Athlone Institute of Technology

The School of Business

Value Investing in the Malaysian Stock Market

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This research project is submitted in partial fulfilment of the Degree of Master of Business at the Athlone Institute of Technology.

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List of Tables and Figures

List of Abbreviation

AFTA: ASEAN Free Trade Agreement

APT: Arbitrage Pricing Theory

ASEAN: Association of Southeast Asian Nations

BoP: Balance of Payment

Bps: Basis Point

CBM: Central Bank of Malaysia (Bank Negara Malaysia)

CPI: Consumer Price Index

DY: Dividend Yield

EMH: Efficient Market Hypothesis

EPS: Earnings-per-Share

FBM KLCI: FTSE Bursa Malaysia KLCI Index

FTA: Free Trade Agreement

GDP: Gross Domestic Production

IMF: International Monetary Fund

KLSE: Kuala Lumpur Stock Exchange

OPR: Overnight Policy Rate

P/B: Price-to-Book Ratio

P/CF: Price-to-Cash Flow Ratio

P/D: Price-to-Dividend Yield Ratio

P/E: Price-to-Earnings Ratio

P/S: Price-to-Sales Ratio

List of Terms or Glossary of Terms

Arbitrage Pricing Theory (APT)

Arbitrage Pricing Theory is considered by the academic community as an alternative asset pricing theory that is reasonably intuitive and requires only limited assumptions. The major assumptions include: capital markets are perfectly competitive and investors always prefer more wealth to less wealth with certainty (Reilly, 1992, p. 586-587).

Balance of Payment (BoP)

The Balance of Payments accounts attempt to maintain a systematic record of all economic transactions between the home country and the rest of the world for a specific time period, usually a year (Appleyard et al, 2006, p.444).

Basis Point (bps)

The basis point is defined as one one-hundredth of a percent; that is, 1 percentage point contains 100 basis points (Appleyard et al, 2006, p. 520).

Bear Phase/Bear Market

Bear market refers to a market in which security prices fall by a substantial amount (Pilbeam, 2005, p. 485).

Bull Phase/Bull Market

Bull market is defined as a financial market of a group of securities in which prices are rising and characterized by optimistic and investor confidence (Pilbeam, 2005, p.459).

Credit Rating

Credit rating refers to an assessment of a company's credit worthiness, that is, its ability to repay its debt. The two main credit rating agencies are Moody's and Standard and Poors's (Pilbeam, 2005, p. 460).

The Standard & Poor's long-term issue credit ratings are an assessment of default risk on a scale from AAA to D. 'AAA' has the highest rating and indicates the strong capacity of the obligor to meet its financial commitment on the obligation whereas an obligation rated 'D' is in payment default.

Gross Domestic Product (GDP)

Gross Domestic Product (GDP) measures overall economic activity in a country and is calculated by adding together the total value of annual output of goods and services (Vaitilingam, 2001, p. 231).

Overnight Policy Rate

The best borrowing rate available to market participants is the rate that corporations, dealers, institutions, and so on can obtain by engaging in what is called repurchase agreement. Most repurchase agreements are overnight loans. The interest rate associated with the repurchase agreement is called overnight policy rate (Dubofsky, 2003, p. 95).

Price-Book Value Ratio (P/BV)

Price-Book Value refers to the ratio of the price per share divided by book value of the company per share as recorded in its balance sheet. The book value of the company is the net worth of the company after allowing for current liabilities, tax liabilities and debt liabilities. Company with high P/BV are being valued more aggressively than low P/BV. Conversely, a

company with low P/BV indicates that the stock is undervalued by the investors (Pilbeam, 2005, p. 241).

Price-Cash Flow Ratio (P/CF)

Since earnings can be easily manipulated in the short term, some analysts focus on the price to cash flow coming into/out of the company. The P/CF is simply the price of the share related to the cash flow per share (Pilbeam, 2005, p. 242).

Price-Dividend Ratio (P/D)

Price-dividend ratio is also known as dividend yield. The P/D is dividend per share divided by the price of the share. The dividend yield is viewed as important since it shows the income accruing to the investor during the holding period (Pilbeam, 2005, p. 239).

Price-Earnings Ratio (P/E)

P/E ratio is the current price of the shares dividend by the earnings-per-share. A P/E ratio of 10 means that anyone contemplating a takeover would have to pay at least 10 times the last reported earnings. A high ratio in relation to other companies in the sector means that the firm is being highly valued by the market. Conversely, a low P/E in relation to other companies in the sector means that the firm is relatively cheap, possibly because its future earnings performance is expected to be relatively poor (Pilbeam, 2005, p. 240).

Price-Sales Ratio (P/S)

Many firms do not have profits, so analysts continues look at the ratio at the price per share to sales per share. This ratio can differ quite substantially between different industries and the profit margins can also vary substantially (Pilbeam, 2005, p. 240).

Standard & Poor's (S&P)

Standard & Poor's (S&P) is an American credit rating agency and financial services company. S&P Composite Index consists of 500 companies listed on the New York Stock Exchange; the other 2 indices cover the Composite's Industrials (400 companies) and Financial Stock (40 companies) sub-group. The remaining companies are 20 transport companies and 40 utilities (Vaitilingam, 2001, p. 112).

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Abstract

This purpose of this paper is to test the value investing method as proposed by Michael O'Higgins (2000) as one investment strategy applied specifically to the Malaysian market. The investment portfolio incorporates 30 companies of FTSE Bursa Malaysia Index from 2009 through 2013. The results suggest that O'Higgins strategy portfolio succeed to beat FBM KLCI in the holding period of 2009 – 2012 but underperformed the market in the holding period of 2012 – 2013. The study also discovers that the portfolio of 5 stocks consistently outperformed the portfolio of 10 stocks. Furthermore, the findings demonstrate that the longer the holding period of stocks, the higher the cumulative return of the portfolio. Overall, this research finds evidence that value investing is applicable in Malaysian stock market.

CHAPTER 1: INTRODUCTION

Graham and Dodd (1949) introduced and described value investing as a successful investing discipline in the early 1930s.

Value investing is a process of buying stocks with low price-to-earnings ratio, a low price-to-book value (P/B) and low price-to-cash flows (P/CF) and then holding them to gain superior profits over a defined period of time. In other words, it is looking for fundamentally undervalued stocks in the market. Greenwald et al., (2001) think that value investing involves investing in stocks that are priced at a certain, predetermined percentage under their intrinsic or fundamental value. Value stocks are the ones on the lower end of Price-to-Earnings (P/E), (P/B), (P/CF), Price-to-Dividend Yield (P/D) ratios[1], or combinations of these (Bayramov, 2013).

O' Higgins (2000) demonstrated in the United States of America that portfolios composed of value stocks could be earning higher returns than a stock market index. For the period which O' Higgins examines, which is from 1973 to 1990, he shows that his value stocks portfolios generated an overall return of 1,753.14%, compared with the Dow Jones Industrial Average's 559.31%. During that period, there were only three years when it didn't outperform the Dow and produced a negative return (Gough, 1998).

Choosing the right stocks is the first step, but other factors can also affect the returns. For example, the length of the holding period of a portfolio and the optimal number of shares to hold would determine the gains.

[1] Refer to Glossary of Terms.

Although most of the researchers[2] agree that such premium exists in the stock market, there is no universal agreement on the causes of such phenomenon.

Moreover, most investors[3] are based in America and their stock-picking method may only suit the American stock market. Given this, the aim of this research is to assess whether value investing is applicable to the Malaysian Stock market, and as such leads to a greater return than the Malaysian Stock Market index over a period of four y-ears from 2009 to 2013. The portfolios chosen will be identified based on Michael O'Higgins (2000) 'relative strength' value investing strategies that involves picking the five highest-yielding and lowest-priced stocks. Other theories of stock investment are growth strategy and quantitative strategy and these strategies will be discusses later.

[2] Pitkanen, M. (2011) and Bayramov, A. (2013).
[3] Warren Buffet, John Templeton, Peter Lynch and Michael O'Higgins.

1.1 Research Aim

The primary purpose of the thesis is to test the value investing method as proposed by Michael O'Higgins (2000) as one investment strategy applied specifically to the Malaysian market. In particular, it is proposed to test the value investment strategy against the Malaysian Stock Market index, the FTSE Bursa Malaysia Index (FBM KLCI).

It is envisaged that this will be achieved through the identification of stocks in the Malaysian stock market that can be classified as value investment stocks over a period of four years from 2009 – 2013, and then to assess these relative to the Malaysian Stock Market index, FBM KLCI over the same time period. The objective is to see if the value investment stocks selected delivered higher returns over that period.

The aim is to find out, if stocks that are ranked and chosen by value investing method actually have higher returns going forward than stocks on average in the Malaysian Stock Market based on the FBM KLCI.

1.2 Research Question

The main question:

1. To determine whether it is possible to beat FTSE Bursa Malaysia KLCI Index over a four years period (2009-2013) through the identification of a certain portfolio based on Michael O'Higgins value investing method.
2. To determine if there was the ideal time period for holding each portfolio to maximize gains based on the selection chosen.
3. To determine the changes of portfolio returns if low price-to-earnings ratio and high earnings-per-share ratio are added as additional factors to the formula.
4. To determine whether the Michael O'Higgins value investing method is applicable to the Malaysian stock market.

1.3 Brief Introduction of Malaysian Economy

This section briefly introduces the history and development of the Malaysian economy, followed by a summary of the performance of the Malaysian economy over the past five years, from 2009 to 2013. The objective is to contextualise the economic background of Malaysia for the years of the review of the value investing method.

The Malay States were colonised by Portugal in the 16th century and by The Netherland in 18th century. At that time spices were actively traded and Malaysia was a rich source making Malaysia attractive to the Europeans as spices trading was a lucrative business (Barton, 1970).

In the 19th century, the British took over the Malay States from the Dutch and they introduced rubber and palm oil trees for commercial purposes. In 1965, Singapore separated from

Malaysia due to disagreement on political issues[4]. In the 1970s, Malaysia became the largest producer of raw materials, such as tin, rubber and palm oil. However, in the late 1970s, the Malaysian economy gradually transformed from being a raw materials producer to being a multi-sector economy and exporter of electronic appliances, electronic parts and components, palm oil, and natural gas (World Bank, 2014).

This success led the country to recording average growth of more than 7% between 1985 and 1995. During the Asian Financial Crisis of 1997-1998, the Ringgit[5] experienced a speculative short selling by international speculators resulting devaluation of currency and collapse of stock market. The Central Bank of Malaysia (CBM) pegged the Ringgit at 3.80 to the US Dollar to stabilize the currency. The government refused the bailout package by International Monetary Fund and increased public spending to rejuvenate the economy. Since then, Malaysia continued to grow at an average of 5.5% yearly from 2000 – 2008 (World Bank, 2014).

[4] After independence from Britain in 1963, Singapore is one part of Malaya Federation. The Malaysians wanted a pro-Bumiputera society where the Malays were given special rights but Singaporean with predominant Chinese population upheld an equal and meritocratic society. Besides, the Malay leaders also worried the center of power shifted from Kuala Lumpur to Singapore. So they decided to expel Singapore from Malaya.

[5] The Malaysian currency.

1.4 Malaysia – The Economy 2009 – 2013 over the Past Five Years

The Malaysian economy over the period 2009 to 2013 has had an average annual growth rate off 4.1%. Indeed, this is somewhat distorted by the negative growth of 1.7% in 2009. Average unemployment over the period was 3.25% and average inflation was 1.84%. This can be seen in the Table 1 below where key Malaysian Economic indicators over the period are identified.

Table 1 Malaysian key economic indicators 2009 – 2013

	GDP (%)	Private Consumption (%)	Public Consumption (%)	CPI (%)	Unemployment (%)	Current Account Balance (RM' billion)	FBM KLCI (%)
2009	-1.7	0.7	3.9	0.6	3.7	112.1	45.17
2010	7.2	6.5	2.9	1.7	3.3	88.1	19.34
2011	5.1	6.9	16.1	3.2	3.1	97.9	0.78
2012	5.6	7.7	5.0	1.6	3.0	60	10.34
2013	4.7	7.6	6.3	2.1	3.1	37.3	10.54

Source: Yahoo Finance (2014).

1.4.1 The Malaysian Economy in 2009

The Malaysian economy contracted by 1.7% in 2009 as the economy is adversely affected by the global economic downturn (Malaysian Treasury, 2009-2010, p. 39). The domestic economy declined by 6.2% in the first quarter for the year. In the second half of the year, the recovery strengthened and the contraction of the economy stabilized at negative 1.7%.

Labour market conditions deteriorated in the first quarter as firms but began to stabilise in the second quarter as retrenchments declined and firms started to hire new workers. Despite the declining productivity growth in 2009, employers in private sector had continued to grant salary increments, albeit at a moderate rate of 3.4% (Central Bank of Malaysia, 2010, p. 3-4).

The Consumer Price Index (CPI) moderated to 0.6% in 2009 as inflationary pressure was subdued as crude oil and food commodity prices fell sharply in 2008. The balance of payments[6] remained favourable as the current account recorded a large surplus of RM 112.1 billion during the year, supported by a sizeable trade surplus and improvements in the services account (Central Bank of Malaysia, 2010, p. 3-4). The stock market rebounded and up 45.17% from 2008 (FTSE, 2014).

1.4.2 The Malaysian Economy in 2010

With a strong recovery, the country economy experienced a robust growth of 7.2% in 2010 as shown in Table 1. It was driven by sturdy domestic demand, with strong expansion in private sector activity (Malaysian Treasury, 2010-2011, p. 41).

Private consumption expanded at a faster rate of 6.6% supported by the higher incomes, more stable employment prospect, higher commodity prices and continued access to credit. Growth in public consumption moderated to 0.1%. It was attributed more prudent spending measures

[6] Refer to Glossary of Terms.

as the government reprioritised spending programmes and reduced non-essential expenditure (Central Bank of Malaysia, 2011, p. 3-4).

The Consumer Price Index (CPI) averaged 1.7% in 2010. The increased inflation during the year was largely contributed to by supply factors arising from higher food and commodity prices due to unfavourable weather condition and labour shortages (Central Bank of Malaysia, 2011, p. 3-4).

Conditions in the labour market remained favourable during the year as reflected in lower lay-offs, higher number of vacancies and gains in employment. The unemployment rate declined to 3.2% of labour force. The current account surplus remained resilient at RM88.1 billion, underpinned by sizeable exports of goods and net portfolio inflows in the financial account. (Central Bank of Malaysia, 2011, p. 3-4). The stock market maintained a moderate growth at 19.34% (FTSE, 2014).

1.4.3 The Malaysian Economy in 2011

The growth of economy moderated to 5.1% in 2011 as shown in Table 1. The growth was affected by the overall weakness in the advanced economies and the global supply chain disruptions resulting from the natural disaster in Japan. Nevertheless, Malaysia's economic growth was supported by stronger domestic demand (Malaysian Treasury, 2011-2012, p.49).

Private consumption expanded by 6.9% in 2011. It was supported by increasing household income, stable employment conditions and higher commodity prices. Public consumption increased substantially by 16.8% in 2011 due to higher public expenditure on emoluments and the one month bonus payment during the year (Central Bank of Malaysia, 2012, p. 3-4).

The CPI accounted 3.2% in 2011 due to supply factors arising from higher energy and food prices. The current account registered a surplus of RM99.9 billion in 2011, due mainly to the

higher trade surplus resulting from the expansion in exports of commodities and manufactured products (Central Bank of Malaysia, 2012, p. 3-4). During the year, the stock market growth narrowed to 0.78% compared to last year (FTSE, 2014).

1.4.4 The Malaysian Economy in 2012

Despite the challenging backdrop, the country economy performed better than expected in 2012, recording a robust growth of 5.6% which is driven by vibrant domestic demand (Malaysian Treasury, 2012-2013, p.53).

Private consumption registered a steady growth of 7.7% in 2012. It was attributed by stable employment prospect and income growth, government transfers to low-and-middle income households, as well as supportive financing conditions. The public consumption remained strong at 5% amidst continued fiscal consolidation efforts during the year (Central Bank of Malaysia, 2013, p. 3-4).

Labour market conditions remained stable in 2012 with the unemployment rate declining to 3% due to robust domestic activities. The CPI was reduced to 1.6% in 2012. The moderation of inflationary pressure was largely due to slower pace of price increases in the food and transport categories (Central Bank of Malaysia, 2013, p. 3-4).

Reflecting the rising import and moderation exports taking place in both the global and domestic economy, the current account surplus was narrowed to RM60 billion in 2012 due to a smaller goods surplus and larger deficits in the services, income and income transfers accounts. In 2012, the stock market recorded a strong growth of 10.34% (FTSE, 2014).

1.4.5 The Malaysian Economy in 2013

The Malaysian economy registered growth of 4.7% in 2013, which was adversely affected by slow recovery of advanced economies, uncertainty over China's economic strength and possible tapering of quantitative easing programme in the US (Malaysian Treasury, 2013-2014, p.75).

Private consumption growth remained strong at 7.6% in 2013. It is supported by stable employment conditions and higher wage growth. Public consumption recorded a higher growth of 6.3% in 2013 which was largely led by civil servants' salary increments in July 2013 (Central Bank of Malaysia, 2013, p. 3-4).

In 2013, unemployment was maintained at 3.1%, suggesting that most firms were able to adapt to the minimum wage policy. The higher inflation rate of 2.1% during the year was driven by the subsidy reduction in domestic fuel prices. The current account surplus narrowed to RM37.3 billion during the year due to weak external demand as the country's current account is highly dependent on exports of goods and commodities (Central Bank of Malaysia, 2013, p. 3-4). In 2013, the growth of the stock market remained strong at 10.54% (FTSE, 2014).

1.5 Malaysia – A Member of ASEAN

Malaysia is a prominent member of the Association of Southeast Asian Nations (ASEAN). This section, briefly discusses Malaysia's role as a state member of ASEAN followed by some ASEAN region trends.

The Association of Southeast Asian Nations (ASEAN) is a political and economic organisation which was established on 8 August 1967 in Bangkok, Thailand. The ASEAN Member States include Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The aim of ASEAN is to accelerate the economic growth, social progress and cultural development in the region through joint endeavours of Southeast Asian Nations (ASEAN, 2014).

Malaysia is regarded as one of ASEAN's six majors being one of the six largest economies in the area.

In 2003, ASEAN Free Trade Area (AFTA) was established with the aim to cut tariffs on manufacturing and agricultural products to less than 5% between six original member states, namely Indonesia, Thailand, Malaysia, Singapore, Philippine and Brunei (Hill, 2013, p. 305).

However, the effectiveness of the free trade agreement has been questioned. For example, the import duty on imported cars in Malaysia at that time was between 140-300%. The Malaysian government wanted to protect Proton, the government-owned car-maker. It therefore only brought down the tariff to 20% instead of 5% as agreed in AFTA (The Economists, 2002, p. 43-44).

For the integration of ASEAN capital market, there is only three stock exchange member – Bursa Malaysia, Singapore Exchange and Stock Exchange of Thailand prior 2003. However, they cover 70% of the transaction values of 7 ASEAN Stock Exchange.

In 2006, Vietnam joined AFTA whereas Lao PDR and Myanmar Joined in 2008 and Cambodia joined in 2010. In the same year, a free trade agreement was signed between ASEAN and China. It removed tariffs on 90% of traded goods. As the agreement went into effect, the trade between ASEAN and China has become tripled in the first decade of 21 century (Gooch, 2010).

In 2012, ASEAN continue to maintain a positive growth rate where the growth was underpinned by strong domestic demand (ASEAN, 2013a). Compared to last five years, ASEAN economies activities are shifting from agriculture to services. Over the last ten years, there is no big change in proportion of intra-ASEAN and extra-ASEAN trade with has slightly increased in intra trade among the member states. For the trading activities with selected trade partner, the trading activities with USA, Japan and EU-27 has decreased, at the same time, there is an increase trades with China (ASEAN, 2013b).

For the annual growth rate, Malaysia achieved 4.7% growth rate in 2013 which is lower than that of Cambodia, Indonesia, Lao PDR, Myanmar, Philippine and Vietnam. Singapore and Brunei were the highest GDP per capita achiever in 2013 with USD 54,776 and USD 39,943 respectively (IMF, 2014). Although Malaysia is lagging behind, the country had the GDP per capita with USD 10,548 which was the third highest among the ASEAN member states in 2013 (IMF, 2014). The inflation among the ASEAN member states vary significantly.

In 2013, Malaysia had an inflation rate of 2% while Brunei had the lowest inflation of 0.4% and Vietnam had the highest inflation of 6.6% (IMF, 2014).Although the ASEAN member states achieved high GDP growth, these economies are often associated with high level of government debt. The general government gross debt of Malaysia in 2013 was 58% of GDP while Singapore was among the highest, which accounted for 103.8% of GDP (IMF, 2014).

To the future, a Regional Comprehensive Economic Partnership (RCEP) has been working with the ASEAN member states and its six FTA Partners, namely Australia, China, India, Japan, Korea and New Zealand. It is a proposed free trade agreement (FTA) among these countries and expected to complete by 2015 in line with the establishment of ASEAN Economic Community (ASEAN, 2013c). The ASEAN Economic Community envisages a single market and production base and a region of equitable economic development, highly competitive and fully integrated into the global economy. Its objective is to transform ASEAN into a region with free movement of goods, services, investment, skilled labour, and freer flow of capital.

1.6 Malaysian Stock Market (Bursa Malaysia) – History and Development

This section introduces the history and development of the Malaysian stock market; it will briefly introduce the FTSE Bursa Malaysia Index Series as well as the performance of the Malaysian stock market over the past five years, from 2009 to 2013.

The Malaysian stock market history is strongly linked with the Singapore Stock Exchange. Bursa Malaysia as it is known today was formerly known as Kuala Lumpur Stock Exchange (KLSE). The Singapore Stockbrokers' Association was established in 1930. It is the first securities business organization in Malaya when Singapore was still a part of Malaysia. The organization was re-registered as the Malayan Stockbrokers' Association in 1937 (Bursa Malaysia, 2013).

In 1963, The Malayan Stock Exchange Limited was incorporated in Singapore and an application for registration in Malaysia was later made. In 1964, The Stock Exchange of Malaysia was established. The exchange then renamed to Stock Exchange of Malaysia and Singapore.

In 1973, with the termination of the currency agreement between Malaysia and Singapore, the Exchange was divided into the Kuala Lumpur Stock Exchange Berhad and the Stock Exchange of Singapore. The Kuala Lumpur Stock Exchange (KLSE) was incorporated in 1976 as a company limited by guarantee, and in the same year, it took over the operations of the Kuala Lumpur Stock Exchange Berhad (Bursa Malaysia, 2013).

In 2004, KLSE was renamed Bursa Malaysia Berhad**.** It has undergone a demutualization exercise and it was listed on the Main Board of Bursa Malaysia Securities Berhad with a 17% or RM0.50 premium over its retail price of RM3.00 in 2005 (Bursa Malaysia, 2013).

1.7 FTSE Bursa Malaysia Index Series

In 2006, FTSE Group has partnered with Bursa Malaysia to create a suite of trade-able indices for the Malaysian market – the FTSE Bursa Malaysia Index Series. The indices as shown in Tables 2 act as the performance benchmarks of the major capital segments of the Malaysian market. The index series divided the market into large, medium, small capital, fledgling and Shariah-compliant series. (FTSE, 2014).

The indices those are included in the FTSE Bursa Malaysia Index Series:

Table 2: FTSE Bursa Malaysia Index Series

FTSE Bursa Malaysia KLCI
FTSE Bursa Malaysia Mid 70 Index
FTSE Bursa Malaysia Top 100 Index
FTSE Bursa Malaysia Small Cap Index
FTSE Bursa Malaysia EMAS Index
FTSE Bursa Malaysia EMAS Industry Indices
FTSE Bursa Malaysia Fledgling Index
FTSE Bursa Malaysia EMAS Shariah Index
FTSE Bursa Malaysia Small Cap Shariah Index
FTSE Bursa Malaysia HijrahShariah Index
FTSE Bursa Malaysia Palm Oil Plantation Index
FTSE Bursa Malaysia Asian Palm Oil Plantation Index - USD (gross and net of tax)
FTSE Bursa Malaysia Asian Palm Oil Plantation Index – MYR (gross and net of tax)
FTSE Bursa Malaysia ACE Index

Source: FTSE (2014).

1.7.1 FTSE Bursa Malaysia KLCI

The Bursa Malaysia therefore now adopts the FBM KLCI values as its main index. This index comprises the largest 30 companies by full market capitalization as shown in Table 3.

Table 3: Composition of FBM KLCI Index

Data as at: 26/05/2014 FTSE Bursa Malaysia KLCI			
	Local Market Code	Constituent Name	Abbreviation
	1066	RHB Capital	RHBCAP
	4162	British American Tobacco (Malaysia)	BAT
	6888	Axiata Group Bhd	AXIATA
	6012	Maxis Bhd	MAXIS
	5183	PETRONAS Chemicals Group Bhd	PCHEM
	5222	Felda Global Ventures Holdings	FGV
	5225	IHH Healthcare	IHH
	6399	Astro Malaysia Holdings	ASTRO
	5249	IOI Properties Group	IOIP
	5218	Sapura Kencana Petroleum	FBMKLCI
	3182	Genting	GENTING
	2445	Kuala Lumpur Kepong	KLK
	1155	Malayan Banking	MAYBANK
	4065	PPB Group	PPB
	4197	Sime Darby Bhd	SIME
	1082	Hong Leong Financial	HLF
	1961	IOI	IOI
	4715	Genting Malaysia Bhd	GENM
	4863	Telekom Malaysia	TM

	5347	Tenaga Nasional	TNB
	1015	AMMB Holdings	AMBANK
	1023	CIMB Group Holdings	CIMB
	5819	Hong Leong Bank	HLB
	4588	UMW Holdings	UMW
	4677	YTL Corp	YTL
	6033	Petronas Gas	PETGAS
	6947	Digi.com	DIGI
	5681	Petronas Dagangan Bhd	PETDAG
	3816	MISC	MISC
	1295	Public Bank Bhd	PBBANK

Source: FTSE (2014).

As at 31 December 2013, there are 911 public-listed companies, 17 real estate investment trusts (REITs) and 5 exchange-traded funds in Malaysian stock market. The market capitalisation accounted for RM1, 702 billion and daily average trading volume reached 1,477 million shares (Bursa Malaysia, 2013).

1.8 Malaysian Stock Market - Performance over the Past Five Years

Figure 1 below demonstrates the performance of the FBM KLCI over the past 5 years. The stock market experienced a downfall since 2008 global financial crisis but rebounded in 2009.

Figure 1: Performance of the FBM KLCI

Source: CNBC (2014).

Table 4 below shows the historical prices of FBM KLCI for the past five years and the annual returns of the index.

Table 4: FBM KLCI's Historical Prices

Prices						
Date	Open	High	Low	Close	AvgVol	FBM KLCI
Jan 2, 2009	878.30	936.63	867.35	884.45	192,211,800	45.17%
Jan 4, 2010	1272.31	1308.52	1253.09	1259.16	112,735,300	19.31%
Jan 3, 2011	1524.53	1576.95	1505.36	1519.94	186,448,100	0.78%
Jan 3, 2012	1523.60	1527.57	1502.09	1521.29	125,209,600	10.34%
Jan 2, 2013	1685.15	1699.68	1602.12	1627.55	168,445,300	10.54%

Source: Yahoo Finance (2014).

1.8.1 Market Performance in 2009

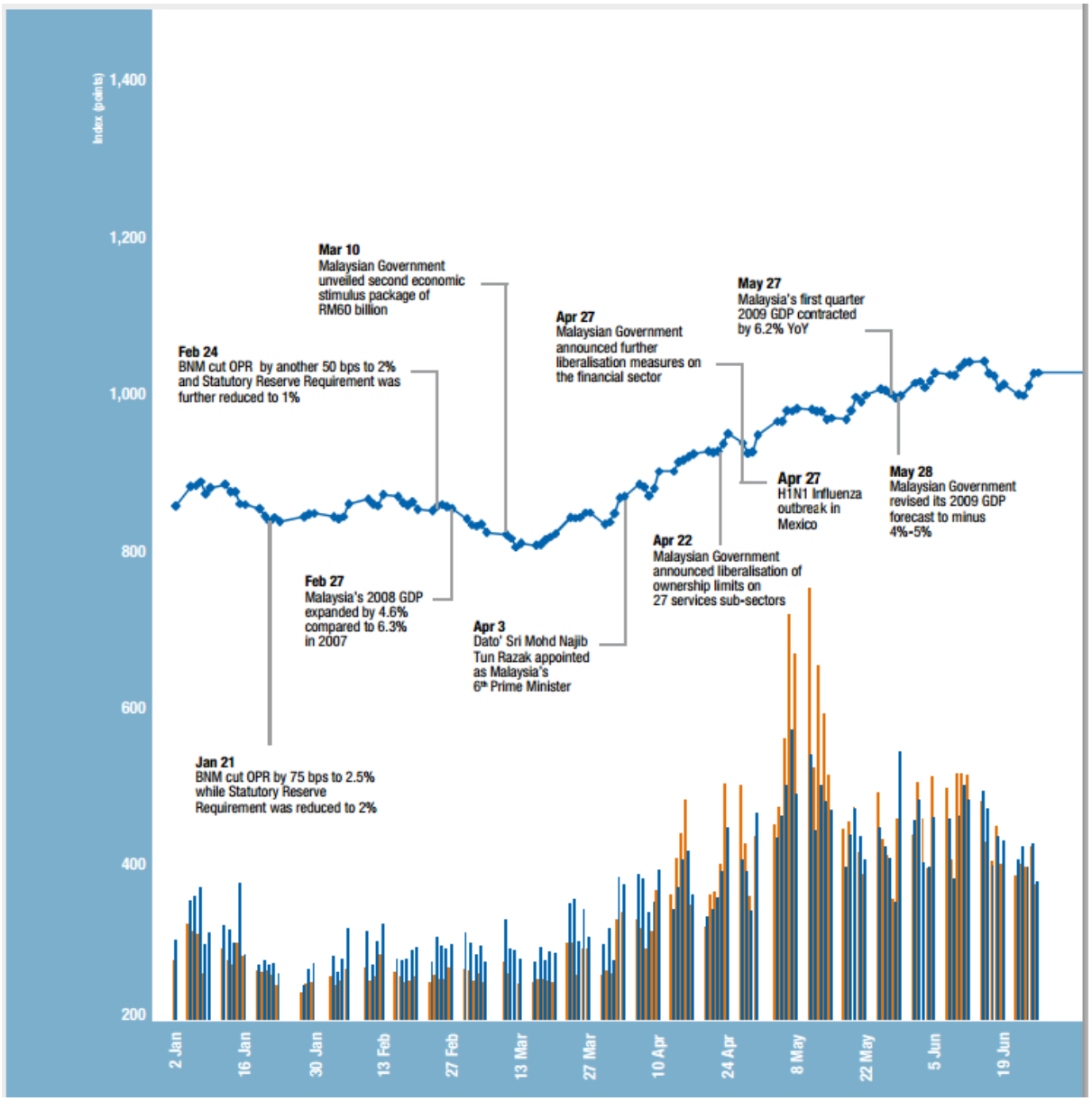
In 2009, FBM KLCI Index performed exceptionally well, up 45.17% from 2008 (Table 4). It is suggested that that Malaysian stock market had started to recover in 2009 and to gain momentum from the impact of the 2008 global financial crisis (Figure 1).

To assist this growth the Central Bank of Malaysia (CBM) cut overnight policy rate (OPR) by 75 bps[7] to 2.5% in January and cut the OPR by another 50 bps to 2% in February. Initially, the market reacted negatively towards the central bank's decision as the index value reduced to a year's low. In March however, the Malaysian government unveiled a second economic stimulus package of RM60 billion and announced liberalisation measures on 27 services sub-sectors[8]. The market reacted positively to these announcements and the index value increase steadily since then. This is clearly seen in Figure 2.

In the mid to end of July, the better than expected US corporate earnings report and optimistic GDP[9] numbers in major economies further improved the market sentiment. In November, the performance of the Malaysian stock market flattened as the regional markets tumbled following the news that a possible debt default by Dubai's state-owned conglomerate, Dubai World, and it was feared that this might lead to renewed concerns of a possible global financial crisis (Figure 3). Nevertheless, the market had an outstanding performance. As at 31 December 2009, FBM KLCI closed the year at 1272.78 points (Bursa Malaysia, 2009).

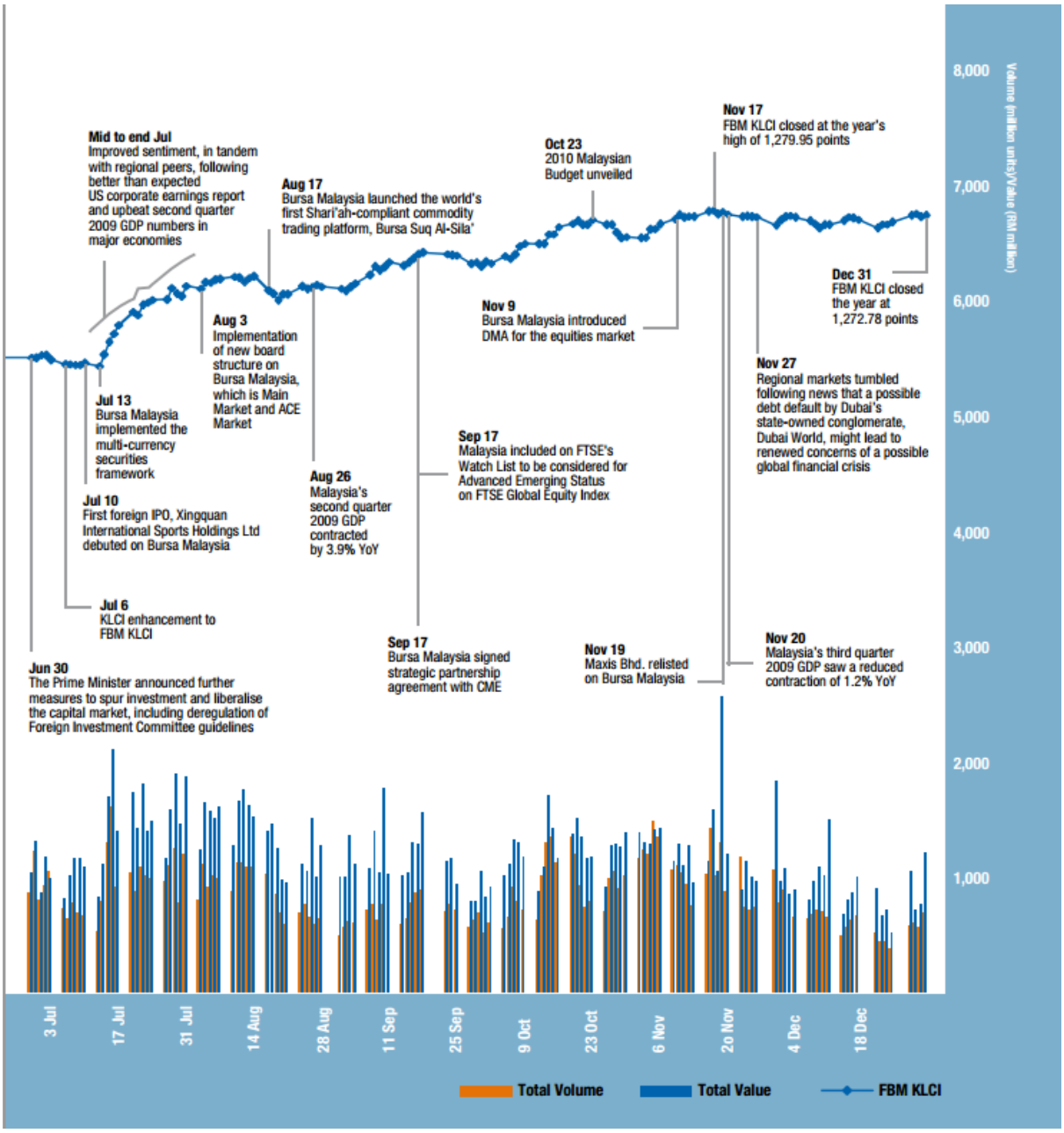
[7] Refer to Glossary of Terms.
[8] In 2009, foreigners are allowed to own businesses and form partnership with local in Malaysia.
[9] Refer to Glossary of Terms.

Figure 2: FBM KLCI Performance in 2009 (I)



Source: Bursa Malaysia (2010).

Figure 3: FBM KLCI Performance in 2009 (II)



Source: Bursa Malaysia (2010).

1.8.2 Market Performance in 2010

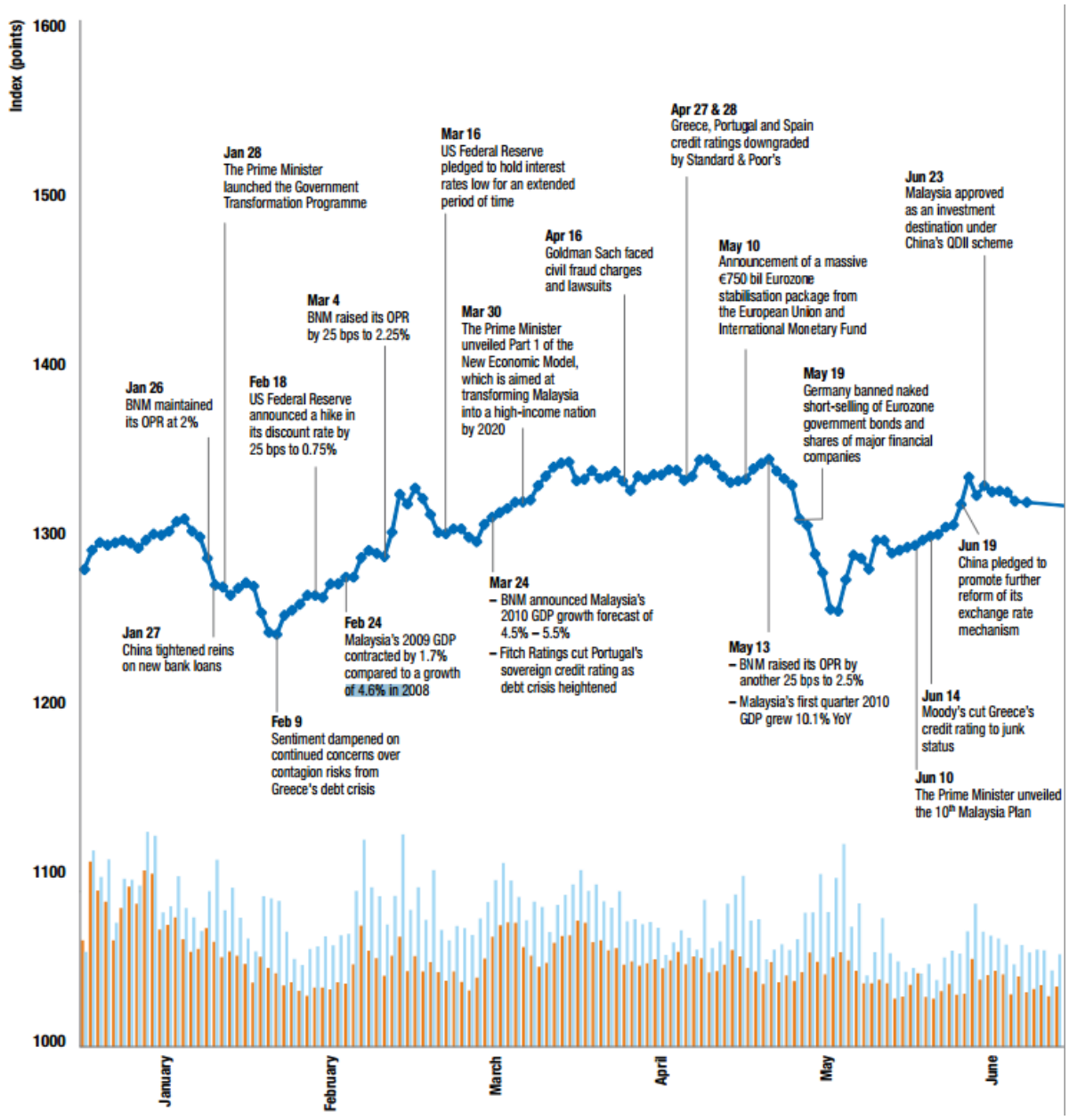
The market in 2010 was characterized by high volatility yet FBM KLCI up 19.34% from 2009 (Table 4).

In the first two months of the year, market sentiment dampened as China tightened reins on new bank loans and contagion risks from Greece's debt crisis. The market reacted positively again with the announcement of US Federal Reserve of a hike in discount rate by 25 bps to 0.75% and CBM raised its OPR by 25 bps to 2.25%. However, the sentiment dampened again in May as Germany banned naked short-selling of Eurozone government bonds and shares of major financial companies (Figure 4).

In July, CBM raised its OPR by another 25 bps to 2.75% improved the sentiment. CBM's announcement of liberalisation of its foreign exchange administration rules in August, and release of Basel III capital requirements guidelines fuelled further the market performance (Figure 5).

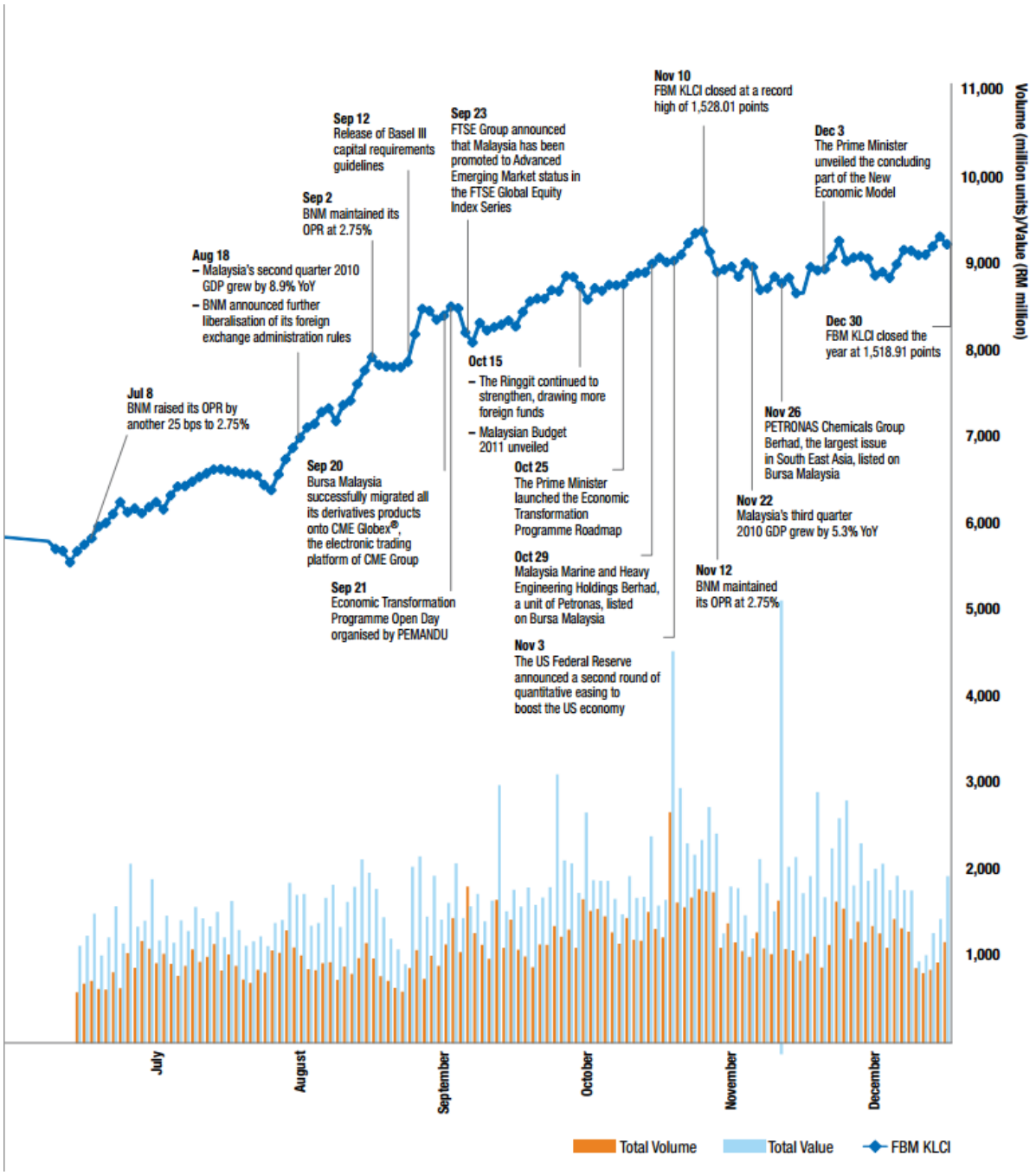
In 10 of November, FBM KLCI closed at a record high of 1,528.01 points. As at 30 December 2010, FMB KLCI closed the year at 1,518.91 points (Bursa Malaysia, 2010).

Figure 4: FBM KLCI Performance in 2010 (I)



Source: Bursa Malaysia (2011).

Figure 5: FBM KLCI Performance in 2010 (II)



Source: Bursa Malaysia (2011).

1.8.3 Market Performance in 2011

In 2011, FBM KLCI had a flat performance, recorded a gain of 0.78% compared to the end-2010's close of 1,519.91 points (Table 4).

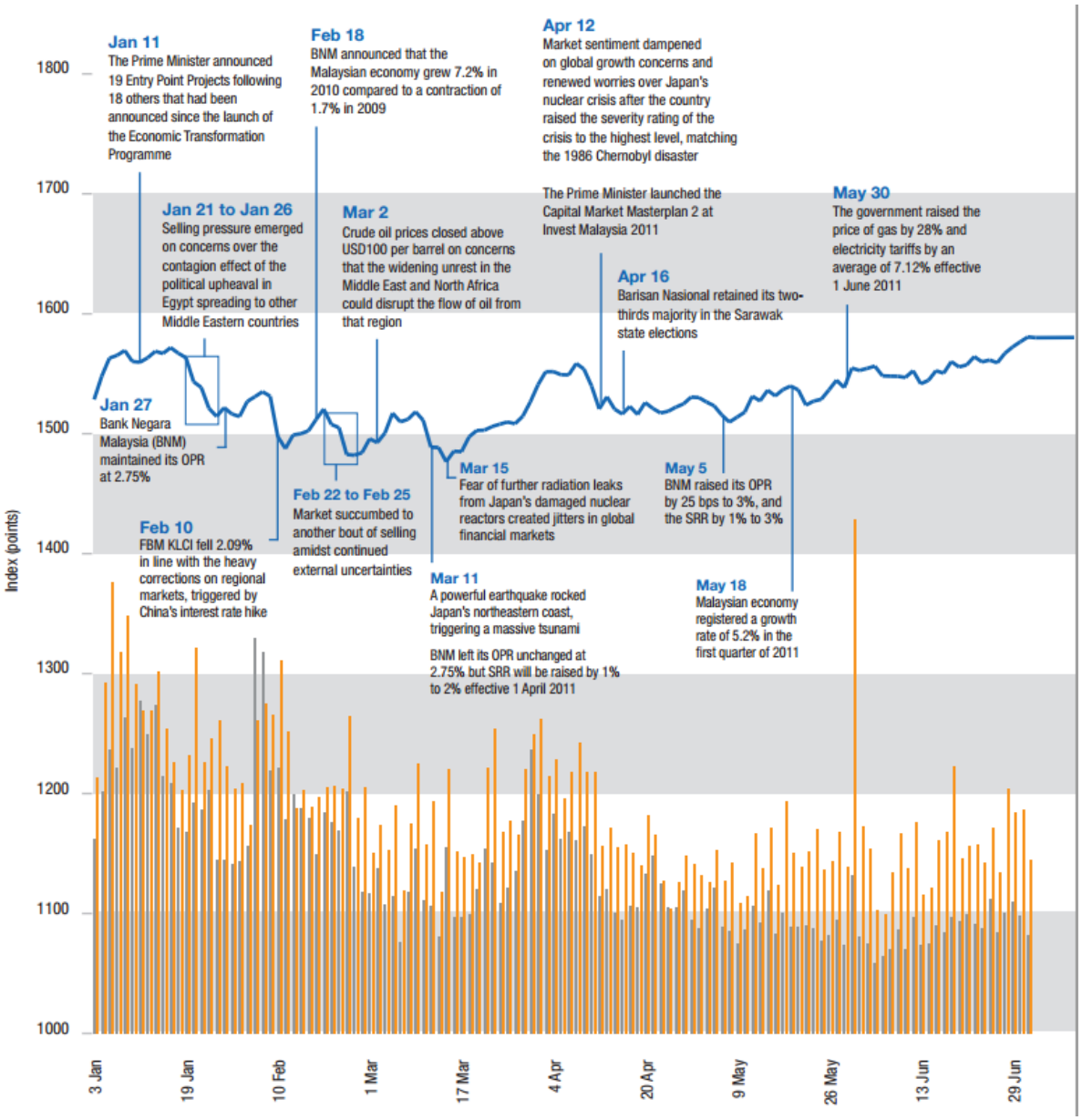
In the first half of the year, the market consolidated between 1,500 and 1600 index points. The market faced the selling pressure due to the continued external uncertainties, including political unrest in Egypt and Japan's nuclear crisis (Figure 6).

The market stabilised as CBM raised its OPR by 25 bps to 3% in May and in 8 of July, FMB KLCI closed at a new record high of 1,594.74 points. However, the market plunged in August as the Standard and Poor's[11] downgraded the US's credit rating from AAA to AA+[12]. In September, the selling pressure heightened due to the Eurozone debt crisis compounded by possible downside risks to the US economy and downgrade of the credit ratings on three major US banks (Figure 7).

Since then, the market started to pick up and as at 30 December 2011, FBM KLCI closed the year at 1,530.73 points (Bursa Malaysia, 2011).

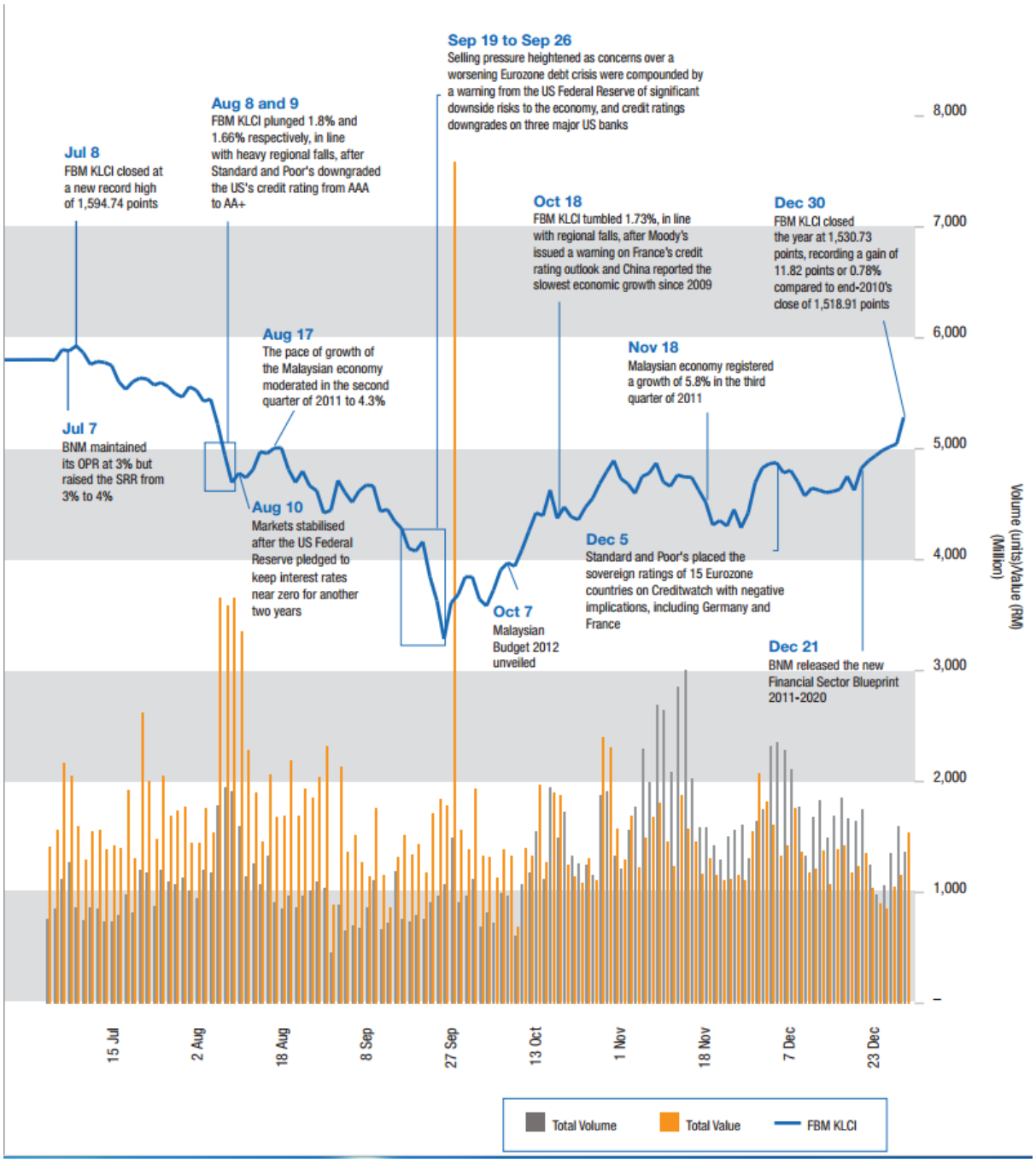
[11] Refer to Glossary of Terms.
[12] Refer to Glossary of Terms.

Figure 6: FBM KLCI Performance in 2011 (I)



Source: Bursa Malaysia (2012).

Figure 7: FBM KLCI Performance in 2011 (II)



Source: Bursa Malaysia (2012).

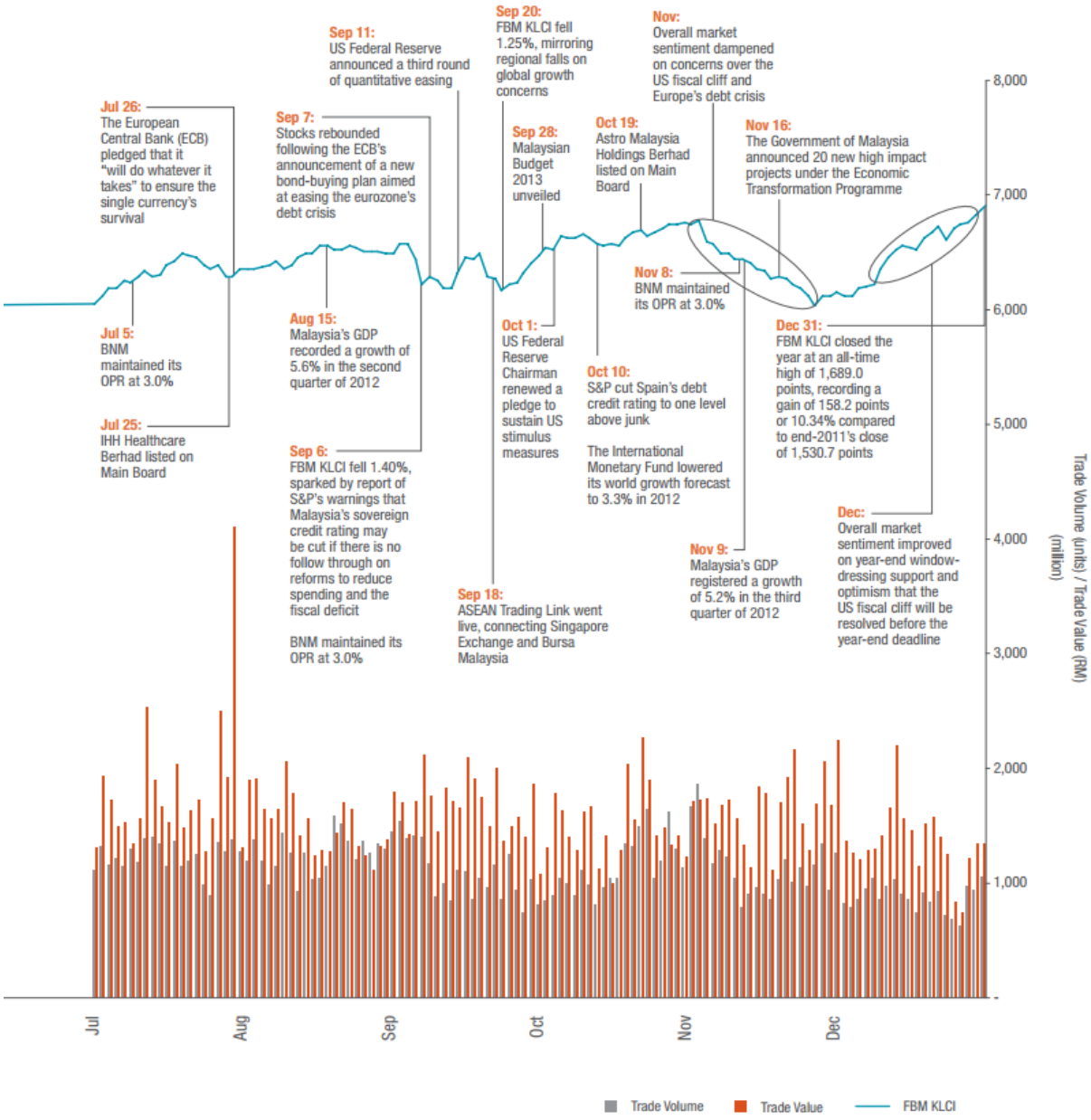
1.8.4 Market Performance in 2012

In 2012, FBM KLCI recorded a gain of 10.34% to the end-2011's close of 1,530.73 points (Table 4).

In January to March, the market grew steadily despite the continued external uncertainties, including Standard & Poor's and Moody's cut the credit ratings of Eurozone countries. However, in April and May, the market dampened on the concerns over political uncertainties in Europe and that Greece might exit the Eurozone. In addition, the market reacted negatively with the weak economic data from the US and China in June. During the end of the month, the market started to stabilize with the announcement from the Prime Minister Najib Razak of Invest Malaysia 2012 which had an objective of maintaining the competitiveness of Malaysia's capital market (Figure 8). This involves building a foundation to address growth gaps in the market, a double taxation incentive on training expenses and starting a fund to consolidate existing compensation scheme.

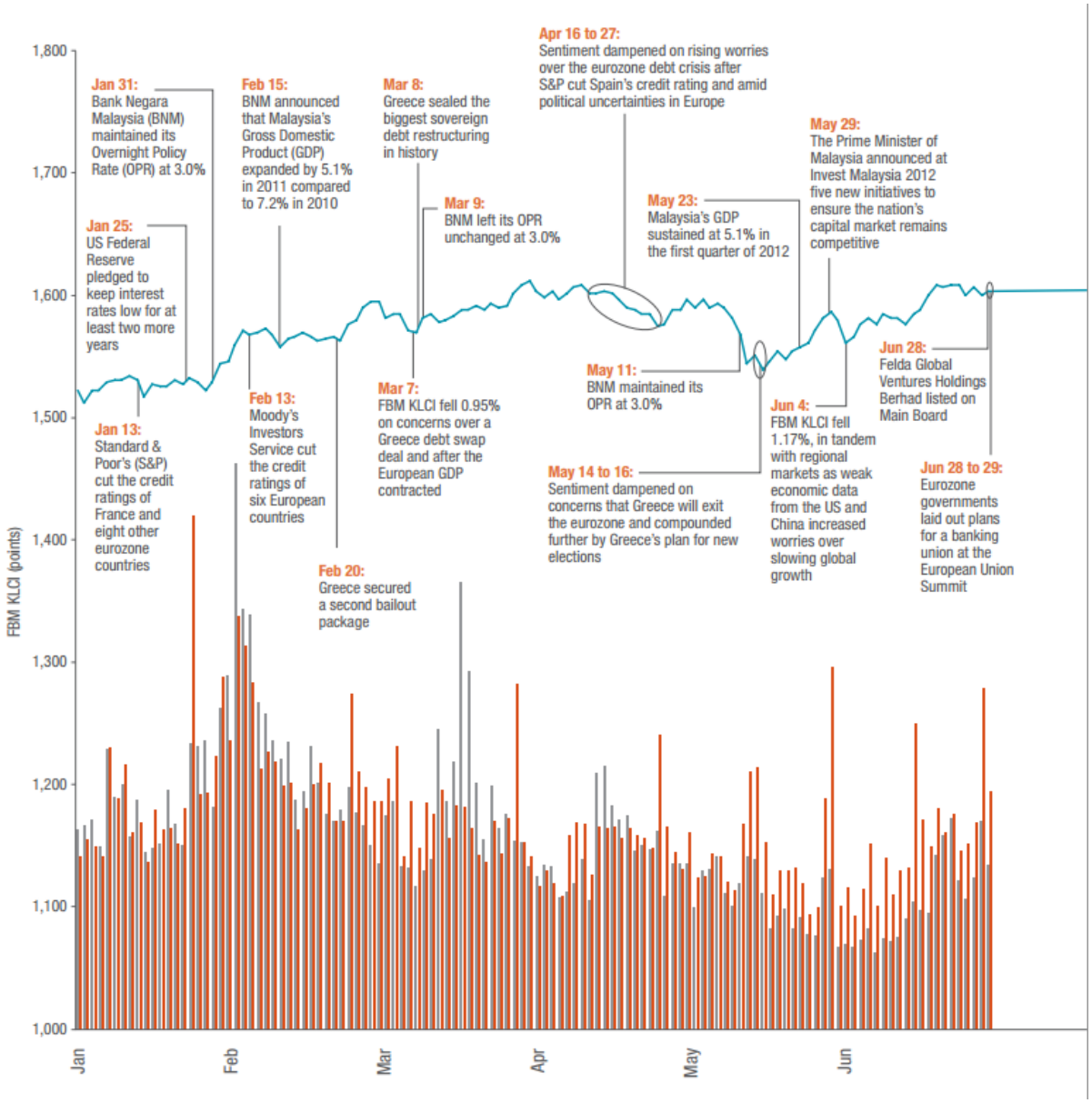
The market consolidated following the European Central Bank's announcement of a new bond-buying plan and US Federal Reserve's third round quantitative easing in September. However, the market fell due to US fiscal cliff compounded by Europe's debt crisis (Figure 9). In December, the market rebounded as the market participants believe that US fiscal cliff will be resolved before the year-end deadline (Bursa Malaysia, 2012).

Figure 8: FBM KLCI Performance in 2012 (I)



Source: Bursa Malaysia (2013).

Figure 9: FBM KLCI Performance in 2012 (II)



Source: Bursa Malaysia (2013).

1.8.5 Market Performance in 2013

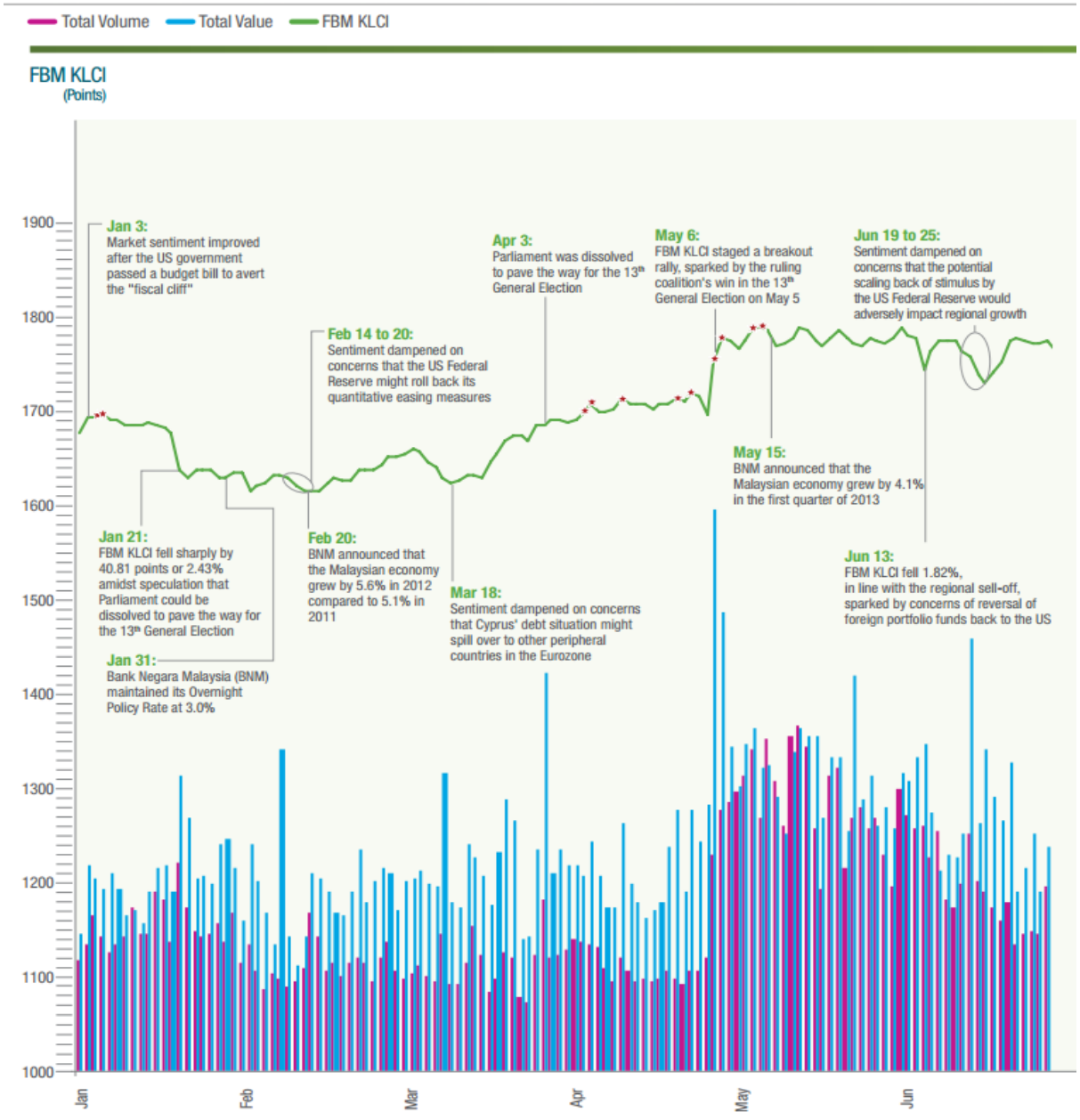
In 2013 the FBM KLCI Index recorded a gain of 10.54% compared with the performance in 2012 (Table 4).

In January, the market fell sharply by 2.43% as the market participants speculated that Parliament could be dissolved to prepare for the 13th General Election. In March, the market fell again on the concerns that Cyprus' debt situation might affect other peripheral countries in the Eurozone. The market gained steadily in April as Parliament dissolved for the 13th General election. In May the market had a breakout rally, sparked by the ruling coalition's win in the 13th General Election. In June, the market trended lower due to reversal of foreign funds back to the US and potential scaling back of stimulus by US Federal Reserve (Figure 10).

The market rebounded in the next month as it was envisaged that the US may prolong the stimulus measures. The stimulus measures include buying the asset with long maturity date to bring down the interest rate. The sentiment dampened in August as the market participants speculated that US Federal Reserve may scale back its asset purchase programme. In next few months, the market picked up as the government announced the reduction in fuel subsidies, coupled with improvement in Malaysia's credit ratings from stable to positive[13] (Figure 11). Following with the announcement of US tapering of asset purchase programme, FBM KLCI closed at an all-time high of 1,872.52 points as at 30 December 2013 (Bursa Malaysia, 2013).

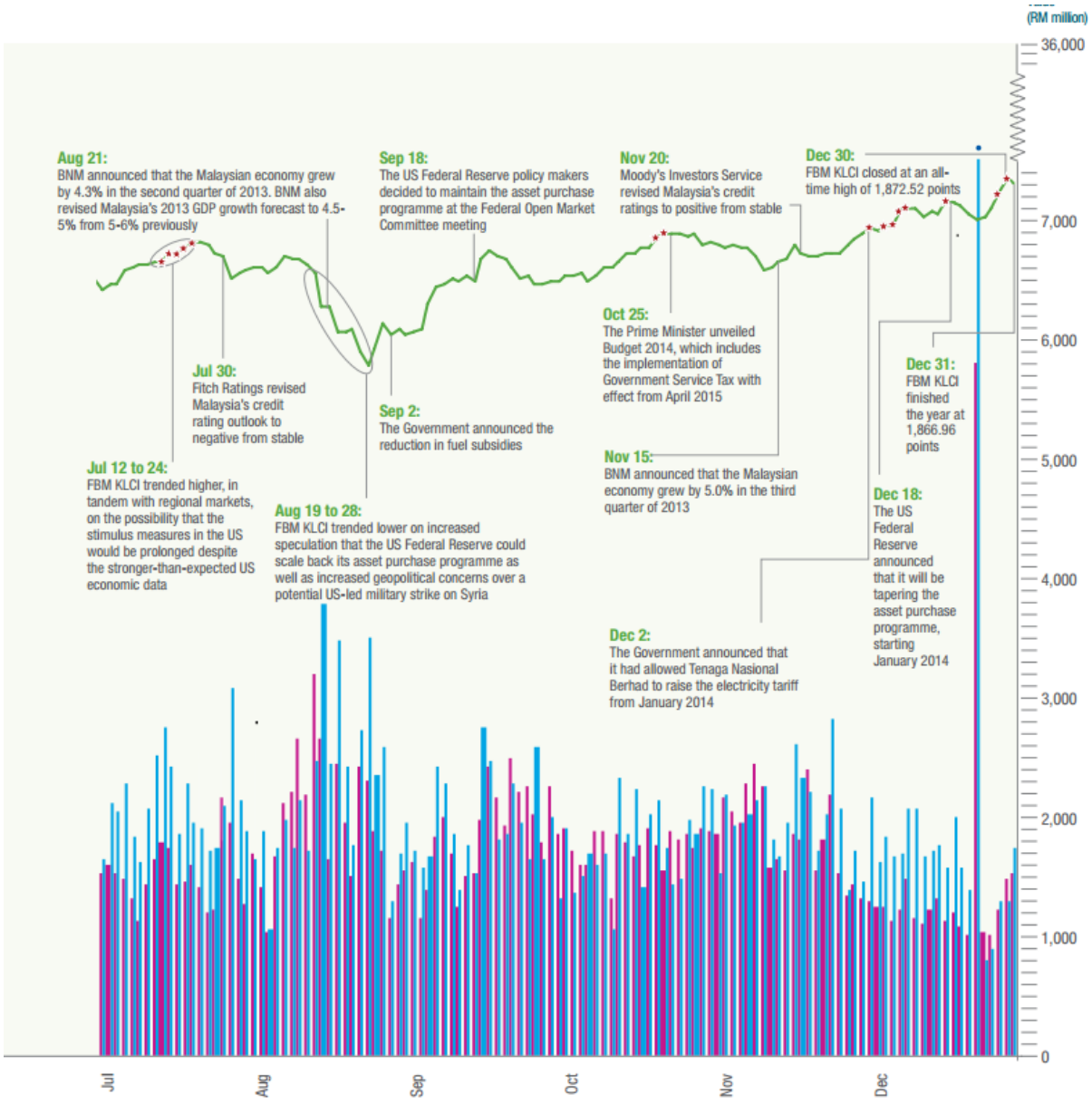
[13] In 20 November 2013, Moody's affirmed Malaysia's government bond at A3. A3 is the high grade credit rating and indicates that the issuer is fairly stable with relatively low default risk.

Figure 10: FBM KLCI Performance in 2013 (I)



Source: Bursa Malaysia (2014).

Figure 11: FBM KLCI Performance in 2013 (II)



Source: Bursa Malaysia (2014).

1.9 Commentary

The Malaysian market is experiencing a revitalisation of investment. It is evidenced by the favourable phenomenon in the Malaysian capital market as the number of Malaysian public-listed companies who are transforming into multinationals is increasing, such as Maybank, Public Bank Berhad, Petronas Gas Berhad and Genting Group. As at 31 December 2013, these Malaysian companies account for 24% of the FTSE ASEAN 40 market cap. The FBM KLCI companies generate 45% of their revenue from overseas and provide one of the highest dividend yields in ASEAN at 3.3% (Bursa Malaysia, 2013).

As at 17 May 2014, commentators expected FBM KLCI to trend higher after rising to a record-closing-high (1,879.83 points on May 15, 2014). Fundamentally, the market is supported by a strong domestic buying momentum, an inflow of defensive funds and the positive tone of global central banks. Technically, the index looked set to test the psychological 1,900 points support on high volume and rising oscillators. Any decisive break above the 1,880 level would trigger the next breakout price target with more buying up to 1,900 points (Murugiah, 2014).

1.10 Conclusion and Research Objectives

The purpose of the thesis is to study Michael O'Higgins value investing method which is one method of investing in the stock market, as applied to the Malaysian market over the period 2008 to 2013 as compared with the performance of the Malaysian stock market index. The objective to ascertain if the stocks that are ranked and chosen by the value investing method actually have higher returns in the future than stocks on average

This chapter has introduced the research aim, questions and giving a context of the Malaysia, its performance economically and as a member of the ASEAN. Finally the chapter introduces the FBM KLCI and discusses the performance each year of the FBM KLCI, as well as giving an insight into its origin and development. In Chapter Two we will look at a literature review on the value investing method, Chapter Three will outline the research methodology, Chapter Four will outline the results, Chapter Five will involve a discussion on the results in relation to the research questions posed and will make some recommendations for the future in relation to the value investment method and Malaysia.

CHAPTER 2 LITERATURE REVIEW

2.1 – Introduction

This chapter reviews the current literature relevant to the value investing method. The literature review provides the theoretical backgrounds which are relevant to the value investment. It includes two main investment schools of thought, namely the traditional finance perspective and behavioral finance perspective.

In this section, the main ideas that construct the traditional finance and behavioral finance perspectives are discussed, the evidence that supports the perspective and that argues against both perspectives is presented in a Malaysian context. Finally, different stock investment strategies and value investment strategies as a stock investment strategy are discussed.

2.2 Traditional Finance

The traditional finance theory is one of the fundamental theories of standard finance which explains why the markets work one or another way in practice. The Efficient Market Hypothesis (EMH) is the main idea that constructs traditional finance theory.

2.2.1 - Efficient Market Hypothesis (EMH)

The EMH has been developed by Eugene Fama in the 1960s. Fama, E (1965) considered the efficient market as 'a market where there are large numbers of rational profit-maximizers actively competing, trying to predict future market values of individual securities, and where important current information is almost freely available to all participants'. Reilly (1992) thinks that an efficient market is 'one in which security prices adjust rapidly to the arrival of new information and, therefore, they reflect all information about the security'. Forbes (2009) defines EMH as the 'market prices instantaneously and fully reflect all relevant available information'. The EMH can be divided into three sub-hypotheses, which are weak-form EMH, semi strong-form EMH and strong-form EMH.

The weak-form EMH assumes that current stock prices fully reflect all security market information, including historical price sequences, price changes, trading volume data, and any other market-generated information (Reilly, 1992). The weak-form EMH says that current security prices instantaneously and fully reflect all information contained in the past history of security prices (Jensen, 1978). Therefore, historical prices provide no information about future prices that would allow an investor to earn excess returns (Blake, 2000).

The semi strong-form EMH asserts that security prices adjust rapidly to the release of all public information, that is, current security prices reflect all public information (Reilly, 1992). The semi strong-form EMH states that current security prices instantaneously and

fully reflect all publicly available information about securities markets (Jensen, 1978). Favourable news will lead to a rise in prices and unfavourable news will lead to a fall in prices, but once this has happened, no further predictable price changes can be expected to occur (Blake, 2000).

The strong-form EMH contends that stock prices fully reflect all information from public sources and any others (Reilly, 1992). The strong-form EMH assert that current security prices instantaneously and fully reflect all known information about securities markets including privately available inside information (Jensen, 1978). The markets respond so quickly that not even someone with the inside information can trade profitably on the basis of it (Blake, 2000).

This implies that it is impossible to generate returns that are above the market average in the long run because all information is publicly available at the time an investment is made.

2.2.2 - EMH in the Malaysian Context

There have been numerous literatures that present the empirical evidence for efficiency in Malaysian stock market. Lim (1980) employed the monthly closing prices of 30 actively-traded stocks and 6 indices of Kuala Lumpur Stock Exchange running from June 1974 to June 1980 and confirmed that the Malaysian stock market was weak form efficient for active stocks. For the same period as Lim, Lanjong (1983) achieved the same result by examining the monthly data of 104 actively-traded stocks in the market.

By analyzing the monthly closing prices of all stocks traded for the period of January of 1975 to December 1989, Annuar, Ariff and Shamser (1992) concluded that the Malaysian stock market is a semi-strong efficient market.

Likewise, Yakob (2001) investigated monthly data for the period January 1989 to March 2001 and discovered that the findings support EMH since the past information does not seem to affect the current stock prices.

Worthington and Higgs (2005) also reported that the present of weak form market efficiency in Asian emerging and developed equity market, including Malaysian equity market.

Othman (1989) analyzed the weekly closing prices of 30 randomly selected stocks for the period of January 1977 to June 1988 and he concluded that the Malaysian stock market is in the weak-form inefficient.

By investigating the relationship between money supply and stock prices, Habibullah (1998) concluded that Malaysian stock market is inefficient since the market participants will be able to use the information on broad money supply to predict the share prices.

The empirical studies by Balkiz (2003) confirmed that the Malaysian stock market is predictable and it is not informational in the weak sense by observing the daily composite index for the period of January 1977 to May 2002.

Lian and Leng (1994) found that the degree of market efficient will change in different period of time. Their research shows that the Malaysian stock market changed from the weak-form inefficient market in the mid 1980s to a weak-form efficient market by the late 1980s and early 1990s. The literatures from different scholars show the mixed results of EMH on the Malaysian stock market. It can be due to the advancement of technology change the dissemination of message.

2.3- Behavioural Finance

Behavioural finance is regarded as the school of thoughts that oppose to the idea of traditional finance. Behavioural finance is the study of how psychological phenomena impact financial behaviour (Shefrin, 2002). Behavioural finance denotes the study of finance based on credible assumptions about how people behave (Forbes, 2009). It disregards the assumption of the EMH that human beings are rational and financial markets are not efficient (Pitkanen, 2011).

In the next section, the main idea of behavioural finance which is prospect theory is outlined.

2.3.1 - Prospect Theory

The prospect theory which was developed by Kahneman and Tversky (1979) has become a major hypothesis for individual behaviour in economic analysis. The theory states that the investors might look at the potential gains and losses instead of the final states of wealth they can end up with (Willows, 2014). The prospect theory is regarded as a leading explanation to the negative-feedback trading behaviour and the disposition effect.

The negative-feedback trading behaviour refers to the investors that are buying the stocks after prices decrease and selling after prices increase (Yao & Li, 2013). For the disposition effect, the investors sell winning stocks quickly to bank their gains, but ride their losses in an eternal, and often frustrated, hope of gains (Shefrin & Statman, 1985). It suggests that people are willing to risk more when facing losses than facing winning situations.

A lot of researchers in behavioural finance present very strong evidence regarding the prospect theory induced phenomena in financial markets (Kahneman and Tversky, 1979; De Bondt, 1998 and Montier, 2006).

Besides, the market participants are over-confident of their own abilities. This can be seen when stock market is booming and everyone is earning money, they are more likely to attribute the achievement to their abilities of choosing stocks. Overconfidence further fuels the trading volume in the market. In this situation, they tend to make judgments in uncertain situations by searching for familiar patterns and assuming these patterns will repeat again and again (Shiller, 2000).

2.3.2 - Behavioural finance in Malaysian context

The existence of market inefficiency of Bursa Malaysia in the context of behavioural finance was discovered by Neoh (1986), Annuar et al. (1994) and Ibrahim and Yong (1994).

Annuar and Shamsher (1987) found the existence of 'January effect' phenomenon in Malaysian market. 'January effect' refers to a phenomenon that the January returns to be highest among the calendar months, which could represent the evidence of behavioural finance in the market. Besides, Annuar, Shamsher and Ali (1988) discovered that the daily average return of Malaysian stock market to be negative on Monday and Tuesday but positive on Friday.

Researchers (Albaity & Rahman, 2012) found that gender, religion and ethnic differences influence the key determinants of individual behaviour. The gender difference shown statistically significant associated with risk taking behaviour, maximization and overconfidence. Religious beliefs and ethnic origins significantly affect life time income risk, regret, maximization, happiness, confidence and trust. Therefore, the impact of behavioural finance on the household financial decisions is existed in Malaysia.

By investigating the excess stock return around earnings announcement day, Sanda, Jili and Gupta (1998) show that the market does not instantaneously adjust to new information. This indicates that excess returns could have been earned by acting on the EPS information as it appeared in the daily papers. However, there is potential sampling bias due to the opposing results from the two statistics tests in their research. (Sanda, Jili and Gupta, 1998, p. 109).

Ali, Nassir and Hassan (2009) however, found mixed evidences that support and disagree with the behavioural finance theory in the Malaysian stock market. Their studies show the overreaction behaviour existed prior to the 1997 Asian Financial Crisis but it diminished during the post crisis period. This phenomenon could be due to the investors changing their trading strategies and behaviour after the crisis. Besides, their tests running from January 1987 to December 2006 provide no evidence of the January effect. In this case, overreaction hypothesis cannot be held true due to the inconsistent overreaction behaviour in the Malaysian stock market.

Given the above the phenomenon of behavioural finance is merely a reflection of trading behaviour of the market participants at the particular period of time. It will change over the time as they change their trading strategies and trading psychology. This could be due to the increase in experience and education.

2.3.3 – Conclusion

Both EMH and behavioural finance exist in the Malaysian equity market. This is due to both rational and irrational investors existing in the market. The rational investors represent the market participants who have mature trading psychology and pursue a longer term investment strategy. At the same time, the irrationality of investors will inevitably exist since it is hard to beat human nature.

No doubt, with the well-established channel, institutional investors would always have a better position to exploit inside information before it is released to the public.

However, the fast pace of technology evolution will increase the speed of information dissemination. The improvement of capital market structure and regulations by the Bursa Malaysia stock exchange assist the individual investors in stock investing.

The degree of informational efficiency of the Malaysian stock market will increase over time following by the advancement of technology and enhancement of capital market regulations. This will then lead to individuals attempting to identify effective stock marketing investing strategies.

2.4 - Stock Investing Strategies

The investment management styles can be broadly classified into traditional investment techniques and quantitative investing techniques. Traditional investment management often relies on the subjective feelings of fund-manager. They include contrarian and growth investment strategies. Quantitative investment management, as the name suggest, the stock trading process is solely based on objective criteria.

2.4.1 - Value Investment Strategies

Value strategies involve the purchase of securities that have low market prices relative to the intrinsic value (Blake, 2000). The intrinsic value or fundamental values of a stock could be measured through earnings, dividends, historical prices or book values. The legendary investor Warren Buffett is one of the advocates in value investment strategy.

The advantage of value investing is the fact that value investors have the chance to pick a relatively cheaper company than growth investors may pick. In this case, the growth potential of this value stock could supersede the growth potential of a growth stock.

However, the disadvantage is the value investing approach requires knowledge and experience in conducting the qualitative analysis of companies. Besides, there is no fixed way on the computation of a company's intrinsic value thus, despite all the computation and data, value investors may still come up with the wrong decisions.

2.4.2 - Growth Investment Strategies/Momentum Investing

Momentum investing is based on the idea that stocks will move in the same direction as they did in the past. (Moerloose et al, 2011). The growth/momentum strategy is the pursuit of glamour stocks, securities which have done well in the recent past and are expected to do well in the future (Blake, 2000). The growth investors prefer companies with positive earnings per share growth rate, sales and operating margin growth. As the fund manager at Fidelity's Magellan Fund, Peter Lynch transformed $18 million in assets to more than $14 billion in 13 years' time (Perlberg, 2013), applying this strategy.

The advantage of growth investing is investors could assess the corporate future plans as almost everything is given on corporate disclosures in a company's financial statement. The disadvantage is the possibility of picking overvalued stocks where companies that continue to surge may reach a point where they can no longer continue to go up.

2.4.3 - Quantitative Investment Strategies

Quants, as the industry calls them, are the popular investment techniques in Wall Street and commonly adopted by hedge funds and other institutional players. It uses the highly-sophisticated mathematical and statistical model to spot the investment opportunities. The models are typically developed by highly educated teams while the computer makes the actual buy or sell decision.

In a Malaysian context, Ismail et al, (2012) demonstrate that the Data Envelopment Analysis (DEA) portfolio seems to produce significant cumulative abnormal returns over the 36-months holding period. In brief, DEA is a linear programming that concentrates on the relationship of the produced output to the assigned inputs and discovers efficiency scores (Charnes et al, 1978). However, the sample is based only on the real property sector of Bursa

Malaysia and two year periods of portfolio selection (2004-2005). It may not guarantee that the model furnishes persistent abnormal returns in other sectors and sustainable in the long run.

The advantage of quant strategy is the quants can use their models to exploit the market inefficiencies based on quantitative data in lightning speed. In addition, the models are capable to run as little as few ratios or thousands of ratios and analysing a very large group of investments simultaneously.

However, the models do have the drawbacks. Quants examine the feasibility of the models through back-test approach. Since the models are based on historical event, it is not guarantee that the model could generate above-average returns consistently. Furthermore, the quants often take enormous leveraged bets on market directions, when the models fail, it can create a chain reaction magnified by leverage-created havoc.

2.4.4 – Summary

Every strategy it seems has a possibility to yield a lucrative return but they also have potential pitfalls. It can be concluded that each strategy can be applied according to different risk appetite, return requirement, holding period and specific technical know how.

2.5 - Value investing as a Stock Market Strategy

The concept of value investing was first introduced by Graham, B and Dodd, D in 1934 in their book Security Analysis. Warren Buffett, as one of the notable disciple of Graham, advocates for value investing and have an impressive track record.

In value investment strategy, there is no right way to analyze a stock but there are some important metrics that are used by scholars to pick up on under-valued stocks. These fundamental metrics often have a strong relation to a company's financial and operational health, including Price/Book Value (P/BV) Ratio, Price/Sales Value (P/S) Ratio and Price/Earnings (P/E) Ratio.

Price/Book Value (P/BV) Ratio

Under theoretically ideal conditions, the market value of a firm should reflect its book value and P/BV ratio should be close to 1 (Reilly, 1984). It can be calculated by dividing the share price to the net assets of the company. The calculation excludes any intangible assets, such as goodwill. It shows what investors are willing to pay for tangible assets. For the application of this ratio in investment decision rule, some scholars have suggested that stocks with low P/BV ratios should outperform high P/BV stocks. Rosenberg, Reid and Lanstein (1985) proved that stocks with low P/BV ratios achieved significantly higher rates of return than the average stocks.

Price/Sales (P/S) Ratio

The ratio divided by the market capitalization of a company by its total sales over the past 12 months. Compare with P/S ratio of the companies in the same sector, a lower P/S ratio means the possible undervaluation and more attractive of the investment. P/S ratio could be treated

as another stock valuation method because the profit of a corporation can be subjected to accounting manipulation while the revenue would be more reliable.

Price/Earnings (P/E) Ratio

The P/E Ratio is a measure of the number of year's profits in a company that is effectively bought when a share in that company is purchased (Cox & Cox, 2006). The ratio divides the current market share price by the following 12-months' earnings. Stocks with lower P/E ratio can be interpreted as the less number of years of earnings to pay back purchase price. However, stocks with high P/E ratio do not mean it is not worth to invest. A company with high P/E ratio is expected to grow faster in term of profitability than a company with low P/E ratio.

Dividend yield (DY)

DY shows the amount of dividends pay out by a company each year in relation to its share price. It divides the annual dividend per share by the current share price of the company. It indicates the cash flow the investors are getting for each Ringgit invested in a stock. With the absence of capital gains, DY can be treated as the total return of the stock investment. Fisher (2012) examined the indexes[14] from January 2011 and August 2012 and he found out that FTSE High Dividend Yield Index of US stocks generated higher rates of return than the S&P 500 Index for the same period.

[14] FTSE U.S. High Dividend Yield Index.

2.5.1 Applicability of the Value Investing Strategy

The value stocks are characterized by low P/BV ratio, P/S ratio and P/E ratio. These ratios were used by different scholars to pick value stocks and construct a relevance portfolio. Chan et al. (1991), Piotroski (2000) and Zhang (2005) used P/BV ratio, Basu (1977), Rousseau and van Rensburg (2003) and Anderson and Brooks (2007) preferred P/E ratio while Bird and Casavecchia (2007) chose P/S ratio. These methods yielded superior returns in different markets around the globe.

Then, the researchers started to use combination of these measures and other ratios in portfolio construction. Dhatt et al. (2004) combined P/S, P/BV and P/E in stock-picking and achieved positive result in both return and risk in the US market.

Academically, a lot of researchers have concluded that value investing strategies yields superior returns in the long term and have called this market anomaly the 'Value Premium'. Basu (1977) discovered the existence of market inefficiency in the New York Stock Exchange between April 1957 and March 1971.

Chan et al (1991) did the similar findings on the Japanese market and Chahine (2008) confirms value premium exists around Europe. Tornau (2011) demonstrated that the value premium is obtained in the Indian stock market.

For the Malaysian context, little research has been carried out on the Malaysia market. Nevertheless, there is research on the emerging markets[15]. Pitkänen (2011) found a value premium in selected emerging markets between 2001 and 2011.The findings show that the value premium with market-to-book ratio is statistically significant.

[15] The emerging markets include Brazil, Chile, China, India, Indonesia, Malaysia, Mexico, Philippines, Poland, South Africa, Taiwan and Turkey.

This therefore led to the research question of whether a value investment strategy applied to the Malaysian stock market would be profitable. In this context, it is intended to apply the value investment strategy proposed by Michael O'Higgins. The value stocks of O'Higgins method are characterized by high dividend yield.

The existing studies present both in favour and against the predictive power for stock returns from the dividend yield (McMillan & Wohar, 2013).

The P/BV ratio, P/S ratio and P/E ratio are easy to calculate and often available in most of the financial papers, like Bloomberg, Financial Times and Reuter Thomson. However, to a large extent, these ratios are the reflection of the past performance of a company. They may indicate the company is undervalued but they cannot predict the future growth potential of the company.

The potential pitfall of high dividend yield stocks is the investor has to pay for the tax of dividend income and it is not guarantee that the company would pay the consistent dividend annually. Nevertheless, it can be served as a defensive approach. With the absence of capital gains, the dividend received can be treated as return of the stock. When the equity market is booming and the stocks are experiencing capital gains, the dividend received can be considered as an additional income.

Given this, it is important to review the factors to consider and typical risks when pursuing a value investing strategy. The Michael O'Higgins investment methodology and stock selection method is clearly outlined in Chapter three.

2.6 - Factors to consider when pursuing a Value Investment Strategy

2.6.1 - Holding period

Typically, researchers often regard the holding period of a portfolio as a factor to consider in pursuing a value investment strategy. Tornau (2011) chose one, two and three year holding strategy in analysing the existence of value premium in Indian stock market. Olin (2011) measured the portfolio value in three months block, which range from 3 months to 18 months period. The returns varied in different holding period. For the shorter time periods than 12 months, the 5-stock portfolio outperformed both the OMXH Cap index and all the other portfolios. When the holding period was longer than a year, portfolios with either 10 or 15 stocks performed better (Olin, 2011).

2.6.2 - Economic Cycle and Seasonal Effect

Pitkänen (2011) demonstrated that value investing is a safer strategy in downmarket with lower correlations among emerging country returns than those found with the growth strategy.

However, the findings from Tornau (2011) show that it is difficult to say whether value stock portfolio could serve as a good hedge in downmarket time. It is evidenced by a negative value premium during the times of Asian Financial Crisis while positive during the 2008global financial crisis.

In this context, the findings from researchers (Shamiri & Isa, 2009) indicated that the Malaysian stock market is not affected much by the 2008 US financial crisis compared to the 1997 Asian crisis.

The seasonal effect in stock returns should be considered as a factor in pursuing any investment strategy. A number of studies have found the existence of seasonal effect in US stock returns (Wachtel, 1942) and UK (Lewis, 1989) . However, Ramcharran (1997) rejected the seasonal effect for the stock market in Jamaica.

In the Malaysian context, Pandey (2002) found some evidence of the existence of seasonality in Malaysia's stock market as the returns were statistically different in months of February and December. It appears that Malaysian investors trade in shares towards the end of the year to make capital gains and contributed to the year-end effect.

2.6.3 - Typical Risks associated with Value Investing

Generally, risks associated with value investing often refer to standard deviation and the beta of the value portfolio as well as downmarket correlation.

Tornau (2011) and Pitkänen(2011) found that value investment portfolios carry more fundamental risks. These results are not in line with findings of Fama and French (1998) and J. Lakonishok et al studies (1994).

Olof Wirfelt found a significant value premium in Stockholm stock exchange associated with higher alpha in the CAPM regression, which indicated an increased systematic risk.

The capital asset pricing model (CAPM) has been used in valuation of risk assets in stock portfolio (Lintner, 1965 and Sharpe, 1964). However, the empirical evidence on the performance of the CAPM in examining the risk-return relationship in South-East Asian economies is disappointing (Wong and Tan, 1991 and Cheung et al., 1993).

The researchers (Clare & Priestley, 1998) then employed Arbitrage Pricing Theory (APT)[17] to investigate the risk-return relationship of the Malaysian stock market. APT allows an unspecified number of risk factors to enter the pricing relationship (Wei, 1998). Clare and Priestley (1998) have identified some national sources of risk associated with the macro economy in the pricing of Malaysian stocks. There are a number of statistically significant prices of risk associated with the unexpected changes in the risk free rate, unexpected changes in the term structure of interest rate, unexpected in inflation and changes in expected inflation.

2.7 – Conclusion

The EMH and Behavioural Finance are the two schools of thought in investment world. Both of them co-exist in Malaysia in equity market since both rational and irrational investors co-exist. The existence of Behavioural Finance and weak-form of informational efficient criteria allow the investors to earn higher than average return in the market. The strategies often comprise of value investing, growth investing and quantitative investing method. The research shows that value investing works in the equity market but there are some factors and risks have to consider when pursuing this strategy.

[17] Refer to Glossary of Terms.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology has been adopted, to deliver this research project. Before outlining the methodology used, it is essential to justify the chosen methodology with reference to research theory. This chapter will describe the research aim, research objectives, processes, models and approaches undertaken to complete this research project.

3.2 Research Aim and Objectives

3.2.1 Research Aim

The aim is to find out, if the stocks that are ranked and chosen by value investing method actually have higher returns in the future than stocks on average in the Malaysian Stock Market.

3.2.2 Research Objectives

1. To determine whether it is possible to beat FTSE Bursa Malaysia KLCI Index over a four years period (2009-2013) through the identification of a certain portfolio based on Michael O'Higgins value investing method.
2. To determine if there was the ideal time period for holding each portfolio to maximize gains based on the selection chosen.
3. To determine the changes of portfolio returns if low price-to-earnings ratio and high earning-per-share ratio are added as additional factors to the formula.
4. To determine whether the Michael O'Higgins value investing method is applicable to the Malaysian stock market.

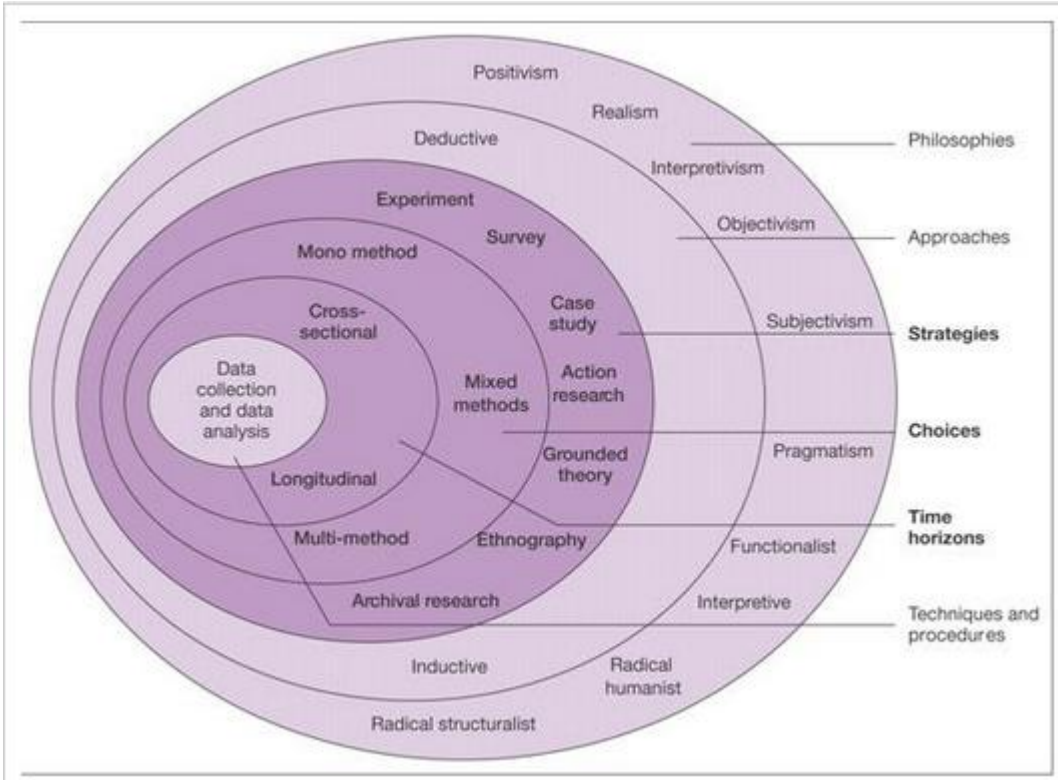
3.3 Principle of Research Methodology

Miller (1983, p.201) states that research methodology are ‘a body of knowledge that enables researchers to explain and analyze methods indicating their limitations and resources, identifying their presuppositions and consequences, and relating their potentialities to research advances.

There is some difference between research approach and methodological choices. Research approaches could acts as the reasoning to the research while methodological choices could refer to the choice and coherence in research design. Both research approach and methodological choices formed the part of the research ‘onion’.

The research onion is discussed in from Saunders (2011), and it describes the research process by six different layers as shown in Figure 12. The research onion illustrates different layers and approaches that are available and must be consistently employed when conducting a research (Limpanitgul, 2009).

Figure 12: Research Onion



Source: Saunders et al (2009, p. 102).

The research layers that are important to this research project are:

- Layer No.1: Research Philosophy
- Layer No.2: Research Approach
- Layer No.3: Research Strategy
- Layer No.4: Methodological Choices
- Layer No.5: Time Horizon
- Layer No.6: Techniques and Procedures

However, there was a change of the research process in the latest version of research onion by Saunders et al (2012, p.128). The research approach would be followed by methodological

choices instead of research strategy. The sequences of research process would be portrayed as follow:

The research layers in the research onion (Saunders et al, 2012, p. 128) are:

- Layer No.1: Research Philosophy
- Layer No.2: Research Approach
- Layer No.3: Methodological Choices
- Layer No.4: Research Strategy
- Layer No.5: Time Horizon
- Layer No.6: Techniques and Procedures

The research onion would be the core framework in this chapter and the author adopted the layers in the research onion in the following sections.

3.4 Research Philosophies

Saunders et al (2012) defined the Research Philosophy as; 'the development of knowledge and the nature of that knowledge'. The research philosophy also can be treated as the assumptions we make in our research. Our assumptions we make in our research would shape how we understand our research questions, the methods we use and how we interpret our findings (Crotty, 1998).

Johnson and Clarke (2006) think that it is important we are able to reflect upon our philosophical choices and defend them in relation to the alternatives we could have adopted.

The research philosophies can be classified into Positivism, Realism, Interpretivism and Pragmatism. The author focused on one underlying philosophy of this research project: Positivism.

Gill and Johnson (2010) demonstrate that positivism involves collecting data about an observable reality and search for regularities and causal relationships in your data to create law-like generalizations like those produced by scientists. The positivist researcher will be likely to use a highly structured methodology in order to facilitate replication. The emphasis will be on quantifiable observations that lend themselves to statistical analysis.

The information from logical and mathematical treatment in searching for value stocks will be derived by using Michael O'Higgins value investment method.

3.5 Research Approach

The Research Approach concerning the design of the research project (Saunders et al, 2012). There are two research approaches based upon the reasoning adopt in the research project. These are Inductive and Deductive.

As defined by Ketokivi and Mantere (2010), Deductive reasoning occurs when the conclusion is derived logically from a set of premises, the conclusion being true when all the premises are true. Whilst for the Inductive reasoning, 'there is a gap in the logic argument between the conclusion and the premises observed, the conclusion being 'judged' to be supported by the observations made.

The study applied the deductive research approach which involved evaluation proposition or hypotheses related to an existing theory based on the data analysis.

3.6 Research Strategy

3.6.1 Formulating the Research Design

In order to formulating the research design, it's needed a research strategy that guided by research questions and objectives. As defined by Saunders (2012), a Research Strategy is a plan of how a researcher will go about answering his or her research questions'. It is the methodological link between your philosophy and subsequent choice of methods to collect and analyze data (Denzin and Lincoln, 2005).

3.6.2 Research Purpose Classification

Before this, the research must recognize the nature of the research design. There are three main types of research studies which can be utilized these include; exploratory, descriptive and explanatory.

The study embraced exploratory, descriptive and explanatory studies to best answer the research question and objectives. Saunders et al (2002) think that exploratory study is particularly useful to ask open questions to discover what is happening and gain insights about a topic of interest. Due to the exploratory nature, the author has conducted a search of the relevant literature.

The purpose of descriptive research is to gain an accurate profile of events, persons or situations (Saunders et al, 2012). The author calculated the quantitative data collected and draws conclusions from the data.

Explanatory studies emphasize on studying a situation or a problem and establish causal relationships between variables (Saunders, 2012). The study conducted a cursory analysis of

quantitative data based on various value stocks showing a relationship between these stocks and their returns.

3.6.3 Research Strategy Applied

The research strategies available for a researcher to apply include: Experiment, Survey, Archival Research, Case Study, Ethnography, Action Research, Grounded Theory and Narrative Inquiry.

The strategy in this research would be an archival research. An archival research strategy makes use of administrative records and documents as the principle source of data. (Saunders et al, 2012) This study extracted the sources of documentary data from shares investment magazine and online database.

3.6.4 Research Process – Quantitative and Qualitative

The options of analysis that are used to describe and interpret the data tend to gravitate around the notions of 'quantitative' and 'qualitative'.

According to Denscombe (2010), quantitative research is associated with the production of numerical data that are 'objective' in the sense that they exist independently of the researcher and are not the result of undue influence on the part of the researcher himself or herself. In the contrary, qualitative research tends to place emphasis on the role of the researcher in the construction of the data. This study used a quantitative approach to address the research aim and research objectives.

Within quantitative analysis, calculation was conducted, tables and charts drawing by using Excel spreadsheet.

3.6.5 Triangulation

Multiple methods research design can be summarized to: concurrent triangulation design, concurrent embedded design, sequential explanatory design, sequential exploratory design and sequential multi-phase design (Creswell 2009). Triangulation is considered as one of the reasons for using a mixed methods design (Bryman, 2006; Greene et al, 1989 and Molina-Azorin 2010).

In term of triangulation, Saunders et al (2012) think that it is the mixed methods that use to combine data to ascertain if the findings from one method mutually corroborate the findings from the other method.

For the secondary data in this research, documentary text, including organizations' databases, such as the annual reports, key financial highlights and relevant accounting ratios in the company's investor relation webpage were used. Besides, this study also looks for the data from shares investment magazine. Alternatively, longitudinal multiple source such as the data compiled in Yahoo Finance was used.

3.7 Time Horizon

The time horizon can be classified into cross-sectional studies and longitudinal studies. Recognized that time constraint for the research projects undertaken for the master program, it's reasonable to adopt cross-sectional studies.

According to Saunders et al (2012), cross-sectional studies describe the incidence of a phenomenon or to explain how factors are related in different organizations. It represents a snapshot of one point in time.

3.8 Data Collection Methods

3.8.1 Data Applied

Quantitative data can be divided into two distinct groups: categorical and numerical (Saunders et al, 2012). Categorical data refer to data whose values cannot be measured numerically but can be either classified into sets according to the characteristics that identify or describe the variable or placed in rank order (Bernan Brown and Saunders, 2008). Numerical data are those whose values are measured or counted numerically as quantities (Bernan Brown and Saunders, 2008).

The study required to obtain the data for FTSE Bursa Malaysia KLCI Index's annual performance as well as 30 constituents in the index for the past five year, starting from 2009 to 2013. In order to access the historical constituents of FBM KLCI for the past five years, the author decided to use FTSE Bursa Malaysia KLCI etf annual report. It is the fund performance report published by AmInvestment Bank annually and the fund tracks the performance of FBM KLCI on quarterly and yearly basis as well as the details of FBM KLCI components on each financial year.

Besides, the author also extracted the data from Bursa Malaysia stock exchange online database – Bursa Marketplace. 'Bursa Marketplace' is an online platform launched by Bursa Malaysia stock exchange in April 2014 to bring all market participants, brokers, analysts, opinion leaders together in one place to share research, market insights and trading ideas. Through this online platform, the author can obtained the financial information of each individual company, including dividend for the year and earning-per-share (EPS) for the past five years.

However, the 'Bursa Marketplace' database do not provides historical prices for each company. Therefore, the author feels that it is necessary to extract the data from other

sources. In this section, it was decided to use the data from 'KLSE.info' website in which the database provides the historical prices for past five years.

Provided that every company has different financial year end, it gives raise the possibility to cause inconsistency and inaccuracy while doing comparison.

In order to standardize the result, it was decided to include each company with a financial year end as at 31 December of every financial year and exclude any company in which the financial year-end is not as at 31 December of every financial year. This was to aid the identification of the data required.

The details in calculation and portfolio construction are provided in the attached Excel sheets in Appendix 5.

3.8.2 Time Period

The data used in this study is yearly data from 2009 to 2013, a time period of four years.

3.9 Portfolio Construction

The study manually formed and selected two portfolios based on dividend yield, Price-to-earnings ratio and Earning-per-share ratio, discussed previously, of companies registered on the FBM KLCI starting year 2009. The stocks are then sorted according to different ratios into two portfolios – Michael O'Higgins strategy portfolio and Combination Strategy portfolio. Michael O'Higgins portfolio takes into the account of dividend yield. For Combination Strategy portfolio, dividend yield, PE ratio and EPS will be taken into account of portfolio construction.

3.9.1 Michael O'Higgins strategy portfolio

The Michael O'Higgins Investment strategy states that each stock should be chosen based on the dividend yield. From the 30 constituents companies of FBM KLCI, the annual dividend and share price for each company are listed and dividend yields are computed. From the list of yields, the ten highest will be highlighted. If there are two stocks with the same yield, the one with lower closing price will b picked. These ten companies will be ranked, the one with the highest yield rank '1' and the lowest rank '10'. It is assumed that an equal amount of money is invested in each of the ten shares and hold for 12 months. When 12 months are up, the new closing prices of the ten stocks are listed and the returns of the portfolio are computed. The returns of the portfolio will be compared with the performance of FBM KLIC for the same period.

As shown in Appendix 5 Table 5.1, the ten highest yield companies from FBM KLCI are selected and ranked accordingly. The annual dividend and share prices as at 31/12/2009 and 31/12/200 are obtained in order to compute the returns of the portfolio.

Variable Employed

In this investment portfolio, dividend yield for each company constituting the FBM KLCI was considered. The annual dividend and the share price of each company are obtained in order to compute the respective dividend yield. As shown in Appendix 5 Table 5.1, the data of annual dividend and share price is collected to produce the list of dividend yields. From the list of yields, the study then identified the ten highest. If there were two companies with the same yield, the companies with lower closing price would be chosen. As shown in Appendix 5 Table 5.1. CIMB and PPB have same dividend yield of 0.014. However, CIMB rank higher than PPB because CIMB has lower share price of RM6.42 while PPB's share price is RM15.96.

Calculation of Variable

The dividend yield was calculated on the following basis:

- Dividend yield = Annual Dividends per Share/Price per Share

We take TM in Appendix 5 Table 5.1 as an example. The annual dividend of TM is RM0.23 and the share price is RM2.75. By dividing the annual dividend to the share price, the dividend yield of 0.084 can be obtained.

1. RM0.23/RM2.75 = 0.084

TM gets the highest ranking because its dividend yield is the highest among the 30 constituents companies of FBM KLCI.

Ranking of Stock

All stocks were then, ranked based on their dividend yield for these ten companies, giving the one with the highest yield '1' and the one with the lowest yield '10' as shown in

Appendix 5. Among the ten highest yield companies, TM with the highest dividend yield of 0.084 ranked '1' while PPB with lowest yield of 0.014 ranked '10'.

Holding Period

Each of the ten shares was assumed to be invested an equal amount of money and did nothing for exactly 12 months. When 12 months are up, the return of the portfolio was worked out and compare with the FBM KLCI index return in the same year. The process of select the ten highest yielding stocks was repeated. Any stock which was not in the new list was sold and the others were selected.

This methodology addressed the research objective one, two and four to determine whether it is possible to beat FBM KLCI over a four years period (2009 – 2013) by Michael O'Higgins value investing method, the ideal time period for holding each portfolio and the applicability of Michael O'Higgins investing method to the Malaysian stock market.

3.9.2 Michael O'Higgins strategy (with combination of PE and EPS ratio) portfolio

The idea of Michael O'Higgins investment strategy employs one financial measure, which is dividend yield to rank the stocks and the stocks with top ten highest dividend yield are selected for each period. In this section, apart from dividend yield, another two financial measures, which are PE ratio and EPS are taken into account to determine the changes of portfolio returns.

In this case, the top five high dividend stocks need to have low PE ratio and high EPS. The PE ratio should be lower or equal than 15 and EPS should be higher or equal than 0.15. For example, in Appendix 5 Table 9.1, TM has highest dividend yield of 0.084 with the PE ratio of 15 and EPS of 0.18.

Variables Employed

In this investment portfolio, another two variables, which are Price-Earnings ratio and Earnings-per-Share for each company was considered. The five highest yielding stocks with positive Earnings-per-Share (higher than 0.15) and low Price-Earnings ratio (lower or equal to 15) were chosen.

Calculation of Variables

1. Price-Earnings Ratio (PE Ratio) = Market Value per Share/Earnings per Share

As shown in Appendix 5 Table 9.1, TM's share price is RM2.75 and EPS is 0.18. The PE ratio of 15 can be obtained by dividing the share price to EPS.

- RM2.75/0.18 = 15

2. Earnings per Share (EPS) = (Net Income – Dividends on Preference Share)/Average Outstanding Shares

From Appendix 5 Table 9.1, TM has EPS of 0.18. The figure is obtained directly from Bursa Malaysia stock exchange database – The Bursa Marketplace.

Ranking of Stock

By taking the top ten high dividend stocks selected by Michael O'Higgins value investing method, the companies with PE ratio lower or equal to 15 and EPS higher than 0.15 were selected and ranked. The companies with the highest yield rank '1' and the one with the lowest yield rank '5'.

Refer to Appendix 5 Table 9.1, all the companies have PE ratio lower or equal to 15 and EPS higher or equal to 0.15. TM ranked '1' because it has the highest dividend yield of 0.084 while PPB ranked the '5' because of its lowest dividend yield of 0.014.

Holding Period

An equal amount of money was assumed to invest in each of the five shares. The portfolio was assumed to start from 2009 to 2013 for a period of five years' time as well as start from 2009 to 2011 for a period of three years' time.

Return

The return for FBM KLCI index is calculated by FTSE Group each year and the components of the index are reviewed periodically in June and December every year. FTSE Group is an independent global company whose sole business is the creation and management of indices and associated data services.

In order to calculate the returns of each strategy, the return index is used. The return index comprises of a price holding and assumes dividends are re-invested and used to buy

additional shares at closing price and on the ex-dividend date while ignoring taxes and any charges occurring from the re-investment.

The formula is as follow:

[(End portfolio value/Begin portfolio value) – 1] x 100 = Return (%)

Then, the returns of each strategy were compared with the return of FBM KLCI index.

Refer to Appendix 5 Table 5.1, the end portfolio value is 150.74 while the begin portfolio value is 132.16. The total annual dividend is 5.46. By taken into account of dividend received, the return of the portfolio would be 21.19%.

- [(150.74+5.46)/132.16] – 1 = 21.19%

This methodology addressed research objective two and three to determine ideal time period for holding each portfolio and the changes of portfolio returns if low PE ratio and high EPS are added as additional factors to the formula.

3.10 Ethical Consideration

According to Saunders (2007), research ethics refers to the appropriateness of the researcher's behavior in relation to the rights of those who become the subject of a research project, or who are affected by it.

This research involved Internet-mediated access; this involves the use of search engines to gain virtual access to conduct archival research and to gather secondary data. Since the annual reports and key financial highlights of each company are available on the stock exchange online database, the author would not have to overcome organizational concerns about granting access or request any access.

-

3.11 Limitations of the research

It is inevitable for the study to encounter a number of limitations when undertaking the research. They would affect the accuracy and consistency on the research findings. These are discussed further below.

3.11.1 Gaining Access

In assessing the components of FBM KLIC index, the study could only obtain the data of 30 constituents for current years in FTSE Group database. Thus, this has had to assess the data from other sources, such as FBM KLCI etf Annual Report of AmInvestment Bank.

3.12 Summary

This chapter identifies and justifies the methodological framework and the strategy adopted to design the research project. The following chapter will analyze the findings from the data collection method utilized.

CHAPTER 4: FINDINGS

4.1 Introduction

This chapter presents the findings of the research using Michael O'Higgins stock investment strategy to rank stocks and to form portfolios out of different sizes and maturities.

The findings compare returns with various holding periods to the FBM KLCI. The main research aim was to find out, if the stocks that is ranked and chosen by the value investing method actually have higher returns in the future than stocks on average in the Malaysian Stock Market based on the FBM KLCI index.

The study initially presents the result of the findings of the O'Higgins strategy portfolio for each holding period from 2009 to 2013. Then, the findings of Combination strategy portfolio are given

In order to compare the performance of each portfolio, the author then constructed the O'Higgins strategy portfolio that fit the holding period of Combination strategy portfolio.

Lastly, a summary of the findings that include each portfolios and trends over 4 years will be presented. Detailed spreadsheets of all work carried out is presented in the Appendices 5.

4.2 O'Higgins Strategy Portfolio

Based on the O'Higgins stock selection methodology, the stocks with top ten highest dividend would be selected and hold them for 12 months. In this case the stocks are chosen from the 30 constituents of FBM KLCI Following this the results of the findings of the portfolio of 10 stocks and 5 stocks respectively for the holding periods of 2009-2010, 2010-2011, 2011-2012 and 2012-2013, four years, as at 31st December of each year, are presented. The abbreviation of the 30 constituents is provided in Appendix 1 - 4.

4.2.1 O'Higgins Strategy Portfolio (2009 – 2010)

The Appendix 1 shows the 30 constituents of FBM KLCI for the year 2009 where the author selected the stocks for portfolio construction.

Table 5.1 tests the results of the Michael O'Higgins strategy portfolio. In the bottom of the table, the total share prices of the 10 constituents of the portfolio as at 31 December 2009 and 2010 was calculated. Besides, the dividend for the year was recorded and dividend yield was calculated. The figures were then use to compute the returns of the portfolio.

Figure 13 present the performance of Michael O'Higgins investment strategy portfolio for the period of 2009 - 2010. Based on Table 5.1, the average return of the portfolio was 2.80 while there was 3 out of 10 selected stocks outperformed the average return of 2.80. Regarding to this, BAT and RHBCAP generated average return of 4.56 and 3.64 respectively while NESTLE performed exceptionally well with 11.74. The portfolio of 10 stocks generated a return of 21.19% which outperformed the FBM KLCI benchmark index by 1.88%.

For the portfolio of 5 stocks, it performed better than portfolio of 10 stocks. This smaller portfolio yield higher average return of 4.54 while BAT and NESTLE were the only 2 out of 5 stocks that outperformed this figure (Table 5.2). The portfolios of 5 stocks yield a return of 23.83% for the same year which was higher than portfolio of 10 stocks and benchmark index. This indicated that portfolio with smaller size is superior to portfolio with larger size.

Economy performance (2010)

In 2010, the Malaysian economy experienced a strong rebound in GDP growth of 7.2%. To a larger sense, the European Union and International Monetary Fund announced a massive €750 billion Eurozone stabilisation package. In the same year, the US Federal Reserve initiated a second round of quantitative easing to boost the country economy.

In smaller sense, the Prime Minister unveiled the New Economic Model to transform Malaysia into a high-income nation by 2020. Besides, FTSE Group announced that Malaysia has been promoted to Advanced Emerging Market status in FTSE Global Equity Index Series. In relation to this, the Malaysian equity market moved in-line with the rebound of the country's economy.

Figure 13: Michael O'Higgins Strategy Portfolio (2009 – 2010)

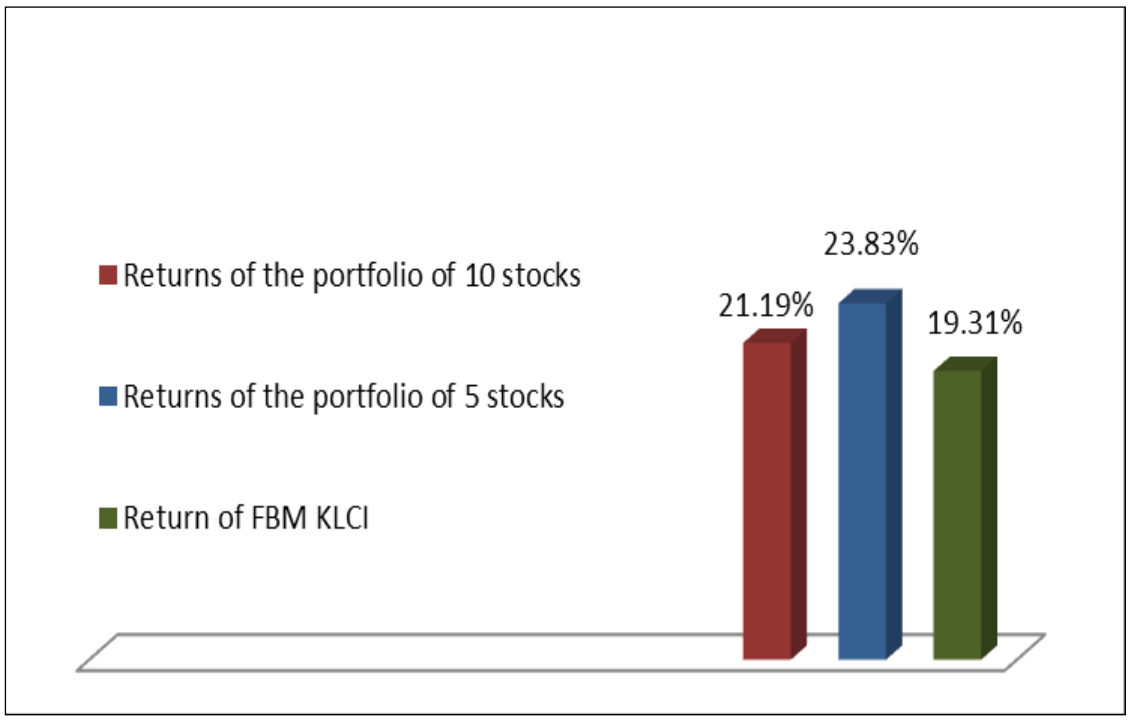


Table 5.1: O'Higgins Portfolio of 10 stocks (2009 - 2010)

Stock Code	Company	Dividend	DY	Share Price 31/12/2009	Rank	Share Price 31/12/2010	Returns
4863	TM	0.23	0.084	2.75	1	3.15	0.63
4165	BAT	2.36	0.055	42.8	2	45.00	4.56
5076	NESTLE	1.50	0.045	33.1	3	43.34	11.74
1066	RHBCAP	0.22	0.042	5.3	4	8.72	3.64
1295	PBBANK	0.41	0.036	11.3	5	13.02	2.13
4588	UMW	0.20	0.031	6.35	6	7.02	0.87
6012	MAXIS	0.15	0.028	5.37	7	5.30	0.08
4715	GENM	0.07	0.025	2.81	8	3.39	0.65
1023	CIMB	0.09	0.014	6.42	9	8.50	2.17
4065	PPB	0.23	0.014	15.96	10	17.26	1.53
		5.46		132.16		154.70	28.00
Average Return							2.80
Returns of the portfolio (10 stocks)							21.19%
Return of FBM KLCI							19.31%

Table 5.2: O'Higgins Portfolio of 5 stocks (2009 - 2010)

Stock Code	Company	Dividend	DY	Share Price 31/12/2009	Rank	Share Price 31/12/2010	Returns
4863	TM	0.23	0.084	2.75	1	3.15	0.63
4165	BAT	2.36	0.055	42.8	2	45.00	4.56
5076	NESTLE	1.50	0.045	33.1	3	43.34	11.74
1066	RHBCAP	0.22	0.042	5.3	4	8.72	3.64
1295	PBBANK	0.41	0.036	11.3	5	13.02	2.13
		4.72		95.25		113.23	22.70
Average return							4.54
Returns of the portfolio of 5 stocks							23.83%
Return of FBM KLCI							19.31%

4.2.2 O'Higgins Strategy Portfolio (2010 – 2011)

The Appendix 2 represents the 30 constituents of FBM KLCI for the year 2010.

Based on Table 6.1, the average return of the portfolio is 1.49 which was particularly low compared to last year's figure of 2.80. It was due mainly to the adversely impact from negative return of RHBCAP and CIMB. TM and PETGAS earned higher than average return of 2.07 and 4.77 respectively while BAT performed exceptionally well with 7.32.

From the Figure 14, we can see the overall return of the portfolio produced an outstanding return of 13.59% while the benchmark index yields 0.78% in the same period of time.

In terms of the portfolio of 5 stocks, the average return was 3.00 which was the doubled the average return of larger portfolio (Table 6.2).

In this case, the performance of portfolio avoided the negative impact from RHBCAP and CIMB. (Explain what RHBCAP and CIMB are and put into the Glossary)Likewise, TM, PETGAS and BAT earned higher than average return. The portfolio had an overall return of 20.99% which outperformed the portfolio of 10 stocks and benchmark index in the same period.

Economy Performance (2011)

The Malaysian economy moderated from 7.2% in 2010 to 5.1% in 2011. In global perspective, the market sentiment dampened by Japan nuclear crisis, political unrest in the Middle East and US's credit rating downgraded by Standard &Poor's from AAA to AA+.

In Malaysian perspective, the Central Bank of Malaysia raised its Overnight Policy rate from 2.75% to 3%. In the same time, the central bank released the new Financial Sector Blueprint 2011 – 2020 to revitalise the country's financial industry. The growth of capital market falls

down from 19.31% to 0.78% due to the moderation of the nation's economic growth from 7.2% to 5.1%.

Figure 14: Michael O'Higgins Strategy Portfolio (2010 – 2011)

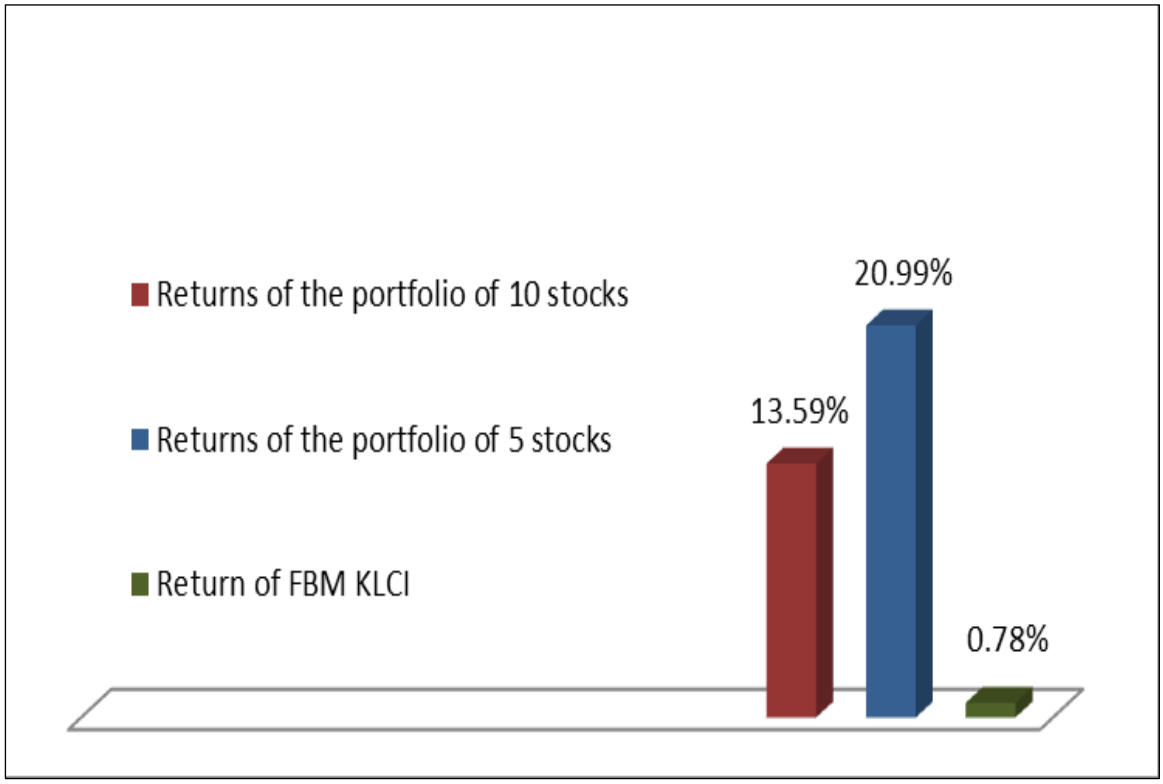


Table 6.1: O'Higgins Portfolio of 10 stocks (2010 - 2011)

Stock Code	Company	Dividend	DY	Share Price 31/12/2010	Rank	Share Price 31/12/2011	Returns
4863	TM	0.26	0.083	3.15	1	4.96	2.07
6012	MAXIS	0.40	0.075	5.30	2	5.48	0.58
6033	PETGAS	0.67	0.060	11.10	3	15.20	4.77
4165	BAT	2.40	0.053	45.00	4	49.92	7.32
4588	UMW	0.30	0.043	7.02	5	7.00	0.28
1295	PBBANK	0.46	0.035	13.02	6	13.38	0.82
1066	RHBCAP	0.26	0.030	8.72	7	7.48	-0.98
4715	GENM	0.08	0.024	3.39	8	3.83	0.52
6888	AXIATA	0.10	0.021	4.75	9	5.14	0.49
1023	CIMB	0.13	0.015	8.50	10	7.44	-0.93
		5.06		109.95		119.83	14.94

Average return	1.49
Return of the portfolio of 10 stocks	13.59%
Return of FBM KLCI	0.78%

Table 6.2: O'Higgins Portfolio of 5 stocks (2010 - 2011)

Stock Code	Company	Dividend	DY	Share Price 31/12/2010	Rank	Share Price 31/12/2011	Returns
4863	TM	0.26	0.083	3.15	1	4.96	2.07
6012	MAXIS	0.40	0.075	5.30	2	5.48	0.58
6033	PETGAS	0.67	0.060	11.10	3	15.20	4.77
4165	BAT	2.40	0.053	45.00	4	49.92	7.32
4588	UMW	0.30	0.043	7.02	5	7.00	0.28
		4.03		71.57		82.56	15.02

Average return	3.00
Return of the portfolio of 5 stocks	20.99%
Return of FBM KLCI	0.78%

4.2.3 O'Higgins Strategy Portfolio (2011 – 2012)

The O'Higgins Strategy Portfolio for the period of 2011 – 2012 was constructed based on the 30 constituents of FBM KLCI in year 2011 as shown in Appendix 3.

From Table 7.1 above, we can see that the average return rebound from last year's figure of 1.49 to 2.99. UMW and PPBANK generated above average return of 5.25 and 3.38 respectively while BAT performed exceptionally well with a return of 14.54.

On the other hand, GENM registered a negative return of -0.19 for the year. As we can see in Figure 15, the portfolio generated an overall return of 27.58% which outperformed the benchmark index of 10.34%.

Table 7.2 reports that the portfolio earned an average return of 4.12 and BAT was the only stock that outperformed the average return. The results show that the portfolio registered an overall return of 29.72% which higher than the return of portfolio of 10 stocks by 2.14% and benchmark index by 19.38%.

Economy Performance (2012)

During the year, the Malaysian economy continued to grow from 5.1% in 2011 to 5.6% in 2012. Externally, the US Federal Reserve announced a third round of quantitative easing and European Central Bank announced a new bond-buying plan to ease Eurozone's debt crisis.

Internally, Malaysian government initiated 20 new high impact projects under Economic Transformation Programme. Besides, Invest Malaysia 2012 was launched to maintain the competitiveness of nation's capital market. Although the Malaysian economy experienced a flat growth of 0.5%, the Malaysian capital market experienced a drastic growth from 0.78% to 10.34%.

Figure 15: Michael O'Higgins Strategy Portfolio (2011 – 2012)

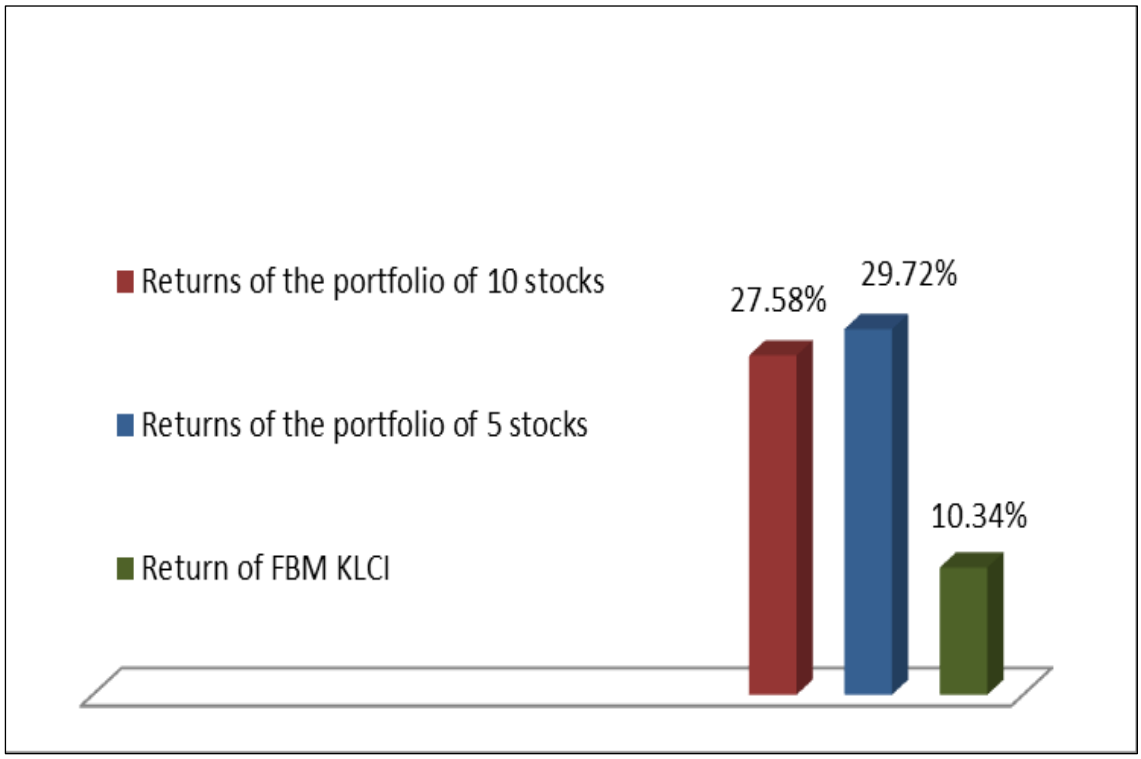


Table 7.1 O'Higgins Portfolio of 10 stocks (2011 - 2012)

Stock Code	Company	Dividend	DY	Share Price 31/12/2011	Rank	Share Price 31/12/2012	Return
6012	MAXIS	0.40	0.073	5.48	1	6.65	1.57
6947	DIGI	0.18	0.046	3.88	2	5.29	1.59
4165	BAT	2.46	0.049	49.92	3	62.00	14.54
4863	TM	0.20	0.040	4.96	4	6.04	1.28
6888	AXIATA	0.19	0.037	5.14	5	6.59	1.64
4588	UMW	0.31	0.044	7.00	6	11.94	5.25
1295	PBBANK	0.48	0.036	13.38	7	16.28	3.38
1023	CIMB	0.22	0.030	7.44	8	7.63	0.41
1066	RHBCAP	0.25	0.033	7.48	9	7.69	0.46
4715	GENM	0.09	0.023	3.83	10	3.55	-0.19
		4.78		108.51		133.66	29.93

Average return	2.99
Return of the portfolio of 10 stocks	27.58%
Return of FBM KLCI	10.34%

Table 7.2: O'Higgins Portfolio of 5 stocks (2011 - 2012)

Stock Code	Company	Dividend	DY	Share Price 31/12/2011	Rank	Share Price 31/12/2012	Return
6012	MAXIS	0.40	0.073	5.48	1	6.65	1.57
6947	DIGI	0.18	0.046	3.88	2	5.29	1.59
4165	BAT	2.46	0.049	49.92	3	62.00	14.54
4863	TM	0.20	0.040	4.96	4	6.04	1.28
6888	AXIATA	0.19	0.037	5.14	5	6.59	1.64
		3.43		69.38		86.57	20.62

Average return	4.12
Return of the portfolio of 5 stocks	29.72%
Return of FBM KLCI	10.34%

4.2.4 O'Higgins Strategy Portfolio (2012 – 2013)

The O'Higgins Strategy Portfolio for the period of 2012 – 2013 was constructed based on the 30 constituents of FBM KLCI in year 2012 as shown in Appendix 4.

As shown in Table 8.1, the average return of 0.97 during the period of 2012 – 2013 was the lowest among the formation period. It is due mainly to there were 5 out of 10 stock had a return that less than 1 while 2 out of ten stocks had a negative return. MAYBANK and MAXIS generated a higher than average return of 1.39 and 1.02 respectively while BAT's return of 4.84 was among the highest.

From the Figure 16, the overall return of the portfolio was 7.90% which is the only period that underperformed when compared to benchmark index of 10.54%. Nevertheless, the return of portfolio remained positive despite it was underperformed the market.

As we can see from Table 8.2, the average return of the portfolio of 5 stocks was 1.52. BAT had a higher than average of 4.84 while TM had a lower than average return of -0.27. The overall return of the portfolio was 7.93%, still lower than market return of 10.54%. Between, it was still higher than the performance of the portfolio of 10 stocks.

Economy Performance (2013)

During the year, the country economy moderated to 4.7% from 5.6% in 2012. Internationally, the market sentiment consolidated due to Cyprus' debt situation and asset purchase programme tapering by the US Federal Reserve.

Domestically, the stock market experienced a breakout rally due to the victory of ruling coalition in 13th General Election. However, the market also fell due to the concerns of reversal of foreign portfolio funds back to the US. The growth of the Malaysian equity

market had a slight increase from 10.34% to 10.54% while the nation's economy had a slight decrease from 5.6% to 4.7%.

Figure 16: Michael O'Higgins Strategy Portfolio (2012 – 2013)

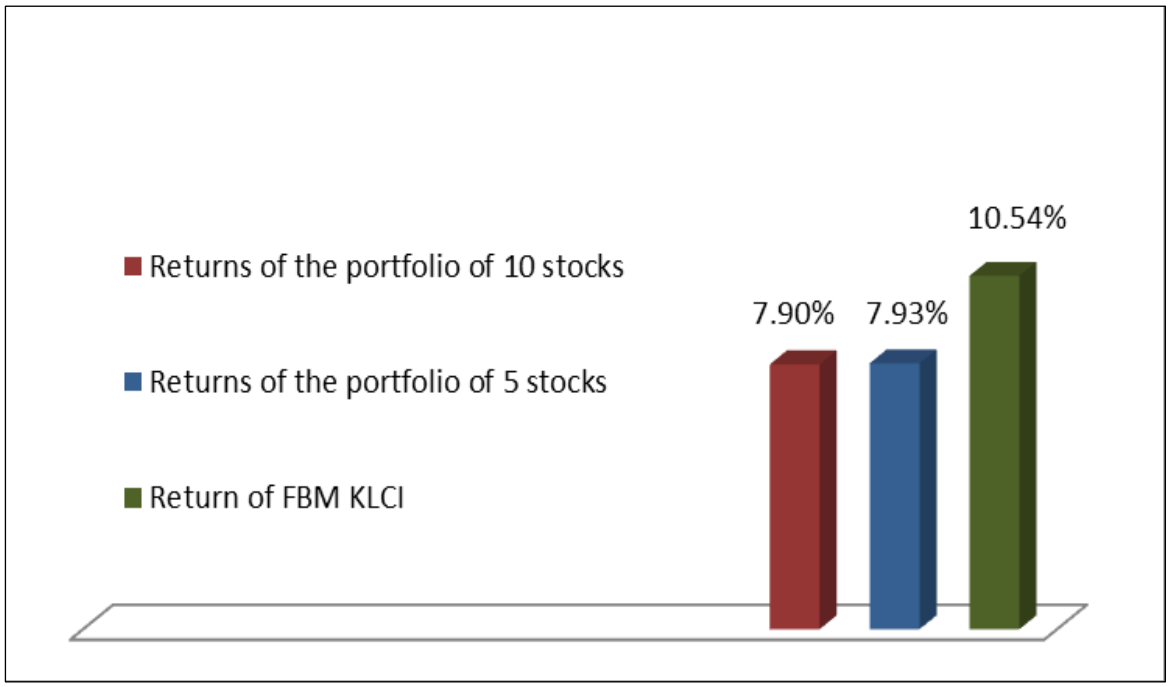


Table 8.1: O'Higgins Portfolio of 10 stocks (2012 - 2013)

Stock Code	Company	Dividend	DY	Share Price 31/12/2012	Rank	Share Price 31/12/2013	Return
1155	MAYBANK	0.65	0.071	9.20	1	9.94	1.39
6012	MAXIS	0.40	0.060	6.65	2	7.27	1.02
4863	TM	0.22	0.036	6.04	3	5.55	-0.27
4588	UMW	0.50	0.042	11.94	4	12.06	0.62
4165	BAT	2.72	0.044	62.00	5	64.12	4.84
4715	GENM	0.09	0.025	3.55	6	4.38	0.92
5222	FVG	0.14	0.030	4.62	7	4.49	0.01
6947	DIGI	0.18	0.034	5.29	8	4.96	-0.15
5183	PCHEM	0.22	0.034	6.40	9	6.92	0.74
6888	AXIATA	0.23	0.035	6.59	10	6.90	0.54
		5.35		122.28		126.59	9.66

Average return	0.97
Return of the portfolio of 10 stocks	7.90%
Return of FBM KLCI	10.54%

Table 8.2: O'Higgins Portfolio of 5 stocks (2012 - 2013)

Stock Code	Company	Dividend	DY	Share Price 31/12/2012	Rank	Share Price 31/12/2013	Return
1155	MAYBANK	0.65	0.071	9.20	1	9.94	1.39
6012	MAXIS	0.40	0.060	6.65	2	7.27	1.02
4863	TM	0.22	0.036	6.04	3	5.55	-0.27
4588	UMW	0.50	0.042	11.94	4	12.06	0.62
4165	BAT	2.72	0.044	62.00	5	64.12	4.84
		4.49		95.83		98.94	7.60

Average return	1.52
Return of the portfolio of 5 stocks	7.93%
Return of FBM KLCI	10.54%

4.3 Combination Strategy Portfolio

In the Combination strategy portfolios, the stocks with high dividend yield (DY), low Price-Earnings ratio (PE) and positive Earnings-per-share ratio (EPS) would be selected.

4.3.1 Combination Portfolio - Three years holding strategy (2009 – 2011)

Table 9.1 presents the additional ratios to the original Michael O'Higgins investment strategy and test results of the three years holding strategy for the portfolio. In the bottom of the table, the total share prices of the 5 constituents of the portfolio as at 31 December 2009 and 2011 was calculated. Besides, the total dividend of each constituent for the period of three years, from 2009 to 2011, was calculated. The figures were then use to compute the returns of the portfolio.

As we can see from above the three years strategy for the Combination strategy portfolio provides positive performance over the time. The average return of the portfolio was 2.476 where there were three out of five stocks performed better than average return. The companies were TM, RHBCAP and PBBANK.

The portfolio generated a cumulative return of 32.48% for a formation period of 2009 – 2011 which outperform the cumulative return of FBM KLCI for the same period of time, which was 20.09% (Figure 17.1).

Figure 17.1: Combination Strategy Portfolio (2009 – 2011)

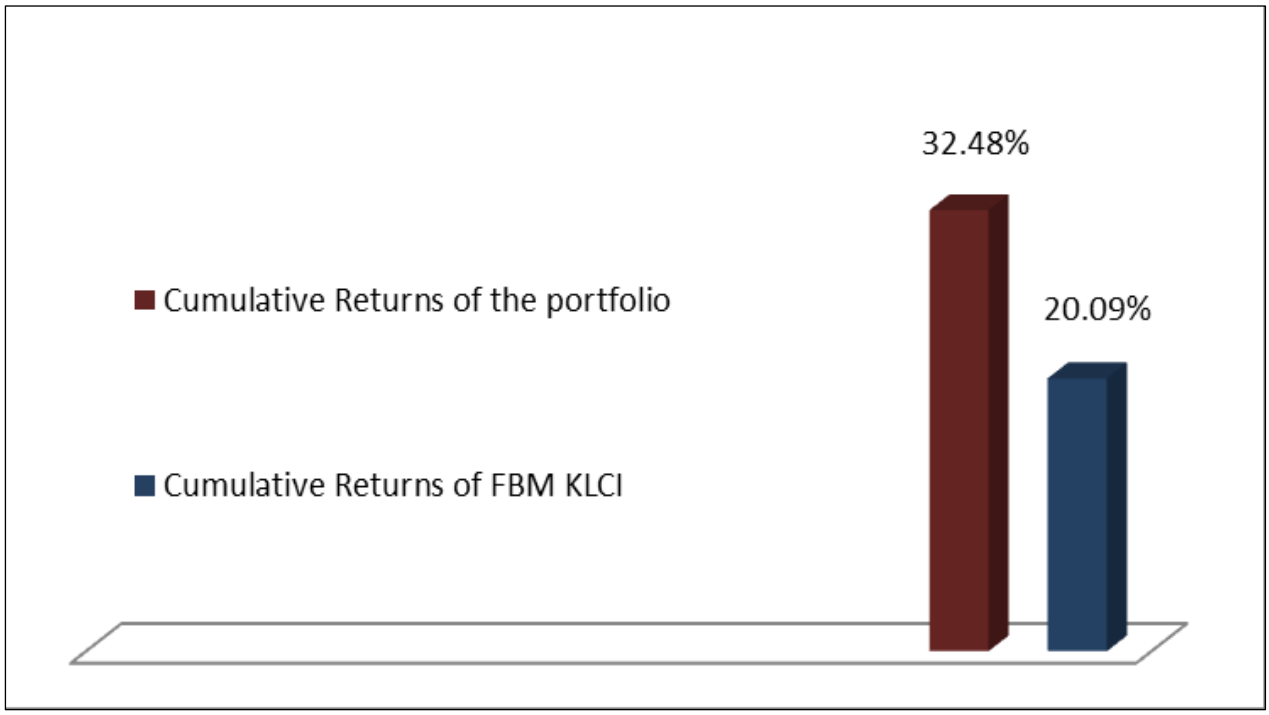


Table 9.1: Combination strategy portfolio (2009 - 2011)

Stock Code	Company	DY	PE	EPS	Share Price 31/12/2009	Rank	Share Price 31/12/2011	Dividend 2009-11	Return
4863	TM	0.084	15	0.18	2.75	1	4.96	0.69	2.90
1066	RHBCAP	0.042	9	0.56	5.30	2	7.48	0.73	2.91
1295	PBBANK	0.036	15	0.73	11.30	3	13.38	1.35	3.43
4715	GENM	0.025	12	0.23	2.81	4	3.83	0.23	1.25
4065	PPB	0.014	12	1.36	15.96	5	17.16	0.69	1.89
					38.12		46.81	3.69	12.38
Average return									2.48
Return of the portfolios									32.48%
Cumulative return of FBM KLCI									20.09%

4.3.2 Combination Portfolio - Five years holding strategy (2009 – 2013)

Table 9.2 tests the result of the Combination strategy portfolio for five years holding period. In the bottom of the table, the total share prices of the 5 constituents of the portfolio as at 31 December 2009 and 2013 was calculated. Besides, the total dividend of each constituent for the period of five years, from 2009 to 2013, was calculated. The figures were then used to compute the returns of the portfolio.

From the data, it is clear that the Combination portfolio with five years holding strategy generated higher returns than three years holding strategy. The average return increased by 73% to 4.29 compared to the return of the three years holding period of 2.48. However, PPBANK was the only company that performed exceptionally well and obtained a higher than average return of 10.47.

Figure 17.2 shows that the portfolio obtained a cumulative return of 56.24% which increased by 23.73% compared to the performance of three years holding strategy. In addition, the performance of the portfolio also outperformed the cumulative return of FBM KLIC for the same period of time of 40.97%.

Figure 17.2: Combination Strategy Portfolio (2009 – 2013)

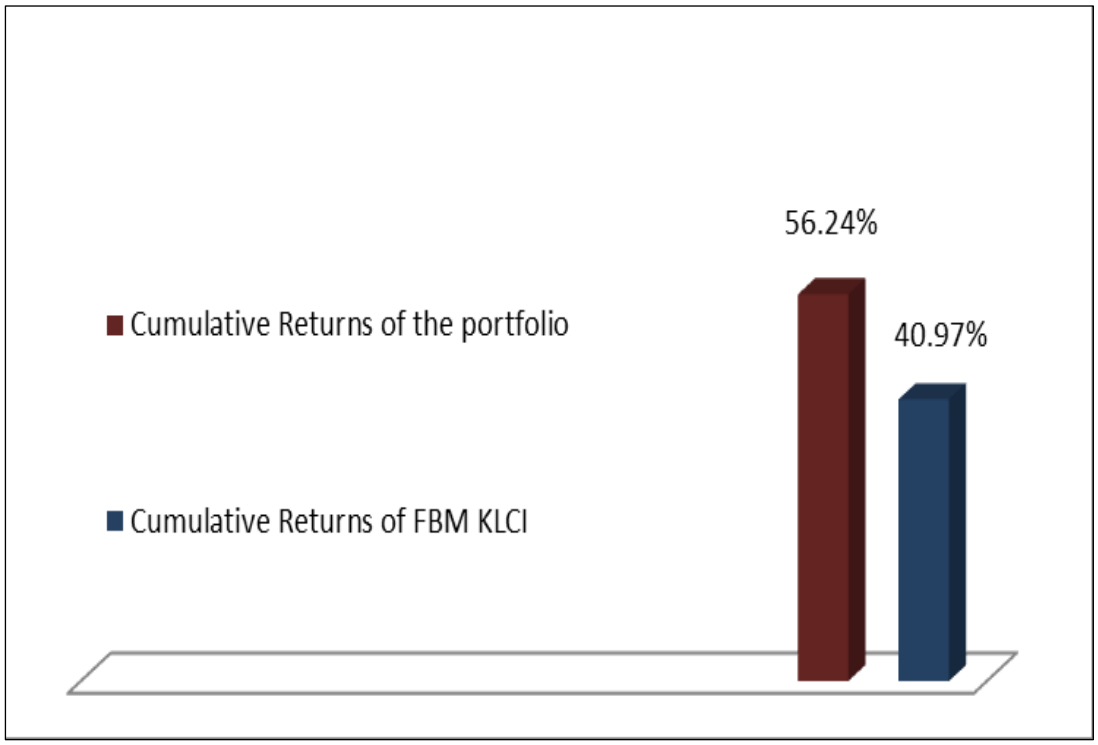


Table 9.2: Combination strategy portfolio (2009 - 2013)

Stock Code	Company	DY	PE	EPS	Share Price 31/12/2009	Rank	Share Price 31/12/2013	Dividend 2009-13	Return
4863	TM	0.084	15	0.18	2.75	1	5.55	1.17	3.97
1066	RHBCAP	0.042	9	0.56	5.30	2	7.90	1.11	3.71
1295	PBBANK	0.036	15	0.73	11.30	3	19.40	2.37	10.47
4715	GENM	0.025	12	0.23	2.81	4	4.38	0.40	1.97
4065	PPB	0.014	12	1.36	15.96	5	16.14	1.14	1.32
					38.12		53.37	6.19	21.44
Average return									4.29
Return of the portfolios									56.24%
Cumulative return of FBM KLCI									20.27%

4.4 Performance over different time periods

According to Michael O'Higgins methodology, the stocks in the portfolio would change annually in which the high dividend yield stocks for the year would be selected. However, the Combination strategy try to hold the stocks for certain period of time instead of change the stocks year by year. Therefore, the author attempted to construct O'Higgins portfolio for three and five years period, so that, the performance of different portfolios can be compared.

4.4.1 O'Higgins Strategy Portfolio – Three years holding strategy (2009 – 2011)

If we assume the Michael O'Higgins investment strategy portfolio hold the 10 selected stocks for a period of three years instead of buying and selling the stocks year by year, it obtained a higher average return of 7.083 (Table 10.1).

In this case, BAT and NESTLE were performed exceptionally well with the return of 26.42 and 28.05 respectively. It is due to a large increase in share price as well as large amount of dividend. The Figure 18.1 shows that the portfolio of 10 stocks obtained 53.59% in cumulative return which outperformed the cumulative return of FBM KLIC of 20.09%.

If we used the Michael O'Higgins investment strategy in stock selection and hold 5 selected stocks for a period of three years, it obtained even higher average return than the portfolio of 10 stocks which was 12.74 (Table 10.2).

Likewise, BAT and NESTLE were the companies that produced higher than average return for the formation period. In term of the cumulative return, the portfolio earned 66.89% which superseded the performance of FBM KLCI and portfolio of 10 stocks for the same period.

Figure 18.1: Michael O'Higgins Strategy Portfolio (2009 – 2011)

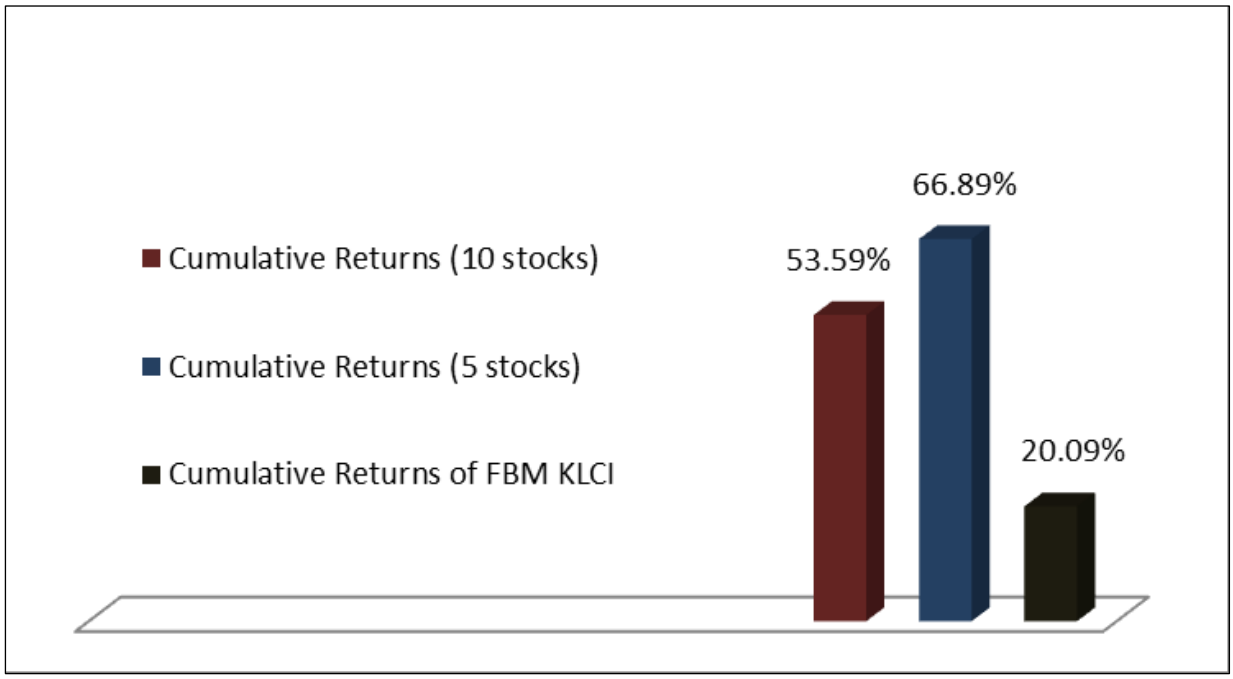


Table 10.1: O'Higgins Portfolio of 10 stocks (2009 - 2011)

Stock Code	Company	Dividend 2009-11	Share Price 31/12/2009	Rank	Share Price 31/12/2011	Returns
4863	TM	0.69	2.75	1	4.96	2.90
4165	BAT	7.22	42.80	2	62.00	26.42
5076	NESTLE	4.95	33.10	3	56.20	28.05
1066	RHBCAP	0.73	5.30	4	7.48	2.91
1295	PBBANK	1.35	11.30	5	13.38	3.43
4588	UMW	0.81	6.35	6	7.00	1.46
6012	MAXIS	0.95	5.37	7	5.48	1.06
4715	GENM	0.23	2.81	8	3.83	1.25
1023	CIMB	0.44	6.42	9	7.44	1.46
4065	PPB	0.69	15.96	10	17.16	1.89
		18.06	132.16		184.93	70.83

Average return	7.083
Return of the portfolio (10 stocks)	53.59%
Cumulative return of FBM KLCI	20.09%

Table 10.2: O'Higgins Portfolio of 5 stocks (2009 - 2011)

Stock Code	Company	Dividend 2009-11	Share Price 31/12/2009	Rank	Share Price 31/12/2011	Returns
4863	TM	0.69	2.75	1	4.96	2.90
4165	BAT	7.22	42.80	2	62.00	26.42
5076	NESTLE	4.95	33.10	3	56.20	28.05
1066	RHBCAP	0.73	5.30	4	7.48	2.91
1295	PBBANK	1.35	11.30	5	13.38	3.43
		14.94	95.25		144.02	63.71

Average return	12.742
Return of the portfolio (5 stocks)	66.89%
Cumulative return of FBM KLCI	40.97%

4.4.1 O'Higgins Strategy Portfolio – Five years holding strategy (2009 – 2013)

If we pursue Michael O'Higgins investment strategy and hold the 10 selected stocks for a period of five years, the average return of the portfolio was 11.29, where BAT and NESTLE produced higher than average return.

We can see from Figure 18.2 that the portfolio generated 85.45% of cumulative return over a period of five years and outperformed the cumulative return of FBM KLCI of 40.97% for the same period.

The smaller size portfolio has achieved most superior return among the strategies. It had the highest average return of 19.31 among the portfolio and BAT and NESTLE were the outstanding performers that superseded the average return (Table 10.4).

In term of cumulative return, this portfolio was among the highest, which was 101.34% while the cumulative return for the FBM KLIC was 40.97% in the same period of time.

Figure 18.2: Michael O'Higgins Strategy Portfolio (2009 – 2013)

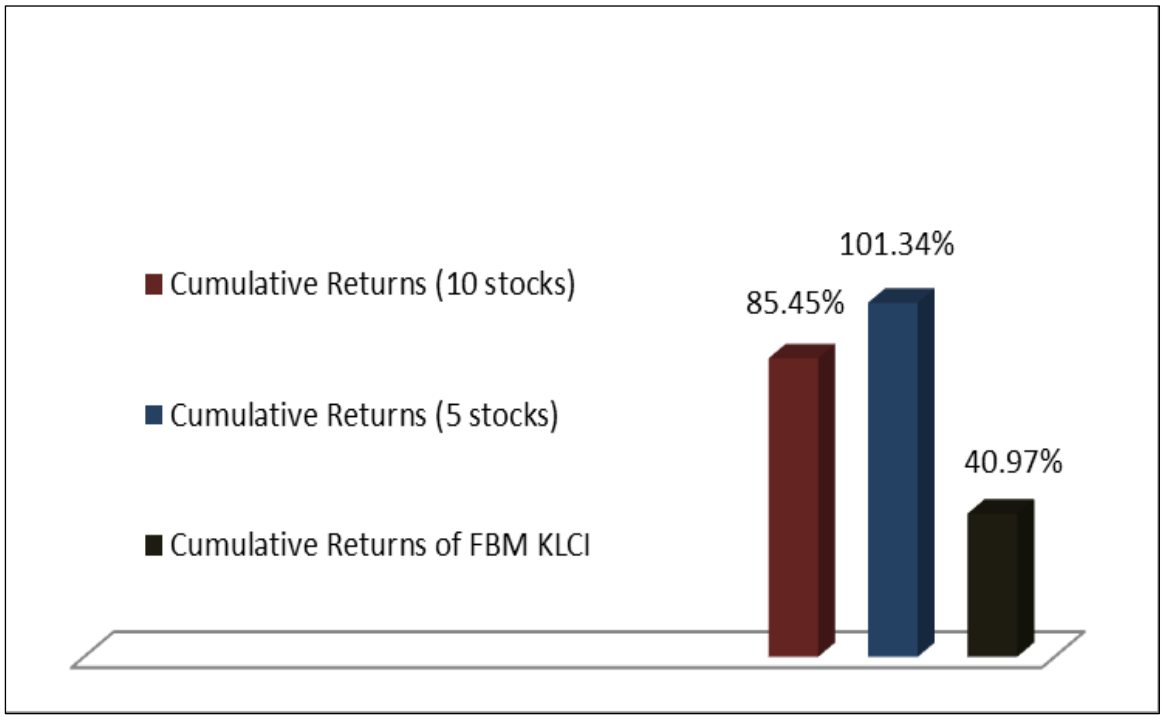


Table 10.3: O'Higgins Portfolio of 10 stocks (2009 - 2013)

Stock Code	Company	Dividend 2009-13	Share Price 31/12/2009	Rank	Share Price 31/12/2013	Returns
4863	TM	1.17	2.75	1	5.55	3.97
4165	BAT	12.76	42.80	2	64.12	34.08
5076	NESTLE	9.40	33.10	3	68.00	44.30
1066	RHBCAP	1.11	5.30	4	7.90	3.71
1295	PBBANK	2.37	11.30	5	19.40	10.47
4588	UMW	1.65	6.35	6	12.06	7.36
6012	MAXIS	1.75	5.37	7	7.27	3.65
4715	GENM	0.40	2.81	8	4.38	1.97
1023	CIMB	0.90	6.42	9	7.62	2.10
4065	PPB	1.14	15.96	10	16.14	1.32
		32.65	132.16		212.44	112.93

Average return	11.293
Return of the portfolio (10 stocks)	85.45%
Cumulative return of FBM KLCI	10.82%

Table 10.4: O'Higgins Portfolio of 5 stocks (2009 - 2013)

Stock Code	Company	Dividend 2009-13	Share Price 31/12/2009	Rank	Share Price 31/12/2013	Returns
4863	TM	1.17	2.75	1	5.55	3.97
4165	BAT	12.76	42.80	2	64.12	34.08
5076	NESTLE	9.40	33.10	3	68.00	44.30
1066	RHBCAP	1.11	5.30	4	7.90	3.71
1295	PBB	2.37	11.30	5	19.40	10.47
		26.81	95.25		164.97	96.53

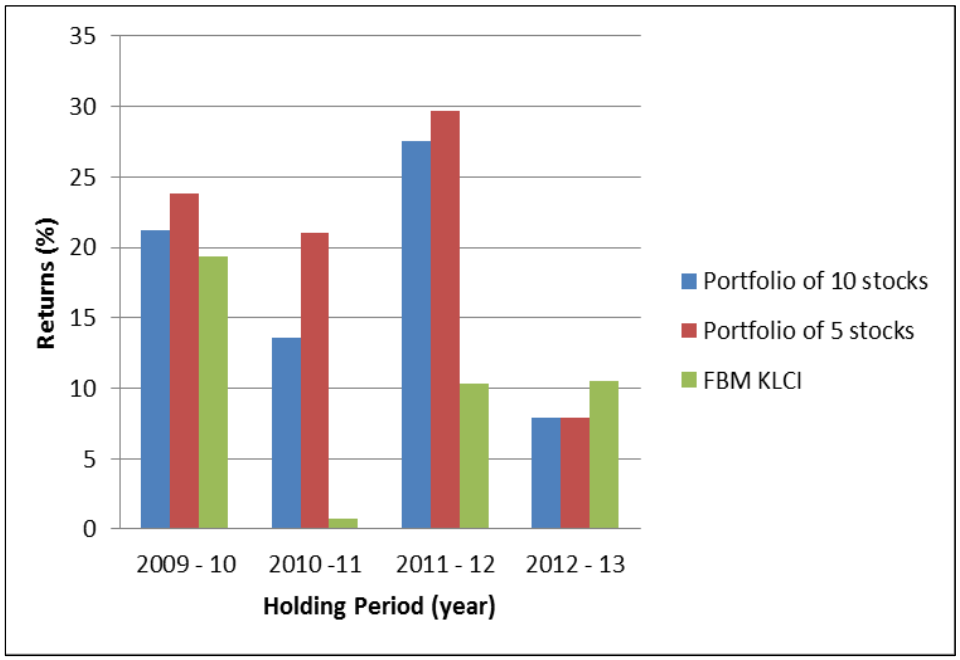
Average return	19.306
Return of the portfolio of 5 stocks	101.34%
Cumulative return of FBM KLCI	10.82%

4.5 Summary of the Outcomes

4.5.1 Summary of O'Higgins Strategy Portfolio

As we see from the Figure 19, both the Michael O'Higgins strategy portfolio of 10 stocks and 5 stocks performed better than FBM KLCI for the holding period of 2009 to 2012. The portfolio with 5 stocks consistently produced a higher return or equivalent return compared to portfolio of 10 stocks. This indicated that smaller size portfolio would perform better than larger size portfolio. However, in the holding period of 2012 – 2013, the Michael O'Higgins strategy underperformed the benchmark index.

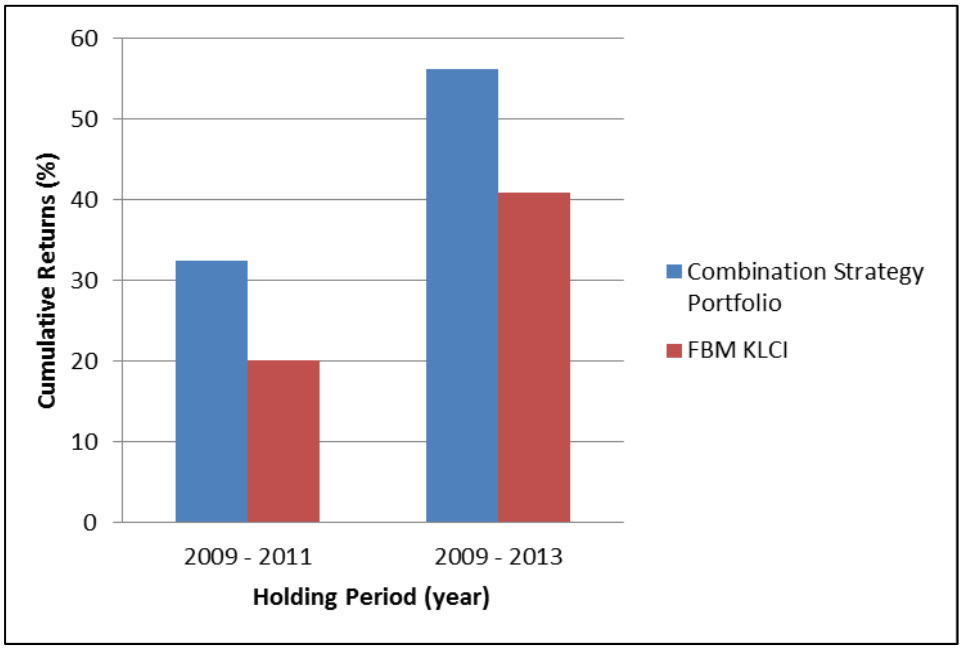
Figure 19: Summary of the Performance of Michael O'Higgins Strategy Portfolio



4.5.2 Summary of Combination Strategy Portfolio

Similarly, Figure 20 shows that the combination strategy portfolio also produced a higher return than the FBM KLCI for three years and five years holding period.

Figure 20: Summary of the Performance of Combination Strategy Portfolio

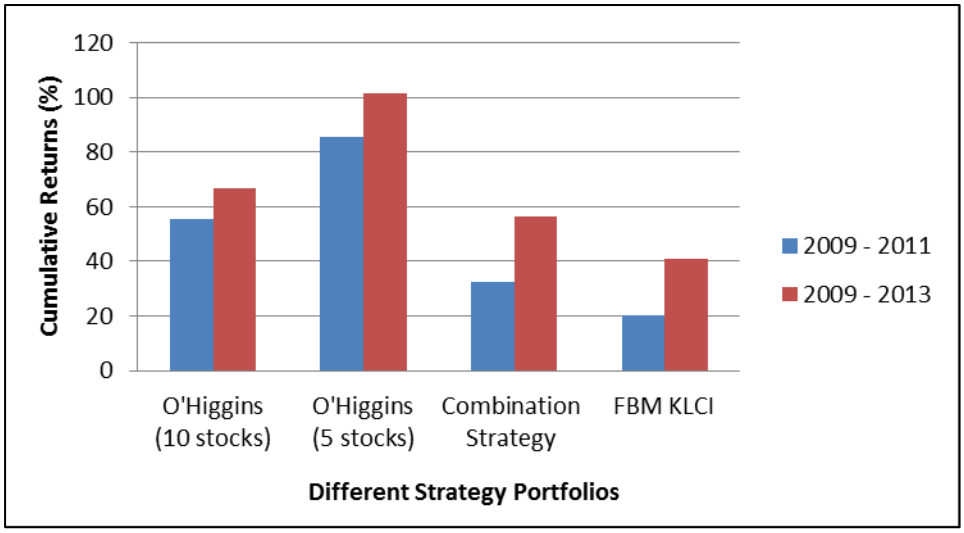


4.5.3 Combination of O'Higgins Portfolio and Combination strategy portfolio

In order to compare the performance of different portfolio, the author constructed Michael O'Higgins strategy portfolio for three years and five years holding period (Figure 21). In the three years holding period (2009 – 2011), both Michael O'Higgins Strategy and Combination Strategy Portfolio outperformed the FBM KLCI. In relation to this, the O'Higgins portfolio of 5 stocks produced the highest cumulative return compared to O'Higgins portfolio of 10 stocks and Combination strategy portfolio.

Same goes to the five years holding period (2009 – 2013), both O'Higgins and Combination strategy portfolio performed better than FBMKLIC and O'Higgins portfolio of 5 stocks produced the highest return among the portfolios. From the chart above, the results suggest that the longer holding period generated higher return than shorter even holding period.

Figure 21: Comparison of Different Portfolios Performance



4.5.4 Trend over the 4 years of Different Portfolio and KLCI

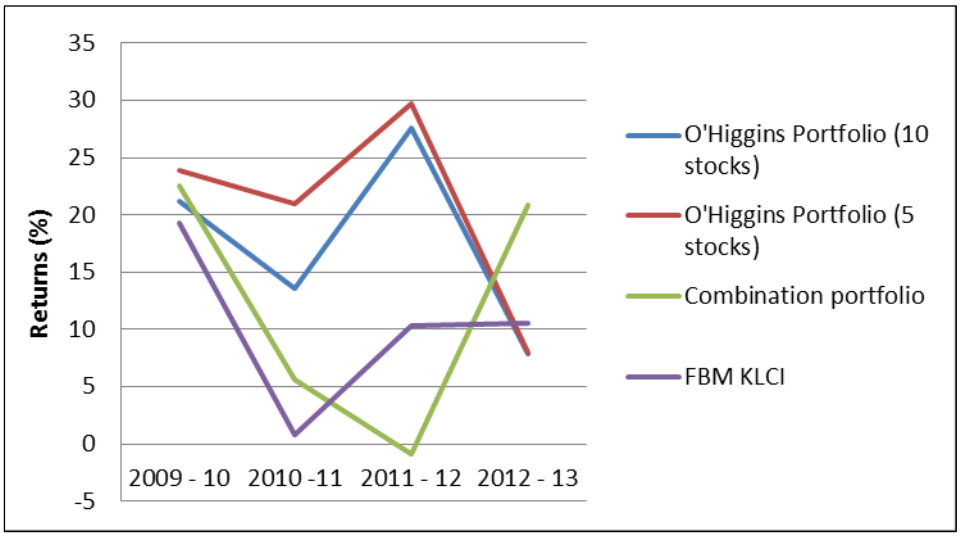
In order to compare the trends of different portfolio and benchmark index over the 4 years, the author attempted to break down the performance of 'combination strategy' portfolio year by year (Figure 22).

For the holding period of 2009 – 2010, the portfolios and market experienced a fall in return. Despite of that, O'Higgins and Combination strategy portfolio still able to maintain a positive return and they were still performed better than FBM KLCI. The O'Higgins strategy portfolios and FBM KLCI started to rebound in the holding period of 2010 – 2011. However, the Combination strategy portfolio continued to fall further down.

We can see that the period of 2011 – 2012 was the turning point for all the portfolios and the market. From 2011 to 2013, the O'Higgins portfolio stated to fall down and underperformed the FBM KLCI while FMB KLCI experienced a flat performance for the period. On the other hand, Combination strategy portfolio started to pick up and outperformed the O'Higgins portfolio and the benchmark index.

Form the period of 2010 to 2013, it shows the inverse relationship between return of Combination strategy portfolio and FBM KLCI while O'Higgins strategy portfolio acted corresponds to the market.

Figure 22: Trends over 4 Years of Different Portfolio and KLCI



4.6 Conclusion

This chapter has shown the results of the work carried out. The next chapter discusses these results in detail, draws conclusions based on the research questions and makes recommendations for future research going forward.

CHAPTER 5: DISCUSSION

5.0 Introduction

This chapter presents a number of implications that have to be considered when assessing the validity of this research ' results. This chapter discusses the implications for each research question. After the discussion, the study conclusion is outlined.

5.1 Beat KLCI over 5 years period

It is now established through this research that value stocks based on Michael O'Higgins stock selection methodology generate higher returns than the FBM KLCI over the period 2009 to 2012. However, the findings in period of 2012 to 2013 suggest that stocks selected by Michael O'Higgins strategy could not beat the overall market returns.

Through observation of the trends over 4 years in Figure 22, the O'Higgins strategy portfolio can be considered as a defensive investment portfolio. A stock is known as a defensive stock when its price is less volatile than that of the market. It rises by less than the market in a bull phase and falls by less than the market in a bear phase. In the period of 2009 – 2010, the growth of O'Higgins portfolio falls by less than the FBM KLCI in the market downturn when in the period of 2012 – 2013, it performed below the FBM KLCI during the recovery phrase.

Table 11: Dividend Yield of the Companies

O'Higgins Portfolio of 5 stocks (2009 - 2010)		
Stock Code	**Company's name**	**Dividend Yield**
4863	TM	8.4%
4165	BAT	5.5%
5076	NESTLE	4.5%
1066	RHBCAP	4.2%
1295	PBBANK	3.6%

The most important variable in O'Higgins investment strategy appears to be the dividend yield of the companies. The Malaysian banks have the rates of interest of 3% while we can see that the stocks selected in the portfolio often have dividend yield higher than 3% (Table 11).

Since the companies have consistent dividend payment and dividend yield is higher than bank's saving interest rate, we could treat this stock investment portfolio as 'fixed-term deposit account'. In this case, the dividend received will be treated as main investment target while the appreciation in share prices would be treated as additional sources of income.

As long as the stocks can be held for the long-term and ignore the short-term fluctuation in share prices, this can be one of an investment method that generates higher return than fixed-term deposit account. This investment approach would be basis strategy of the 'high dividend yield' funds in mutual fund.

5.2 Ideal Time

From the result of the data, it's very apparent that the ideal time for holding a portfolio is 5 years. This indicates that the longer the holding period, the higher the cumulative return of the stock portfolio. Through examination of the data recorded, we could see that O'Higgins portfolio with 5 years holding strategy performed better than O'Higgins portfolio with 3 years holding strategy. Likewise, the Combination strategy portfolio with 5 years holding strategy outperformed the 3 years holding strategy.

This phenomenon could be explained by the power of compounding where the rate of compounding is influenced by three things: the length of time, capital gains from increase in share price and dividend received.

It could also mean that the phase of the portfolios begins to earn from the rise of share price and dividend income, resulting in the value of portfolio growing at an ever-accelerating rate. The longer the stocks can remain uninterrupted, the higher the value of portfolio can grow.

5.3 Portfolio size

When looking at which portfolio size generate higher return, the author found that portfolio with 5 stocks tends to generate higher overall and cumulative returns. By analysing the data, the author noticed that the portfolio of 5 stocks often made up by companies with large market capitalization with high dividend yield and their stock prices remain stable during periods of different market cycle. Since their prices are stable, the portfolios have a larger possibility to generate positive return.

However, the companies ranked from 6^{th} to 10^{th} would sometimes suffer the decrease in market prices during different period of market cycle. The reduction in share prices therefore reduced the performance of the portfolio as a whole.

This is shown in Table 12 below where the top five namely TM, MAXIS, PETGAS, BAT and UMW outperform the bottom companies namely RHBCAP and CIMB. As a result, the portfolio of 5 stocks could always avoid the adverse effect from this problem.

Table 12 The Returns of Individual Stocks

O'Higgins Portfolio of 10 stocks (2010 - 2011)

Rank	Company	Dividend	Share Price 31/12/2010	Share Price 31/12/2011	Returns
1	TM	0.26	3.15	4.96	2.07
2	MAXIS	0.40	5.30	5.48	0.58
3	PETGAS	0.67	11.10	15.20	4.77
4	BAT	2.40	45.00	49.92	7.32
5	UMW	0.30	7.02	7.00	0.28
6	PBBANK	0.46	13.02	13.38	0.82
7	RHBCAP	0.26	8.72	7.48	**-0.98**
8	GENM	0.08	3.39	3.83	0.52
9	AXIATA	0.10	4.75	5.14	0.49
10	CIMB	0.13	8.50	7.44	**-0.93**

O'Higgins Portfolio of 5 stocks (2010 - 2011)

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1	TM	0.26	3.15	4.96	2.07
2	MAXIS	0.40	5.30	5.48	0.58
3	PETGAS	0.67	11.10	15.20	4.77
4	BAT	2.40	45.00	49.92	7.32
5	UMW	0.30	7.02	7.00	0.28

5.4 Additional factors

When added the low Price-Earnings ratio (PE) and high Earnings-per-Share (EPS) ratio as additional factors to the stock selection criteria, the type of the portfolio changed and it differed with the O'Higgins strategy portfolio.

The Combination strategy portfolio became an aggressive investment strategy. The security is known as an aggressive stock when its prices are more volatile than that of the market. It rises by more than the market in a bull phrase and falls by more than the market in a bear phrase.

When we refer to Figure 22 (Figure 10), we could see that the growth of Combination strategy portfolio falls by more than the FBM KLCI in the period of 2011 – 2012 in the market downfall. On the other hand, the portfolio started to pick up and rises by more than the FBM KLCI in the period of 2012 – 2013.

In term of performance, the Combination strategy portfolio underperformed the O'Higgins strategy portfolio from 2009 to 2011 while outperformed the O'Higgins strategy portfolio from 2012 to 2013. To explain this phenomenon, we need to look at the Table 13 below to compare the Price-Earnings ratio (PE) among the constituents for each portfolio.

Table 13: Price-Earnings Ratio of the Companies (2009 – 2011)

PE Ratio	2009	2011	Changes (+/-)
O'Higgins Portfolio			
BAT	16	20	+4
NESTLE	22	31	+9
			+13
Combination Portfolio			
PBBANK	15	13	-2
GENM	12	15	+3
			+1

From 2009 to 2011, we can see that there was a big increase in the PE ratio of BAT and NESTLE. The increase in PE ratio could indicate that there is an increase in capital appreciation of share price. On the other hand, PPBANK and GNEM had a total net changes in PE ratio of 1 which is significantly less than the BAT and NESTLE. Therefore, it is not surprise that O'Higgins strategy portfolio could outperform that Combination strategy portfolio from 2009 to 2011.

Table 14: Price-Earnings Ratio of the Companies (2012 – 2013)

PE Ratio	2012	2013	Change (+/-)
O'Higgins Portfolio			
BAT	22	22	0
NESTLE	29	28	-1
			-1
Combination Portfolio			
PBBANK	15	17	+2
GENM	14	16	+2
			+4

However, from 2012 to 2013, the combination strategy portfolio had a total net increase of PE ratio of 4 while the O'Higgins strategy portfolio had negative PE ratio as shown in Table 14. As a result, the Combination strategy portfolio outperformed the O'Higgins portfolio during this period of time.

The PE ratio could simply mean the number of years required to recover the cost of an investment. A PE ratio of 8 could mean it needs to takes 8 years to recover the cost of an investment. This indicates that the lower the PE ratio, the worthier the investment is.

However, the PE ratio is calculated from previous year's earnings-per-share of the companies which reflect the historical value of a company. Therefore, it cannot reflect the future earnings growth.

Table 15: Price-Earnings Ratio of the Companies (2009 – 2013)

PE Ratio	2009	2013	Changes (+/-)
O'Higgins Portfolio			
BAT	16	22	+6
NESTLE	22	28	+6
			+12
Combination Portfolio			
PBBANK	15	17	+2
GENM	12	16	+4
			+6

We could see the implication from the analysis of Table 15 above. If we compared the PE ratio of BAT and GENM from 2009 to 2013, we can see that the low PE ratio may not guarantee that the PE ratio would grow at a higher rate in the future. Although the BAT and NESTLE had a high PE ratio, they experienced a higher earnings growth than the stocks with low PE ratio.

5.5 Applicability to Malaysian stock market

Based on the results, we can conclude that the O'Higgins investment strategy in applicable to Malaysian stock market since the strategy could generate positive return even it experienced a downturn of performance in the period of 2009 – 2011 and performed below the market in the period of 2012 – 2013. However, there are some implications we have to consider.

Figure 24: Historical Performance of FBM KLCI

Looking back to the data of FBM KLCI's historical prices, we could find out that the index closed at historical high every year from 2009 to 2013. Thus, the Malaysian capital market is assumed to have a bull phase. This can be seen in Figure 24 above. In this case, it could be inferred that one of the reasons that the O'Higgins strategy can be applied to the Malaysian capital market is largely due to the optimistic market sentiment and bull market phase.

On the other hand, it's still doubt the applicability of O'Higgins investment strategy. It is not guaranteed that the O'Higgins strategy portfolio could still generate a positive return in different market cycles (2006 – 2009) and survive during the periods of extreme stress.

Secondly, the investors need to inject a large amount of capital if they wish to pursue the O'Higgins investment strategy. This is due to, the share prices of the companies selected often trading at high market prices. The stocks in the portfolio are blue-chip stocks. They are the market leader in its industry, characterized by large market capitalization with long establishment history. Due to this, the market prices of these big corporations are normally high compared to other companies, such as small capitalized companies. Thus, the cost to purchase one unit of stocks would be higher.

5.6 Limitations and Further Research

5.6.1 Different Financial Year End

The study just used the companies with financial year ended as at 31 December of every year to construct the portfolio. In other word, the author ignores the companies that have different financial year ended in FBM KLCI to construct the portfolio. It is because some of the companies have the financial year ended as at 30 June of each year and their annual reports would present the key financial data as at 30 June. In order to compare each companies consistently, the author need to re-calculate the respective key financial data to 31 December. This pose the difficulty in gathering the information as the author need to get the precise figures as at 31 December which are unable to obtain in the annual report.

For future studies, the key financial data for each constituents of FBM KLCI in the financial year ended as at 31 December could be collected. So that, the portfolio would be more complete and reflect the original O'Higgins investment methodology.

5.6.2 Back-test Period

Another limitation, the paper is based on five-year periods of portfolio selection (2009 – 2013) in which the Malaysian capital market is rebounded strongly from 2008 global financial crisis and experienced a bull phrase. Since this paper ignores other periods, it is not guarantee that the O'Higgins strategy portfolio would still generate a positive return in different market cycles and extreme stress conditions.

Therefore, in future studies, the portfolio can be tested in different market cycles, such as volatile period during 2005 to 2009 and the period of Asian Financial Crisis.

CHAPTER 6: CONCLUSION

The thesis has investigated the value investing strategy in Malaysian equity market. The primary purpose of the thesis is to test the value investing method as proposed by Michael O'Higgins (2000) as one investment strategy applied specifically to the Malaysian market and test the strategy against the FBM KLCI index.

It is envisaged that this will be achieved through the identification of stocks in the Malaysian stock market that can be classified as value investment stocks through 2008 to 2013. The objective is to see if the value investment stocks selected delivered higher returns over that period.

The results suggest that O'Higgins strategy portfolio succeed to beat FBM KLCI in the holding period of 2009 – 2012. However, the O'Higgins portfolio underperformed the market in the holding period of 2012 – 2013. The portfolio exhibits a positive relationship with the FBM KLCI in term of return performance.

The ideal holding period for the portfolio to generate highest returns was 5 years. The findings demonstrated that the longer the holding period, the higher the cumulative return. Besides, strategy of holding the stocks for 5 years performed better than the strategy of changing the stocks year by year.

When low Price-Earnings ratio and high Earnings-per-Share ratio were added as additional factors to the stock selection, the portfolio performed better than FBM KLCI but underperformed the original O'Higgins strategy portfolio. In term of portfolio size, the portfolio f 5 stocks consistently outperformed the portfolio of 10 stocks. This shows that smaller size portfolio perform better than larger size portfolio.

In general, the O'Higgins strategy portfolio is applicable to the Malaysian stock market. The portfolio consistently generated positive returns despite it underperformed the FBM KLCI.

For future studies, to draw more definite conclusions about the applicability of value investing to the Malaysian stock market, a longer index return series and portfolio holding period, particularly in different market cycle shall be studied. Besides, the data of key financial ratios for each company in FBM KLCI should be collected to construct a more precise investment portfolio. Future research concerning the effect of portfolio size on stock returns should also be taken into account.

Overall, this thesis and research finds evidence that value investing is applicable in Malaysian stock market.

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Appendix 1

	As at 31 December 2009		
Stock Code	**Company's name**	**Ticker**	**Index Marker**
4863	Telekom Malaysia Berhad	TM	FBMKLCI
4165	British American Tobacco (Malaysia) Berhad	BAT	FBMKLCI
5076	Nestle (Malaysia) Berhad	NESTLE	FBMKLCI
1066	RHB Capital Berhad	RHBCAP	FBMKLCI
1295	Public Bank Berhad	PBBANK	FBMKLCI
4588	UMW Holdings Berhad	UMW	FBMKLCI
6012	Maxis Berhad	MAXIS	FBMKLCI
4715	Genting Malaysia Berhad	GENM	FBMKLCI
1023	CIMB Group Holdings Berhad	CIMB	FBMKLCI
4065	PPB Group Berhad	PPB	FBMKLCI
2194	MMC Corporation Berhad	MMCCORP	FBMKLCI
3182	Genting Berhad	GENTING	FBMKLCI
6947	DiGi.Com Berhad	DIGI	FBMKLCI
6888	Axiata Group Berhad	AXIATA	FBMKLCI
6033	PETRONAS Gas Berhad	PETGAS	FBMKLCI
4197	Sime Darby Berhad	SIME	FBMKLCI
1155	Malayan Banking Berhad	MAYBANK	FBMKLCI
1961	IOI Corporation Berhad	IOICORP	FBMKLCI
5347	Tenaga Nasional Berhad	TNB	FBMKLCI
3816	MISC Berhad	MISC	FBMKLCI
1015	AMMB Holdings Berhad	AMBANK	FBMKLCI
2445	Kuala Lumpur Kepong Berhad	KLK	FBMKLCI
4677	YTL Corporation Berhad	YTL	FBMKLCI
5052	PLUS Expressways Berhad	PLUS	FBMKLCI
6742	YTL Power International Berhad	YTLPOWR	FBMKLCI
5819	Hong Leong Bank Berhad	HLBANK	FBMKLCI
1562	Berjaya Sports Toto Berhad	BJTOTO	FBMKLCI
2267	Tanjong plc	TJN	FBMKLCI
5681	PETRONAS Dagangan Berhad	PETDAG	FBMKLCI
5076	Astro All Asia Networks Berhad	ASTRO	FBMKLCI

Appendix 2

	As at 31 December 2010		
Stock Code	**Company's name**	**Ticker**	**Index Marker**
4863	Telekom Malaysia Berhad	TM	FBMKLCI
6012	Maxis Berhad	MAXIS	FBMKLCI
6033	PETRONAS Gas Berhad	PETGAS	FBMKLCI
4165	British American Tobacco (Malaysia) Berhad	BAT	FBMKLCI
4588	UMW Holdings Berhad	UMW	FBMKLCI
1295	Public Bank Berhad	PBBANK	FBMKLCI
1066	RHB Capital Berhad	RHBCAP	FBMKLCI
4715	Genting Malaysia Berhad	GENM	FBMKLCI
6888	Axiata Group Berhad	AXIATA	FBMKLCI
1023	CIMB Group Holdings Berhad	CIMB	FBMKLCI
2194	MMC Corporation Berhad	MMCCORP	FBMKLCI
4065	PPB Group Berhad	PPB	FBMKLCI
3182	Genting Berhad	GENTING	FBMKLCI
6947	DiGi.Com Berhad	DIGI	FBMKLCI
3786	Malaysia Airline System Berhad	MAS	FBMKLCI
3816	MISC Berhad	MISC	FBMKLCI
1155	Malayan Banking Berhad	MAYBANK	FBMKLCI
4197	Sime Darby Berhad	SIME	FBMKLCI
1961	IOI Corporation Berhad	IOICORP	FBMKLCI
5347	Tenaga Nasional Berhad	TNB	FBMKLCI
1015	AMMB Holdings Berhad	AMBANK	FBMKLCI
5183	PETRONAS Chemicals Group Berhad	PCHEM	FBMKLCI
2445	Kuala Lumpur Kepong Berhad	KLK	FBMKLCI
5052	PLUS Expressways Berhad	PLUS	FBMKLCI
4677	YTL Corporation Berhad	YTLCORP	FBMKLCI
5398	Gamuda Berhad	GAMUDA	FBMKLCI
6742	YTL Power International Berhad	YTLPOWR	FBMKLCI
5819	Hong Leong Bank Berhad	HLBANK	FBMKLCI
5681	PETRONAS Dagangan Berhad	PETDAG	FBMKLCI
1082	Hong Leong Financial Group Berhad	HLFG	FBMKLCI

Appendix 3

	As at 31 December 2011		
Stock Code	**Company's name**	**Ticker**	**Index Marker**
6012	Maxis Berhad	MAXIS	FBMKLCI
6947	DiGi.Com Berhad	DIGI	FBMKLCI
4165	British American Tobacco (Malaysia) Berhad	BAT	FBMKLCI
4863	Telekom Malaysia Berhad	TM	FBMKLCI
6888	Axiata Group Berhad	AXIATA	FBMKLCI
4588	UMW Holdings Berhad	UMW	FBMKLCI
1295	Public Bank Berhad	PBBANK	FBMKLCI
1023	CIMB Group Holdings Berhad	CIMB	FBMKLCI
1066	RHB Capital Berhad	RHB	FBMKLCI
4715	Genting Malaysia Berhad	GENM	FBMKLCI
2194	MMC Corporation Berhad	MMCCORP	FBMKLCI
4065	PPB Group Berhad	PPB	FBMKLCI
5210	Bumi Armada Berhad	ARMADA	FBMKLCI
3182	Genting Berhad	GENTING	FBMKLCI
5099	AirAsia Berhad	AIRASIA	FBMKLCI
5148	UEM Land Holdings Berhad	UEMS	FBMKLCI
1155	Malayan Banking Berhad	MAYBANK	FBMKLCI
4197	Sime Darby Berhad	SIME	FBMKLCI
1961	IOI Corporation Berhad	IOICORP	FBMKLCI
5347	Tenaga Nasional Berhad	TNB	FBMKLCI
5183	PETRONAS Chemicals Group Berhad	PCHEM	FBMKLCI
1015	AMMB Holdings Berhad	AMBANK	FBMKLCI
2445	Kuala Lumpur Kepong Berhad	KLK	FBMKLCI
6033	PETRONAS Gas Berhad	PETGAS	FBMKLCI
5819	Hong Leong Bank Berhad	HLBANK	FBMKLCI
4677	YTL Corporation Berhad	YTLCORP	FBMKLCI
5681	PETRONAS Dagangan Berhad	PETDAG	FBMKLCI
6742	YTL Power International Berhad	YTLPOWR	FBMKLCI
1082	Hong Leong Financial Group Berhad	HLFG	FBMKLCI
5186	Malaysia Marine and Heavy Engineering Holdings Berhad	MMHE	FBMKLCI

Appendix 4

	As at 31 December 2012		
Stock Code	**Company's name**	**Ticker**	**Index Marker**
1155	Malayan Banking Berhad	MAYBANK	FBMKLCI
6012	Maxis Berhad	MAXIS	FBMKLCI
4863	Telekom Malaysia Berhad	TM	FBMKLCI
4588	UMW Holdings Berhad	UMW	FBMKLCI
4165	British American Tobacco (Malaysia) Berhad	BAT	FBMKLCI
4715	Genting Malaysia Berhad	GENM	FBMKLCI
5222	Felda Global Ventures Holdings Berhad	FGV	FBMKLCI
6947	DiGi.Com Berhad	DIGI	FBMKLCI
6888	Axiata Group Berhad	AXIATA	FBMKLCI
1023	CIMB Group Holdings Berhad	CIMB	FBMKLCI
1295	Public Bank Berhad	PBBANK	FBMKLCI
5681	PETRONAS Dagangan Berhad	PETGAS	FBMKLCI
1066	RHB Capital Berhad	RHBCAP	FBMKLCI
6033	PETRONAS Gas Berhad	PETGAS	FBMKLCI
4065	PPB Group Berhad	PPB	FBMKLCI
5148	UEM Land Holdings Berhad	UEMS	FBMKLCI
3182	Genting Berhad	GENTING	FBMKLCI
5210	Bumi Armada Berhad	ARMADA	FBMKLCI
5225	IHH Healthcare Berhad	IHH	FBMKLCI
4197	Sime Darby Berhad	SIME	FBMKLCI
5347	Tenaga Nasional Berhad	TNB	FBMKLCI
1961	IOI Corporation Berhad	IOICORP	FBMKLCI
5183	PETRONAS Chemicals Group Berhad	PCHEM	FBMKLCI
1015	AMMB Holdings Berhad	AMBANK	FBMKLCI
2445	Kuala Lumpur Kepong Berhad	KLK	FBMKLCI
5819	Hong Leong Bank Berhad	HLBANK	FBMKLCI
4677	YTL Corporation Berhad	YTLCORP	FBMKLCI
6399	Astro Malaysia Holdings Berhad	ASTRO	FBMKLCI
6742	YTL Power International Berhad	YTLPOWR	FBMKLCI
1082	Hong Leong Financial Group Berhad	HLFG	FBMKLCI

Appendix 5

Table 5.1: O'Higgins Portfolio of 10 stocks (2009 - 2010)

Stock Code	Company	Dividend	DY	Share Price 12/31/2009	Rank	Share Price 12/31/2010	Returns
		(a)	b = a/c	(c)		(d)	e = d - c + a
4863	TM	0.23	0.084	2.75	1	3.15	0.63
4165	BAT	2.36	0.055	42.8	2	45.00	4.56
5076	NESTLE	1.50	0.045	33.1	3	43.34	11.74
1066	RHBCAP	0.22	0.042	5.3	4	8.72	3.64
1295	PBBANK	0.41	0.036	11.3	5	13.02	2.13
4588	UMW	0.20	0.031	6.35	6	7.02	0.87
6012	MAXIS	0.15	0.028	5.37	7	5.30	0.08
4715	GENM	0.07	0.025	2.81	8	3.39	0.65
1023	CIMB	0.09	0.014	6.42	9	8.50	2.17
4065	PPB	0.23	0.014	15.96	10	17.26	1.53
		5.46		132.16		154.70	28.00

Average Return	28.00/10 =	2.80
Returns of the portfolio of 10 stocks	[(154.70 + 5.46)/132.16] - 1 =	21.19%
Return of FBM KLCI		19.31%

Table 5.2: O'Higgins Portfolio of 5 stocks (2009 - 2010)

Stock Code	Company	Dividend	DY	Share Price 12/31/2009	Rank	Share Price 12/31/2010	Returns
		(a)	b = a/c	(c)		(d)	e = d - c + a
4863	TM	0.23	0.084	2.75	1	3.15	0.63
4165	BAT	2.36	0.055	42.8	2	45.00	4.56
5076	NESTLE	1.50	0.045	33.1	3	43.34	11.74
1066	RHBCAP	0.22	0.042	5.3	4	8.72	3.64
1295	PBBANK	0.41	0.036	11.3	5	13.02	2.13
		4.72		95.25		113.23	22.70

Average return	22.70/5 =	4.54
Returns of the portfolio of 5 stocks	[(113.23 + 4.72)/95.25] - 1 =	23.83%
Return of FBM KLCI		19.31%

Table 6.1: O'Higgins Portfolio of 10 stocks (2010 - 2011)

Stock Code	Company	Dividend	DY	Share Price 12/31/2010	Rank	Share Price 12/31/2011	Returns
		(a)	b = a/c	(c)		(d)	e = d - c + a
4863	TM	0.26	0.083	3.15	1	4.96	2.07
6012	MAXIS	0.40	0.075	5.30	2	5.48	0.58
6033	PETGAS	0.67	0.060	11.10	3	15.20	4.77
4165	BAT	2.40	0.053	45.00	4	49.92	7.32
4588	UMW	0.30	0.043	7.02	5	7.00	0.28
1295	PBBANK	0.46	0.035	13.02	6	13.38	0.82
1066	RHBCAP	0.26	0.030	8.72	7	7.48	-0.98
4715	GENM	0.08	0.024	3.39	8	3.83	0.52
6888	AXIATA	0.10	0.021	4.75	9	5.14	0.49
1023	CIMB	0.13	0.015	8.50	10	7.44	-0.93
		5.06		109.95		119.83	14.94

Average return	14.49/10 =	1.49
Return of the portfolio of 10 stocks	[(119.83 + 5.06)/109.95] - 1 =	13.59%
Return of FBM KLCI		0.78%

Table 6.2: O'Higgins Portfolio of 5 stocks (2010 - 2011)

Stock Code	Company	Dividend	DY	Share Price 12/31/2010	Rank	Share Price 12/31/2011	Returns
		(a)	b = a/c	(c)		(d)	e = d - c + a
4863	TM	0.26	0.083	3.15	1	4.96	2.07
6012	MAXIS	0.40	0.075	5.30	2	5.48	0.58
6033	PETGAS	0.67	0.060	11.10	3	15.20	4.77
4165	BAT	2.40	0.053	45.00	4	49.92	7.32
4588	UMW	0.30	0.043	7.02	5	7.00	0.28
		4.03		71.57		82.56	15.02

Average return	3.00
Return of the portfolio of 5 stocks	20.99%
Return of FBM KLCI	0.78%

Table 7.1 O'Higgins Portfolio of 10 stocks (2011 - 2012)

Stock Code	Company	Dividend	DY	Share Price 12/31/2011	Rank	Share Price 12/31/2012	Return
		(a)	b = a/c	(c)		(d)	e = d - c + a
6012	MAXIS	0.40	0.073	5.48	1	6.65	1.57
6947	DIGI	0.18	0.046	3.88	2	5.29	1.59
4165	BAT	2.46	0.049	49.92	3	62.00	14.54
4863	TM	0.20	0.040	4.96	4	6.04	1.28
6888	AXIATA	0.19	0.037	5.14	5	6.59	1.64
4588	UMW	0.31	0.044	7.00	6	11.94	5.25
1295	PBBANK	0.48	0.036	13.38	7	16.28	3.38
1023	CIMB	0.22	0.030	7.44	8	7.63	0.41
1066	RHBCAP	0.25	0.033	7.48	9	7.69	0.46
4715	GENM	0.09	0.023	3.83	10	3.55	-0.19
		4.78		108.51		133.66	29.93

Average return	29.93/10 =	2.99
Return of the portfolio of 10 stocks	[(133.66 + 4.78)/108.51] - 1 =	27.58%
Return of FBM KLCI		10.34%

Table 7.2: O'Higgins Portfolio of 5 stocks (2011 - 2012)

Stock Code	Company	Dividend	DY	Share Price 12/31/2011	Rank	Share Price 12/31/2012	Return
		(a)	b = a/c	(c)		(d)	e = d - c + a
6012	MAXIS	0.40	0.073	5.48	1	6.65	1.57
6947	DIGI	0.18	0.046	3.88	2	5.29	1.59
4165	BAT	2.46	0.049	49.92	3	62.00	14.54
4863	TM	0.20	0.040	4.96	4	6.04	1.28
6888	AXIATA	0.19	0.037	5.14	5	6.59	1.64
		3.43		69.38		86.57	20.62

Average return	20.62/5 =	4.12
Return of the portfoio of 5 stocks	[(86.57 + 3.43)/69.38] - 1 =	29.72%
Return of FBM KLCI		10.34%

Table 8.1: O'Higgins Portfolio of 10 stocks (2012 - 2013)

Stock Code	Company	Dividend	DY	Share Price 12/31/2012	Rank	Share Price 12/31/2013	Return
		(a)	b = a/c	(c)		(d)	e = d - c + a
1155	MAYBANK	0.65	0.071	9.20	1	9.94	1.39
6012	MAXIS	0.40	0.060	6.65	2	7.27	1.02
4863	TM	0.22	0.036	6.04	3	5.55	-0.27
4588	UMW	0.50	0.042	11.94	4	12.06	0.62
4165	BAT	2.72	0.044	62.00	5	64.12	4.84
4715	GENM	0.09	0.025	3.55	6	4.38	0.92
5222	FVG	0.14	0.030	4.62	7	4.49	0.01
6947	DIGI	0.18	0.034	5.29	8	4.96	-0.15
5183	PCHEM	0.22	0.034	6.40	9	6.92	0.74
6888	AXIATA	0.23	0.035	6.59	10	6.90	0.54
		5.35		122.28		126.59	9.66

Average return	9.66/10 =	0.97
Return of the portfolio of 10 stocks	[(126.59 + 5.35)/122.28] - 1 =	7.90%
Return of FBM KLCI		10.54%

Table 8.2: O'Higgins Portfolio of 5 stocks (2012 - 2013)

Stock Code	Company	Dividend	DY	Share Price 12/31/2012	Rank	Share Price 12/31/2013	Return
		(a)	b = a/c	(c)		(d)	e = d - c + a
1155	MAYBANK	0.65	0.071	9.20	1	9.94	1.39
6012	MAXIS	0.40	0.060	6.65	2	7.27	1.02
4863	TM	0.22	0.036	6.04	3	5.55	-0.27
4588	UMW	0.50	0.042	11.94	4	12.06	0.62
4165	BAT	2.72	0.044	62.00	5	64.12	4.84
		4.49		95.83		98.94	7.60

Average return	7.60/5 =	1.52
Return of the portfolio of 5 stocks	[(98.94 + 4.49)/95.83] - 1 =	7.93%
Return of FBM KLCI		10.54%

Table 9.1: Combination strategy portfolio (2009 - 2011)

Company	DY	PE	EPS	Share Price 12/31/2009 (a)	Rank	Share Price 12/31/2011 (b)	Dividend 2009-11 (c)	Return d = b - a + c
TM	0.084	15	0.18	2.75	1	4.96	0.69	2.90
RHBCAP	0.042	9	0.56	5.30	2	7.48	0.73	2.91
PBBANK	0.036	15	0.73	11.30	3	13.38	1.35	3.43
GENM	0.025	12	0.23	2.81	4	3.83	0.23	1.25
PPB	0.014	12	1.36	15.96	5	17.16	0.69	1.89
				38.12		46.81	3.69	12.38
Average return						12.38/5 =		2.48
Return of the portfolios						[(46.81 + 3.69)/38.12] - 1 =		32.48%
Cumulative return of FBM KLCI								20.09%

Table 9.2: Combination strategy portfolio (2009 - 2013)

Company	DY	PE	EPS	Share Price 12/31/2009 (a)	Rank	Share Price 12/31/2013 (b)	Dividend 2009-13 (c)	Return d = b - a + c
TM	0.084	15	0.18	2.75	1	5.55	1.17	3.97
RHBCAP	0.042	9	0.56	5.30	2	7.90	1.11	3.71
PBBANK	0.036	15	0.73	11.30	3	19.40	2.37	10.47
GENM	0.025	12	0.23	2.81	4	4.38	0.40	1.97
PPB	0.014	12	1.36	15.96	5	16.14	1.14	1.32
				38.12		53.37	6.19	21.44
Average return						21.44/5 =		4.29
Return of the portfolios						[(53.37 + 6.19)/38.12]/5 =		56.24%
Cumulative return of FBM KLCI								20.27%

Table 10.1: O'Higgins Portfolio of 10 stocks (2009 - 2011)

Stock Code	Company	Dividend 2009-11 (a)	Share Price 12/31/2009 (b)	Rank	Share Price 12/31/2011 (c)	Returns d = c - b + a
4863	TM	0.69	2.75	1	4.96	2.90
4165	BAT	7.22	42.80	2	62.00	26.42
5076	NESTLE	4.95	33.10	3	56.20	28.05
1066	RHBCAP	0.73	5.30	4	7.48	2.91
1295	PBBANK	1.35	11.30	5	13.38	3.43
4588	UMW	0.81	6.35	6	7.00	1.46
6012	MAXIS	0.95	5.37	7	5.48	1.06
4715	GENM	0.23	2.81	8	3.83	1.25
1023	CIMB	0.44	6.42	9	7.44	1.46
4065	PPB	0.69	15.96	10	17.16	1.89
		18.06	132.16		184.93	70.83

Average return	70.83/10 =	7.083
Return of the portfolio (10 stocks)	[(184.93 + 18.06)/132.16] - 1 =	53.59%
Cumulative return of FBM KLCI		20.09%

Table 10.2: O'Higgins Portfolio of 5 stocks (2009 - 2011)

Stock Code	Company	Dividend 2009-11 (a)	Share Price 12/31/2009 (b)	Rank	Share Price 12/31/2011 (c)	Returns d = c - b + a
4863	TM	0.69	2.75	1	4.96	2.90
4165	BAT	7.22	42.80	2	62.00	26.42
5076	NESTLE	4.95	33.10	3	56.20	28.05
1066	RHBCAP	0.73	5.30	4	7.48	2.91
1295	PBBANK	1.35	11.30	5	13.38	3.43
		14.94	95.25		144.02	63.71

Average return	63.71/5 =	12.742
Return of the portfolio (5 stocks)	[(144.02 + 14.94)/95.25] - 1 =	66.89%
Cumulative return of FBM KLCI		40.97%

Table 10.3: O'Higgins Portfolio of 10 stocks (2009 - 2013)

Stock Code	**Company**	**Dividend** 2009-13 **(a)**	**Share Price** 12/31/2009 **(b)**	**Rank**	**Share Price** 12/31/2013 **(c)**	**Returns** **d = c - b + a**
4863	TM	1.17	2.75	1	5.55	3.97
4165	BAT	12.76	42.80	2	64.12	34.08
5076	NESTLE	9.40	33.10	3	68.00	44.30
1066	RHBCAP	1.11	5.30	4	7.90	3.71
1295	PBBANK	2.37	11.30	5	19.40	10.47
4588	UMW	1.65	6.35	6	12.06	7.36
6012	MAXIS	1.75	5.37	7	7.27	3.65
4715	GENM	0.40	2.81	8	4.38	1.97
1023	CIMB	0.90	6.42	9	7.62	2.10
4065	PPB	1.14	15.96	10	16.14	1.32
		32.65	132.16		212.44	112.93

Average return	112.93/10 =	11.293
Return of the portfolio (10 stocks)	[(212.44 + 32.65)/132.16] - 1 =	85.45%
Cumulative return of FBM KLCI		10.82%

Table 10.4: O'Higgins Portfolio of 5 stocks (2009 - 2013)

Stock Code	Company	Dividend 2009-13 **(a)**	Share Price 12/31/2009 **(b)**	Rank	Share Price 12/31/2013 **(c)**	Returns **d = c - b + a**
4863	TM	1.17	2.75	1	5.55	3.97
4165	BAT	12.76	42.80	2	64.12	34.08
5076	NESTLE	9.40	33.10	3	68.00	44.30
1066	RHBCAP	1.11	5.30	4	7.90	3.71
1295	PBB	2.37	11.30	5	19.40	10.47
		26.81	95.25		164.97	96.53

Average return	96.53/5 =	19.306
Return of the portfolio of 5 stocks	[(164.97 + 26.81)/95.25] - 1 =	101.34%
Cumulative return of FBM KLCI		10.82%