Industry Momentum Strategy in Malaysian Stock Market

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Abstract

Momentum strategy is applied in the stock market by buying past winners and selling past losers. In this study, the profitability of industry momentum strategy will be explored for Malaysian stock market. The motivation of this study arises from the notion that industry momentum is more significant than individual stocks momentum strategy. We use monthly data of 24 Malaysian industry sector indices from January 2008 to December 2012. The results indicate that industry momentum strategy is profitable in Malaysian market and most of the profit is derived from long position of winners while the losers do not contribute to the profitability of momentum strategy. Also, this study shows that systematic risk, measured by beta, cannot explain the industry momentum strategy in Malaysia. This evidence may suggest that Malaysian market is not weak form efficient as past prices could be utilized by investors to reap abnormal profit following industry momentum strategy.

Keywords: Industry momentum strategy, Market efficiency

1. Introduction

Momentum strategy is constructed to exploit the ongoing stock price movement by buying hot stocks and selling cold stocks. Momentum investors believe that stocks that have done well in the past will continuously perform in the future and vice versa for stocks that perform poorly. Various reasons have been debated as the cause of momentum profits. One of the popular beliefs sprouted from stock price under reaction to information. Chan, Jegadeesh and Lakonishok (1996) find stock prices react gradually to earning announcements and hence enable investors to gain momentum profits.

If past stock price could give indication of how stocks will perform in the future, it will violate the traditional finance theory which is the Efficient Market Hypothesis. An efficient market is a market in which the securities prices are accurately and instantaneously reflect all possible information. Thus, it is difficult for investors to make an abnormal profit due to the assumption that efficient market is consist of many rational and well-informed investors, who are actively trading in the market. When the securities prices fully reflect all the information, it is hard to outperform the market by pricking undervalued stocks. The reason that the prices behave in a random manner on an efficient market implies that investors in a highly competitive market will instantaneously digest any new information.

In any investment strategy, the main purpose is to receive a good return which is comparable with the risk taken. Thus, the study is important and could be useful for investors to make an investment decision by examining the profitability of industry momentum strategy in Malaysian stock market. Furthermore, Moskowitz and Grinblatt (1999) find evidence that industry momentum strategy is more profitable than individual stock momentum strategy. In Malaysian context, profitability of individual stock momentum strategy has been studied by TafdilHusni (2006). On the contrary, our study is focused on industry momentum strategy in Malaysian market.

Therefore the objectives of this paper are threefold, which are to construct industry's index portfolio by buying past winners and selling past losers for Malaysian stock market, to investigate the raw return that will be generated from industry momentum strategies and to examine whether systematic risk can explain the profitability of industry momentum strategy in Malaysia stock market.

2. Literature Review

Evidence on predictability of return is among the most controversial issue that has being debated since it violates the traditional finance theory, the Efficient Market Hypothesis (EMH) (Fama, 1990). Generally, EMH is related with the random walk theory which state that changes in stock prices happen randomly and can be defined as a market in which the securities prices always fully reflect the possible information. This theory entails that it is impossible for an investment strategy that based entirely on information to make an abnormal return. Hence, according to Shleifer (2000), in a market where EMH is applied; the best investment strategy is to passively buy and hold the market portfolio.

Weak form market efficiency indicates that past price would not be useful to help investors to earn abnormal profit. According to Shen, Szakmary and Sharma (2005), evidence against weak form market efficiency could be proven by examining the profitability of momentum strategy and contrarian strategy. The strategies are following price continuation and price reversal respectively. Using weekly returns of NYSE stocks, Conrad and Kaul (1989) and Lo and MacKinlay (1988) find positive serial correlation over short horizon which suggested that momentum investing is profitable for US stock market and thus suggesting market is not weak form efficient.

On top of that, Jegadeesh and Titman (1993) found a momentum effect in which good or bad current performance of stocks continue over time in an investigation of intermediate-horizon stock price behaviour using three to twelve months holding period. They conclude that portfolios of the good performing stocks in the current past appear to outperform other stocks. Thus, there is an evidence of short-to-intermediate-horizon price momentum. However, Fama and French (1988) and Poterba and Summers (1988) found a reversal effect because of the negative serial correlation when investigated the predictability of long-horizon portfolio returns and their result is same as DeBondt and Thaler (1985) which shed evidence on profitability of contrarian investment.

Momentum strategy is based on the assumption that market underreacts to information and profitability of momentum strategy could give contradicting evidence from weak form market efficiency (TafdilHusni, 2006). Recently, several researches have documented that stock returns exhibit momentum effect where past winners will continue to perform well and past losers will continue to perform badly at medium-term horizons ranging from three to twelve months. Jagadeesh and Titman (1993) investigated profitability of momentum strategy using NYSE stocks data from 1965 to 1989. Their findings showed a strategy that buys past six-month winners and sells past six-month losers earns one percent per month over six months period.

Generally, evidence for momentum profits is weaker in Asian markets. Except for Japan and Korea, Chui et al. (2000) find evidence for momentum profits in these markets. Hameed and Kusnadi (2002) find no evidence of momentum profits in the six Pacific Basin countries' stock market. However, many researchers have found that momentum strategies work in international stock markets even though the findings were not uniform. Rouwenhorst (1998) discovers that European and U.S. momentum strategies have a common component that may drive the profitability of momentum strategies in both the U.S. and international markets. Based on these findings, Schiereck et al. (1999) document an intermediate horizon profits to momentum strategies in the German market and find that the U.S. and German markets behave very similarly. Next, for U.K stock market, Hon and Tonks (2003) find strong evidence for momentum profits out to 24-months horizon, but only from year 1977 to 1996 and no evidence of momentum profits in the earlier 1955 to 1976 period in U.K.

For Malaysian stock market, TafdilHusni (2006) utilized individual stock data to examined profitability of momentum strategy in Malaysian market. From the study, it can be concluded that momentum strategy is profitable in Malaysian stock market. Furthermore, trading volume turnover has also been identified as a factor, which contributed to momentum profit. Companies with higher trading volume turnover give higher momentum profit. There are many body of literature empirically reporting the stock return predictability that give rise to the profitability of two investment strategies which are momentum and contrarian strategies. Both of these investment strategies have been stated as a simple investment strategy based on the past cross-sectional stock returns by previous researchers.

While momentum investment is a strategy that buys the past winners and sells the past losers (price continuations), contrarian investment is a strategy that buys the past losers and sells the past winners (price reversals).

DeBondt and Thaler (1985) examine the return patterns over extended periods of times in the U.S. Stock Market and found out that contrarian strategies perform very well over three to five year horizon. In contrast, Jegadeesh and Titman (1993) report momentum strategy that buy past winners stock and sell past losers stock produce a significant positive return, about 1% monthly over three to twelve months holding periods. Conrad and Kaul (1998) also find both contrarian and momentum investments generate a positive return, depending on the time horizons examined. To be specific, momentum investment is profitable for the medium term, three to twelve months and contrarian investment is profitable for short term, which is weekly or monthly and long term, which is two to five years or longer holding period.

The momentum and contrarian investment are also reported in non-U.S. Stock Market. For contrarian investment, Chang et al. (1995) documented abnormal profit of short-term contrarian investment in Japan Stock Market. Baytas and Cakici (1999) find abnormal profits of long-term contrarian investment in stock market of seven non-U.S. industrialized countries. For momentum investment, Rouwenhorst (1998) discovers significant price momentum for an intermediate time horizon for stocks in twelve European countries between 1980 and 1995. Rouwenhorst (1999) also find significant price momentum based on the six-month performance of the stocks in 17 of 20 emerging markets during the period spanning from 1980 to 1990.

3. Research Methodology

3.1Data

This study uses average monthly closing indices of 24 Malaysian industry sector indices and the data is obtained from Datastream. The period of the study is five years starting from January 2008 and end on December 2012.

Raw returns generated from momentum strategies are statistically tested. The return of the closing index price will be calculated as the given formula:

$$R_i = \left(\frac{P_t}{P_{t-1}}\right) - 1 \qquad (3.1)$$

Where P_t is the index value of the stock at the end of month t and P_{t-1} is the index value of stock at time t-1 which is obviously the previous month-end.

3.2 Portfolio Formation

Industry momentum portfolios are constructed following Jeegadesh and Titman (1993), where at the end of each period from January 2008 to December 2012 the indices are ranked from the highest to the lowest based on the return earned. However, in this study we do not choose the top and bottom ten per cent as been applied in Jagdeesh and Titman (1993). Instead we use the top twenty five per cent as the winner and the bottom twenty five per cent as the loser. This slight modification is done since in this study the number of indices is small as compared to the number of individual stocks.

The industry portfolio will be held based on corresponding holding period. Then, the portfolios are liquidated at the end of the holding period and replaced by the winners and the losers from the next ranking period. To get good and comparable results with previous researches, different combinations of ranking and holding periods is utilized. Table 3.1 below shows the combination of ranking and holding period tested in this study.

Table 3.1: Ranking (R) and Holding (H) Period

R/H	12/12	12/6	6/6

3.3 Capital Asset Price Model

One of the objectives of the study is to calculate and analyze the beta of the stock indices to see whether momentum effect exist in Malaysia stock market. Empirically, the value of beta can be estimated based on the historical return on the security and the market. For the purpose of the study, Capital Asset Price Model will be employed in generating the value of the beta. The dependent variable used in the study is return on the security which use index price as the proxy of the return. Meanwhile, independent variable is the market return. Each of these variables should give impact on momentum strategy.

$$R_i = c + ß_i R_m + \varepsilon_t \quad (3.3)$$

where,

R_i = Return on security i
c = Constant
$ß_i$ = Beta value
R_m = Return on market
ε_t = Error term

Beta can be defined as a number that measures no diversifiable risk, also known as market risk. The beta for overall market is 1.00, thus indicates that the beta of the average stock is 1.00. In addition, beta can be positive or negative, depends on the market by looking at the returns. When the stock returns move in the same direction as market, then it is a positive beta and when the stock returns move in the opposite direction as market, it is a negative beta.

4. Results and Discussion

4.1Descriptive Statistic of Return of 24 Industries

This study documents about the descriptive statistic that shows the returns of 24 selected industries throughout the whole study period.

Table 4.1: Descriptive Statistic for 24 Industries Monthly Return

	Mean	SD	Kurtosis	Skewness	Min	Max
Auto & Parts	0.04	1.16	7.6479	-0.4012	-0.0902	0.0638
Banks	0.03	1.01	7.3313	-0.3736	-0.0798	0.0572
Construction & Materials	0.01	1.57	12.6076	-0.9821	-0.1615	0.0819
Consumer Goods	0.01	1.24	10.1417	-0.3604	-0.0924	0.0935
Consumer Services	0.02	1.34	2.2239	0.3847	-0.0551	0.0595
Electrical	0.01	1.62	42.6810	2.0630	-0.1503	0.2329
Food Producer	0.00	1.56	17.1044	0.0732	-0.1384	0.1547
Financials	0.03	1.01	8.0899	-0.4090	-0.0851	0.0582
Fixed Line Telecom	0.09	1.34	32.5620	0.1705	-0.1545	0.1606
General Retailer	0.09	2.48	516.3520	17.8975	-0.1635	0.7099
General Industry	-0.01	1.39	16.7128	-1.2879	-0.1455	0.0667
Gas, Water & Multi Utilities	0.00	1.00	10.4218	-0.8221	-0.1007	0.0455
Industrial Transport	-0.02	1.16	4.6311	-0.0921	-0.0747	0.0758
Industrial	-0.01	1.06	20.9971	-1.5458	-0.1321	0.0460
Media	0.04	1.23	47.1746	3.0269	-0.0556	0.1882
Mobile Telecommunication	0.04	1.25	6.3566	0.0105	-0.0826	0.0641
Real Estate Investment Trust	-0.01	1.55	26.8522	-0.9112	-0.1688	0.1202
Real Estate Investment Services	0.02	1.93	11.5048	-0.2357	-0.1688	0.1202
Telecommunication	0.04	1.09	6.0252	-0.2748	-0.0854	0.0489
Tobacco	0.04	1.24	2.5872	0.0238	-0.0533	0.0577
Travel & Leisure	0.02	1.43	2.4014	0.4549	-0.0554	0.0659
Utilities	0.00	1.00	18.0769	-0.8339	-0.1171	0.0743
Oil & Gas	0.05	1.01	6.8139	0.3121	-0.0552	0.0635
Oil & Gas Production	0.05	1.02	6.8080	0.3173	-0.0552	0.0635

4.2Industry Portfolio Formation and Returns

In this study, mean returns of the 24 industries are documented according to the several formation periods for Malaysian market, from January 2008 to December 2012. The indices are ranked based on the return it generated during the ranking period. The top twenty five percent are classified as winners, meanwhile the bottom twenty five per cent is the losers. After being ranked, the securities will be held for a given time period, such as twelve months and six months and will be liquidated at the end of the holding period.

Next, the return generated from the winners, losers and momentum strategies are statistically tested under the alternative hypothesis that the returns are greater than zero. Table 4.2(a) – (c) list all the industries ranked as winners and losers for all ranking and holding periods.

Generally, almost all industries are included in the list as winners or losers for all portfolio formation based on ranking and holding periods. We could not detect any pattern in term of persistency of industry performance during different sub periods. Therefore, it is plausible to say that the performance of industry differs over time and thus the composition of long and short position will be altered significantly from one holding period to another. The only exception is for 12/12 strategy, where automobile and parts and consumer goods are grouped as neither winner nor loser during the investment period. Thus, the two industries performed moderately during the whole sub periods. There are number of industry that positioned as a losers climbing up being ranked as a winners. The most significant shift of industry performance for 12/12 strategy is mobile telecommunication; from being ranked as a loser in 2009 and 2010 to be a winner in 2010 and 2011.

The average return for winners, losers and momentum strategies for 12/12 formation, which indicates that the securities is rank and held for twelve months are given in table 4.2(d). The momentum strategy yields a return in the range of -2.46% to 1.72% per month. These returns are not significant for all strategies except for holding period of 2010. For winners' strategy, it yields a return in the range from 0.25% to 2.16% and only holding period of 2010 and 2012 are significant. Another interesting note is that the losers' strategy never yields a positive and significant return. This is why the return of momentum strategy for 12/12 is only significant for one sub period.

Next, table 4.2(e) records the return for formation period of twelve months ranking and six months holding. The momentum strategy yields a return between -0.05% and 2.34% per month and only two sub periods that yield a significant return, Jul-Dec11 and Jul-Dec12. For winners strategy all the sub periods' return is positive, except for Jul-Dec 09. Besides that, only three sub periods that does not yield significant results, which are Jul-Dec 09, Jan-Jun 10 and Jul-Dec 11. For the formation of six months ranking and six months holding, the result is shown in table 4.2(f). The momentum strategy yields a return in a range of -0.27% to 2.85% per month and gives significant return only for Jul-Dec 11 and Jan-Jun 12. Another important note is that winner's strategy yields a negative return on Jun-Dec 08 and there are five sub periods of its strategy that gives significant return; Jan-Jun09, Jul-Dec 10, Jul-Dec 11, Jan-Jun 12 and Jul-Dec 12, while a loser's strategy never yields significant results.

Table 4.2(A): Average Monthly Returns for the Formation Period of 12 Months Ranking and 12 Months Holding (12/12)

PERIOD		WINNER/INDUSTRIES						LOSER INDUSTRIES					
		General Retailer	Tobacco	Fixed Line Telecom	Industrial Transport	Gas, Water & Multi Utilities	Oil & Gas	Travel & Leisure	Mobile Telecom	Food Producer	Industrial	Construction & Materials	General Industry
R	2008	0.0588	0.0084	0.0071	-0.0097	-0.0160	-0.0168	-0.0402	-0.0405	-0.0460	-0.0486	-0.0580	-0.0652
H	2009	0.0302	-0.0022	0.0258	0.0040	0.0186	0.0055	0.0386	0.0186	0.0444	0.0330	0.0472	0.0477
		General Industry	Construction & Materials	Food Producer	Banks	Financials	Travel & Leisure	Mobile Telecom	Real Estate Inv trust	Oil & Gas	Oil & Gas Production	Industrial Transport	Tobacco
R	2009	0.0477	0.0472	0.0444	0.0436	0.0429	0.0386	0.0186	0.0162	0.0055	0.0055	0.0040	-0.0022
H	2010	-0.0007	0.0285	0.0113	0.0198	0.0203	0.0284	0.0219	0.0000	0.0156	0.0156	0.0111	0.0055
		Real Estate Inv Serv	Media	Consumer Services	Construction & Materials	Travel & Leisure	Mobile Telecom	Industrial	Electrical	Tobacco	General Retailer	Real Estate Inv trust	General Industry
R	2010	0.0376	0.0314	0.0294	0.0285	0.0284	0.0219	0.0083	0.0062	0.0055	0.0043	0.0000	-0.0007
H	2011	-0.0008	0.0000	0.0034	-0.0066	0.0034	0.0156	-0.0046	-0.0076	0.0105	0.0068	0.0000	0.0048
		Fixed Line Telecom	Oil & Gas	Oil & Gas Production	Telecom	Mobile Telecom	Tobacco	Industrial	Construction & Materials	Electrical	Utilities	Gas, Water & Multi Utilities	Industrial Transport
R	2011	0.0360	0.0303	0.0303	0.0169	0.0156	0.0105	-0.0046	-0.0066	-0.0076	-0.0146	-0.0191	-0.0205
H	2012	0.0216	0.0192	0.0229	0.0227	0.0228	0.0207	0.0019	0.0040	0.0148	0.0083	0.0043	-0.0064

Table 4.2(B): Average Monthly Returns for the Formation of Period 12 Months Ranking and 6 Months Holding (12/6)

PERIOD		WINNER INDUSTRIES						LOSER /INDUSTRIES					
		General Retailer	Tobacco	Fixed Line Telecom	Industrial Transport	Gas, Water & Multi Utilities	Oil & Gas	Travel & Leisure	Mobile Telecom	Food Producer	Industrial	Construction & Materials	General Industry
R	Jan-Dec08	0.0588	0.0084	0.0071	-0.0097	-0.0160	-0.0168	-0.0402	-0.0405	-0.0460	-0.0486	-0.0580	-0.0652
H	Jan-Jun09	0.0490	0.0020	0.0437	0.0083	0.0261	0.0076	0.0500	0.0060	0.0486	0.0429	0.0897	0.0520
		General Retailer	Real Estate Inv trust	REIS	Construction & Materials	Fixed Line Telecom	Media	Electrical	Consumer Goods	Telecom	General Industry	Food Producer	Mobile Telecom
R	Jul08-Jun09	0.0833	0.0323	0.0323	0.0315	0.0217	0.0165	-0.0078	-0.0193	-0.0200	-0.0203	-0.0226	-0.0273
H	Jul-Dec09	0.0115	-0.0182	0.0005	0.0048	0.0079	-0.0098	0.0223	0.0317	0.0282	0.0434	0.0401	0.0312
		General Industry	Construction & Materials	Food Producer	Banks	Financials	Travel & Leisure	Mobile Telecom	Real Estate Inv trust	Oil & Gas	Oil & Gas Production	Industrial Transport	Tobacco
R	Jan-Dec09	0.0477	0.0472	0.0444	0.0436	0.0429	0.0386	0.0186	0.0162	0.0055	0.0055	0.0040	-0.0022
H	Jan-Jun10	-0.0182	0.0239	-0.0069	0.0136	0.0136	-0.0034	0.0235	0.0000	0.0045	0.0045	0.0087	0.0050
		Banks	Financials	Mobile Telecom	Media	Telecom	Food Producer	Gas, Water & Multi Utilities	Industrial Transport	Oil & Gas	Oil & Gas Production	Tobacco	Real Estate Inv trust
R	Jul09-Jun10	0.0286	0.0279	0.0274	0.0265	0.0255	0.0166	0.0048	0.0042	0.0039	0.0039	-0.0007	-0.0091
H	Jul-Dec10	0.0259	0.0269	0.0202	0.0000	0.0194	0.0296	0.0210	0.0134	0.0268	0.0268	0.0060	0.0000
		Real Estate Inv Serv	Media	Customer Services	Construction & Materials	Travel & Leisure	Mobile Telecom	Industrial	Electrical	Tobacco	General Retailer	Real Estate Inv trust	General Industry
R	Jan-Dec10	0.0376	0.0314	0.0294	0.0285	0.0284	0.0219	0.0083	0.0062	0.0055	0.0043	0.0000	-0.0007
H	Jan-Jun11	0.0120	0.0000	0.0051	0.0030	0.0043	0.0136	0.0012	0.0042	0.0072	0.0197	0.0000	0.0085
		Real Estate Inv Serv	Travel & Leisure	Oil & Gas	Oil & Gas Production	Customer Services	Fixed Line Telecom	Auto & Parts	Utilities	Gas, Water & Multi Utilities	Industrial Transport	Media	Real Estate Inv trust
R	Jul10-Jun11	0.0368	0.0322	0.0319	0.0319	0.0305	0.0206	0.0062	0.0049	0.0018	0.0007	0.0000	0.0000
H	Jul-Dec11	-0.0136	0.0025	0.0234	0.0234	0.0017	0.0393	0.0070	-0.0210	-0.0208	-0.0288	0.0000	0.0000
		Fixed Line Telecom	Oil & Gas	Oil & Gas Production	Telecom	Mobile Telecom	Tobacco	Industrial	Construction & Materials	Electrical	Utilities	Gas, Water & Multi Utilities	Industrial Transport
R	Jan-Dec11	0.0360	0.0303	0.0303	0.0169	0.0156	0.0105	-0.0046	-0.0066	-0.0076	-0.0146	-0.0191	-0.0205
H	Jan-Jun12	0.0224	0.027	0.0296	0.0157	0.0152	0.0211	0.0048	-0.0041	0.0240	0.0218	0.0186	-0.0134
		Fixed Line Telecom	Oil & Gas Production	Auto & Parts	Oil & Gas	Tobacco	Telecom	Travel & Leisure	Consumer Services	Construction & Materials	Real Estate Inv Serv	General Retailer	Industrial Transport
R	Jul11-Jun12	0.0308	0.0265	0.0263	0.0252	0.0175	0.0174	-0.0069	-0.0078	-0.0102	-0.0127	-0.0197	-0.0211
H	Jul-Dec12	0.0207	0.0162	0.0461	0.0115	0.0202	0.0297	-0.0076	-0.0055	0.0121	-0.0117	0.0234	0.0006

Table 4.2(C): AverageMonthly Returns for the Formation of 6 Months Ranking 6 Months Holding (6/6)

PERIOD		WINNER/INDUSTRIES						LOSER/INDUSTRIES					
		Fixed Line Telecom	Tobacco	Food Producer	Media	General Retailer	Consumer Goods	Consumer Services	Industrial	Telecom	Real Estate Inv trust	Real Estate Inv Serv	Construction & Materials
R	Jan-Jun08	0.0144	0.0137	0.0017	0.0006	0.0000	-0.0029	-0.0415	-0.0455	-0.0464	-0.0783	-0.0783	-0.0895
H	Jul-Dec08	-0.0003	0.0031	-0.0937	-0.0416	0.1176	-0.0772	-0.0355	-0.0517	-0.0340	0.0139	0.0139	-0.0266
		General Retailer	Real Estate Inv Trust	Real Estate Inv Serv	Industrial Transport	Tobacco	Fixed Line Telecom	Industrial	Telecom	Mobile Telecom	Consumer Goods	General Industry	Food Producer
R	Jul-Dec08	0.1176	0.0139	0.0139	0.0091	0.0031	-0.0003	-0.0517	-0.0521	-0.0605	-0.0772	-0.0925	-0.0937
H	Jan-Jun09	0.0490	0.0506	0.0506	0.0083	0.0020	0.0437	0.0429	0.0121	0.0060	0.0387	0.0520	0.0486
		Construction & Materials	Media	General Industry	Consumer Services	Real Estate Inv trust	REIS	Telecom	Industrial Transport	Oil & Gas	Oil & Gas Production	Mobile Telecom	Tobacco
R	Jan-Jun09	0.0897	0.0745	0.0520	0.0509	0.0506	0.0506	0.0121	0.0083	0.0076	0.0076	0.0060	0.0020
H	Jul-Dec09	0.0048	-0.0098	0.0434	0.0231	-0.0182	0.0005	0.0282	-0.0002	0.0034	0.0034	0.0312	-0.0063
		Banks	General Industry	Financials	Food Producer	Consumer Goods	Mobile Telecom	Oil & Gas Production	REIS	Industrial Transport	Tobacco	Media	Real Estate Inv trust
R	Jul-Dec09	0.0437	0.0434	0.0423	0.0401	0.0317	0.0312	0.0034	0.0005	-0.0002	-0.0063	-0.0098	-0.0182
H	Jan-Jun10	0.0136	-0.0182	0.0136	-0.0069	-0.0045	0.0235	0.0045	0.0137	0.0087	0.0050	0.0629	0.0000
		Media	Construction & Materials	Mobile Telecom	Telecom	Fixed Line Telecom	Real Estate Inv Serv	Gas, Water & Multi Utilities	Industrial	Telecom	Consumer Goods	Food Producer	General Industry
R	Jan-Jun10	0.0629	0.0239	0.0235	0.0229	0.0162	0.0137	-0.0016	-0.0025	0.0229	-0.0045	-0.0069	-0.0182
H	Jul-Dec10	0.0000	0.0331	0.0202	0.0194	0.0085	0.0616	0.0210	0.0191	0.0194	0.0252	0.0296	0.0168
		REIS	Travel & Leisure	Consumer Services	Construction & Materials	Food Producer	Financials	Electrical	Fixed Line Telecom	Tobacco	General Retailer	Media	Real Estate Inv trust
R	Jul-Dec10	0.0616	0.0602	0.0559	0.0331	0.0296	0.0296	0.0097	0.0085	0.0060	0.0016	0.0000	0.0000
H	Jan-Jun11	0.0120	0.0043	0.0051	0.003	-0.0078	0.007	0.0042	0.0327	0.0072	0.0197	0.0000	0.0000
		Oil & Gas	Oil & Gas Production	Fixed Line Telecom	General Retailer	Telecom	Mobile Telecom	Auto & Parts	Consumer Goods	Food Producer	Utilities	Industrial Transport	Gas, Water & Multi Utilities
R	Jan-Jun11	0.0371	0.0371	0.0327	0.0197	0.0148	0.0136	-0.0030	-0.0059	-0.0078	-0.0083	-0.0121	-0.0174
H	Jul-Dec11	0.0234	0.0234	0.0393	-0.0061	0.019	0.0176	0.0070	0.0050	0.0041	-0.0210	-0.0288	-0.0208
		Fixed Line Telecom	Oil & Gas	Oil & Gas Production	Telecom	Mobile Telecom	Tobacco	Real Estate Inv Serv	Construction & Materials	Electrical	Gas, Water & Multi Utilities	Utilities	Industrial Transport
R	Jul-Dec11	0.0393	0.0234	0.0234	0.019	0.0176	0.0139	-0.0136	-0.0162	-0.0195	-0.0208	-0.0210	-0.0288
H	Jan-Jun12	0.0224	0.027	0.0296	0.0157	0.0152	0.0211	-0.0177	-0.0041	0.0240	0.0186	0.0218	-0.0134
		Auto & Parts	Oil & Gas Production	Oil & Gas	Electrical	Fixed Line Telecom	Utilities	Food Producer	Real Estate Inv Serv	Industrial Transport	Travel & Leisure	Consumer Services	General Retailer
R	Jan-Jun12	0.0456	0.0296	0.027	0.024	0.0224	0.0218	-0.0045	-0.0117	-0.0134	-0.0162	-0.0172	-0.0334
H	Jul-Dec12	0.0461	0.0162	0.0115	0.0056	0.0207	-0.0052	-0.0103	-0.0117	0.0006	-0.0076	-0.0055	0.0234

Table 4.2(D): Average Returns from the Winners, Losers and Momentum Portfolio (12/12).

The T-Test is calculated as the mean return divided by standard error. Significant P-values on the 5% level is indicated in bold

POS/HOL	2009	2010	2011	2012
WINNERS	0.0137	0.0179	0.0025	0.0216
t-stat	2.5566	3.9428	0.8285	36.0861
pvalue	**0.0254**	**0.0055**	0.2226	**0**
LOSERS	-0.0382	-0.0116	-0.0017	-0.0045
t-stat	-8.4051	-3.614	-0.5804	-1.5577
pvalue	0.9998	0.9923	0.7066	0.91
MOMENTUM	-0.0246	0.0063	0.0008	0.0172
t-stat	-5.2438	0.8321	0.225	6.6527
pvalue	0.9983	0.2216	0.4154	**0.0006**

Table 4.2(E): Average Returns from the Winners, Losers and Momentum Portfolio (12/6).

The T-Test is calculated as the mean return divided by standard error. Significant P-values on the 5% level is indicated in bold

POS/HOL	Jan-Jun09	Jul-Dec09	Jan-Jun10	Jul-Dec10	Jan-Jun11	Jul-Dec11	Jan-Jun12	Jul-Dec12
WINNERS	0.0228	-0.0006	0.0038	0.0203	0.0063	0.0128	0.0218	0.0241
t-stat	2.7839	-0.1241	0.5858	4.6489	2.9159	1.6253	9.218	4.7789
pvalue	**0.0194**	0.547	o.2917	**0.0028**	**0.0182**	0.0825	**0.0001**	**0.0025**
LOSERS	-0.0482	-0.0328	-0.0077	-0.0157	-0.0068	0.0106	-0.0086	-0.0019
t-stat	-4.4329	-10.356	-2.2916	-3.4521	-2.3381	1.7666	-1.3744	-0.3431
pvalue	0.9966	0.9999	0.9647	0.9909	0.9667	0.0688	0.8861	0.6273
MOMENTUM	-0.0254	-0.0334	-0.0039	0.0047	-0.0005	0.0234	0.0132	0.0222
t-stat	-2.3959	-6.086	-0.4288	0.5894	-0.1189	2.0436	1.8721	4.1127
pvalue	0.969	0.9991	0.657	0.2906	0.545	**0.0482**	0.06	**0.0046**

Table 4.2(F): Average Returns from the Winners, Losers and Momentum Portfolio (6/6).

The T-Test is calculated as the mean return divided by standard error. Significant P-values on the 5% level is indicated in bold

POS/HOL	Jun-Dec-08	Jan-Jun-09	Jul-Dec-09	Jan-Jun-10	Jul-Dec-10	Jan-Jun-11	Jul-Dec-11	Jan-Jun-12	Jul-Dec-12
WINNERS	-0.0154	0.034	0.0073	0.0035	0.0238	0.0039	0.0194	0.0218	0.0158
t-stat	-0.4946	3.6888	0.7883	0.5459	2.6917	1.4711	3.2384	9.218	2.2336
pvalue	0.6791	**0.0071**	0.2331	0.3043	**0.0216**	0.1006	**0.0115**	**0.0001**	**0.0379**
LOSERS	0.02	-0.0334	-0.0099	-0.0158	-0.0286	-0.0106	0.0091	-0.0059	0.0018
t-stat	1.7812	-4.1956	-1.5437	-1.6444	-4.3549	-1.9987	1.3783	-0.8209	0.3445
pvalue	0.0675	0.9957	0.9083	0.9195	0.9963	0.9489	0.1133	0.7755	0.3722
MOMENTUM	0.0047	0.0006	-0.0027	-0.0123	-0.0048	-0.0067	0.0285	0.016	0.0177
t-stat	0.1645	0.0427	-0.2043	-0.9094	-0.3902	-1.165	5.0614	2.0222	1.5519
pvalue	0.4379	0.4838	0.5769	0.7976	0.6438	0.8517	**0.0019**	**0.0495**	0.0907

This study is in line with the findings made by Vilbern (2008) who study the momentum effect in Swedish stock market. Also, as shown in the Table 4.2(d)-(f), we can observed that profitability of the strategy is almost entirely derived from the long position of winners, while the contribution from the short position of losers is only positive for 12/6 strategy on Jul-Dec 11 and 6/6 strategy on Jul-Dec 08 and Jul-Dec 11. This result is in line with Jegadeesh and Titman (1993). However, the results contradict with Li, Brook and Miffre (2007) as from the study, the short position explained most of the momentum profits in United Kingdom (U.K).

Li, Brook and Miffre (2007) show that the high profits of the losers strategy in the U.K is explained by its large exposure to small cap firms. On top of that, the results from this study definitely show that the long position is a profitable compared to short position. Besides that, this study compare the holding period by looking at the 12/12 and 12/6 strategy, given the ranking period is constant which is 12 months. The result shows the similar output where winners' position is the main contribution to the momentum strategy. The strategy remains profitable for the longer holding period (12 months) but become less profitable for the shorter period (6 months).

4.3 Systematic Risk

Table 4.8 : Average Beta Values for the Winners, Losers and Momentum Portfolio

	12/12	12/6	06/6
WINNERS	0.88	0.87	0.86
LOSERS	0.96	0.91	0.95
MOMENTUM	0.92	0.89	0.91

Among the objective of this study is to see whether the profits generated from momentum strategy can be explained by the systematic risk, measured as beta assuming the CAPM theory is valid. Table 4.8 shows the value of average beta value for winners' portfolio, losers' portfolio and momentum portfolio.

Overall, the average beta values for the winners, losers, momentum portfolio are positive, which indicates that the securities return more in the same direction as market; the increment of the market return will result in the increment in securities return. However, the average beta values for the three portfolios are less than 1; hence it is considered less risky than market index. Also, the average beta values for both winners and momentum portfolios are practically lower than the losers' portfolio for all the different sub periods. Thus, it implies that investing in winners is less risky than investing in market index. It can be conclude that it is not possible to explain the momentum strategy with the difference in systematic risk based on these measures. The findings on the systematic risk are in line with Jegadeesh and Titman (1993), Rey and Schmid (2007) and Vilbern (2008).

5. *Conclusions*

This study investigates the profitability of industry momentum strategy in Malaysia stock market. First of all, this study discusses the concept of momentum strategy that can be used for the investment purpose. This study is done by focusing on average monthly indices of 24 Malaysian industry sector's indices. Therefore, this study follows Jegadeesh and Titman (1993) method, where at the end of each period from January 2008 to December 2012 the securities are ranked from the highest to the lowest based on the average monthly return earned. Then, the portfolios are held for a given time period and liquidated at the end of the holding period. Different combination of ranking and holding periods is used; 12/12 strategy, 12/6 strategy, 6/6 strategy. Next, in order to see whether systematic risk, measured as beta can explain the momentum strategy, the return on the security is regressed against the market return and the slope is thus the average beta value.

This study gives insight that industry momentum strategy in Malaysia is profitable, which could be adopted by investors. Profits of industry momentum strategy are mostly derived from the long position of winners. Surprisingly, the average beta value, as a measure for systematic risk cannot explain industry momentum effect since the average beta value for winners' position is lower than losers' position. To conclude this study, the results are in line with Jegadeesh and Titman (1993) and Vilbern (2008). When considering the efficient market hypothesis in its weak form where it is not possible to profit from historical prices, the results presented for this study proved that Malaysia market is not weak form efficient. Hence, the industry momentum effect remains to be one of the anomalies that cannot be explained by efficient market hypothesis. To extend this study, profitability of industry contrarian strategy in Malaysian market could be further examined since the profitability of momentum strategy is not contributed by short position of losers.

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