FOREIGN OWNERSHIP AND THE INFORMATIONAL EFFICIENCY OF MALAYSIAN STOCKS

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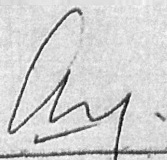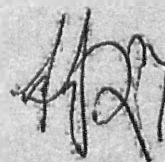|	SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
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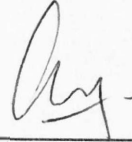
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CERTIFICATION

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Time really flies. It is now almost one and a half years that I have been in this Labuan International Campus, Universiti Malaysia Sabah. Finally, it is toward the end of my thesis, and I wish to put a full stop to this long and tiring journey. Even though the researching process is demanding (and sometimes frustrating), the experience gained is most valuable and memorable. There are many main characters that play an important part in my pursuit of a Master degree. Without them, I would not be able to complete or even come close to finishing this thesis. They have enriched my life during this period, and deserve my special mention in this column. I would like to take this opportunity to thank them for their contribution and endless support in my study.

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ABSTRACT

FOREIGN OWNERSHIP AND THE INFORMATIONAL
EFFICIENCY OF MALAYSIAN STOCKS

Using the foreign ownership data for 602 firms listed on *Bursa Malaysia* over the sample period 2002-2009, this study examines the contribution of foreign investors to stock price efficiency. Defining informational efficiency in terms of the speed of adjustment to common information, the paper computes stock price delay measures with respect to local and global market-wide news. The novel finding from this thesis is the existence of a U-shaped relationship between total foreign ownership and stock price delay, and hence implies the presence of optimality in foreign ownership. More specifically, informational efficiency improves until foreign ownership reaches approximately 25% to 28%, and then it begins to decline. Further analysis finds that the significant nonlinear effect in total foreign ownership is actually driven by foreign nominees.

ABSTRAK

Dengan menggunakan data pemilikan asing untuk 602 syarikat yang tersenarai di Bursa Malaysia dalam tempoh 2002-2009, kajian ini memeriksa sumbangan pelabur-pelabur asing kepada kecekapan harga saham. Dengan mentakrifkan kecekapan informasi dari segi kelajuan pelarasan kepada maklumat umum, kertas kerja ini menghitung penunjuk-penunjuk kelewatan harga untuk berita umum tempatan dan global. Penemuan baru daripada tesis ini ialah kewujudan satu hubungan berbentuk U di antara jumlah pemilikan asing dengan kelewatan harga saham, dan mengimplikasikan kewujudan tahap optimal untuk pemilikan asing. Dengan lebih khusus, kecekapan informasi meningkat sehingga pemilikan asing mencapai kira-kira 25% ke 28%, dan selepas itu bermula merosot. Analisis selanjutnya mendapati kesan bukan linear yang ketara dalam jumlah pemilikan asing adalah didorong oleh pewakil-pewakil asing.

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UMS

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LIST OF ABBREVIATIONS

ADR	American Depositary Receipt
AGM	Annual General Meeting
AREAER	Annual Report on Exchange Arrangements and Exchange Restrictions
CBRS	CMDF-Bursa Research Scheme
CDS	Central Depositary System
CMDF	Capital Market Development Fund
CMSA	Capital Market Securities Act
EMDB	Emerging Markets Database
EPF	Employees Provident Fund
EPU	Economic Planning Unit
EWN II	External Wealth of Nations Mark II
FIC	Foreign Investment Committee
I/B/E/S	Institutional Brokers Estimate System
IFC	International Finance Corporation
IFCG	International Finance Corporation Global Index
IFCI	International Finance Corporation Investable Index
IFS	International Financial Statistics
IMF	International Monetary Fund
IPC	Infrastructure Project Company
IPO	Initial Public Offering
LTAT	Lembaga Tabung Angkatan Tentera
LTH	Lembaga Tabung Haji
PNB	Permodalan Nasional Berhad

ROC   Registrar of Companies

S&P   Standard and Poor

SOCSO   Social Security Organization

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CHAPTER 1

INTRODUCTION

1.1   Background of the Study

In the late 1980s and early 1990s, many emerging market economies embarked on capital account liberalization policies, gradually lifting restrictions on cross-border financial transactions. Such policy reform was well received by the developing countries due to its potential beneficial ramifications on long-term economic growth. This is because, in theory, financial liberalization should promote economic growth through channels such as the augmentation of domestic savings, transfer of technology and international risk sharing. Statistics collected by international agencies clearly show that these liberalization policies have contributed to a dramatic surge in the volume of capital flows from developed to developing countries in the past few decades (see Kose *et al.*, 2009). However, the issue of whether financial openness indeed leads to a higher level of economic growth is still a subject of heated debate in the academic literature. In general, the findings are mixed (see the survey papers by Eichengreen, 2001; Edison *et al.*, 2004; Henry, 2007; Kose *et al.*, 2009; Obstfeld, 2009). Adding further fuel to this debate is the occurrences of financial crises in the 1990s and 2008, which is partly blamed on surging cross-border capital flows (for recent critics, see Rodrik and Subramanian, 2009; Stiglitz, 2008, 2010). These external shocks have led to the change of policy stance by International Monetary Fund (IMF), which now endorses capital flow management measures as legitimate policy instruments.[1] In fact, a number of emerging markets implemented some forms of capital controls in 2010-2011, in their efforts to deal with the risks associated with sudden reversal of hot money flows (for details, see IMF, 2011).

The broad financial liberalization packages in emerging market economies also include the removal of statutory foreign ownership restrictions, allowing foreign investors to purchase shares of companies listed on the domestic stock market. Bekaert and Harvey (2000), Henry (2000) and Kim and Singal (2000b) are the first to identify official dates of stock market openings in selected developing countries. With

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[1] For policy framework on capital inflows, see IMF (2011). For capital outflows, see IMF (2012).

their stock market liberalization dates, researchers are able to explore the effects of such policy move, either on the broader macro economy level (such as investment and gross domestic product) or the narrower stock market (such as stock prices, cost of capital and dividend yields). In his extensive literature survey, Henry (2007) notes that stock market openings provide real-world policy experiments and are more useful than the broad indicators of capital account liberalization in testing the predictions of neoclassical model. Indeed, the empirical evidence using the former is more supportive of the growth-enhancing effect of financial liberalization (see Henry, 2007).

An equally important issue that has received a sizeable literature is the effect of stock market liberalization on informational efficiency. This is because efficient price discovery is one of the key functions of stock market. Moreover, several theoretical and empirical papers show that efficient stock price plays an important role in the efficient allocation of investment resources (see the survey paper by Bond *et al.*, 2012). Coming back to the efficiency effect of stock market liberalization, Kim and Singal (2000a) address this issue using data from 20 developing countries and the variance ratio tests. The authors find that stock markets in general become efficient after their policymakers allow the participation of foreign investors. This topic has been picked up by many subsequent studies partly due to the Asian financial crisis and the imposition of unorthodox capital controls by the Malaysian government in September 1998. However, their findings are at best mixed (see the discussions and references cited in the survey paper by Lim and Brooks, 2011).

The main reason for the above inconclusive result is due to the limitations of their research framework. The efficiency tests employed are designed for testing the random walk hypothesis. By default, it focuses on the all-or-nothing notion of absolute market efficiency, in which the verdict is either efficient or inefficient. This implicitly assumes that the stock market under study will undergo a complete transformation from an inefficient state to a perfectly efficient one after financial liberalization. Hence, when those earlier studies apply the selected efficiency tests on the predetermined sub-periods of pre- and post-liberalization, it is not surprising to learn that they are not able to detect any significant changes brought by stock market liberalization. This scenario occurs when their statistical tests either reject or do not reject the null hypothesis of a random walk in both sub-periods. Lim and Brooks (2011) argue that

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the above limitation can be overcome if the research framework departs from the traditional focus of absolute market efficiency to the more practical concept of relative efficiency.

The merit for measuring informational efficiency in the relative sense is that it permits researchers to explore the factors associated with a higher degree of efficiency in a regression framework. This notion of relative efficiency has been repeatedly advocated by Campbell *et al.* (1997), Lo and MacKinlay (1999) and Lo (2008) on the basis that perfect efficiency is unattainable in practice. After more than a decade since Campbell *et al.* (1997), there is now a sizeable literature and the three popular measures for relative informational efficiency are: (1) the market model R-square statistic proposed by Morck *et al.* (2000), measuring the amount of firm-specific information being incorporated into stock prices; (2) the stock price delay measure popularized by Hou and Moskowitz (2005), capturing the speed with which public market-wide information is capitalized into individual stock prices; (3) the absolute value of variance ratio minus one, which measures how closely stock prices follow a random walk (for detailed discussions and users, see the survey paper by Lim and Brooks, 2009).

Among the three indicators, the stock price delay comes closest to the definition of informational efficiency given by Fama (1970), who defines an informational efficient stock market as one in which new information is quickly reflected in its current stock price. Hence, the speed with which stock price reacts to new information is an essential aspect of informational efficiency. This is rightly pointed out by Hillmer and Yu (1979: 321), who write: "*no matter how rapidly a market adjusts to new information, the adjustment process cannot be completed instantaneously*". Previous studies using the price delay have identified a set of factors responsible for accelerating the incorporation of public information into stock prices, which also include stock market liberalization (for details and references, see the survey paper by Lim, 2009). Another factor that works in the favor of price delay is the controversies surrounding the efficiency interpretation of stock return autocorrelations as detected by variance ratio tests (see Boudoukh *et al.*, 1994; Lim and Kim, 2011) and the market model R^2 (see Alves *et al.*, 2010 and references cited therein).

Apart from the literature on informational efficiency, there has been significant progress in developing finer measures for stock market liberalization (for a summary, see Table 1.1). Coming back to Henry (2007), the author highlights that official stock market opening dates might not capture the liberalization effect because many developing countries lifted individual restrictions gradually over time and it could take several years before a market is completely open to foreign investors.[2,3] This limitation prompted the development of a continuous measure for stock market openness by Edison and Warnock (2003), using the investable index provided by Standard & Poor's Emerging Markets Database (S&P EMDB). Kaminsky and Schmukler (2008) and Schindler (2009) provide additional indicators to capture the extent and evolution of stock market liberalization over time.

It is worth highlighting that the official liberalization dates and stock market openness indicators are all *de jure* in nature, meaning that they are associated with lifting of legal restrictions on portfolio equity. However, a widely cited survey paper by Kose *et al.* (2009) advocates the use of *de facto* indicators for two reasons. First, many countries have capital controls that are quite strict on paper but are ineffective in their actual enforcement, so their portfolio equity flows are large. Second, there are countries which are quite open to foreign investors on a *de jure* basis, yet they do not receive large equity flows. The International Financial Statistics (IFS) published by the IMF is the standard data source for annual capital flows. An alternative *de facto* stock market liberalization measure is the stocks of portfolio equity assets and liabilities assembled by Lane and Milesi-Ferretti (2007) in their External Wealth of Nations Mark II (EWN II) dataset. These authors take the cumulative equity outflows and inflows from IFS, but further adjust the data for changes in the end-of-year U.S. dollar value of the domestic stock market.

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[2] Another limitation not mentioned in Henry (2007) is that there exists disagreement on the exact official market opening dates for certain countries since somewhat different criteria have been employed by the three studies of Bekaert and Harvey (2000), Henry (2000) and Kim and Singal (2000b).

[3] One good example given by Henry (2007) is South Korea, where foreign investors were given very limited access to its stock market through closed-end country funds as early as 1982. However, the country only completed its lifting of statutory ceiling on foreign investment in 1998.

Table 1.1: A Summary of Existing Indicators for Stock Market Liberalization

Indicators	Country Level	Firm Level
De Jure	1. Stock market liberalization dates (Bekaert and Harvey, 2000; Henry, 2000; Kim and Singal, 2000b). 2. Stock market openness indicators (Edison and Warnock, 2003; Kaminsky and Schmukler, 2008; Schindler, 2009).	Investable weight (Standard & Poor's Emerging Markets Database)
De Facto	1. Foreign portfolio equity flows (International Financial Statistics, IMF). 2. Stocks of portfolio equity assets and liabilities (Lane and Milesi-Ferretti, 2007).	Foreign ownership/ Foreign shareholdings

In addition to his earlier advice on stock market liberalization, Henry (2007) further argues that a more fruitful approach in the study of capital account liberalization is the use of firm-level data. This is because the aggregate country-level measures may mask the true impact of financial liberalization, since there are different levels of openness among firms in the same country. For *de jure* measures, when country-level investment restrictions are lifted, not all listed firms become legally accessible to foreign investors. The same applies to *de facto* aggregate measures, given that the number does not tell which firms are the recipients of the actual equity inflows. Even for a country with large flows, it is possible that some firms in that country have zero foreign ownership. To capture firm-level stock market openness, the standard indicator is the investable weight provided by S&P EMDB for firms included in the IFC Investable (IFC) Index. The weight indicates the fraction of stock accessible to foreigners, with zero for non-investable stocks and one for fully investable stocks. Since it is a *de jure* measure, the investable weight does not capture the actual foreign shareholdings in a firm, but constitutes the upper limit of foreign ownership. This implies that highly investable stocks might not have large fraction of foreign shareholdings, as there exists other indirect barriers that affect the willingness of foreign investors to invest. Hence, whenever firm-level equity ownership data are available, the fraction of outstanding shares held by foreign investors

remains the most appealing and popular indicator to examine the effects of stock market liberalization.

1.2   Motivation of the Study

Malaysia is one of those developing countries that actively pursued financial liberalization policies in the early years. However, there is no consensus on the official date the country's stock market was opened to foreign investors. Bekaert and Harvey (2000) identify December 1988, Henry (2000) pinpoints May 1987, whereas Kim and Singal (2000b) note that the Malaysian market was opened before December 1975 or even earlier. It is worth highlighting that the date given by Kim and Singal (2000b) is more consistent with the official record from Malaysian principal government agency, the Economic Planning Unit (EPU). As shown in the statistics taken from EPU (see Table 1.2), foreign investors were allowed to hold equity ownership at least as early as 1970. Another interesting observation from Table 1.2 is the considerable decline in foreign equity ownership– from a high of 63.3% in 1970 to below 30% in the 1990s. This decline is due to the implementation of various national development policies (New Economic Policy, 1970-1990; National Development Policy, 1991-2000; National Vision Policy 2001-2010) to redistribute wealth more equitably among all ethnic communities in Malaysia.

Table 1.2: Ownership of Share Capital of Malaysian Limited Companies
(At Par Value, % of Total)

Ownership Group	1970	1975	1982[b]	1985	1990	1995	2000	2004	2008
Bumiputera[a]	2.4	7.8	15.6	18.5	19.3	20.6	18.9	18.9	21.9
Chinese	27.2	27.9	33.4	48.2	45.5	40.9	38.9	39.0	34.9
Indians	1.1	1.2	0.9	0.9	1.0	1.5	1.5	1.2	1.6
Other Ethnic Groups	-	-	1.6	0.4	0.3	1.0	0.9	0.4	0.1
Nominee Companies	6.0	8.2	13.8[c]	8.0	8.5	8.3	8.5	8.0	3.5
Foreigners	63.3	54.9	34.7	24.0	25.4	27.7	31.3	32.5	37.9

Notes: [a] Includes shares held by individuals, institutions and trust agencies.
   [b] The statistics for 1980 did not provide detailed breakdown of ownership by ethnic groups.
   [c] This figure includes locally-controlled companies whose ownership could not be disaggregated further and assigned to specific ethnic groups.

Sources: Economic Planning Unit (http://www.epu.gov.my/), various issues of 5-year Malaysian Development Plans.

Realizing that capital market development necessitates greater internationalization, the Malaysian government undertook various bold liberalization measures in the 2000s such as allowing 100% foreign ownership in the manufacturing sector and futures broking companies. The most sweeping changes were made in 2009, which include: (1) the removal of 30% Bumiputera equity condition for 27 services' sub-sectors and from Bursa Malaysia Listing Rules; (2) full foreign ownership for fund management companies; (3) the increases of foreign shareholding limits to 70% for unit trust management companies and stock broking companies; (4) the repeal of Foreign Investment Committee Guidelines.[4] Table 1.3 summarizes the key stock market liberalization measures undertaken by the Malaysian government since 1998.

Table 1.3: Key Stock Market Liberalization Measures in Malaysia

Year	Liberalization Measures
1998	Foreign investors are allowed to hold 100% equity in the manufacturing sector except for some industries where Malaysians have the capabilities and expertise to manage, such as paper and plastic packaging.
2003	Full foreign ownership is allowed in the manufacturing sector.
2005	70%-100% foreign ownership is allowed in fund management companies.
	100% foreign ownership is allowed for futures broking companies.
2008	Relaxation of the rule on 30% Bumiputera participation for all IPOs. Companies can offer to wider Bumiputera public if shares are not taken up by Bumiputera investors.
2009	Liberalization of the 30% Bumiputera equity requirement to 12.5% of the company's enlarged issued and paid-up share capital.
	Removal of 30% Bumiputera equity requirement for 27 services' sub-sectors.
	Deregulation of the Guidelines on the Acquisition of Interest, Mergers and Takeovers by Local and Foreign Interests and Guidelines on the Acquisition of Properties by Local and Foreign Interest (FIC guidelines).
	Up to 5 global law firms are allowed to offer legal services on Islamic finance in Malaysia.
	Economic Planning Unit's (EPU) approval under the Guidelines on Acquisition of Properties is only required for properties above RM20

[4] Sources: http://tinyurl.com/cpfvba8, http://tinyurl.com/72ehhtq and http://tinyurl.com/84hjljo (retrieved on Sept 14, 2011).