period of 10 years (1999-2000 to 2008-2009) [37]. The study found that internal factors are the most determinant factors of bank profitability while external factors did not have any significant impact on bank profitability. The results are supported by Erina and Lace that the profitability of banks is significantly affected by operational efficiency, portfolio composition and management while negatively related to credit risk, GDP had a positive impact on profitability of banks [38]. Hence, the following proposition is developed:

**Proposition 2:** Profitability does have a varying impact on the financial viability of the banks.
C Solvency and Financial Viability of Banks

Solvency of banks means ability of the bank to meet its long term fixed expenses and accomplishing long term expansion and growth plans. Solvency is related to the ability of the banks to withstand the shocks [39]. Said and Saucier assessed the liquidity, solvency and efficiency of Japanese banks for 1993 to 1999 using CAMEL model and DEA technique [2]. The study found that the major problem of bank failure in Japan was not the inefficiency of the management but the considerable problems in capital adequacy and also in assets quality. Solvency of bank matters because it gives some indication of how the financial problems would be transmitted to the real economy [40]. Das and Ghosh used Keynesian macro model to analyze the impact of direct lending on the profitability and solvency of banks [12]. The study found that under certain conditions a programme of direct credit helped to raise the banks’ profitability but in some other instances it led to low level of bank profit and also threatened the solvency of banks in the long time period. Lvicic et al. investigated the impact of macro-economic and bank specific variables on bank solvency of 7 Central and Eastern European countries for 1996-2006 using Z score [41]. The study found that during the last few years the bank stability had risen in all CEE countries covered in this study. Sinha et al. evaluated the financial health of 15 Indian commercial banks using Z score [42]. The study found that the probability of book value insolvency in Indian banks had been reduced over the years and this is lower in public sector banks as compared to the private sector banks. Similar study had been conducted by Aneja and Makkar on the book value insolvency of 47 Indian commercial banks for the period of 2006-11 [43]. The study found that public banks are less prone to book value insolvency as compared to private sector banks. The study found that bank size is the major determinants affecting the solvency of Indian banks. Ghosh analyzed the inter connection among credit growth, bank soundness and financial fragility of Indian commercial banks for 1996-2008 [44]. The study found that high credit growth could enlarge bank fragility. Sound banks could increase loan supply. The study also found that credit growth was rapid in state owned banks as compared to the private sector banks. Makkar and Singh evaluated the solvency of 37 Indian commercial banks from 2006-07 to 2010-11 using Bankometer model [45]. The study found that private sector banks are sounder as compared to the public sector banks. Bankometer model had helped the banks’ internal management to control the insolvency issues. Jobst et al. studied the solvency stress testing framework that is being applied on the banking system in the member countries supervised by IMF [46]. The study concluded that standardization of stress tests across countries was likely to remain restricted. These stress tests should be properly exercised to enhance the solvency level in these member countries banking system. Following proposition can be proposed on the basis of above discussion:

Proposition 3: Solvency does have a varying impact on the financial viability of the banks.

D Overall Performance of Banks and their Survival

Performance of the banks indicates the financial strength and weakness of the banks by properly establishing the relationships between the items of balance sheet and profit & loss account [47]. It is a function of multiple factors
such as capital adequacy, assets quality, management quality, earnings and liquidity position. Mukherjee et al. explored the efficiency and performance of commercial banks in India [48]. The study concluded that high level of NPAs, slow decision making, overstaffing, lack of training were the major causes that affected the efficiency and performance of banks negatively. Sufian examined the relative efficiency of domestic and foreign banks’ Islamic banking operations in Malaysia using data envelopment analysis technique [4]. The study concluded that domestic Islamic banks were more efficient as compared to foreign Islamic banks. Similar results were found in the study of Tamimi and concluded that there was a significant difference in the national and foreign banks risk assessment practices of UAE [49].

Ramanathan assessed the performance of 55 banks operating in 6 different Gulf Co-operation Council (GCC) countries for 2000-2004 using data envelopment analysis [50]. The study found that out of 55 banks only 15 banks were efficient under constant return to scale assumption. Kumar and Gulati evaluated the technical efficiency of 27 public sector banks operating in India for 2004-2005 using data envelopment analysis technique [51]. The study found that only seven banks out of 27 banks were technically efficient. Atikogullari examined the Turkish banking sector for 2001 to 2007 using CAMEL model [5]. The study found that profitability and efficiency of banks had improved during the crisis while capital adequacy, assets quality and liquidity level had deteriorated due to financial crisis. Papadopoulos and Karagiannis explored the issues of efficiency, economies of scales and technical change in Southern European banking for 1999 to 2004 using stochastic cost frontier approach [2009]. The study found that large banks were the lesser efficient as compared to small banks. The study also found that there existed no significant no difference between public sector banks and private sector banks in case of risk and capital employed. The results of Akhtar were contradictory who estimated data envelopment analysis efficiency scores for banks in Saudi Arabia. The study found no significant difference in the efficiency of large and small banks [7].

Sangmi and Nazir compared the financial performance of Punjab National Bank and Jammu & Kashmir bank in India for the period of 5 years (2001-2005) using CAMEL model [53]. The study found that both the banks are financially viable and performing well. On the similar thought Tatuskar compared the performance of public and private sector banks of India for 2006 to 2010 using CAMEL rating methodology [54]. The study found that public sector banks had performed well on each CAMEL parameter as compared to private sector banks. Raiyani explored the impact of mergers on the efficiency and productivity of Indian commercial banks using the data of 5 years before the merger and 5 year after the merger [55]. The study found that private sector merged banks were performing well in case profitability and liquidity over the public sector banks while these banks lagged behind from public sector banks in case of capital adequacy and non-performing assets. Tamimi and Charif assessed the performance factors affecting 38 commercial banks of UAE from 1996 to 2005 [56]. The study concluded that equity to assets was the most important performance indicator along with bank size that affected the performance of UAE banks.

Shar et al. evaluated the performance and efficiency of the banking industry during pre and post nationalization in state owned and private commercial banks of Pakistan for 1982 to 2002 [57]. The study found a positive impact of reforms on Pakistani banking sector. The study concluded that soundness of banks had improved during this period. Similar results were found in the studies of Dincer et al. [58] and Reddy [9] that liberalization had positive impact
on the performance of the banks in Turkey and India. Nyamongo and Temsegen investigated the effect of corporate governance on the performance of 37 commercial banks in Kenya for 2005-2009 [11]. The study found that large board size tended to impact the performance of banks negatively. The study concluded that ownership had a critical impact on the bank governance. Thus, following proposition can be stated:

**Proposition 4:** Performance does have a varying impact on the financial viability of the banks.

### E Successful Survival versus Distress and Failure of Banks

According to Elebute distress in banking sector is observed when a quite reasonable proportion of banks are unable to meet their obligations to customers, owners and the economy, due to weakness in financial, operational and managerial capabilities which made them either illiquid or insolvent [59]. Bank is defined as distressed if the ratio of its non-performing loans to total loans is in the two highest deciles of the industry using a three year moving average [60]. According to Betz et al., a bank is defined to be in distress if it receives a capital injection by the state or participates in assets relief programmes (assets protection or assets guarantees) [61]. The assistance is given in the form of assets and liabilities are not included in it. Hence it does not include liquidity support or guarantee of bank liabilities. Alam et al. used the fuzzy clustering and two self organizing neural networks for identifying the potentially failing banks [62]. The study found that both the fuzzy clustering and self organizing neural networks were very useful and self organizing neural network were very useful classification tools for identifying potentially failing banks. Muranda examined the relationship between financial distress and corporate governance [63]. The study found that adequate board monitoring, senior management oversight helped to remove the financial distress. The study concluded that failure of bank in corporate governance discarded the survival of banks.

Cipollini and Fiordelisi examined the impact of bank concentration on the financial distress of 180 European commercial banks over the period of five years (2003 to 2007) [64]. The study found positive effect of bank concentration on the financial distress of banks. Cole and Wu compared the hazard or probit model for predicting financial distress in US banks for 1985 to 1992 [65]. The study concluded that the firm specific characteristics were the major determinants of bankruptcy or failure as compared to the macro economic variables. Segoviano and Goodhart analyzed the financial stability indicators of the financial system from three complementary perspectives: common distress in the system, distress between specific banks and cascade effects associated with a specific bank [66]. The study concluded that this new approach was helpful in improving the density of financial distress for developed as well as developing countries. Okezie assessed the relationship between the capital ratios, leverage ratios, gross revenue ratios and financial distress in Nigerian banks from 1991 to 2004 [67]. The study found that there was no significance difference in the efficiency of three different ratios in distress prediction. Zaki et al. assessed the probability of financial distress in UAE banks during 2000 to 2008 [68]. The study found that cost to income, equity to total assets, assets growth, loan loss reserve ratio had positive impact on the probability of
financial distress. The study concluded that macroeconomic information had no significant impact on the probability of financial distress of banks in UAE.

Hunsa and Rahman compared the Islamic banks and conventional banks to select the financial distress detection model for Islamic banks [69]. The study found that Islamic banks were more liquid and less risky as compared to conventional banks. The study concluded that good performance of Islamic banks did not guarantee for Islamic banks to escape them from financial distress situation. Obamuyi analyzed the nature and extent of banking distress in Nigeria [70]. The study concluded that recent consolidation of central bank on heavy capital did not ensure the financial stability. This was mainly due to implementation problem. Tamimi investigated the impact of corporate governance on the financial performance and distress of UAE national banks [71]. The study found that UAE banks were aware of disclosure, transparency, executive compensation and role of the board of directors. The study found no significant difference in the disclosure practices of conventional banks and its Islamic banks. Jim and Simone used the consistent information multivariate density optimization (CIMDO) methodology to predict bank defaults among 32 European banking systems [72]. The study measured the credit risk common to all banks, credit risk in the banking system conditional on distress. The study concluded that this credit risk model was a rich set of indicators for a macro prudential operational framework based on banks default dependence. Hence, the following proposition can be advanced:

**Proposition 5:** Distress does have a varying impact on the financial viability of the banks.

F Viability of Banks during Financial Crisis

Banks are sensitive to economic shocks and sudden changes in the economic activity make them prone to failure not only during the periods of crisis, but on later years also [73]. Large number of banks failed in the world during crises of 2008, only in U.S. 252 large and small banks lost their existence with the total assets of US $159 billion [74]. Insolvency of several banks in the world economy has shown its impact on the different country’s economy separately and adds to the crisis in general. It has made the banking sector vulnerable and resulted in to remarkable changes which are apparent to be uncertain in nature. Somoye et al. examined the impact of macro-economic instability on the banking sector lending behaviour in Nigeria [75]. The study concluded that bank lending has a long run relationship with the macro-economic instability. Erdem investigated the performance of Turkish banking system during the financial crisis of 2008-09 [76]. The study found that crisis had no significant impact on Turkish banks. The main credit to strong performance of Turkish banking system was given to good regulation and risk management of Turkish Central bank.

Shaikh concluded that Indian economy has been hurt by the global financial recession, but Indian banks are in a better position with quick recovery and for future growth than many of the other economies as Indian banks did not have significant exposure to sub-prime loans as the US [77]. Ganapure and Gaikwad assessed the impact of global recession on Indian banking industry [78]. The study concluded that these shocks are not vulnerable to Indian banking sector as compared to US, UK, West European and Japanese banking system. Idier et al. evaluated the bank equity volatility, tail market risk and bank financial structure [79]. Panel of 65 large U.S. commercial banks had
been analyzed over the period of 1996-2010 using regression analysis. The study found that profitability, asset quality, interbank loans and bank size are important variables affecting the sensitivity to market risk significantly. Eichengreen and Gupta analyzed the impact of global financial crisis on Indian banks survival [80]. The study found that Indian banks remained insulated from the global financial crisis due to heavy public ownership and cautious management. Makkar and Singh examined the stock return behaviour of two Indian commercial banks SBI and ICICI during the period of financial turmoil [45]. The study found that stock price of ICICI bank was more affected by the recent crisis as compared to the SBI bank. Main reason for less affect of crisis on SBI stock prices is its public ownership and trust of its deposits on it. Following statement can be proposed on the basis of above discussion:

**Proposition 5**: Crisis does have a varying impact on the financial viability of the banks.

**IV. CONCLUSION**

The evidence suggests that financial viability of the banks is very crucial concept as it ensures the successful survival of the banks. It is particularly important in emerging economies because banks are the barometer of economic growth in these countries. As such, this is reflective from the findings of researchers on the different studies of bank performance. The three main dimensions of financial viability have created a smooth framework for the bank since they cover the particular variables crucial for long term survival of banks. The study highlights that the efficient management of liquidity and profitability enhances the solvency and soundness of the banks.

The study also found significant relationship between profitability and bank concentration. The internal factors like operational efficiency, portfolio composition and management are the major determinants of banks’ profitability while external factors (GDP growth rate and inflation) have no significant effect on the profitability of banks. High credit growth could enhance bank fragility. So the bank regulators are suggested to take care of liquidity, profitability and solvency to enhance the level of financial viability of the banks.

**REFERENCES**


