

**FINANCIAL STRUCTURE  
THAT CONTRIBUTES TOWARDS  
ECONOMIC GROWTH OF MALAYSIA  
IN THE SHORT-RUN AND LONG-RUN**

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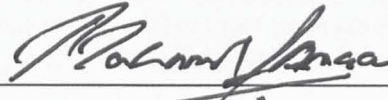


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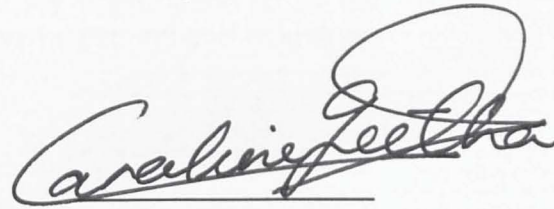
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## ABSTRACT

### **FINANCIAL STRUCTURE THAT CONTRIBUTES TOWARDS ECONOMIC GROWTH OF MALAYSIA IN THE SHORT-RUN AND LONG-RUN.**

The study aims to examine the relationship between the economic growth with bank activity, bank size, market activity, market size, and market efficiency in short-run and long-run. Effort is also taken to determine whether bank-based financial structure is a complement or substitute to market-based financial structure in influencing economic growth. The yearly secondary data ranging from 1980 to 2010 obtained from Bank Negara Reports, Malaysian Financial Report, Department of Statistics Malaysia Report, the Bursa Malaysia Reports and the World Bank Reports are used. The Ordinary Least Square estimation results reveal that Adjusted R-squared is low. However, the estimated Durbin Watson value indicates that the data has an autocorrelation problem. In Unit Root Test results, bank activity, bank size, market activity, and market size have a unit root problem at the level form, but all the variables are found to be integrated at first difference. Next, VAR(p) model determines the optimal lag length of 2. Moreover, co-integration test shows that bank activity, bank size, market activity, market size, and market efficiency are found to be significant in affecting economic growth in long-run. Market efficiency is found to have negative and greater effect on the economic growth while bank size is found to have negative and less effect. Therefore bank-based financial structure acts as a substitute to market-based financial structure in affecting economic growth. Finally, the result indicates that there is no short-run relationship between dependent variable and independent variables in the Vector Error Correction model. In conclusion, some recommendations and future study are discussed.

## ABSTRAK

*Kajian ini bertujuan untuk meneliti hubungan di antara pertumbuhan ekonomi dengan pembolehubah aktiviti bank, saiz bank, aktiviti pasaran, saiz pasaran, dan kecekapan pasaran dalam jangka pendek and jangka panjang. Usaha juga diambil untuk menentukan sama ada struktur kewangan berdasarkan bank adalah penggenap atau pengganti untuk struktur kewangan berdasarkan pasaran dalam mempengaruhi pertumbuhan ekonomi. Data sekunder tahunan daripada tahun 1980 hingga 2010 diperolehi daripada Laporan Bank Negara, Laporan Kewangan Rakyat Malaysia, Laporan Jabatan Statistik Malaysia, Laporan Bursa Malaysia, dan Laporan Bank Dunia telah digunakan. Keputusan jangkaan Ordinary Least Square menunjukkan penyesuaian R-squared adalah rendah. Bagaimanapun nilai Durban Watson menunjukkan set data mempunyai masalah autokorelasi. Dalam keputusan ujian Unit Root, pembolehubah aktiviti bank, saiz bank, aktiviti pasaran, dan saiz pasaran mempunyai masalah Unit Root pada tahap asas, tetapi semua pembolehubah tersebut telah didapati diintegrasikan pada turutan pertama. Kemudian, model VAR(p) digunakan untuk menentukan bilangan lag yang digunakan ialah 2. Tambahan, ujian Kointegrasi menunjukkan pembolehubah aktiviti bank, saiz bank, aktiviti pasaran, saiz pasaran, dan kecekapan pasaran adalah signifikan dalam mempengaruhi pertumbuhan ekonomi dalam jangka panjang. Kecekapan pasaran didapati mempunyai kesan pengaruh yang negatif dan lebih kuat pada pertumbuhan ekonomi manakala saiz bank mempunyai kesan pengaruh yang negatif dan kurang berkesan. Oleh itu, struktur kewangan berdasarkan bank bertindak sebagai satu pengganti kepada struktur kewangan berdasarkan pasaran dalam mempengaruhi pertumbuhan ekonomi. Tambahan pula, keputusan kajian telah menunjukkan bahawa tiada hubungan jangka pendek di antara pertumbuhan ekonomi dengan pembolehubah aktiviti bank, saiz bank, aktiviti pasaran, saiz pasaran, dan kecekapan pasaran dalam model Vector Error Correction. Akhirnya, beberapa cadangan and kajian masa depan telah dibincangkan.*



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## LIST OF ABBREVIATIONS

<b>ADF</b>	Augmented Dickey Fuller
<b>AIC</b>	Akaike Information Criterion
<b>ARDL</b>	Autoregressive distributed lag
<b>EU</b>	European Union
<b>ECOWAS</b>	Economic Community of West African States
<b>FDI</b>	Financial Direct Investment
<b>GDP</b>	Gross Domestic Product
<b>GMM</b>	Generalized Method of Moments
<b>MENA</b>	Middle East and North Africa
<b>NPL</b>	Non-Performing Loan
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>OLS</b>	Ordinary Least Square estimation
<b>VAR</b>	Vector Autoregressive
<b>VEC</b>	Vector Error Correction

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of Study

Finance promotes economic growth that recommended by Schumpeter (1911). In contrast another researcher argues with this view which thought that economic growth leads to financial development. Particularly, Robinson (1952) argues that even as credit may constrain economic growth in underdeveloped financial system, the same thought cannot be mentioned for complicated and developed financial structure (Arestis and Demetriades, 1997).

Schumpeter thought about finance promotes economic growth beside with others majority theoretical and empirical research on finance structure and economic growth relationship used to be investigated. Among the argument regarding bank-based and market-based financial structure which was the parameters classifying a financial system either as a bank-based or market-based, for second and third argument which are the financial system promotes economic growth and the determinants of bank-based and market-based financial structure. This argument expanded after Gerschenkron (1962) classifying the system by dividing the financial structure into bank-based and market-based system.

The significance of bank-based and market-based in the financial system due to analytical attention places by the financial service theory. Despite accepting these two theories, it relegated the significance of the bank-based versus market-based argument to the environment. Based on the financial service view, the most important was the quality of financial services and the creation of an environment where the financial services are effectively and efficiently provided and not the sources of finance. The financial service theory argues that bank-based versus market-based influence are not the main important issue, relatively the major issue is the quality and the availability of these financial services (Levine, 2002). The analysis also remarks that financial structure either banks and markets exist to



provide different services that complement each other, thus placing the emphasis on creating quality and efficiency of banks and markets (Levine, 2002).

Four opposing theories of financial structure are nexus examined by finance and growth which is a bank-based theory, market-based theory, financial service theory and legal based theory. Each measure of these utilities has been highlighted by different researchers in promoting economic growth. The effective role of the capital industry in distributing wealth and risk identifies by market-based theory, while bank-based theory effective role of the bank was in colluding with managers to defraud firms. The financial service transfers the bank-based versus market-based argument to the shadows, while agreeing that it is the overall financial services in a financial system that promotes economic growth. Meanwhile the legal based theory argues that finance is a set of contracts and what promotes economic growth is the enforcement and quality law of contracts in a financial system. Excess of practical studies next to these theories give way diverse result. However these four opposed theories will not tell the whole situation regarding the investigative opinion about the relationship between financial structure and economic growth. This dilemma was irregular to developing countries where their financial structure can neither be classified as bank-based or market-based. For example, the close involvement of banks with industries through long-run financing and strong bank presence on the company boards is the main aspect of bank-based financial structure (King and Levine, 1993).

By implementing a series of liberalization policies in the Malaysian economy has started to integrate with the rest of the world economy. Malaysia has evolved to be a leading nation in the developing world in recent years. The more diverse and compost needs of the Malaysian financial system comprises a diversified range of institutions to serve the domestic economy. Financial structure has been a significant improvement in the additional of this development. In fact, Malaysia was one of the highest levels of financial development in the world in the year 2000, following only the United States, Japan, Cyprus, Switzerland and Hong Kong based on the measured by private credit to GDP. Therefore, Bank Negara Malaysia (1999)



stated that the Malaysian economy has undergone remarkable change against the environment of rapid transformation in the economy and international environment.

The rapid pace of transformation and economic growth that generates new demand as well as prospect for business has called for a more effective and efficient provision of financial services. To promote a dynamic financial system in line with the country's development is the main strength. Therefore a necessary requirement for a stable and balanced economic and social development required a strong and sound financial system in Malaysia.

In addition, the need to support domestic financial system by added superior dynamism and competition into it which had been suggested during the 1997-1998 Asian financial crisis. The Malaysian had managed to overcome the Asian financial crisis by produced results earlier and better than initially expected. After the Asian financial crisis, the Malaysian economic needed to move forward and build a strong foundation of financial system. Once the process of economic growth continued and stability is restored, the financial system can maintain to play its central position in the economy and continue to be strong and elastic in facing future challenges.

The challenging year was after the Asian financial crisis in the banking industry not only in Malaysia, but also for other crisis-hit East Asian countries. This due to Malaysia had to cope with the rapid and sharp fall in equity prices and the value of currency as well as the contagion effects of the regional financial crisis. Although the banking system in Malaysia was in a strong position at the beginning of the crisis, weaknesses begun to appear as the crisis worsened particularly towards the end of 1997. Especially, inefficiencies exist in the liquidity distribution within the system began to surface and jeopardize the smooth functioning of the lending and borrowing operations. Although the banking system as a whole remained strong and resilient, some individual banking institutions were facing with severe liquidity problems and that subsequently led to a stiff competition between the banking institutions in bidding interest rates (Bank Negara Malaysia, 1999).

The relation between a country financial structure and its economic development is a key issue in economic growth. The financial structure is always debated by most of the researcher since the 19th century. Should the financial structure be bank-based or market-based? Many economists and policy makers still argue which financial system will be able to contribute more towards the development of a nation, a bank-based or market-based financial system emerges is better for growth. It is difficult and impossible to say clearly which of these two systems is better for economic growth because each financial market system has its own advantage and disadvantage. For example, the bank plays a leading role in mobilizing savings, allocating capital, overseeing the investment decisions of corporate managers, and in providing risk management vehicles in countries like Germany and Japan which claim that applied bank-based financial system. Meanwhile the market-based financial systems applied by countries such as the United States and United Kingdom stated that securities markets share centre stage with banks in terms of getting society's savings to firms, exerting corporate control, and easing risk management.

Policy makers have become increasingly concerned about the designing of a financial system, which is sound, competitive and conducive for economic growth. In order to identify which financial system suits a country's characteristic there is a need to analyze the financial structure of a country. Researchers should classify the countries either as a bank-based or market-based. A conglomerate index of financial structure based on activity, size and efficiency can be used to estimate its impact on the economy. Specifically, studies on ratios of banking sector development (measured in terms of activity, size, and efficiency) relative to capital market development (also measured in terms of activity, size, and efficiency). Moreover researchers also included that the countries with larger ratios are classified as bank-based financial system and the countries with the conglomerate ratio of banking sector development for capital market growth was below the mean are classified as market-based financial system.



## 1.2 Problem Statement

A sound financial structure should be a complement to economic growth. Unfortunately, the financial system in developing countries is unable to complement economic growth when financial dualism in their country. Levine (1997) and Demirguc-Kunt and Maksimovie (2002) mentioned financial structure whether it is a bank-based or market-based apply a fundamental influence on economic growth and strong performance. The financial structure is important in a nation in order to promote long-run economic growth. This is because a financial sector can mobilize fund, help to make the right investment, minimize risk, and create a positive platform for future investors to enter the market.

In a developing country like Malaysia, a vibrant banking system should be able to mobilize short-run funds while a dynamic market-based should be able to attract long-run funds from all over the world. This will enhance Malaysia's potential as a global financial hub and centre of gravity where the world economy can shift from Western countries to Asian countries (Bank Negara Malaysia, 1999). With this established, economic growth can be guaranteed. Stulz (2001) had defined a countries financial structure to consist of the institutions, financial technology and rules of the game that defines how financial activity is organized at a point in time. Therefore the relation between a countries economic growth and its financial structure was no direct relation because the same function of a financial system can be performed by different institutions or according to different principles.

Financial structure can be distinguished in the bank-based and market-based. Bank-based deals with the money market while market-based deals with the capital market. A bank-based mobilizes to save in the short-run. It can identify good investment, sound corporate control especially for countries which are in their early stages of economic growth. A market-based financial structure that deals with capital market mobilizes capital for long-run investment. Long-run investments are choices of financing used by firms. The growth rate of both banks-based and market-based financial structure is important to increase the income per capita of a nation, especially when the income inequality gap is smaller. Eventually it will create a sound financial environment for the nation that can confirm economic



growth. This was strongly supported by Demirguç-Kunt and Levine (1999), Levine (2002) and Chakraborty and Ray (2006).

Financial economists had argued the relative qualities of bank-based and market-based financial structure for more than a century. Gerschenkron (1962), Stiglitz (1985), Boot and Thakor (1997), Levine (1997), Allen and Gale (2000), and Stulz (2001) provide more references and analyses regarding the comparative qualities of bank-based and market-based financial structure in promoting economic growth. Gerschenkron (1962), Rajan and Zingales (1998) also stressed that whether the financial structure is more bank-based or market-based, it has its own advantage or strength. Firstly powerful bank can force firm to pay their debts, if the country has a weak legal or regulation. Second, the bank has many branches which can help them experience economics of scale. Information processing is faster, avoid moral hazard through proper and effective monitoring, ease asymmetric information distortion, and bank establishes long-run relationship with firms. Rajan and Zingales (1998) also mentioned that bank-based financial structure is better at promoting economic growth in countries with inadequate legal systems, while market-based financial structure have advantage as legal systems improve. Meanwhile researchers like Hellwig (1991), Levine (1991), Rajan (1992), and Obstfeld (1994) claimed that powerful banks can also create disadvantages to the development of the nation. Powerful banks can create a personal relationship with the firms. Bank managers might allocate loans not based on credit worthiness but on personal relationship. This was the main reason why in 1998, nonperforming loans increased in Malaysia that eventually lead to the financial crisis (Bank Negara Malaysia, 1999).

The market-based view of Diamond (1984), Ramakrishnan and Thakor (1984) claimed that a well developed market can easily enter and exit from the market so that investors can inexpensively sell the shares so they do not rigorously maintain corporate control. But unfortunately, the researchers also claim that market-based financial structure can create negative impacts to the economic growth of the nation. The debate between the relative importance between market-

based financial structure or bank-based should be addressed so that the policy maker can form sound advices on the financial policy of the nation.

Uzunkaya (2012) also added the level of financial development relative merit of market-based and bank-based financial structure. Market-based systems operate well in financial developed economies, while bank-based systems were better in financially underdeveloped economies. Similarly, Tadesse (2002) and Allen and Gale (2000) also indicates that for countries having underdeveloped financial sectors, the bank-based systems perform better than a market-based system, while for countries having developed financial sectors the market-based systems do better than bank-based systems. It follows that the current trend in a developing country is toward market-based financial structure (Allen, 1999). The usual recommendation for developing countries is to select the bank-based financial structure rather than the market-based financial structure (Da Rin and Hellmann, 2002; Tadesse, 2002). This recommendation seems ambiguous for some developing countries, which are identified as a market-based financial structure, such as Malaysia.

The debate especially on the comparative advantages of bank-based versus market-based financial structure was certainly a potentially controversial of finding. Ndikumana (2005) added that the result of the finding cannot be interpreted as involving that market-based and bank-based financial structure is equal with respect to their effects on real economic activity. The dilemma is whether they should switch from the market-based to bank-based financial structure or improve toward greater market-based financial structure.

Most empirical literatures on financial structure and economic growth have been concentrated in developing countries, as such United States and United Kingdom as market-based financial system while Japan and Germany as bank-based financial system. Hence, studies such as Weinstein and Yafeh (1998) and Morck and Nakamura (1999) conclude that financial structure matters. However arising, from cross-country studies on financial structure by Levine (1997), (1999) and (2002), Beck and Levine (2002), they found that financial structure is irrelevant



to economic growth. Either bank-based or market-based financial structure can clarify economic growth, but rather is generally provision of financial services both in banks and capital market taken mutually that affect growth. In this sense instead of bank-based and market-based financial structure substituting each other, it rather performs a complementary role in economic growth. In contrast, Boyd and Smith (1998) and Huybens and Smith (1999) added that the bank-based and market-based financial structure might act as complements in providing financial services in their studies.

Cole, Moshirian and Wu (2008) also found that the bank-based financial structure is complement to the market-based if the residence of the country gave importance to the organized sector. This is because the performance of the bank that represents the credit system and the performance of firms that represents the capital market are published. Thus, both bank-based and market-based financial structures complement each other. Similar findings were obtained by Bencivenga and Smith (1991), King and Levine (1993), Levine, Loayza and Beck (2000), Arestis, Demetriades and Luintel (2001), Deidda and Fattouh (2008), Wu, Hou and Cheng (2010).

In contrast, there are some researchers that claim bank-based financial structure is a substitute for the market-based on its role to enhance economic growth. Groenewold, Tang and Wu (2003) found domestic funds can be mobilized for development but the level of risk involved is high. To balance the risk, capital market was essential. Firms compete to get efficiency in the allocation of funds was maintained. Consequently, the bank-based financial structure is a substitute and not a complement to the market-based on enhancing economic growth. The role and function played by market-based financial structure was also similar findings by Bhide (1993), Levine (1997), Levine and Zervos (1998), Levine (1999), Levine, Loayza, and Beck (2000), Allen and Gale (2000), Durham (2002), Thangavelu and Jiunn (2004), El-Wassal (2005), Adjasi and Biekpe (2006), Rousseau and Xiao (2007), Enisan and Olufisayo (2009), Choong, Baharumshah, Yusop and Habibullah (2010).

Therefore this study aims to provide empirical evidence that determines which financial structure contributes towards economic growth in the long-term development of the nation.

### **1.3 Research Questions**

The research question of this study is as follows:-

- a. Which financial structure contributes to the economic growth of Malaysia in the short-run and long-run?
- b. Is the bank-based financial structure a substitute to the capital-based financial structure in Malaysia at the short-run and long-run?
- c. Is the bank-based financial structure a complement to the capital-based financial structure in Malaysia at the short-run and long-run?

### **1.4 Research Objectives**

The overall objective of the study is to examine the contribution of financial structure towards economic growth in Malaysia. The specific aims of this study are to examine whether:

- a. Bank-based financial structure contributes to the economic growth of Malaysia in the short-run and long-run.
- b. Market-based financial structure contributes to the economic growth of Malaysia in short-run and long-run.
- c. Finally, some suggestions to effectively link financial structure with economic growth.

### **1.5 Scope of Study**

The study used time series analysis with yearly time series data obtained from 1980 to 2010 in the context of Malaysia. Various secondary sources like the Bank Negara Reports, the Malaysia Financial Report, Department of Statistics Malaysia Report and the Bursa Malaysia Reports were used. Some data series are also obtained from the international sources, such as International Financial Statistics in various years and the World Bank Report.

The study aims to link financial structure with the economic growth in Malaysia. The financial structure will be divided into bank-based and market-based system. The financial structure in the bank-based is measured by market money variables which comprise of total credit meanwhile the market-based is measured by using market capitalization. Gross Domestic Product (GDP) is used to measure economic growth of Malaysia.

## **1.6 Significance of Study**

The study aims to show the importance of financial structure towards the economic growth in Malaysia from 1980 to 2010. In this study also, the research aims to measure the financial structure by distinguishing it to the bank-based and market-based. Bank mobilizes short-term fund while market mobilizes long-term fund. With this, the study intends to identify whether both the systems complement each other or whether they play their role as a substitute in the economy. Finally, some suggestions are given to improve the financial structure that guarantees economic growth.

## **1.7 Definition of Key Terms**

### **1.7.1 Financial Structure**

Levine (2002) stated to examine the relationship between financial structure and economic growth, one requires a measure of financial structure. However, there is no uniformly accepted definition of a bank-based or market-based financial system. Therefore, this paper focuses on aggregate indicators of financial structure based on measures of the relative size, activity, and efficiency of banks and markets.

#### **1.7.1.1 Structure-Size**

Structure-size is a measure of the size of the stock markets relative to that of banks. To measure the size of the domestic stock market, Levine (2002) used the market capitalization ratio, which equals the value of domestic equities on domestic exchanges divided by GDP. To measure the size of bank, Levine (2002) used the bank credit ratio. However, other measures of banking system size, such as the



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