SOME ASPECTS OF LIQUIDITY IN ISLAMIC BANKS (ISBS) A CASE STUDY OF SELECTED BANKS IN THE MENA REGION*

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Badr-El-Din A. Ibrahim and K.C. Vijaykumar

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1. Introduction

In the international scene, there is greater focus on financial stability. Various research organizations and financial institutions like the IMF, Basel Committee, European Bank and Asian Development Bank as well as researchers have compiled and attempted to measure indicators for financial soundness (See, for example, Diziobek et al 2000, Evans et al 2000; Chai and Barry 2000). In this regard, research has been conducted substantially to identify and measure them. The advent of Islamic financing institutions almost three decades ago has resulted in the appearance of new and different financial arrangements. Along with these elements, and the changes brought about in the financial and regulatory framework, could affect liquidity. Hence more research work is essential to understand and analyze the vulnerability, thereby, caused in the financial sector.

The following study is related to and covers some aspects of liquidity of some ISBs in the MENA region. The entire analysis and related issues are divided into eight sections. Following this introduction section 2 reviews liquidity-related features of ISBs and also some theoretical arguments related to liquidity risk. Section 3 provides analysis of research problem and methodology. The macroeconomic performance in the three countries that might affect the health of the ISBs are enumerates in section 4. The salient features of the structure of ISBs in Sudan, U.A.E. and Qatar are provided in section 5. This section also investigates some qualitative (institutional and regulatory) frameworks and measures governing the financial systems in the countries selected. Banking Regulations and their Supervision along with Monetary Policy have been highlighted in the next section. In section 7 the study will then go on to analyze liquidity-related issues of selected ISBs in the MENA region. The section calculates some relevant indicators derived from data of individual banks' balance sheets in selected countries and banks in the MENA region over the period 1990-2002. Conclusion and policy recommendations are provided in section 8 and thereafter References.

2. ISBs: Liquidity-Related Fundamental Features

2.1. Introduction

This section is a review of the fundamental features of Liquidity of ISBs. Theoretical arguments related to liquidity risks are under this purview.

ISBs are mainly characterised by the feature of prohibition of interest and any receipt of fixed (or predetermined) rewards. Their system is based on profit and loss sharing arrangements in which the rate of return is not predetermined but depends on the actual profit accrued from the investment operations. Moreover, in the investment side, ISBs operate through variety of modes of finance the most common among them are profit and loss sharing modes (*Musharaka, Mudaraba, Muzaraa* and *Musaqat*) and sales-based modes (mainly *Murabaha, Ijara, Salam* and *Istisna*) [1] (see for example, Iqbal and Mirakha, 1987; Ibrahim, Badr El Din A., 2004).

2.2. ISBs: Deposits

IBS are differentiated from conventional banks (CBs) in the context of contracts and liability side of the balance sheet. On this side of the balance sheet of an Islamic bank, there are three classes of accounts for deposits: Current account deposits, similar to demand deposits, are guaranteed in capital value. In the current account deposits the bank provides safe custody, *amanat* (or safekeeping), checks and other services such as drawing money on demand. Demand deposits are not entitled to any bank's

[1] Musharaka — joint partnership, credit/partnership, where two or more persons combine either their capital or labor together, to share the profits. Mudaraba — agency joint venture/limited partnership which involves two parties — the bank (which owns the money) and the partner/entrepreneur (who uses his/her skills to use it). In Muzar'aa and Musaqat (Musharaka contracts in agriculture) the bank provides finance and or land and share in investment. Sales-based Islamic formulae includes Murabaha - mark-up/deferred payment sales of a working capital or means of production — after adding a specific profit margin (Murabaha margin). ISBs also resort to other sales-based modes of finance on a deferred payment base leasing/ Ijara (Lease or pre-paid purchase of goods for a specified sum at a specified period of time, including purchases as a portion towards the final purchases and transfer of ownership), Bai'muajjal (selling installments or in lump sum payments for an agreed fixed price), Bai'Salam (the buyer pays the full negotiated price of the product that the seller promises to deliver at a future date) to name a few.

profit, and the bank uses demand deposits at its own risk, but they keep legal reserve at the central bank.

Saving deposits can be withdrawn on demand. Some saving deposits may share profits on the basis of a minimum balance maintained within a specific period of time from time to time, and the provisions of maintaining legal reserves are sometimes applied to saving deposits.

Investment deposit is based on the unrestricted *Mudaraba* contract between the depositor and the bank, in which the bank is authorized to use it for any investment project not prohibited by the Islamic principles. Investment deposit is not guaranteed in capital value, and do not yield fixed rate of return. Instead, profit or losses from the bank's operations are distributed according to negotiated proportions. Profits are distributed either at maturity or sometimes advances are paid to depositors in regular intervals and adjustments are made at maturity. Legal reserves are not kept against investment deposits since the bank cannot guarantee them. Sometimes special purpose investment deposits, which operate on restricted *Mudaraba* (on specific investment operation), are managed by the bank. Profit and losses are distributed according to the agreed formula.

Embarking on the liquidity-related literature of ISBs, it would be better to start elaborating deposits and structure of ISBs' financial statement that are likely to have relationship with the potential liquidity risk. Table (1) gives more details about the differences in the types of deposits of a typical Islamic bank and conventional bank. The features of deposits of ISBs are relevant to the issue of liquidity.

2.3. ISBs: The structure of financial statements

The difference between Islamic and conventional banks is greater than the difference in the types and nature of deposits. The differences in both assets and liability sides of the balance sheets of the two sets of banks can give a wider view about differences between ISBs and CBs. These differences we argued have some bearings on ISBs liquidity. Table (2) summarizes the assets and liability components of a financial statement of a typical Islamic and conventional bank.

Although there are differences in the operations of conventional banks and ISBs, the financial statements exhibit similarities in many aspects. The following two sub-sections identify the similarities and difference of assets and liability side of both set of banks.

2.3.1. Assets

1. Cash or reserves are common in the two sets of banking, and so are balances with the Central Bank.
2. In both cases reserves are part of deposits, but the concept of deposits is different, as ISBs have to obtain permission of the depositors to use these accounts funds for financial investment. Moreover, deposits are guaranteed, but not the return on them.
3. Both types of banks engage in exchanges in the form of cheques, money transfers, and export documents.
4. ISBs' credit balances with CBs (positive or negative balances) do not carry interest (balances are kept to the minimum and usually covered before maturity).
5. Investment items which do not appear in the ISBs' Financial Statement: Government Bond, Discounted Treasury Bill, Bonds, & (sometimes) companies' shares. ISBs dealings with shares should conform to the *Shariaa'* (form of profit and loss arrangements, and activities of the companies should be *halal).*
6. Financing and investment activities in ISBs are different from CBs (includes *Musharaka, Murabaha and Mudarabah modes).*
7. Items such as fixed assets, overhead capital, and depreciation are valued/ calculated the same way in both types of banks.

2.3.2. Liabilities

1. The CBs deposits carry contractual agreement different from the ISBs.
2. The deposits of CBs carry interest, whereas ISBs' deposits are liable for profit or loss (deposits reward is related to profits and the volume of deposits).
3. Investment deposits in ISBs are invested by the bank and share profit or loss.

4. Investment deposits in ISBs can be for specific investment operation or it may be open.

5. Saving deposits in ISBs exhibit the same conditions but withdrawal is made according to different sets of conditions.

To generalize, ISBs lack Government Bond, Loans, Advances or Discounted Commercial Papers, on the Assets side and in the liability side time deposits with notification are not characteristics of ISBs. Moreover, balances with the central bank should conform to *Shariaa'* rule. Other assets and liability items are the same. It is noteworthy that these changes from standard norms may have repercussions on ISBs' liquidity as we will investigate in this study. The following section elaborates on risks and liquidity risk of ISBs and the role of the central bank thereof.

2.4. Risks facing ISBs

Literature discussed various kinds of risks faced by Islamic financial Institutions (see, for example, Shapra, 2002, p. 16; Fiennes, Toby, and Plowden, Charles, 2001, pp. 4-5; and Smith, Duncan, 2001, p. 3). They all agree that ISBs need a good management practice, as this process is not confined only to conventional banks. Dissatisfaction with the way ISBs have managed their risks let Smith, for example, to point out that operating, credit and regulatory risks of ISBs "have frequently been ill understood and worse managed" (Smith, Doncan, 2001, p. 3). The major risks identified by ISBs' literature are:

1. Operational risk (the breakdown of internal controls and corporate governance),

2. Credit risk (the possibility of defaults arising from the lack of complete agreement of the liability of *Murabaha* contract – i.e. the risk of ISBs ownership of the assets being financed),

3. Foreign exchange risk (a loss due to exchange rates fluctuations).

4. Market risk (arises from a change in commodity prices, in the mark-up price of deferred sale and the lease-based transactions),

5. Risk arising from non-standardized nature of some ISBs' products (*Ijara* – in some Islamic rules – is not allowed to be ended with ownership. Moreover, some financial instruments could not be used simultaneously as risk management instruments),

6. *Fiqh*-related risks (e.g. *Murabaha* contract – according to *figh* rules, is not binding to the buyer),

7. Liquidity risk (arises from a decline of the bank's cash flow or inability to raise resources).

Most of these risks are exposed to all types of banking systems. The risk characteristics of ISBs are slightly different from those of conventional banks. However, Llewellyn, David, 2001, has seen that ISBs' have solvency risk merits compared to the conventional banks, because of the presence of investment deposits on the liability side of their balance sheet. Investment deposits are not required to guarantee their nominal values, and the quasi-equity nature of investment deposits imply that some deposits share in the risk of the bank. This is in addition to the profit and loss-sharing (PLS) arrangements (*Musharaka, and Mudaraba*) on the asset side. Llewellyn (2001, p. 16) argued that in this system "The problem (*in conventional ban*ks) of having money-uncertain assets being funded by money-certain liability has been avoided *(by ISBs).* This amounts to a pure Islamic bank being less susceptible to insolvency risk" *(emphasis added).* Moreover, most ISBs attract demand deposits with no returns and favour *Murabaha* mode of finance that, unlike *Musharaka* mode of finance, shifts most of the risk to clients. On the other side, Al-Harran (1993, p. 155) argued that ISBs do not charge interest on delays in due payments, as the *Shariaa'* rules do not permit a penalty on defaulters[2]. This causes a liquidity risk element to ISBs.

2.4.1. Liquidity Risk in ISBs

Liquidity risk is the major risk that influences the ability of the banking system to resist shocks, and the importance of liquidity for sound banking practice is beyond doubt.

[2] While it is possible for an ISB to seek compensation on damages based on the profit that it could otherwise have received, difficult pre-conditions would need to be satisfied for the bank to seek compensation.

Although ISBs are prone to all kinds of risks, they, according to their nature, are mostly exposed to the last three types of risks mentioned above (i.e. non-standard nature of ISB's products, *Figh*-related risk and liquidity risk). In this context, although it is potentially a risk factor, liquidity risk (unlike other kinds of risks) is not high on the agenda of the studies of Islamic banks. Some studies, which tackled many challenges facing Islamic banks in Muslim countries, do not identify liquidity as a present or future constraint (see, for example, AL-Hamoud, Turki, 2002; Khan 2000). Other groups of studies identified some theoretical reasons for potential liquidity problems in ISBs. We, however, think that liquidity risk is an important aspect of risk facing ISBs and which deserve further investigation.

The liquidity risk is created by the mismatch of deposits and financing tenures, which generates either idle cash position[3] or shortage of cash position. Although the former need only to find new profitable and *Shariaa'*-compatible investment avenues, the latter requires some sort of balance sheet arrangements to raise funds or bridge the gap between assets and liabilities. Many factors are identified in the literature as causing of liquidity risk: the lack of confidence in the bank (or the banking system as a whole) due to mal-practices or mismanagement; concentration of investment in specific sector, specific investment projects, or country; reliance on few large depositors; and the use of short-term deposits in long-term investment, or the mismatch of assets and liabilities (Al-Sadah, A. K. 2001, pp. 4-5). This study is mainly concerned with the last factor, mismatch of assets and liability.

Liquidity are of two types: Liquidity of assets and that of liability: Inability to sell assets at current market prices, and the Liquidity Instability of Liability (LIL), which refers to the inability to assess sufficient funds to meet payment obligations in a timely manner (instability of deposit base over a long period of time). LIL is the degree to which the bank is not able to meet its payment obligations to depositors when deposits are declining or fluctuating for reasons related to the change in the structure of assets and liability by ISBs away from the normal practice of conventional banking system. LIL need to be distinguished from "funding volatility" concept which refers to "the likelihood that bank depositors or creditors will, in the short period of time, withdraw their funds (or fail to roll them over at maturity) in response to a perceived weakness in the individual bank or banking system" (Diziobek, et al, 2000).

Studies dealing with liquidity of Islamic banks made some observations about shortages of long-term funds in Islamic banks and considered these as signs of future liquidity risk (e.g. Ibrahim, B. 1992, Al-Harran, S. 1997). The liquidity risk of Islamic banks, which mainly takes the form of mismatch between assets and liabilities is, however, partly originated from the shortage of long-term funds. There are some references in the literature of ISBs which pointed out to the shortage of long-term deposits in ISBs, but without rigorous analysis. More than 10 years ago Ibrahim, 1992, for example, noted that during the period 1988-1992 Faisal Islamic Bank of Sudan (FIB) had shortages of medium and long-term funds. He concluded that the introduction of FIB has not improved the deposit situation in the Sudanese banking system at the time. A shortage in deposits of ISBs has also been noted by Al-Harran (1993). Al-Harran, although argued in favour of ISBs' methods to mitigate against risks to depositors through direct and indirect control over the behaviour of entrepreneurs (via contracts and reward-punishment system of refusal of further credit or blacklisting the name), concluded that "…. if they (*the Islamic banks*) do not devise tools of raising deposits, then these banks are likely to face problems in their growth particularly when they are working side by side with the modern banks" (Al-Harran, S. 1993, pp. 107-109), *(emphasis added).*

Other studies noted some theoretical rationale behind the likelihood of liquidity and/or warned against the potential liquidity risk in the future (e.g. Khan, Tariqullah, 2000; Smith, Doncan, 2001). Other studies criticized the tendency of most Islamic banks to utilize risky demand deposits to finance investment, whereas capital and reserves cannot cover all depositors' losses in the case of a bankruptcy. They argued that demand deposits need to be fully safeguarded, as they do not get any returns to deposits. They disapprove the use of demand deposits which are kept as *amanat* at the time

3 Al-Harran, S, 1993 identified that some Islamic banks, particularly those in the Gulf area, are not facing shortages of funds but rather a profitable disposal of surplus liquid assets (Al-Harran, S. 1993, p. 142). Likewise, O'hare and Holmes (2001/2002) noted that ISBs accress the Middle East have huge cash resources available, but few means of utilization in the long run.

when their capital and reserves cannot cover the deposits. They suggest either restricting the use of demand deposits for no more than capital and reserves, or accept unlimited liability of demand deposits (e.g. Shapra, 2001, p. 11). Moreover, the tendency of using investment deposits in investable projects and participate in the risk involved is also seen as a potential source of liquidity problem (see Chapra, M. 2001, p. 10).

Khan, (2001) did not rule out liquidity risk in the ISBs in the future because of the following reasons:

1. Most of the ISBs rely largely on current accounts, which are withdrawn on demand,
2. Restriction on ISBs' sales of debt, which must be held until maturity date.
3. ISBs are not able to raise funds quickly from the market,
4. Lack of Islamic inter-bank money market,
6. The Lender of Last Resort (LLR) facility is not available, except on the basis of interest.[4]

Other authors who have raised the issue of a fragile liquidity management in Islamic banks include Yousef, S. Y, 2001, who identified four liquidity-management challenges facing Islamic banks as follows:

1. The lack of proper and conducive jurisdiction that recognizes Islamic banking nature and critical need for effective management of liquidity.
2. The central banks regulatory support in a mixed banking system[5] that creates assets rigidities in Islamic banks.
3. The liquidity challenge, which comes within the Islamic banks themselves, is related to the lack of risk management tools and expertise as a result of poor product innovation and R&D.
4. The limited liquidity management tools and inactive secondary market. Islamic banks depend on debt-based tools, which are not possible to be transformed into negotiable financial instruments, except at par value.

Smith, D., 2001, summarized the sources of potential ISBs' liquidity risk into the following:

1. IBs' fund comes from customers' accounts, the vast majority of which are on call or very short notice.
2. The conventional means to risk combating are not in compliance with *Shariaa'* laws, and there is no central receiver and provider of liquidity to and from the Islamic banking market. Therefore, ISBs need to match their short term customers' deposits with short term low risk assets.
3. Many of ISBs' assets have come from *Murabaha* markets because it is an attractive priced funding.
4. The ISBs' debts are not (largely) tradable.

Despite these theoretically-sounding likely reasons for liquidity problems in ISBs, this issue, many scholars argued, is not a serious one at the moment. Khan, T., 2000, for example, explained that despite significant deficiencies in the existing infrastructure of ISBs to manage liquidity, liquidity risk at present is low because of "the excess liquidity syndrome that these banks face as a result of the non-availability of adequate *Shariaa'*-compatible investment opportunities" (Khan, T., 2000). Shabir, M. 2001, also relates what he called: "the good liquidity of ISBs" to the concentration of these banks on self-liquidating, pre-determined return, short-term *Murabaha* financing. Others, (Khan, Llewellyn, 2001), relate the non-existence of liquidity syndrome to the demand deposits which resemble interest-free loan and do not share profit, and to the use of *Salam* and *Murabaha* modes which shift most of the risk to clients [6].

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4 With the exception of the Central Bank of Sudan which secure Lender of Last Resort Facility through two credit windows under certain regulation: liquidity provision (via unrestricted Murabaha), and investment finance (via Murabaha and Musharaka modes), (see section 4.2.2).

5 In two of the case studies (U.A.E. and Qatar) the banking systems are dual. In Sudan there is a full-fledge Islamization of the banking system.

6 The PLS arrangements (Musharaka and Mudaraba) constitute small proportion of ISBs financing today. One major reasons are that they involve risk and erosion of investment deposits. ISBs are hesitant to use PLS at

Nevertheless, there are serious concerns among scholars regarding liquidity to generate funds from other banks (inter-bank market) due to the non-payment of interest. Bahrain Monetary Agency, the Central Bank of Bahrain, has been at the forefront of developing Islamic financial instruments and products and is the first central bank to issue Islamic bonds[7]. Financial institutions holding *Ijara Sukuk* will be able to engage in contracts involving sales and repurchase of *Sukuk*. The *Sukuk* market is still primarily a market in which holders keep bonds to maturity, and there is little secondary market trading. Scholars argued that to diversify their reduced activities, Islamic banks should raise capital through the issuance of *Shariaa'*-friendly bonds and find other ways of lending. The moment liquidity is still inadequate, but such new tools (if made on a large scale) could help in solving the problem of liquidity affecting ISBs by providing banks with greater flexibility in meeting unforeseen liquidity requirements. Nevertheless, times have changed. The need to enhance liquidity, and hence to move towards greater securitization of assets should be recognized by ISBs.

Another serious problem is related to the liquidity management system of ISBs. Khan described the absence of liquidity risk in Islamic banks at the present time as a "double-edge weapon". Even though this absence of liquidity risk, he argued, has served the bank from liquidity crises at present, it also led to the lack of development of formal liquidity management instruments.

In sum, although raised in the literature, studies have only mentioned and identified types of liquidity risk faced by ISBs and commented on (and warned against) its likely occurrence. There is no rigorous analysis of liquidity risk that has been made so far. Moreover, liquidity risk is not top at the agenda of Islamic banking research to date because it is not apparent so far. This absence of concern about potential liquidity risk can be considered as one common major limitation of these studies. As a result, we argued that after almost three decades elapsed since the establishments of most of Islamic banks in the MENA region, the potential liquidity crisis cannot be ruled out and has not been researched yet. Many factors identified here might cause this crisis including the change in the structure of equity and liability from the one based on interest to the one based on share in profit. A comprehensive study of ISBs in the MENA region will reveal whether the liquidity crisis is a likely occurrence.

2.5. Liquidity Risk and the Central Bank Role in an Islamic Framework

Many scholars raised the issue of ISBs' deposits required by central banks. Such deposits, which pay interest, are not in line with *Shariaa*' requirement, and hence ISBs are in a disadvantage position vis-à-vis commercial banks which earn interest from those deposits. Likewise the function of the central bank as a Lender of Last Resort (LLR) in a mixed banking system cannot help Islamic banks, as these banks do not accept to borrow with interest. Islamic banks are also not able to participate in the Open Market Operations because of the interest-based nature of securities (see Al-Harran, 1993, p. 146). Scholars argued that problems of liquidity shortage or surplus in a mixed banking system[8] would have to be handled differently in Islamic banking, since the ban on interest rules out resort to the money market and the central bank. Chapra (2001), suggested alternatives such as reciprocal accommodation among banks without interest payments and creation of a common fund at the central bank into which surpluses would flow and from which shortages could be met without any interest charges. Others, suggested financial assistance provision by the central bank through *Mudaraba* deposits with the Islamic bank, or opening a current accounts at the central bank with occasional drawings facilities free of change, or lowering (or abolishing)[9] liquidity requirements on deposit (see, for example, Sarkar, Abdul Awwal, 2002).

The discussion of central banking in an Islamic context and its role to provide liquidity in face of a shortage is somewhat meager, presumably because Islamic central banking is viewed as too farfetched an idea, except in Iran, Pakistan and Sudan where the banking systems are fully Islamized. Nevertheless, some literature discusses the question of central banking in an Islamic framework. The

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initial stages, as they have no adequate experience in managing these modes of finance. Instead they resort to less-risky, easier to manage sales-based modes such as Murabaha, Salam and Istisna (see footnote 1).

7 sukuks (short-term, liquid, asset-backed, tradable treasury instruments) and longer-term ijara (Islamic leasing) Sukuk securities.

8 By mixedbanking system we mean a system which composed of both Islamic and conventional banks.

9 The argument in favor of abolishing liquidity requirements of ISBs is that any loss in the principal amount of deposits will be borne by depositors as per the rule of Mudaraba

general opinion seems to be that the basic functions of a modern central bank are relevant also for an Islamic monetary system, although the mechanisms may have to be different. Thus, for example, the bank rate instrument cannot be used as it entails interest. Uzair (1982) has suggested adjustments in profit-sharing ratios as a substitute for bank rate manipulations by the central bank. Thus, credit can be tightened by reducing the share accruing to the businessmen and eased by increasing it. Siddiqi (1982) has suggested that variations in the so-called 'refinance ratio' (which refers to the central bank refinancing of a part of the interest-free loans provided by the commercial banks) would influence the quantum of short-term credit extended. Siddiqi has also proposed a prescribed 'lending ratio' (i.e., the proportion of demand deposits that commercial banks are obliged to lend out as interest-free loans) that can be adjusted by the central bank according to changing circumstances. In this context, reference may also be made to a proposal by Uzair (1982) that the central bank should acquire an equity stake in commercial banking by holding certain percentage of the capital stock of the commercial banks. The rationale behind this proposal was that it would give the central bank access to a permanent source of income so that it could effectively act as Lender of Last resort (LLR).

Although no separate regulations of ISBs by central banks were adopted in most cases, in some other cases preferential provisions were granted when ISBs are operating side by side with conventional banks. In Bangladesh, for example, ISBs have been allowed to maintain liquidity requirement at lower percentage to total liabilities compared with conventional banks. Therefore, they are allowed to hold more liquid funds. Moreover, ISBs were also allowed to fix up their profit-sharing ratios and mark-ups independently (Sarkar, Abdul Awwal, 2002). Nevertheless, there is no separate department to control and guide ISBs, and staffs of the central bank of Bangladesh are not familiar with technicalities and operational methodologies of ISBs. Moreover, inspection and supervision of ISBs operations are conducted as per the general guidelines framed for conventional banks.

It may be noted that in the Islamic system of banking which shares risk and returns, expose depositors to risk which they might not expose under conventional banking system, especially when there is a high share of demand deposits, which gets no returns. Deposits should not be exposed to any kind of risk if ISBs have to comply with liquidity standards. ISBs do not receive interest on compulsory reserves while they have to keep reserve at the central banks. Moreover, the interest charged by traditional banks to their customers and the profit taken by ISBs from their partners are not usually treated equally. While the former is considered as deductible cost, the latter is not. These reasons alone are enough to justify a separate and different set of rules and regulations for ISBs supervision by central banks in a mixed banking system. It is argued that the variable that should be regulated in the monetary policy of an Islamic setting is the stock of money rather than the interest rate (Al-Harran, 1993, p. 127), and that the central bank monetary policy should be geared towards generation of the growth of money supply, which is adequate to finance growth in output over medium and long-term within a framework of stable prices and other socio-economic goals of Islam.

3. Research Problems and Methodology

3.1. Statement of the Problem

The vital question to be raised is how the conventional bank's financial statement, including resource mobilization has been affected by the replacement of interest-based transactions by profit-margin-based transactions? ISBs concept of equity capital and demand deposits have not changed compared to CBs. The term deposits are removed and replaced by pool of funds and investment accounts which carry profit margin rather than interest rate. It might be argued that following the change in the structure of the bank, ISBs mainly use low cost demand deposits (interest free with some fixed administrative costs) to finance investment and hence tend to be more profitable[10], and hence expanding rapidly. Demand deposits have high rates of turnover and if used for long duration projects /activities, the possibility of liquidity crisis cannot be ruled out. In short the high turnover of deposits coupled with problems of deposits mobilization poses a threat to the growth of ISBs. In sum, the change in the structure of assets & liability from interest–based to profit-share-based & the high turn over of deposits is hypothesize to cause liquidity crisis in the future, and ISBs can improve their

[10] Another argument beside being a low cost liability to Islamic banks, demand deposits do not get a returns and so they should not be exposed to risk.

liquidity position by changing the structure of equity and liabilities. Moreover, the macroeconomic environment and the Central Banks' regulatory conditions and policies influence mobilization of deposits.

3.2. Research Methodology

The study will use macroeconomic and banking data to analyze the economic set-up and banking regulations and policies and their likely effects on the liquidity in the selected banks of the MENA countries. The financial statements of selected ISBs will be analyzed over the period 1993 - 2002 in 3 MENA countries. Moreover, the study will use primary and secondary data, published materials, reports and financial statements of the selected banks. The analysis will be made through statistical and accounting analytical methods such as ratio analysis.

Methods of assessing liquidity can be identified here:

1. The sources and uses of funds approach, measure a liquidity gap between the sources and uses of funds, when the uses exceed sources, a deficit occurs.
2. The structure of funds approach is directed at the structure of the sources and uses of funds. Here the forecast of liquidity is made by dividing banks deposits and other sources of funds into categories according to the probability of being withdrawn. The concern is the maturity of assets portfolio and the maturity match of assets and liability.
3. Ratios: A common measure of potential LIL is the ratio of liquid assets to short-term liabilities, or loans to assets, or even loans to deposit ratio (excluding interbank deposits).

Deziobek et al (2000) refers to two models to assessing liquidity, namely: Cash flow model and the balance sheet model. Cash flow model allows for dynamic analysis of liquidity, whereas the balance sheet model is static. However, in the absence of sufficient data, it becomes necessary to use the balance sheet model, in which data are published annually. One weakness of the available balance sheet data is its focus on the values of the assets and liabilities rather than liquidity. That is why it is sometimes difficult to classify instruments as liquid or illiquid.

In this study and subject to the availability of data the analysis of liquidity will be undertaken through the combination of methods which appear through the calculation of some ratios from financial statements, and also through analysis of some published material related to the banking system. These methods are:

1. Distribution of liquid assets or near liquid assets to meet liabilities on due dates, and investment assets to gain adequate returns.
2. The matching of maturity of assets to maturity of liabilities.
3. The realization of investment into liquid assets on maturity (i.e. prompt repayment of finance; minimization of doubtful and bad debts).
4. Ratios: e.g. equity capital / total assets; term deposits and borrowings/total assets; call borrowings and deposits/total assets.
5. Analysis of the maturity profile of deposits and the way these funds are deployed on a time to time base; subject to the availability of data from banks, and finally,
6. Analysis of the factors that can affect liquidity of ISBs (dependence on current accounts, restriction on ISBs' sales of debt, current use of Lender of Last Resort Facility etc.).

The choice is made in three countries of the MENA region. There are three banks selected from Sudan: The Sudanese Islamic Bank (SIB), Faisal Islamic Bank (FIB), Tadamon Islamic Bank (TIB), two banks from U.A.E.: Abu Dhabi Islamic Bank (ADIB) and Dubai Islamic Bank (DIB), one bank from Qatar: Islamic Bank of Qatar (IBQ).

4. Macroeconomic Performance

4.1 Introduction

The economic conditions and other bank regulatory conditions and policies prevailing in the country can influence mobilization of deposits. That is why any assessment of financial soundness of ISBs must be based on comprehensive set of indicators, taking into account the overall structure and

economic situations of the country and the financial sector regulatory arrangements. The safety of banks and the absence of liquidity risk are not only related to the macroeconomic set up but also the micro-management of banks under the umbrella of sound and efficient banking regulations and supervision. It is proposed to study the macroeconomic variables and relate it to the growth in deposits.

Macroeconomic sources of financial fragility and vulnerability can come from instability of inflation, monetary aggregates, current account balance (current account deficit to GDP), external debt, fiscal performance, exchange rate, credit boom. A large external current account deficit, for example, is a signal of vulnerability to currency crisis with a negative implication on the liquidity of the financial system. Lower or declining aggregate economic growth and sectoral slumps can have immediate impact on export performance, deterioration in terms of trade, assets and liability portfolios and profit margins. Moreover, the banking sources of financial fragility can be caused by deficient supervision and regulation, weak supervisory capabilities of the central banks, inadequate instruments of monetary control, incompatible trends in loans, deposits and the degree of competition of the banking system. These factors will be dealt with in Section (6).

4.2. Sudan

The Sudan economy depends on agriculture, which share 45.6% in 2001. The share of services sector is 31.6%, while manufacturing and mining sector play an important role in the structure of the economy as a result of oil production. This sector shares 16.6% in 2001, compared with 8.1% in 1998 (CBO, 1999, 2001). The macroeconomic indicators can be seen from Table (3).

It is clear that the economy of Sudan experienced high growth rates of both nominal and real GDP, thanks to oil production which started in 1999 and to the noticeable decline in inflation rates in recent years. Exports started to jump in 1999 due to oil exports, which shares 81% of total exports in 2001, up from 74.87% in 2000. Although total revenues are increasing at a high rate over a period of time, total expenditures are also increasing resulting in negative budget deficits. After the introduction of oil exports, Trade Balance started to improve in 2000. But the current account balance, although reduced in 1999 by more than 50%, continued to keep a stagnant negative amount throughout the period after 2000. Our calculated ratios of current account deficit to GDP showed falling trends from 48.1% in 1998, to 17% and 17.4% in 1999 and 2000, then a further fall to 15.4% in 2001. The negative ratio of current account deficits to GDP is generally associated with capital outflow and facilitates asset price and credit booms with negative implications on the liquidity of financial institutions.

Overall, the Sudan economy, although on the pathway to improvement especially in output growth rates and inflation, it has yet need to correct its trade, current account and budget balances.

4.3 U.A.E

Overall the economic performance of U.A.E. poses to be good. Being highly liberal, business friendly and market oriented, explains its resilience to oil price fluctuations and external shocks. Since the contribution of the oil sector to GDP is about 20%, the economy depends on the non-oil sector to achieve growth rates.

Compared to other countries of the Gulf Cooperation Council, the inflation rate is stagnant but relatively higher in the U.A.E. The difference between Real and Nominal GDB is almost the same. The balance of trade is favorable and is steadily improving as the imports are increasing at a rate lesser than exports. The increased rate in export is attributed to the increase in re-export and Oil export. Investment is keeping a slightly fluctuating ratio to GDP. The current account balance has shifted from negative balance in 1998 to a positive balance through out the years after that. The fiscal balance registered a continuous deficit during the period 1998-2002, as a result of increased government spending, especially current expenditure on subsidies on agriculture, water and electricity.

Except for the budget balance, the output growth rates, inflation, investment and balance of payments showed more or less stable behavior. The U.A.E.'s open market-oriented economy, sound management of the economy have sustained robust economic growth, low inflation and comfortable external position, despite oil price fluctuations (IMF, 2003, p. 3). Table (4) of macroeconomic indicators exemplifies this.

4.4 Qatar

Overall economic performance of Qatar is good. The inflation rate is low; the balance of trade is favorable and is steadily improving as the imports are increasing at a rate lesser than exports. The increased total export is attributed to the increase in non-oil exports. Investment to GDP ratio is rising. The current account balance has shifted from negative balance in 1998 to a positive balance through out the following years. The fiscal balance registered a positive, but small, surplus since 1999 as a result of the increase revenues more than spending. Table (5) of macroeconomic indicators illustrates this performance.

4.5. Conclusion

The performance of the economies of the three countries is mixed. On the one hand, there are stronger economies with stable behaviour of fiscal performance, exchange rate, growth rates, inflation, balance of payments, exports, trade balance etc. of both U.A.E. and Qatar. On the other hand, the Sudanese economy, although registered good performance in growth and inflation rates in recent years thanks to oil exports, is still unstable especially in trade, current account and budget balance. This instability might have impact on assets and liability of the banking system, especially mobilization of deposits. A large external current account deficit is a signal of vulnerability to currency crisis with a negative implication on the liquidity of the financial system.

5. Banking Structure and Performance

5.1. Introduction

Prudential indicators comprises of three sets of indicators (1) macro prudential indicators of the health of the whole banking system (2) micro prudential indicators of the health of individual financial institution and (3) the institutional and regulatory framework governing the financial system as a whole. In this section we focus on the first set. The next section will examine the institutional and regulatory framework, leaving indicators of the liquidity of individual Islamic banks to be scrutinized in section 7.

5.2. Sudan

The Sudanese Banking system is fully Islamized. It comprises of 21 national banks (all are Islamic and mostly private banks) with 281 branches. There are 3 specialized banks and no foreign banks (CBS, 2001). The soundness of the banking system is broadly improving in the last few years following the Bank of Sudan comprehensive banking policy, which includes bank structural and financial soundness reforms and deepening of banking technology and Islamization of the banking system (see sub-section 6.2). Nevertheless, capital adequacy ratios (of 7%/2000; 11%/2001 and 9%/2002) are still below international standards. Likewise, the non-performing loans to total loans ratios (ranging between 7-12.7%), are still less satisfactory.

From Table (6), the following conclusions about the overall performance of the banking system in Sudan can be reached:

1. The reasonably high growth of demand deposits volume (related partly to the high nominal GDP growth rate), the sizable fall in inflation rates in recent years, and the stagnation of the ratio of total deposit -to- GDP signal stable confidence in the banking system.
2. The low ratio of public spending to GDP and the low ratio of broad money- currency-to-GDP (around 6-10%) reflects weak size of the financial sector and weak financial liquidity and financial depth of the Sudanese banking system.
3. The low ratio of credit to GDP (2-4%) reflects the difficulties faced by ISBs in Sudan providing funds.
4. Non-performing loans-to total loans touched 17% in 2000. This reflects poor credit performance and defaults by big clients.
5. Loan-to-deposits ratio provides a measure of risk taking as demonstrated by the degree to which resources are extended. It indicates the ability of the banking system to mobilize deposits to meet credit demand. In Sudan, the ratio of loans to deposits (around 40%) indicates no pressure on the whole banking system, and a high level of liquidity to respond to shocks.

6. The low and declining ratio of total assets-to-GDP and liquid assets to total assets reflect a weak financial base of the Sudanese banking system.

5.3. U.A.E

Unlike Sudan, the banking structure in the U.A.E is heterogeneous in nature. It has a large number of local and foreign players and enjoys a high level of government ownership and support, participation in large government sponsorship projects and strong and stable macroeconomic environment. It composes of 21 banks in 2003 (and 340 branches), 2 Islamic banks, 1 specialized bank, and 26 foreign banks – although no new foreign licenses have been granted since 1989 (Gulf Investment Corporation, 2004). The top ten local banks command around 71% market share of the assets. The foreign banks had only 24% share in 2003.

The banking sector in the U.A.E is strong, well-supervised and capitalized, fairly rated and has well diversified assets leading to a weighted average capital adequacy of 19% in 2003 (significantly above the international standard.). It is proving profitable due to varied factors like high levels of government support, strong and stable macroeconomic environment, participation in large government-sponsorship projects in infrastructure trade finance and BOT projects, lower operating costs and widening margins between deposits and lending interest rates[11]. The average ROE of 15% in 2003 which also suggests that the U.A.E.'s banking system is profitable (See Table 7 below).

Islamic banks have been in spotlight in U.A.E. more recently. There are three Islamic Banks currently in operation; two of them Dubai Islamic bank (DIB) and Abu Dhabi Islamic bank (ADIB) were established in 1975 and 1997 respectively. DIB and ADIB have 16 and 13 branches and estimated assets market shares of 7% and 3% respectively, deposit market share of 8.4% and 2.6 respectively, and loan market share of 6.9% and 3.3 respectively.[12] The high level of growth of Islamic banks in U.A.E. over the last decade or so let commentators to anticipate a change in the banking landscape in U.A.E., and a decline in the share of conventional banks (Gulf Investment Corporation, 2004, p. 13). The overall performance of the banking system in U.A.E. can be seen in Table (7).

1. The reasonably high growth of demand deposits volume (related in part to the high nominal GDP growth rate) and the growth of the ratio of total deposit-to-GDP signal confidence in the banking system of U.A.E.
2. The high ratio of broad money- currency-to-GDP (50-60%) reflects strong size of the financial sector, strong financial liquidity and financial depth.
3. The high ratio of credit to GDP (over 70%) denotes a relative ease in providing funds.
4. A high loans to-deposit ratio (over 100%) indicates no risk taking when resources are extended and lending no-pressure on the banking system, and a high level of liquidity to respond to shocks. This indicates that the overall risk is low despite that the banking system in U.A.E. is operating in emerging market with no optimal regulatory supervision.
5. The high total assets-to-GDP and liquid assets to total assets reflects strong financial base.

It is further noted the performance of Islamic banks in U.A.E. is mixed. The average ROE and ROA of all banks are 15% and 1.9% respectively (annual average of 2000-2003). The average ROE and ROA for DIB are 12.6% and 0.95% respectively. While those for ADIB are 14.4% and 2.05% respectively. Both rates of returns are slightly lower than the national average. Loan-to-deposits ratio (a measure of risk), varies markedly among the U.A.E.'s Islamic banks. The average loan-to-deposit ratio of DIB over the period 2000-2003 is 60.9%, while ADIB ratio is 97.0% (Gulf Investment Corporation, 2004, p. 17 & 19). This is compared with an overall loans-to-deposit ratio of 77% in 2003 shows that Islamic banks have somewhat high risk compared with the national average. Current non performing loans as a percentage of loans for the U.A.E. banking system are quite high reaching a

[11] The average lending rate in 2002 is 8.9%, while the deposit rate in only 1.1% (Gulf Investment Corporation, 2004, p. 1).

[12] In addition to DIB and AIB, the National Bank of Sharjah is the first Islamic bank in U.A.E. that was converted from conventional bank in 2002. Another bank waiting for conversion into Islamic bank in 2005 is the Middle East Bank.

maximum of 18% in 2003, with the exception of ADIB which is reporting non-performing loans –to-gross loans of just 0.28 in 2003 (Gulf Investment Corporation, 2004, p. 10).

5.4. Qatar

Qatar resembled the same structure of banking as U.A.E. The Qatari banking system comprises of 15 commercial banks: seven branches of foreign banks, five domestic commercial banks, two Islamic banks and the government-owned Qatar Industrial development bank (CBQ, 2002). Table (8) exemplifies the major performance of the Qatari banking system.

1. An increase in demand deposits (except for the period 1998-2000 which showed some fluctuations), and the stagnation in deposit –to- GDP ratio signals stable confidence and does not give a sign of liquidity problem in the banking system in Qatar.
2. The ratio of loans to deposits shows a decreasing pattern, but the average 88.7% reflects a low risk.
3. The relatively high ratio of broad money- currency -to- GDP (averaged 52.4% over the period 1998-2002) reflects relatively strong size of the financial sector and strong financial liquidity and financial depth.
4. The high ratio of credit to GDP (averaged 59%) reflects a relative easiness to provide funds.
5. A relatively high ratio Loans to- deposit ratio indicates no-pressure of the banking system, and a high level of liquidity to respond to shocks.
6. The high total assets-to-GDP and liquid assets to total assets reflects strong financial base of the Qatari banking system.

5.5. Conclusion

The Sudanese Banking system is fully Islamized and homogenous, whereas banking systems in U.A.E. and Qatar are mixed and heterogeneous in nature. Unlike, Sudan they Banks in U.A.E. and Qatar are highly competitive, as they have large number of local and foreign players. They enjoy a high level of government ownership and support, participate in large government sponsorship projects and take advantage of strong and stable macroeconomic environment.

The effect of the macroeconomic performance on the banking performance is evident. The reasonably high growth of demand deposits and the stagnation of the ratio of deposit to GDP in Sudan are related partly to the high nominal GDP growth rate, and the sizable fall in inflation rates in recent years. Nevertheless, the banking systems of Sudan is weak with financial base, poor credit performance and suppose to encounter some difficulties in providing funds. On the other hand the high growth of demand deposits, high credit/GDP and loan/GDP ratios signal absence of risk and confidence in the banking system of U.A.E and Qatar. Moreover, assets/GDP ratio and money supply/GDP ratios reflects strong size of the financial sector, strong financial liquidity and financial depth. Furthermore, the available information vindicates that the performance of Islamic banks in U.A.E. is mixed.

6. Monetary Policy, Banking Regulations and Supervision

6.1. Introduction

It may be argued that assessing financial development can be made through ratios such as M2 to GDP, Loans to GDP and assets to GDP ratios. Nevertheless, these quantitative measures, taken individually, do not necessarily ascertain financial development in a broader sense. To ensure a better and efficient management and operations of financial institutions, proper regulations and supervision are considered essential and crucial. This will enable to instil confidence and ensure healthy Liquidity indicators.

Effective supervision and prudential regulations will have repercussions on risk, thereby affecting liquidity of banks. Liquidity crisis usually occurs when the regulatory framework is inefficient or mal functioning. The main objective of regulation (setting common minimum standards) is to sustain stability, maintain soundness and safety of financial institutions and finally protect the consumer.

In this section we choose to review the monetary policies and banking regulations in three countries viz. Sudan, U.A.E and Qatar.

6.2. Sudan

Perhaps the major problem facing ISBs in Sudan (and everywhere) is the conduct of monetary policy and banking supervision.

The conduct of monetary policy in Sudan, which is under the purview of the Islamic Banking system, usually starts with setting annual objectives and targets. It aims at the general macroeconomic and social objectives of the economy. The main goal of the monetary policies in Sudan is to control money supply and credit to the private sector in order to check inflation. The other objectives are specific growth related and replenishing international reserves.

The Bank of Sudan annually sets the objectives of financing policies and rules governing extension of banking finance, as well as liquidity management through setting and monitoring quantitative monetary targets such as *Murabaha* margins, customers' share in *Musharaka* and administrative margins under *Murabaha* contract. Moreover, statutory reserve requirements and financing window requirements are also set.

The monetary policy of the Bank of Sudan (called the financing policy)[13] and its control instrument represents a unique one, as it reflects the experience of full Islamization of the banking system. Until late 1990s, besides credit ceilings and required reserve policies, the CBS used quantitative and qualitative credit control through *Musharaka* rates and minimum *Murabaha* margins (minimum percentage of profits from *Murabaha* credit), but without considerable effects on overall and sectoral financing facilities. During the period 1990-1996 the CBO issued detailed directives of discriminating profit and loss ratios as well as minimum contribution of clients under *Musharaka* contracts, and discriminating minimum mark-up rates under *Murabaha* contracts. Since 1990 *Musharaka* ratio was eliminated and left for banks to determine. Discriminatory minimum mark-up for *Murabaha* varied between 36 and 48% until 1998. Since then they were substantially reduced and unified at 36%, 20% in 1999, 18% in 2000 and only at 10% in 2001. The CBO also annually announces combined credit ceilings for what is called "priority sectors", (Craftsmen, Professionals and Small Producers including Productive Families, Agricultural Sector, Industrial Sector, Export Sector, Mining and Energy Production Sector, Co-Operatives, Investment in Shares, Cultural and Media Production, Private Sector Investment in Rural Services, Low Cost Housing Sector, Transport and Storage Sector)[14]. Financing to priority sector share reached 95% of the total banking finance in 1998, reduced to 90% in 2000 and 2001. Almost half of this volume of finance goes for the agricultural sector as stipulated by the financing policies of the CBS. The required reserve policy has also been used by the CBS as a tool of monetary control. The ratio undergoes many changes up and down since 1989. in 1989 it was 18%, raised to 20 % in 1990, and 30% in 1993, then reduced to 26% in 1997 and to 15% in 2001. Other instruments are margins of Letters of Credit, foreign exchange transitions and directives of inter-bank lending.

Until 1990, the numbers of policy instruments implemented by the Bank of Sudan were limited. Some new instruments were announced in 1998 with the hope of introducing indirect liquidity management tools. In 1998 the CBS had introduced *Shariaa'* compatible new instruments like indirect second-generation financial instruments of policy and liquidity management, as well as modifying the existing ones to strengthen monetary mechanism. Moreover, the banking system in Sudan has undergone substantial liberalization, privatization and restructuring and increase in bank capital and strengthening supervision. In the last few years, the Bank of Sudan has actively attempted in strengthening prudential mechanisms like supervision and reforming the banking system, tightening the banks' large share of non-performing loans, enhancing profitability, and the Banks capital, restructuring of banks and loans portfolio, and addressing the difficulties facing them.

In 1998 the CBS introduced a liquidity-financing window as an overdraft facility in order to fulfill its function as a lender of last resort (LLR). Unrestricted *Musharaka* finance limited to two times per month or four times per four months period were granted to commercial banks (extendable conditional upon the share of the CBS in this specific loan's profits) for a maximum of 10% of current

[13] In the non-interest-based Islamic system there is no loans as in the conventional system, and the Islamic system extend finance mainly of profit and loss sharing or sales bases.

[14] Non-Priority sectors include Local Trade and Services which are not related to priority sectors.

deposits of the commercial bank. Finance from the CBS under restricted *Mudaraba* for priority sectors can also be granted to commercial banks. The second window is the investment finance window. Eligibility to this window requires banks not having liquidity problem and have a relatively stable position on their clearing accounts. Moreover, they should not possess a non-performing loans ratio higher than the average ratio of all banks for the last few years. Their distribution of profit ratio to investment accounts holders should also be greater than the average for the whole banks. In the case of *Mudaraba* auction the profit sharing ratio for their entrepreneurs must be specified by the bidding banks. Management and allocation of funds is based on profit sharing ratio between the bank and the CBS. In the case of *Musharaka* allocation of funds depends on the Bank (s) contribution to the equity participation.

In 1998 open market operations with equity base Government *Musharaka* certificate (GMCs) and Central Bank *Musharaka* certificate (CMCs) securities were also introduced. Those securities represent shares in special funds containing Bank of Sudan and government investment in commercial banks. GMCs and CMCs are sold through auctions and have face value and transaction price. GMCs, which are traded at Khartoum stock exchange under specific auction system, enjoy a one-year maturity period. Access to GMCs is not limited to individuals only but companies and banks can also participate.

To summarize, indirect policy tools are employed in Sudan. There is governmental control of profit margins. The secondary market for government securities is limited and this hinders the use of Open Market operations. Despite the recent banking reforms and the introduction of indirect monetary policy control, the CBS lacks comprehensive framework for designing and conducting monetary policy.

6.3. U.A.E.

The main aim of Credit and monetary policy in U.A.E. is to achieve economic policy objectives, including balanced economic growth, relatively stable prices, and maintain the real value of the national currency stability and its free convertibility into other currencies. Credit and Monetary Policy has sought to maintain adequate levels of domestic liquidity to provide the appropriate financing to economic activity, albeit taking into account strengthening the banking and the monetary system. U.A.E. Monetary and credit policy, normally seeks to achieve its objectives by affecting the level of overall domestic liquidity, which in turn, is mainly influenced by the country's net transaction with the external world (net foreign assets) and levels of domestic credit.

The Central Bank in the U.A.E uses most of the conventional quantitative tools, such as interest rates discount and rediscount (loans, advances and deposits), reserve requirements, issuance of certificates of deposit, in addition to several other measures, namely inter-alia, liquidity ratios to be maintained by all commercial banks to ensure their liquidity and solvency, limits for the total discount operations and the loans and advances extended to commercial banks and interest rates and fees charged by the bank on their customers. It ought to be mentioned that despite the existence of both Islamic and conventional banks, the monetary policy has no specific regulations for ISBs in U.A.E.

6.4. Qatar

The CBQ defines the Bank's monetary and credit policy, the investment policy of foreign assets and supervision of the Bank's proper performance of its functions. The bank decides on all the matters pertaining to the issuance of the currency and its withdrawal from circulation, and lays down the internal regulations of the Bank and formulates the administrative and financial regulations necessary to enable the Bank to conduct its business and exercise its functions. The Central bank of Qatar also decides the rules for discounting commercial papers, and fixes the rates of discount, interests and commission to be charged by the Bank. It also decides on issues relating to supervision of banking business; the rules governing the granting of loans and advances to the banks operating in the State. It defines the upper limits of such loans and advances, and specifies the securities required thereof. It finalizes the advances to be made to the Government in accordance with the provisions of this Law. It establishes clearing houses and sets up a credit risks bureau. Above all it approves the project of the Bank's annual budget, and the Bank's final balance, profit and loss account. It lays down the rules pertaining to the affairs of the Bank's personnel. This includes appointment, promotion and

termination of the services of senior officials of the Bank in accordance with the Bank's staff affairs regulations.

The Central Bank of Qatar assigns the monetary and banking policies in conformity of the economic policies. Since its inception the target was to maintain the value of Qatari Rail and to stabilize prices, the banking system and the economy on the whole. The bank started to fix the exchange rate vis-à-vis the US$, control the interest rate and determine the minimum reserve requirement. Gradually and since 1995, in this context, more freedom was granted regarding the interest rate on loans and deposits. Complete freedom was granted to deposits with maturities of more than one year in 1999. In 2002 rates on all deposits were made completely free. Deposits with less than one-year maturity are subject to a maximum interest rate determined by the CBQ. Since 1995 the CBQ determined the Required Reserve Ratio as 19% for all deposits. In 2000, the ratio was 2.75 % for all types of deposits. Beside the Required Reserve Ratio to manage liquidity, the CBQ depends on re-purchase government securities operations. The CBQ permit commercial banks to sell part of their government securities held by them, to the CBQ, with the assurance to repurchase within two weeks or less at the prevailing CBQ interest rates (called Repo rate).

Unlike the Central Bank of U.A.E., the banking regulations of the CBQ include the financing policies of ISBs, which set regulations to local and international finances. Moreover, ISBs are also required to adhere to specific banking ratios measured in a different way from conventional banks (which comprise of Ratios like capital adequacy ratio, loans to deposits ratio, international finance to deposit ratio, capital and reserve to total assets). ISBs are required to maintain foreign financing to total deposits which must not exceed 70 %. investment in real estates. Funds and other assets should not exceed 70 %.

6.5. Conclusion

Central banks in the three countries mostly use conventional quantitative monetary policy tools to achieve stated economic targets. Some monetary policy measures of the CBS and its control instruments represent a unique one, as it reflects the experience of full Islamization of the banking system. CBS and QIB (the latter requires ISBs to adhere to specific banking ratios measured in a different way from conventional banks), have some other instruments to control ISBs, while central Bank of U.A.E. has no specific instruments for Islamic banks. In a full-fledge Islamic banking system such as Sudan the conduct of monetary policy and banking regulations has gone far using indirect tools, but with limitation of secondary market for government securities. Central banks in the three countries use similar rules relating to supervision of banking business.

One common characteristic is that a full uniform regulatory and legal framework, supportive of an Islamic financial system, has not yet been developed yet. Existing banking regulations in the three countries are based on the Western banking model. In addition, ISBs establish *Shariaa'* advisory boards to ensure that their contracts are consistent with S*hariaa'* rules. Finally interviews with officials of ISBs reveal that Islamic financial institutions face difficulties operating in mixed banking system of U.A.E. and Qatar owing to the absence of a regulatory body operating in accordance with Islamic principles, so that they face a high degree of competition with conventional banks compared with a full-fledge Islamic banking system of Sudan.

7. Liquidity Analysis

7.1. Methodology

Both primary and secondary data serve as tools for the purpose of analysis. Primary data is collected by interviewing officials of various Islamic Banks. Secondary data are collected from financial statements for different years for different banks. In addition, published materials relating to Islamic Banks are also made use of. Clarification regarding classification of assets as short term and long term, nature of investment deposits etc has been discussed with the various authorities.

This study covers five Islamic banks from MENA region (two from U.A.E. and three from Sudan). In addition, data relating to few more banks from U.A.E. have also been considered for analysis. Data for ten years are collected from four banks. For the U.A.E bank data was available only for four years from their annual reports. For other banks from U.A.E. annual reports were not available and hence

data in $ were downloaded from internet sources. Since the analysis is based on ratios the currency difference will not pose a problem.

The study focuses on the liquidity aspects of Islamic Banks. Liquidity may be interpreted to mean the ability to meet the obligations. Here the focus is on short term liquidity since Islamic Banks accept mostly short term demand deposits.

The following are the ratios that enable the analysis of financial statements and Liquidity:

1. Cash to Customer Deposit.
2. Customer Deposit to Current Asset.
3. Cash to Current Liabilities.
4. Current Assets to Current Liabilities.
5. Customer Deposit to Shareholders' Equity.
6. Return on Equity.
7. Return on Assets.
8. Cash Flow from Operation to Customer Deposits.

7.2. Data limitations

At the outset it may be pointed out that the published financial statements of Islamic Banks do not deliver the data in the required form for analysis. For the first few years, starting from 1991, cash flow statements were not prepared by these banks. Again the available cash flow figures are not in conformity with the proper cash flow statements prepared as per accounting methods. Further, proper classification of items like cash and equivalents, customer deposits, short term liabilities etc varies with the banks. Restated figure after certain years are seen in certain statements. Care has been taken in this analysis to overcome these problems and shape the account to a uniform pattern by authenticating the details by the officers of the company. Still some short comings may be found.

In addition, there are some blanket cells because of one bank, ADIB, which started operation late in 1997. Moreover, in some financial statements of other banks, some ratios cannot be properly calculated due to the lack of some information, or the way information is classified, because they are not in conformity with the standard methods.

7.3. Liquidity

7.3.1. Introduction

Liquidity aspect of Islamic Banks is to be viewed from the angle of ability to meet the demand for withdrawals of deposits. In general, all deposits are short term with a maximum period of one year or less. Even in the case of investment accounts, the depositors have an option to withdraw the money before its maturity. It may be noted here that deposits are made not with an objective of getting regular income but for capital appreciation with profit/loss sharing arrangement. There is a possibility of pre mature withdrawal by account holders when there is a mismatch between investor's expectation of return and the actual return. Thus the Islamic banks are required to keep adequate cash or cash equivalents to meet the demand. But in practice, majority of these depositors generally renew their deposits after the expiry period. For all practical purposes, these deposits are, thus, in effect, medium or long term.

In a perfect liquidity management system, it may be theoretically possible to estimate the likely demand for withdrawal. If this estimation is nearly perfect, these banks need keep only that estimated portion as liquid cash or near cash items. However, we have observed (based on interview and the data available from the published statements) that most of the ISBs do not follow this and keep a lot of excess money in liquid assets. An instance can be cited here, i.e. in certain years some banks have kept up to 90% of the customer deposits in cash or cash equivalents. During discussions with officials, some stated that this particular situation is due to the uncertainty relating to the withdrawals and the percentage of withdrawals can not be estimated. There can, thus, arise a situation of excess liquidity in certain cases. The analysis in the following pages is based on the ratios calculated from the published financial statements.

7.3.2. Cash to Current Liability

This ratio measures the ability of the bank to meet the short term liabilities. For the Islamic Banks, short term liabilities include customer deposits (unless otherwise specially provided), since deposits are for a short period with a right to withdraw at any time. Other current liabilities, as a proportion of the total, are relatively small. Thus these banks should maintain cash/cash equivalents to meet the demand for withdrawals. Table (9) shows the ratio of cash to cash liabilities.

As is evident from the table, for banks in Sudan, the ratio is slightly high (55) when compared to Abu Dhabi and Dubai. It may be due to Islamic banking practices followed wholly in Sudan with apex bank controlling it while others have commercial banks existing side by side.

How far the Islamic Banks are in a position to meet the customer demands for withdrawal? can be ascertained by looking to the cash / customer deposit ratio.

7.3.3. Cash to Customer Deposit

Table (10) shows that on an average Sudanese Islamic Banks maintain a high percentage of Cash and Cash equivalents (80%). In fact, relying on the past experience, one can estimate the percentage of withdrawals or renewals of deposits and can effectively apply the same to a minimum cash balance required to be kept over a period of time. This will release considerable amount of funds for other investments if opportunities exist. For example, assume that from experience, the banker estimates that on one year deposits the probability of renewal works out to be 0.8. Then the cash requirements with respect to one year deposits will approximately be:

$1\text{-}d\ (p_r) + m$

Where:

'd' is the amount of deposits

'p_r' is the probability of withdrawal

'm' is the maximum to meet any contingency or any statutory reserve required.

Probability (p_r) depends on the nature of customers their needs etc which only the banker can estimate. Again 'm 'is to be adjusted for possible inflows of cash from different sources. The model gives only a guideline for the minimum cash balance to be maintained.

From the analysis we found that banks in Sudan keep very high percentage of resources in cash/cash equivalents while DIB and ADIB keep relatively low percentage (6-20%). The same reason as seen in the previous analysis can be attributed to this also. Strictly from the point of view of financial analysis, Sudanese banks are better off when compared to others.

For Islamic Banks, no standard for this ratio is available for comparison purpose. Hence judgment regarding adequacy or otherwise can be subjective. If all depositors opt for withdrawal, there is possibility of a liquidity crisis. The analysis above reveals that ADIB and DIB may have a problem of liquidity in the event of customers withdrawing the deposits. But very rarely it happens and can be considered as a remote possibility. Throughout the history of Islamic Banks, one can cite only a few examples of Islamic Banks facing liquidity problem .This again may be an exception and not a general rule. Deposits in Islamic Banks are made because of religious sentiments against interests and at the same time for deriving reward by way of profit sharing. The short term deposits are often renewed by many. The increase in the amount of customer deposits for a period of time in all these banks shows the confidence of the people in the system. For example, in Dubai Islamic Bank, the increase in Customers Deposit during 2000-201 was 56% and in Abu Dhabi Islamic Bank it was around 11%. Cash flows from operating activities in these UAE banks were all positive, indicating that inflows of cash exceeds the outflows.

7.3.4. Current Assets to Current Liabilities

As a rule, current assets must exceed the current liabilities. Current assets are those which can be converted to cash within a year or during the operating cycle of a company, which include Cash and Receivables. For a manufacturing firm the ratio may be 2:1. This provides adequate cushion to liquidity. For an Islamic bank, the ratio is only a guideline indicating the bank's ability to meet the

liabilities. As we have seen, customer deposit accounts for a major share of total current liabilities and other liabilities are less significant. Table (11) shows the results.

Almost all the banks maintain a ratio around one. For ADIB it is more than one. It may be noted that cash to current liabilities ratio of this bank is very low but current assets to current liability ratio is high. This may be due to their classification of 'cash and cash equivalents' and 'other cash assets'. On the whole the ratio cannot be considered as a danger signal from the point of view of Islamic banking business.

7.3.5. Fund Volatility

Non availability of the accurate loanable funds and investments (loans) prevents us from calculating the fund volatility. It is ascertained from the discussions, that in general, they deploy short term customer deposits on short term trading loans only. Exceptions may be there where investment deposits of long duration have been used for long term investments.

7.3.6. Leverage Ratio (Customer Deposits to Share holders Equity)

Table (12) shows the analysis. It can be seen that Islamic banks in general have customer deposits of 835% to 886% of share holders' equity. For any bank, customer deposits will be sufficiently higher than share holders' equity. Since there is no norm for a capital adequacy for Islamic banks, we cannot admit that it is a poor indication of share holders' equity base.

7.3.7. Customer Deposits to Current Assets.

As can be seen from Table (13), the ratio of Customer Deposits to Current Assets ranges from 60.75% (Abu Dubai) to 97% (Dubai). A ratio of 1 or more indicates that the entire customer deposits are deployed in short term current assets. Some of the customer deposits may be trade investments and hence a ratio of one or more is difficult. On an average this ratio seems to be reasonable for Islamic banks.

7.3.8. Current assets to Total Assets

A major part of the total assets are current assets as indicated by the ratio shown in Table (14). It ranges from 76% to 92 %. As expected, the fixed assets are comparatively lower except for some investments like building or furniture.

7.3.9. Net Profit to Customer Deposits

This ratio measures the return on customer deposits. It is evident from Table (15) that returns on customer deposits hover around 4 % only. The net profit is taken as the net profit before *Zakat.* All banks present a profit of only around 4% to 5 % which cannot be considered satisfactory. It is true that this represents the share of the bank after meeting the customers' share. Even then one doubts whether this rate is adequate for a sustainable growth of banks.

7.4. QIB: Some Relevant Ratios

Considering the case of Qatar Islamic Bank, it must be noted here that detailed and classified information relating to different heads for Qatar Islamic Bank were not available for all the ten years, as the bank was established after that. Therefore ratios calculated for the other banks could not be worked out. However some ratios from 1997 to 2001, which are relevant, are shown below:

Receivables to Deposits and liabilities ratio:

1997	1998	1999	2000	2001
81%	88%	84%	91%	87%

Of the total assets around 80% are receivables. This indicates the poor solvency of the Bank. Actually the correct position can be ascertained only when cash and cash equivalents are also considered. The Bank may be keeping excess cash.

Deposits to Shareholders Equity: This ratio also is not impressive as can be seen from the following

1997	1998	1999	2000	2001
14%	11%	12%	11%	11%

Shareholders Equity is above 10% of the deposits accepted in all the years. Since no standard capital adequacy norms are available one cannot suggest a poor capital adequacy for the bank.

Return on Equity and Return on Total Assets are given below:

	1997	1998	1999	2000	2001
ROE	14%	22%	19%	12%	18%
ROA	0.93%	1.7%	1.4%	0.95%	1.5%

There is considerable fluctuation in both these ratios

8. Conclusion and Policy Recommendations

The above analysis leads us to the following major conclusions and policy recommendations.

Where there is a total Islamic banking system, the liquidity positions of Islamic banks are high. In case of Gulf countries, Islamic banks maintain relatively small proportion of cash to meet current liabilities. Banks in Sudan keep very high percentage of resources in cash/cash equivalents while in Gulf, they keep relatively low percentage. Since no standard is available for Islamic banks, and the rule of thumb cannot be applied to these banks, the judgment regarding adequacy or otherwise is subjective. In case of a contingency, like the total withdrawal of deposits by depositors, these banks may face the problem of liquidity. Such a situation is only a remote possibility since religious sentiments against interest earned guides the depositors. All the ratios calculated above (except the last one) lead to the same conclusion.

The profitability (before tax and *Zakat*) is relatively low. This points out to the fact that the deployment of short term funds in short term investments does not fetch huge margin of profit. If their attention is focussed on long term projects, the probability of gaining more returns will be higher. Thus ISBs should think in terms of getting medium term or long term deposits so that more profitable opportunities can be explored.

The existing equity base, when compared to the deposits, accepted seems to be relatively low. Here again no standard for capital adequacy is available Hence it is futile in jumping to the conclusion that these banks have low equity base. However measures to strengthen the equity base will definitely prove to be a step in the right direction

In general, the Islamic Banking System has projected considerable growth over the past decade in the MENA Region. This expansion is due to the ever increasing oil revenues coupled with the trust on religious beliefs. Hence transparency in the working of these banks must be necessitated. This can be achieved through proper control measures by apex banks and insisting on adequate disclosure of accounting and reporting practices. As reflected in the analysis, it is only the trust of the investors in the system that enabled these banks to grow. If not theoretically, the likely withdrawals of deposits (permitted to do so at any time) may lead to liquidity problems.

The analysis here confirms that the changes of assets and liability sides of the structure of financial statements from standard norms to Islamic form, shown in sections 2.2 and 2.3 have no apparent repercussions on ISBs' liquidity. Which means that worries about liquidity risk is not valid at a present. This might be a result of non-availability of investment avenues and financing via *Murabaha and Salam* on the assets side, and the high share of demand deposits which look like interest-free loan on liability side. Nevertheless, the future occurrence of liquidity risk cannot be ruled out due to reasons identified in the literature before and not thoroughly analysed here (lack of inter-bank money market, reliance on current accounts, restrictions of sales of debt, etc.). In practice, the excess liquidity in ISBs may poses some problems. To cite an example, Kuwait Finance House (KFH) held an operating surplus in 1984 but did not declare dividend, and stopped accepting fresh deposits. Rumours about moratorium on withdrawals also spread. The actual cause was mainly because of the slow down in the economic activity, and lack of diversification of assets in times of crisis; which led to emergence of such problems. Under such circumstances, the investors' interest is at risk. Thus these banks are susceptible. One must note that growth in these banks is directly related to the increase in the economic activities in the country. Otherwise they may experience some difficulty in deploying excess funds in profitable operations (which affects profitability). Therefore the above mentioned two problems of (1) how can Islamic Banks deploy excess funds? and (2) How to protect investors' interest in terms of repayment of principal and returns? Need to be addressed properly by ISBs.

One aspect that we have found in the analysis is that majority of the short term funds are used in financing trading activities. In fact Islamic Banks can accept long term or medium term funds with provision to withdraw only after the stipulated period, as a major source of funds. These long term funds can be used for building social infrastructure projects benefiting the society in general. Some banks are doing so but not all. For short term funds, efforts should be made to increase the productivity by finding ways of using the same in conformity with the Islamic principles. Thus different types of instruments for short and long term may be made available to the investors. Like any other mutual fund a part of these funds can be deployed in securities market or money market or even commodities market.

The second aspect is that of protecting investors' interest in times of crisis. Regulatory bodies should specify the capital adequacy norms for these banks and insist on transferring a higher percentage of profits to the statutory reserve. Deposit insurance can also be introduced

We can also think in terms of guaranteeing a minimum return on deposits to compensate the loss in purchasing power. This can be done by fixing an index for the amount with the growth in consumer price index. For example, at the time of deposit if the consumer price index was 120 and at the time of withdrawal it moved to 130, the amount of deposit can be indexed with an index factor of 130/120 or 1.8.This leads us to deduce that any fund deployed should get a return above the index factor

Yet another important aspect which hinders analysis here is relating to the accounting practices. There is no uniform accounting practices followed by these banks. Prudent accounting standards relating to income/expenses recognition, depreciation, valuation of stock and assets off balance sheet items, declaration of dividend etc should be formulated to enable the transparency in the banking. This must be followed by reliable auditing standards also. The regulatory bodies must compel these banks to follow uniform accounting standards.

Regulatory authorities in each country should set up a standard multi setting body for Islamic Banks. This body with statutory powers should consist of experts in Islamic Banking, Professional Accountants, Lawyers and representatives from public and should be responsible for issuing domestic/local standards. It may also cooperate with similar bodies in other countries. Initially training should be given to the staff in preparing the accounts according to the prescribed standards. This step is of vital significance to enhance measuring liquidity and contribute to the credibility of Islamic Banking.

The major future developments related to the absence of liquidity risk should be emphasized here. Despite the absence of liquidity constraint, ISBs are required to take cautions and develop liquidity-management instruments, create an Islamic bonds market to compensate for inter-bank market, and fetch long-term investment avenues to exploit current excess liquidity and to be able to raise profits. Moreover, ISBs, in countries of a mixed banking system, and owing to the absence of a regulatory body operating in accordance with Islamic principles, face a high degree of competition that might have implications on their liquidity status in the future. Therefore, future development also require separate regulatory and supervisory framework for ISBs in countries of a mixed banking system. This would address issues specific to Islamic institutions including liquidity development and liquidity management.

Finally, as identified in Section (2.4.1) liquidity risk can be caused by different factors such as the lack of confidence on the banking system and reliance on few large depositors. Moreover, liquidity risk in ISBs cannot be ruled out in the future as a result of reliance of these banks on current accounts and restrictions of ISBs' sales of debt, absence of lender of Last Resort Facility in practice. All these factors, which have not been dealt with separately and properly here, deserve attention in future research on the area.

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Appendix

Table 1: Islamic and Conventional Types of Deposits

Characteristics	ISBs	CBs
1. Profit and loss principle is applied.	Yes, equity-like contract between the bank and the shareholder who share in profit and loss.	No.
2. Nominal value guarantee of:		
2.a. Demand deposits	Yes (except in the event of insolvency), pure debts contract with no returns.	Yes.
2.b. Saving deposits	Yes.	Yes.
2.c. Investment deposits	No.	Yes.
3. Return on deposits	Some saving deposits share some returns. All other deposits do not share in the bank's profit.	Certain and guaranteed for all deposits.
4. Linking the rate of return of deposits to bank's profit.	Yes.	No.
5. Share in the Bank's profit and loss.	Yes, According to ratios stipulated in the contract	No.
6. Mandated specific reserve requirement on demand and investment deposits.	Not available.	Yes.
7. How returns on deposits are generated.	Depends on the bank's performance and profit from investment.	Irrespective of the bank's performance and profit from investment
8. Equity-based system where capital is at risk.	Yes.	No.
9. Depositors influence in the bank investment decision.	No, since the relationship is regulated according to restricted Mudahraba.	No.
10. Banks' pooling of deposits' fund to provide depositors with professional investment management.	Yes.	No.
11. Ability to reduce capital value of investment deposits in the case of a loss.	Yes.	No.

Source: Modified and augmented from Errirco, L. and Farahbaksh, M. (1998), p. 10.

Table 2: Financial Statements of ISBs & CBs

Assets			Liabilities		
Description	**Cb**	**Ib**	**Description**	**Cb**	**Ib**
1. Current Cash Balances			**1. Shareholders Equity**		
Cash	X	X	Shareholders Equity	X	X
Balances With The Central Bank	X	X	Paid Up Capital	X	X
Balances With Banks	X	X	Legal Reserve	X	X
2. Portfolio Of Securities			Regular Reserve	X	X
Government Bonds	X	N.A.	General Reserve	X	X
Loans, Advances & Discounted Commercial Papers	X	N.A.	Undistributed Profits	X	X
Investment In Securities	X	N.A.	**2. Liabilities**		
Real Estate Investment	N.A.	X	Call (Current) Deposits	X	X
Repaid Amount (Expenses) & Other Assets	X	X	Time Deposits (With Notification)	X	N.A.
Financing & Investment Activities	N.A.	X	Saving Deposits	X	X
			Mudaraba	N.A.	X
			Balances Due To Banks	X-Commercial	X-Islamic

Source: Zuair, Mohammed (2002).

Table 3: Macroeconomic indicators - Sudan (in millions of SDD)

Description/ Years	1998	1999	2000	2001	2002
Nominal GDP (SDD billions)	1991.6	2541	2969.5	3380.5	3483
Oil sector (SDD billions)	-	-	-	-	-
Real GDP (81/82 prices)	1173	1243.4	1346.2	1432.2	n.a.
Inflation rate (CPI)	17.7	16.6	8.1	4.9	8.3
Exchange rate (SDD/US$)	-	-	257.3	261.43	262.4
Investment/GDP (%)	-	18.7	18.7	19.5	
Exports (millions US$)	595.7	1780	1806.7	1698.7	1839
Oil exports (millions US$)	zero	275.9	1350.8	1376.6	1413
Imports (millions US$)	1924.6	1414.9	1552.7	1585.5	1503
Trade Balance (millions US$)	-1328.9	-634.8	254	113.2	336
Current account balance (US$)	-957.4	-431.1	-517.6	-518.8	n.a.
Total revenues (SDD billions)	159.2	205.2	331.4	365.2	470.7
Total expenditures (SDD billions)	175.5	227	352.2	418.8	503.4
Surplus (deficit) budget	-16.2	-21.8	-20.8	-53.6	-32.7
External debt (Billions US$)	20.5	20.5	20	21.5	23

Source: Central Bank of Sudan, Annual Reports, different issues; IMF, Country Report No. 03/390, 2003.

Table 4: Macroeconomic Indicators – UAE (in million AED's)

Description/ Years	1998	1999	2000	2001	2002
Nominal GDP	173147	190455	214327	254236	261370
Oil sector (mining & quarries %)	20	26	24	23.8	21.6
Real GDP (1995 prices)	n.a.	192894	214327	221751	226011
CPI	2	2	1.4	2.2	2.9
Exchange rate	3.6725/US$	3.6725/US$	3.6725/US$	3.6725/US$	3.6725/US$
Investment/GDP (%)	30.1	27.7	26.8	36.7	23.6
Exports & re-exports	114.11	131.62	183.02	179.12	191.57
Oil exports	34.6	45.4	79.46	65.2	62.24
Imports	112.1	119.2	128.57	136.96	143.73
Trade Balance	2.01	12.42	54.44	42.16	38.41
Current account balance	-4.09	6.42	50.5	36.54	31
Total revenue	42713	43761	74386	68633	57209
Total expenditure	71469	72009	84066	95459	86374
Surplus (deficit) budget	-28756	-28248	-9680	-26826	-29165
External debt/GDP (%)	37.5	33.6	26	20.3	n.a.

Sources: Central Bank of UAE, Annual Reports, different issues.

Table 5: Macroeconomic Performance – Qatar (in millions of Q.R.)

Description/ Years	1998	1999	2000	2001	2002
Nominal GDP	37,330	44,397	64,646	62,341	63,578
Oil sector (%)	34.9	44.9	60.4	58.7	59
Real GDP	-	-	-	61480	63425
CPI (Base Year 1988)	134.1	137	139.3	141.3	141.6
Exchange rate	-	-	-	-	-
Investment/GDP	-	4.4	3.1	5	7
Exports	18,311	26,258	42,202	39,567	39,959
Oil exports	-	14612	23979	20422	20488
Imports	11,177	8,196	10,664	12,324	13,287
Trade Balance	7,134	18,062	31,538	27,243	26,672
Current account balance	-1,658	7,903	16,655	15,113	13,918
Total revenue	15,200	15,256	23,428	22,755	26,636*
Total expenditure	16,968	17,336	18,294	20,504	22,516
Surplus (deficit) budget	-1,768	-2,080	5,134	2,251	4,120
External debt/GDP	-	-	-	-	-

Notes: * Fiscal years.
Sources: Central Bank of Qatar, Department of Economic Policies, Quarterly Statistical Bulletin, difference issues.

Table 6: Banking Performance – Sudan (in SDD millions)

Description/Years	1998	1999	2000	2001	2002
Public Expenditure/GDP (%)	11.4	8.9	12.4	12.8	10.8
GDP nominal growth rates (%)	n.a.	22.9	21.2	13.8	3
Demand Deposits (SDD millions)	54881	62752	93505	117551	-
Growth rate of demand deposits (%)	n.a.	14.3	49	25.7	-
Total deposits/GDP (%)	6	5.9	6.6	8.2	10.6
M2-Currency/GDP (%)	6.3	10.5	6.9	8.2	-
Credit/GDP (%)	3.4	4.3	2.4	3	-
Non-performing loans/total loans (%)	-	-	17	16	-
Velocity (GDP/M2), (%)	9.6	9.5	8.7	7.8	6.2
Total assets/GDP (%)	16	17.4	12	13.5	11.3
Liquid assets / total deposits (%)	26	1	28.9	20.9	-
Loans / total assets (%)	14	11	22	24.5	-
Total deposits / total liabilities (%)	37	35	55	60.2	-
Loans -to- deposits ratio (%)	37	35	40.2	40.6	n.a.

Source: Calculated from figures obtained from the Central Bank of Sudan, Annual Reports, different issues; IMF, Country Report, No. 03/390, 2003.

Table 7: Banking Performance – U.A.E.

Description/ Years	1998	1999	2000	2001	2002
Public Expenditure/GDP	45.45	39.05	28.3	32.89	35.42
GDP growth rate (%)	-1.8 (97/98)	10.0 (98/99)	12.5 (99/2)	18.6 (2/2001)	2.8 (2001/2002)
Demand Deposits (millions of AED's)	21530	22343	30357	153674	170046
Total deposits/GDP (%)	54.3	54.8	64.3	60.5	65.1
M2-Currency/GDP (%)	57.1	57.8	66	61.6	66.4
Credit/GDP (%)	78	77.3	72.4	64.3	73
Non-performing loans/total loans	n.a.	n.a.	n.a.	n.a.	n.a.
Velocity (GDP/M2).	1.8	1.7	1.5	1.6	1.5
Total assets/GDP (%)	135.8	131.8	129.3	117.9	127.5
Liquid assets / total deposits** (%)	21.3	33.5	26.4	27.5	19.6
Credit / total assets (%)	57.5	58.6	56	54.5	57.3
Total deposits / total liabilities (%)	40	41.6	49.7	51.3	46.4
Loans -to- deposits ratio (%)	127	125.2	112.7	106.3	77*

Notes: * In 2003. ** Liquid assets are defined to include cash and deposits with the Central bank, and due from resident banks.
Sources: calculated from figures obtained from the Central Bank of UAE, Annual Reports, different issues, Gulf Investment Corporation, 2004.

Table 8: Banking Performance – Qatar

Description	1998	1999	2000	2001	2002
Public Expenditure/GDP (millions of Q.R.)	-	-	-	31.8	31.8
GDP growth rate (%)	-9.2	18.9	45.6	-3.6	2
Demand Deposits (millions of Q.R.)	2,717	2,465	2,776	3,479	4,368
Total deposits/GDP (%)	75.55	69.39	56.22	68.2	71.99
M2-Currency/GDP (%)	62.51	58.52	44.48	46.12	50.56
Credit/GDP (%)	76.61	64.29	43.18	54.56	56.57
Non-performing loans/GDP (%)	n.a.	n.a.	n.a.	n.a.	n.a.
Velocity (GDP/M2), (%)	1.6	1.7	2.3	2.2	2
Inflation rate (%)	2.9	2.2	1.7	1.4	0.24
Total assets/GDP (%)	113.84	107.33	77.72	91.97	98.53
Liquid assets / total deposits (%)	-	26.5	29.5	23.4	60.9
Loans / total assets (%)	-	62	77.8	61.9	57.8
Total deposits / total liabilities (%)	-	64.7	72.3	74.2	73.1
Loans –to- deposits ratio (%)	105.30%	92.40%	76.50%	n.a.	78.60%

Sources: Central Bank of Qatar, Department of Economic Policies, Quarterly Statistical Bulletin, difference issues.

Table 9: Cash to Current Liability

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	46	26	50	23	25	78	38	45	29	51	45	31	-	41
SIB	-	-	-	34	20	32	53	63	60	69	52	58	-	55
TIB	-	56	52	48	61	53	69	53	15	6	47	49	-	42
ADIB	-	-	-	-	-	-	-	-	3	8	5	4	-	5
DIB	-	10	24	14	15	15	15	14	12	8	9	11	8	12.9

Sources: Own calculations from each bank's financial statements, 1990-2002.

Table 10: Cash to Customer Deposit

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	85	86	80	42	46	123	70	65	38	60	59	40	-	64
SIB	-	-	-	95	55	58	79	83	88	94	88	69	-	80
TIB	-	79	61	62	83	70.2	88	42	40	41	43	38	-	59
ADIB	-	-	-	-	-	-	-	-	4	8	5	6	-	6
DIB	-	11	26	14	15	15	16	14	13	8	10	11	8	20

Sources: Own calculations from each bank's financial statements, 1990-2002.

Table 11: Current Assets to Current Liabilities

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	96	93	106	94	87	113	92	97	94	99	101	101	-	97
SIB	-	-	-	95	96	96	102	101	101	102	103	110	-	102
TIB	-	93	64	92	95	97	99	85	93	96	73	105	-	90
ADIB	-	-	-	-	-	-	-	-	367	154	126	111	-	189
DIB	100	99	99	99	100	100	88	102	102	101	101	99	-	99

Sources: Own calculations from each bank's financial statements, 1990-2002.

Table 12: Leverage Ratio (Customer Deposits to Share holders Equity)

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	969	1188	2737	243	640	265	533	839	709	632	760	736	-	845
SIB	-	-	-	15	19.8	1552	931	1141	118	304	405	339	-	835
TIB	1424	3188	3600	5830	4870	2918	579	619	757	878	767	-	-	2311
ADIB	-	-	-	-	-	-	-	-	31	134	250	335	-	255
DIB	-	1381	1586	1771	1636	1302	1128	-2839	664	767	95	1218	1121	886

Sources: Own calculations from each bank's financial statements, 1990-2002.

Table 13: Customer Deposits to Current Assets

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	86	66	58	61	64	56	59	72	81	88	77	75	-	70.25
SIB	-	-	-	38	50	57	66	75	68	70	75	69	-	68.5
TIB	75	134	84	78	8	80	148	40	15	149	121	-	-	84
ADIB	-	-	-	-	-	-	-	-	26	63	74	80	-	60.75
DIB	-	90	91	99	99	99	99	111	95	96	92	97	99	97

Sources: Own calculations from each bank's financial statements, 1990-2002.

Table 14: Current assets to Total Assets

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	88	89	93	77	82	71	84	88	85	87	92	91	-	85.5
SIB	-	-	-	92	94	93	95	95	95	83	86	88	-	91
TIB	-	89	63	90	94	95	96	44	74	88	49	58	-	76
ADIB	-	-	-	-	-	-	-	-	89	89	92	88	-	89.5
DIB	-	94	94	93	93	93	93	92	90	89	90	91	93	90.6

Sources: Own calculations from each bank's financial statements, 1990-2002.

Table 15: Net Profit to Customer Deposits.

Bank/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg.
FIB	2	2	4	4	-3.1	0	2	1	1	3	0	0.69	-	1.4
SIB	-		-	-	-	1	9	4	3	5	3	6	-	4.9
TIB	-	5	3	5	4	4	4	2	3	3	3	2	-	3.45
ADIB	-	-	-	-	-	-	-	-	10	3	5	4	-	5
DIB	-	1	0	0	1	1	1	-5	-1	0	6	4	3	0.9

Sources: Own calculations from each bank's financial statements, 1990-2002.
Current Assets = Total Assets - (Non-Trading Instruments + Other Assets + Premises + Equipment), or Cash and Balances with banks and other financial institutions, Receivables, Ijara Receivables.
Curent liability = Total Liability - Equity (deferred Income if known separately is also included).