ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

Literature Review on the Impact of Liquidity Management on the Profitability of Commercial Banks

Yuqun Huang

School of economics, Jinan University, Guangzhou 510632, China.

Abstract

Through combing the literature on the relationship between liquidity management, profitability of commercial banks, this paper finds that scholars hold three main views on the relationship between them: positive, negative, positive and negative. The differences of these views come from research objects, data sources, economic background, different index selections and analysis methods, the contribution of this paper is to provide convenience for scholars to further explore this issue, and provide a reference for banks to establish a general liquidity management strategy.

Keywords

Commercial Bank, liquidity management, profitability.

1. INTRODUCTION

The stable development of the financial system is of great significance to the economic development and social operation, while the bank plays an important role in the financial system. Liquidity management is the key to realize the long-term profitability and stable operation of banks. Good liquidity management enables banks to perform their current obligations and ensure that they can earn more than cost. Consequently, the ultimate goal of the bank is to maintain working capital investment level that would enable them maximise profits. However, this kind of operation is not easy. Maintaining low liquidity will put the bank at the risk of funds shortage, and high liquidity means high opportunity cost, both of which may result in low profits. Liquidity and profitability are two endpoints of a line segment. If they move on toward one endpoint, they will automatically move away from the other endpoint. There is a trade-off between liquidity and profitability (Puneet & Parmil, 2012)[1]. Therefore, the relationship between liquidity management and profitability is of great significance to bank operation.

2. RESEARCH ON THE LIQUIDITY MANAGEMENT OF COMMERCIAL BANKS

Bank liquidity generally refers to the ability of a bank to obtain available funds immediately at a reasonable price. Bank assets and liability management are important aspects of liquidity plan (MacDonald & Koch, 2006) [2]. Liquidity management refers to providing or withdrawing a certain amount of liquidity strategically to the market according to the expected level of short-term reserve currency without affecting the profitability and operating activities of the bank, which depends on the daily assessment of the liquidity status of the banking system. The liquidity demand of the banking system is usually defined by the sum of the reserve requirements of the monetary authority for the bank (Ibe S O 2013)[3]. The main objective of liquidity management is to ensure that there is a balance between the cash inflow and outflow of the bank, i.e. assets and liabilities (Choudhry, 2012) [4]. One of the main objectives of liquidity management is to manage the bank's liquidity positioning and reduce the level of risk exposure (Mazzi, 2013) [5]. Effective liquidity management is of great significance to the smooth

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

operation of enterprises (Valrshney, 2001)[6]. Any bank can survive successfully and then maintain the trust and confidence of the public without liquidity management and sufficient liquidity measures, so that the needs of customers will always be met. If banks refuse to maintain sufficient liquid assets in their bank management, the risk of losing customers and public confidence will threaten their survival (Samiksha, 2013) [7]. Poor liquidity management affects income and capital, leading to bankruptcy and bank failure in extreme cases (Alemayehu & Ndung'u, 2012) [8].

The difficulty of liquidity management lies in how to achieve an ideal balance between liquidity and profitability (Nahum et al., 2007)[9]. There are two forms of liquidity management, one is the ability to trade stocks or securities at current prices, the other is the ability to pay cash and collateral obligations without incurring significant losses, which is applicable to large organizations, such as financial institutions and banks. In either case, liquidity management describes the ability of investors or managers to reduce their liquidity risk exposure (Alshatti, 2015)[10]. Under the impact of liquidity caused by large amount of withdrawals from depositors, banks acquire liquidity by selling securities in the financial market instead of clearing loans, and buy or sell securities in the financial market to dynamically adjust their portfolios (Sawada, 2010) [11]. Liquidity management also includes financing for the liquidity needs to banks (Nzotta, 2004)[12]. In addition, when managing liquidity, banks should calculate the liquidity ratio to help determine the liquidity status of banks. One of the commonly used liquidity ratios is the current ratio, that is, current assets divided by current liabilities (Banks, 2014)[13]. With the aggravation of liquidity shortage, bank liquidity management has become the main problem during the financial crisis. Banks should increase their sources of liquidity. In addition to the generation of sales liquidity, deposit funds and the inventory management of the bank's internal cash reserves are also very important issues. Any significant improvement of the bank's distribution in cash management may play a positive role in reducing the bank's liquidity tension (Cabello, 2013) [14].

3. RESEARCH ON THE PROFITABILITY OF COMMERCIAL BANKS

The profitability of a bank refers to the ability of a bank to generate revenue over its cost relative to its capital base. Good and profitable banks are better able to withstand the negative impact and contribute to the stability of the financial system (Brissimis, Athanasoglou & Delis, 2005) [15].

The main drivers of bank performance are cost, efficiency, profit and market structure (Bikker, 2010) [16]. The main determinants of bank profitability include capital adequacy ratio, credit risk, liquidity, deposit growth, GDP and inflation (Azam & Siddiqui, 2011)[17]. In Saudi Arabia, Ahmed and Khababa (1999) believed that commercial risk, market concentration, market size and bank size were the main determinants of bank profitability [18]. For sub Saharan Africa, Flamini, McDonald and Schumacher (2009) emphasized that credit risk, capital scale, market dominance, GDP and inflation are the main determinants of bank profitability [19].

Among the factors that affect the bank's earnings in Ireland from 1983 to 2001, effective cost management has an impact on the earnings, while economic growth has a positive impact on the bank's profits (Bank R & Bagheri, 2007) [20]. Regression analysis shows that the short-term debt ratio and the total debt ratio have a significant positive impact on the return of equity, while the long-term debt ratio has a significant negative impact on the return of equity (Abor, 2005)[21]. Paolo (2011) believes that the total debt ratio to shareholders' equity may be negatively related to profitability at an excessively high debt level [22]. From 1993 to 1998, the operating performance of the Bank in Middle East countries shows that financial liabilities and long-term loans will lead to high profitability, excluding the impact of macro environment and financial market structure (Bashir, 2000)[23]. Bank size and credit risk have a negative impact

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

on bank profitability. The higher the proportion of non-interest income, the greater the profitability (Sufian & Chong, 2008)[24].Macit (2012) analyzed the bank specific factors and macro factors that affect the Turkish banks, and believed that the non-performing loan ratio has a significant negative impact on bank profits, while the logarithm of asset size has a significant positive impact[25]. Trabelsi (2015) assessed the impact of liquidity risk and global financial crisis on the profitability of Islamic commercial banks in Bahrain from 2007 to 2013. The results show that capital adequacy ratio, financial leverage, deposits and GDP have a significant positive impact on the return of total assets, while bank size and global financial crisis have a significant negative impact on the return of total assets [26].

4. RESEARCH ON THE IMPACT OF LIQUIDITY MANAGEMENT ON THE PROFITABILITY OF COMMERCIAL BANKS

The impact of liquidity management on the profitability of banks has been studied by many scholars, but there are still opposite conclusions about the relationship between them, which need to be solved. This study is more valuable in developing countries because their overall business environment is more uncertain (Ismail, 2016)[27].

Some scholars think that excessive liquidity damages the bank's profits. Globally, liquidity management is inversely proportional to the performance of commercial banks (Berrios, 2013)[28]. Bourke (1989)[29], Drakos (2003)[30] and Hesse (2007)[31] found a negative correlation between net interest margin and liquidity. Molyneux and Thorton (1992)[32] concluded that there was a negative correlation between liquidity and profitability. In view of the low liquidity premium of current assets, their income will be lower than that of non current assets, and holding them will bring opportunity cost to banks. Berger (1995) used the proportion of cash assets to total assets to calculate liquidity risk, and found that there was a positive relationship between bank liquidity risk and total asset return [33]. A study conducted by Kasekende and Ating-Ego (2003) in Ghana found that there was a negative correlation between the liquidity and the profitability of Ghana's banking industry [34]. Wang Lu (2008) pointed out a fact in the research on the relationship between asset liquidity and the performance of commercial banks that, because the income and risk of financial assets are in direct proportion, the profitability of a large number of liquidity assets is relatively limited. In order to ensure sufficient liquidity, banks will sacrifice the ability to obtain income [35]. Arif (2012) tested the liquidity risk of 22 Pakistani banks from 2004 to 2009, and found that liquidity risk had a significant impact on the profitability of the banks. The increase of bank deposits led to the decrease of profitability and increased the dependence on the central bank to meet customers' demand for withdrawal. In addition, non-performing loan ratio and liquidity gap had a negative impact on profitability [36]. Li Jianquan and Huang Lei (2014) established a pulse response model with time-varying characteristics to analyze the interaction between the "three principles". The research shows that liquidity shock has a long-term and more obvious negative impact on earnings [37]. Aziz et. al. (2015) designed the profitability ratio, taking the unique structure and operation procedures of Islamic Bank into account. It was found that as soon as the quick ratio and current ratio decreased, the bank's profitability increased, while the cash ratio remained stable was the guarantee of the bank's profitability [38].

Some scholars agree that sufficient liquidity can promote the bank's profitability. The medium and long-term relationship between liquidity and profitability may be positive, which means that low liquidity will lead to greater loan demand and lower profitability, and low profitability will not generate enough cash flow, thus forming a vicious circle (Hirigoyen, 1985)[39]. Miller and Noulas (1997) studied the U.S. banking system in a difficult environment through regressing the cross-sectional data and panel data. The result shows that there is a negative relationship between liquidity risk and profitability. At that time, loans face greater

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

risks and are more likely lead to loan losses. Under the low liquidity level, banks face difficulties in maximizing profits [40]. Kosmidou, Tanna and Pasiouras (2005) realized that the ratio of current assets to customers and short-term funds with the return on total assets were positively correlated, which was statistically significant. There was a significant positive relationship between liquidity and bank profits [41]. According to the survey of listed banks in Ghana in 2013, there is a weak positive correlation between liquidity and profitability (Lee and Lee, 2006) [42]. Usually, the adjustment of liquidity strategy will not have a significant impact on the return of total assets. Only during the financial crisis, making more use of liquidity forecast and short-term financing can have a positive impact on the return of total assets (Havrylchyk & Milia, 2006) [43]. Sufian (2009) also found that commercial banks with high liquidity management levels have stronger profitability [44]. The correlation analysis of Nigerian commercial banks shows that there is a significant positive correlation between liquidity and profitability. Therefore, the central bank should implement flexible monetary policies and discount rate so that commercial banks have options to meet the unexpected demand for withdrawal, and reduce the trend of sacrificing profits to maintain excess cash (Adebayo, David & Samuel, 2011)[45]. It is found that the liquidity of commercial banks has a significant positive effect on profitability, and this relationship is two-way. The profitability of commercial banks is greatly affected by liquidity, and vice versa. (Bategeka & Okumu, 2010)[46]. Lartey, Antwi, and Boadi (2013) tried to find out the relationship between the liquidity and profitability of listed banks in Garner. The results showed that the liquidity and profitability of listed banks decreased from 2005 to 2010, and there was a very weak positive correlation between the liquidity and profitability of listed banks [47]. According to the research of Song Qin and Zheng Zhenlong (2011)[48], Liu Xinqun and Liu Jiangtao (2013)[49], from the long-term change trend, the liquidity of commercial banks has a positive correlation with business performance. Ajibike and Aremu (2015) studied the impact of liquidity on bank performance in Nigeria by using GMM estimation technology, and found that there was a positive correlation between liquidity and bank performance [50]. Rafiq and Ahmad (2016) studied the financial data of Pakistan branch of Standard Chartered Bank, using current ratio, quick ratio and net working capital index. He found that the current ratio is negatively related to profit, quick ratio and net working capital are positively related, and the overall liquidity is positively related to profitability [51]. Edem (2017) used secondary market data of 24 banks in Nigeria from 1986 to 2011 to analyze the impact of liquidity management on bank efficiency. Correlation test shows that equity return and cash liquidity ratio are positively correlated [52].

Other scholars hold the view that bank liquidity has both positive and negative effects on its profitability. Berger and Humphrey (1997)[53], Kosmidou et al. (2005) found that the proportion of liquid assets in total deposits and short-term financing had a positive impact on the return of total assets but a negative impact on the net interest margin. Demirguc Kunt et al. (1998)[54] considering bank characteristics, macroeconomic conditions, market system and other factors, using loan proportion to represent liquidity risk, found that there was a positive relationship between net profit rate and liquidity risk, and a negative relationship between internal rate of return and liquidity risk. An effective liquidity management system should keep the bank's liquidity level neither too high nor too low. Al-Amri (2009)[55], Bordeleau and Graham (2010)[56] used panel data of North American commercial banks from 1997 to 2009 to conduct empirical research. The result shows that holding a certain proportion of liquidity assets can improve bank performance, but beyond a certain limit, the profitability of commercial banks decreased, indicating that there is an inverted U-shaped relationship between liquidity and profitability of commercial banks. This inverted U-shaped relationship was also proved by Flannery and Rangan (2002) [57]and Zhang Lin (2015)[58]. A study conducted by Rahaman (2010) [59] in Canada shows that there is a nonlinear relationship between banks' liquidity assets and profitability. When all other conditions are the same, the

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

estimate shows that the relationship between current assets and profitability depends on the bank's business model and market financing risk. Banks operating traditional businesses are allowed to optimize their profits at a lower level of current assets. Similarly, when the market financing risk is low, banks can also hold less current assets to optimize profits. Munteanu (2013) empirically analyzed the panel data of commercial banks in eastern and central Europe from 2003 to 2010, and found that liquidity has a slight positive and negative impact on the return of net assets and the return of total assets, which shows that liquidity has a non-linear relationship between the return of net assets and the return of total assets [60]. Das B C et al. (2015) studied the liquidity management and profitability of private commercial banks in Bangladesh. Under the positive effect of other factors, appropriate liquidity management can improve the profitability of banks, and better liquidity management depends on market conditions, internal regulations and the implementation of these systems [61]. Alshatti A (2015) selected 13 banks to investigate the impact of bank liquidity management on their profitability from 2005 to 2012. The empirical results show that the increase of quick ratio and the available capital investment ratio will lead to the increase of profitability, while the increase of capital ratio and current asset ratio will lead to the decrease of profitability. Bassey and Moses (2015) studyed 15 banks and the result shows that current ratio has a negative effect on equity return, but there is a positive relationship among deposit loan ratio, asset ratio, loan and equity return[62]. Based on the annual data of ten banks from 2006 to 2015, the impact of interest coverage ratio, capital adequacy ratio and quick ratio on the profitability of Pakistan's banking industry is positive, while the cash and current ratio is negatively related to the profitability of banks (Nabeel M, Hussain S M, 2017)[63]. Also, Ibrahim (2017) studied the impact of liquidity management on the profitability of commercial banks in Pakistan from 2004 to 2013. The empirical results show that the current ratio and the investment ratio of available funds have a positive impact on profitability, while the capital ratio and current asset ratio have a negative impact on profitability [64]. Empirical results of Nigerian deposit banks show that the growth of quick ratio of available funds leads to the growth of profitability, while the growth of cash ratio and liquidity coverage leads to the decline of profitability of Nigerian deposit banks (Fagboyo O, Adedeji A, Adeniran A, 2018) [65]. The trade-off between the liquidity and profitability of Zimbabwean banks has led to a decline in the profitability of financial institutions, but the bank's profitability was therefore more stable and sustainable (Dzapasi F D, 2020)[66].

5. CONCLUSION

The key point of liquidity management of commercial banks is to balance liquidity and profitability, which is of great significance to the safe operation of banks and the financial stability. The internal factors of banks affect the profitability are operating efficiency, asset quality, asset structure, bank scale, and external factors are market structure, market liquidity, GDP, inflation and commercial risk. The indicators that measure the bank's operating efficiency include cost and the ratio of non-interest income, and the quality of assets is reflected by the non-performing loan ratio. Asset structure indicators include debt ratio, capital adequacy ratio, etc. There are three main views about the impact of liquidity management on the profitability of commercial banks, which are negative, positive and both. The main reason for scholars who hold the view of negative impact is that the opportunity cost brought by the low liquidity premium of current assets makes the bank's profits suffer losses, and the bank sacrifices part of its profits to ensure the safe operation. The main reason for scholars who hold a positive view is that the improvement of liquidity level can promote the bank's profit in the long run, and the low liquidity of the bank in the crisis period will lead to greater risk and be adverse to the profit. In addition, a large number of scholars have proved that bank liquidity has both positive and negative effects on its profitability through empirical research, which is reflected in different liquidity levels and differentiated liquidity indicators. In a word, almost all scholars tend to

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

advise commercial banks to maintain the appropriate liquidity level, whether for security or profitability.

REFERENCES

[1] Saluja P, Kumar P. Liquidity and profitability trade-off [J]. International Journal of Advanced

[2] MacDonald S S, Koch T W. Management of banking [M]. Cengage Learning India Private Limited, 2006.

[3] Ibe S O. The impact of liquidity management on the profitability of banks in Nigeria[J]. Journal of Finance and Bank Management, 2013, 1(1): 37-48.

[4] Choudhry M. The principles of banking[M]. John Wiley & Sons, 2012.

[5] Mazzi B. Treasury Finance and Development Banking,+ Website: A Guide to Credit, Debt, and Risk[M]. John Wiley & Sons, 2013.

[6] Satish-Chandra V. Trade Credit & Company Liquidity[J]. The Management Account, 2001, 36(10): 738-756.

[7] Samiksha C. Liquidity Concepts, Instruments and Procedure[J]. 2013.

[8] Alamayehu G, Ndung'u N. Applied time series econometrics[J]. 2012.

[9] Biger N, Nguyen N V, Hoang Q X. Chapter 15-The determinants of capital structure: Evidence from Vietnam[J]. Asia-Pacific financial markets: Integration, innovation and challenges, 2007: 307-326.

[10] Alshatti A S. The effect of the liquidity management on profitability in the Jordanian commercial banks[J]. International Journal of Business and Management, 2015, 10(1): 62.

[11] Sawada M. Liquidity risk and bank portfolio management in a financial system without deposit insurance: Empirical evidence from prewar Japan[J]. International Review of Economics & Finance, 2010, 19(3): 392-406.

[12] Nzotta S M. Money, Banking and Finance, Theory and Practice Owerri[J]. Hudson Jude Publishers. International Journal of Interdisciplinary and Multidisciplinary Studies, 2004, 2: 93-103.

[13] Banks, E. Liquidity risk: Managing funding and asset risk.Hampshire: Palgrave Macmillan, 2014.

[14] Cabello J G. Cash efficiency for bank branches[J]. SpringerPlus, 2013, 2(1): 334.

[15] Athanasoglou P P, Brissimis S N, Delis M D. Bank-specific[J]. Industry-Specific and Macroeconomic Determinants of Bank Profitability, 2005

[16] Bikker J A. Measuring performance of banks: an assessment[J]. Journal of applied Business and Economics, 2010, 11(4): 141-159.

[17] Azam, M., & Siddiqui, S. Domestic and Foreign Banks' Profitability: Differences and Their Determinants.International Journal of Economics and Financial Issues, 2011, 2(1), 33-40.

[18] Ahmed, A. M., & Khababa, N. Performance of the banking sector in Saudi Arabia. Journal of Financial Management and Analysis, 1999, 12(2), 30-36.

[19] Flamini, V., McDonald, C. A., & Schumacher, L. B. The Determinants of Commercial Bank Profitability in Sub-Saharan Africa. IMF Working Papers, 2009, 1-30.

[20] Bagheri H. Analysis of factors affecting the profitability of commercial banks (Case Study: Refah Bank)[J]. Financial Research, 2007, 8(1).

[21] Abor J. Corporate reliance on bank loans: evidence from listed companies in Ghana: economics[J]. South African Journal of Economic and Management Sciences, 2005, 8(4): 479-489.

[22] Paolo P, Umar S, Gabriele T. The Italian Sign Language Sign Bank: Using WordNet for Sign Language corpus creation, 2011[J]. 2011.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

[23] Bashir A. Assessing the Performance of Islamic Banks: Some Evidence from the Middle East 1993-1998, Papier présenté à la 8ième Conférence de l'Economic Research Forum (ERF), Amman, Jordanie, novembre[J]. Voir: www. erf. org. eg, 2000.

[24] Sufian F, Chong R R. DETERMINANTS OF BANK PROFITABILITY IN A DEVELOPING ECONOMY: EMPIRICAL EVIDENCE FROM THE PHILIPPINES[J]. Asian Academy of Management Journal of Accounting & Finance, 2008, 4(2).

[25] Macit F. Bank specific and macroeconomic determinants of profitability: Evidence from participation banks in Turkey[J]. Economics bulletin, 2012, 32(1): 586-595.

[26] Trabelsi M K. The impact of liquidity risk determinants on profitability: An empirical study on Islamic banks in the kingdom of Bahrain[D]. Universiti Utara Malaysia, 2015.

[27] Ismail R. Impact of liquidity management on profitability of Pakistani firms: A case of KSE-100 Index[J]. International Journal of Innovation and Applied Studies, 2016, 14(2): 304.

[28] Berríos M R. The relationship between bank credit risk and profitability and liquidity[J]. The International Journal of Business and Finance Research, 2013, 7(3): 105-118.

[29] Bourke P. Concentration and other determinants of bank profitability in Europe, North America and Australia[J]. Journal of Banking & Finance, 1989, 13(1): 65-79.

[30] Drakos K. Assessing the success of reform in transition banking 10 years later: an interest margins analysis[J]. Journal of Policy Modeling, 2003, 25(3): 309-317.

[31] Hesse H, Cihak M. Cooperative banks and financial stability[M]. International Monetary Fund, 2007.

[32] Molyneux P, Thornton J. Determinants of European bank profitability: A note[J]. Journal of banking & Finance, 1992, 16(6): 1173-1178.

[33] Berger A N. The relationship between capital and earnings in banking[J]. Journal of money, credit and Banking, 1995, 27(2): 432-456.

[34] Kasekende L A, Atingi-Ego M. Economic reform policies in Uganda[J]. 2003.

[35] Wang Lu. Research on performance and liquidity of commercial banks [J]. Market weekly (Theoretical Research), 2008 (08): 117-120

[36] Arif A, Anees A N. Liquidity risk and performance of banking system[J]. Journal of Financial Regulation and Compliance, 2012, 20(2): 182-195.

[37] Li Jianquan, Huang Lei. Study on the time-varying relationship among security, liquidity and profitability of China's commercial banks [J]. Research on financial supervision, 2014 (07): 54-66

[38] Aziz et. al. LIQUIDITY MANAGEMENT AND PROFITABILITY IN ISLAMIC BANKS OF KURDISTAN REGION OF IRAQ: CIHAN BANK FOR ISLAMIC INVESTMENT AND FINANCE AS A CASE STUDY[J]. International Journal of Research – GRANTHAALAYAH, 2017,5(5) :73-87

[39] Hirigoyen G. Les implications de la spécificité des comportements financiers des moyennes entreprises industrielles, MEI familiales[M]. Institut d'administration des entreprises, 1985.

[40] Miller S M, Noulas A G. Portfolio mix and large-bank profitability in the USA[J]. Applied Economics, 1997, 29(4): 505-512.

[41] Kosmidou K, Tanna S, Pasiouras F. Determinants of profitability of domestic UK commercial banks: panel evidence from the period 1995-2002[C]//Money Macro and Finance (MMF) Research Group Conference. 2005, 45: 1-27.

[42] Lee C F, Lee A C. Terminology and essays[J]. Encyclopedia of Finance, Springer, New York, NY, 2006: 1.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

[43] Havrylchyk O, Jurzyk E. Profitability of foreign banks in Central and Eastern Europe: Does the entry mode matter?, Bank of Finland[J]. BOFIT Discussion papers, 2006, 5.

[44] Sufian F. Determinants of bank efficiency during unstable macroeconomic environment: Empirical evidence from Malaysia[J]. Research in International Business and Finance, 2009, 23(1): 54-77.

[45] Adebayo O, David A O, Samuel O O. Liquidity Management and Commercial Banks' Profitability in Nigeria[J]. Research Journal of Finance and Accounting, 2011, 2(7/8): 24-38.

[46] Bategeka L, Okumu L J. Banking sector liberalization in Uganda: Results and policy options[J]. 2010.

[47] Lartey V C, Antwi S, Boadi E K. The relationship between liquidity and profitability of listed banks in Ghana[J]. International Journal of Business and Social Science, 2013, 4(3).

[48] Song Qin, Zheng Zhenlong. Basel III, risk aversion and bank performance: An Empirical Analysis Based on panel data of Chinese commercial banks from 2004 to 2008 [J]. International financial research, 2011 (07): 67-73

[49] Liu xinqun, Liu Jiangtao. Asset liability management and bank performance: An Empirical Study Based on the latest development of Chinese and foreign commercial banks [J]. Beijing Financial Review, 2013 (03): 53-70

[50] Ajibike J O, Aremu O S. The Impact of Liquidity on Nigerian Bank Performance: A Dynamic Panel Approach[J]. Journal of African Macroeconomic Review, 2015, 5(2): 6-9.

[51] Ahmad, Ishtiaq, and Adnan Rafiq, eds. Pakistan's democratic transition: Change and persistence. Taylor & Francis, 2016.

[52] Edem D B. Liquidity management and performance of deposit money banks in Nigeria (1986–2011): An investigation[J]. International Journal of Economics, Finance and Management Sciences, 2017, 5(3): 146-161.

[53] Berger A N, Humphrey D B. Efficiency of financial institutions: International survey and directions for future research[J]. European journal of operational research, 1997, 98(2): 175-212.

[54] Demirgüç-Kunt A, Huizinga H. Determinants of commercial bank interest margins and profitability[J]. World Bank Policy Research Working Paper, 1998, 1900.

[55] Al-Amri, M. (2009). Financial Management. Jordan: Dar Al-Manahij.

[56] Bordeleau É, Graham C. The impact of liquidity on bank profitability[R]. Bank of Canada working paper, 2010.

[57] Flannery M J, Rangan K P. Market Response to Regulatory Innovation: Evidence from the Banking Industry's Increased Capitalization[J]. 2002.

[58] Zhang Lin. liquidity of bank assets and operating performance: Is there an inverted U relationship? [J]. Investment research, 2015,34 (02): 58-67

[59] Rahaman A S, Lawrence S. Public sector accounting and financial management in a developing Country organizational context[J]. A Three-Dimensional View: Armidale, University of New England, 2010, 1: 121-153.

[60] Munteanu I. Optimizing Bank Liquidity in Central and Eastern Europe[J]. Review of Economic and Business Studies, 2013, 6(1): 83-90.

[61] Das B C, Chowdhury M M, Rahman M H, et al. Liquidity management and profitability analysis of private commercial banks in Bangladesh[J]. International Journal of Economics, Commerce and Management, 2015, 3(1): 4-34.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202007_6(7).0007

[62] Bassey G E, Moses C E. Bank profitability and liquidity management: A case study of selected Nigerian deposit money banks[J]. International Journal of Economics, Commerce and Management, 2015, 3(4): 1-24.

[63] Ashraf M, Nabeel M, Hussain S M. Liquidity Management and Its Impact on Banks Profitability: A Perspective of Pakistan[J].

[64] Ibrahim. Impact of Liquidity Management on Profitability in the Pakistani Commercial Banks[J]. International Journal of Scientific & Engineering Research,2017,8(7):1459-1478

[65] Fagboyo O, Adeniran A, Adedeji A. Impact of liquidity management on profitability in Nigeria's banking sector[C]//Proceedings of ICGET Conference. 2018.

[66] Dzapasi F D. The impact of Liquidity Management on Bank Financial Performance in a subdued economic environment: A case of the Zimbabwean Banking Industry1[J].