

# **MODELING MONETARY STABILITY UNDER DUAL BANKING SYSTEM: THE CASE OF MALAYSIA**

*Ahmad Kaleem*

*The ultimate aim of any successful monetary policy is concentrated towards the achievement of sustaining real economic growth, reducing inflation and lowering unemployment. Under Islamic monetary system, such targets can only be achieved through those monetary instruments, which are consistent with Islamic teachings.*

*This paper is an attempt to develop and to evaluate the demand for Islamic monetary instruments in case of dual banking system. It also demonstrates the validity and effectiveness of these instruments for monetary policy purposes. Finally it rejects the application of existing Basle agreement framework in favor of separate liquidity and reserves ratios for Islamic monetary instruments.*

## **1. Introduction**

Since the evaluation of Islamic banking, a considerable amount of theoretical literature has been published for the development of Islamic monetary and banking system (Uzair, 1955, Khan, 1985). But only few empirical studies have been made on modeling the monetary stability under Islamic financial system (Khan, 1980 & 1982, Ahmad & Khan, 1990, Yousafi, 1997). All these studies have tried to prove that the Islamic monetary instruments are as stable as the previous interest based. Darrat, (1988), in case of Tunisia, also developed a model to check the monetary stability under Islamic banking. As Tunisia has no history of Islamic banking, therefore the validity of his study is not authenticated. However, so far as the we are concerned no empirical study has been made, to analyze the effectiveness of Islamic monetary instruments, in case of dual banking system. For that purpose, we select Malaysia, which is the perfect example; here all commercial banks(1) offer both types of banking instruments simultaneously.

The main objective of this paper is to empirically test the validity of the hypothesis that the Islamic monetary instruments are as stable as the interest base, in case of dual banking system. For achieving this we concentrate on three main issues. Firstly, to develop and to define Islamic monetary instruments under the dual bank system in Malaysia. Secondly, to evaluate the demand for these instruments and last but not least to compare empirically, by using Darrat (1988) methodology, the validity and effectiveness of Islamic and interest base monetary instruments for policy purposes. As our data also covers the financial crises period in Malaysia, an extra dummy variable for crises is introduced in our regression models to verify the claim of Islamic scholars that the Islamic banking is more stable during crises, as its liabilities fluctuates with its assets. (Khan, 1985).

Finally, this paper covers the period from January 1994 to December 1999 on monthly basis and all data is collected from Bank Negara, Malaysia, quarterly bulletins.

## **2. Islamic Banking System in Malaysia**

In Malaysia, the demand for Islamic banking is as old as the establishment of Tabung Haji in 1969. Which collects and invests the savings of would be pilgrims, in accordance to shariah (Islamic law), who want to perform (Hajj) pilgrimage. But its role is rather limited as non-bank financial institution. However the blue print of modern Islamic banking system was marked in 1983, with the enforcement of two new acts known as Islamic Banking Act and Government Investment Act, enabling the government to establish an Islamic bank and to issue non interest bearing certificates. Meanwhile, an Investment Certificate Dividend Committee was

also set up to determine the rate of returns on non interest bearing certificates, keeping in consideration the economic and financial needs of the country. Same year, in July 1983, first Islamic bank with the name of Bank Islam Malaysia Berhad (BIMB) was established.

After a successful decade of the performance and functioning of Bank Islam Malaysia Berhad, the Malaysian authorities, in the second phase of Islamic banking, introduced an Interest free banking scheme (Skim Perbankan Tanpa Faedah or SPTF) on March 4<sup>th</sup>, 1993. Under this scheme all conventional banks were asked to participate and offer Islamic-financing techniques by opening separate Islamic counters in their branches. Furthermore, separate Islamic Clearing House and Islamic Inter Bank Market were also established in the same year. This new financial structure not only widened the network of Islamic banking within a country but also increased the effectiveness and performance of Islamic financial instruments. Now the banks offering Islamic financial instruments not only have to compete among themselves but also with conventional financial instruments (2).

### **3. Main Tools of Islamic Banking**

Islamic banking performs the same function of financial intermediation as performed in conventional banks i.e - it attracts financial resources from individual and institutions and directs them towards business firms, which need external finance to support their financial activities. However, these activities, instead of interest, rely on profit and loss sharing and other interest free modules. Apart from this Islamic banks are also not allowed to issue securities involving interest like long and short term bonds, debentures and preference shares. Currently, Islamic banks on its liability side of their balance sheets are based on four main sources of funds. This includes shareholders' funds, current, saving and investment accounts.

**Shareholder's fund** is the only source of raising equity in Islamic banking by offering common shares to general public. Islamic banks are not allowed to issue preference shares, as it involves fixed dividend (interest), which is prohibited by shariah (Islamic law) scholars.

**Current account** performs similar functions as practiced by any conventional bank. Here the depositors have full right to withdraw their funds at any time without any prior notice. Usually no returns or rewards are paid on these types of accounts. In some countries however, banks do charge the costs like stamp duty, check book issuance charges etc, incurred in maintaining these accounts.

**Investment account** is the third category, which is equivalent to fix account of conventional banks. However, distinguishing point is that these types of accounts are neither considered as liabilities nor equity funds, but as financial instruments. Here the banks invest their clients' money, with their consent, in different profitable projects. Later on, the profit/loss is distributed between the bank and its customers on pre-agreed ratio. Investment accounts are redeemable only at maturity but not before that, without the permission of the bank.

Lastly, **saving account** is for those who want to save money and earn some income at the same time. Here the rewards or returns are entirely depend upon banks own discretion based on percentage of the profit announced by them at the end of the year.

On the asset side of the balance sheet, Islamic banks have so far mainly focused on three financial instruments. These are,

**Musharika** (joint venture) is a partnership on joint venture bases between the two parties engaged in some specific type of business (3). In this both parties share the capital, while the investor (bank) can also participate in the management. Later, the profit is divided on pre-agreed ratio, which may not necessarily depend on the capital-sharing ratio between the two parties.

**Mudarabah** (profit sharing) is basically an agreement between the two parties, where the investor gives money to the entrepreneur for investment on mutually agreed project. After the completion of the project the entrepreneur returns the investor the principal plus a predetermined share of profit. In case of loss, if it is beyond the control of the entrepreneur, will be borne solely by the investor.

**Murabaha** (cost plus financing) is a debt base sale agreement between the two parties. In which goods are sold at cost plus profit margin agreed between them at the time of contract. Murabaha is the most commonly use among Islamic banks. However many scholars have criticized this type of financing on the grounds that it allows interest through back door (Metwally, 1994).

#### **4. Islamic Monetary Instruments in Case of Dual Banking System**

The ultimate long run targets of any successful monetary policy are concentrated towards the achievement of sustaining real economic growth, reducing inflation and lower unemployment. In short term, typical monetary policy divides into many spans to influence the overall economic activities. To support this, the monetary authorities define and concentrate on different intermediate targets – money/credit and foreign exchange (4). In other words, the nexus of any successful monetary policy is to define the economic targets, select instruments to achieve them and to control any abnormal variation in the economy.

Under Islamic system, monetary policy can only be implemented through those monetary instruments, which are consistent with Islamic teaching. In this paper, we select financial (M1 and M2) and credit (bank credit) instruments, for targeting economic activities in Malaysia. Conventionally, M1 is defined as currency in circulation and demand deposits of the non-bank private sector and M2 as M1 plus quasi money (5). Here for the purpose of matching and giving equal weight to Islamic and conventional instruments, we define quasi money as saving and fixed deposits only. Similarly we define Islamic M1 (M1-isl) as currency in circulation plus Islamic demand deposit and Islamic M2 (M2-isl) as M1-isl plus Islamic quasi money (investment plus fix deposits money held under Islamic banking scheme).

In Malaysia, even though the non-banking financial sector is rapidly flourishing but still the commercial banks are considered as the major source of credit. Two credit instruments consist of loans and advances from commercial banks under both Islamic and conventional schemes are also developed. Here no classification is made to the loans extended to priority groups (6) or sectors and abbreviates as “Credit” and “Credit (isl)”.

#### **5. Empirical Testing for Stability of Islamic Financial & Credit Instruments**

This section develops the quantitative relationship among price level (money demand) and different Islamic and conventional monetary instruments as defined in the above section. Typically, the demand for money in semi open economies depends upon the existing inflation and the interest rates of the economy and can be summarized as

$$\text{Log mdt} = a_0 + a_1 \log Yr_t + a_2 \log P_t^e + a_3 R_t + u_t \quad (1)$$

Where “mdt” is the function of money demand, while “Yr” and “P” denote for real income and expected rate of inflation. While “R” refers to interest rate yield exist in the economy (inter bank rates or three month deposit rates) and “u” stands for structural disturbance term. As interest based instruments are not allowed under Islamic financial system, we use the same model as developed by Ahmad and Khan (1990),

$$\ln(M/P)_t = a + b_1 \ln YR_t + b_2 P_t^e + b_3 \ln(M/P)_{t-1} + m \quad (2)$$

For the purpose of this paper, we further extend this model and define conventional dependent instruments as,

$$\ln(M1/P)_t = a' + b_1' \ln YR_t + b_2' \ln P_t + b_3' \ln(M1/P)_{t-1} + b_4' \text{Dummy97} + m_t' \quad (3)$$

$$\ln(M2/P)_t = a'' + b_1' \ln YR_t + b_2' \ln P_t + b_3' \ln(M2/P)_{t-1} + b_4' \text{Dummy97} + m_t'' \quad (4)$$

$$\ln(\text{CREDIT}/P)_t = a' + b_1' \ln YR_t + b_2' \ln P_t + b_3' \ln(\text{Credit}/P)_{t-1} + b_4' \text{Dummy97} + m_t' \quad (5)$$

Whereas, Islamic dependent instruments is modeled as

$$\ln(M1(isl)/P)_t = a'' + b_1'' \ln YR_t + b_2'' \ln P_t + b_3'' \ln(M1(isl)/P)_{t-1} + b_4'' \text{Dummy97} + m_t'' \quad (6)$$

$$\ln(M2(isl)/P)_t = a' + b_1' \ln YR_t + b_2' \ln P_t + b_3' \ln(M2(isl)/P)_{t-1} + b_4' \text{Dummy97} + m_t' \quad (7)$$

$$\ln(\text{Credit}(isl)/P)_t = a'' + b_1'' \ln YR_t + b_2'' \ln P_t + b_3'' \ln(\text{credit}(isl)/P)_{t-1} + b_4'' \text{Dummy97} + m_t'' \quad (8)$$

Above, “M/P1”, “M/P2” and “Credit/P” stand for the desire of real money and real credit. As all these instruments are unobservable, actual time series data will be used. Furthermore, by using Koyck partial adjustment procedure as suggested by Darrat (1988), we change real demand for money and credit with absorbable instruments (M/P1), (M/P2) and (Credit/P), assuming them as the fraction of the gap between the desire level in the current period (t) and the actual level in the previous period (t-1) (7). Here “P” refers to the growth rate of consumer price index (CPI) deflator. Finally, additional dummy (Dummy97) is introduced to see the impact of financial crises in Malaysia on both the Islamic and conventional instruments.

Table 1: Summary of Regression Analysis:  
Demand For Conventional Financial And Credit Instruments

Dependent	DUMMY 97	LOGGDP	LOGINF	LOGM1/P(t-1)	LOGM2/P(t-1)	LOGC.B/P(t-1)	C	ADJ R2	DURBIN ' h
M1/P	-0.037 (-2.054)	0.081 (2.294)	0.289 (2.508)	0.829 (14.76)			-1.06 (-2.089)	0.789	0.88
M2/P	-0.012 (-1.245)	0.031 (1.92)	0.321 (1.77)		0.913 (18.507)		-1.215 (-2.798)	0.843	0.70
CREDIT/P	-0.012 (-1.829)	-0.015 (-0.951)	-0.141 (-1.018)			1.011 (37.35)	0.726 (1.487)	0.988	0.63

Note: T statistics are in parenthesis

Equations no 2,3,4 are calculated by using maximum likelihood method and reported in table no 1. Overall performance of our model is quite satisfactory and explains minimum of 79 percent of the available observations. The dummy variables for crises are significant for (M1/P) and (Credit/P). Which rejects the impact of financial crises on long-term deposits. While inflation, as per prior expectation, carries correct sign and significant only for (M1/P) and (M2/P) only.

Table 1 (a). Summary Of Regression Analysis:  
Demand For Islamic Financial And Credit Instruments

Dependent	Independent								
	DUMMY 97	LOGGDP	LOGINF	LOGM1/P(t-1)	LOGM2/P(t-1)	LOGC.B/P(t-1)	C	ADJ R2	DURBIN ' h
M1/P(ISL)	-0.045 (-2.74)	-0.017 (-0.419)	0.396 (2.537)	0.811 (11.49)			-0.696 (-1.196)	0.662	0.47
M2/P(ISL)	-0.012 (-1.181)	-0.018 (-0.356)	0.573 (2.59)		0.605 (11.63)		-1.501 (-1.959)	0.921	0.60
CREDIT /P(ISL)	-0.019 (-1.829)	1.089 (0.675)	0.129 (0.115)			0.979 (27.118)	-1.067 (-0.167)	0.947	1.04

Note: T statistics are in parenthesis

Table no 1(a) shows the results of equation no 5,6,7 respectively. The dummy variable for crises and inflation show almost similar results to conventional financial instruments and significant relationship with M1/P(isl) and Credit/P(isl). The coefficients of inflation show similar results to table no 1 and statistically significant for M1/P(isl) and Credit/P(isl). Finally our regression results shows low level of autocorrelation as the Durbin' h statistics are not significant in all cases.

Although, our results announce approximately equal demand for both Islamic and conventional monetary instruments but it rejects Khan's (1985) crises hypothesis that Islamic monetary instruments are more stable and shock proof by showing similar results to conventional monetary instruments.

## 6. Policy Usefulness of Islamic & Conventional Financial Instruments

Darrat (1988) identifies two prerequisites, which can be used here to check the performance of both the Islamic and conventional instruments. First one is the effective control of monetary authorities over their financial instruments, while second is the strong relationship between the financial instruments and the monetary goal (inflation) of the monetary authorities. According to him, if such link is weak, even if the financial instruments are controllable but they can not be used for policy purpose.

### Controllability

This section develops the relationship between the financial instruments and the monetary authority controllability. The conventional approach states that the monetary authorities (Central Bank) have full control over their instruments. Some economists argue that whether it is possible in a country held under fixed exchange regime, since the monetary control is nearly impossible (8). However this issue is beyond the scope of this paper. As point raised by Karim (1996), Islamic financial instruments carry risks of different in nature than conventional instruments. Therefore same percentage of reserve requirements can not be enforced on them (9). Following Darrat (1988) methodology here we assume that the monetary authorities have more control over Islamic financial instruments. Equations no 9 to 12 econometrically address this issue as;

$$(GM1)_t = \sigma + \alpha(GMB)_t + n \quad (9)$$

$$(GM1(isl))_t = h + \alpha(GMB(isl))_t + p \quad (10)$$

$$(GM2)_t = \sigma + \alpha(GMB)_t + n \quad (11)$$

$$(GM2 (isl))_t = h + \alpha(GMB(isl))_t + \rho \tag{12}$$

Where,

GM1 & GM1(Isl) = growth rate of M1 and M1(ISL) money balances held by the public.

GM2 & GM2(Isl) = growth rate of M2 and M2(ISL) money balances held by the public

GMB = growth rate of monetary base (defined as currency held both by public and banks plus reserves deposits held at the central bank).

GMB (ISL) = growth rate of Islamic monetary base (10)

While  $\alpha$ ,  $\beta$ ,  $h$  and  $\rho$  are the coefficient to be estimated, and  $\epsilon$  and  $\rho$  are the random error terms for each model.

Table 2.  
Summary of Regression Analysis For Testing Controllability

Dependents	Independent				
	GMB	GMB(ISL)	C	R2	D.W
GM1	0.123 (1.508)		0.005 (1.373)	0.032	2.31
GM2	0.098 (2.44)		0.011 (5.968)	0.079	2.16
GM1(ISL)		0.105 (2.92)	0.001 (0.324)	0.111	2.02
GM2(ISL)		0.168 (5.971)	0.003 (0.963)	0.341	2.03

Note: T statistics are in parenthesis

Table no 2 defines the relationship between the rate of growth of financial instruments and the rate of growth of monetary instruments, covering both type of financial instruments-Islamic and conventional. The results show that monetary authorities have a significantly high level of control over M1 (Isl) than M1, as the respective “T” statistics for GMB moves from 1.508 to 2.92. Similarly, the results show more control over M2 (Isl) as the coefficient is 0.168 and highly significant as compare to conventional M2. Overall the regression results confirm our hypothesis by showing high level of control over Islamic monetary instruments as compare to conventional monetary instruments.

### Credit Instruments

Credit availability theory advocates that the liquidity ratio (11) can be used as a monetary instrument to control credit growth. According to this view, private investment is responsive to any change in credit availability, any increase in liquidity ratio can decrease the credit supply and therefore dampen aggregate demand. As mentioned by Karim and Abdullah (1995) most of the Islamic financing is in Murabaha base instruments and almost all the sale through these instruments are directed towards the private sector. Which is again referred to 100% risk weight, as per Basle agreement. It is argued that as the Islamic credit instruments are different in nature, therefore similar percentage of liquidity requirements as suggested by Basle agreement may only increase its overall cost of capital.

Further developing this idea, here we assume that the monetary authorities have more control over its Islamic credit instruments and they apply the same percentage of liquidity assets requirement ratio on both Islamic and conventional credit instruments (12).

Following equations define that hypothesis,

$$(GCREDIT)_t = \alpha + \beta(GLIQUID)_t + \epsilon \quad (13)$$

$$(GCREDIT (ISL))_t = h + \gamma GLIQUID (ISL)_t + \rho \quad (14)$$

GCREDIT= growth rate of interest base credit forward to general public

GCREDIT (ISL) = growth rate of credit forward to general public under Islamic banking scheme

GLIQUID= growth rate of liquid assets held at the central bank.

GLIQUID (ISL) = growth rate of liquid assets held under Islamic banking scheme, at the central bank

While  $\alpha$ ,  $\beta$ ,  $h$  and  $\gamma$  are the coefficient to be estimated, and  $\epsilon$  and  $\rho$  are the random error terms for each model.

Table 2(a) : Regression Analysis For Controllability; Credit Instruments

	LIQUID	LIQUID(ISL)	C	R2	D.W
CREDIT	0.076 (2.547)		0.0128 (4.651)	0.264	2.18
CREDIT (ISL)		0.943 (14.07)	0.011 (1.264)	0.781	1.98

Note: T statistics are in parenthesis

Table no 2(a) defines the relationship between the outstanding loans/advances in the economy and the liquidity requirements of the monetary authorities. Here the credit (Isl) coefficient is 0.943 and highly significant when “Liquid (Isl)” is used as dependent variable. By comparing the coefficient size of both instrument (0.076 and 0.943) and their associated t-statistics (2.54 to 14.07) it can be concluded that Islamic credit instruments are under high level of control. Which also proves our hypothesis that the existing CAR ratios may not be applied on Islamic credit instruments. Alternatively, it means that either the regulatory authority have to define some readjustment program or use different liquidity requirements for Islamic banking.

## 7. The Monetary Instruments Goal Link

Price stability is assumed to be the main short-term target goal for monetary authorities and they consider only those financial instruments, which can fulfill this requirement successfully. To examine the validity and effectiveness of the Islamic and conventional instruments for maintaining price stability (inflation), here regression is made, covering the same period from January 1994 to December 1999. Equation no 15 to 18 explain the relationship between the price stability and financial instruments.

$$GP_t = r_0 + r_1(GM1)_t + r_2(GM1)_{t-1} + r_3(GM1)_{t-2} + \epsilon \quad (15)$$

$$GP_t = l_0 + l_1(GM2)_t + l_2(GM2)_{t-1} + l_3(GM2)_{t-2} + j \quad (16)$$

$$GP_t = l_0 + l_1(GM1(isl))_t + l_2(GM(isl))_{t-1} + l_3(GM1(isl))_{t-2} + j \quad (17)$$

$$GP_t = r_0 + r_1(GM2(isl))_t + r_2(GM2(isl))_{t-1} + r_3(GM2(isl))_{t-2} + \epsilon \quad (18)$$

Where,

GP= rate of change of inflation rate

GM1 & GM2= rate of change in conventional M1 and M2

GM1(Isl) & GM2 (Isl)= rate of change in Islamic M1 and M2

While  $\beta$  and  $\alpha$  denote coefficient to be estimates, and  $\epsilon_j$  and  $\epsilon_t$  are the random error terms for each model.

Table 3 Summary Of Regression Analysis For The Financial Instruments Economic Goal Link

INFLATION	M1	M2	M1(ISL)	M2(ISL)
T	-0.007 (-1.92)	0.004 (0.332)	-0.011 (-1.72)	-0.019 (-1.832)
t-1	-0.007 (-0.989)	-0.003 (-0.18)	0.004 (0.494)	0.005 (0.967)
t-2	-0.009 (-1.199)	-0.006 (-0.530)	0.004 (0.594)	0.008 (1.007)
t-3	-0.001 (-.056)	0.014 (1.32)	-0.009 (-0.425)	-0.009 (-0.084)
C	0.004 (8.472)	0.004 (5.589)	0.003 (7.446)	0.004 (7.482)
R2	0.477	0.491	0.506	0.515
D.W	2.01	2.01	2.00	2.04

Note: T statistics are in parenthesis

Table no 3 develops the relationship between the financial and monetary (inflation) instruments. The first column indicates that all the financial instruments are calculated up to three lags. The next two columns discuss conventional M1 and M2, while the last two columns talk about Islamic M1 and M2. Our results show almost similar response as the  $R^2$  are about 0.477 to 0.506 for M1 and from 0.491 to .515 for M2 respectively. These results indicate almost equal reliable relationship between Islamic and conventional financial instruments with monetary authorities goal (inflation).

## 8. Conclusion

The basis objective of this paper is to examine the stability and efficiency of the Islamic monetary instruments, as in case of dual banking. For that purpose, we select Malaysia and use the empirical methodology similar to Darrat (1988). Who claims Islamic monetary instruments more stable then conventional one, by assuming M1 stands for the stability of the Islamic banking system in Tunisia. As, Tunisia has no history of Islamic banking at all. Therefore, his research is quite objectionable. Yousafi (1997) in case of Iran applied the same methodology, which has about two decades of Islamic banking history. But his studies fail to support Darrat's claim.

Our point of departure is (a) to develop the Islamic financial instruments in case of dual banking system (b) to expand the existing literature also towards credit instruments (c) to analyze the demand of Islamic instruments against the conventional instruments (d) to compare the effectiveness and flexibility of Islamic financial instruments in achieving monetary goal (price stability) (e) and finally to check the impact of financial crises on both Islamic and conventional instruments. For analysis purpose, we replicate and further develop Darrat (1988) methodology.

Finally our results show equal demand for Islamic monetary instruments but here we totally ignores the portfolio approach to money demand (13). As suggested by Arongo and Nadiri (1981) the portfolio decision should include, at least, domestic real assets, domestic financial assets and foreign financial assets. It also does not

support our hypothesis that Islamic banking is more crises proof as its liabilities are directly linked with its assets (Khan, 1985). Furthermore, our research shows high level of control over Islamic monetary instruments but totally rejects the existing policy of applying similar level of reserves and liquidity ratios on Islamic banking. Finally it proves that the Islamic monetary instruments are equally useful for monetary policy purposes.

Based on the above arguments and empirical evidences, we conclude that Islamic monetary instruments also proves its worth in case of dual banking system, as in Malaysia.

## **Notes**

1. Excluding Bank Islam Malaysia Berhad, which only offers Islamic financial instruments
2. For details about SPTF scheme, read “money and banking in Malaysia, Kuala Lumpur, Bank Negara, Malaysia, 1994, p 328.
3. Islamic banks can only engaged in those types of business, which are Halal (permitted) in Islam
4. In this article, we ignore foreign exchange mode of monetary transmission.
5. Bank Negara Malaysia, quarterly bulletin (1999), defines Quasi money as the sum of deposits (interest bearing instruments including SPI instruments) placed by the non banks private sector with the commercial banks (excluding inter placements among commercial banks). Foreign currency deposits refer to the deposits of foreign currency held by the non-bank Malaysian residents with the commercial banks.
6. Loans extended to Bumiputra community, residential sector etc
7. For further discussion check Darrat (1988), applied economic, 20, p 422
8. For detail discussion, check Darrat (1988), applied economic, 20, p 422.
9. According to Karim (1996), if Basle Capital Adequacy ratio applied on Islamic banking, then the regulatory authorities would face the problem how to treat Investment account, which is purely on profit and loss sharing basis and considers as high risk investment. Even if they apply CAR, it will directly effect the overall cost of capital.
10. “Islamic monetary base” is calculated by applying same percentage of total Islamic deposit to total conventional deposits. Similarly same percentage of reserve ratio is applied on Islamic deposits as applied by the central bank on conventional deposits.
11. A liquid asset requirement or ratio is defined as the obligation of the commercial banks to maintain a predetermined percentage of total deposits and certain other liabilities in the form of liquid assets. (Gulde & Zamalloa, 1997).
12. Here we ignore the role of liquidity requirements for prudential purposes
13. According to portfolio approach, the demand for financial instruments are more related with wealth than income. So one should look around the distribution of wealth among various groups in Malaysian society before reaching any final conclusion.

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*This paper was presented in "The Malaysian Finance Association Second Annual Symposium", Marriott Hotel, Kuala Lumpur, June 10, 2000.*

Given the level of Malaysian economic openness is high, the performance of the financial system especially the banking institutions is ubiquitously exposed to risks of financial stress arising from global financial uncertainty. This headwind, to some greater or lower extent, can be translated into a more challenging prospect of economic growth, price instability, as well as a slower labor market participation faced by the local economy. This paper, therefore, aims to examine the macroeconomic influences on NPLs in the case of Malaysian commercial banks. Employing autoregressive distributed lag (ARDL) and bounds testing approach, we explored whether any of these variables namely GDP growth, inflation, and unemployment rate carry informational content about changes of NPLs. Islamic Banks in a Dual Banking System: Evidence from Malaysia. practices of the Islamic banks, particularly in a dual banking system such as in Malaysia.

1. Introduction. In working towards this objective, BNM is carefully taking steps to strengthen the foundation and put in place the prerequisites of the system. Under this initiative, Islamic banking institutions are allowed to undertake a broader array of Islamic financial activities that include commercial banking, consumer banking, investment banking and international currency business (Bank Negara Malaysia, 2007). The selection of the ONR to represent monetary policy variable in the Malaysian case is due to the fact that currently, the ONR is the monetary policy rate adopted by the BNM. In Malaysia, the practice of the dual banking system allows the Islamic banks to operate alongside with the conventional banks. As a result, the Islamic banks face competition with the conventional banks in generating the deposit as well as the sources of financing. For the case of Malaysia, previous studies have assumed that the impact of interest rates on bank financing to be symmetric (linear). For examples, Karim et al. (2011) used bank level data set, Ibrahim (2005) employed sectoral data, and Karim et al. According to the model, the main factors that affect the individual bank loan supply (financing) are aggregate output, inflation, interest rates, and bank-specific characteristics such as bank size, liquidity, and capitalization. However, in a dual banking system, things may have to be designed and devised differently to cater to the needs of both. Thus, assessing the impact of monetary policy shocks on the Islamic banking system is the key to understanding the addition of the industry towards financial stability and the extent of quality of the industry. The purpose of this paper is to initially revisit the issue of monetary policy shocks on the Islamic banking system, in the case of Malaysia. Our paper extends the previous study by using the most recent monthly data available which is from the year 2010 to the year 2014.

SYSTEM: THE CASE OF MALAYSIA Ahmad Kaleem. The ultimate aim of any successful monetary policy is concentrated towards the achievement of sustaining real economic growth, reducing inflation and lowering unemployment. Under Islamic monetary system, such targets can only be achieved through those monetary instruments, which are consistent with Islamic teachings. This paper is an attempt to develop and to evaluate the demand for Islamic monetary instruments in case of dual banking system. It also demonstrates the validity and effectiveness of these instruments for monetary policy purposes.

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