

## A Structural VAR analysis of Islamic financing in Malaysia

Hussain Ahmad<sup>1</sup>, Muhammad Waheed<sup>1</sup>, Naveed Ahmad<sup>2</sup>, Muhammad Nouman Shafique<sup>3</sup>  
Nouman Amjad<sup>4</sup>

1, Department of Business Administration, Federal Urdu University of Arts Science and Technology, Islamabad

2, Department of Business Administration, Lahore Leads University, Pakistan

3, Ph.D Scholar Preston University, Islamabad

4, Department of Commerce, Federal Urdu University of Arts Science and Technology, Karachi

### Abstract

The main determination of this paper is to catch out the relations of Islamic financing and key macroeconomic and financial variables. In this paper we use the structural vector auto regression approach to check the behaviour of the Islamic financing that how much operative in Malaysia. This paper determines that the Islamic financing positively effects in Malaysia and due to the Islamic financing price level was shocks and financing chances increases. The Islamic banks are protected from the interest rate this is the very big for everything. In the dual banking system Islamic banking practices are not affected by the monetary policy. In Islamic banking industry, the various macroeconomic variables on Islamic financing is vital.

**Keywords:** Malaysia, Structural VAR, Impulse response functions, Islamic financing

### Introduction

The Islamic banking system is the substitute to the conventional banking system it has a significant feature of global financial. Numerous other countries implement the Islamic banking system. Iran fully transformed banking system into the Islamic banking system. Malaysia and Bahrain select double banking system and they strive the conventional banks through Islamic banks operate side by side. In Islamic banking system there should not be the conception of interest rate.

Operations of Islamic banking systems are equity based or asset based in like financing and deposit taking. Some says that if you measured the principles of Islamic banking systems escape from recent financial crisis Ahmed 2009 Hassan and Kayed 2009. The Islamic banking system is sheltered from the interest rate while Islamic banks perform double banking system. The program of commercial banks or the interest rate risk comes from the disparities in the interest rate Rosly 1999 Kadar and leong 2009.

Conventional banks variations in the interest rate through this form of risk in Islamic banks through the dual banking system this is noted by the Ibrahim and Sukmana in 2011. For example if the interest rate is enlarged the investor gets more return on his investment. Due to the holding of fixed return assets the Islamic banks force to offer higher returns.

When the peoples go with the conventional banks it shrink the capability of Islamic banks. The stability of Islamic banking system and its risk management the assessment and understanding of nature Islamic banks activities, interest rates and macroeconomic variables. This research paper expresses you the behaviour of Islamic financing banks and relationship of interest rate and other macroeconomic variables.

This analysis conducted in the Malaysia country. It has a very good advanced banking system. The banking system of Malaysia is experienced to reshuffle process after the Asian crisis. After the Asian crisis, in the Malaysia there is a speedy growth of Islamic banking system by this acceptance they got well growth in Islamic financing and deposits. After 1998 to 2010, Malaysia got the annual growth rate of 25.8 and 24.7 per cent as Islamic financing and deposits after the Asian crisis 1997 to 1998.

The annual growth rates of loans of total banks and deposits were noted as 6.3 and 8.1 per cent. After this successful growth rate Islamic banks to total bank loans got 2 per cent in year 1998 and outstanding more than 18 per cent on the year 2010. After this remarkable growth rate per cent changes in 1998 to 2010 the Islamic deposits to total banks deposits ratio is greater than before with 2.6 per cent in 1998 and remarkable more than 19 per cent in 2010.

After these growth rates the Islamic banking system has great attendance in the Islamic banking industry and the roles, procedures and representation Islamic banking system services is decisive to every banks for financial growth and steadiness. In order to achieve Islamic financing and several macroeconomics variables like real output, price level, and stock price by applying structural vector auto regression approach.

### Structural Vector Auto regression Approach (SVAR)

In this research, we use the VAR an econometric model that tells us the dynamic interactions between Islamic and other macroeconomic variables. So let's see the table below;

Year	Islamic Financing			Islamic Deposits		
	Total (mil RM)	Growth (%)	Ratio to total loans	Total (mil RM)	Growth (%)	Total (mil RM)
1998	7317.50	-	1.77	11234.80	-	2.60
1999	13843	63.75	3.50	22950.70	71.43	5.03
2000	21049.70	41.91	5.06	32107.10	33.57	6.82
2001	28467.20	30.19	6.58	41770.20	26.31	8.72
2002	37425.60	27.36	8.28	47493.70	12.84	9.42
2003	49406.20	27.77	10.43	49863.30	4.87	9.00
2004	59936.20	19.32	11.66	58794.10	16.48	9.42
2005	69941.40	15.44	12.53	65369.40	10.60	9.43
2006	78518.30	11.57	13.24	99177.80	41.69	12.21
2007	89867.60	13.50	13.95	111780.30	11.96	12.87
2008	107721.80	18.12	14.83	154860.90	32.60	15.93
2009	134973.50	22.55	17.23	188838.80	19.84	17.77
2010	162081.60	18.30	18.35	218412.60	14.55	19.19

These are the figures of Bank Negara in Malaysia. In these figures you can see the Islamic financing and deposits growth is constantly increasing as well as ratio to loans or deposits from the year 1998 to 2010.

### Literature Review

The performance of bank credit or financing has prepared convict much based on experience interest, especially in bright of coming back money business crises in nearby decades and based on experience decisions in law pointing in the direction of the in the middle undertakings of bank credit in making increase mass troubles and in accounting for money business changing state.

While the main chief place in the literature has been on the goings-on of bank credit in the money-related sending power apparatuses, the so named credit view some have directly appreciated the relations between bank credit and its macroeconomic elements.

The having actuality studies have most importantly put at point at which rays come together on bank giving for a time behaviour under a limited by agreement banking system or without making of note between limited by agreement. Interesting among these studies are Fase 1995 for The Netherlands Calza et Al. 2003 to 2006 for the Euro area, Hofmann 2004 for several with great industries countries, Inoguchi for Malaysia Singapore and Thailand and Ibrahim and Shah 2012 For Malaysia.

In an immediate account, Kassim et Al. 2009 look at the kindness of both banks financing and deposits to money related design shocks for the example of Malaysia using a guide autoregressive (VAR) framework. They join in the VAR the rapid interest rate to take money-related design shocks to do with industry producing list of words in a book user price list of words in a book true exchange rate and a bank's balance not fixed in value Islamic following financing Islamic following deposits limited by agreement loans or limited by agreement deposits.

Islamic banking processes are free from interest these intentions are functional to monthly data from January 1996 to December 2006 and they reveal that the Islamic financing and deposits cannot change into interest rates. The conventional banks are full of interest rates. Ibrahim and Sukmana 2011 further discuss the Islamic banking financing and get the monthly data of January 1998 to June 2009 and applying non causation test and VAR.

The practice of Islamic financing build up the monetary policy which is negatively impact in the Islamic financing. Ibrahim and Sukmana says that the Islamic financing provides the flexibility to the stock market. Kassim and Majid says that the conventional and Islamic both are in financial blows. The practices of Islamic financing on the property financing are very crucial and got positive response in the lending rate. After these evidences all the researcher got the point that these studies are limited and this subject needed more investigation.

### Conclusion

In light of vibrant development of Islamic banking and increasing penetration of Islamic financing in credit markets in Malaysia, the present paper evaluates the dynamics of Islamic financing using the SVAR framework. Apart from estimating the basic level SVAR system consisting of real industrial production, price level, interest rate, Islamic financing and stock prices, the paper also experiments with alternative SVAR specifications for robustness evaluation of the basic results. In the alternative specifications, we run the SVAR using the variables in their first difference, as well as adding alternatively the exchange rate measure and domestic oil prices to form

two six-variable SVAR systems. In general, the basic results demonstrate robustness to these alternative SVAR specifications.

## References

- Ahmed, H. (2009), "Financial crisis risks and lessons for Islamic Finance", *ISRA International Journal of Islamic Finance*, Vol. 1 No. 1, pp. 7-32.
- Amisano, C. and Giannini, C. (1997), *Topics in Structural VAR Econometrics*, 2nd ed., Springer-Verlag, Berlin.
- Beck, T., Demirguc-Kunt, A. and Merrouche, O. (2013), "Islamic vs. conventional banking: business model, efficiency and stability", *Journal of Banking & Finance*, Vol. 37 No. 2, pp. 433-447.
- Bernanke, B. and Mihov, I. (1997), "What does the Bundesbank target?", *European Economic Review*, Vol. 41 No. 6, pp. 1025-1053.
- Calza, A., Gartner, C. and Souza, J. (2003), "Modelling the demand for loans to the private sector in the euro area", *Applied Economics*, Vol. 35 No. 1, pp. 107-117.
- Calza, A., Gartner, C. and Souza, J. (2006), "Credit in the euro area: an empirical investigation using aggregate data", *Quarterly Review of Economics and Finance*, Vol. 46 No. 2, pp. 211-226.
- Cushman, D.O. and Zha, T. (1997), "Identifying monetary policy in a small open economy under flexible exchange rate", *Journal of Monetary Economics*, Vol. 39 No. 3, pp. 433-448.
- Enders, W. (2004), *Applied Econometric Time Series*, 2nd ed., John Wiley & Sons, Hoboken.
- Fase, M.M.G. (1995), "The demand for commercial bank loans and lending rate", *European Economic Review*, Vol. 39 No. 1, pp. 99-115.
- Hassan, M.K. and Kayed, R.N. (2009), "Can the Islamic financial system withstand the current financial crisis?", *ISRA Bulletin*, Vol. 4, pp. 13-15.
- Hofmann, B. (2004), "The determinants of bank credit in industrialized countries: do property prices matter?", *International Finance*, Vol. 7 No. 2, pp. 203-234.
- Hussin, A.A. (2005), "The Islamic financial landscape in Malaysia", in Anwar, M. and Haneef, M.A. (Eds), *Studies in the Islamic Banking and Finance in the 21st Century: Theory and Evidence*, Kulliyah of Economics and Management Sciences, Kuala Lumpur, pp. 349-365.
- Ibrahim, M.H. and Shah, M.E. (2012), "Bank lending, macroeconomic conditions and financial uncertainty: evidence from Malaysia", *Review of Development Finance*, Vol. 2 Nos. 3/4, pp. 156-164.
- Ibrahim, M.H. and Sukmana, R. (2011), "Dynamics of Islamic financing in Malaysia: causality and innovation accounting", *Journal of Asia-Pacific Business*, Vol. 12 No. 1, pp. 4-19.
- Inoguchi, M. (2011), "Influence of real estate prices on domestic bank loans in Southeast Asia", *Asian-Pacific Economic Literature*, Vol. 25 No. 2, pp. 151-164.
- Islamic Financial Services Board (IFSB) (2005), *Guiding Principles of Risk Management for Institutions (Other than Insurance Institutions) Offering only Islamic Financial Services*, Exposure Draft No. 1, Islamic Financial Services Board, Kuala Lumpur.
- Kader, R.A. and Leong, Y.K. (2009), "The impact of interest rate changes on Islamic bank financing", *International Review of Business Research Papers*, Vol. 5 No. 3, pp. 189-201.
- Kassim, S.H. and Majid, M.S. (2010), "Impact of financial shocks on Islamic banks: Malaysian evidence during 1997 and 2007 financial crises", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 3 No. 4, pp. 291-305.
- Kassim, S.H., Majid, M.S. and Yusof, R.M. (2009), "Impact of monetary policy shocks on the conventional and Islamic banks in a dual banking system: evidence from Malaysia", *Journal of Economic Cooperation and Development*, Vol. 30 No. 1, pp. 41-58.
- Kim, S. (1999), "Do monetary shocks matter in the G-7 countries? Using common identifying assumptions about monetary policy across countries", *Journal of International Economics*, Vol. 48 No. 2, pp. 387-412.
- Kim, S.B. and Moreno, R. (1994), "Stock prices and bank lending behaviour in Japan", *FRBSF Economic Review*, Vol. 1, pp. 31-42.
- Kim, S. and Roubini, N. (2000), "Exchange rate anomalies in the industrial countries: a solution with a structural VAR approach", *Journal of Monetary Economics*, Vol. 45 No. 3, pp. 561-586.
- Lutkepohl, H. (2006), *New Introduction to Multiple Time Series Analysis*, 2nd ed., Springer, New York, NY.
- Mehrotra, A.N. (2007), "Exchange rate and interest rate channels during a deflationary era-evidence from Japan, Hong Kong and China", *Journal of Comparative Economics*, Vol. 35 No. 1, pp. 188-210.
- Mirakhor, A. (1993), "Equilibrium in a non-interest open economy", *JKAU: Islamic Economics*, Vol. 5 No. 1, pp. 3-23.
- Ngawala, H. and Viegli, N. (2011), "Dynamic effects of monetary policy shocks in Malawi", *South African Journal of Economics*, Vol. 79 No. 3, pp. 224-250.
- Rosly, S.A. (1999), "Al-bay bithaman ajil financing: impacts on Islamic banking performance", *Thunderbird International Business Review*, Vol. 41 Nos 4/5, pp. 461-480.

- Rotemberg, J.J. and Woodford, M. (1999), “Interest-rate rules in an estimated sticky-price Model”, in Taylor, J.B. (Ed), *Monetary Policy Rules*, University of Chicago Press, Chicago, IL, pp. 57-126.
- Sims, C. (1980), “Macroeconomics and reality”, *Econometrica*, Vol. 48 No. 1, pp. 1-49.
- Sims, C.A. and Zha, T. (2006), “Does monetary policy generate recessions?”, *Macroeconomic Dynamics*, Vol. 10 No. 2, pp. 231-272.
- Sims, C.A., Stock, J. and Watson, M. (1990), “Inference in linear time series models with some unit roots”, *Econometrica*, Vol. 58 No. 1, pp. 113-144.
- Smets, F. (1997), “Measuring monetary policy shocks in France, Germany and Italy: the role of the exchange rate”, *Swiss Journal of Economics and Statistics*, Vol. 133 No. 3, pp. 597-616.
- Smolo, E. and Mirakhor, A. (2010), “The global financial crisis and its implications for the Islamic financial industry”, *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 3 No. 4, pp. 372-385.
- Toda, H.Y. and Yamamoto, T. (1995), “Statistical inferences in vector autoregressions with possibly integrated processes”, *Journal of Econometrics*, Vol. 66, Nos. 1/2, pp. 225-250.
- Yusof, R.M., Al-Wosabi, M. and Majid, M.S. (2008), “Monetary policy shocks and Islamic banks’ deposits in a dual banking system: a comparative analysis between Malaysia and Bahrain”, paper presented at the 8th *Global Conference on Business & Economics*, Florence, 18-19 October 2008.
- Zainol, Z. and Kassim, S.H. (2010), “An analysis of Islamic banks’ exposure to rate of return risk”, *Journal of Economic Cooperation and Development*, Vol. 31 No. 1, pp. 59-84.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:

<http://www.iiste.org>

### CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

### MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

### IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

