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# **Bank level stability factors and consumer confidence – a comparative study of Islamic and conventional banks' product mix**

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## **Abstract**

This study examines the behaviour of key bank level stability factors of liquidity, capital, risk-taking and consumer confidence in Islamic and conventional banks which operate in the same market. Using fixed effect sample of 194 banks of Gulf Cooperating Countries between 2000 and 2007, we found that liquidity is not determined by bank's product mix but rather attributed to systematic factors. However, non performing assets (representing loans to sub prime borrowers) have positive and significant relationship with liquidity implying that during the crisis, Islamic banks tend to take stringent risk strategies compared to conventional banks. Furthermore, Islamic banks generally tend to provide higher consumer confidence levels as they were more capitalized than conventional banks, although conventional banks had carried higher averages of liquidity compared to Islamic banks. Consumer confidence levels or depositors' discipline as proxied by deposits and customer funding over liabilities generally appear to be higher in Islamic banks than conventional banks.

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**Key words:** *Bank stability, consumer confidence, depositors' discipline, Islamic banks, Gulf Cooperating Countries.*

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# **Bank level stability factors and consumer confidence – a comparative study of Islamic and conventional banks' product mix**

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## **1 Introduction**

There are numerous inferences that the product mix of Islamic banks' provide more stability (Čihák and Hesse, 2008; Haque et.al 2009; Aziz, 2009, Kia and Darrat 2003, Kaleem, 2000) and not affected by crisis because the nature of Islamic banks product mix does, for example does not trade in collateralized debt obligation market blamed for igniting the current bank crisis (Borio, 2008) particularly among European and American banks during the recent crisis.

Bank stability in many studies is normally reflected by features of bank-instability such as bank runs or illiquidity and subsequent risks relating to illiquidity in the banking sector in banks and henceforth in their customers. This lack of stability featured in our study coincide with the financial instability situation or crisis which climaxed in the summer of 2007 and affected the stability of not only banks but also other the whole spectrum of institutions that provide the financial services particularly in the US and Europe and responsible for a contagion to other world regions.

This study examines the behavior of key bank level stability factors (of liquidity, capital, risk taking) and consumer confidence in Islamic and conventional banks which operate in the same market. Examining the relationships and behavior of these four factors is considered contemporary in order to understand stability of the banking institutions and the financial system in

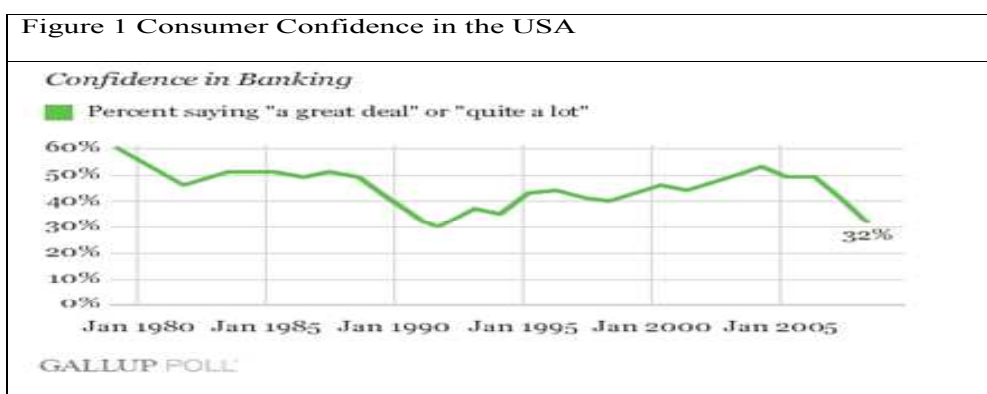
general. The stability of banking sector is the foundation of steadiness of the entire financial systems since banks play a central role in the money creation process; in the payment system, bank credit is an important factor in the financing of investment and growth. Furthermore to preserve monetary and financial stability central banks and supervisory authorities have a special interest in assessing banking system stability

Previous studies have shown that majority of bank stability has been affected by liquidity problems (see, for example, Largan, 2000). Bank liquidity itself is affected by many factors but credit risk and capital adequacy are closely intervening causes. It is for this reason that even regulators are very concerned about liquidity management, credit risk and consumer confidence by the banking institutions.

We endeavor to compare product mixes of Islamic and conventional banking because of the assertion that Islamic banks during the crisis had provided more stability and that liquidity in such banks was much higher. Generally, liquidity management provide a distinctive characteristic compared to that of the conventional counterpart since the available product mix (financial instruments), normally used for liquidity management in conventional banking are interest-based and for that reason are prohibited and the applications are restricted in Islamic interbank money market. Similarly, the distinctive characteristics of respective product mix provide different practices and results on different behavior and levels risk capital and credit risk which have to comply with Basel Accord requirements

Nevertheless, literature on the issue of liquidity management, risk, capital and of confidence level of consumers of the Islamic banks product mix is invariably limited to issues related to efficiency (for instance, Yudistira, 2004; and Moktar, Abdullah, and Al- Habshi, 2006). To our knowledge, no previous research on the relationship between bank level stability factors and consumer confidence as stability factors been done and this study therefore considerate the literature on stability factors

Finally, surveys in the US suggest that customer's loose confidence in their financial system during the recent bank instability. For example the Gallup poll, (Figure 1) traces levels of confidence in banking since 1980 to 2005 which shows a declining consumer confidence the US banking sector from 60% to 32%



Unfortunately such surveys used in the US are normally based on consumer perceptions rather than the consequent behaviour. Therefore; in this paper we follow an econometric approach to examine the relationship between consumer confidence levels using bank level data to reflect actual behaviour rather than perceived behaviour. We compare if such behaviour impacts differently between Islamic bank product mix and conventional product mix.

In this paper we examine the behaviour of Islamic product mix particularly the relationship between stability factors of liquidity, risk and capital in Islamic and conventional commercial banks; We also examine stability factors of performance (ROAV –volatility) and firm value (Tobin Q) both in the Islamic and conventional commercial banks. Also we examine the level of non performing assets (NPA) as a result of poor loan screening lending to sub prime borrowers (reflected in loan-loss provisioning) and finally we examine if consumers confidence in the two market domain through sensitivity to deposit and customer funding over total liabilities

The rest of this paper is organized as follows: in section 2, we briefly examine differentiating features between the Islamic and conventional banking practices. Section 3 discusses the methodology used in the study including construction of the variables, data issues and descriptive statistics used, while section 4 presents the empirical results. Summary, conclusions, and suggestions for further research are presented in section 4. .

## **2 Main features of product mix features - a comparison**

In this section we examine the main features that contrast between the two specialization of banks, their similarities and issues pertinent issues regarding to capital adequacy, liquidity, risks and consumer perception on confidence levels.

### **2.1 The main contrasts of the dual product mix.**

The main contrasting feature between Islamic and conventional banks is based in interest payment in their transactions, and the prohibition of undertaking or financing unethical activities such as gambling, prostitution, alcohol and narcotics. Islamic banks are governed by Sharia, as well as the regulations set in place by individual host country<sup>1</sup>. Basically, the Islamic bank has different objectives, procedure and operational characteristics in contrast to conventional banking which may also have different impact towards capital, liquidity, risk and may influence consumer behaviour towards confidence.

There at least six basic ethical principles from the Quran: Avoidance of interest, risk sharing, treating of money as potential capital, prohibition of speculation, sanctity of contracts, and avoidance of prohibited activities such as those connected with alcohol and gambling. Table 1 summarizes key features that differentiate the nature of two product mixes.

<b>Table 1: Differentiating features in bank of Product mix</b>	
<b>Islamic bank product mix</b>	<b>Conventional Product mix</b>
The product mix, each product or service is guided by sources of Shariah and products are approved by Sharia Board within each bank.	Products are developed based on demand, competition and banks strategy. Products development is not guided religious doctrines and values but corporate governance practices and approved by the board of directors.
The product mix aim intends to balance profit-maximisation doctrine and social responsibility	The product mix focus that emphasise on profit and value creation
Financing products/ instruments are based on either asset-backed trading contract or equity financing with risk sharing	Financing instruments are based on interest bearing mechanism and market speculation
Deposits products are compensated by profit loss sharing mechanism.	Deposits are agreed rents
Defaulters are not penalized (although in some	Past due loan products are normally

<sup>1</sup> Sharia product mix is based on the Islamic holy book – the Quran prohibits (riba) interest and threatens believers not to indulge in any transactions that are related to such interest. There are verses in the Quran (for example in Surat -Imran and Baqara) that give such prohibition. However, Sharia is also reinforced by Sunnah which is the tradition of the of the prophet..

countries a small penalty is levied as a deterrent and channelled to charity.	charged cumulative interest rate.
Islamic banks product cannot finance economic activities which are non Sharia compliant (examples: loans to breweries, piggeries , casinos,	There are no such restrictions for conventional banks
Adapted from Dusk (2008)	

Conventional banks evolved over several centuries while only over the last thirty years, Islamic banks were purposely established to operate within the Sharia code of conduct (Iqbal and Molyneux, 2005), while some banks were converted from conventional banks to Islamic ones. For example, in Iran and Sudan, all conventional banks were made to Islamic banks following a change in political regime that enacted legislation to change them (Sundararajan and Errico 2002). In other countries which are characterized with large Muslim populations like Malaysia, Bahrain, Pakistan, Saudi Arabia, and Egypt allowed a parallel existence of Islamic banking along side conventional banks (Hassan 2003)

In contrast, conventional banks operate mainly on the basis of a business model that 'banks like other firms are to maximize shareholders value'. The driving force behind value creation is normally the next quarter's earnings. In conventional banking system, the rate of interest is a vital yardstick in running the entire banking business as it applies the business model. In its value maximization objective, interest (in its different forms such as cost of capital, net interest margin) conveys the nature and state of supply and demand and embodies information concerning the market, the targets of the executives and shareholders expectation.



The operations of Islamic banks are characterised by different vocabulary or nomenclature. In appendix 1 we provide the nomenclature of a typical Islamic banking product mix

### **3 Bank stability and consumer confidence**

Several causes have been responsible for bank stability in the past ranging from macro economic volatility both external and internal. For example Caprio and Kilbeggel 1996 and Kaminsky (1996) reported trade imbalance while the real exchange volatility is another major factor in Latin America and South East Asia stability predicament. The East Asian bank instability identified how excessive dependence on short-term and foreign currency nominated debt shook bank stability. Rogoff (2003)

According to Borio (2008) other stability factors prevalent in recent state of bank instability among conventional banks is characterised by a sharp *repricing* of its product mix particularly credit risk that, given the leverage built up in the system, led to, and was made worse by, an disappearance of liquidity in many markets leading to further risk taking behaviour by US banks lending even more to subprime mortgage market. The performance of this sub-prime mortgage market of the conventional bank product mix, advanced into a prolonged period of broad-based aggressive risk-taking in lending. The situation was complicated by lack of clarity of the (new - derivatives) instruments. Borio (2008) adds that banks experienced a crisis of confidence in valuations. As time passed, the original quality of assets weakened and became more apparent and therefore banks were affected with liquidity

problem and default on different classes of assets which also lowered consumer confidence levels considerably.

Generally customers' confidence levels for banks are due to its several advantages over capital markets. According to Freixas and Santomero, (2002) there are at least three main reasons that banks have a comparative advantage which also largely account for customers' confidence levels. The first good reason for the existence of intermediaries suggests that banks screen potential borrowers on behalf of their depositors and furthermore banks are valuable providers of monitoring (Grossman & Stiglitz, 1980). The task of provision of liquidity (Bryant, 1980) through their services including checking accounts and investment services, granting of loans, and facilitate financial transactions makes bank customer trust it. Another reason is that banks are good in creating safe assets and as such they are the most efficient institutions to handle credit risk and liquidity because of the immense expertise they possess (Casu, et.al, 2006, p. 15-17). Finally, of late, banks have taken steps to securitize loans through quantitative and qualitative process and have the capacity to transfer their default risk which also influence customers' perceptions on confidence levels. Several studies provide a theoretical basis for our paper. For example, Pyle (1971) and Hart and Jaffee (1974) regard banks as utility-maximizing units and use mean-variance analysis to compare portfolio choice with and without a capital regulation while Koehn and Santomero (1980) showed that the introduction of higher leverage ratios may shift their portfolio to riskier assets.

Kim and Santomero (1988) suggested the use correct processes of risk measurements and recommend the use of the solvency ratio. Rochet (1992) found the effectiveness of capital regulations depended on whether the banks were value-maximizing meaning capital regulations could not prevent risk-taking actions by banks

Another strand of the literature on factors of bank stability uses option models. For example, Furlong and Keeley (1989) and Keeley (1990) found that higher capital requirements reduce the incentives for a value-maximizing bank to increase asset risk. The recent product mix by conventional banks saw growth of credit risk transfer and the development of a market for credit risk transfer influenced structural innovation in the financial system as it puts forward a wide range of instruments to deal with different aspects of credit risk (Scheicher, 2008) that also affected consumers in many ways. For example, Scheicher (2008) reports that such instruments presents default protection for individual firms through credit default swaps (CDS) and that such CD's are packaged and traded by means of collateralised debt obligations (CDOs) which eventually became the centre of bank instability.

### **3.1 The link between stability factors and confidence**

It is important to note that the link between liquidity, capital, risk and confidence has occupied the banking literature. As a result supervisory authorities argue that in order to protect the stability of the financial system, additional restraints on capital adequacy should be implemented. They argue that the losses suffered when a bank fails leads to the exceeding of costs

taken up by the investors in the banks securities is due to the nature of liabilities. Diamond and Dybvig (1983) points out that one of the key reasons why banks are fragile, is that as they execute their function of transforming maturity they succumb to meet depositors' potential liquidity needs. Nonetheless, almost no effort has to date been devoted to an analysis of one of the key ingredients that make banks safer institutions and that is their own holdings of liquid assets. Borio (2008) for instance asks three pertinent questions on factors of bank stability: how much liquidity should banks hold as a buffer against bank run? Do liquidity ratios reflect capital and risk behaviours?. How might the size of bank liquidity shield be influenced by bank idiosyncratic factors? While we might not directly answer all these question our discussion and conclusions would epitomize them.

Generally, the requirements for a higher capital to assets ratio is assumed to reduce the deposit funding of a bank and is linked to risk taking strategies (Besanko and Kanatas, 1996). The main reason for higher capital, leading to liquidity may also be linked to greater risk exposure because according to Santomero and Watson (1977), during the last century commercial banks have been financed with less of capital relative to debt. So, some economists and regulators see this trend with uncertainty as they argued that low capital leads to bank failures, financial instability and consequent consumer confidence levels. Furthermore, regulatory authorities also argue that allowing bank capital to lessen is not safe or proper and that in order to protect consumer confidence in financial system and therefore additional restraints on capital adequacy should be implemented.

The argument that the losses suffered when a bank fails leads to the excessive costs taken up by the investors in situations when banks experience bank runs. This reason is evidenced by the current financial turmoil where banks issued and bought several securities in the financial market which were contaminated. This line of argument mainly rely on market evaluation and of the relative riskiness of commercial banks and holds that the debt and equity capital in the securities market is enough to keep the commercial banking system to assume undue risks. Furlong and Keeley (1989) report that the federal deposit insurance was an important factor towards the increase of capital standards in banking during the 1980's. Furthermore, they noted that an increase in asset risk was obvious due to the enforcement of higher capital ratio requirements. The effect of a higher capital ratio on default risk is explained as the central issue in bank capital regulation.

Dahl and Shrieves (1992) examined the differential responses of undercapitalised banks suggest that, for undercapitalised banks, the degree of undercapitalisation is a substantial influence on the probability of equity market issues and market conditions are less. Berger and Udell (1994) too found growth rates for a number of asset mix to have positive relationship with capital.

Financial markets have become obscure in several behaviours. For instance, some markets, hedge funds or credit default swaps, hardly disclose useful information for risk assessment. Notwithstanding its importance, disclosure alone does not necessarily guarantee genuine transparency. Market

participants need adequate, bias free and relevant information delivered in an appropriate, timely manner. As an illustration, recent market occurrences involving off-balance-sheet entities and complex financial instruments reveal the lack of transparency ensuing from the incorrect information disclosed late and in the wrong way. Information on mortgages too suffers from a similar predicament, leaving many borrowers fail to make a well-informed decision. These complex instruments surrounded by speculation may not have similar effect to Islamic banks compared to conventional banks.

In a study on the performance of Bank Islam Malaysia Berhad (BIMB) Samad and Hassan (1999) examined liquidity, and solvency risk for the period of 1984 to 1997. The analysis showed that Islamic banks were somewhat more liquid as compared to other eight commercial banks operating in the same market. Bashir (2001) examines the relationship between banking characteristics and performance measures for fourteen Islamic banks for the period 1993 to 1998 in eight Middle Eastern countries and found that sharia-compliant banks in his sample have more liquidity than non-sharia compliant banks.

In another study, Siddiqui (2008) examined financial contracts, risk and performance of Islamic banks in Pakistan for the period from 2002 to 2003 and documented that Islamic banks have higher liquidity and larger cash balances compared to their conventional banks counterparts. More recently, Samad (2004) examined the financial performance and liquidity of Islamic banks and conventional banks in Bahrain for the period from 1991 to 2001 for six Islamic and 15 conventional banks. Results for Samad confirmed the study by Bashir

(2001) that there were higher ratios of liquidity in Islamic banks compared to those of conventional banks

With respect to risk, according to Sarker (1999) Islamic banking products have different risk characteristics and therefore different prudential regulation should be erected while Khan and Bhatt (2008) reports that in order to manage risk of the banking sector as a whole, central banks of the Islamic countries have stipulated various capital adequacy and reserve requirements which are not uniform to all Islamic banks in various regions of the world. It should be noted that Islamic banks do not have a large portion of their assets in fixed income interest bearing assets, as compared to conventional banks. Therefore, they may require a larger capital adequacy ratio and a larger liquidity ratio and that by basing on this argument; the Basel Committee has stipulated higher minimum capital requirements for Islamic banks (Siddiqui, 2008)

## **4 Methodology**

### **4.1 Data**

We have obtained our data from Bankscope and our sample is drawn from the following six countries which form the GCC: (Bahrain, Kuwait, Qatar, Saudi Arabia, Oman and United Arab Emirates) has included two types of specializations: Islamic and conventional (in accordance with International Association of Islamic Banks membership classification). The sample comprise all 194 banks of which 50 are Islamic banks and 144 are conventional banks.

## 4.2 Model

In our study we measure financial stability (*BS*) in banking using three important indicators. First is  $BS_{ROAV}$  which is computed as the standard deviation of ROA. We expect positive and significant results. Our second measure of stability is the  $BS_{Tobin\ Q}$  which we calculate by equity by earnings. In Tobin's Q (Tobin, 1969), Q gives the summary of available and pertinent information about the future for bank's investment decision. Q implies that: a unit increase in the firm's capital stock, increases the present value of the firm's profits by Q, and therefore raises the value of the firm by Q. (Hill 2006). Aspachs *et. al.* 2005 and Almeida *et al* have also used Tobin's Q in their model to examine liquidity during economic constraints or crisis period and found significant relationship between *Tobin Q* and cash flow. In our study we expect a positive Tobin Q because a value which is greater than 1 indicates the bank is doing well in terms of decision investment making decisions (in our case sharia compliant decisions versus conventional banking decisions) which may lead to differences in changes in capital, liquidity and risk. We therefore also interpret that if *Tobin Q* is higher then the access profit of a bank is used to improve its liquidity and risk capital since in accounting it constitute some form of non distributable profit. So, generally, a higher *Tobin Q* means more confidence as far as depositors are concern.

Our third measure of *BS* is captured by banks liquidity ( $BS_{LIQ}$ ). Banks in stable situation will not face liquidity constraint because deposits will only be easy to mobilize but also the timing of cash flows from loans will not be affected by an increasing level of non performing assets. We use loan loss



provision over deposits to measure the impact of non performing loans to banks sustainability. Finally we estimate illiquidity using the ratio of current asset over current liability to find factors that may influence the level of liquidity among banks. Therefore, other two measures will be  $BS_{NPA}$  and  $BS_{LIQ}$  respectively and then we also differentiate between Islamic banks  $FTisb$  and conventional banks  $FTisb$  respectively. Therefore in order to carry this analysis we will run equations 1 – 12.

$$BS_{ROAV_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (1)$$

$$BS_{Sisb_{ROAV_{i,j,t}}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (2)$$

$$BS_{Scb_{ROAV_{i,j,t}}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (3)$$

$$BS_{TobinQ_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (4)$$

$$BS_{Sisb_{TobinQ_{i,j,t}}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (5)$$

$$BSch_{TobinQ_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (6)$$

$$BS_{NPA_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (7)$$

$$BSisb_{NPA_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (8)$$

$$BSch_{NPA_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (9)$$

$$BS_{LIQ_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (10)$$

$$BSisb_{LIQ_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (11)$$

$$BSch_{LIQ_{i,j,t}} = \alpha + \lambda_1 PBT_{i,j,t} + \lambda_2 LLP_{i,j,t} + \lambda_3 NLTA_{i,j,t} + \lambda_4 CIR_{i,j,t} + \lambda_5 CC_{i,j,t} + \lambda_6 \xi_{i,j,t} \quad (12)$$

The variables used and their computation is as follows:

$BS_{ROAV_{i,j,t}}$  = Return on average assets for bank  $i$ , in country  $j$  on period  $t$

$BS_{NPA\ i,j,t}$	= Non performing assets proxied by loan loss provision over total assets
$BS_{LIQ\ i,j,t}$	= Liquidity measured by liquid assets over total assets
$BS_{Tobin\ Q}$	= Equity over earnings for each bank in country $j$ and year $t$
$PBT_{i,j,t}$	= Profit before tax for bank $i$ in each country for each year
$LLP_{i,j,t}$	= Loan loss provision over total loans
$ETA_{i,j,t}$	= Equity to assets ratio, bank $i$ country $j$
$NLTA_{i,j,t}$	= Net loans to Total assets, bank $i$ country $j$
$CIR_{i,j,t}$	= Cost income ratio, bank $i$ country $j$
$CC_{i,j,t}$	= Consumer confidence proxied by the ratio of deposits over total assets for bank $i$ in country $j$
$\xi_{i,j,t}$	= The error term for each bank in each GCC country for each year

**Table 2: Summary of Statistics**

**a) Summary Statistics – All banks (Islamic and conventional)  
GCC countries from 2000 - 2007**

Variable	Obs	Mean	Std. Dev	Min	Max
PBT	194	60.8	91.8	-10.3	494.0
LLP	194	5.7	11.8	12.7	56.6
ROA	174	48.9	26.3	0.0	100.0
CIR	194	45.6	27.3	0.1	178.2
NLTA	137	28.5	76.7	0.0	665.8
LIQ	194	7.6	8.4	-7.2	53.2
Tobin Q	109	0.003	0.008	-0.016	0.071
NPA	194	40.47	27.50	6.98	100.00
CC	176	0.52	0.28	0.00	0.89

**b) Summary statistics for Islamic banks only of the GCC  
between 2000 and 2007**

Variable	Obs	Mean	Std. Dev	Min	Max
PBT	144	138.3	335.8	-26.7	563.0
LLP	133	25.8	58.0	12.7	239.1
NLTA	144	52.6	27.1	0.0	100.0

CIR	144	48.4	27.1	9.6	178.2
LIQ	143	20.5	71.1	0.02	665.8
ROAV	102	7.7	8.3	-7.2	53.2
NPA	82	0.0	0.0	0.0	0.0
Tobin Q	144	0.4	0.3	0.1	1.0
CC	144				

**c) Summary statistics conventional banks of the GCC between 2000 and 2007**

Variable	Obs	Mean	Std. Dev.	Min	Max
PBT	50	64.0	113.91	-99.9	494
LLP	31	4.39	10.89	-1.5	56.6
NLTA	41	45.41	24.86	4.51	96.06
CIR	50	34.07	23.19	1	77.38
LIQ	50	41.28	79.75	0.09	419.05
ROAV	35	6.63	7.94	-4.97	30.18
NPA	27	0.61	2.32	-7	7.86
Tobin Q	11	52.77	83.84	1.53	267.70
CC	50	0.61	0.256	0	0.88

The summary statistics (table 1) show that the mean PBT for the GCC all banks sample is 60.8 which is close to the 64 for Conventional banks while the mean PBT for Islamic banks records at 138.3. This difference is attributed to two main factors. First, to some extent to the nature of accounting treatment of PBT in profit –loss sharing arrangement may be counted as a financial cost, and second but to a great extent Islamic banks earn high PBT due to its prices. We chose to use PBT because we cannot use Net interest margin (NIM) to compare these two types of banks because Islamic banks do not charge nor earn interest.

Another variable we have examined is the Loan Loss provision. Most reported values have been very small and rounded to 0. As for the GCC banking it has a mean of 5 and a standard deviation of 5 while the highest is 20.64. This variation is evident by nature of accounting for NPA with respect to Islamic banks since they account loan loss under profit loss because the nature of

Islamic banking is Profit-Loss Sharing Contract. On the other hand, the variable ROA ranges from – 7 representing loss making banks to 53% while the mean is 8%. There is interesting variation in the variable CIR with the mean of 44% but when we compare the CIR for the two bank specialization we note remarkable difference. While Conventional banks post a 48 percent CIR the Islamic banks are lower at 34 percent. The NLTA for all the banks has a mean of 50 percent and a standard deviation of 26%.

## 5 Results and discussion

This section outlines the results of the regression. Our first measure of  $BS$  which is  $BS_{ROAV_{i,j,t}}$  and differentiated among two bank specializations or product mix are  $BS_{Sib_{ROAV_{i,j,t}}}$  and  $BS_{Cb_{ROAV_{i,j,t}}}$  for Islamic and conventional banks respectively. Table 2 give comparative results of the three regressions which shows how the two types of banks are impacted by changes in financial conditions.  $ROAV_{i,j,t}$  is positive and significantly related to PBT for all banks but exhibit different relationship when examined separately. It has positive but insignificant relationship with PBT while is negatively and insignificantly related to PBT in Conventional banks.

<Insert Table 2>

We also use Tobin Q to measure the effect of instability and to assess if it impacts differently for Islamic and conventional banks. As shown in table 2 the three equations:  $BS_{TobinQ_{i,j,t}}$ ,  $BS_{Sib_{TobinQ_{i,j,t}}}$  and  $BS_{Cb_{TobinQ_{i,j,t}}}$  show interesting results. Tobin Q is inversely but significantly related to bank specific factors of PBT, LLP, NLTA for all banks. However, Conventional banks posit

positive relationship for PBT. Our measure for consumer confidence is  $\lambda_5 CC_{i,j,t}$  is the depositors' discipline which customers exercise when they have loose confidence.

Although Islamic banks are more capitalized than conventional banks, conventional banks have higher averages of liquidity compared to Islamic banks; we have found that liquidity in GCC banks generally tend not to be determined by bank specific factors. This implies that factors external to the bank such as macro economic and market behaviour have significant relationship with bank liquidity. Such macro economic factors that prevailed, for example in the US and European markets were contributory to the recession.

Furthermore, Islamic banks reported very small *Non performing assets* (NPA) and have shown positive and significant relationship with liquidity implying that subprime loans as in the case in US and UK may have substantial effect on bank liquidity. Moreover, the regression for all banks in the sample too, exhibit positive and significant relationship with LLP but show insignificant relationship when separated.

We also found that in GCC conventional banks have higher liquidity levels than their counterparts suggesting that unlike in the findings of Samad and Hassan (1999) in GCC conventional banks tend to carry more liquidity, most likely to maintain confidence levels for their consumers. Generally, compared to US or EU banks, GCC banks carried higher liquidity levels due to its

economy during the period examined having accumulated funds from oil surpluses.

Other studies (Kaleem, 2000; Kia, 2001; and Darrat, 2002) detailed several advantages of the Islamic banking system citing Iran with its long experience since 1984. The stability contributed by Islamic banking may not be influenced by policy and other exogenous shocks. Kia and Darrat (2003) compare the Islamic bank product mix and concludes that it provides a most stable and invariant policy function, while Kaleem (2000) too supports on the stability of the Islamic monetary instruments in a dual banking system in Malaysia as less vulnerable to crises

Our last measure for consumer confidence levels proxied by deposit and customer funding over total liabilities indicates higher confidence levels for Islamic banks in this region which operates both banks in parallel.

Recent review by the American Congress (2009) reveal that the regulatory system not only failed to manage risk but also failed to call for adequate disclosure of risk through satisfactory level of transparency. As a result, American Congress (2009) identified eight specific areas most urgently in need of reform on financial system to address to current bank stability situation: These are to (1) identify and regulate financial institutions that pose systemic risk; (2) limit excessive leverage financial institution; (3) increase supervision of the shadow financial system; (4) create a new system to regulate product mix particularly mortgages and other consumer credit products; (5) create executive pay structures that discourage excessive risk

taking; (6) reform the credit rating system; and (7) establishing a global financial regulatory floor.

Four of these (AC, 2009) recommendations reflect distinct departure in regulatory practices in the nature of bank product mix such as areas of leverage, contracts, instruments, and mortgages for both Islamic banks and conventional banks.

Blum (1999) discussed the possibility of increase of bank riskiness due to capital adequacy rules by analysing a single bank with the result of optimal choices being compared with the first best solution of the model and found that an additional unit of equity leads to an additional unit of investment which is larger than a unit in the risky asset. This leverage effect makes equity more valuable to a regulated bank. Gehrig (1995) discusses excessive risk taking takes through direct investments in risky assets wherein these assets may be high risk projects or might be risky securities and is difficult to monitor substituted safe assets over risky assets by outside investors or depositors. Policy implication is that Islamic banks product mix provides alternative practices in risk sharing and capital worth considering their adoption.

Areas for future research in this area concerns the nature in which banks are exposed to the sub prime exposure as argued by Woertz (2008) for example in that banks in GCC may have direct exposure incurred by sovereign wealth funds (SWFs), such as the Abu Dhabi Investment Authority and the Kuwait Investment Authority (KIA) amidst maturity mismatches especially in real



estate financing and the probability that GCC bank customers had invested in CDO's issued in the US.

## References

Almeida, H, Campello, M and Weisbach, M S (2004). The cash flow sensitivity of cash New York University

American Congress (2009), Report of the Congressional Oversight Panel on Regulatory reform. US Congress.

Ariff, M., (1998), Islamic Banking. *Asian-Pacific Economic Literature*,. 2(2). 46–62.

Aziz, Z. A, (2009) : Islamic finance and financial stability. Opening remarks by Governor of the Central Bank of Malaysia, at the BNM High Level Conference on Financial Stability, Bank Negara Malaysia, Kuala Lumpur, 24 November 2009. <http://www.bis.org/review/r091130d.pdf>

Bashir, A., H. M., (1999), Risk and profitability measures in Islamic banks: The case of two Sudanese banks. *Islamic Economic Studies*, 6, 1–24.

Blum, J., (1999), "Do Capital Adequacy Requirements Reduce Risks in Banking?," *Journal of Banking and Finance*, 23, 755-71.

Borio, C., (2008) The financial turmoil of 2007–?: a preliminary assessment and some policy considerations. BIS Working Paper No 251

Čihák, M., (2006), How do Central Banks write on financial stability?" IMF Working Paper No. 06/163 (Washington: International Monetary Fund).

Čihák, M., and Hesse, H., (2008), "Islamic banks and financial stability: An Empirical Analysis," *IMF Working Paper 08/16* (Washington: International Monetary Fund).

Cornford, A., ( 2004), "The Basel Committee's Standard for Revised Capital Standards: Rationale, Design and Possible Incidence.

Danmarks Nationalbank, (2004). Market-based risk measures for banks in Financial Stability 2004 (Copenhagen: Danmarks National Bank).

Dusuki, A.W (2008) Understanding the Objectives of Islamic Banking: A Survey of Stakeholders' Perspectives. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(2) 132 – 148

- Ediz, T., Michael, I. M., and Perraudin, W R M, (1998), "Bank Capital Dynamics and Regulatory Policy," Bank of England mimeo.
- El Qorchi, M., (2005), "Islamic Finance Gears Up," *Finance and Development* (Washington: International Monetary Fund).
- El-Hawary, D., Grais, W., Iqbal, Z., (2004). Regulating Islamic financial institutions: the nature of the regulated. World Bank Working Paper 3227 Washington: World Bank.
- El-Hawary, D., Grais, W., and Zamir, I., (2004), Regulating Islamic Financial Institutions: The Nature of the Regulated," World Bank Policy Research Working Paper No. 3227 (25 February), Washington, D.C.
- Elosegui, P., and Pinteris, G., (2002), "Privatization, Foreign Entry, and Bank Risk in Emerging Banking System: Evidence from Argentina," working paper presented at the University of Illinois and Mid-west Finance Association.
- Errico, L., and Farrahbaksh, M., (1998), "Islamic Banking: Issues in Prudential Regulation and Supervision," IMF Working Paper 98/30 (Washington: International Monetary Fund).
- Ferri, G. and . Kang, T.S (1999), "The Credit Channel at Work: Lessons from the Financial Crisis in Korea," *Economic Notes*, 28, No. 2, pp. 195-221.
- Financial Times*, 2008, Islamic Finance, "Special Report," 19 June 2008
- Furlong, Frederick. T. and Keely, M.C., (1989), "Capital regulation and bank risk-taking: A note", *Journal of Banking and Finance*, 13, pp. 883-891
- Gennote, G. and Pyle, D., (1991), "Capital Controls and Bank Risk," *Journal of Banking and Finance*,. 15, 805-41.
- Hamilton, L.C., (2002), *Statistics with Stata* (Belmon, CA: Duxbury).
- Hart, O.D. and D.M. Jaffe, (1974), "On the application of portfolio theory to depository financial intermediaries," *Review of Economic Studies*, 41, 129-147.
- Haque, A.; Osman, O., Ismail, A., (2009) Factor influences selection of Islamic banking: a study on Malaysian customer preferences *American Journal of Applied Sciences*
- Hassan, M. Kabir (ed.), (2003), *Textbook on Islamic Banking* (Dhaka, Bangladesh: Islamic Economic Research Bureau).
- Hesse, H., and Čihák, M., (2007), "Cooperative Banks and Financial Stability," IMF Working Paper No. 07/02 (Washington: International Monetary Fund).
- Hesse, Heiko, Andreas A. Jobst, Juan Solé, (2008), "Trends and Challenges in Islamic Finance," *World Economics*, 9(2), 175-193

- Iqbal, M., Molyneux, P. (2005). *Thirty Years of Islamic Banking*, Macmillan, Palgrave
- Iqbal, M., and Llewellyn, D.T.,(eds.), (2002), "Islamic Banking and Finance: New Perspective on Profit-Sharing and Risk," (Cheltenham, United Kingdom: Edward Elgar Publishing).
- Iqbal, Z., and Mirakhor, A., (1987), "Islamic Banking," International Monetary Fund
- Ito, T., and. Sasaki, Y.N (1998), "Impacts of the Basel Capital Standard on Japanese Banks' Behavior," NBER working paper No. 6730. September.
- Jacques, K.T. , and Nigro, P. (1997), "Risk-Based Capital, Portfolio Risk, and Bank Capital: A Simultaneous Equations Approach," *Journal of Economic and Business*, 533-47.
- Jobst, A. A., (2007), "The Economics of Islamic Finance and Securitization," *Journal of Structured Finance*,. 13(1 )(Spring), 1-22. Also published as IMF Working Paper 07/117 (Washington: International Monetary Fund).
- Jobst, A.A., Kunzel, P., Mills, P. and Amadou S., (2008) Islamic bond issuance – What sovereign debt managers need to Know," *International Journal of Islamic & Middle East Finance and Management*.. 1 (4,). 330-344
- Kaleem, Ahmad. (2000). Modelling monetary stability under dual banking system: the case of Malaysia. *International Journal of Islamic Financial Services*, 2(1): 21-42.
- Keeley, M., C. , (1990), Deposit insurance, risk, and market power in banking, *The American Economic Review*, 80, No. 5, pp. 1183-1200.
- Khan, M.M., Bhatti, M. I., (2008). Development in Islamic banking: a financial risk-allocation approach *Journal of Risk Finance*, 9(1), .40-51
- Khan, T., Ahmed, H., (2001). Risk management: an analysis of issues in Islamic financial industry. Islamic Research and Training Institute, Islamic Development Bank, occasional paper no. 5,
- Kia, Amir. (2001). Interest-free and interest-bearing money demand: policy invariance and stability. *Working Paper*, Department of Economics, Emory University.
- Kia, Amir and Darrat, A. F. (2003). Modelling money demand under the profit-sharing banking scheme: evidence on policy invariance and long-run stability. *Paper presented at the ERF's 10th Annual Conference*, Marrakech, Morocco. December 16-18, 2003.

- Kim, D., and A. Santomero, (1988), "Risk in Banking and Capital Regulation," *Journal of Finance*, 43, 1219-33.
- Koehn, M. and A.M. Santomero, (1980), "Regulation of Bank Capital and Portfolio Risk," J (those failing to achieve the Basel requirement) *Journal of Finance*, 35, 1235-44.
- Marshall, D.A., and Prescott, E.S., (2000), "Bank Capital Regulation with and Without State-Contingent Penalties," Federal Reserve Bank of Chicago Working Paper, 10.
- Marston, D., Shabsigh, G., and Sundararajan, V.,(1998), "Monetary Operations and Government Debt Management Under Islamic Banking," IMF
- Mishkin, Frederic S.(1999). Financial consolidation: dangers and opportunities," *Journal of Banking and Finance*, 23, 675–91.
- Moktar, H.S., Abdullah, N., and Al-Habshi, S. (2006), "Efficiency of Islamic Banks in Malaysia: A Stochastic Frontier Approach," *Journal of Economic Cooperation among Islamic Countries*,. 27(2), 37–70.
- Pyle, H.D. , (1971), "On the theory of Financial Intermediation," *Journal of Finance*, 26, 737-747.
- Rime, B., (2001), "Capital Requirements and Bank Behavior: Empirical Evidence for Switzerland," *Journal of Banking and Finance*, 25, 798-805.
- Rochet, J.C., (1992), "Capital Requirements and the Behavior of Commercial Banks" , *European Economic Review*, 36, 1137-78.
- Samad, A., Hassan, M. K., (1999). The performance of Malaysian Islamic Bank during 1984-1997: An exploratory study. *International Journal of Islamic Financial Services*, 1.
- Sarker, M. A. A., (1999). Islamic banking in Bangladesh: performance, problems, and prospects. *International Journal of Islamic Financial Services*, 1.
- Schaeck, Klaus, Martin Čihák, and Simon Wolfe, (2006), "Are More Competitive Banking Systems More Stable?," IMF Working Paper 06/143 (Washington: International Monetary Fund).
- Scheicher, M., (2008). How has CDO market pricing changed during the turmoil? Evidence from CDS index tranches. European Central Bank, Working Paper Series NO 910
- Shrieves, R. E. and D. Dahl, (1992),"The Relationship between Risk and Capital in Commercial Banks," *Journal of Banking and Finance*, 16, 439-57.

Siddiqui (2008) Financial contracts, risk and performance of Islamic banking  
*Managerial Finance*. 34(10), 680-694

Sturm, M., Strasky, J., Adolf, P., Peschel, D., (2008). The Gulf Cooperation Council Countries - economic structures, recent developments and role in the global economy *ECB Occasional Paper* No. 92

Sundararajan, V., and Errico, L., (2002). Islamic Financial Institutions and Products in the Global Financial System: Key Issues in Risk Management and Challenges Ahead," IMF Working Paper No. 02/192 (Washington: International Monetary Fund).

Van Roy, P., (2003), "Impact of the 1988 Basel Accord on banks' capital ratios and credit risk taking: an international study", European Center for Advanced Research in Economics and Statistics, Universite Libre de Bruxelles, Working Paper.

Woertz, E., (2008) Impact of the US Financial Crisis on GCC Countries.  
*Gulf Research Paper Report*, October

Yudistira, D., (2004). Efficiency in Islamic Banking: An empirical analysis of eighteen banks. *Islamic Economic Studies*, 112 (1), 1–19.

**Table2 : Results of the regressions**

Results of the ROAV fixed effect regression				Results of the Tobin Q fixed effect regression				Results of the NPA - fixed effect regression			
	All banks	Islamic	Non-Islamic		All banks	Islamic	Non-Islamic		All banks	Islamic	Non-Islamic
PBT	0.049738*** (0.013)	0.007 (0.006)	-0.017 0.009	PBT	-0.01 (0.02)	0.002 (0.008)	0.020 (0.084)	PBT	4E-06*** (2E-05)	2E-06*** (3E-06)	-0.075*** (0.027)
LLP	-0.088 (0.143)	0.037 (0.051)	-0.271*** 0.024	LLP	-0.07 (0.11)	-0.024 (0.075)	-0.055 (0.147)	LLP	5E-04*** (9E-05)	1E-04*** (3E-05)	0.018 (0.081)
NLTA	0.050 (0.077)	0.080 (0.093)	0.027 0.029	NLTA	-0.04 (0.11)	-0.012 (0.120)	-0.094 (0.227)	NLTA	3E-07*** (1E-04)	-4E-05*** (5E-05)	-0.051 (0.073)
CIR	-0.057 (0.031)	-0.086 (0.037)	-0.079*** 0.020	CIR	0.02 (0.05)	0.038 (0.054)	-0.265 (0.132)	CIR	3E-05*** (4E-05)	5E-06*** (2E-05)	0.025 (0.042)
_cons	1.222 (4.020)	1.994 (5.180)	5.677*** 1.219	_cons	26.34*** (6.29)	24.667 (7.394)	31.962 (9.246)	_cons	-1E-03*** (5E-03)	2E-03*** (3E-03)	3.722 (3.089)

<b>Results of the ROAV fixed effect regression</b>				<b>Results of the LIQ- fixed effect regression</b>			
	<b>All banks</b>	<b>Islamic</b>	<b>Non-Islamic</b>		<b>All banks</b>	<b>Islamic</b>	<b>Non-Islamic</b>
PBT	0.049738*** (0.013)	0.007 (0.006)	-0.017 0.009	PBT	-0.04658 (0.028223)	-0.002183 (0.006614)	-0.14286 (0.28501)
LLP	-0.088 (0.143)	0.037 (0.051)	-0.271*** 0.024	LLP	0.141319 (0.143242)	0.014719 (0.059842)	0.196832 (0.499863)
NLTA	0.050 (0.077)	0.080 (0.093)	0.027 0.029	NLTA	-0.36215*** (0.146927)	0.344331 0.097095	0.30752 (0.772327)
CIR	-0.057 (0.031)	-0.086 (0.037)	-0.079*** 0.020	CIR	-0.07382 (0.082716)	(0.085085) (0.054346)	0.405731 (0.446947)
_cons	1.222 (4.020)	1.994 (5.180)	5.677*** 1.219	_cons	35.21088 (8.242715)	34.65794 (6.245046)	17.16252 (31.40039)

**Table 1: Summary of Statistics****a) Summary Statistics – All banks (Islamic and non Islamic) GCC countries from 2000 - 2007**

Variable	Obs	Mean	Std. Dev.	Min	Max
PBT	194	60.8	91.8	-10.3	494.0
LLP	194	5.7	11.8	12.7	56.6
ROA	174	48.9	26.3	0.0	100.0
CIR	194	45.6	27.3	0.1	178.2
NLTA	137	28.5	76.7	0.0	665.8
LIQ	194	7.6	8.4	-7.2	53.2
Tobin Q	109	0.003	0.008	-0.016	0.071
NPA	194	40.47	27.50	6.98	100.00
CC	194				

**b) Summary statistics for Islamic banks only of the GCC between 2000 and 2007**

Variable	Obs	Mean	Std. Dev.	Min	Max
PBT	144	138.3	335.8	-26.7	563.0
LLP	133	25.8	58.0	12.7	239.1
NLTA	144	52.6	27.1	0.0	100.0
CIR	144	48.4	27.1	9.6	178.2
LIQ	143	20.5	71.1	0.02	665.8
ROAV	102	7.7	8.3	-7.2	53.2
NPA	82	0.0	0.0	0.0	0.0
Tobin Q	144	0.4	0.3	0.1	1.0
CC	144				

**c) Summary statistics for Non Islamic (conventional banks) of the GCC between 2000 and 2007**

Variable	Obs	Mean	Std. Dev.	Min	Max
PBT	50	64.0	113.9	-99.9	494.0
LLP	50	4.4	10.9	-1.5	56.6
NLTA	50	45.4	24.9	4.5	96.1
CIR	50	34.1	23.2	0.0	77.4
LIQ	50	41.3	79.8	0.1	419.1
ROAV	35	6.6	7.9	-5.0	30.2
NPA	27	0.6	2.3	-7.0	7.9
Tobin Q	50	0.3	0.2	0.1	0.9
CC	50				



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## Sample of Recent Research output/ Publications

1. Bank level stability factors and consumer confidence – a comparative study of Islamic and conventional banks' product mix (2010) (*to be submitted to Journal of Financial Service Marketing*)
2. A note on why the Generalized Method of Moments (GMM) Estimator is getting more popular in banking studies (2010) (*Submitted to Journal of Computational Economics and Finance*)
3. Effectiveness of Monetary Policy in Transition Economies: Empirical Evidence from Tanzania (in progress) Co-author with Mark Lungu, (in progress)
4. Capital adequacy, risk, and liquidity relationships in the European Union banking system (in progress)
5. Examining the relationship between female board members and firm performance - a panel study of US firms, Staff seminar December 2009 Co-authored with Bill Kiwia, (submitted to AJFM)
6. Price-power and Quite-life tests for SADC banking sector – working paper (2009)
7. Financial Crisis and risk: a comparison of Islamic and non Islamic banks in Gulf Cooperation Countries (Presented at the IFM International Conference held at Kempisiki( August 2009). Co-authored with S Otaibi) *forthcoming* in the International Journal on Islamic and Middle Eastern Finance and Management
8. Micro economic perspective of the US banking crisis: (the relationship between performance related pay, non performing assets and credit risk taking behaviour) Working paper 2008
9. Understanding quality of service in a delayed gratification situation: The case of social security providers in Tanzania, International Social

Security Review, 2008 Vol. 61, pp 59-69 Available at  
<http://www.blackwell-synergy.com/toc/issr/61/2>

10. Is wholesale lending to SACCOs a win-win encounter? (Co-authored with A Makame) [\*International Journal of Financial Services Management 2008 - Vol. 3, No.2 pp. 188 - 199\*](#) (co-authored with A. Makame)
11. Does Bank Concentration Increase Credit Risk-taking Behaviour? BBS Accounting and Finance Colloquium, Cregynog, May 2008
12. The determinist of spreads and margins of Southern African banks – February 2007 Working paper
13. Are governance Practices of BRI and Banco Sol Universally Replicable? Working paper January 2007
14. Community awareness and preferences on health financing options: The case of Songea rural district, Tanzania. *East African Journal of Public Health* 2005 [Online], 2(2). pp 18-23 Available at: <http://www.ajol.info/viewarticle.php?id=29673>. (co authored with A. Hussein et al.).
15. Perspectives in the procurement of external auditor in a public corporation' – *The Accountant Journal* 2004
16. Liberalization of financial sector, privatization of parasatals and executive development. *IFM Journal of Finance Management. vol. 02, no. 01, (July 1993); p. 77-92,*