DIVERSIFICATION IN ISLAMIC AND CONVENTIONAL EQUITY INVESTMENTS: EVIDENCE FROM MALAYSIA

BY

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A dissertation submitted in fulfilment of the requirement for the degree of Master of Science (Islamic Banking and Finance)

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ABSTRACT

The main purpose of this study is to quantify the extent to which the Malaysia-based equity investors can benefit from diversifying their portfolio into the Southeast Asian market and the world's largest equity markets regionally (Southeast Asia, China, Japan, Hong Kong and India) and also internationally (UK, US, Canada, France, Germany and Switzerland). This study identifies the portfolio diversification benefits from two perspectives; the Malaysia-based conventional equity investor and also the Malaysia-based Islamic equity investors. The multivariate GARCH-dynamic conditional correlation is deployed to estimate the time-varying linkages of returns of the selected Asian and international stock indices with the Malaysian stock index returns, covering approximately 8 years daily data starting from 29 June 2007 to 30 June 2016. At the regional level, the results indicate that both conventional and Islamic Malaysia-based equity investors would benefit most if they include the Japanese stock indices in their portfolio. Meanwhile, at the international level, the results imply that the US stock indices provide the most diversification benefits for both conventional and Islamic Malaysia-based equity investors. Our empirical findings may have several policy implications. The evidence on market shocks and the extent of the interdependence of the Malaysian market with cross-border markets provided in the present study may give some useful insights in formulating effective macroeconomic stabilization policies in the efforts of preventing contagion effect from deteriorating the domestic economy.

خلاصة البحث

إن الغرض الرئيس من هذه الدراسة هو تحديد إلى أي مدى يمكن لمستثمري الأسهم بماليزيا الاستفادة من تنويع السندات التجارية في سوق جنوب شرق آسيا، وأكبر أسواق الأسهم في العالم على المستوى الإقليمي (جنوب شرق آسيا والصين واليابان وهونغ كونغ والهند) وعلى الصعيد الدولي أيضًا (المملكة المتحدة، الولايات المتحدة، كندا، فرنسا، ألمانيا وسويسرا). وتحدد هذه الدراسة فوائد تنويع السندات التجارية من منظورين: الأول، المستثمر للأسهم التقليدية في ماليزيا. والثاني، المستثمرون في الأسهم الإسلامية. وينتشر بماليزيا الارتباط المشروط متعدد المتغيرات (GARCH) والديناميكية في تقدير الروابط الزمنية والمتفاوتة من عوائد مؤشرات الأسهم الآسيوية والدولية المختارة مع عوائد مؤشر البورصة الماليزية التي تشمل ما يقرب من 8 سنوات بيانات يومية بدءًا من 29 يونيو 2007م إلى 30 يونيو 2016م. وعلى المستوى الإقليمي، فإن النتائج تشير إلى أن كلا من المستثمرين في الأسهم التقليدية - ومقره دولة ماليزيا المسلمة- يستفيد أكثر إذا كانت تتضمن مؤشرات الأسهم اليابانية في سنداتهم التجارية، وفي الوقت نفسه، وعلى المستوى الدولي، فإن النتائج تدل على أن مؤشرات الأسهم الأمريكية توفر أكبر قدر من الفائدة لتنويع كل من المستثمرين في الأسهم التقليدية، ومقره دولة ماليزيا المسلمة. قد يكون لدينا نتائج تجريبية عدة، لانعكاسات السياسات، ولذلك فإن الأدلة على صدمات السوق، ومدى ترابط السوق الماليزي مع الأسواق عبر الحدود المنصوص عليها في هذه الدراسة، قد تعطي بعض الأفكار المفيدة في صياغة سياسات استقرار الاقتصاد الكلي الفعالة، في جهود منع انتقال العدوى من تدهور الاقتصاد المحلي.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Science (Islamic Banking and Finance)

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Buerhan Saiti
Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Science (Islamic Banking and Finance)

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Internal Examiner

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Nazrul Hazizi Bin Noordin

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Assalamualaikum warahmatullahi wabarakatuh,

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The global financial markets have recently glimpsed a downturn hence sparks a fear of another global financial crisis. Oil price had fallen below USD28 to its lowest point over the last 13 years due to significant amount of Iranian crude exports after the Western sanctions on the country being lifted. Besides, China, being one of the biggest industrial players recorded a growth less than the forecasted rate of 7 percent in 2015, its slowest rate since the past 25 years. The country's economy is further worsened with the events of capital flights and depreciation of Yuan. Consequently, this global fall of commodity prices and devaluation of currencies has caused series of turbulence in the global share markets, with Australia's ASX/S&P200, Japan's Nikkei and the Shanghai Composite Index are among badly affected. Despite being one of the fastest growing emerging markets, Malaysia is not an exception from these global deteriorating economic conditions. The Malaysian ringgit fell below RM4 per USD for the first time since the 1997 financial crisis. Furthermore, the Malaysian market's bellwether, FTSE Bursa Malaysia KL Composite Index (FBM KLCI) slipped to its lowest level as the oil price slump continues to impair investor's confidence. Due to this, international investors and fund managers are now actively looking for choices of investment that can lower their unsystematic risks. This has usually been done through diversifying their assets into cross-border markets as well as into different classes of asset such as stock, bond, real estate and commodity.

The concept of investment diversification is derived based on normative rules of portfolio selection provided in the modern portfolio theory (MPT) of Markowitz (1952), Tobin (1958) and Grubel (1968). As further argued by Levy and Sarnat (1970), the extent to which risks are reduced through diversification can only be determined by the linkages among asset returns. Asset correlation basically serves as a statistical measure which indicates the interdependency between two or more asset returns. Determining asset correlations indeed becomes an important part of today's asset allocation process that helps investors to maximize their returns at the lowest possible risk level. The privilege of having lower risks due to investment diversification only can be realized if returns of assets are not perfectly correlated. In other words, the lower correlation between assets, the greater risk reduction can be achieved in an investment portfolio. In respect of international finance, Masih and Masih (1997) argued that investors are willing to diversify their assets abroad only if returns of the other countries stocks are less correlated with the local ones. Furthermore, a traditional approach to diversification suggests that an investor should maintain diverse mix of different asset types such as equities, fixed income and commodity which are assumed to be less correlated to help spread the risks across the assets.

Earlier studies found that international diversification of investment portfolio may provide benefits to investors and fund managers in creating a well-diversified portfolio with lowest possible risks (Grubel, 1968; Levy and Sarnat, 1970; Agmon, 1972; Lessard, 1973; Solnik, 1974; Smith et al. 1993). Nevertheless, more recent findings provided evidences showing that the international capital markets have been increasingly integrated hence the correlations among asset returns increased (Dwyer and Hafer, 1988; Becker et al., 1990; Bertera and Mayer, 1990; Von Furstenberg and Jeon, 1990). These co-movements and contagions in the market prices may unfortunately reduce the advantage of internationally diversified investment portfolios (Xiao and Dhesi, 2000; Saiti, 2015). For example, Das and Uppal (2004) examined the correlations of US dollar returns for the developed-country indices such as US, UK, Germany, France, Switzerland and Japan and that of emerging economies such as Argentina, Hong Kong, Mexico, Singapore and Thailand in the events of systemic risk. Their findings showed that gains from investment diversification are reduced as asset prices move in tandem across countries.

1.2 PROBLEM STATEMENT

Given the mixed findings from previous studies, the present study is driven to provide international investors with more recent empirical evidence on the asset price correlations between different financial markets hence identifying benefits that can be derived from cross-border investment diversification on a continuous basis. Besides, as the Malaysian financial markets seem to be highly susceptible to the recent devaluation of ringgit and serious fluctuation of global commodity prices, the present study is motivated to assist the Malaysian-based retail investors in identifying possible abroad investment opportunities for diversification purposes that would hence reduce their investment risks. In this study, we aim to examine the extent to which the Malaysia-based equity investors benefit from diversifying their investment portfolio into the Southeast Asian market and the world's major stock exchange markets[1] (United States, United Kingdom, China, Japan, Hong Kong, Canada, France,

[1] The list of the world's major stock markets is extracted from the World Federation of Exchanges' monthly report dated November 2015, available online at http://www.world-exchanges.org.

Germany, India and Switzerland) by empirically estimating the time-varying volatility and correlation between those market returns.

The portfolio diversification benefits are identified from two perspectives; the Malaysia-based conventional equity investors and the Malaysia-based Islamic equity investors. First, this study investigates the dynamic conditional correlations between the returns of the MSCI Malaysia indices and the stock index returns of the Southeast Asian region (the region in which Malaysia is located) and the largest Asian equity markets (e.g. China, Japan, Hong Kong and India) to identify intra-regional portfolio diversification benefits for both the conventional and Islamic Malaysia-based investors. Second, the dynamic conditional correlations between the returns of the MSCI Malaysia indices and the stock index returns of the world's largest equity markets outside the Asian region (e.g. US, UK, Canada, France, Germany and Switzerland) is also examined to identify international portfolio diversification benefits for both the conventional and Islamic Malaysia-based investors. Besides, by examining the dynamic conditional correlations between the returns of MSCI Malaysia index and the selected Islamic stock index returns, this will help us to confirm the proposition that Islamic equity can be a safe-haven for the Malaysian conventional investors.

1.3 RESEARCH OBJECTIVES

The present study aims to achieve the following objectives:

1. To empirically examine the dynamic conditional volatilities and correlations of the returns of the MSCI Malaysia stock index and both the selected Asian and international stock index returns.

2. To empirically examine the dynamic conditional volatilities and correlations of the returns of the MSCI Malaysia Islamic stock index and the selected Islamic Asian and international stock index returns.

1.4 RESEARCH QUESTIONS

The research questions of this study are summarized as follows;

1. Do the Malaysia-based conventional equity investors benefit from diversifying their assets into both the selected Asian and international stock markets?
2. Do the Malaysia-based Islamic equity investors benefit from diversifying their assets into the selected Asian and international Islamic stock markets?

1.5 SIGNIFICANCE OF THE STUDY

A main practical implication of this study to the Malaysian investment environment is that it provides highly significant insights on possible cross-market spillover hence calls for some urgent corrective actions by the market authorities including the enhancement of economic co-operation among countries. Besides, this study intends to contribute to a better understanding of the correlations and volatilities of Islamic stock returns. Given the Islamic financial assets have grown to be one of the most important segments in the global financial system, it is worthwhile to investigate whether Islamic equities are able to provide portfolio diversification benefits as far as the Malaysia-based equity investors are concerned by examining the dynamic conditional volatilities and dynamic conditional correlations of the Islamic stock index returns and its conventional counterparts. Islamic financial assets have grown to be one of the most important segments in the global financial system. The size of the Islamic financial market is estimated to be around USD1.87 billion, growing at a steady rate of 12 to 15 per cent per annum (IFSB, 2015). The number of Islamic investment funds has tremendously increased to 1,181 with USD 60.65 billion assets under management in 2014 from 756 Islamic funds with USD 28.35 billion assets under management in 2008 (Zawya, 2015). Notwithstanding the global oil price slumps, it is projected that Islamic funds will expand by 5.05 per cent per annum in the next five years to reach USD 77 billion by 2019. Despite the rapid expansion of the Islamic capital markets, previous studies on the correlations of Islamic asset returns have been lacking and remained relatively unexplored compared to voluminous works on the interdependencies among conventional asset returns. Therefore, this study aims to fill this gap in the literature by including a number of Islamic stock index returns in the world's largest equities markets including United States, United Kingdom, China, Japan, Hong Kong, Canada, France, Germany, India and Switzerland and applying the recent econometric methodology, Multivariate GARCH-DCC covering approximately eight years daily data from 1 June 2007 to 30 June 2016. Furthermore, Malaysia is chosen as the base country due to the fact that it has been regarded as the key leader of global Islamic capital market which actively pursues rapid development of Islamic investment and banking products. The country comprises the largest portion of the total value of global Islamic funds with a market capitalization of 24 per cent, equivalent to USD 27.2 billion as at June 2015. Lastly, we hope to assist the Malaysian equity investors and fund managers, be them conventional or Islamic, in making investment decision on where in the world to invest.

1.6 ORGANIZATION OF THE PAPER

The rest of the paper is organized as follows. Chapter 2 provides an overview of the recent development of the Malaysian financial sector, particularly in Islamic investment market. Chapter 3 discusses the theoretical foundation and provides a critical review of the previous studies on market integration and portfolio diversification benefits. Chapter 4 explains the methodology and data used in this study. Chapter 5 discusses the empirical findings and presents the results of the analysis. Lastly, the concluding remark is included in Chapter 6.

CHAPTER TWO

THE MALAYSIAN FINANCIAL SECTOR AND ISLAMIC INVESTMENT MARKETS

2.1 INTRODUCTION

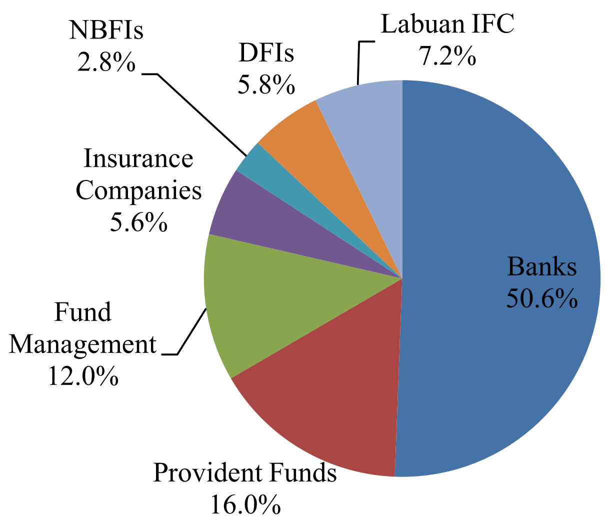
This chapter provides a discussion on the background of the Malaysian financial markets and the development of Islamic investment markets in Malaysia for the past recent years. Firstly, a discussion on the development of both Malaysian real and financial sectors alongside several financial plans introduced by the Malaysian government such as Economic Transformation Program (ETP), Financial Sector Masterplans (FSMP) and Financial Sector Blueprint (FSB) is provided. Next, the chapter provides an overview of Malaysian capital markets that comprises both stock and bond markets. The development of the Malaysian capital markets is explained based on the objectives and visions set in the Malaysia's first and second Capital Market Masterplan (CMP). In addition, the current standings with respect to the *Shari'ah*-compliant equity and sukuk markets are also presented. Finally, the chapter illustrates recent statistics on the Malaysian commodities and commodity-based products such as CPOs and petroleum together with the key milestones of commodity trading in Malaysia.

2.2 BACKGROUND OF THE MALAYSIAN ECONOMIC AND FINANCIAL DEVELOPMENT

In the 1980s, Malaysia underwent a major economic transformation involving a shift in the country's economic vision from a protected low income raw materials supplier to a middle income emerging multi-sector market economy (Comin and Peng, 2012).

Ever since, Malaysia has become a trade-oriented and open economy which its economic growth is heavily dependent on the development of export-led industries with substantial supports from foreign direct investments and multinational corporations (MNCs). As a result, the country's cross-border trade of goods and services accounted on average nearly double than the country's gross national product (GNP) in the early 1990s. Despite badly affected by the Asian financial crisis with the country's gross domestic product (GDP) shrank by 7.5 per cent, ringgit depreciated by 56 per cent and fall in stock market prices by half at the end of 1998, Malaysia is fully committed to pursue further economic developments by introducing several economic reform strategies. For example, the Economic Transformation Program (ETP) that was recently launched in October 2010 has set forth a path for the nation in becoming a high-income economy by 2020. Through the ETP, the country has now placed a significant focus on the development of 12 National Key Economic Areas (NKEAs), among others are oil, gas and energy, palm oil and rubber, tourism and financial services which are anticipated to contribute up to 73 per cent of the country's gross national income (GNI) by 2020. Early results of the ETP showed a slight growth in the country's total investment to RM228 billion in 2014 from RM217 billion in 2013. Malaysian GNI per capita also climbed to USD 10,426 in 2014 from USD 10,106 in 2013.

In order to support high number of trade and real sector activities, Malaysia has tremendously improved in term of financial developments with emergence of numerous financial institutions, be it conventional or Islamic. Bank Negara Malaysia (BNM), as the Central Bank of Malaysia plays crucial roles in ensuring effectiveness and efficiency of Malaysia's financial intermediary system with specific focus given to promoting financial stability and inclusive finance. In general, the Malaysian financial sector comprises banking institutions, insurance companies and capital market intermediaries as shown in *Figure 2.1*. Malaysian banking institutions can be divided into two groups. First, the ones governed by BNM including commercial banks, investment banks (co-regulated with the Securities Commission) and development financial institutions (DFIs). The second group includes non-bank financial institutions (NBFIs) and co-operatives that falls under the supervision of various government departments and agencies. Insurance and takaful companies, on the other hand are regulated by BNM under the Financial Services Act (FSA) 2013 and the Islamic Financial Services Act (IFSA) 2013 respectively. Regulated by the Securities Commission (SC) Malaysia, capital market intermediaries in Malaysia comprise fund management companies, brokerage firms, investment banks and others. Lastly, offshore banking, insurance and other financial services are subject to the regulations set by the Labuan Financial Services Authority.



Source: BNM

Figure 2.1 Composition of Malaysian Financial Institutions

The robust growth of financial sector is underpinned by two 10-year Financial Sector Masterplans (FSMP) that map out a blueprint for a balanced, inclusive and sustainable development of financial institutions in Malaysia. Introduced by BNM on 1st March 2001, the first FSMP 2001-2010 was aimed to provide a foundation for the orderly development of the financial sector through institutional capacity building, financial infrastructure development, increased domestic and foreign competition and greater use of technology. The first masterplan resulted in the growth of Malaysia's banking assets and deposits at an annual compounded rate of 14 per cent over the last decade, higher than that of peer countries which recorded on average a 12 per cent increase. With equity and bond issuance increased at an annual compounded rate of 8 per cent, the size of Malaysia's capital market also grew substantially at an annual compounded rate of 11 per cent.

Subsequent to the successful implementation of the first FSMP, the second masterplan, the Financial Sector Blueprint (FSB) was released by BNM for the period of 2011 to 2020. The Blueprint has taken into consideration complexions and expected changes in the domestic and international markets hence best serves the country's long-term vision to become a high value-added, high-income economy. Among nine focus areas under the Blueprint include internalization of Islamic finance and promotion of Malaysia as an international Islamic financial hub. Guided by the Blueprint, the Malaysian financial intermediation system remains supportive in serving the financing needs of the economy. In 2014, number of new financing provided to the private sectors and issuances of private debt securities expanded by 13.3 per cent and 10.7 per cent respectively. *Table 2.1* shows some projected financial sector developments to be achieved under the Blueprint.