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What Determines the Usage of Off-Balance Sheet Activities in Pakistan? A Conceptual Framework

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In the course of recent decades, off-balance sheet activities have emerged as an innovation in banking and finance. Being the easiest source of additional fee income that is beyond a bank's balance sheet activities and avoiding regulatory costs they are increasingly popular in banking industries around the world. This paper presents a discussion on the determinants of usage of off-balance sheet activity in commercial banks in Pakistan. The paper also presents an in-depth insight into different theoretical justifications and empirical literature to answer the whys and wherefores of off-balance sheet usage in commercial banks of Pakistan. The conceptual model considers the impact of capital size, profitability, loan, credit risk, efficiency, market concentration, capital adequacy, reserve requirement, real GDP, interest rate spread and inflation on off-balance sheet activities of banks. The conclusion is that, although gathering the data is often difficult, the rationale behind it is rather straightforward, which could be useful to help future researchers test the proposed model empirically. Although much literature is available on off-balance sheet (OBS) activities in the banking system, this is the first study that is carried out to explore the determinants of usage of a Balance Sheet activity in commercial banks in Pakistan.

Keywords: *Off-balance sheet activities, Commercial Banks, Pakistan.*

Introduction

During the course of the last three decades, the banking sector has undergone dramatic changes. The emergence of fields like financial engineering has offered a verity of sophisticated tools to manage and mitigate banking risk. The one significant and notable development visible in the banking industry and in particular commercial banking business is the inclusion of off-balance sheet items in firm balance sheet structure. Off-balance sheet activities (OBSA) are those activities which are not part of bank's balance sheet rather they are mentioned in footnotes. According to Nachane and Ghosh (2002), the off-balance sheet activities are different from conventional banking activities and are contingent contracts which cannot be captured as an asset or liability which means that the OBSA are not assets nor liabilities, rather they are contingencies which at the end can result in an asset or a liability. These activities are basically a free income source for commercial banks and these are activities which are not in the scope of bank balance sheet items.

The OBSA of commercial banks incorporate various types of contingent guarantees (e.g letter of credit (LC) which is an underwritten insurance for payment to another bank and a commitment of lending to the customer), financial derivatives (e.g future, forward, option and swap: these are contracts or agreements which drive their value from underlying asset and are used to manage and mitigate different type of risks such as currency risk and forwad exchange risk) and various other loan commitments (The contractual commitment between bank and borrower to lend a certain amount at specified interest after a specific time period is known as loan commitment).

The recent episode of economic turmoil known as subprime crisis has raised certain questions about the risk management techniques applicable in the global banking industry. One of the main reasons behind the subprime crisis was the special purpose vehicle (gendered through securitization of mortgage loans) which was designed to manage the future risk. The federal reserve had fixed the interest rate at an historic low level and banks, to gain optimum benefits, relaxed the lending conditions. However, bankers were aware of the risk associated with this action, so they insured their products and sold them in the derivative market. Now this action at the start was very effective and leveraged the whole financial sector. However, later it turned into a crisis bubble which burst like an economic bomb. This historic economic crisis has raised many questions re risk management processes and also highlight the sensitivity of financial engineering jobs. Moreover, according to a conclusion made by the Financial Crisis Inquiry Commission (2011), the securitization process is the main reason behind this crisis. They continued and argued that banks OBS items underweighted their on-balance item and helped the commercial banks in their move out from balance sheet loans which ultimately resulted in more earnings.

Securitization is a process of creating a pool of loans such as mortgage loans, car loans, and credit cards and then selling them to a third party in the form of securities or bonds. Investors who are investing in these instruments will be paid from the interest earned from the customer. The fee that loan originator bank charged for their service from the investor who purchased the securitized asset will not be the part of firm balance sheet items. Since 1996 the performance of the Pakistani banking sector is stagnant. Globalization of financial markets, ever-changing regulatory environment, and financial liberalization are placing significant pressure on the performance of Pakistani banks. To avoid default risk and to increase performance, the Pakistani banking sector has undergone consolidation. More than 50 financial institutions have undergone mergers and acquisitions. The mergers and acquisitions were envisaged as means to boost performance. However, the merger and acquisitions have not brought any significant change in bank performance. Meanwhile, the non-interest income of the Pakistani banking sector has also decreased from 0.017 (1996) to 0.01.2 (2016).

In such a situation, when bank profit ratio is not showing significant improvement they prefer to engage in OBSA. OBSA provide an additional source of fee-based non-interest income. Because of increasing pressure from Basel regulations, banks around the world including neighboring counties are aggressively raising their engagement in OBSA. However, despite the deteriorating performance issues, the banking sector in Pakistan is increasing their focus on on-balance sheet activities.

Why Banks Engage In Obsa

Researchers (Meng, Cavoli & Deng, 2017; Firth, Li & Wang, 2016; Du, Worthington & Zelenyuk , 2015: Lozano & Pasiouras, 2014: Perera, Ralston, & Wickramanayake, 2014; Karim, Liadze, Barrell & Davis, 2013: Duran & Lozano, 2013; Ahmad & Misman, 2012; Che & Sundjo, 2018) have reported that around the world, the OBSA in commercial banking sectors has shown a rapid increase. Now the question arises regarding why commercial banks use OBSA. Banks use OBSA for different purposes. The prime reason for using OBSA is the capacity to generate additional cash inflows (Lozano and Pasiouras 2010). Khambata (1989) argued that the use of OBSA helps the banks to enhance their scope of operation which results in an increase of Bank income which simply cannot be earned from on-balance sheet items or traditional banking activities. Another component central in this is that banks are aggressive about their scope of operations currently due to increasing competition in the financial market which is pushing the banks to explore new ways of earning (Busch & Kick, 2015). So, one can argue that from a banker's point of view, OBSA is seen as a means to improve returns and bring value to the shareholders.

The other main purpose of performing OBSA is to manage Banking risk. Because of their effectiveness in managing the default, forward exchange, and growth risk, banks nowadays are aggressively carrying OBSA and even in some cases, they have overweighed the bank on balance sheet items. However, OBSA is very risky and their associated risk can transform them into an opportunity or a threat. For example, guarantees which are a source of an additional income also add the risk of future payments even in acute stress situations or unfavorable circumstances. Whereas banks consider OBSA a risk management tool and justify their overweighted figures as a tradeoff between the risk of losses arising from interest-based or conventional banking activities (Ahmad & Misman, 2012; Aktan et al., 2013; Pushkala et al., 2017; Venkatesh et al., 2017).

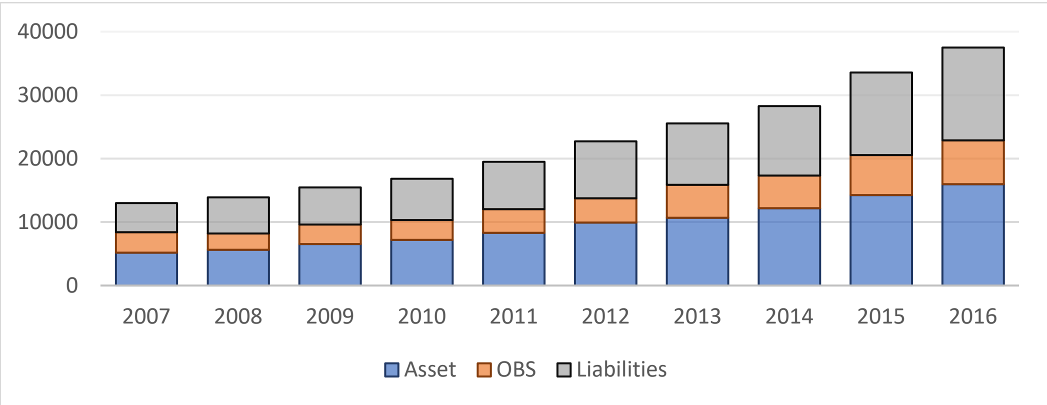
Another reason banks engage in these activities is to avoid regulatory costs such as minimum reserve, deposit insurance, and capital adequacy requirement (Ahmad, 2007; Ahmad et al., 2012; Lozano & Pasiouras, 2010). These activities are not shown on a bank's balance sheet under current accounting standards and reserve requirements and deposit insurance premiums are not levied on OBS activities (Ahmad, 2007). Even if the most frequently cited explanation for the growth of these activities is that they provide banks a way of avoiding reserve requirements and bank capital adequacy requirements and these regulations may provide incentives to go "off-balance sheet," non-regulatory factors such as real GDP, international trade, bank size, profitability and credit risk are also important (Ahmad et al 2012; Ahmad 2007 and Hassan & Ahmad, 2009; Chianese, 2018). Addressing the aftermath of the crisis, governments around the world have worked to avoid any further such event by imposing a certain regulatory restriction on their financial sectors. These restrictions and increasing tax rates have shrunk the net income figure of commercial banks. However, banks to avoid regulatory restrictions and income loss, are increasing the level of off-balance sheet activities.

Due to the above-mentioned reasons, OBSA has been growing rapidly in recent years and their extents are different across the world. According to Ahmad (2007), the ratio of the aggregated OBS activities to aggregated total assets in Eastern Europe, South and Central America, Africa and The Far East and Central Asia equals 15%, 12%, 18%, 12% in 2005, respectively, compared to 60%, 63%, 41% for North America, NAFTA, and G7 countries, respectively. Similarly, studies carried out by Aktan et al., (2012) on Turkey, Pushkala et al., (2017) on India, and Ahmad and Misman (2012) on Malaysia in their findings report that the OBSA are showing an increasing trend. As part of the world financial system, there has been a shift in the sources of income of the Pakistani commercial banks. However, the shift is against the market trend and the relative share of income from traditional banking activities has increased and that of non-interest income has decreased. For example, according to Firth, Li and Wang (2013), Do, Worthington & Zelnyuk (2016), Meng, Cavoli & Deng (2017) the non-interest earning has emerged as a major source of earnings of commercial banks around the world. In the next section, presented a brief statistical analysis of OBSA in commercial banks of Pakistan is presented.

OBSA in Pakistan

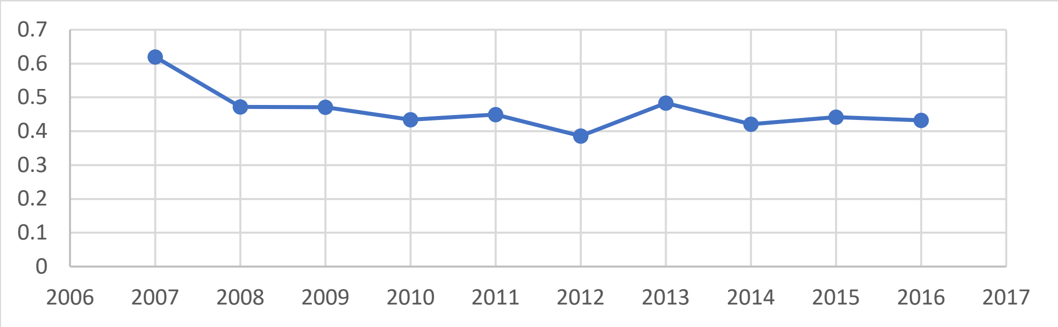
In recent years, an exposure of Pakistani banks to off-balance sheet operations which include, guarantees, acceptance, letter of credit, performance bonds, trust fund, commitments and bill for collection are increasing in volume over time. According to financial statement analysis published by State bank of Pakistan in 2016 (FSA 2012-2016; FSA 2007-2011), in the Pakistani banking sector during the 10 -year period from 2007 to 2016, the total amount of contingencies rose from 3205 billion Pakistani Rupees to 6907 billion Pakistani Rupees. In other words, during this time the off-balance sheet activities grew an average of 21.55 percent per year. Whereas during the same time period the other balance sheet items showed high growth compared to the OBSA. For example, assets showed an average growth of about 31 percent per year (5171 to 15984 billion PKR), liabilities also increased with an average pace of 31.5 percent (4626 to 14589 billion PKR), and equity increase with an average pace of 8 percent (831 to 1203 billion PKR). During these five years, the interest spread also frew from 42.94 to 51.61. The detail is shown in figure 1.1 below.

Figure 1.1. OBSA in Pakistan



From the above discussion, it is evident that OBSAs are being performed in Pakistani Banking industry. However, the growth in OBSA is slower than the growth in on balance sheet item. Hence the ratio of OBSA to the total asset as shown in figure 1.2 below is gradually decreasing during the last 10 years.

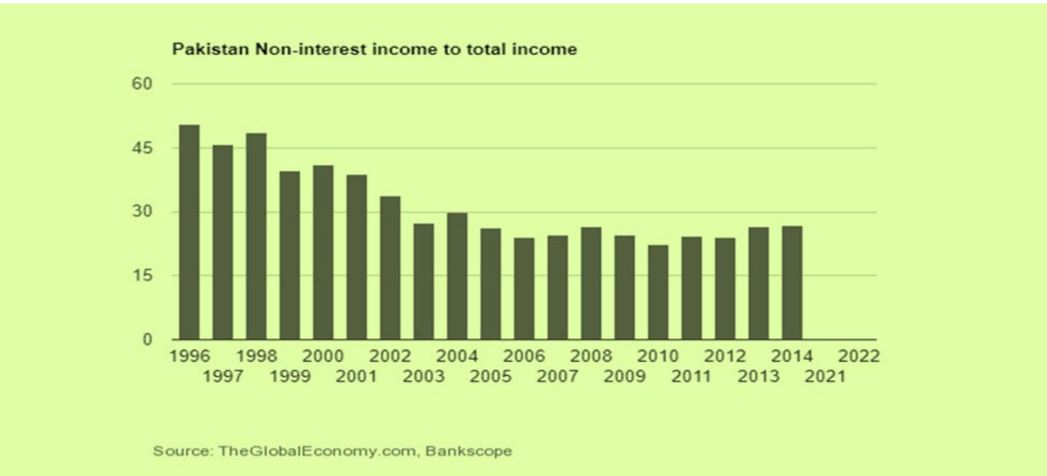
Figure 1.2: Ratio of OBSA to total asset



To have a clearer picture the statistical data available was explored and it was found that the non-interest income of commercial banks in comparison to the total asset has gradually decreased over the last twenty years (figure 1.3).

Figure 1 shows the growth of off-balance sheet activities and total asset of commercial banks in Pakistan since 2007. The figure clearly illustrates that the growth of off-balance sheet activities is less than the growth of total assets of the commercial banks in Pakistan during the period 2007-2016. Thus, the limited usage of the OBS activities in the Pakistani banking industry indicates that the banking sector in Pakistan still relies on traditional banking businesses as the main source and use of funds.

Figure1.3: Non-interest income to total asset



The slow growth in OBSA in Pakistan is also evident from a study of Perera et al., (2014). They carried out a study on the relationship between the lending channel and OBSA on the sample of south Asian banks. Out of 114 banks, there were 20 Pakistani banks. The data from Pakistani banks have raised some facts which are consistent with our graphs. The five-year data from 2007 to 2011 was collected from the banks' annual reports and the South Asian development bank. The findings of the study concluded a positive and significant relation between OBSA and bank lending channels. The OBS to total asset ratio of Pakistani banks is 0.22 which is lowest among all participating countries i.e. India (0.79), Bangladesh (0.28) and Siri Lanka (0.26). Similarly, the OBSA in Pakistani Banking sector is growing at 21.22 percent per year which is the lowest among all participating countries i.e. India (31.23), Bangladesh (30.45) and Siri Lanka (29.85). However, the growth in gross lending of Pakistani banks is 38.55 which is highest among all participating countries i.e. India (22.81), Bangladesh (20.9) and Siri Lanka (24.96). The findings of the study concluded a positive and significant relation between OBSA and bank lending channels. However, in the case of Pakistani banks, the situation is the other way around

From the above discussion, the question arises that if OBSA is a source of free income and expands the bank operational scope then why are Pakistani banks shifting their focus away from the OBSA. So, another question emerges which is central to this which is 'what factors affect the OBSA decisions of Pakistani commercial banks'? So, in this current study, there is detailed discussion about the factors which affect the decision about OBSA in commercial banks. Given the fact that OBS activities are being used extensively in almost all banking systems in the world, and given that each region in the world has its own political, technological, economic characteristics, as per the knowledge of the researcher less is known about OBS activities and their determinants in Pakistani banks. This thesis aims to bridge this gap in the literature by investigating the determinants of OBS activities of commercial banks in Pakistan. The purpose of this paper is to discuss the practice of off-balance sheet (OBS) activities and determinants of OBS activities of Commercial Banks in Pakistan. So, in the next section, we have discussed certain, bank-specific, regulatory and macroeconomic factors which affect the OBSA in commercial banks.

What Determines the Usage of OBSA in the Banking Industry

The banking sector has experienced worldwide major transformations in its operating environment. Both external and domestic factors have affected its structure and performance, and a number of determining factors could affect commercial banks OBS activities. However, in the Pakistani banking sector, we have observed a different trend in that for the last twenty years the volume of OBSA has been decreasing. To determine the reason behind this gradual decline, a comprehensive study to explore the factors was undertaken to identify which affect the OBSA in commercial banks of Pakistan. After reviewing the existing literature critically, OBSA was selected as the study focus for functioning bank-specific factors, bank-specific regulatory factors, and macroeconomic determinants. The following sections discuss these factors.

Bank Specific Factors

Bank specific factors are management controllable factors, which account for the interbank differences in OBS activities usage. Bank specific factors such as bank size, loan and advances, profitability, credit risk, liquidity risk, efficiency, and market concentration have a significant impact on banks OBSA. These factors are influenced by a bank's management decisions.

Capital ratio is used as a proxy of a banks' ability to absorb the losses arising from both the OBSA and the balance sheet activities. A bank with high capitalization may be viewed as possessing more creditworthiness and as a better guarantee of OBS items. Whereas, a low capital or decreasing capital ratio raises doubts about the creditworthiness of bank. During the last ten years the capital ratio of the banking industry in Pakistan has shown a decreasing trend and in 2016 it was reported at 7.53 which is the lowest of this period. This decreasing capital ratio indicates that reducing capital is an optimal strategy for Pakistani bank. However, according to Basel III, the bank for smooth credit cycling should have a large capital base. So, decreasing capital ratio can be a reason for the decreasing OBSA in commercial banks of Pakistan.

Bank size is among key factors which affect the usage of OBSA. Ahmad (2012) argued that the size of the bank has a significant impact on OBSA. However, bank size is a critical determinant of OBSA as according to one view the banks with more size to get benefit from economies of scale increase the OBSA. The other view argues that when bank size increases to a certain level it increases the likelihoods of risk diversification which ultimately reduces the level of OBSA in large banks. The larger the size of a financial institution, the greater may be its potential to diversify the asset portfolio. In Pakistan, during the last ten years, the size of commercial banks has shown exponential growth. So, it can be argued that because of increasing size commercial banks in Pakistan prefer risk diversification and avoid OBSA.

Loan and Advance is another important factor which places significant effect on the usage of OBSA. It is argued that banks avoid risk resulting from the increasing loan on bank balance sheet, engaged in OBSA. So, a higher loan ratio will increase the interest rate risk, which will create an incentive for banks to hedge using OBSA. In Pakistan, the ratio of loan and advances to total assets has increased from 0.79 to 0.87 (SBP, 2007;2011) which indicates that to avoid increasing interest risk arising from increasing loan banks should engage in OBSA. However, interestingly the OBSA in Pakistan during last ten years has shown a decreasing trend (See figure 1.1).

Profitability is considered as a measure of the bank's creditworthiness as viewed by customers. Thus, OBS activities are profit driven and it is in this regard that the next hypothesis is formulated. Profitability increase a bank's creditworthiness which in turn offers mixed results. Some Banks view increasing profit as an opportunity to take a risk and engage more in OBSA. However an alternate view is that increasing profit as a mean of risk diversification is a preferred option to avoid risky OBSA. During the last ten years, the profitability of Pakistani banks has shown a decreasing trend (SBP, 2007;2011). So, declining ROA can be a reason for decreasing OBSA of commercial banks of Pakistan.

The ***credit risk*** which is a prominent risk in the banking industry is of tremendous importance. The probability of default or default risk is most widely used as a proxy for credit risk. Default risk is a risk which arises when the borrower unable to pay the principal and interest. Angbazo (1998) has used the net charge-off ratio as a proxy of default risk and found a significant relationship between net charge-off ratio (NCHR) and OBSA. So, the net charge-off ratio (NCHR) is another determinant of OBSA. In Pakistan, the non-performing loans write off to provision for non-performing loans is decreased from 38.36 to 2.91. This indicates that the total volume of non-performing loans of Pakistani banks has decreased significantly, affecting their OBSA as well.

Liquidity risk is one of the important factors which affects bank performance, profitability and its non-traditional banking activities such as OBSA. It is proposed that banks with higher liquidity risk prefer to go for OBSA. The liquidity risk can be caused by the maturity mismatch between assets and liabilities. The liquidity risk among the crucial risks not only affects the expected return but also operational performance. The appalling financial condition of the banks can lead to decreasing value of the bank and the bank may engage in OBSA.

*The **efficiency*** of a bank also has a significant impact on usage of OBSA. The operational efficiency and adequate monitoring of credit have a significant impact on bank performance. Keeping in the mind the tremendous growth of OBSA in the banking industry and recognizing the special attention of researchers in contemporary literature of banking risk management and banking efficiency, the current study is envisaged to study the factors which affect the OBSA in Pakistani commercial banks. Meanwhile, it is also been hypothesized that the efficiency of commercial banks has a significant impact on the usage of OBSA in commercial banks of Pakistan. ***Market concentration*** is an industry-specific factor which affects the OBSA usage of commercial banks (Basheer . Market concentration is seen as a proxy of market power so, market concentration increases the banks market power which ultimately likelihood of diversification to OBSA.

Bank Specific Regulatory Factors

The protection of consumer rights and assurance of ethical business practices to the general public are among formal and legal responsibilities of any federal government. In an effort to fulfill these responsibilities the governments have crafted strict laws and installed them in a strict legal system. In case of commercial banks, the strict imposition of consumer protection laws and regulations is a mandatory factor because any turbulence caused by illegal or unethical practices can lead an economy to an economic turmoil. The central bank of any country regulates the commercial banks. Commercial banks of any country are bound to comply with banking laws such as capital adequacy requirements, reserve requirements, taxation, accounting procedures and liquidity requirements. Though the government of any country through central bank impose laws to regulate the system. However, a strict regulatory system adds more compliances cost reduce profit margin. So, to counter the regulatory pressure banks around the world are engaging in OBSA. Theoretical and empirical literature shows that banks engage in OBS activities to avoid certain regulatory costs such as minimum reserve and capital adequacy requirements. The following regulatory variables are reviewed from different banking area empirical studies.

Reserve requirement is measured as the ratio of required reserves. According to previous literature, the reserve requirement is expected to have a positive impact on OBS activities. This is because, the non-interest-bearing required reserve is a regulatory tax on banks, which motivates banks to use OBS activities in order to generate income since OBS activities are free of the reserve requirement. The higher the required reserves, the greater the incentive that banks will engage in OBS guarantees

The ***Capital*** requirement is a regulatory imposition by the central bank of the country and is measured in capital adequacy ratio. In capital requirements protect the depositor’s deposit and ensure the stability of the banking sector in that the banks are advised to hold a buffer of capital. Generally, it is argued that the banks with a greater volume of risky assets should retain a higher buffer of capital. In support of this argument, it is further argued that an undercapitalized bank will face the excessive cost of accessing capital and the overcapitalized bank will face the opportunity cost of holding an excessive amount of capital. All on-balance sheet or traditional banking activities are under capital reserve requirements. Whereas OBSA is free from regulatory pressure so, to avoid risk arising from increasing regulatory pressure the banks are increasing their engagement in OBSA. Thus, it can be argued that the capital reserve requirement is determined by OBSA and carried out in commercial banks of any country.

Macroeconomic Factors

In the postmodern era of business, the banking sector has emerged as the backbone of an economy. The globalization and convergence of economic resources and industries have brought banks into the limelight. Financial innovations have revolutionized the economic system around the world. Therefore, the performance of the banking sector has a significant impact on economic growth of any country and similarly economic prosperity and growth place a significant impact on banking sector performance. As discussed earlier, in recent decades the OBSA activities have emerged as a financial innovation and for an additional fee, the banks around the world are aggressively engaging in OBSA. The practice of off-balance sheet activities by banks can be affected not only by bank-specific factors but also by macroeconomic factors that influence supply and demand conditions for banking services. The following macroeconomic factors were reviewed from different banking area empirical studies in the context of this study.

Economic growth which is often proxied by improvement in economic conditions has a significant impact on OBSA of commercial banks. It is argued that the OBSA is closely linked with the size of any economy and the volume of these activities increases or decreases with the change in economic cycle. Thus, higher economic growth leads to an aggressive engagement in OBSA. However, there is another argument concerning the relationship between OBSA and economic growth which states that during the period of economic growth the business risk decreases which makes OBSA costlier. Therefore, banks during the period of exponential economic growth prefer less risky non-interest income to OBSA. According to the world bank, the real GDP of Pakistan during last ten years has grown from its lowest, 1.70 in 2008, to its highest 6.60 in 2017. This significant growth in real GDP can be seen as an important determinant of OBSA.

The interest rate spread is another important determinant of OBSA. A positive relationship between ***interest rate spread*** measured by net interest margin and bank' OBS activities is expected. The positive relation indicates that the uncertainty about future interest rate will increase interest rate risk and subsequently will push banks to engage in non-traditional income sources such as OBSA. However, there is another view which argues that increasing interest rate spread offers banks more incentives in traditional banking activities and forbids risky OBSA. Subsequently, banks will engage less in OBSA when there is a high spread. According to the world bank, the interest rate spread in Pakistan has decreased significantly from 6.46 to 3.92. Therefore, interest rate spread can be seen as a determinant of OBSA in Pakistani commercial banks.

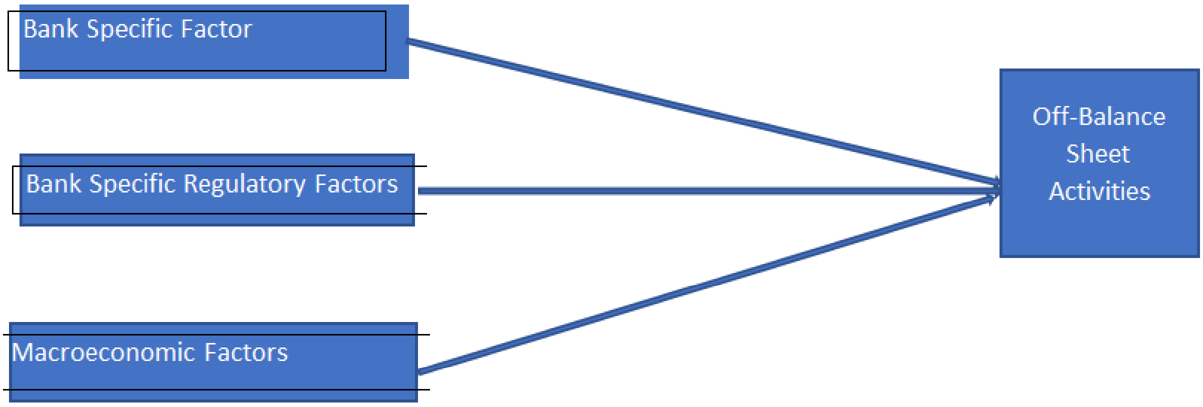
Inflation is another important macroeconomic condition that may affect bank OBS activities. Inflation had been one of the least researched issues in earlier bank OBS studies. Inflation is expected to affect bank OBS activities negatively. Ahmad (2007) using consumer price index

(CPI) as a proxy for inflation, indicated that during high inflation the purchasing power of consumers would decrease. According to the world bank, in Pakistan, the rate of inflation has decreased significantly since 2008 when it recorded a highest of 10 years (8.95 percent) to 2016 where Pakistan experienced its lowest rate of inflation, 1.614.

Conceptual Framework

This study cocneptulises the effects of bank-specific factors (such as capital, bank size, loan and advances profitability, market power, credit risk, and liquidity risk), bank-specific regulatory factors (such as reserve requirement and capital adequacy ratio), and macroeconomic factors (such as economic growth, interest rate spread, inflation, Volatility in Exchange rate and export) on off-balance sheet activities in conventional commercial banks of South Asia. The theoretical model of the study is developed on the basis of literature reviewed in the previous chapter and based on the modern portfolio theory, market power theory, moral hazard theory, and regulatory and tax theory.

Figure 1: Conceptual framework



Conclusion

From the literature, it is clear that the usage of OBSA has seen tremendous growth. The reasons why Pakistani commercial banks engage in OBSA are the same as those of commercial banks around the world. However, every region has its geopolitical, economic and legal stature which significantly affect the OBSA and because of these issues, the factors which affect the OBSA varies from country to country and to region. For example, given the differences between the banking system in Africa and the banking system in Europe, different factors will affect the banks' decision about the use of OBS activities in both regions. Therefore, it is clear that the determinants of bank's OBS activities and practice of OBS activities will be different from one region to another based on the distinguishing characteristics of each region.

Ahmad (2007) indicated that bank size is statistically significant for Africa, the Middle East, NAFTA, the Far East and Central Asia, North America, and The European Union and statistically insignificant for G7, Western Europe, and Eastern Europe. He also suggested that regulatory factors are influencing OBS activities of banks in Africa and the Far East and Central Asia, but not banks in the rest of the world. This is consistent with Ahmad et al (2012) who rejected regulatory tax hypothesis in Jordan banking industry and banks in MENA countries respectively. This study was, therefore, undertaken because the motivation and drivers of off-balance sheet activities across countries could be different and a theory that works in one country may not work in other. Thus, this study was carried out in an effort to start a debate on the issue of decreasing OBSA in Pakistan.

Most research on off-balance sheet financing practice has been dominated by studies conducted in developed countries such as the USA and Europe. Even the recent wave of studies (Ekanayake and Wanamalie, 2017; Pushkala, Mahamayl &Vankatesh, 2017; Aktan, Chan Zikovic &Mandaci, 2013; Ahmad & Misman, 2012) carried out on the emerging economies have argued that the financial structure, institutional and legal environment of developed and developing countries are not comparable. It is, therefore, a critical contemporary issue in financial and regulatory institutions and markets to understand the factors which affect the OBS decision in commercial banks in Pakistan.

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