

SHORT-RUN OVERREACTION, STOCK PRICES AND INVESTORS' IRRATIONALITY IN THE KUALA LUMPUR STOCK EXCHANGE

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ABSTRACT

This paper argues that investors are not always rational decision makers as assumed in most finance theories. As humans, investors are said to demonstrate biases in their judgement and decision making. Relying on intuition and rule-of-thumb, being optimistic and overconfident, and having the tendency to follow others are among the attributes which could prevent humans from being rational investment decision makers. Besides, being ill-informed due partly to institutional deficiencies may also contribute to their irrationality. This paper undertakes a study on short-run behavior of the Kuala Lumpur Stock Exchange (KLSE) prices, and documents the existence of short-run price overreaction in the January-December 1997 period. There are performance reversals in the portfolios of winners and losers in the ranking and test period weeks. We argue that investors' irrationality may have played an important part in explaining the results. This study shows that in explaining behaviour of share returns, the psychology of human decision making should be taken into consideration.

Keywords: *Stock Price Behaviour, Overreaction, Irrationality, Emerging Market.*

ABSTRAK

Artikel ini mencadangkan bahawa pelabur-pelabur bukanlah pembuat keputusan yang sentiasa rasional seperti yang selalu diandaikan dalam kebanyakan teori-teori kewangan. Sebagai manusia biasa, pelabur-pelabur dikatakan sering menunjukkan bias dalam perkiraan dan pembuatan keputusan. Persandaran kepada gerak hati dan peraturan ikut kebiasaan,

berperasaan optimistik dan keyakinan berlebihan, dan kecenderungan mengikut orang lain adalah antara sifat-sifat yang boleh menghalang manusia daripada menjadi pembuat keputusan yang rasional. Selain itu, kekurangan maklumat ekoran daripada kekurangan institusi juga menyumbang kepada ketidakrasionalan. Artikel ini mengkaji perlakuan jangka-pendek harga-harga saham di Bursa Saham Kuala Lumpur (BSKL), dan melaporkan kewujudan reaksi berlebihan jangka-pendek bagi tempoh Januari-Disember 1997. Terdapat pertukaran prestasi dalam portfolio-portfolio saham winners dan saham losers dalam tempoh-minggu pemerinkatan dan ujian. Kami mencadangkan ketidakrasional pelabur mungkin memainkan peranan yang penting dalam menjelaskan dapatan kajian. Kajian ini menunjukkan bahawa, dalam menjelaskan perlakuan pulangan saham, psikologi manusia perlu diambilkira.

INTRODUCTION

Enormous literature on stock price behavior has investigated market efficiency based on the assumption of investors' rational expectations. However, there have been evidence which argue that stock markets do not rationally price the securities traded. Among the evidence put forward are the excessive price volatility (Shiller, 1981; 1984, Summers, 1986), failure of information arrivals in explaining movement in stock prices (Cutler, Poterba & Summers, 1989; Roll, 1988), and various market anomalies (see Dimson, 1988, for a thorough review). One of the newest and most controversial of these anomalies is the hypothesis that the market tends to overreact to news. It is partly based on psychology studies on human decision making which claims that humans tend to display heuristic biases including overreacting to the most recent event. This so-called overreaction effect claims that stocks, which under performed the market in the last period will beat the market in the next period and vice versa for stocks which over performed the market. It suggests that investors overreact to new information and as a result share prices can and do depart from their underlying fundamental values.

There are two main objectives of this paper. First, it will investigate whether the so-called short-run overreaction exists in the Malaysian stock market. Secondly, the study will determine whether investors display different reactions to news during different market conditions, as reflected in the share prices. In order to achieve the objectives, we will look at two extreme portfolios of stocks, namely the top and worst performers based on weekly returns. We will also partition the study period into bullish and bearish markets. We try to explain the findings

based on psychological attributes of individuals. The results of the study could shed further evidence of irrationality argued to play a significant role in determining stock returns. The rest of the paper is arranged as follows: section 2 reviews literature on stock market overreaction and psychology of individual decision making, section 3 describes the methodology, section 4 presents the results of the analyses, section 5 gives brief discussions of the results, and section 6 will conclude the paper.

OVERREACTION AND THE PSYCHOLOGY OF INDIVIDUAL DECISION MAKING

The first study on stock market overreaction was conducted by De Bondt and Thaler (1985). They found that companies which had earned poor returns in the past (losers) tended to outperform the market in the next period, while companies which had performed remarkably well in the immediate past (winners) tended to under-perform the market in the next period. They argued that investors overreact to both good and bad news which caused the price to move in the extreme direction. Their study looked at long-term reversion of returns, i.e 3 to 5 years. There are also studies examining short-term reversion, and indeed found similar pattern. We review briefly some of these studies below.

Howe (1986) found that winner shares, which earned a large, positive weekly return, underperformed the market by 30% in the 50-week period following that event. However, the prices of loser shares, which declined sharply in the 'winner-loser' identification week, rebounded strongly in the subsequent 5-week period. Dyl and Maxfield (1987) found that in each two hundred randomly selected trading days in the period 1974-1984 the three shares with the largest one-day gain, i.e., the winners, underperformed the market by 1.8% in the following 10 trading days. The three loser shares, on the other hand, outperformed the market by 3.6% over the same 10-day period. Atkins and Dyl (1990) estimated the share performance of six shares from all the shares listed on the NYSE for each of 300 randomly selected trading days; the six shares included three loser shares that exhibited the largest percentage loss in value and the three winner shares with the largest percentage increase in value on a particular day. They found that the average abnormal return for the loser shares was positive for 8 of the 10 days following the initial price drop and was statistically significant for the first 2 days after the price decline. For the winner shares the average

abnormal return was negative for 9 of the 10 days following the sharp increase in the price of these shares.

Lehmann (1990) formed arbitrated portfolios that involved taking short positions in shares that had experienced recent price increases and long positions in shares that had suffered recent price declines. The portfolios weights were set proportional to the previous period excess return over the return of an equally weighted portfolio of all the shares being considered. He found that 1-week portfolio earned profit for the subsequent 26-49 week periods, even after allowing for transaction costs. MacDonald and Power (1992) estimated weekly UK stocks returns. A random sample of 100 quoted companies were used to form a portfolio of 10 winner and loser shares in the UK over the period January 1982 to June 1990. The winner portfolio earned a positive cumulative abnormal return of 0.44 of 1% over the following 12-week period while the loser portfolio underperformed the market by 0.21 of 1% over the same time period.

On the KLSE, Mohd. Arifin and Power (1996) tracked the performance of weekly winners and losers over the next ten weeks using the data from January 1990 to December 1994. The authors found that the loser portfolio performed badly, earning an average excess return of -51.63%, while the winner portfolio performed very well earning a positive average excess return of 6.34 percent in the week that the portfolios were formed. They argued that there was some evidence of short run overreaction in the shares prices of companies traded on the KLSE since in the first two weeks after the portfolio formation date, the trading strategy of buying loser portfolio and selling winner portfolio shares earns a significant profit. Mohd. Arifin and Power (1996) however did not try to explain the observed phenomenon from investor psychology point of view. Moreover, they also did not look at the impact of market condition (i.e., bearish or bullish) as they only covered the booming period of 1990 – 1994. In this present study, we will investigate overreaction in both market conditions and try to explain the phenomenon from investor psychology point of view.

De Bondt and Thaler (1985) argue that investors in the financial market systematically overreact. According to their Overreaction Hypothesis, asset prices tend to overrespond to recent news, particularly as it relates to earnings, and as a result they can and do depart from their underlying fundamental values. De Bondt (1989) further argues that the hypothesis would stand or fall with the evidence on the relative sophistication of humans as intuitive statisticians.

Evidence in cognitive psychology literature reveals that humans are poor Bayesian decision makers, i.e., they fail to take into account prior probabilities and combine them with the information on-hand in revising beliefs or in making decisions or predictions (see for example, Kahneman & Tversky, 1982; Grether, 1980; Nisbett, Krantz, Jepson and Kunda, 1983; Camerer, 1987; Rucai, 1992). From a series of experiments, Kahneman and Tversky (1973) found that humans appear to give more weight to recent information without much consideration to prior or base-rate data. People tend to make predictions based on judgmental heuristics, which often lead to biased decisions, and sometimes results in systematic errors (Bazerman, 1986). The degree of emotional involvement and the immediate availability in their memory with regards to the problem lead people to use simple matching rules when making predictions, as noted by Kahneman and Tversky (1982); “the predicted value is selected so that the standing of the case in the distribution of outcomes matches its standing in the distribution of impressions” (p. 416). This use of short-cuts or rule-of-thumbs to simplify the decision making process is an instance of judgmental heuristics, which violate the basic statistical principles, such as the considerations of base rate, sample size, probability distribution and regression towards the mean. Similarly, Grether (1980) concludes that “individuals tend to give too much weight to the ‘evidence’ and thus too little weight to their prior beliefs, though priors are not ignored” (p. 553).

One of the reason why individuals tend to regress insufficiently towards the mean in making a prediction is due to what Andreassen (1987) terms the attributional effects. The expectation that changes will either persist or regress to previous levels depends on a large part on whether causal attributions are provided to explain recent changes. If these attributions are provided, then the tendency to make regressive predictions will diminish. Using financial markets as an illustration, Andreassen (1987) argues that news media provide such causal attributions when describing price changes. For example, to attribute a recent price rise, the media will search for good news or facts from the many available which provide a coherent explanation for the rise, while ignoring those which do not. Similarly, bad news will be provided to explain recent price falls. By providing more attributions of greater coherence and extremity, the media increase the likelihood that individuals will expect recent changes to persist with no return to previous levels. This may, in effect, cause prices to remain high after they have risen, and to stay low after they fall. In a later experiment, Andreassen (1990) found that news reports affect investors’ forecasts by increasing the salience of any trend.

In making decisions or predictions, people also often rely on intuition and fail to use statistical inference when extrapolating time series data or events. For example, Eggleton (1982) concludes that “individuals display only limited ability to perceive and intuitively utilise the statistical characteristics of these time series for their extrapolations” (p. 94). Moreover, Eggleton (1982) also suggests that even where sophisticated techniques are employed, human intuitive judgement remains an essential ingredient in their applications.

Another characteristic of human decision making is undue optimistic bias or overconfidence (Griffin & Tversky, 1992; Brenner, Kochler, Liberman & Tversky, 1996; Pulford & Colman, 1996). This overconfidence is usually more associated with positive outcomes. Pulford and Colman (1996) for example, examine the relationship between overconfidence and base rate of behavior, and how this relationship differs from events with positive versus negative outcomes. Using 98 subjects with ages ranging from 18 to 43 years, they observe that significant overconfidence occurs, but it is greater for positive outcome than negative outcome items. Griffin and Tversky (1992) suggest that although overconfidence is not universal, it is prevalent, often massive, and difficult to discriminate. It can lead people to focus on the strength or extremeness of the available evidence with insufficient regards for its weight or credence. This overconfidence phenomenon is also important because confidence controls action (Heath & Tversky, 1991). It has also been argued that overconfidence, like optimism, makes people feel good and moves them to do things that they would have not done otherwise.

Another interesting finding on human decision making is that many individuals tend to follow others when making a decision. This is called herd behavior or herding (Scharfstein & Stein, 1990; Banerjee, 1992; Zeckhauser, Patel & Hendricks, 1991; Welch, 1999). They are known to ignore their own beliefs and information in forming decision rules even though the information may possess substantive value. Banerjee (1992) showed that the resulting equilibrium of herding is inefficiency. In business, Scharfstein and Stein (1990) argued that managers are reluctant to act according to their own beliefs or information for fearing that their contraction behavior will damage their reputation as sensible decision makers. One very good example of herding can be seen during the Black Monday in October 1987. Investors apparently seemed to follow others in selling their stocks without any good reason.

If the findings from the psychological studies above can be applied to economics, it can therefore be suggested that economic agents, such

as individual investors may not be rational decision makers too. It follows that their tendency to use intuitive judgement and heuristics without much regard to basic statistical rules has in effect deviated from the theory of economics, namely that choice and judgement are made consistent with the expected utility theory and the principle of optimisation. This further suggests that the economic assumption of individual rational expectation, i.e., individuals assign weight to each outcome of their choice, is not valid.

In the financial market context, De Bondt (1989), in his survey article on overreaction, described some evidence which suggested some indications of market overreaction. For example, prices tend to overshoot due to the presence of optimistic traders, who are argued to determine the stock's market value (e.g Miller, 1977), and that the market, due to waves of optimism and pessimism, may temporarily overvalue or undervalue stocks based on their current or future earnings and dividends (see P/E anomaly of Basu, 1977, 1983; Shiller, 1984). If individuals are found to overweigh more recent and perhaps dramatic news events in revising beliefs, then there are reasons to expect market participants to be so in the stock markets. Shefrin (2000) describes human attributes prevalent in the market which could lead to irrational investment decision making.

DATA AND METHODOLOGY

The basic data used in this study is the 10 top and worst performing stocks on the KLSE as reported weekly by *The Sun* newspaper from January to December 1997. These are the shares with the biggest change in weekly prices (i.e. the return). The 10 shares with the biggest positive change are grouped in the winner portfolio while the 10 shares with the biggest negative change in the loser portfolio. The data for the market proxy, i.e. the value-weighted KLSE composite index is taken from *Investor's Digest*, a publication of the Kuala Lumpur Stock Exchange. The period is purposely chosen because we also want to look at the influence of market turmoil during the second half of 1997, on investors' behavior.

Returns are calculated as follows:

$$R_{j,t} = \frac{P_{j,t} - P_{j,t-1}}{P_{j,t-1}} \quad (1)$$

where $R_{j,t}$ = return of the security j at week t.

$P_{j,t}$ = price of the security j at the end of week t.

$P_{j,t-1}$ = price of the security j at the end of week $t-1$.

The returns of the top 10 performing stocks are then averaged to obtain the returns of the winner portfolio. The same procedure is used to obtain the returns of the worst 10 stocks, i.e. the loser portfolio. The return of the market, $R_{m,t}$ is calculated in the same manner, using the level of the KLSE Composite Index for the same period.

To measure abnormal returns, the returns of the winners and losers portfolios are compared to the returns of the market as used in many overreaction studies. These weekly market adjusted excess returns for losers and winners portfolios, $ER_{p,t}$ are calculated as follow,

$$ER_{p,t} = R_{p,t} - R_{m,t} \quad (2)$$

where $R_{p,t}$ and $R_{m,t}$ are the weekly returns of the portfolios and market respectively. Results from a number of studies (e.g. De Bondt & Thaler, 1985) indicate that evidence of overreaction is not sensitive to whether abnormal performance is measured relative to the market as above or relative to some expected returns model (e.g CAPM). This conclusion is perhaps not surprising; a major study conducted by Brown and Warner (1980) found that sophisticated expected returns models perform no better than simple models, for identifying abnormal performance in equities.

The excess return $ER_{p,t}$ of both winners and losers portfolios are then calculated for the test period i.e. one, two and three weeks subsequent to the portfolio formation week, labeled here as ranking period, to examine whether there is any evidence of returns reversals in the portfolios¹. This whole procedure is done for every week starting from the first week of January 1997 until the last week of December 1997. Therefore, there are

altogether 52 portfolios of winners and losers for the analysis. Beside looking at the whole period from January until December 1997, the period of study will also be divided into two sub-periods: pre-crisis period from January until June 1997 and the crisis period from July until December 1997 to examine whether the turmoil period during the Asian financial crisis has any effect on the overreaction hypothesis.

Hypotheses

Two main hypotheses are generated in this study. The first hypothesis concerns the differences between ranking period and test period performance of winners and losers. If the market is weak form efficient, past performance as measured by market excess returns, cannot be used to predict future performance. The overreaction hypothesis, however, argues that extreme movement in prices or returns in one period will be followed by an opposite movement in the following period. Therefore, the following hypotheses are generated:

For winner portfolios:

H_0 : There is no significant difference between the excess return in the ranking period (RP) and test period (TP). ($ER_{RP} = ER_{TP}$)

H_1 : The excess return of winners in the ranking period is significantly higher than the excess return in the test period. ($ER_{RP} > ER_{TP}$)

For loser portfolios:

H_0 : There is no significant difference between the excess returns in the ranking period (RP) and test period (TP). ($ER_{RP} = ER_{TP}$)

H_1 : The excess return of losers in the test period is significantly higher than the excess return in the ranking period. ($ER_{TP} > ER_{RP}$)

Essentially, the hypotheses are that, the excess returns of winners (losers) will decrease (increase) in the test periods. The second hypothesis concerns the differences between winners and losers performance in the test period. If what is claimed by the overreaction hypothesis is correct, then we should expect that an arbitrage trading strategy of short selling winners and buying losers would generate positive excess returns. Therefore, the following hypothesis is generated.

H_0 : There is no difference in the excess returns of winners and losers in the test period. ($ER_{Losers} - ER_{Winners} = 0$)

H_1 : The excess return of losers is higher than the excess return of winners in the test period. ($ER_{Losers} - ER_{Winners} > 0$)

RESULTS

Table 1 shows the change in the excess returns of winners in the ranking and test periods. Panel A indicates that some degrees of reversals in performance are observed in this portfolio. The panel shows that excess

returns of winners in the test periods are smaller and more significantly, negative, compared to excess returns in the ranking periods. The excess returns of winners, which is 26.97% in the ranking period, one week into the test period is -0.81%, so that the decrease in excess returns between the ranking period and the excess returns one week into the test period is 27.77% with a *t*-statistic of 10.95; the drops are 27.43% (*t*=9.53) and 29.58% (*t*=11.28) two and three weeks into the test periods respectively. This shows that the performance of winners is significantly better in the ranking period rather than in the test period. This observation is consistent with the overreaction hypothesis which states that stocks which performs very well earning a positive average excess return in the ranking period tend to do less well in the test period.

Table 1
Excess Returns (ER) of Winners in Ranking Period (RP)
and Test Period (TP)

A. Whole period: January - December 1997						
Ranking Period		Test Period				
ER_{RP}	ER_{TP1}	$ER_{RP}-ER_{TP1}$	ER_{TP2}	$ER_{RP}-ER_{TP2}$	ER_{TP3}	$ER_{RP}-ER_{TP3}$
26.97%	-0.81%	27.77%	-0.46%	27.43%	-2.61%	29.58%
		(<i>t</i> =10.95*)		(<i>t</i> =9.53*)		(<i>t</i> =11.28*)
B. Pre crisis period: January - June 1997						
Ranking Period		Test Period				
ER_{RP}	ER_{TP1}	$ER_{RP}-ER_{TP1}$	ER_{TP2}	$ER_{RP}-ER_{TP2}$	ER_{TP3}	$ER_{RP}-ER_{TP3}$
26.28%	3.06%	23.21%	6.54%	19.74%	3.02%	23.26%
		(<i>t</i> =7.72*)	(<i>t</i> =5.11*)			(<i>t</i> =8.01*)
C. During crisis period: July - December 1997						
Ranking Period		Test Period				
ER_{RP}	ER_{TP1}	$ER_{RP}-ER_{TP1}$	ER_{TP2}	$ER_{RP}-ER_{TP2}$	ER_{TP3}	$ER_{RP}-ER_{TP3}$
27.65%	-4.68%	32.33%	-7.46%	35.11%	-8.24%	35.89%
		(<i>t</i> =11.38*)	(<i>t</i> =12.24*)			(<i>t</i> =12.49*)

Note: ER_{RP} = Excess return in the ranking period
 ER_{TPt} = Excess return *t* weeks into the test period (*t* = 1, 2 and 3)
t- statistics is given in parentheses. * indicates rejection of the null hypothesis at 0.05 level. One- tail tests are used since all differences are the expected sign, i.e., $ER_{RP} > ER_{TP}$.

Panel B of Table 1 shows the change in excess returns of winners in the ranking period and the test period from January to June 1997, i.e., a period before the Asian financial crisis. Like panel A, it also indicates that there are some degrees of reversals in the performance of winners. The excess returns of winners, which is 26.28% in the ranking period, is 3.063% one week into the test period, so that the decrease in excess returns from the ranking period and the excess returns one week into the test period is 23.21% with a *t*-statistic of 7.72; the drops are 19.74% ($t=5.11$) and 23.26% ($t=8.01$) two and three weeks into the test periods respectively. Although the excess returns in the test period in the pre crisis period is still positive and much higher than those in the whole period, the magnitude of excess returns is much lower in the test period. Therefore, the results here show that the performance of winners is still significantly better in the ranking period compared to the test period. Again, this is consistent with the overreaction hypothesis which states that stocks which performs very well earning a positive average excess return in the ranking period tend to do less well in the test period.

Panel C of the same table shows the change in excess returns of winners in ranking period and test period during the 1997 crisis. The results in the panel not only corroborate with those in Panels A and B, but they also reveal that the performance reversals are much more dramatic. The winner portfolios earn negative excess returns right from the first week of test period. The decrease from the ranking and test period excess returns are 32.33%, 35.11% and 35.89% respectively for one, two and three weeks into the test periods. These are all statistically significant. Needless to say, this is again consistent with the overreaction hypothesis.

The same analyses are done for the loser portfolio. The results are shown in Table 2. Panel A shows that for the whole period under study, losers earn a negative excess returns of 20.14% in the ranking period. However, a few weeks after that, their performances have improved, albeit still earning negative excess returns. The excess returns of losers one week into the test period is -2.44%, an improvement of 17.70%. After two and three weeks, the increases in the excess returns are 17.24% and 15.66% respectively. All these increases are statistically significant as reflected by the *t*-statistics.

Panel B shows the excess return of losers in the ranking and test periods from January to June 1997. Again, some degrees of performance reversals are obvious. The excess return of losers, which is -12.71% in the ranking period, has improved to -0.51%, -1.34% and -0.86% respectively one, two and three weeks into the test periods. The *t*-

statistics given in the panel indicate that these improvements are significant.

Table 2
 Excess Returns (ER) of Losers in Ranking Period (RP)
 and Test Period (TP)

A. Whole period: January - December 1997						
Ranking Period	Test Period					
ER_{RP}	ER_{TP1}	$ER_{RP}-ER_{TP1}$	ER_{TP2}	$ER_{RP}-ER_{TP2}$	ER_{TP3}	$ER_{RP}-ER_{TP3}$
-20.14%	-2.44%	17.71%	-2.90%	17.24	-4.49%	15.66%
		(t=9.20*)		(t=7.62*)		(t=6.50*)
B. Pre crisis period: January - June 1997						
Ranking Period	Test Period					
ER_{RP}	ER_{TP1}	$ER_{RP}-ER_{TP1}$	ER_{TP2}	$ER_{RP}-ER_{TP2}$	ER_{TP3}	$ER_{RP}-ER_{TP3}$
-12.71%	-0.51%	12.20%	-1.34%	11.37%	-0.86%	11.85%
		(t=8.18*)		(t=6.44*)		(t=6.54*)
C. During crisis period: July - December 1997						
Ranking Period	Test Period					
ER_{RP}	ER_{TP1}	$ER_{RP}-ER_{TP1}$	ER_{TP2}	$ER_{RP}-ER_{TP2}$	ER_{TP3}	$ER_{RP}-ER_{TP3}$
-28.95%	-4.36%	24.59%	-4.47%	24.48%	-8.11%	20.84%
		(t=7.22*)		(t=5.98*)		(t=4.35*)

Note: ER_{RP} = Excess return in the ranking period
 ER_{TPt} = Excess return t weeks into the test period ($t = 1, 2$ and 3)
 t - statistics is given in parentheses. * indicates rejection of the null hypothesis at 0.05 level. One-tail tests are used since all differences are the expected sign, i.e., $ER_{TP} > ER_{RP}$.

In panel C, we show the excess return of losers in the ranking period and the test period during the Asian financial crisis. A very similar trend is observed as in panels A and B. The performance of losers have improved significantly in the test periods. The increases in excess returns are 24.59%, 24.47% and 20.84% respectively one, two and three weeks after the ranking period, and again, these figures are all significant. The results presented in Table 2, thus, are consistent with the overreaction hypothesis, which claims that there tend to be performance reversals in the extreme portfolios.

Next, we present the findings of the second test, i.e., whether or not a contrarian investment strategy of buying losers and short-selling winners in the test periods will earn abnormal profit². Table 3 summarizes our findings. Again, we partition the whole study period into two; the pre-crisis and during-crisis periods, to see if market conditions could shed some lights on the KLSE stock behaviour. As revealed in panel A, the strategy of buying losers and short-selling winners could not earn investors any abnormal profit. In fact, they might suffer losses by following the strategy, during January to December 1997. However, as indicated by the *t*-statistics, these losses are not significant. The excess return differentials in the test periods between losers and winners for the pre-crisis period reveal similar results. Two weeks into the test period, for example, an investor following the strategy will earn a significant negative excess return of 7.88% (*t*=2.10). However, contradictory results are found during the crisis period, as shown in panel C. The excess return differentials are positive in all three weeks of the test periods. This means that contrarian investment strategy of buying losers and selling winners short could yield some profit to investors. However, the *t*-statistics is not significant, which means that these profit may not be consistently earned.

Table 3
Contrarian Profits: Differences Between Losers and
Winners Excess Returns in the Test Period

A. Whole period: January - December 1997			
	$ER_{L1} - ER_{W1}$	$ER_{L2} - ER_{W2}$	$ER_{L3} - ER_{W3}$
Mean	-1.63 %	-2.44%	-1.87%
<i>t</i> value	-0.97	-0.98	-0.83
B. Pre crisis period: January - June 1997			
	$ER_{L1} - ER_{W1}$	$ER_{L2} - ER_{W2}$	$ER_{L3} - ER_{W3}$
Mean	-3.58%	-7.88%	-3.88%
<i>t</i> value	-1.89	-2.10*	-1.57
C. During crisis period: July - December 1997			
	$ER_{L1} - ER_{W1}$	$ER_{L2} - ER_{W2}$	$ER_{L3} - ER_{W3}$
Mean	0.32%	2.99%	0.13%
<i>t</i> value	0.12	1.00	0.03

Note : ER_{L_t} = Excess return of losers *t* week(s) into the test period (*t* = 1, 2 and 3)
 ER_{W_t} = Excess return of winners *t* week(s) into the test period (*t* = 1, 2 and 3)
t-value for test of differences in sample means for two independent samples

* Indicates rejection of the null hypothesis at the 0.05 level for a one tail test.

DISCUSSION

Generally, the findings from the two tests carried out have revealed mixed results with regards to what the overreaction hypothesis claims. Firstly, there is indeed evidence which shows that winners earn less in the test period as compared to what they did in the ranking period. The opposite is true for losers. This phenomenon is consistent with the KLSE findings documented in Mohd. Arifin and Power (1996), i.e. there are some degree of reversals in the performance of winners and losers, albeit less prominent in our study. However, the result of the second test is quite different from that of Mohd Ariffin & Power (1996). The strategy of buying losers and selling winners short as recommended by the overreaction hypothesis does not yield abnormal profits to investors for the first half and the whole of 1997. In fact, we see that the strategy can cause the investors to lose their money in the pre-crisis period.

How do we explain these findings? We offer some explanations. As discussed in the literature review under the psychology of individual decision-making, one characteristic of humans is that they tend to be too optimistic or overconfident in forming their beliefs. This overconfidence is usually more associated with positive outcomes (e.g. Pulford & Colman, 1996). This might explain why there are large differences in the excess returns of winners in the ranking period and the test period. (Table 1, panel C). Having overreacted to recent good news or whatever that triggered the price, irrational investors might have re-examined their action and revise their belief in the subsequent weeks. Rational arbitrageurs may also start selling their position after the upward trend, which helps to reduce the price to its reasonable level. Similar argument can be offered to describe the behaviour of losers. Being triggered by presumably bad news, some investors would initially start to sell the stocks. The bad market sentiment especially during the period July-December 1997 could have easily triggered waves of selling, and this would have depressed the price. Though the selling pressure, and thus the price, recovered a bit in subsequent weeks, it wasn't enough to turn around the performance of losers. This is not surprising as the sentiment of the market was not good. This bad sentiment, in fact, may explain why the reversals of performance of winners during the crisis was the most dramatic among the portfolios in all the periods under study.

Besides the optimistic and overconfidence biases, another human attribute which could cause the phenomenon above is the herding

behaviour, i.e., the tendency of individuals to follow others when making decisions (Scharfstein & Stein, 1990; Banerjee, 1992; Zeckhauser *et al.* 1991). Individuals are known to ignore their own beliefs and information in forming decision rules even though the information may possess substantive value. This herding behaviour is true not only for casual investors, but also professional managers and market analysts. Welch (1999) found that the behaviour had stronger influence when market conditions are favorable. There is no better market than those in the developing worlds whose characteristics are suitable for the existence of this investors' attribute. Let us take the KLSE for example. Though they take up 13.5% of equity, the individual investors make up 84.1% of the total number of shareholders.³ We argue that the gap of investment knowledge among investors in Malaysia is huge; there are a few investors equipped with sophisticated know-hows and information, who are competing with the mass, ill-informed investors in the very same market. Market manipulation is therefore inevitable. Any move, be it a manipulation or whatever, by these sophisticated investors could lead to the same action by the ill-informed mass. Not only that, the attributional effects (Andreassen, 1987; 1990) caused by media reports and the prevalence of rumours in the market could enhance (irrational) buying and selling. Sometimes, we do not know whether the trading is based on pure information, or based on pure noise. Whatever it is, this is enough to swing the prices in any direction. Some might argue that many retail investors actually consult their so-called market analysts. Unfortunately, empirical studies show that even professional analysts do overreact to news (Abarbanell & Bernard, 1992; Hussain, 1996; DeBondt & Thaler, 1990). Sometimes, we do not know whether market participants really trade on information or just on noises.

The lack of knowledge among these ill-informed investors may be due to some institutional factors as argued by Drake (1985). Relatively less business and investment publications, loose disclosure requirements and inside trade regulations, less transparent corporate governance, and thin and volatile tradings, are more true in Malaysia as compared to the well-established and well-developed markets. These institutional deficiencies are perfect complementary to irrational stock market investments.

SUMMARY AND CONCLUDING REMARKS

This paper investigates the existence of short-run overreaction in the KLSE in the period January to December 1997. The results reveal

that there is indeed such phenomena. It is found that there are performance reversals in the portfolios of winners and losers. Specifically, the performance of winners, as reflected in their market excess returns, has deteriorated several weeks subsequent to the week they are ranked as winners. As for losers, their performance have improved significantly several weeks after the ranking periods. However, a contrarian strategy of buying losers and selling winners short, as recommended by the overreaction hypothesis, could not yield investors any profit in the study periods.

We argue that investors' irrationality in the KLSE may have played an important part in explaining the results. As humans, investors are argued to demonstrate biases in their judgement and decision making. Relying on intuition and rule-of-thumb, being optimistic and overconfident, and having the tendency to follow others are among the attributes which could prevent humans from being rational investment decision makers. Besides, being ill-informed due partly to institutional deficiencies may also contribute to their irrationality. In conclusion, this study shows that in explaining behaviour of share returns, the psychology of human decision making should be taken into consideration.

ENDNOTES

1. The 1-, 2-, and 3-week test periods chosen here are quite arbitrary. However, previous short-run overreaction studies have used between few days to several weeks. The only such study, as far as we know, using Malaysian market by Mohd. Ariffin and Power (1996) looks at one to ten weeks, and finds that overreaction effect is only observed up to the second week of the test periods.
2. **Short-selling on some counters were allowed on KLSE starting in 1996.**
3. This is based on KLSE survey in 1997, published in KLSE's "Investing in the Stock Market in Malaysia", April 1998.

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