

Factors Impacting Bank's Performance: A Literature Review

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Abstract:

Banking system of a nation plays a prominent role in shaping the economy by developing the financial systems. The occurrence of financial crisis of 2008, created a special interest amongst researchers worldwide to understand and analyse the impacts of bank performance. This Paper mainly aims to identify the various factors that impact banks' performance. It divulges the existing literature review and discovers the research gap from the current body of the knowledge, and lays a path for future researchers and guides them in a proper direction. In this paper authors have given a detailed literature categorizing into four major categories, where first part deals with determinants of profitability, second part deals with determinants of efficiency, third part deals with determinants of Non-Performing assets and the last part describes the impact of governance practices on a bank's performance. This study finds that although numerous studies have been carried out, across different geographies, to identify the determiners that impact a bank's profitability, yet the empirical evidence from these researches have either demonstrated ambiguous or mixed results.

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1. Introduction

Banks are building blocks of any economy. Over the last two decades, analysis of bank performance has proved to be a significant theme of analytical and empirical literature. Rastogi. S (2014) expressed that "The maximum impact of the financial crisis is

felt on the stock market volatility". Last decade, especially, has witnessed an upsurge in the number of banking studies. A significant explanation behind this is the collapse of Lehman brothers, which impacted economies and banks worldwide. Thus, there arose the need for better

technical approaches, new administrative guidelines, and reformative transition in market structures. These changes impacted not just the way banks function but also transformed the techniques and determinants of assessing the banks' performance.

Therefore, earlier studies do not have the same status in current scenario. The results

reported by Berger *et al.* (1995), Short (1979), and Berger & Humphrey (1997), do not hold true. The Indian banking sector, for example, shows an increasing trend in balance sheet indicators (Assets & Liabilities, deposits, borrowings and loans). But it clearly shows a declining trend in the profitability and a huge increase in the amount of NPAs. (Figure 1).

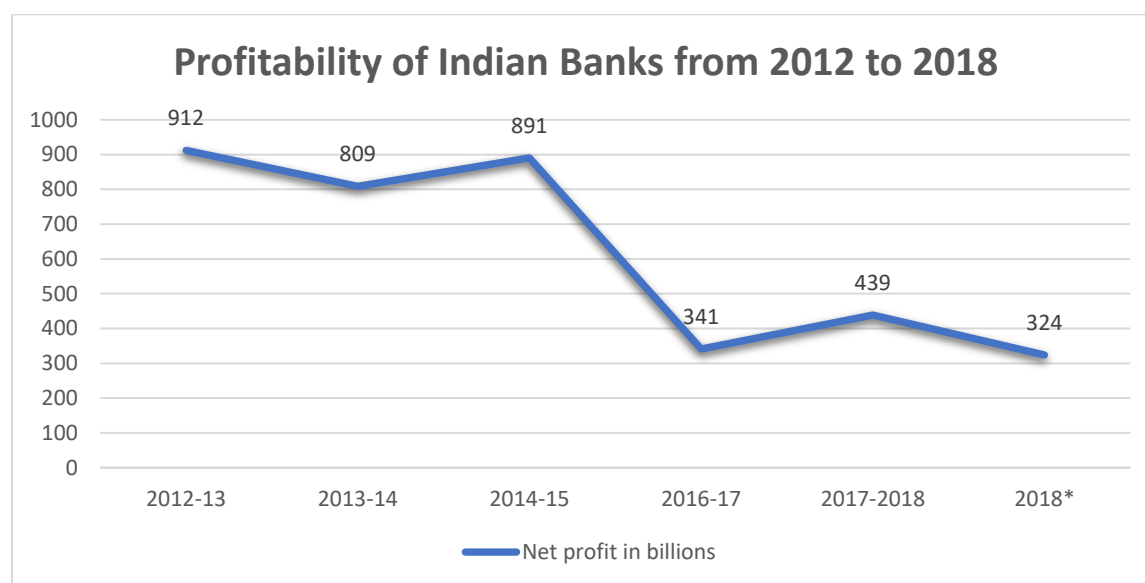


Figure 1: Profitability of Indian Banks

Source: RBI, Trend and Progress of Banking in India.

Note: Figure 1, is a graphical representation of profits earned by banks in India ranging from 2012 through 2018.

This decline in the profitability along with increasing NPAs raises a lot of questions as to what are the factors that impact the performance of a bank. These gaps have given rise to a lot of research on the banking sector. There are close to 200 papers analysing these factors.

Simultaneously, concerning this subject, there is an exponential growth in the number of studies. Therefore, it is incredibly hard for analysts and policymakers to

pursue the new challenges of this area. To add to this, studies analysing performance of banks provides important information for experts trying to see how some variations in one industry can influence other markets and researches. Hence, for further meaningful research, there arises the need to understand, the findings of recent literature with respect to the current changing environment.

In the light of the above discussion, the primary reason for this study is to check out what we have learned from this tremendous and developing literature on how various factors impact the overall performance of banks. Afterwards, we aim to emphasize the research gaps in the literature and direct to those research areas where this literature could be productively moved ahead. This literature review aims to fulfil the following objectives:

- a. Identify and record the variables affecting bank performance, from existing literature
- b. Record the impact of identified variables on banks' performance
- c. Identify the main paths of the existing conventional research; address the relevant gaps and future direction for further research.

This study principally focuses on those researches which were published after the occurrence of the Financial Crisis in the year 2008. The three major reasons of adopting this approach are: firstly, majority of the significant studies have been published after the Global Financial Crisis; secondly, volatility in oil prices after the oil price crises, further lead to inspiration for empirical studies; and lastly, to keep this research feasible and manageable.

The authors of this paper thought it is imperative to primarily restrict this study to high quality research considering the huge amount of studies done to analyse the determinants of banks' performance. For article selection, we referred to the review study of Narayan & Phan (2018). We restricted our articles from journals which are ranked 'A' or higher in the journal rankings of the Australian Business Deans Council (ABDC). We cover papers from January 2008 to July 2018. This study complements Abreu et al., (2019), because they focussed only on determinants of efficiency, while we are considering a wider spectrum of performance indicators.

The major focus journals were from Banking and Finance area. We looked into journals for significant studies which are published after 2010. Additionally, we further searched the major databases, such as Ebsco, ScienceDirect and Elsevier to classify relevant articles which are published after 2010. Following this process, we gathered a huge number of articles. Additionally, we also examined the articles published before 2008. Overall, in total we identified approximately 100 studies which directly or indirectly explained, how bank profitability, efficiency, level of non-performing assets and governance were impacted by various factors. Our literature review incorporates studies which are accessible electronically, till December 2018. As majority of the banking studies were conducted in the aftermath of the global recession followed by the 2008 crisis, therefore the focus of this study is the time duration between years of 2010-2018. Remaining paper, has been organised in the following order. The next section deliberates in detail on the basis for selecting the indicators of bank performance considered for this study. Discussion in the section 2 is an attempt to consolidate what existing research has documented about the determinants impacting the performance of banks. Finally, this paper has been concluded in section 3.

1.1 Indicators of bank performance

The overall performance of banks relies upon those factors which either, directly or indirectly, influence the quality of services provided to customers and the costs thereof. Therefore, other than just explicit costs, other factors also have an effect on banks' performance (Abreu, Kimura & Sobreiro, 2019). Hence, a diverse combination of factors is crucial for measuring and explaining the performance of banks (Lee, Yang & Chang, 2014). Therefore, to improve the overall efficiency

of the banking sector understanding these factors is of utmost importance.

This study focuses on four major indicators of assessing performance of banks: profitability, efficiency, Non- Performing Assets and Governance.

Previous studies have focussed on two major performance indicators of a bank, *profitability and efficiency*. As is known that no organization can survive without making profits and banks are no exceptions. The amount of profit on the balance sheet of any organization is the primary indicator of how that organization performs. Since banks are the building blocks of any economy, its equally important for banks to make profits. Hence, profitability is a major indicator to measure a bank's performance which is why, profitability was chosen to be part of this study. There have been numerous studies analysing the determinants of profitability worldwide (Short, 1979; Bourke, 1989; Tan, Floros & Anchor, 2017; Almaqtari et al., 2019; Singh & Sharma, 2016). Another set of researches have focussed only on banks' efficiency (Berger *et al.*, 1995; Berger & Humphrey, 1997; Abreu *et al.*, 2018; Assaf, Matousek & Tsionas, 2013; Matousek *et al.*, 2015).

The global financial crisis (GFC) of 2008 is believed to be a consequence of rising non-performing assets on banks' balance sheets (Reinhart & Rogoff, 2011; Messai, 2013; Thakor, 2018; Ghosh 2015). This area of research has gained special interest after the GFC 2008 (Vento & Ganga 2009; Boudriga, Taktak and Jellouli, 2009; Ghosh 2015; Ghosh 2017; Sarmieno & Galan 2017; Lim et al., 2017; Thakor, 2018). Some of these changes are, a stricter and more stringent set of banking regulations, changing dynamics of the macroeconomic environment, increased financial contagion which in turn, increases the complexity of financial systems worldwide. Therefore, there has been a shift in the focus of recent

studies on banking performance. Majority studies have cited *Non-performing assets* as an important performance indicator and hence are included in the study.

Corporate governance practices being followed Another important performance indicator, as cited by recent literature is the effect of Corporate governance is a mechanism to control risk and agency problems within a bank. Strikingly, Kirkpatrick (2009) stated weak corporate governance as a major reason of the crisis. Regulators and banking supervisors all over the world have are taking initiatives to facilitate effective corporate governance practices (Peni & Vahana, 2012). However, the impact of these practices on the performance of banks still remains debatable. While, some of the studies have demonstrated positive impact of strong governance practices on bank performance (Ammann, Oesch & Schmid, 2011; Gaeremynck, Sercu, & Renders, 2010; ;Bebchuk, Cohen & Ferrell, 2009; Chhaochharia & Laeven, 2009; Bhagat & Bolton, 2008; Brown & Caylor 2006; Gompers & Metrick, 2003; Gaeremynck, Sercu & Renders, 2010), other researchers have proven otherwise (Beltratti & Stulz, 2012; Fortin, Goldberg & Roth., 2010).

Since, a huge number of researches have been done on the above-mentioned factors. The authors felt the need to take a stock of the existing literature and identify the gaps that may exist.

2. Existing Literature

2.1 Determinants of Profitability

The delicate balance between stability and profitability of banks has been a concern for researchers and practitioners worldwide. This has led to extensive research in analysing and exploring the determining factors that affect the profitability of banks. We have categorized these studies into following three sets. First set of studies deals with cross country analysis (Perera

&Wickramanayake, 2016; Dietrich &Wanzenried, 2014; Masood &Ashraf, 2012). The second set of studies analyse the determinants of profitability for banks of countries situated in a region (Chowdhury &Rasid, 2017; Menicucci &Paolucci, 2016; Petria, Capraru, &Ihnatov,2015; Roman &Camelia, 2015; Jara-Bertin, Moya, & Perales, 2014;Lemma &Negash, 2013; Dietrich &Wanzenried, 2011). Finally, the third set consists of analysis done on banks within a single country (Robin, Salim, & Bloch, 2018; De Mendonça &Da Silva, 2018;Almaqtari et al.,2019;Bougatef, 2017; Bouzgarrou, Joudia, & Louhichi, 2017;Tan, 2016;Ramlan &Adnan, 2016;Kapaya &Raphael, 2016; Singh & Sharma, 2016; Tan &Floros, 2015; Marijana, Poposki, &Pepur, 2012, ; Athanasoglou, Brissimis, &Delis 2008; Al-Omar &Al-Mutairi, 2008).

To measure profitability, most of the earlier studies have either employed return on equity (ROE) orreturn on assets (ROA). On the other hand,some of the recent studies, have also considered Net interest margin (NIM) along with ROA and ROE (Almaqtari, *et. al.*, 2019; Tan, 2016; Bitar, Saad, Benlemlih; 2016)

These studies can be further divided into following sub-streams:

Bank specific factors and Profitability

On one hand, size, capitalization, risk management, and managerial efficiency are the most commonly used variables to measure profitability in previous researches. On the other hand, recent studies have also scrutinized the effect of income diversification, type of ownership and asset quality, on the profitability of a bank. The results presented in previous researches are ambiguous. While studying the impact of bank size, some authors havepointed out that size of the bank has a positive impact on profitability (Masood & Ashraf, 2012; Anbar & Alper, 2011) whereas some of the other researchers have

demonstrated a negative impact (Gul, Irshad, &Zaman 2011; Singh &Sharma; 2016) of bank size and capitalization on profitability. The reason behind positive effect is that,compare to small size banks, large banks provide significant diverse products and services, which decreases the level of risk and subsequently leads to higher profitabilityand operational efficiency.Furthermore,compared to small banks, large banks can easily increaselow-cost capital and thus,emerge out as more profitable (Short, 1979). Besides these researches, some researchersreportedthat, in a non-competitive environment,banks which have majority of themarket sharebenefit by offering lower deposit rates (Flamini, Schumacher, McDonald, 2009). Conversely, the contradicting view on negative effect is that, large banks have high operational,marketing, and bureaucratic costs, and therefore, this creates a negative effectbetween profitability and banks' size. Accordingly, the relationship shared by size and profitability is ambiguous.

Risk management is an extremely important function for the banking industry. Tan *et. al.* (2017) report that various types of risk have diverse and significant impact on profitability.Considering today's changing environment, a bank is faced with a lot of different types of risks. Out of these, the two most researched about are credit risk and liquidity risk.Infact, low level of liquidity (translating to high liquidity risk) has been termed as one of the major factors that leads to bank failures (Almaqtari et. al, 2019).To reduce liquidity risk, banks usually expandtheir portfolios and increase their liquidity. Despite several researches, the impact of level of liquidity on profitability has been reported as both and negative.(Ebnezer et. al 2017; Loh, 2017)

Non repayment of debt gives rise to credit risk.To measure credit-risk, banks often employ the ratio of creditloss provisions to loans (Athanasoglou et al., 2008; Trujillo-

Ponce, 2013). A high ratio indicates poor credit quality leading to lower profitability. However, custom and practice suggests that to measure banks' ability to meet its current liabilities, the preferred formula is the proportion of loans to total assets (Sufian & Habibullah, 2010).

Industry specific factors and Profitability

Much of the current literature have analysed the impact of competition and banking regulation on profitability (Tan *et al.*, 2017; Tan, 2016; Petria *et al.*, 2015). However, the impact of both competition and regulations still remains inconclusive as few studies have reported a positive effect, while the others reported a negative impact. This might be due to the fact that every economy functions in a different macroeconomic environment. Hence it is imperative to take into account different indicators of the macro environment as well.

Macroeconomic factors and Profitability

Macroeconomic factors are considered as those elements which are related to geopolitical, fiscal, legal and natural environment which have a bearing on the economy. These factors are not within the control of a bank or any organization (Ongore & Kusa, 2013). Some common macroeconomic factors include GDP (Gross Domestic Product), inflation & interest rate, level of employment and rate of exchange (Chowdhury & Rasid, 2017; Menicucci & Paolucci, 2016; Acaravci & Çalim, 2013; Marijana *et al.*, 2012; Pasiouras &

Kosmidou, 2007). According to Tan (2016) high inflationary environment resulted in higher profits for Chinese banks. Similarly, the results revealed by Almaqtari, *et al.* (2019) suggests that these factors significantly affect the ROE of Indian banks. However, with respect to ROA for Indian Banks the factors that play an important role are inflation, interest and exchange rates along with demonetization. Preliminary works suggests that profitability is sensitive to GDP growth. It has been suggested that requirement for loans increase during an uptrend in business cycle, and as a consequence, GDP growth has a positive impact on profitability (Trujillo-Ponce, 2013; Dietrich & Wanzenried, 2011; Flamini *et al.*, 2009;). Conversely, it was observed that demand for loans decreases when there is an economic downturn, which in turn reduces bank's profitability.

Perry (1992) indicated that profitability is impacted by the rate of inflation, subject to condition that whether inflation is expected or not. If banks anticipate for inflation, in contrast to their cost, they rapidly readjust their rates of interest and thus attain profitability. However, if banks do not anticipate for inflation, they may not make any alteration in their interest rates, which leads to a negative effect on their profitability. Therefore, some researchers report a positive relationship between profitability and inflation (Trujillo-Ponce, 2013; Athanasoglou *et al.*, 2008), whereas others have demonstrated the negative link (Naceur & Omran, 2011).

NOTE: Table 1, gives a tabular view of the four main categories of literature review reflected in the work done by respective authors, which helps in identifying the research gaps.

Table 1: Review of Literature

Sr no	Indicator		Articles (Author / Year)	Variables	Regions Studied	Methodology Employed
1	Determinants of Profitability	Single Country Studies	Robin, Salim, & Bloch; 2018; De Mendonça & Da Silva, 2018; Almaqtari et al., 2019; Bougatef, 2017; Bouzgarrou, Jouida, & Louhichi, 2017; Bose et al., 2017; Singh & Sharma, 2016; Tan & Floros, 2015; Growe et al., 2014; Zouari-Ghorbel, 2014; Marijana, Poposki, & Pepur, 2012; Athanasoglou, Brissimis, & Delis 2008; Al-Omar & Al-Mutairi, 2008; ; Tan, 2016; Kapaya & Raphael, 2016; Ramlan & Adnan, 2016;	Bank Size, Capitalization, Risk management, Operational and Managerial efficiency, Level of Competition, rate of Inflation, rate of exchange, GDP growth rate, Bank Regulatory and Supervisory policies	Tunisia, China, Macedonia, India, France, Bangladesh, Greece,	Regression and/or GMM estimator
		Countries in a region	Chowdhury & Rasid, 2017; Menicucci & Paolucci, 2016; Petria, Capraru, & Ihnatov, 2015; Roman & Camelia, 2015; Jara-Bertin, Moya, and Perales, 2014; Lemma and Negash, 2013; Dietrich & Wanzenried, 2011		GCC, EU, CEE, Latin American and African countries	

Sr no	Indicator		Articles (Author / Year)	Variables	Regions Studied	Methodology Employed
3		Cross Country Analysis	Masood & Ashraf, 2012; Dietrich & Wanzenried, 2014; Perera & Wickramanayake, 2016			
4	Determinants of Efficiency	Single Country Studies	Halkos & Tzeremes, 2013; Fujii et al., 2014	Bank Regulatory and Supervisory Policies and Framework, Basel regulations, Capitalization, Creditor rights and information sharing, Ownership, Interest and Non-interest expenses, Net interest income, Assets, Deposits, Equity, Provisions, Operational Result, Personal Expenses, Loans, Number of employees, NPLs	Greece, India	DEA, SFA, Regression, CAMELS, TOPSIN, weighted Russell directional distance model
5		Countries in a region	Delis et al., 2011; Lozano-Vivas & Weill, 2012; Lozano-Vivas & Pasiouras, 2013; Chortareas et al., 2016; Ayadi et al., 2016; Du & Sim, 2016; Triki et al., 2017; Tanna et al., 2017; Bitar et al., 2018; Ouenniche & Carrales, 2018;		EU, USA, OECD, Africa, Asia, UK	
6		Cross Country Analysis	Kalyvas and Mamatzakis, 2017; Casu et al., 2017;			
7		Islamic Banks	Wanke et al., 2016; Abdul-Majid et al., 2017;		Malaysia	
Sr. no	Indicator		Articles (Author / Year)	Variables	Regions Studied	Methodology Employed

8	Determinants of Non Performing Assets	Single /Cross Country Analysis	Bawa 2019; Mohsni & Othchere, 2018; Nikolaidou & Vogiazas, 2014; Messai & Jouini, 2013; Beltratti, 2012; Boudriga et. al. 2009; Boudriga, Taktak & Jellouli, 2009; Barth et al. 2006; Barth et al. 2004	capitalization, bank size, profitability, managerial and operational efficiency, bank diversification, Loan loss provision, credit growth, operating efficiency, size, inflation, housing price index, real interest rate, supervisory and regulatory framework, capital adequacy, ownership	Italy, Greece, Spain, USA, India, EU, UK, China, France, Malaysia, Africa, Canada	static fixed effects and dynamic-GMM estimation, Regression
9	Corporate Governance Practices and Bank Performance	Single / Analysis across Countries	DeYoung et al., 2013; Adams & Mehran, 2012; Berger et al., 2012; Cheng et al., 2012; Erkens et al., 2012; Aebi et al., 2012; Gropp & Kohler, 2010; Laeven and Levine, 2009; Cornett et al., 2009; Beck et al., 2004	Executive Remuneration, Board Size, Ownership, Z score,	USA,OE CD, EU, India, Australia, Africa, China, Japan, Malaysia, Hong Kong, Ireland, Singapore, South Africa	Regression

2.2 Determinants of Efficiency

Regulations and Efficiency

After the economic crisis of 2008-2010, regulatory and supervisory reforms gained a proper structure and outline. The changes and adaptation of various policies and regulations have encouraged a future research in this area, e.g. formation of Basel Committee (Bitar, Pukthuanthong & Walker, 2018)

Usually, much of the current literature on regulation examined the relationships between regulatory frameworks and banks' productivity (Triki et al., 2017; Lozano-Vivas & Pasiouras, 2013). However, several other studies have also attempted to explain the effects of regulatory reforms on banking regulations (Kalyvas & Mamatzakis, 2017).

Islamic Banks' Efficiency

Those banks which operate in accordance with the Shariah rules, are Islamic banks, also known as "*Islamic Rules in Transactions*". A considerable amount of literature has been dedicated on Islamic Banks. Numerous studies have either investigated the determinants that have impact on the efficiency of Islamic banking (Wanke et al., 2016); or have correlated the performance of traditional banks (working as per regulations laid down by the respective central bank) with these banks (Abdul-Majid et al., 2017).

Mergers & Acquisitions and Efficiency

A considerable amount of research on banking is intended at corroborating the relationship between merger and acquisition (M&A) and banks' efficiency. Traditionally, it has been argued that the merger & acquisitions is advantageous for banks up to a certain level (Amel et al., 2004). Yet, few

researchers provide evidence which suggests that the integration effect on efficiency is questionable and an appropriate difference among acquired and banks which is acquiring must be examined to attain consistent outcomes (Du & Sim, 2016). Several attempts in major financial journals have been made to project various studies in the M&A area. Much of the available literature has attempted to investigate whether efficiency leads to mergers or vice-versa. Banking efficiency studies is not entirely dominated by the testing of theoretical hypotheses. Much of the literature also emphasises on forming new models or identifying new factors to assess banks' performance (Ouenniche & Carrales, 2018). Several studies have also addressed on the simulation techniques to assess the correctness of the assessed inefficiency scores, the application of innovative approaches with modifications (and model comparisons (Tabak et al., 2013; Wanke et al., 2016).

2.3 Determinants of Non-Performing Assets

As mentioned before, GFC 2008 has sparked a curiosity among researchers to examine the factors that cause bad loans in different geographies. These studies range from analysis done across different countries i.e. panel data models to the cases of individual/specific country as well. But majority of these studies have focussed on advanced economies. Existing literature can be divided into following sub streams:

Bank specific determinants and NPAs

Most of the researchers exploring the determinants of NPAs have taken into consideration, *capitalization, bank size, profitability, managerial and operational*

efficiency, bank diversification. Existing literature is in support of the view that NPAs are directly and significantly impacted by managerial and operational efficiency. But, the relationship between capitalization and profitability still remains inconclusive. An interesting observation made by Thakor (2018) is that, banks with high capitalization take less risk and screen loans with more alertness, are presumably to survive a financial crisis, and create more value for their shareholders. Contrary to this, the view that high capital requirements may restrict credit growth and may lessen bank profitability and growth in the long run is also supported by some other researchers.

From one viewpoint, managers of low-capitalised banks face ethical dilemma by lending to those borrowers' who have poor credit scoring (Keeton & Morris, 1987). A negative relationship between banks' capital and NPLs can be inferred from this. From another viewpoint, managers of banks with higher capitalization may take the approach of a lenient credit policy suggesting a direct relationship between banks' capital and NPLs. Similar underlying theory has been proven for loan loss provision and credit growth (Nikolaïdou & Vogiazas, 2014; Messai & Jouini, 2013; Keeton & Morris, 1987).

Macro-economic determinants and NPAs

A considerable amount of literature has attempted to investigate the interaction between the macro-economic elements and the asset/loan quality pertaining to the different phases of the business cycle (Bawa 2019; Ghosh 2015; Beltratti, 2012). The economic expansion phase is regarded as a phase in which the number of bad loans is relatively smaller, as borrowers have adequate income and revenue to cover their

debts in preset deadlines. However, if the expansion phase continues to exist, then the credit is approved without taking into consideration the quality of the borrowers. Nonetheless, in the recession phase, an increase in bad debts has unfavourable consequences.

GDP and inflation and interest rates are the other significant factors cited by most of the previous studies. Many historians have argued that the association between NPL and real GDP growth is negative (Khemraj & Pasha, 2009; Jimenez & Saurina, 2006). The possible explanation behind this relationship is that, higher positive level of real GDP growth usually necessitates a higher level of income. This in turn, enhances the capability of the borrower to pay its debts and therefore, leads to the reduction of bad debts. Conversely, when there is a negative growth of GDP, bad debts will increase. Another set of studies have also considered employment rate along with GDP and it has been found to be a significant factor (Ghosh, 2015)

Banking regulations and NPAs

Enforcement of banking regulations by governments aims at achieving a stable and proficient financial system. The objective of such regulation is to constraint the risks, moral hazards and increase in consumer protection (Mohsni & Othchere, 2018). In the past decade, the impact of banking regulations on various factors attributed to banking industry has received considerable attention. But the results are found to be inconclusive. Similarly, the existing literature is also uncertain about the effects of complying with the banking regulations and its impact on bank risks or reduction of non-performing assets. Seminal works of Barth et al. (2004, 2006) studies the impact that banking regulations and supervision have on different indicators of bank

performance, like, NPAs. They suggest that accurate information disclosure and limiting factors that encourage moral hazard incentives promote bank development. The authors also report that this area still requires a lot of research. Boudriga, Taktak and Jellouli (2009) carried out a cross country study, and they find that all regulatory devices do not help in reducing non-performing assets for countries with weak institutions and corrupt environment. Gonzalez (2005) report that strict regulations bear a positive association with risk taking by banks, hence increasing the probability of more non-performing assets, whereas Jin, Kanagaretnam, Lobo and Matheiu (2013) report a negative relationship between the two.

There have been numerous studies on cross country data, which is aggregate in nature. But as observed by researchers that bank specific determinants have a considerable impact on NPAs (Boudriga et. al. 2009; Ghosh 2015; Triki 2017; Bawa 2019). Hence it is of significance to analyse how banking regulations may influence the banking system of individual countries and economies.

2.4 Governance and Bank performance

The past decade has witnessed a lot of bank failures due to weak corporate governance practices. And therefore, there has been an upsurge in existing literature to identify how and to what extent do corporate governance practices influence the banking industry (Beltratti, 2012; Cornett, McNutt, Tehranian, 2009; Laeven & Levine, 2009; DeAndres & Vallengado, 2008).

The existing studies can majorly be divided into following streams:

Size of the Board and Performance of Banks

In 1999, Dalton et al., demonstrated that it is beneficial for firms with complex business model to have large boards. In comparison to small boards, organisations with large board have advantage over better experts and resources. Larger boards are significant for both, the advisory board, and monitoring board. As demonstrated by Upadhyay & Sriram (2011), in contrast to small boards, banks with large board can employ better resources to supervise the administrative work. Consequently, directors of banks could take the corporate decisions in a more comprehensive manner. Numerous studies have attempted to establish a link between size of the board and various indicators of performance of a firm is measured, Tobin's Q, ROA, or ROE, to name a few. Many historians have given their arguments supporting the view that banks' board size and performance exhibit a positive relationship (Aebi, Samato & Schmid, 2012; Adams & Mehran, 2012).

By analysing the sample gathered from 164 large international banks, Beltratti & Stulz (2012), attempted to establish a link between the two (size of board & performance). They reported that, in times of crisis, banks whose boards were in the favour of shareholders gained lower buy-and-hold returns. The authors concluded that, "Either conventional wisdom is wrong, or this evidence is consistent with the view that banks that grew more in sectors that turned out to perform poorly during the crisis were pursuing policies favoured by shareholders before the crisis as their boards were more shareholder-friendly but suffered more during the crisis when these risks led to unexpectedly large losses."

Conversely, Erkens, Hung & Matos (2012) concluded otherwise, stating that size of boards and performance of banks bear no relationship with each other. In the same vein, Berger, Imbierowicz & Rauch (2012) argue that, board size do not have any effect on banks' stability.

Executive Remuneration and Bank performance

Previous research has indicated that firms which pay higher remuneration are more risky (Adams & Mehran, 2012). This view gains support from Bebchuk & Weisbach, et al. (2010), who demonstrated that during 2000-2008, Bear Stearns and Lehman, paid high remuneration to their top executives which significantly increased their risk-taking capacity. In the same way, Gropp & Kohler (2010) took sample from 1100 banks from different countries of OECD for the duration between 2000-2008 and reported that if bank managers' and shareholders' interests are similar, then their risk-taking capacity increase. However, some researchers assert that the relationship between banks' executives' compensation and their risk-taking is ambiguous. For incident, Grove, Pateli & Victoravich (2011), argue that the impact of executives' remuneration on banks' financial performance varies according to the time period. According to Grove et al. (2011), the relationship between remuneration and risk taking is positive for the short period of 1-2 years, however, this relationship turns negative during the period of more than 3 years.

Ownership structure and Bank Performance

A number of seminal studies have reported that concentrated ownership may resolve numerous agency problems. For instance,

analysing the sample of 1406 U.S. banks, Glassman & Rhoades (1980), revealed that concentrated ownership leads to higher profit. Conversely, some of the recent studies have argued otherwise. Grove *et al.* (2011) stated that concentrated ownership and bank performance share a weak relationship. In the same vein, Erkens *et al.* (2012) explains that, those financial firms which had concentrated ownership took high risk before the financial crises and consequently bear huge losses during the financial crisis of 2007–2008. Several studies investigating government ownership have been carried out on developing nations and most of the times indicated unfavourable effects (Cornett *et al.*, 2010; Jia, 2009; Barth *et al.*, 2004; Beck *et al.*, 2004; Berger *et al.*, 2004). Credit crisis of 2007, provide evidence that, Government-owned institutions are less efficient and have high NPL (Hau & Thum, 2009).

Using the data from Argentina for the year 1993-1999, Berger *et al.* (2005) explored the influence of ownership on the performance of bank. The authors reported that on an average in the long run, compare to private and foreign-owned banks, government owned banks give poor performance. Also, one of the most striking finding of the authors was that, the state-owned banks have very high nonperforming loan ratios. The authors also reported that post-privatization there is a substantial increase in banks' performance. There are several other authors who have documented the similar results for both developed and emerging economies (Beck & Hesse, 2005; Nguyen & Williams, 2005).

3. Conclusion

A lot of studies are present in the banking research area which have done a detailed

research on the factors that determine a banks' profitability and across various geographical regions and countries, but the outcomes reported by these researches are either ambiguous or demonstrate mixed results. Another significant concern which emerged from this literature review is that there is a substantial dearth of information on the various factors that are determiners of efficiency and are utilised in several approaches. Thus, although several studies have investigated upon the various efficiency estimates, no researcher has produced a theoretical explanation for same. This research corroborates the idea of Abreu *et. al.* (2019), who suggests that research on banking efficiency has not yielded any productivity. This indicates that, although, there is a significant amount of data, information and literature available on banking efficiency, there is still a need for further investigation. Also, most of the research is concentrated in the developed economies. There is lack of a conclusive evidence for emerging and developing economies.

In the area of banking and NPAs, further research could be carried out by considering both restructured assets and non-performing assets to explore and identify factors affecting bad loans. There is abundant room for further progress in determining whether, once the restructuring process is complete, these restructured assets given to firms, translate to good or performing loans or whether they convert back into the NPA category.

This research also recommends that a future research is required to investigate the impact of compensation and ownership structure, on risk-taking incentives. It is also suggested to analyse their (compensation and ownership) interaction effect on risk.

Over the time, the interaction between compensation, ownership and risk-taking has been subject to considerable debate. Several studies have reported that high remuneration (particularly in the form of stock option and other pay-for-performance schemes), leads to higher risks. While some of the other studies have reported otherwise. Similar is the case with ownership and banks' performance. While, some of the researchers have demonstrated a positive linkage between ownership and banks' performance, others have reported a contradiction. This inconsistency suggests that there is a need for future research to understand the impact of compensation and ownership structure on banks' risk-taking ability. In the end, non-uniformity of banking regulations and existing governance mechanisms might contribute significantly in explaining the different results reported by studies of banks of different countries. Each economy has different objectives and requirements. Therefore, regulatory bodies functioning in these different economies have to meet these individual requirements and objectives, based on which these bodies perform various monitoring functions. Such differences and non-uniformity may affect the functioning and efficiency of the governance policies and systems. Therefore, more research is required to find out whether the arguments raised in this article are indeed the major drivers for the varied results that have been reported.

References

1. Abdul-Majid, M., Falahaty, M., & Jusoh, M. (2017), "Performance of Islamic and conventional banks: a meta-frontier approach", *Research in International Business and Finance*, Vol. 42, 1327-1335.
2. Acaravci, S. K., & Çalim, A. E. (2013), "Turkish banking sector's profitability factors", *International Journal of*

- Economics and Financial Issues*, Vol. 3No. (1), 27-41.
3. Adams, R. B., & Mehran, H. (2012), "Bank board structure and performance: Evidence for large bank holding companies", *Journal of Financial Intermediation*, Vol. 21No. (2), 243-267.
 4. Aebi, V., Sabato, G., & Schmid, M. (2012), "Risk management, corporate governance, and bank performance in the financial crisis", *Journal of Banking & Finance*, Vol. 36 No. (12), 3213-3226.
 5. Almaqtari, F. A., Al-Homaidi, E. A., Tabash, M. I., & Farhan, N. H. (2019), "The determinants of profitability of Indian commercial banks: A panel data approach", *International Journal of Finance & Economics*, Vol. 24 No. (1), 168-185.
 6. AL-Omar, H., & AL-Mutairi, A. (2008), "Bank-specific determinants of profitability: The case of Kuwait", *Journal of Economic and administrative Sciences*, Vol. 24 No. (2), 20-34.
 7. Amel, D., Barnes, C., Panetta, F., Salleo, C., 2004, "Consolidation and efficiency in the financial sector: a review of the international evidence", *Journal of Banking and Finance*. Vol. 28 No. (10), 2493-2519.
 8. Ammann, M., Oesch, D., & Schmid, M. M. (2011), "Corporate governance and firm value: International evidence", *Journal of Empirical Finance*, Vol. 18 No. (1), 36-55.
 9. Anbar, A., & Alper, D. (2011), "Bank specific and macroeconomic determinants of commercial bank profitability: Empirical evidence from Turkey", *Business and economics research journal*, Vol. 2 No. (2), 139-152.
 10. Assaf, A.G., Matousek, R., Tsionas, E.G., 2013, "Turkish bank efficiency: Bayesian estimation with undesirable outputs", *Journal of Banking and Finance*. Vol. 37 No. (2), 506-517.
 11. Athanoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008), "Bank-specific, industry-specific and macroeconomic determinants of bank profitability", *Journal of international financial Markets, Institutions and Money*, Vol. 18 No. (2), 121-136.
 12. Ayadi, R., Ferri, G., & Pesic, V. (2016), "Regulatory arbitrage in EU Banking: Do Business Models Matter?", *International Research Centre on Cooperative Finance Working Paper Jul*.
 13. Barth, J. R., Caprio, G., & Levine, R. (2004), "Bank supervision and regulation: What works best?"
 14. Barth, J. R., Caprio, G., & Levine, R. (2006), "Rethinking bank regulation. *Till angels govern.*"
 15. Bawa, J. K., Goyal, V., Mitra, S. K., & Basu, S. (2019), "An analysis of NPAs of Indian banks: Using a comprehensive framework of 31 financial ratios", *IIMB Management Review*, Vol. 31 No. (1), 51-62.
 16. Bebchuk, L. A., & Weisbach, M. S. (2010), "The state of corporate governance research", *The review of financial studies*, Vol. 23 No. (3), 939-961.
 17. Bebchuk, L., Cohen, A., & Ferrell, A. (2009), "What matters in corporate governance?", *The Review of financial studies*, Vol. 22 No. (2), 783-827.
 18. Bebchuk, L.A., & Weisbach, M. S. (2010), "The state of corporate governance research", *The review of financial studies*, Vol. 23 No. (3), 939-961.
 19. Beck, T., & Hesse, H. (2006), "Bank efficiency, ownership, and market structure: why are interest spreads so high in Uganda?", *The World Bank*.
 20. Beltratti, Andrea, and René M. Stulz (2012), "The credit crisis around the globe: Why did some banks perform better?", *Journal of financial economics* Vol. 105No. (1), 1-17.
 21. Berger, A. N., & Humphrey, D. B. (1997), "Efficiency of financial institutions: International survey and directions for future research", *European journal of operational research*, Vol. 98 No. (2), 175-212.
 22. Berger, A. N., Clarke, G. R., Cull, R., Klapper, L., & Udell, G. F. (2005), "Corporate governance and

- bank performance: a joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership”, The World Bank.
23. Berger, A. N., Herring, R.J., Szegö, G.P., 1995, “The role of capital in financial institutions”, *Journal of Banking and Finance*. Vol. 19 No. (3–4), 393–430.
 24. Berger, A.N., Humphrey, D.B., 1997, “Efficiency of financial institutions: international survey and directions for future research”, *European Journal of Operational Research*. Vol. 98 No. (2).
 25. Berger, A. N., Imbierowicz, B., & Rauch, C. (2012), “The role of corporate governance in bank failures during the recent crisis”.
 26. Bhagat, S., & Bolton, B. (2008), “Corporate governance and firm performance”, *Journal of corporate finance*, Vol. 14 No. (3), 257-273.
 27. Bitar, M., Pukthuanthong, K., & Walker, T. (2018), “The effect of capital ratios on the risk, efficiency and profitability of banks: Evidence from OECD countries”, *Journal of International Financial Markets, Institutions and Money*, Vol. 53, 227-262.
 28. Bitar, M., Saad, W., & Benlemlih, M. (2016), “Bank risk and performance in the MENA region: The importance of capital requirements”, *Economic Systems*, Vol. 40 No. (3), 398-421.
 29. Boudriga, A., Taktak, N. B., & Jellouli, S. (2009), “Banking supervision and nonperforming loans: a cross-country analysis”, *Journal of Financial Economic Policy*.
 30. Bougatef, K. (2017), “Determinants of bank profitability in Tunisia: does corruption matter?”, *Journal of Money Laundering Control*.
 31. Bourke, P. (1989), “Concentration and other determinants of bank profitability in Europe, North America and Australia”, *Journal of Banking & Finance*, Vol. 13 No. (1), 65-79.
 32. Bouzgarrou, H., Jouda, S., & Louhichi, W. (2018), “Bank profitability during and before the financial crisis: Domestic versus foreign banks”, *Research in International Business and Finance*, Vol. 44, 26-39.
 33. Brown, L. D., & Caylor, M. L. (2006), “Corporate governance and firm valuation”, *Journal of Accounting and Public Policy*, Vol. 25 No. (4), 409-434.
 34. Casu, B., Deng, B., & Ferrari, A. (2017), “Post-crisis regulatory reforms and bank performance: lessons from Asia”, *The European Journal of Finance*, Vol. 23 No. (15), 1544-1571.
 35. Chhaochharia, V., & Laeven, L. (2009), “Corporate governance norms and practices”, *Journal of Financial Intermediation*, Vol. 18 No. (3), 405-431.
 36. Chowdhury, M. A. F., & Rasid, M. E. S. M. (2016), “Determinants of performance of Islamic banks in GCC countries: Dynamic GMM approach”, *Advances in Islamic Finance, Marketing, and Management. Emerald Group Publishing Limited*, 49-80.
 37. Cornett, M. M., McNutt, J. J., & Tehranian, H. (2009), “Corporate governance and earnings management at large US bank holding companies”, *Journal of Corporate finance*, Vol. 15 No. (4), 412-430.
 38. Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999), “Number of directors and financial performance: a meta-analysis”, *Academy of Management journal*, Vol. 42 No. (6), 674-686.
 39. De Abreu, E. S., Kimura, H., & Sobreiro, V. a. (2019), “What is going on with studies on banking efficiency?”, *Research in International Business and Finance*, Vol. 47, 195-219.
 40. De Andres, P., & Vellido, E. (2008), “Corporate governance in banking: The role of the board of directors”, *Journal of banking & finance*, Vol. 32 No. (12), 2570-2580.
 41. De Mendonça, H. F., & Da Silva, R. B. (2018), “Effect of banking and macroeconomic variables on systemic risk: an application of ΔCOVaR for an emerging economy”, *The North American Journal of Economics and Finance*, Vol. 43, 141-157.

42. Delis, M. D., Molyneux, P., & Pasiouras, F. (2011), "Regulations and productivity growth in banking: Evidence from transition economies", *Journal of Money, Credit and Banking*, Vol. 43 No. (4), 735-764.
43. Dietrich, A., & Wanzenried, G. (2011), "Determinants of bank profitability before and during the crisis: Evidence from Switzerland", *Journal of International Financial Markets, Institutions and Money*, Vol. 21 No. (3), 307-327.
44. Dietrich, A., & Wanzenried, G. (2014), "The determinants of commercial banking profitability in low-, middle-, and high-income countries", *The Quarterly Review of Economics and Finance*, Vol. 54 No. (3), 337-354.
45. Du, K., Sim, N., 2016, "Mergers, acquisitions, and bank efficiency: cross-country evidence from emerging markets", *Research in International Business and Finance*. Vol. 36, 499–510.
46. Ebenezer, O. O., Omar, W. A. W. B., & Kamil, S. (2017), "Bank specific and macroeconomic determinants of commercial bank profitability: Empirical evidence from Nigeria", *International Journal of Finance & Banking Studies* (2147–4486), Vol. 6 No. (1), 25–38.
47. Erkens, D. H., Hung, M., & Matos, P. (2012), "Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide", *Journal of corporate finance*, Vol. 18 No. (2), 389-411.
48. Flamini, V., Schumacher, M. L., & McDonald, M. C. A. (2009), "The determinants of commercial bank profitability in Sub-Saharan Africa", *International Monetary Fund*, Vol 9 (15)
49. Fortin, R., Goldberg, G. M., & Roth, G. (2010), "Bank risk taking at the onset of the current banking crisis", *Financial Review*, Vol. 45 No. (4), 891-913.
50. Fujii, H., Managi, S., & Matousek, R. (2014), "Indian bank efficiency and productivity changes with undesirable outputs: a disaggregated approach", *Journal of Banking & Finance*, Vol. 38, 41-50.
51. Gaeremynck, A., Sercu, P., & Renders, A. (2010), "Corporate-governance ratings and company performance: Across-European study", *Corporate governance: an international review*, Vol. 18 No. (2), 87-106.
52. Ghosh, A. (2015), "Banking-industry specific and regional economic determinants of nonperforming loans: Evidence from US states", *Journal of financial stability*, Vol. 20, 93-104.
53. Ghosh, A. (2017), "Sector-specific analysis of nonperforming loans in the US banking system and their macroeconomic impact", *Journal of Economics and Business*, Vol. 93, 29-45.
54. Glassman, C. A., & Rhoades, S. A. (1980), "Owner vs. manager control effects on bank performance", *The Review of Economics and Statistics*, 263-270.
55. Goddard, J., Molyneux, P., & Williams, J. (2014), "Dealing with cross-firm heterogeneity in bank efficiency estimates: Some evidence from Latin America," *Journal of Banking & Finance*, Vol. 40, 130-142.
56. Gompers, P., Ishii, J., & Metrick, A. (2003), "Corporate governance and equity prices", *The quarterly journal of economics*, Vol. 118 No. (1), 107-156.
57. Gonzalez, F. (2005), "Bank regulation and risk-taking incentives: an international comparison of bank risk", *Journal of Banking & Finance*, Vol. 29 No. (5), 1153-1184.
58. Gropp, R., & Köhler, M. (2010), "Bank owners or bank managers: Who is keen on risk?", Evidence from the financial crisis. *Evidence from the Financial Crisis*, 10-013.
59. Grove, H., Patelli, L., Victoravich, L. M., & Xu, P. (2011), "Corporate governance and performance in the wake of the financial crisis: Evidence from US commercial banks", *Corporate Governance: An International Review*, Vol. 19 No. (5), 418-436.
60. Gul, S., Irshad, F., & Zaman, K. (2011), "Factors affecting Bank Profitability in Pakistan", *Romanian Economic Journal*, Vol. 14 No. (39).

61. Halkos, G. E., & Tzeremes, N. G. (2013), "Estimating the degree of operating efficiency gains from a potential bank merger and acquisition: a DEA bootstrapped approach", *Journal of Banking & Finance*, Vol. 37 No. (5), 1658-1668.
62. Hau, H., & Thum, M. (2009), "Subprime crisis and board (in-) competence: private versus public banks in Germany", *Economic Policy*, Vol. 24 No. (60), 701-752.
63. https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/0RTP2018_FE9E97E7aF7024a4B94321734CD76DD4F.PDF
64. Jara-Bertin, M., Moya, J. A., & Perales, A. R. (2014), "Determinants of bank performance: evidence for Latin America", *Academia Revista Latinoamericana de Administración*.
65. Jia, C., Ding, S., Li, Y., & Wu, Z. (2009), "Fraud, enforcement action, and the role of corporate governance: Evidence from China", *Journal of Business Ethics*, Vol. 90 No. (4), 561-576.
66. Jimenez, G., Salas, V., & Saurina, J. (2006), "Determinants of collateral", *Journal of financial economics*, Vol. 81 No. (2), 255-281.
67. Jin, J. Y., Kanagaretnam, K., Lobo, G. J., & Mathieu, R. (2013), "Impact of FDICIA internal control on bank risk taking", *Journal of Banking & Finance*, Vol. 37 No. (2), 614-624.
68. Kalyvas, A. N., & Mamatzakis, E. (2017), "Do creditor rights and information sharing affect the performance of foreign banks?", *Journal of International Financial Markets, Institutions and Money*, Vol. 50, 13-35.
69. Kapaya, S. M., & Raphael, G. (2016), "Bank-specific, industry-specific and macroeconomic determinants of banks profitability: Empirical evidence from Tanzania", *International Finance and Banking*, Vol. 3 No. (2), 100-119.
70. Keeton, W. R., & Morris, C. S. (1987), "Why do banks' loan losses differ", *Economic Review*, Vol. 72 No. (5), 3-21.
71. Khemraj, T., & Pasha, S. (2009), "The determinants of nonperforming loans: an econometric case study of Guyana", Working paper
72. Kirkpatrick, G. (2009), "The corporate governance lessons from the financial crisis", *OECD Journal: Financial Market Trends*, 2009 No. (1), 61-87.
73. Laeven, L., & Levine, R. (2009), "Bank governance, regulation and risk taking", *Journal of financial economics*, Vol. 93 No. (2), 259-275.
74. Lee, C. C., Yang, S. J., & Chang, C. H. (2014), "Non-interest income, profitability, and risk in banking industry: across-country analysis", *The North American Journal of Economics and Finance*, Vol. 27, 48-67.
75. Lemma, T. T., & Negash, M. (2013), "Institutional, macroeconomic and firm-specific determinants of capital structure", *Management Research Review*.
76. Lim, C. Y., Woods, M., Humphrey, C., & Seow, J. L. (2017), "The paradoxes of risk management in the banking sector", *The British accounting Review*, Vol. 49 No. (1), 75-90.
77. Loh, C. Z. (2017), "Specific risk factors and macroeconomic factor on profitability performance: an empirical evidence of Top Glove Corporation Bhd".
78. Lozano-Vivas, A., & Pasiouras, F. (2014), "Bank productivity change and off-balance-sheet activities across different levels of economic development", *Journal of Financial Services Research*, Vol. 46 No. (3), 271-294.
79. Lozano-Vivas, A., & Weill, L. (2012), "How Does Cross-Border activity affect EU Banking Markets?", *European Financial Management*, Vol. 18 No. (2), 303-320.
80. Marijana, Ć., Poposki, K., & Pepur, S. (2012), "Profitability determinants of the Macedonian banking sector in changing environment", *Procedia - Social and Behavioral Sciences*, Vol. 44, 406-416.
81. Masood, O., & Ashraf, M. (2012), "Bank-specific and macroeconomic profitability determinants of Islamic banks",

- Qualitative Research in Financial Markets.*
82. Matousek, R., Rughoo, a., Sarantis, N., & Assaf, A. G. (2015), "Bank performance and convergence during the financial crisis: Evidence from the 'old' European Union and Eurozone", *Journal of Banking & Finance*, Vol. 52, 208-216.
 83. Menicucci, E., & Paolucci, G. (2016), "The determinants of bank profitability: empirical evidence from European banking sector", *Journal of financial reporting and accounting*.
 84. Messai, a. S., & Jouini, F. (2013), "Micro and macro determinants of non-performing loans", *International journal of economics and financial issues*, Vol. 3 No. (4), 852-860.
 85. Mohsni, S., & Otchere, I. (2018), "Does regulatory regime matter for bank risk taking? a comparative analysis of US and Canada", *Journal of International Financial Markets, Institutions and Money*, Vol. 53, 1-16.
 86. Naceur, S. B., & Omran, M. (2011), "The effects of bank regulations, competition, and financial reform on banks' performance", *Emerging Markets Review*, Vol. 12 No. (1), 1-20.
 87. Narayan, P. K., & Phan, D. H. B. (2019), "A survey of Islamic banking and finance literature: Issues, challenges and future directions", *Pacific-Basin Finance Journal*, Vol. 53, 484-496.
 88. Nguyen, N., & Williams, J. (2003, November), "Liberalisation, ownership and efficiency issues: a comparative study of South East Asian banking", In *Conference on Bank Privatization, World Bank*.
 89. Nikolaidou, E., & Vogiazas, S. D. (2014), "Credit risk determinants for the Bulgarian banking system", *International advances in Economic Research*, Vol. 20 No. (1), 87-102.
 90. Ongore, V. O., & Kusa, G. B. (2013), "Determinants of financial performance of commercial banks in Kenya", *International journal of economics and financial issues*, Vol. 3 No. (1), 237-252.
 91. Ouenniche, J., & Carrales, S. (2018), "Assessing efficiency profiles of UK commercial banks: A DEA analysis with regression-based feedback", *Annals of Operations Research*, Vol. 266 No. (1-2), 551-587.
 92. Pasiouras, F., & Kosmidou, K. (2007), "Factors influencing the profitability of domestic and foreign commercial banks in the European Union", *Research in International Business and Finance*, 21(2), 222-237.
 93. Peni, E., & Vähämaa, S. (2012), "Did good corporate governance improve bank performance during the financial crisis?", *Journal of Financial Services Research*, Vol. 41 No. (1-2), 19-35.
 94. Perera, A., & Wickramanayake, J. (2016), "Determinants of commercial bank retail interest rate adjustments: Evidence from a panel data model", *Journal of International Financial Markets, Institutions and Money*, Vol. 45, 1-20.
 95. Perry, P. (1992), "Do banks gain or lose from inflation?", *Journal of Retail Banking*, Vol. 14 No. (2), 25-31.
 96. Petria, N., Capraru, B., & Ihnatov, I. (2015), "Determinants of banks' profitability: evidence from EU 27 banking systems", *Procedia economics and finance*, Vol. 20 No. (15), 518-524.
 97. Ramlan, H., & Adnan, M. S. (2016), "The profitability of Islamic and conventional bank: Case study in Malaysia", *Procedia Economics and Finance*, Vol. 35, 359-367.
 98. Rani, D. M. S., & Zergaw, L. N. (2017), "Bank specific, industry specific and macroeconomic determinants of bank profitability in Ethiopia", *International Journal of advanced Research in Management and Social Sciences*, Vol. 6 No. (3), 74-96.
 99. Rastogi, S., (2014), "The financial crisis of 2008 and stock market volatility – analysis and impact on emerging economies pre and post crisis", *Afro-*

- Asian J. Finance and accounting, Vol. 4, No. 4, pp.443–459.
100. Reinhart, C. M., & Rogoff, K. S. (2011), “From financial crash to debt crisis”, *American Economic Review*, Vol. 101 No. (5), 1676-1706.
 101. Reserve Bank of India. (2017-18). “Report on Trend and Progress of Banking in India 2017-18. Retrieved from
 102. Robin, I., Salim, R., & Bloch, H. (2018), “Financial performance of commercial banks in the postreform era: Further evidence from Bangladesh”, *Economic analysis and Policy*, Vol. 58, 43-54.
 103. Roman, A., & Camelia, A. (2015), “The impact of bank-specific factors on the commercial banks liquidity: empirical evidence from CEE countries”, *Procedia Economics and Finance*, Vol. 20 No. (15), 571-579.
 104. Sarmiento, M., & Galán, J. E. (2017), “The influence of risk-taking on bank efficiency: Evidence from Colombia”, *Emerging Markets Review*, Vol. 32, 52-73.
 105. Short, B. K. (1979), “The relation between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan”, *Journal of banking & Finance*, Vol. 3 No. (3), 209-219.
 106. Singh, a., & Sharma, a. K. (2016), “An empirical analysis of macroeconomic and bank-specific factors affecting liquidity of Indian banks”, *Future Business Journal*, Vol. 2 No. (1), 40-53.
 107. Tan, Y. (2016), “The impacts of risk and competition on bank profitability in China”, *Journal of International Financial Markets, Institutions and Money*, Vol. 40, 85-110.
 108. Tan, Y., Floros, C., & Anchor, J. (2017), “The profitability of Chinese banks: impacts of risk, competition and efficiency”, *Review of Accounting and Finance*.
 109. Tanna, S., Luo, Y., & De Vita, G. (2017), “What is the net effect of financial liberalization on bank productivity? a decomposition analysis of bank total factor productivity growth”, *Journal of Financial Stability*, Vol. 30, 67-78.
 110. Thakor, a. V. (2018), “Post-crisis regulatory reform in banking: address insolvency risk, not illiquidity!”, *Journal of Financial Stability*, Vol. 37, 107-111.
 111. Triki, T., Kouki, I., Dhaou, M. B., & Calice, P. (2017), “Bank regulation and efficiency: What works for Africa?”, *Research in International Business and Finance*, Vol. 39, 183-205.
 112. Triki, T., Kouki, I., Dhaou, M. B., & Calice, P. (2017), “Bank regulation and efficiency: What works for Africa?”, *Research in International Business and Finance*, Vol. 39, 183-205.
 113. Trujillo-Ponce, A. (2013), “What determines the profitability of banks? Evidence from Spain”, *Accounting & Finance*, Vol. 53 No. (2), 561-586.
 114. Upadhyay, A., & Sriram, R. (2011), “Board size, corporate information environment and cost of capital”, *A Journal of Business Finance & Accounting*, Vol. 38 No. (9-10), 1238-1261.
 115. Vento, G. a., & La Ganga, P. (2009), “Bank liquidity risk management and supervision: which lessons from recent market turmoil”, *Journal of Money, Investment and Banking*, Vol. 10 No. (10), 78-125.
 116. Wanke, P., Azad, M. A. K., Barros, C. P., & Hassan, M. K. (2016), “Predicting efficiency in Islamic banks: an integrated multicriteria decision making (MCDM) approach”, *Journal of International Financial Markets, Institutions and Money*, Vol. 45, 126-141.