# FACTORS AFFECTING NET INTEREST MARGIN OF COMMERCIAL BANKS IN MALAYSIA

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# MASTER OF SCIENCE (BANKING) UNIVERSITI UTARA MALAYSIA JUNE 2012

# FACTORS AFFECTING NET INTEREST MARGIN OF COMMERCIAL BANKS IN MALAYSIA

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### **ABSTRAK**

Kajian kes ini bertujuan untuk menganalisa dan membuat perbandingan prestasi sesebuah bank perdagangan dengan bank perdagangan yang lain beroperasi untuk 5 tahun kewangan iaitu dari tahun 2006 hingga 2010. Sebanyak 6 buah bank perdagangan yang dipilih untuk kaji selidik iaitu Maybank, CIMB Bank, Public Bank, RHB Bank, Hong Leong Bank dan Affin Bank. Kesemuanya beroperasi di Malaysia dan ianya adalah bank perdagangan tempatan.

Kajian mendapati bahawa kesemua bank yang dipilih ini mempunyai kekuatan dan keupayaan dari segi aset tetap, pusingan modal yang tinggi, deposit kewangan yang kukuh serta keuntungan yang tinggi. Walaubagaimanapun, kewujudan bank perdagangan asing turut memberi persaingan sengit kepada bank tempatan dari segi perkhidmatan yang berkualiti dengan kos yang lebih rendah yang dipengaruhi oleh faktor-faktor dalaman dan luaran lain.

Kaji selidik ini menggunakan sejumlah 10 nisbah kewangan iaitu nisbah keuntungan, nisbah kualiti aset, saiz firma, Margin keuntungan bersih, leveraj, nisbah kecairan, nisbah pertumbuhan pinjaman, nisbah pasaran, nisbah industri, kadar inflasi serta kadar faedah bank. Analisa regresi pelbagai ( multiple regression analysis) pula telah digunakan untuk mengenalpasti penentu-penentu yang mempengaruhi 'net interest margin' bank-bank tempatan ini. Keduanya, mengkaji jenis-jenis risiko yang signifikan ke atas 'net interest margin' dan akhir sekali mengenalpasti kesan-kesannya ( faktor luaran dan dalaman).

Hasil kaji selidik ini mendapati bahawa; pertama 'net interest margin' selain dari dipengaruhi oleh persaingan pasaran ia juga dipengaruhi oleh kesan faktor-faktor lain, keduanya adalah secara rasional mempertimbangkan kos-kos seperti kos operasi, kos modal, nisbah jumlah pinjaman berbanding jumlah aset, nisbah pinjaman tidak berbayar serta peluang kos simpanan. Ketiga, saiz aset bank-bank berkenaan juga kualiti pengurusan yang sederhana dan keempat pendedahan risiko credit yang besar juga menpengaruhi 'net interest margin'.

### **ABSTRACT**

The purpose of this study is to analyze and compare the performance determinants of one commercial bank with other commercial banks operating in Malaysia for the period of 5 years from 2006 to 2010. There are 6 commercial banks selected in this study namely Maybank, CIMB Bank, Public Bank, RHB Bank, Hong Leong Bank dan Affin Bank. All of these banks are local commercial banks.

We found that all selected banks have their own strengths and capability in fixed asset, strong capital, large deposit size and also high profitability. However, existing foreign banks give a healthy competititions to local banks in terms of quality service with low cost banking services for customers. The competition makes it more relevant for domestic banks to focus on their performance predictors in this case net interest margin.

In this study, there are 10 financial ratios selected namely, profitability ratio, Aset Quality Ratio, Size, Net Interest Margin, Leverage, Liquidity Ratio, Loan Growth Ratio, Market ratio in industry, Inflation rate and also bank interest rate. To identify the determinants influencing net interest margin of commercial bank, this study has chosen multiple regression analysis. Secondly, this study also the effects of credit risk on net interset margin.

The results of the study reveal the following findings. Firstly, in addition to the degree of market competition that narrows the interest margin, the study shows other factors which significantly affect the interest margin of commercial banks in Malaysia namely capital intensity investment and inflation rate whereby both factors are significant and positively influenced net interest margin.

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### LIST OF ABBREVIATIONS

BNM Bank Negara Malaysia

NIM Net Interest Margin

ROA Return On Aset

LEV Leverage

LIQ Liquidity

AQ Aset Quality

CII Capital Intensity Investment

INDSG Total loan growth of each bank as

percentage of all banks total loan

INDCII Total aset growth of each bank as

percentage of all banks total aset

GDP Growth Domestic Product

IRMM Interest Rate of Money Market

IFL Inflation Rate

**DECLARATION** 

I hereby declare that the project paper is based on my original work except for

quotations and citations that have been duly acknowledge. I also declare it has not

been previously or concurrently submitted for any other Master's programme at

Universiti Utara Malaysia or other institutions.

KAMARIZAH BT ZAINOL ABIDIN

Date: 30 June 2012

# FACTORS AFFECTING NET INTEREST MARGIN OF COMMERCIAL BANKS IN MALAYSIA

### **OVERVIEW**

This paper is represents a theoretical review of the net interest margin of commercial banks in Malaysia. This study aims to analyze and investigate the behavior impact of bank operating in determining their net interest margin for the period of 5 years and to find out the factors affecting Net Interest Margin (NIM) in Malaysia banking industry. The determinants of NIM and theories used in this study are those frequently described in conventional banking studies and literature. The The NIM determinants were basically divided into two main categories, namely as internal determinants and the external determinants.

In order to incorporate the internal and external determinants into a single net interest margin model, it was necessary to pool cross-section and time-series data. As a result, pooled regression analysis was applied to a linear model to analyze the factors affecting net interest margin of commercial banks.

The data that will be used in this case study derived from Bank Annual Financial Report of six commercial bank in Malaysia from year 2006 until 2010. The six commercial banks have selected in this case study namely Maybank, CIMB Bank, Public Bank, RHB Bank, Hong Leong Bank and Affin Bank. We will focused more

on local bank instead of foreign bank by using of financial ratios as a measurement tools to compare the NIM and performance among this bank.

**Keywords:** Commercial banks, net interest margins (NIM), internal and external determinant NIM, bank performance and Financial ratios.

### **CHAPTER 1**

### INTRODUCTION

### 1.1 Background of Top Malaysia Banks

According to Bank Negara Malaysia (BNM), the Central Bank of Malaysia, there are a total of 25 licensed commercial Malaysian banks consisting of 8 domestic bank and 17 foreign banks. As a result of the restructuring and consolidation of the banking sector in Malaysia, six commercial banks were grouped as anchor banks or top banks.

The top 6 Malaysia banks are:

1) Maybank (Malayan Banking Berhad): Established in 1960, Maybank is the largest financial services group in Malaysia. It has over 450 branches worldwide with considerable banking operations in Indonesia, the Philippines and Singapore. It was recognized as the "Most Valuable Brand in Malaysia in 2008" at ALBSE Asia Law Awards. The operations of Maybank include investment banking, asset management, insurance, Islamic banking and commercial banking.

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### **REFERENCES**

Al-Hashimi, A. (2007). "Determinants of Bank Spreads in Sub-Saharan Africa," draft.

Allen, L. and A. Saunders (2004). "Incorporating Systemic Influences into Risk Measurements: A Survey of the Literature," *Journal of Financial Services Research* 26,161-191.

Angbazo, L. (1997). "Commercial Banks, Net Interest Margins, Default Risk, Interest Rate Risk and Off-Balance Sheet Banking," *Journal of banking and Finance* 21, 55-87.

Athanasoglou P., Delis M. and C. Staikouras (2006). "Determinants of Banking Profitability in the South Eastern European Region," *Bank of Greece Working Paper* 06/47.

Barajas, A., Salazar, N.& Steiner, R. (1998). Interest spreads in banking: Cost, financial taxation, market power and loan quality in the Columbian case 1974-1996. *IMF Working Paper*.

Barajas, A., Salazar, N.& Steiner, R. (1999). Interest spread in banking in Columbia, 1974-1996. *IMF Staff Papers*, 46 (2), pp.196-222.

Beck, T. and H. Hesse (2006). "Foreign Bank Entry, Market Structure and Bank Efficiency in Uganda," *World Bank Policy Research Working Paper* 4027, October.

Berger, A. (1995b). "The Relationship Between Capital and Earnings in Banking," *Journal of Money, Credit and Banking* 27, 432-456.

Boyd, J.H. and D.E. Runkle (1993). "Size and Performance of Banking Firms. Testing the Predictions of Theory," *Journal of Monetary Economics* 31, 47-67.

Claeys, S., & Vennet, R.V. (2003). *Determinants of bank interest margins in Central and Eastern Europe: Convergence to the West?* Unpublished manuscript, Ghent University.

Demirgüç-Kunt, A. and A. Huizinga (1998). "Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence," *World Bank Economic Review*13, 379-408.

Demirgüç-Kunt, A. Laeven, L. & Levine, R. (2003). The impact of bank regulations, concentration and institution on bank margins. *World Bank Policy Research Working Paper 3030*.

Heggestad A. (1977). "Market Structure, Risk and Profitability in Commercial Banking," *The Journal of Finance* 32, 1207-1216.

Saunders, A. and L. Schumacher (2000). "The Determinants of Bank Interest Rate Margins: An International Study," *Journal of International Money and Finance* 19, 813-832

Hannan, Timothy. "Limit Pricing and the Banking Industry," *Journal of Money, Credit and Banking*, vol XI, no. 4 (November 1979), pp. 438-46.

Smirlock, Michael, and David Brown. "Collusion, Efficiency and Pricing Behavior: *EvidenceFrom the Banking Industry," Economic Inquiy*, vol. XXIV, no. 1 (January 1986), pp.85-96.

Smirlock, Michael. "Evidence on the Non)Relationship Between Concentration and Profitability in Banking," *Journal of Money, Credit and Banking*, vol. XVII, no. 1 (February 1985).

Ali Abdula, J.Y., (1994), "An Empirical Analysis of commercial banks performance in Baharin". *Saving and Development*, 18 (3).

Arshadi, N. and Lawrence E.C., (1987), "An Empirical Investigation of New Bank Performance". *Journal of Banking and Finance*, pp 33-45.

Clark, J.A., (1986), "Single Equation, Multiple Regression Methodology: Is it an appropriate Methodology of the Structure Performance Relationship in *Banking*". *Journal of Monetary Economics*, 18(3).

Sinkey, J.F. Jr., (1975), "A Multivariate Statistical Analysis of the Characteristics of Problem Banks". *Journal of Finance*.

Abreu, M., and V. Mendes. 2002. "Commercial Bank Interest Margins and Profitability: Evidence from EU Countries." Porto Working Paper Series, CISEP, Portugal.

Allen, L. 1988. "The Determinants of Bank Interest Margins: A Note." *Journal of Financial and Quantitative Analysis* 23, no. 20: 231–235.

Ho, T., and A. Saunders. 1981. "The Determinants of Banks Interest Margins: Theory and Empirical Evidence." *Journal of Financial and Quantitative Analysis* 16, no. 4: 581–600.

Maudos, J., and J.F. Guevara. 2004. "Factors Explaining the Interest Margin in the Banking Sectors of the European Union." *Journal of Banking and Finance* 28, no. 9: 2259–2281.

McShane, R.W., and I.G. Sharpe. 1985. "A Time Series/Cross Section Analysis of the Determinants of Australian Trading Bank Loan/Deposit Interest Margins: 1962–1981." *Journal of Banking and Finance* 9, no. 1: 115–136.

Doliente, J.S. (2003). Determinants of net interest margins of Southeast Asia. Journal of International Money and Finance

Berger, A.N., 1995a. The relationship between capital and earnings in banking. Journal of Money, Credit, and Banking 27, 432-456.

30) Berger, A.N., 1995b. The profit - structure relationship in banking: Tests of market-power and efficientstructure hypotheses. Journal of Money, Credit, and Banking 27, 404-431.

Bolt, W., Tieman, A.F., 2004. Banking competition, risk and regulation. Scandinavian Journal of Economics 106, 783-804.

Bonin, J., Hassan, I., and P. Wachtel, 2005. Bank performance, efficiency and ownership in transition countries. Journal of Banking and Finance 29, 31-53.

Brock, P., Suarez, L.R., 2000. Understanding the Behavior of Bank Spreads in Latin America. Journal of Development Economics 63, 113-134.

Carbo V.S., Rodriguez, F.F., 2007. The determinants of bank margins in European banking. Journal of Banking and Finance, 31(7), 2043-2063.

Cetorelli, N., Gamberra, M., 2001. Banking market structure, financial dependence and growth: International evidence from industry data. Journal of Finance 56, 617–648.

Claessens, S., Demirgüç-Kunt, A., and Huizinga, H., 2001. How does foreign entry affect domestic banking markets? Journal of Banking and Finance 25, 891-911.

Claeys, S., Vander Vennet, R., 2007. Determinants of Bank Interest Margins in Central and Eastern Europe: A Comparison with the West. Economic Systems 32(2), 197-216.