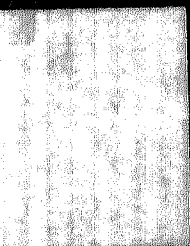


MASTER OF BUSINESS ADMINISTRATION

MANAGEMENT CENTER

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

A TEST OF EFFICIENCY OF THE ...
(MIS) ...
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**A TEST OF EFFICIENCY OF THE KUALA LUMPUR STOCK EXCHANGE
(KLSE) – THE EFFECT OF ADDITIONS AND DELETIONS FROM THE
KUALA COMPOSITE INDEX (KLCI) ON STOCK PRICES**

by

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A TEST OF EFFICIENCY OF THE KUALA LUMPUR STOCK EXCHANGE
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ABSTRACT

This study examines the effect of additions and deletions of stocks into the Kuala Lumpur Stock Index ('KLCI') over a period of eight (8) years, from 1992 to 1999. Here, it is assumed that the announcement of an addition onto the KLCI is a positive event while a deletion, a negative event. The hypothesis tested is whether the sample stocks experience any significant abnormal returns upon its inclusion or removal from the KLCI, specifically significant positive abnormal returns for added stocks and significant negative abnormal returns for deleted stocks.

We find evidence to reject the hypothesis that deleted stocks from the KLCI do not experience abnormal returns that are significantly different from zero. The possible reasons for this stock price declines are information signalling and liquidity effects.

For the added stocks however, we are unable to reject the hypothesis that the abnormal returns are not significantly different from zero. The results are inconclusive and the stocks actually experienced significant price declines after the announcement of the additions. We have attributed the lack of index funds tracking the KLCI and price pressure hypothesis as the possible reasons for this behaviour.

1. INTRODUCTION

A stock market index is a useful summary measure of current expectation of future outlook. A well formulated stock index can be a sensitive barometer of short run political cum economic phenomena, and a monitor of long term structural changes of an economy.

To keep an index robust and representative of the market or sector it represents, it is not uncommon that the list of component securities of the index is adjusted from time to time by adding to and/or deleting securities from the index.

The effect of additions to and deletions from stock indexes has been well researched in developed countries such as the United States and Europe. Empirical literature, which is predominantly related to the US stock market, has shown that an index replacement has a strong impact on the prices of the affected stocks.

In one of the best known investigations of the topic, Harris and Gurel (1986) highlight that changes in the composition of a stock index i.e. Standard & Poor 500 ("S&P 500") Index shift demand. The changes in demand are mainly due to many large index funds trying to replicate the performance of the S&P 500 Index by holding a portfolio of the 500 stocks and employing the same weights used to compute the Index. These funds frequently purchase the added stock and sell the deleted stock within a few days from the announcement and the effects to the demand are reported to be quite substantial.

An alternative explanation to the price effects of the index changes relates to information. Based on a study by Van Horne (1970) in the context of new listings on the New York Stock Exchange, Beneish and Gardner (1995) suggest that a possible explanation to the prices effects was a stock inclusion in (exclusion from) the index signals good (bad) news about firms' future prospects. Consequently, this would result in more (less) demand for the added (deleted) stocks.

Based on the two rationale presented for the price effect on the index changes, an addition can be considered as a positive event whereas a deletion, a negative event. Based on these assumptions, we would expect the stocks to experience positive (negative) returns after addition (deletion) into (from) the KLCI.

The topic of price effect of index changes is relatively new in Malaysia. We are not aware of any study in Malaysia that attempts an in depth study on this. Hence, the objective of this paper is to shed some light on whether stock price effect exists with index replacements in the Malaysian stock market. Specifically, this study examines for any abnormality in market reaction around the announcement dates of additions and deletions of stocks from the Kuala Lumpur Stock Index ('KLCI') in terms of substantial price increases / decreases. The KLCI is the blue chip and the first "true" representative for the Malaysian stock market.

The results of this study will be useful for investors who want to understand and predict the future prices of the stocks affected by the index changes. Additionally, this study may provide a base case for further analysis with regards to volume and liquidity effects for the index changes.

The remainder of this study is organised into five (5) other chapters. Chapter 2 provides overviews of the Kuala Lumpur Stock Exchange (“KLSE”) and the KLCI, as well as reviews available literature. The KLCI overview includes the features and the criteria for selection of component stocks into the KLCI. Chapter 3 presents the sample being used for this study as well as the description of the methodology used. Chapter 4 presents the hypotheses of this study and Chapter 5 details the empirical results. Finally, Chapter 6, summarises the findings, provides possible explanations to the results and concludes the paper.

2. LITERATURE REVIEW

2.1 Overview of the KLSE

2.1.1 Definition and Role of a Stock Exchange

A stock exchange is an institution to facilitate private enterprises in raising capital. However, the main function of a stock exchange is to provide organised machinery for the owners of the enterprise to trade their shares without having to directly seek buyers. This market comprises two inter-related parts, namely, the primary market where new issues of securities are sold, and the secondary market in which outstanding issues of these securities are traded.

One of the most important characteristics of a listed security is that it enables its holder to sell it quite easily at the prevailing price. The fluidity which is brought about by the markets makes such securities more attractive to investors, which in turn facilitates further raising of capital by the company. In a broad sense, as stock exchange provides a mechanism whereby available funds may be channelled into productive uses.

2.1.2 History of the KLSE

Stock exchanges across the region, including Malaysia, have historically been privately run and were, until recently, relatively unregulated by legislation. Each stock exchange promoted the philosophy of self-regulation and reserved for itself the mandate to make its own rules to regulate its members and companies whose securities were listed on the exchange. Its members were the stockbrokers, through whom the trading in securities was carried out.

The origin of the KLSE can be traced to the gathering of stockbrokers in the urban centres in Malaya and Singapore in the late nineteenth century. The securities industry in Malaysia began as an extension of the British corporate presence in the rubber and tin industries.

In 1908, a bar in the Arcade Business Complex, Singapore was built to serve as the first central meeting place of stockbrokers. However the first formal organization representing the securities industry was established in 1930 when fifteen stockbrokers formed the Singapore Stockbrokers' Association (SSA). The SSA was later reregistered as the Malayan Stockbrokers' Association to reflect Malayan membership as well.

On 21st March 1960, with the encouragement from the government, a stock exchange, comprising nineteen (19) members was formally instituted with the constitution of the Malayan Stock Exchange. In 1961, the Board system was introduced with two (2) trading rooms in Kuala Lumpur and Singapore, that were linked by direct telephone lines into a single market with the same market stocks and shares listed at a single set of prices on both boards.

In 1963, the Exchange was renamed the Stock Exchange of Malaysia with the formation of the Federation of Malaysia and later in 1965, renamed the Stock Exchange of Malaysia and Singapore (SEMS) following the separation of Singapore from the Federation of Malaysia.

On 2nd July 1973, the KLSE was incorporated as a limited liability entity following the decision to split the joint SEMS as a result of the termination of the Currency Interchangeability Agreement. The Currency Interchangeability Agreement between Singapore and Malaysia allowed the one for one use and exchange of these two countries' currencies. A new company limited by guarantee, The Kuala Lumpur Stock Exchange (KLSE) took over operations of the Kuala Lumpur Stock Exchange Berhad as the stock exchange. In 1994, re-named Kuala Lumpur Stock Exchange.

The Malaysian securities industry is governed by the Securities Industry Act, 1983 and is regulated by three regulatory bodies namely the Foreign Investment Committee, Capital Issues Committee and the Takeover Panel.

There are other developments which are significant to the growth of the Malaysian securities industry chronologically listed as follows :

- 1965 Companies Act came into force, providing comprehensive legal framework in governing companies.
- 1973 Securities Industry Act 1973 (SIA) enacted.
- 1983 SIA 1983, replaced 1973 Act providing better supervision and control of the industry.
- 1986 Kuala Lumpur Composite Index, regarded as the main market barometer, was launched. In that same year, corporatisation of stockbroking companies to introduce greater professionalism and enhanced investment research within the industry.

- 1988 Second Board of the KLSE launched to enable smaller companies, which are viable and have strong growth potential to be listed. Also, in 1988, foreign corporate ownership in stockbroking companies was moderated from 30% to 49%.
- 1990 Delisting of Singapore incorporated companies from KLSE and vice versa as of 1 January. A minimum paid-up capital of RM20 million requirement was also introduced in 1990, for all stockbroking companies in order for these companies to be better capitalized and financially strong to meet the needs of the growing securities industry.
- 1992 Launching of CDS account opening in November. Immobilisation of the first CDS counter in March 1993. Introduction of CDS marks a major milestone for KLSE and resulted in a more efficient settlement and clearing system. By the end of 1993, all Second Board counters were in the CDS. Beginning 1994, the process of bringing Main Board issues, both existing and new, into CDS began.
- 1993 The establishment of the Securities Commission in March. Four (4) new sectors launched to replace the former Industrial Sector on the Main Board in September with the main objective being the better reflect the core business of the companies.
- 1995 Introduction of trading in smaller board lots of 200 units aimed at increasing the accessibility of higher price securities to a larger number of investors. On 15 December, Kuala Lumpur Options and Financial Futures Exchange (KLOFFE) began its operations. An electronic-based private exchange, KLOFFE trades on stock index futures based on the KLSE Composite Index.

1996 The Minister of Finance approved the listing of foreign companies on the KLSE. Regulated short selling of 50 approved stocks was implemented on 30 September.

1997 All companies listed on the KLSE Second Board were categorized into five (5) sectors, effective 3 March, to increase the transparency of the market and also for ease of reference. KLSE was granted the status of an “approved foreign stock exchange” by the Australian Securities Commission on 2 July.

In line with other developed stock exchanges, KLSE implemented the T+5 Rolling Settlement System on 18 August. This System applies to all instruments listed on the Exchange.

With effect from 2 September, 1997, public companies were allowed to buy back their own shares under the amended Section 67A Companies Act. The amendment is aimed at stabilizing supply and demand of securities and consequently the prices of securities.

MESDAQ was launched on 6 October, 1997. KLSE subsidiary, SCANS, was appointed the clearing house as well as the network and facilities manager for MESDAQ while another KLSE subsidiary, MCD was appointed the central depository service provider for the new Exchange.

1998 KLSE instituted inclusive new measures to further enhance transparency in the stock market with changes in the rules, regulations and procedures of the Exchange. Effective 1 September, 1998 these measures are targeted to meet two key objectives namely to ensure an orderly and fair market in the trading of Malaysian Securities and to improve overall market transparency in the Malaysian capital market.

2.2 Overview of the KLCI

2.2.1 Definition and Role of a Stock Market Index

A stock market index is a useful summary measure of current expectation of future outlook. It is a sensitive barometer of short run political cum economic phenomena, and is also a monitor of long term structural changes of an economy.

Ideally then, a well formulated stock market index can be used as a leading indicator of the economic performance of the economy. If it is sufficiently efficient and reliable, investors would have confidence in using it for both short to medium term portfolio management and long term investment planning.

To measure the performance of an individual share is a straightforward task. However, to measure the performance of aggregated shares or the entire stock market is more complex. This requires the use of stock market index. In practice, there are various conceptual and measurement problems which could affect the sensitivity, efficiency and reliability of such an index.

To ensure that a stock index is a reasonably robust measure of market behaviour and future economy conditions, objective criteria must be rigorously used as practical guidelines for its formulation.

Briefly, a reliable stock market index should be representative and responsive without being too sensitive. It should also have inherent consistency and flexibility.

It is therefore important to consider carefully the base year and the selection of component companies, the question of component stock weightage sectoral representativeness, and the treatment of capital changes arising from bonus, rights and other issues.

In summary, the functions of a stock exchange index are firstly, to be a benchmark to judge the performance of individual or a portfolio of stocks, secondly, to help create an index portfolio, whose purpose is to track the performance of a specific security market index over time to derive similar rates of return thirdly, to examine the factors that influence aggregate security price movements, fourthly to predict future price movements and fifthly, to be a proxy for systematic or market risk for security valuation.

2.2.2 History of the KLCI

In Malaysia, there were existing stock indices that are widely followed such as the KLSE Industrial Index (KLII), New Straits Times Industrial Index (NST) and the OCBC Composite Index (OCBC).

The KLII and the NST are based on companies listed on the KLSE. They are computed using the daily closing price of the KLSE. The component stocks in the OCBC Index are listed in Singapore and computation is based on the daily closing price on the Stock Exchange of Singapore.

Each of these major indices is constructed differently using different sets of assumptions and criteria. The KLII includes only the industrial counters and hence the finance, plantation, property, hotel and mining sectors of the economy are represented.

The index is computed by the weighted average method. The weight used is the "number of ordinary shares issued". Owing to the large weights assigned to some component stocks and the slow price movements of these "heavy weights", the index is found to be quite insensitive at times.

As a weighted index, very big paid-up companies like Sime Darby have a lot of influence on the behaviour of the index. At times, it is noted that a sharp advance or decline in the index is solely attributed to the price movement of Sime Darby and two or three other big paid-up companies.

Similar to KLII, the NST includes only the industrial counters and is also not representative of developments in the economy. The index is computed using the simple average method. In Malaysia, where bonus, rights and splits are frequent, an index using this method of computation tends to be upward biased in the long run and becomes very volatile.

OCBC is an index, which covers all sectors listed in the Singapore Stock Exchange.

Overall, the indices mentioned above were found to have several major weaknesses. Firstly, it is said that the indices lack representation of the major economic sectors and/or the Malaysian market. The KLI and NST for instance, only include the industrial sector while the OCBC covers all sectors listed on the Singapore Stock Exchange and not the KLSE.

Secondly, it was reported to be biased due to method of computation. The NST for example, is computed based on the simple average method. The problem with this method is that it tends to be upward biased in the long run and becomes very volatile.

Thirdly, the upward distortion in the index changes due to inactivity of certain stocks and inactive stocks. This is shortcoming is pronounced in the NST due its method of computation.

Lastly, the indices are said to lack of continuity due to irregular revision. The NST and KLI for example, were not revised regularly hence may not be representative of the changing trends.

In view of the limitations of the existing major indices, it is therefore necessary to formulate a more efficient one. More specifically, a composite stock index needs to be developed and to serve certain purposes.

Firstly, it reflects effectively the performances of stocks listed on the stock exchange. Secondly, it shall be broadly sensitive towards the expectation of investors. Thirdly, the composite stock index shall be a good indicative of the government policy changes, and lastly it should be reasonably responsive to the underlying changes in the different sectors of the economy.

As a result of the above, the KLCI was officially launched on 4th April, 1986 serving as the main market barometer.

The KLCI was constructed with the main features as follows :-

Base Year	1977
Scope	Composite
Number Of Components	100 (83 at the point of inception)
Currency Quoted	Ringgit Malaysia
Method	Market Capitalisation
Method Of Computation	<p>Weighted Average</p> $\text{Index} = \frac{\text{Current Aggregate Market Value}}{\text{Base Aggregate Market Value}} \times 100$ $= \frac{Y P_1 Q_1}{Y P_0 Q_0} \times 100$ <p>Where,</p> <p>P₁ = the current market price P₀ = the market price of the base year Q₁ = the number of ordinary shares currently Listed Q₂ = the number of ordinary shares listed in the base year Y = indicates the addition of all the market values of the individual stocks comprising the Composite Index</p>