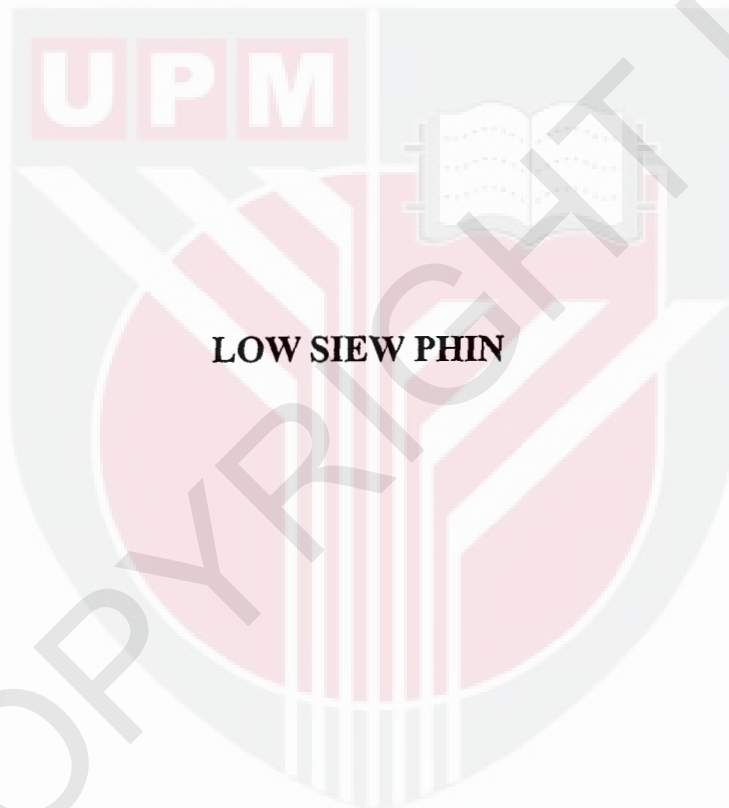**FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH:**
AN EMPIRICAL EVIDENCE FROM MALAYSIA

LOW SIEW PHIN

FEP 2005 14

FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH:
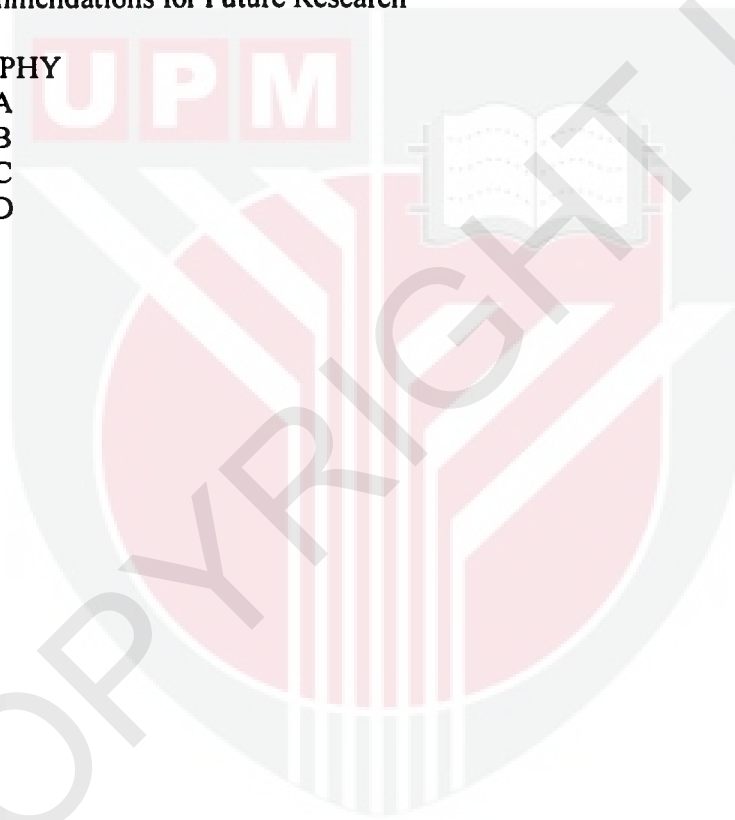## AN EMPIRICAL EVIDENCE FROM MALAYSIA

LOW SIEW PHIN

MASTER OF ECONOMICS
UNIVERSITI PUTRA MALAYSIA
2005

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

First of all, I would like to express my deepest gratitude to my supervisor, Assoc. Prof. Dr. Tan Hui Boon for her dedicated support, guidance and help throughout the course of preparing this project paper.

Besides that, I would like to thank all my lecturers who have taught me well during my three years study at UPM. Also not forgetting the staff at the Faculty of Economics and Management, UPM particularly Puan Napsiah who have been very co-operative in non-academic matters.

Special thanks are directed to Ms. Wong Mei Fong and Peter Cheah for their help, guidance and advice especially in teaching me to understand the econometric methodology and application in order to complete this project.

A million thanks will not suffice for the love and moral support that my parents that have given me throughout my life.

Last but not least, I would also like to thank all my course mates at UPM especially to Chow Chin and Wei Sin, for the help and wonderful moments they share with me.

ABSTRACT

This study examined the relationship between the financial development and economic growth in Malaysia for the period after financial crisis (1997-2004). By using the multivariate cointegration methodology, this study documented the evidence of long run relationships among the economy growth (IPI), financial development (TC) and the interest rate (IR) in Malaysia after the financial crisis. The results of this paper documented that there is a long run relationship among the three variables after evident by the Johansen (1998) and Johansen and Johansen and Juselius (1990) cointegration test. The Vector Error-Correction Model (VECM) was carried out and found that the economy growth (IPI) is Granger caused financial development (TC) in the case of Malaysia in this sample period. At the same time, the results also showing another two single direction causality from financial development to the changes of interest rate and from changes of interest rate to the economy growth. An interesting finding from this study is there is bi-direction causality between the financial growth and the interest rate changes.

LIST OF TABLES

LIST OF FIGURES

v

LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller
BNM	Bank Negara Malaysia
ECM	Error-Correction Model
ECT	Error Correction Term
EG	Engle-Granger
FPE	Final Prediction Error
GDP	Gross Domestic Product
IMF	International Monetary Fund
IPI	Industrial Production Index
LR	Likelihood Ratio
PP	Phillips-Perron
VAR	Vector Autoregressive
VECM	Vector Error-Correction Model

Financial Development and Economic Growth: An Empirical Evidence from Malaysia

CHAPTER ONE

INTRODUCTION

The relationship between financial development and economic growth has attracted a great deal of attention both in academia and among policy-makers since the last few decades. The hypothesis that financial development facilitates the efficient allocation of resources was first started by Schumpeter in 1911, who conjectured that banks identify entrepreneurs with good growth prospects, and hence help to reallocate resources to their most productive uses. Later, Gurley and Shaw (1955) found the role of financial institutions in the supply of funds to the real activity, and underscored the idea that differences in financial systems development may explain economic performances across countries.

Rajan and Zingales (1998) point out that allocation may be differentially affected by industry characteristics: those that require a lot of upfront outside financing (relative to generated cash flow), such as drugs and pharmaceuticals (perhaps due to R&D costs), will be less likely to grow in the presence of capital market imperfections than other industries where investment more closely coincides with cash generation. More recently, a number of other researchers have used a similar approach to look at the

interaction of various 'fixed' industry characteristics and different aspects of financial development in predicting sectoral growth.

1.1   Functions of the financial system

Levine (1997) highlights that financial sector performs five important roles that can promote economic development. They are (i) facilitating the trading, hedging, diversifying and pooling of risk, (ii) allocating resources; (iii) monitoring managers and exert corporate control, (iv) mobilizing savings and (v) facilitating the exchange of goods and services.

The financial system plays an important role in mobilizing funds and transforming them into assets that can better meet the needs of investors. The financial intermediaries allow savers to maximize returns to their assets and to reduce risk by facilitating portfolio diversification. Besides, financial intermediaries also transfer resources across time and space, thus allowing investors and consumers to borrow against future income and meet current needs. This helps those whose current expenditures exceed current income to overcome financing constraints and the difficulties arising from mismatches between income and expenditure flows.

Financial institutions play an important role in easing the tension between savers' preference for liquidity and entrepreneurs' need for long-term finance. Therefore, at any given level of saving, an efficient financial system will allow for a higher level of investment by maximizing the proportion of saving that actually finances investment (Pagano, 1993). With an efficient financial system, resources will also be utilized more efficiently due to the ability of financial intermediaries to identify the most productive investment opportunities.

The second important role played by the financial systems is creating a pricing information mechanism. By providing a mechanism for appraisal of the value of firms, financial systems allow investors to decide for the allocation of their funds. Financial intermediaries also help to have information asymmetries that characterize market exchange. One party to a transaction often has valuable information that the other party does not have. In such circumstances, there may have unexploited exchange opportunities. Information imperfections can result in sub-optimal investment for a firm. A firm may be unable to raise the outside funds to undertake such a project, when the information about a worthy investment project cannot be fully and credibly revealed to outside investors and lenders. In a market plagued by information imperfections, the equilibrium quantity and quality of investment will fall under of the potential of the economy. Financial intermediaries can help to solve such problems by collecting information about the prospective borrowers.

Thirdly, the financial system helps to enhance efficiency in the corporate sector by monitoring management and exerting corporate control. Individual savers are unable to verify the quality of investment projects effectively or to have management efficiency. Financial intermediaries can monitor the behavior of corporate managers and foster the efficiency of the borrowed funds better than individual savers. Financial intermediaries thus fulfill the function of "delegated monitoring" by representing the interests of savers (Diamond, 1984). Financial markets also can improve managerial efficiency by promoting competition through effective takeover or threat of takeover.

The two important structures in financial system are the bank-based financial structure and the market-based financial structure. The development of the bank-based financial system usually indicated by the bank credits (Hannson and Jonung, 1997; Levine, 1999; Shan, Morris and Sun, 2001; Rousseau and Wachtel, 2001;), while the growth of the market-based financial system are normally represented by the stock market performance (Atje and Jovanovic, 1993; Dow and Gorton, 1997; Harris, 1997; Filer, Hanousek and Campos, 1999, 2003).

4

1.2   Financial Development Leads Economic Growth

The links between financial development and economic growth is not a new theme in the economics literature. Schumpeter (1934) observed that financial markets play an important role in the growth process by channeling funds to the most efficient investors and by fostering entrepreneurial innovation. Schumpeter's view was that financial development leads economic growth.

The theoretical argument for linking financial development to growth is that a well-developed financial system performs several critical functions to enhance the efficiency of intermediation by reducing information, transaction, and monitoring costs. A modern financial system promotes investment by identifying and funding good business opportunities; mobilizes savings; monitors the performance of managers; enables the trading, hedging, and diversification of risk; and facilitates the exchange of goods and services. These functions result in a more efficient allocation of resources, a more rapid accumulation of physical and human capital, and faster technological progress, which in turn feed economic growth.

In essence, economic growth depends on the accumulation of input factors in the production process and technical progress. Traditionally, finance has been linked primarily with the first of these sources of growth, regarding capital as an important input factor and its accumulation as a condition for sustainable economic growth.

5

Furthermore, finance contributes to the realization of technical progress to the extent that technical advances need to be embedded in the capital stock to influence production. In particular, in periods of rapid technical progress, an efficiently structured financial sector appears to be required in order to facilitate embedding technical advances in capital formation and allowing countries to benefit from this development in terms of higher rates of economic growth. The above can be illustrated in Figure 4 below.

There are many past studies support the thesis that financial sector development boosts economic growth. In a wide range of studies, the initial level of financial development is shown to be a good predictor of subsequent rates of economic growth, physical capital accumulation, and productivity growth, even after controlling for income, education, political stability, and measures of monetary, trade, and fiscal policy. Some studies have shown that countries with higher levels of financial development grow faster by about 0.7 percentage points a year. However, the direction of causation is sometimes unclear, as financial development can be thought of as following or accommodating growth. For example, improvements in communication technologies could enhance financial sector efficiency. Similarly, the financial sector could grow in anticipation of real economic growth, or financial services may grow as incomes grow because people demand more financial services.

A Theoretical Approach to Finance and Growth

> **Market frictions**
> - information costs
> - transaction costs

> **Financial markets and intermediates**

> **Financial functions**
> - mobilize savings
> - allocate resources
> - exert corporate control
> - facilitate risk management
> - ease trading of goods, services, contracts

> **Channels to growth**
> - capital accumulation
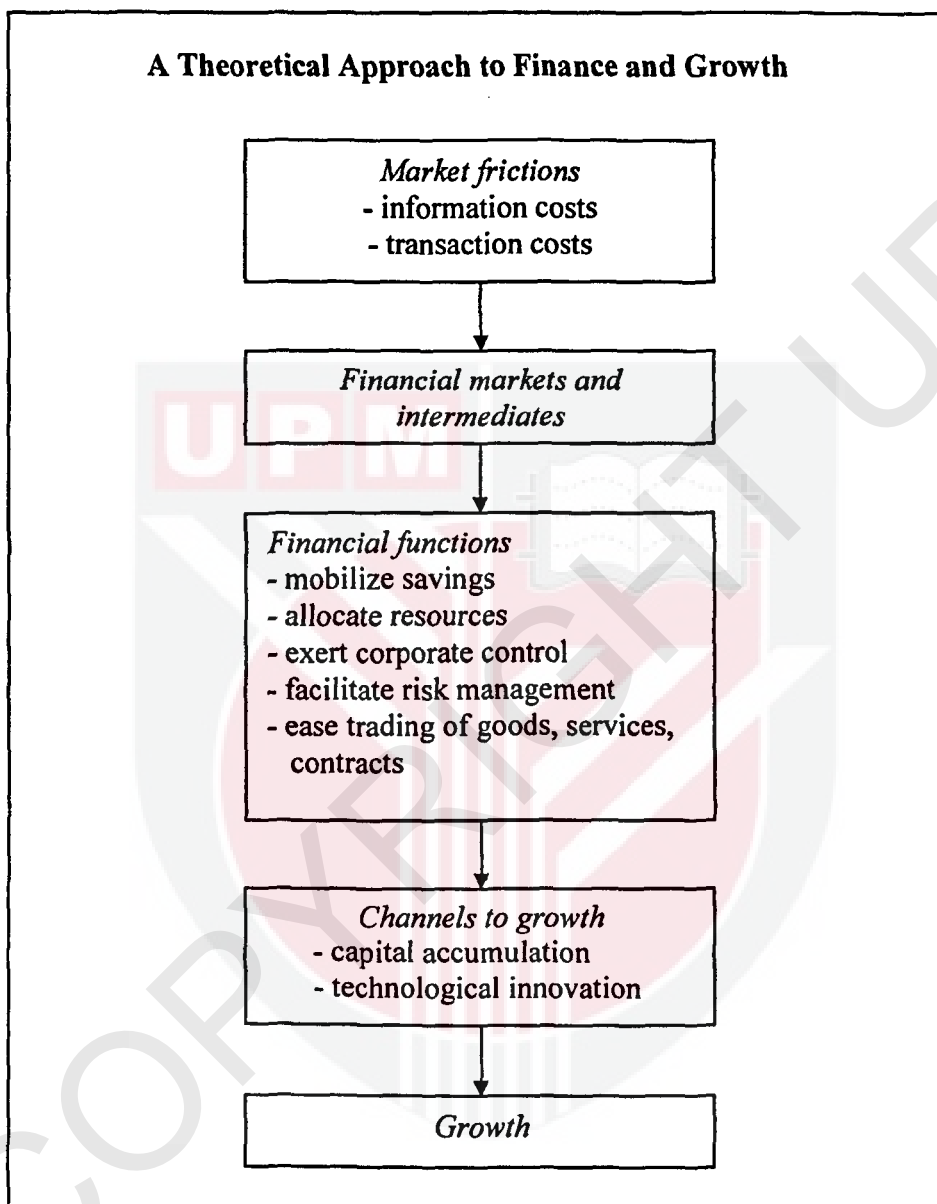> - technological innovation

> **Growth**

Figure 4: A theoretical approach to finance and growth
Source: Ross Levine (1997), Financial Development and Economic Growth: Views and Agenda, Journal of Economic Literature, Vol. XXXV

These possible directions of causality between financial development and growth are labeled by Patrick (1966) as the supply-leading and demand-following

hypothesis. The supply-leading hypothesis posits a causal relationship from financial development to economic growth, which means deliberate creation of financial institutions and markets, increases the supply of financial services and thus leads to real economic growth. On the other hand, the demand-following hypothesis postulates a causal relationship from economic growth to financial development. Here, an increasing demand for financial services might induce an expansion in the financial sector as the real economy grows (i.e. financial sector responds passively to economic growth).

1.3   The East Asian Financial Crisis (1997)

The experience of a broad range of countries in recent years has illustrated the importance of maintaining financial stability for the sustained development of an economy. The damaging consequences of a financial crisis on the real economy were clearly demonstrated in the experiences of Scandinavian countries and Japan, in the financial crisis in Mexico and Argentina and the recent financial crisis in East Asia.

The year 1997 witnessed a new strain of financial crisis – the East Asian financial crisis. Beginning in middle of May of 1997 with a speculative attack on the Thai bath, the crisis spread across East Asia. Following the sharp depreciation of the Thai bath on 2 July 1997, the ringgit began to experience waves of speculative pressure.

By the end of August 1998, the ringgit had depreciated by 40% against the United States dollar relative to its level at the end of June 1997. The effects then rippled through the backing and corporate sectors. When the second quarter GDP figures were announced in August 1998, it became evident that Malaysia was facing a recession for the first time in 13 years.

1.4 Economic Growth in Malaysia (1997-2004)

Prior to the onset of the regional financial crisis in mid of 1997, the Malaysian economy was fundamentally sound. The strength of the economy was demonstrated by a number of indicators. A high saving rate in an environment of stable price situation, low external debt, strong Government fiscal position following five consecutive years of surplus budgets since 1993 and a sound banking sector placed Malaysia in a relatively strong position from which to address the contagion effect of the regional financial crisis.

The recent Asian financial crisis has slowed down the rapid economic growth of the Malaysia. The Malaysia economy was fundamentally strong just prior to the start of the crisis. In the first two quarters of year 1997, real GDP continued to grow at about 8%. The Government continued to record fiscal surpluses. The level of external debt

was low at 43.2% of GNP. Measures to address the supply constraints in the economy had been taken earlier since year 1995 and were beginning to show positive results. The current account deficit was reduced to 5% of GNP in year 1996 from 10% in year 1995 and was expected to improve further. Inflation had moderated to its lower level, 2.1%, in July 1997. (Bank Negara Malaysia, 1999)

The economic growth as indicated by the Gross Domestic Product was moving downwards from after year 1997 till year 1999 as presented in Figure 1.
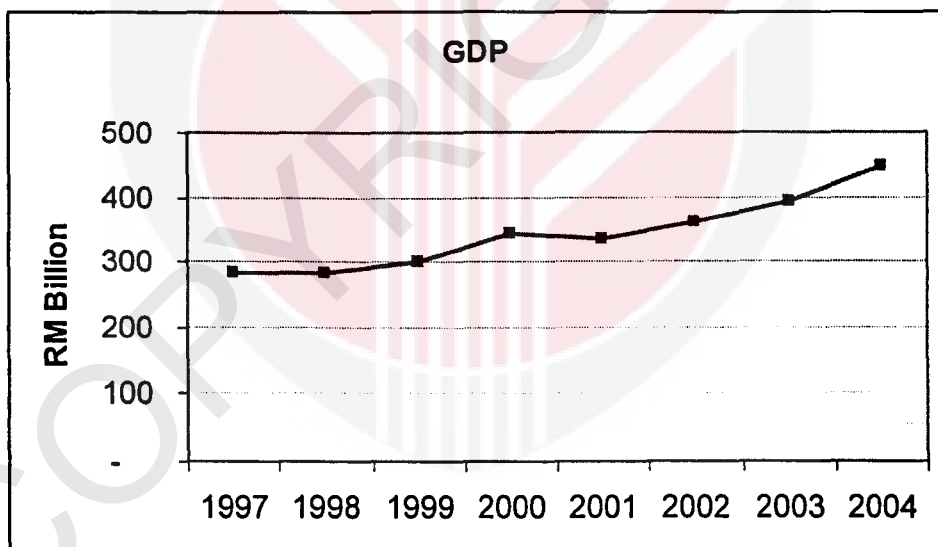

Figure1: Trend of GDP from year 1997 to 2004

Measures to restore financial market stability, significant progress made in the restructuring of the banking and corporate sectors, the accelerated implementation of

the fiscal stimulus package and the favourable performance of external sector have contributed positively to a significant revival in private consumption and export-related activities.

1.5   Financial Development in Malaysia (1997-2004)

The development of a strong financial system is a necessary pre-condition for steady and balanced economic and social development in Malaysia. In this regards, the central bank of Malaysia, Bank Negara Malaysia (BNM) has consciously and systematically developed a modern and sophisticated financial system which has effectively mobilised and allocated resources for productive use in tandem with the rapid transformation of the economy. This is due to the financial stability is important given the critical functions served by the financial system in an economy. Financial system with its intermediation function has strong linkages to savings and investment decisions in the economy and thus can influence the pace of economic growth.

After the financial crisis hit East Asia countries, the impact on Malaysian financial sector was felt. Measures to slow down the pace of bank lending were directed towards making domestic demand more compatible with the level of output, as well as to contain the development of any asset bubble. Therefore, as at end-June 1997, the

11

fundamentals of the economy had strengthened further. Economic growth was being achieved against a background of lower inflation and an improved balance of payment position.

In the banking sector, the structural reforms that had been undertaken since mid of 1980s had strengthened the banking system. By international standard, the banking system was already subject to stringent prudential standards since late 1980s. Stringent guidelines were implemented on single customer limits, large loan limits and a prohibition on connected lending (i.e. loans to directors and staff as well as loans in which the backs had other interest in). (Bank Negara Malaysia, 1999)

At end of year 1997, just before the start of the financial crisis, the average risk-weighted capital ratio (RWCR) of the banking system was at 12%, higher than the internationally recommended minimum level of 8% as laid down in the Basle Accord. Net non-performing loans (NPLs) were only 2.2% of total loans and the ratio of loan provisions to NPLs was close to 100%. Meanwhile, the approval process for external loans was stringent. Corporations and banks, therefore, did not have unhedged exposures to foreign currency borrowing.

Given strong macroeconomic and institutional fundamentals at the outset of the crisis, Malaysia had greater flexibility in responding to the crisis. While there were

12

structural imbalances present such as the current account deficit, asset inflation and high credit growth, policies were already in place to address these weaknesses and positive results had already begun to emerge.

Although Malaysia did not have problems such as high short term debt and relatively fixed exchange rate, the herd behaviour had led market participants to view Malaysia as having the same common problems as those faced by her neighbour countries in the East Asian region, despite Malaysia's stronger economic fundamentals. The contagion effect spread to Malaysia soon after. The ringgit came under the speculation attack as currency traders began placing bets on a depreciation of the ringgit. The relatively stable trend in interest rates was disrupted in May and again in July 1997 due to the speculative attacks on the ringgit. Interest rates rose to support intervention operations. The overnight rate shot to 18.75% in mid of 1997. The pressure on the ringgit subsided soon and liquidity improved once again with interest rate drifting downwards. (Bank Negara Malaysia, 1999)

As the impact of the financial crisis on the banking system, the sharp depreciation of the ringgit combined with the fall in share prices had a material adverse effect on earnings and overall performance of the backing sector. Nevertheless, throughout the crisis, the payment system and the intermediation process continue without disruption. In addition to the decline in the property and stock markets, the

13

debt-serving capacity of borrowers was also affected by the economy contraction, resulting in deterioration in the asset quality of the portfolio of the banking institutions.

The pre-occupation of banking institution with managing their existing asset portfolio together with the pessimistic outlook of the economy caused the banking institutions to overly cautions in extending new loans. The reluctance of the banking institutions to lend combined with higher interest rates led to severe difficulties for individuals and businesses, including viable businesses in productive economic activities, to obtain financing. These developments caused loan growth (including loans sold to Danaharta) to slow down from a high of 26.5% at end of 1997 to 1.3% at end of 1998. After year 1998, with the recovery policies implemented, the total loan (credit) was then increasing as shown in the Figure 2 below.
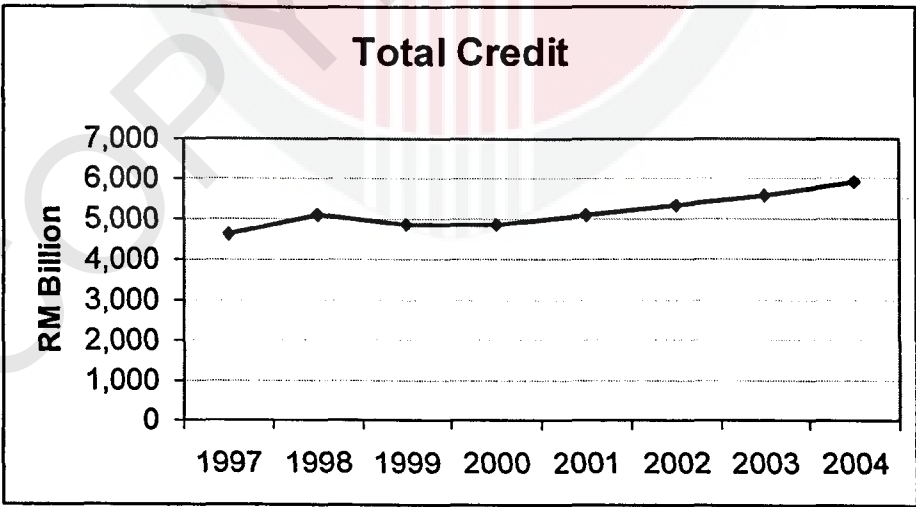

Figure2: Trend of total loans (credit) from year 1997 to 2004

It should be noted that the Malaysian banking system was not directly affected by the depreciation of the ringgit as the banking system did not rely on foreign funds to finance their activities and hence their exposure to the ringgit depreciation was small. The currency's impact was in fact transmitted to the financial sector through the contraction in economic activities and decline in the stock market, which in turn affected the banking system asset quality. The deterioration in asset quality and subsequent erosion of the capital base had adversely affected banks' lending activities. As banks focussed more on the management of their rising NPLs, their over-reaction further reinforced the negative impact of the crisis by slowing credit growth, and added greater friction in economic activities.

As the results from the above, the banking system recorded a pre-tax loss of RM2.3 billion in year 1998, and the net NPL/total loans rose to 9% at end of 1998. Total Tier-I capital of the banking system fell by RM4.3 billion (9.2%) by end of 1998. The core capital ratio, however, remained strong at 8.7% compared with the BIS prescribed minimum of 4%.

In an environment of uncertainty, banking system institutions had become excessively cautions in their lending decisions, causing a sharp slowdown in credit, to avoid a credit crunch situation, banking institutions with sufficient capacity were encouraged to achieve a minimum loan growth rate of 8% in year 1998. The motivation for the 8% credit floor was to free the banking institutions from the self-imposed credit

freeze. However, the prudential considerations were not sacrificed, as banks were required to exercise financial discipline in making lending decisions.

The central bank of Malaysia, Bank Negara Malaysia (BNM), redefined the NPL classification period to reflect loans that were in default for six months compared with three months previously in order to enable banking institutions to concentrate more on their credit operations rather than being overly preoccupied with managing deterioration of their asset quality. The purpose of this was to ensure that the real sector of the economy continues to receive financing and to provide borrowers with the opportunity to regularise their accounts. However, the change in NPL classification period did not preclude banking institutions from retaining shorter NPL classification periods based on their individual internal policies.

In Malaysian's experience of economy recovery financing, the restructuring and recovery package was financed mainly from domestic sources. In terms of domestic financing, the funds have been collected from non-inflationary sources such as the Employees Provident Fund (EPF) and other provident, pension and insurance funds as well as the banking system. Asides from these, some financing has also been obtained from external sources, mainly from the multilateral institutions. Nevertheless, these external financing continues to remain low as part of the policy to reduce Malaysia exposure and vulnerability to external developments.

16

1.6   Financial Development and Economic Growth in Malaysia (1997-2004)

In order to obverse visually the relationship between the financial development and economic growth in Malaysia, both the GDP and total credits are plotted in a chart as presented in Figure 3. Both the GDP and total credits seems that having similar upwards and downwards trend.
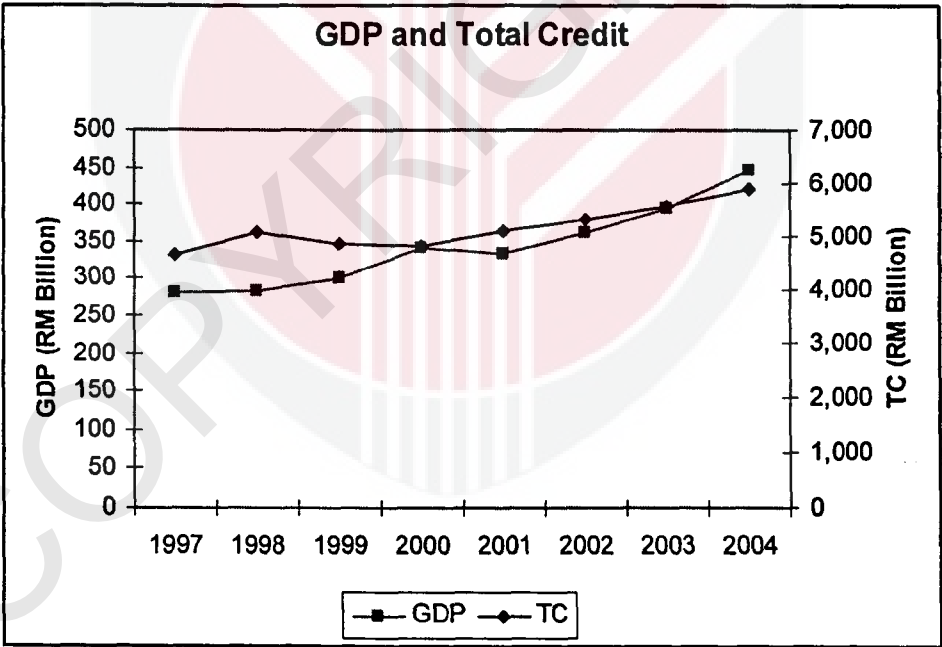

Figure 3: The total loans (credit) and GDP from year 1997 to 2004

1.6   Financial Development and Economic Growth in Malaysia (1997-2004)

In order to obverse visually the relationship between the financial development and economic growth in Malaysia, both the GDP and total credits are plotted in a chart as presented in Figure 3. Both the GDP and total credits seems that having similar upwards and downwards trend.
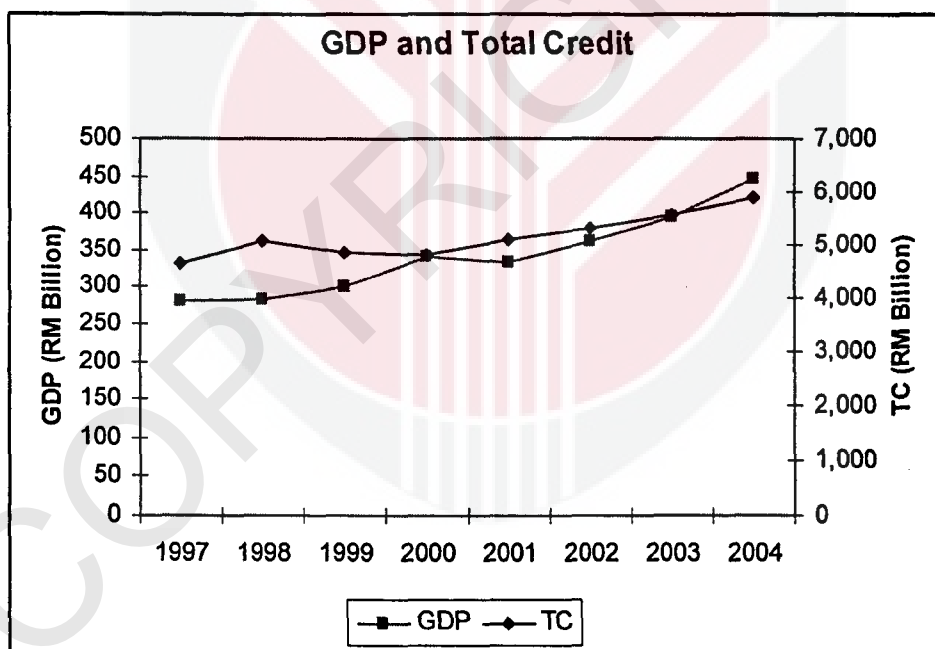

Figure 3: The total loans (credit) and GDP from year 1997 to 2004

We will have clearer visual inspection to see both of these variables in the percentage changed or the yearly growth trend as showing in Figure 4.
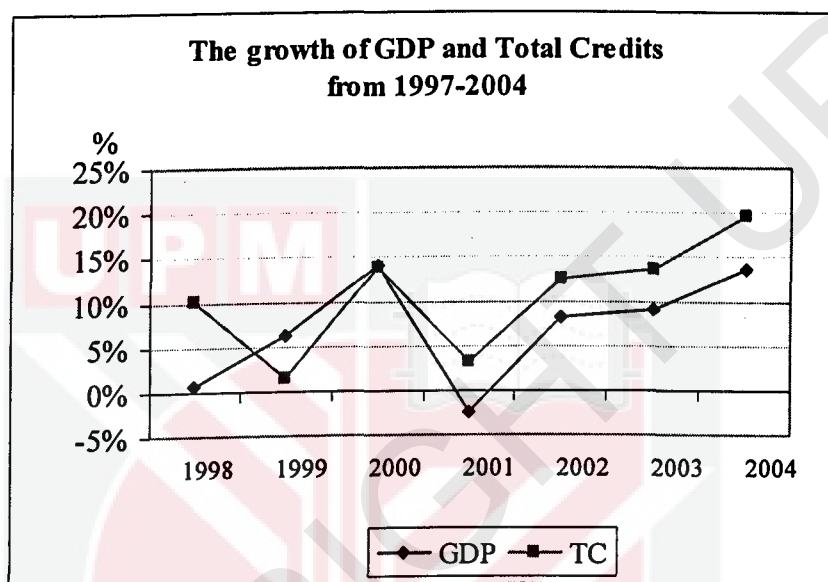
Figure 4: The growth rate of total loans (credit) and GDP from year 1997 to 2004

1.7   The Statement of Research Problem

Ever since Schumpeter (1911), and more recently McKinnon (1973) and Shaw (1973), the relationship between financial development and economic growth has been extensively studied. It is now well recognized that financial development is crucial for economic growth. Furthermore, the direction of causality between financial

18

development and economic growth is crucial because it has significantly different implications for development policy. However, this causal relationship remains unclear.

In the case of Malaysia, the BNM is working on several policies to improve the performance of financial sector in order to support the economy growth, for instance, the ten years Master Plan for financial development, is showing that the financial development is playing an important role as an engine of economy growth. However, the relationship between the financial development and economic growth after the financial crisis is questioned. Moreover, if there exists a relationship between financial development and growth, the causal relationship between them is remained unclear.

1.8   The Objectives of the Study

The general objective of this study is to examine the relationship of financial development and economic growth in Malaysia in the recent periods especially after the financial crisis from year 1997 to 2004. Particularly, this study attempts to empirically test the importance of the financial sector development as a determinant of economic growth in Malaysia after financial crisis by using time series regressions during the 1997-2004 periods. Lastly, the causal direction between the financial development and economic growth will be tested empirically.

1.9   Organization of Study

This study is divided into five chapters. The following Chapter two summarized previous literatures and empirical work undertaken on the financial development and economic growth issue. Chapter three describes the data and the econometric methodology used in this study. The results of the empirical work will be presented in Chapter four. Lastly, the conclusion will be discussed in Chapter five.

BIBLIOGRAPHY

Ansari, M. I., (2002), Impact of financial development, money, and public sending on Malaysian National Income: an econometric study, *Journal of Asian Economics*, Jan.-Feb. 2002, Vol.13 (1), 72-93

Bank Negara Malaysia (1999), *The Central Bank and the Financial System in Malaysia – A Decade of Change 1989-1999.*

Bassanini et al. (2001), Economic growth: the role of policies and institutions. Panel data evidence from OECD countries, *OECD Economic Department Working Paper*, No. 283:

Cameron, R., Crisp, O,, Patrick, H., and Tilly, R. (1967) Banking in the Early Stages of Industrialization. A Study in Comparative Economic History. New York: Oxford University Press.

Corosso, V. (1970), Investment Banking in America. Cambridge, Harvard University Press.

Demirgüç-Kunt A. and Levine, R. (1999), Bank-based and market-based financial systems: crosscountry comparisons, *World Bank Working Paper* 2143 (July 1999).

Demirgüç-Kunt, A and Maksimovic, V. (1996), Stock Market Development and Financing Choices of Firms, *World Bank Economic Review*, 10(2), 341-369.

Fazzari, S, Hubbard, G., and Petersen, B. (1988), Financing constraints and corporate investment, *Brookings Papers on Economic Activity 1,* 141-195.

Filer, R. K., Hanousek, J. and Campos, N. F. (1999), Do Stock Markets Promote Economic Growth? *Working Paper* Number 267, September.

Goldsmith, R. (1969), Financial Structure and Development, *New Haven, CT*, Yale University Press.

Gujarati, D. N. (1995) *Basic Econometrics* (3rd ed.), Singapore: MacGraw-Hill.

Haber, S. (1991), Industrial concentration and the capital markets: A comparative study of Brazil, Mexico, and the United States, 1830-1930, *Journal of Economic History, 51(3),* 559-580.

Hannson, P. and Jonung, L. (1997), Finance and economic growth: The case of Sweden 1834-1991, *Research in Economics*, vol. 51, pp. 275-301.

Haselmann, R. (2003), The role of financial markets in the growth process of the Eastern European Economies, September 2003, EAEPE Annual Conference in Maastricht

Hsu, C. M. and S. M. Lin (2000), Financial Development and Endogenous Growth Model, *Industry of Free China*, 9, 21-47.

King, R. G. and R. Levine (1993a), Finance and Growth: Schumpeter Might be Right, *Quarterly Journal of Economics*, 108, 717-37

Khan, Mohsin S. and Senhadji, Abdelhak S. (2000), Financial Development and Economic Growth: An Overview, December 2000, *IMF Working Paper*, International Monetary Fund.

Leahey, M. et al. (2001), Contributions of financial systems to growth in OECD countries, *OECD Economics Department Working Paper*, No. 280, January 2001.

Levine, R.(1997), Financial development and economic growth: Views and agenda, *Journal of Economic Literature*, 35, 688-726.

Levine, R. (2000), Bank-based or market-based financial systems: Which is better? *University of Minnesota, Carlson School of Management, Working Paper 0005.*

Levine, R., Loayza, N. and Beck, T. (2000), Financial intermediation and growth: causality and causes, *Journal of Monetary Economics*, Vol. 46, pp. 31-77.

Levine, R. and Renelt, D. (1992), A Sensitivity Analysis of Cross Country Growth Regressions, *American Economic Review*, 82, September, 942-963.

Levine, R. and Zervos, S. (1998), Stock Markets, Banks and economic growth, *American Economic Review*, Vol. 88, pp. 537-558.

McKinnon, R. I. (1973), Money and Capital in Economic Development, Washington, DC, Brookings Institution.

Kar, M and Pentecost, E. J. (2000), Financial Development and Economic Growth in Turkey: Further Evidence on the Causality Issue, *Economic Research Paper* No. 00/27, December, Department of Economics, Loughborough University.

Ndikumana, L. (2001), Financial Markets and Economic Development in Africa, Number 17, *University of Massachusetts Amherst, Working Paper Series.*

Pagano, M. (1993), Financial Markets and Growth: An Overview, *European Economic Review* 37, April, 613-622.

Osterwald-Lenum, M. (1992) A note with quantiles of the asymptotic distribution of the maximum likelihood cointegration rank test statistics, *Oxford Bulletin of Economics and Statistics*

Patrick, H.T. (1966), Financial Development and Economic Growth in Underdeveloped Countries, *Economic Development and Cultural Change,* 14, 174-189.

Rajan, R. and Zingales, L. (1998), Financial dependence and growth, *American Economic Review,* 88(3), 559-586.

Rousseau, P.L. and Sylla, R. (2001), Financial systems, economic growth, and stabilisation, *NBER Working paper* No. 8323, June 2001.

Rousseau, P.L and Sylla, R. (2000), Emerging Financial Market and Early U.S. Growth, May 2000, *Working Paper* No. 00-W15, Department of Economics Vanderbilt University.

Rousseau, P.L. and Wachtel, P. (1998), Financial intermediation and economic performance: historical evidence from five industrialized countries, *Journal of Money, credit, and banking,* Vol. 30, pp. 657-678.

Schumpeter, J. A. (1912), Theorie der Wirtschaftlichen Entwicklung (The Theory of Economic Development), Leipzig, Dunker & Humblot, Translated by Redvers Opie, Cambridge, MA, Harvard University Press, 1934.

Schumpeter, J A. (1934) The Theory of Economic Development, Cambridge Harvard University Press.

Shan, J.(2003), Financial development and Economic growth: The Empirical Evidence from China, *Proceedings of the 15th Annual Conference of the Association for Chinese Economics Studies Australia (ACESA).*

Shan, J.Z., et al. (2001), Financial development and economic growth: an egg and chicken problem? *Review of International Economics,* Vol. 9, No. 3, pp. 443-454.

Shaw, E. S. (1973), Financial Deepening in Economic Development, New York, Oxford University Press.

Singh, A., et al. (2000), Information technology, venture capital and the stock market, *University of Cambridge Accounting and Finance Discussion Papers,* No. 00-AF47.

Thiel, M. (2001), Finance and economic growth – a review of theory and the available evidence, *Economic Paper,* Number 158, July, European Communities, 2001.

Trabelsi, M. (2002), Finance And Growth : Empirical Evidence From Developing Countries, 1960-1990, *Working Paper Series*, Cahiers de recherche, CAHIER 13-2002, May, Universite de Montreal, Departement de sciences economiques.

World Bank (1989), World Development Report (1989), New York, Oxford University Press for the World Bank.

Data sources:

Bank Negara Malaysia, Monthly Statistical Bulletins. Jan1999 - Jan 2005 www.bnm.gov.my

International Monetary Fund, International Financial Statistics, http://imfStatistics.org