



CAPITAL STRUCTURE AND LIQUIDITY AS MEASURES OF EFFICIENCY: THE CASE OF ISLAMIC BANKS

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ABSTRACT

The main objective of this paper is to improve our understanding of the capital structure and liquidity position of Islamic banks. For these institutions, an adequate amount of liquid assets and an adequate amount of capital are essential to stay solvent and avoid bankruptcy. Financial institutions' amounts of capital and liquid assets have also been identified as valuable shields during financial crises. Unlike some of their Western counterparts, most Islamic banks have been able to circumvent the negative impacts of the 2008 crisis. Our paper reviews the recent and relevant publications about the impact of the capital structure and the liquidity on financial institutions efficiency. It focuses on the Islamic banking system which has grown significantly.

Keywords: Solvency, Commercial banks, financial crisis, Banking sector, Global capital, Capital structure and Liquidity

Introduction

In economics, efficiency is defined as the optimal ratio between outputs and inputs of products and services. The optimal ratio corresponds to the best possible distribution of the resources available (Cvilikas, & Jurkonyte-Dumbliauskiene, 2016). Efficiency of commercial banks has been cited as one of the key factors contributing to their successes or failures (Barr, Seiford, and Siems, 1994). Additionally, an efficient banking sector leads to economic growth and sustainable development (Huang & Tang, 2012; De Jongh, De Jongh, Jongh, & Gary, 2013). The necessity to have an efficient banking industry to sustain economic growth is well known (De Jongh, De Jongh, Jongh, & Gary, 2013).

Although researchers agree that an efficient banking sector is critical, measuring efficiency remains difficult. Hughes and Mester (2008) compared a structural approach to a nonstructural approach to efficiency. The structural approach focuses on the relationship between the bank's production and revenue functions to establish performance measures (Hughes and Mester, 2008). The nonstructural approach seeks to correlate performance ratios with variables characterizing a bank's governance. Tuskan and Stojanovic (2016) found that efficiency can be captured using parametric or non-parametric methods.

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The parametric method assumes that the decision-making units are efficient and focus on expenses and economies of scale. The non-parametric method evaluates how efficiency can be ameliorated.

Researchers also have difficulty reaching a consensus to determine what the drivers of efficiency are. Drake and Hall (2003) reported that efficiency is directly related to an institution's technical competence. According to Chan-Lau (2012), efficiency is directly related to the institution's strategy and the environment.

In a very recent study by Lotto (2019) found that sufficient capital adequacy and adequate liquidity promote efficiency by decreasing the moral hazard between shareholders and bondholders. Numerous other variables have been connected to banking efficiency, revenue per employee, customer profitability, infrastructure, credit quality, net interest margin, and income from fees (Trussel & Johnson, 2012).

Similarly, to Lotto (2019), we focus on capital and liquidity and concentrate on Islamic banks. These variables are critical during financial crises. To remain solvent, financial institutions must have enough liquid assets to meet their short-term obligations. These institutions must also have enough capital to serve as a cushion against insolvency. When financial institutions do not have enough liquid assets and/or adequate capital, they are compelled to rely on the government assistance to remain viable.

According to Epps and Ivanov (2014), the liquidity requirement and the capital adequacy of Western financial institutions have been studied quite widely. The absence of data has probably precluded researchers to conduct a lot of research about developed countries. Although the number of studies about Islamic banking has increased (Quresh et al., 2012), we are lacking published research material about these institutions. The steady expansion of the number of Islamic banks in the world should induce us to improve our understanding of these institutions. Before the 2007 financial troubles, Islamic bank profits were increasing due to steady growth in the global economy (Masood, Niazi, & Ahmad, 2011).

Islamic banks have widened the scope of their products and services (Masood et al., 2011). Islamic banks have broadened their presence geographically, making the competitive landscape more competitive for all banking institutions. Islamic banks have increased their market shares and are replacing the shadow economy (Renaud, 2012). Islamic banks are becoming the institution of choice for the Islamic population. This is especially true for younger Muslims interested in preserving their national and Islamic heritage (Febianto, 2012).

The remainder of the article is organized as follows. Section 1 defines the concept/principle of Islamic banking. Section 2 presents some very recent and relevant studies about Islamic banks' capital and liquidity. Section 3 concludes this research.

1. Islamic Banking Principles and Instruments

The Western banking system with its secular principles offers services such as accepting deposits, providing loans (business, auto, and mortgage), and offering investment products to consumers (Chansarn, 2014). In return for the services they provide Western banks charge fees. In return for lending capital, Western banks receive compound interest on the loaned funds. These institutions' objective is to increase profits (Chansarn, 2014). The religious principles of Islamic law (Shariah) shape the Islamic banking system (Archer & Karim, 2012). Islamic banks also act as an intermediary between savers and borrowers, but the difference from Western banking is that Islamic banking does not involve an agreed-upon rate of interest provided to depositors or an established rate of interest from the borrowers (Akhtar, Ali, & Sadaqat, 2011). Instead, Islamic banking involves profit-sharing arrangements between borrowers and depositors (Febianto, 2012). Similar to Western banks, products and services in Islamic banks also have fees (Samad, 2014).

Shariah compliance is at the core of the activities for any bank intending to launch Islamic products. The underlying basis of Islamic banks is ethics and morality known as *haram*, which originates from the Shariah law (Akhtar et al., 2011). Archer & Karim (2012) have shown that Islamic banks follow two principles: (a) shared profits and losses and (b) a ban on collecting and paying interest (Archer & Karim, 2012). The main instruments upon which leaders of Islamic banks base their financing are: (a) Hibah, (b) Bai Salam, (c) diminishing Musharakah, (d) Ijarah, (e) Istasna, (f) Mudaraba, (g) Murabaha, (h) Musharakah, (i) Qard, (j) Salam, (k) Takaful, (l) Tawarruq, (m) Sukuks, and (n) Wadiah (Hanif, 2011).

Table 1. Islamic Banking Instruments

Hibah	Refers to transferring an asset to another party without any compensation
Bai Salam	Refers to an Islamic contract for specific goods where payment is made in advance
Diminishing Musharakah	Includes one partner or partners buying out the interest of the other partner or partners over time
Ijarah	Refers to renting a physical asset to another party
Istasna	Refers to paying for something now for delivery at a future time that has yet to come into existence such as real estate developments
Mudaraba	A method of partnership in which one partner offers the capital and the other partner delivers the skills
Murabaha	Refers to buying an asset, adding a fixed markup as profit, and then selling the asset
Musharakah	Involves creating a partnership to start some economic activity
Qard	Refers to a contract involving a monetary loan with two parties
Salam	Refers to paying now for an asset that will be delivered in the future
Takaful	Type of Islamic insurance that members contribute money into to guarantee each other against loss or damage
Tawarruq	Refers to a financial instrument a seller sells on a deferred payment plan and the buyer resells the same commodity to another buyer in a single payment
Sukuks	Refers to a financial certificate similar to a bond in Western banking
Wadiah	Refers to the deposit of funds or assets by an individual affiliated with an Islamic bank

Source: Hanif, 2011 and Ersnt and Young's World Islamic Banking Competitiveness Report, FY16

2. Islamic Banks Capital Structure and Liquidity

A necessary condition for a healthy banking industry is for bank to have sufficient capital against credit and interest rate risks. Additionally, banks must have enough liquid assets to meet all demands for cash including monetary transfers to other financial institutions. This section summarizes the recent and most relevant published studies about Islamic banks' capital structure and liquidity position.

1. Capital Structure

The capital structure of Islamic banks is different from Western financial institutions. Islamic banks are controlled by the ethical principles of Shariah that prohibits interest-based transactions. The Shariah principles allow depositors to collect part of the profits but prohibit the payment of a pre-determined return (Archer & Karim, 2012).

Al-Deehani et al. (1999) established that Modigliani and Miller (1958)'s theorem is not applicable to Islamic banking. Modigliani-Miller (1958)'s theorem has remained at the center of the debate about capital regulations. According to the theorem, the capital structure is irrelevant since it has no impact on the company's value. Modigliani-Miller (1958)'s supporters believe that the theory is applicable to banks while the opponents argue that a bank is not similar to a regular firm. As one can expect, the debate has intensified after the 2008 crisis.

Interestingly, although most Islamic banks have successfully survived the 2008 crisis, their regulatory bodies are looking at Basel III. To promote the resilience of the banking sector, the Basel Committee on Banking Supervision (BCBS) has recently strengthened global capital and liquidity rules. Kennedy (2012) stated: "Tier 1 capital must be fully effective at absorbing losses and Tier 2 capital which includes undisclosed reserves, revaluation reserves, general provisions, hybrid instruments and subordinated term debt must absorb more losses in order to protect capital. Tier 2 capital, which is additional to minimum capital requirements, is needed to address systemic and procyclicality risks." Looking at the specific situation of the Islamic banks, Simon and Rifaat (2017) and Spinassou and Wardhana (2018) reported that the requirements of the Shariah law are advantageous for Islamic institutions. As a consequence of the requirements of the Shariah law, Islamic institutions benefit from a healthy capital structures and above average capital ratios.

Empirical studies conducted by Baltaci and Ayaydin (2014) and Ramadan (2015) supported the trade-off-theory of capital structure. Baltaci and Ayaydin (2014) reported a positive relationship between size and Islamic banks' leverage. Baltaci and Ayaydin (2014) used Turkish banks to show that larger banks borrow more than smaller one due to their lower exposure to

bankruptcy costs and agency costs. This finding is similar with that reported by Ramadan (2015) who established a positive relationship between profitability and leverage. Awadh and Bukar (2019)'s empirical results also validated the capital structure trade-off-theory. Whereas, Ramadan (2015) showed that size and leverage is in line with the trade-off theory, indicating that large firms tend to finance their needs of fund through issuing debt rather than equity.

Empirical studies also supported the relationship between capital structure and profitability. Zafar, Zeeshan et al. (2016) examined financial institutions listed in the Pakistan Stock Exchange. Their examination led to the conclusion that the capital structure of these banks is correlated with their profitability. In Meero's (2015) study on banks in the Gulf Countries, financial leverage indirectly impacts the banks' return on equity (ROE) and directly impacts their equity to asset ratio. Tarek Al-Kayed, Raihan, and Duasa (2014) concluded that capital structure directly influences the profitability of Islamic banks in 19 countries. Al-Farisi and Hendrawan (2011) reached similar results using Islamic banks located in Indonesia.

Shoaib and Siddiqui (2010) established that financial institutions in Pakistan are impacted by the agency cost. Based on the results, there is a positive correlation between the size of the bank and its financial performance. Shoaib and Siddiqui (2010) concluded that high levels of debt can reduce a financial institution's ability to handle a financial emergency. Consequently, the debt ratio of a financial institution has an inverse relationship with its profitability.

2. Liquidity

Liquidity and bank efficiency are indexes to determine whether a bank will fail based on current performance (Said, 2013). Furthermore, the net profit is another factor in the economic growth of any financial institution (Tanu, 2013). A bank is liquid if it holds enough cash or enough assets that can be converted into cash promptly at a reasonable cost. Adequate liquidity allows banks to make loans which in turn increase revenues. Illiquidity means that the institution does not have and cannot acquire the funds either by increasing liabilities or by converting assets. Illiquidity decreases profits and increases risk. Liquidity risk compounds other risks, especially credit risk and market risk.

In the literature, liquidity risk of Western banks is often captured by various liquidity ratios (Barth et al., 2003; Athanasoglou et al., 2006; Naceur and Kandil, 2009). Although the definition of these ratios varies, the majority of studies have concluded that having enough liquid assets decreases the probability of experiencing financial distress (Barth et al., 2003; Athanasoglou et al., 2006; Naceur and Kandil, 2009). For Islamic banks, liquidity management remains challenging. Islamic banks are controlled by the ethical principles of Shariah that prohibits them from using traditional ways to refinance their assets (Al-Muharrami and Hardy, 2013). Western banks rely on money market instruments for their liquidity needs. Hamza and Jedidiah (2015) suggested developing money market instruments to allow Islamic banks to manage their short-term obligations.

Bhatti and Khan (2008) found that Islamic banks retain 40% more cash than conventional banks in over 75 countries from Africa, Asia, Europe, and North America. This holding of idle cash has the potential to decrease these banks' profitability. Akhtar et al (2011) who have analyzed the liquidity position of some Islamic banks in Pakistan also found that liquidity is an issue. The absence of a lender of last resort compounds the problem. Note that Shaikh (2013) found that the liquidity position of Islamic banks has changed. The author reported that Islamic banks have evolved from a situation of too much liquid assets to one characterized by not enough liquid assets.

Conclusion

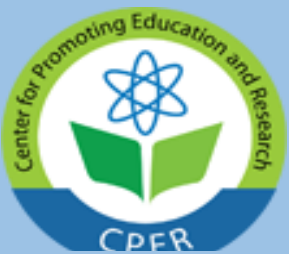
The rapid pace of growth of the Islamic population worldwide presents a lucrative window of opportunity for Islamic banking. To address the increasing demand for their products and services Islamic banks must continue to improve their efficiency. This study focuses of two important drivers of efficiency: the capital structure and the liquidity. Specifically, this study reviews the recent literature about the impact of the capital structure and the impact of liquidity on the efficiency of these banks. Ultimately, our goal is to improve our understanding of these institutions.

The literature review presents Islamic banks' products and services. It briefly explains why these institutions are gaining market shares. It also shows that Basel III is unlikely to materially change the capital structure of the Islamic banks. The literature review presented in this article also indicates that new instruments (e.g. money market instruments), and a bank of last resort will become critical for these banks to succeed.

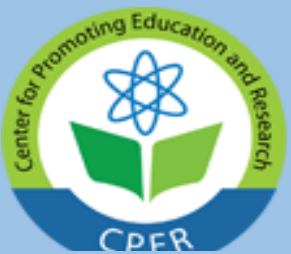
As always, one study leads to another. Additional literature review, empirical analyses, and theoretical models need to be developed if we want to continue to understand how banks operate.

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