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Relationship between capital, risk and liquidity: a comparative study between Islamic and conventional banks in MENA region

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ABSTRACT

The aim of this paper is to investigate the determinants and the joint relationship between capital, risk and liquidity of conventional and Islamic banks. Particularly, we focus on the impact of financial and political instabilities on the risk-taking behavior of conventional and Islamic banks. Using the simultaneous equation model with partial adjustment, we find a positive bidirectional relationship between capital and risk of Islamic banks. Moreover, results highlight the risky aspect of this category of banks mainly caused by the type of contracts put in practice, obeying Sharia principles, such as Moudharaba and Moucharaka contracts. Also, changes in liquidity affect positively risk within Islamic and conventional banks, suggesting that both types of banks, by accumulating liquid assets; tend to have relatively riskier portfolios. Moreover, we find a significant impact of the Global financial crisis on the capital, risk and liquidity of conventional and Islamic banks.

1. Introduction

Islamic banking is growing widely over the last thirty years. We are seeing more and more an increasing number of banks, branches and amount of capital that is invested (Khan, 2010). This is well supported by the fact that many international conventional financial institutions are now offering Islamic finance services through their Islamic windows (Citigroup, Bank of America, Standard Chartered, HSBC, …). Subsequently, Islamic financial institutions, more particular Islamic banks, have become an important element in the global financial industry.

Like all financial institutes, Islamic banks must control their level of capital, risk and liquidity to rival their conventional competitors. A sufficient level of capital makes it possible to absorb losses and strengthen solvency. It also offers easy access to financial markets and protects against liquidity problems caused by the outflow of funds. In addition, the capital of the bank reduces the risk taking. So, the second pillar of Basel II highlights the close link between risk and capital position when it confirms that a bank's capital position is consistent with its overall risk profile. In this context, Islamic banks, identical to conventional ones, face many types of risks. This is intensified after the recent subprime crisis which has introduced a critical financial atmosphere and significant challenges. Liquidity position and liquidity risk are the most important challenges for Islamic banking (IFSB Stability Report, 2013). Salman (2013) show that Islamic banks are called upon to make greater efforts to manage their liquidity and thereby to control liquidity risk. This shift in the Islamic bank liquidity is of importance since the assets of Islamic banks are not as liquid as conventional ones. Moreover, Islamic banks have usually difficulties to raise funds quickly from the markets because of the slow development of financial instruments (Ahmed 2011).

Vogel and Hayes (1998) proposes that to increase liquidity requires to establish an Islamic secondary market. This will generate

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liquidity by allowing banks to start moving away from Murabahah operations. Islamic banks cannot utilize lender of last resort facilities and moreover, most of them do not have a ready formal liquidity management systems. All these factors exacerbate the liquidity risk in Islamic banks that also requires banks to hold more capital.

Then, banks' capital, risk and liquidity positions prompt us to explore in depth their relationship between conventional and Islamic banks.

This paper investigates capital, risk and liquidity decisions of conventional and Islamic banks in the MENA region over the period 2005–2013. Our estimations show that there is a positive bidirectional relationship between capital and risk for Islamic banks suggesting excessive risk taking at these financial institutions. This result highlights the risky aspect of this category of banks that originated in the type of contracts put in practice, obeying Sharia principles, such as the Moudharaba and Moucharaka contracts. As for changes in liquidity, they positively affect risk within Islamic and conventional banks, suggesting that both types of banks, by accumulating liquid assets, tend to have relatively riskier portfolios.

This paper contributes to the debate on the banking literature in several ways. First, it is the first to jointly examine capital, risk and liquidity decisions in Islamic banks. Moreover, it is the first that makes a comparative study between Islamic and conventional banks. Second, in this study we focus on the impact of financial instability such as the 2008 global financial crisis and political instability caused by the 2011 Arab revolutions on the risk-taking behavior of conventional and Islamic banks

This paper is organized in the following manner: the introduction is followed by a brief literature review; subsequently, methodology and model specification are described; thereafter the data used are detailed; the empirical results is conducted in order to understand the behavior of each banking type towards the relationship capital risk and liquidity and finally, the conclusion is offered.

2. Literature review

Rapid growth of Islamic banking and the important place occupied in many countries, has encouraged many researchers to examine the relative competency of Islamic banks compared to conventional banks from several different dimensions including performance, stability, efficiency, etc.

The interrelation between capital, risk and liquidity is of great importance for banking sector. Brown et al. (2007) show that Islamic banks have higher levels of equity capital than conventional ones. In contrary, Hassan (2006) and Beck et al. (2013) show that Islamic banks have a higher intermediation ratio as well as are better capitalized. However, as capital is costly, banks with higher capital may increase their level of risk to maximize revenues. This case is analyzed in a first attempt by Shrieves and Dahl (1992) who study adjustments between banks' capital and risk levels and emphasize that exposure to risk and the level of capital are simultaneously linked. They argue that the majority of banks tend to mitigate the effects of rising capital levels by increasing their exposure to asset risks.

In the Islamic context, studies examining risks are rather limited. Cihak and Hesse (2008) show that small Islamic banks are more stable than conventional banks of similar size. Abedifar et al. (2013), Beck et al. (2013) suggest little difference in terms of stability between Islamic and conventional banks, showing that the quality of loans given by Islamic banks is less sensitive to domestic interest rates than to conventional banks. Ghosh (2014) shows that conventional banks generally increase capital to address the growing risks, and not the reverse. They also conclude that there is an unequal impact of regulatory pressure and market discipline on the attitude of banks to risk and capital. As for Islamic banks, they increase their capital more compared to conventional banks. Rahmen et al. (2015) examine the effect of capitalization on credit risk and overall risk in Islamic and conventional banks. They found a negative relationship between credit risk and the level of capitalization.

While researches on banking capital and risk in the banking system has become abundant, liquidity, on the contrary, as a more complex concept, appeared only recently in the banking literature. Djankov et al. (2007) and Acharya et al. (2011) conclude in their studies that better access to information reduces surveillance expenditures, allowing banks to retain more of their capital reserves. According to these authors, this available capital could allow banks to take more risks and provide more loans, which can ultimately help to create more liquidity.

Distinguin et al. (2013) examine the link between bank capital and liquidity, using a model of simultaneous equations. They show that banks reduce their capital ratios due to decreases in liquidity.

The above contradictions imply that there might not be any direct causal relation between bank risk, capital and liquidity. Consequently, the relationship between capital, risk and liquidity is not linear. The joint relationship between capital, risk and liquidity has not been well explored by researchers. Empirically, Repullo (2005) is the first to examine the joint relationship between capital, risk and bank liquidity. He studies the strategic interaction between a bank and a lender of last resort to calculate optimal levels of liquidity, capital and banking risk with and without capital adjustment and with and without a penalty rate. He concludes that a higher capital requirement reduces the level of risk in the bank's loan portfolio and reduces its liquidity. Aspachs et al. (2005) are the first to test the empirical implications of Repullo (2005). They begin their study on a sample of UK banks to analyze the determinants of bank liquidity. They find that obtaining potential support from the central bank adversely affects the level of "liquidity-buffer" in banks. Their work focuses only on "liquidity-buffer", its determinants and the effect of macroeconomic conditions on liquidity assets. Jokipii and Milne (2011) argue that the more liquid banks tend to have a lower level of "buffer" and are more likely to increase their credit risk. However, their liquidity estimates are not statistically significant.

In a recent study, Salman (2013) points out that the liquidity position of Islamic banks and their liquidity risk change over the years. Indeed, most banks evolve from a situation of "liquidity surplus" in the year 2000 to a situation of "lack of liquidity" in the year 2009. This requires a great deal of effort as regards their management of liquidity risk.

Kochubey and Kowalczyk (2014) also examine the decisions of US commercial banks in terms of capital, liquidity and risk during