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THE EFFICIENCY OF LIQUIDITY MANAGEMENT IN ISLAMIC BANKS (CONSERVATIVE VS. PROFIT)

Abstract: The aim of this paper is to explain and examine the liquidity efficiency in Islamic banks. The paper attempts to bridge the gap in the empirical literature on Islamic banks by building a measurement model to analyze the liquidity efficiency. The measurement of liquidity management efficiency helps planning for liquidity, besides it will help anticipate liquidity needs and build the defensive interval. This procedure will help Islamic banks to identify the exact needs of liquidity for building a profit and to avoid liquidity risk at the same time. The core of the paper is the question of whether liquidity management in Islamic banks is efficient or not, the primary dependent variable is the *z*-score as a measure of Islamic banks liquidity management soundness.

Keywords: Islamic banks, liquidity management, efficiency, measure model.

1. Introduction

Liquidity and cash flows management is the basic subject for continuous and steady development of any bank, where liquidity management goal is to make the bank able to finance the surplus of assets for face-off obligations at maturity date, so the soundness of liquidity management considered being a very important function in bank to avoid the risk [Rifki 2009].

The financial management in bank is not an easy task, even though it seemed that the previous clause is obvious, but competitive markets where bank rivalry on sales increases as a result of found availability upon banks, push them to ignore this. The bank or the firm may be strong and well designed according to up-to-date strategies, but nevertheless, have to declare its bankruptcy or sell its assets to those who hold the liquidity. The clear reality of everyday business points out that only a high income will not ensure the success of a bank or a firm without obtaining free cash flows (FCF).

The liquidity management is the first task in a financial planning in order to adapt to the economic recession which faces all markets in recent days. The management of

profits in banks is important but much more important is the liquidity management, where profit management is not necessarily meaning liquidity management, whereas liquidity management encloses profit management and parry loss at the same time. Briefly, the liquidity crisis is resulting from the lack of financial harmonization.

Islamic banks are important institutes which are part of the banking system. Islamic banks emerged in 1971. The financial services of Islamic bank are fundamental contributing to financial growth of financial system in many countries, the number of Islamic financial institutes worldwide have risen from one institution in one country in 1975 to over 300 ones, operating in more than 75 countries including Middle East, Southeast Asia, Europe and USA. The total assets of Islamic banks worldwide are estimated about $250 billion, and are expected to grow to about 15% a year [Cihak, Hesse 2008b].

The success of any Islamic bank is a result of many factors, but the important factor is the liquidity management which encourages customers to deposit their funds or to borrow funds for investment.

The approach of any Islamic bank to business is the reverse of the conventional commercial banks. Islamic banks do not give cash loans but they finance the assets required for investments and in turn sell them to the investors. Thus, Islamic banks are compelled to keep a big part of their assets in current assets, and current assets have 9.45% of the total assets more than the conventional banks [Kamal 2009].

The role of Islamic banks, even though they are thriving, is augmented in economic literature. Islamic banks have not yet reached a full maturity, but they are quite interesting by offering different kinds of products. Many authors compare the instruments used in Islamic and commercial banking, and then discuss the systematic and supervisory challenges connected with Islamic banking.

Unfortunately, there is very limited qualitative inquiry about the assessment of liquidity management in Islamic banks [Rifki 2010; Kahf 2000].

The present paper attempts to bridge the gap in the empirical literature on Islamic bank by building a measuring model to analyze the efficiency of liquidity management of Jordanian Islamic banks (The Jordan Islamic Bank for Finance and Investment and The Islamic International Arab Bank), where measurement of liquidity management efficiency (LME) helps the planning of liquidity. It helps also the anticipation of liquidity needs and build the defensive interval. This procedure will help the banks to know the exact need of liquidity for building a profit and to avoid the liquidity risk in the same time.

Studying liquidity management issues is a critical but complex subject and is more unique due to the *Sharia* compatibility.

2. Peculiarity of Islamic bank liquidity management

The Islamic bank offers a good solution by neglecting the charging interest which means that an Islamic bank does not trade in debt nor does it deal with *Reba* (interest) which is not allowed according to the teaching of the Holy Qur'an (The Muslim's

holy book). The *Reba* is the most basic form of the repayment of any loan in commercial banks.

The most advanced arguments against *Reba* is that it is paid without any services attached to it, and does not promote any social justice [Suwwan 2001; Ajloney 2008]. Instead of interest which is prohibited profit and loss sharing strategy (PLS), buying and reselling of goods and services, and the allowance of services for fees form the basic of contract items. The PLS financing transfers the direct credit risk from banks to their investment depositors, but it also increases the overall degree of risk on the assets side of the bank balance sheet, as it makes Islamic banks impressible to risks normally born by equity investors rather than holders of debt [Sundararajan, Errico 2002].

M. Cihak and H. Hesse [2008b] mentioned that "addressing the unique risks of Islamic banking requires an adequate capital and reserve, appropriate pricing and control of risks, strong rules and practice for governance, disclosure, accounting, and auditing rules and infrastructure that facilitates liquidity management".

The approaches of *Musharaka* finance (participation in profit and loss), and *Mudaraba* arrangement (speculation) make Islamic banks less vulnerable to risk with *Musharaka* on the assets side and *Mudaraba* to the investment-depositors. These approaches make access to liquidity management difficult and put pressure on Islamic banks to be more precautious since they are holding a relatively larger portion of assets than commercial banks in reserve accounts.

The Islamic banks develop the following new financial instruments based on Islamic *Sharia* (Canon Law), especially the Islamic financial services which are described by prohibition against the payment and receipt of interest at fixed rate.

1) *Sharia'a sukouk* is: "marketable securities with limit value versus money by Islamic banks" in the name of holders for the execution of investment projects. The rights of *sukouk* holders are: to sell the *sukouk in* the second market, the right to dividends.

The *sukouk* (market) issues are of many sorts:

a) *sukouk* of mutual funds;

b) *sukouk* of *Mudaraba* (profit/loss sharing);

c) *sukouk* of Murabaha (cost-plus financing);

d) *sukouk* of *Musharaka* (depend on participation ratio of each of the bank and customer in project according to the agreement between the two parties). The bank participates in financing, with unfixed revenue (participates in loss-profit), but the customer shares in the management of the project versus the percent of net-profit, the dividend of profit or loss between the two parties depends on their sharing ratio in project financing;

d) *sukouk* of *Al Igara* (lease) are of three kinds: first, *Igara* related to cession (hire-purchase lease); second, the financing lease, and the last one is the operating lease.

2) Securitization *sukouk*. The term securitization means the transfer of the cash flows to marketable securities in order to protect the liquidity from dryness and also to protect the financial markets from financial crisis.

This instrument has many aspects:

– transferability of the debt to shares,
– trading off the debt into commodities (cars, instruments, etc.),
– issuing of equity-bonds which can be rentable (with limited earning) to encourage creditors for trading off their debt,
– transfer debt to bank shares (convertible debt).

3) Marketing capability, where the high security in Islamic banks leads to liquidity surplus in short-term, but for treatment surplus of liquidity Islamic banks follow up the following stages:

– establishing special fund for investment in commodities,
– direct investment in trade operation by using *Al Mudaraba* method (cost-plus financing).

4) Rate of return (instead of interest according to *Sharia*), divided into:

– return on financial assets which is founded on *Mushraka*,
– return on different sale contracts.

The core of the present paper is the question whether the liquidity management in Islamic banks is efficient or not? The primary dependent variable is the z-score in order to measure the liquidity management soundness of the Islamic banks. A review of literature on Islamic banks does not provide an answer to the above question and use a theoretical argument rather than a formal empirical analysis.

3. Methodology and data

3.1. Measurement of Islamic banks management efficiency

The *z*-score is listed as a measure (or trusty) indicator of proper bank risk, and it is widely known measure for bank rightness [Machler et al. 2005].

The present paper makes use of z-score equation to measure liquidity efficiency in Islamic banks. The *z*-score in the equation is the dependent variable which is determined by independent variable. If *z*-score is 3.5 or more, it indicates that the liquidity management is sound. But if it is less than 3.5, it indicates that there is liquidity risk at the bank in the long term. The *z*-score can be as follows:

$$Z = (C + L + F + R)/SD,$$

where: C – Net Cash Flows from Operating (*NCFO*)/Debt,
L – Equity Capital and Reserve/Risky Assets,
F – Cash Flows from Operating (*CFO*) + Cash and Balances with Central Bank/Current Liabilities,
SD – Standard Deviation.

The *z*-score is an objective measure, because it focuses on bank risk especially in liquidity. Herein, the present paper tries to adapt the *z*-score model to examine the efficiency of liquidity management in Islamic bank.

The form of regression model is as follows:

$$Z = a + b_1C + b_2L + b_3F + b_4R + U,$$

where the dependent variable is the *z*-score and independent variables are: *C* – liquidity ratio, *L* – capital risk ratio, *F* – cash ratio, *R* – *ROA* ratio, and *U* is the residual.

3.2. Data

The present paper calculations are based upon the data from the two Islamic banks: the Islamic International Arab Bank, and the Jordan Islamic Bank. The data were taken from the financial statements for the years 2004-2008 to capture the importance of the financial ratios on the efficiency of liquidity management. The paper shows the result for each of the variables. The main results of our analysis are sensitive with respect to *C* ratio; *L* ratio; and *R* ratio in the regression model.

4. Results

The authors by inquiring about the liquidity management soundness in Islamic banks have tried to apply a sensitive of the *z*-score approach (Table 1) as an alternative to the standard deviation of *z*-score, because the *SD* of *z*-score gives only a part of the information about the behavior of *z*-score, especially when examining the efficiency of Islamic bank management. The present paper is more much heedful in the relation of NCFO/DEBT Ratio and *z*-score than other ratios in the *z*-score model.

The results shown in the Islamic bank A and Islamic bank B prove the absence of any soundness efficiency of liquidity management. The sensitive *z*-score volatility must be between 3.5 and –3.5 points. The paper defines the downward (upward) *SD* of *z*-score, the sample average of the difference between the *z*-score per year and the mean of the *z*-score. If the *z*-score is below (above) the bank mean, again the Islamic banks A and B are characterized by larger download *SD* of the *z*-score and this indicates liquidity trouble in the long-term.

Table 1. Sensitivity of *z*-score 2004-2008

Volatility of *z*-score (%points)	Downward	Upward
Islamic bank A	–5.31	5.93
Islamic bank B	–5.76	6.12

Source: calculated on the basis of financial statements of Islamic banks.

Regression analysis

The paper examines also the robustness of independent variables on dependent one (*z*-score). The paper uses the regression analysis following the methodology described in section, to explain the variation in *z*-score.

Relating to the z-score model and the data available, the authors has arrived at the following results (Table 2) for both the International Arabic Islamic Bank and The Jordan Islamic Bank.

Table 2. Regression Analysis Results (dependent variable: *z*-score)

Independent variables	Bank A	Bank B
NCFO/DEBT	−4.238 (0.020)*	−3.635 (0.022)*
Equity Capital & Reserve/Risky Assets	−3.224 (0.019)*	−3.528 (0.023)*
ROA	−3.469 (0.081)*	−4.243 (0.085)*
CFO/CL+ Cash and Balance with Central Bank	283.283 (0.647)	1.420 (0.766)
Constant *R*-squared	632.632 0.78	43.406 0.69

* Significant at 5%.

Source: own elaboration.

The regression analysis supports the result for the simple comparison of *z*-score that the two Islamic banks have apparent liquidity problem in the future, which means that the liquidity management in these banks is not efficient. To the independent variables (*C*, *L*, *R*), they have generally expected in determined the dependent variable. In accuracy, Islamic banks with lower NCFO/Debt ratio tend to have lower *z*-score and this result agrees with Equity Capital & Reserved ratio (Risky Assets) and with ROA ratio also. The slope coefficient is negative with one exception; it is significant in both banks.

5. Conclusions

The results obtained in the present paper have shown that:

a) Islamic banks liquidity management efficiency is not as it must be.

b) Each of variables *C*, *L*, *R* in the model is useful in anticipation of the efficiency of liquidity management in Islamic banks, especially the *C* variable (NCFO/DEBT). The result of this ratio has its weakness, that is, when applied, the ratio is very low for the years 2004, 2005, and 2007, and negative in the years 2006, and 2008. This result is an indicator for liquidity problem in a long term.

c) The analysis result shows the risk of equity capital and reserves, besides; the ROA was not efficient during the period of study (0.6, 1.6, 2.13, 3.7, and 1.3%).

d) The *F* ratio in the model was not significant.

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EFEKTYWNOŚĆ ZARZĄDZANIA PŁYNNOŚCIĄ W BANKOWOŚCI ISLAMSKIEJ

Streszczenie: Celem artykułu jest wyjaśnienie i zbadanie skuteczności zarządzania płynnością w islamskiej bankowości. W artykule podjęto próbę uzupełnienia luki w literaturze dotyczącej badań empirycznych banków islamskich poprzez zbudowanie modelu pomiaru efektywności zarządzania płynnością. Pomiar efektywności zarządzania płynnością ułatwia planowanie i pomaga w przewidywaniu zapotrzebowania na płynność. Procedura ta pomoże islamskim bankom określić dokładne potrzeby w zakresie płynności w celu osiągnięcia zysków oraz uniknięcia ryzyka braku płynności w tym samym czasie. Podstawowym zagadnieniem jest pytanie, czy zarządzanie płynnością w islamskich bankach jest efektywne, czy nie, a podstawową zmienną zależną jest współczynnik z-score (opracowany przez Altmana) jako miara płynności.