

BAD NEWS ANNOUNCEMENT ON INVESTOR'S MONDAY IRRATIONALITY: INSIGHT FROM MALAYSIA¹

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ABSTRACT

The lack of empirical dossiers on the examination of the weekend effect causes intrigues us to investigate its determinant in the trading behaviour perspective. Employing one traditional interaction dummy model, and one day-by-day model, we found the market index and size-based portfolios of weekend effect have been driven by the attention of investor. Further, under the attention bias hypothesis, we confirm that investor's irrationality during Monday is the driver of the anomaly because of its heuristical bias judgment. We address the difficulties that investors face on searching the thousands of stocks they can potentially deal on the first trading day as the rationalization. In a short, our findings surmise that attention bias is the driver of investor irrationality on Monday and resulting Weekend Effect.

Keywords: weekend anomaly, bad news, attention bias, Malaysia stock market

INTRODUCTION

From efficient market hypothesis stand point, stock market is not predictable and random-wise. Moreover, it implies that investors hardly beat the market. In contrary, there is large amount of evidence showing that stock markets are predictable. For example, French (1980) shows that stock returns on Monday differ significantly to other weekdays; an anomaly that called as Monday Effect.

Not in line with the rational behaviour assumption in Finance, this anomaly has become an important pinpoint for academician to seize investor behaviour as an explanation factor in the utility function violation. Even though much research paper (i.e Abraham & Ikenberry, 1994; Clare *et al.* 1995; Berument & Kiyamaz, 2001; Yahyazadehfar, 2006) has suggested trading behaviour as the determinant, yet, none of them examined it empirically; a gap that this paper will contribute.

This paper examines the news attention bias role on the weekend anomaly. When managers prefer to announce the bad news on

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certain day (usually Monday), it attracts the investor attention. Hence, the news announced in Monday is more likely to be considered as it becomes the reference point for investor in decision making. In this manner, we propose bad news as the attention for investors to do irrational trading on Monday. Our plot shows that most of bad news was released on Monday (see Figure 1), which is converged with the Monday effect. However, is there an interaction between news attention factors and Monday Effect? Is the attention-driven buying behaviour moderated by the market situation? We conducted two approaches to answer these questions. First, we employed interaction model to test whether the news has moderating effect; and second we run the day-by-day model.

Our research is built under the presumption that company's announcements have an effect on stock prices. Previous studies have extensively provided evidence on these relationships i.e Waud (1970), Castanias (1979), Schwert (1981), Daniel *et al.* (1998), Barberis *et al.* (1998), Hong & Stein (1999), and Barber & Odean (2008). The bad news or good news has rung the investor's attention to react towards it. It is in line with Fama *et al.* (1969)

who concluded that the stock prices are rapidly incorporated with information. In short, the news causes the market reaction. Interestingly, most companies released their bad news on Monday which might drive the market noise. Based on this logic, we hypothesize that the Monday effect was caused by the attention on bad news that is usually released on Monday.

This section onward will be continued by the literature review on section 2. Then, Section 3 addresses the Data and our methodology. The results and its discussions are in section 4. Lastly, section 5 concludes.

PREVIOUS RESEARCH

Human tends to just want to listen what they want. Receiving bad news might give an effect on their behaviour. In psychology it is called as attention bias. The relationship between bad news and behaviour has extensively been investigated. For example, Buckman (1984) reported that doctors were having fear feeling to give bad news to patients as it will affect the patient's condition. Ptacek & Ptacek (2001) found younger patients and women would have more stressed feeling if accepting bad news. Moreover,

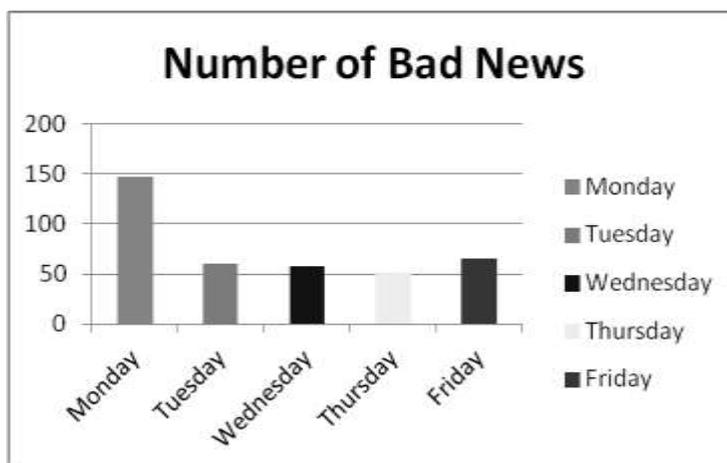


Figure 1. Number of Announced Bad News Day-by-Day

avoiding bad news will give high satisfaction which is associated with increased compliance, better emotional adjustment, and reduced likelihood of litigation (Robert *et al.* 1994; Cameron, 1996; Safran *et al.* 1998).

In finance, the relationship between bad news and market behaviour has also widely been examined. Waud (1970) found a significant and immediate negative response of stock prices to discount rate changes announcement. Castanias (1979) reported that the variance of stock prices rises around the days of most economic news events which he interpreted as a reflection of new information appearing. Schwert (1981) examined the stock market reaction to the monthly CPI inflation rate announcement and did use a measure of unexpected inflation rather than just the announced rate. Schwert's results contradict the efficient markets hypothesis since they imply a slow adjustment of share prices to new information on inflation.

The news announcement might give implication to the trading behaviour of investors. Miller (1977) and Mayshar (1983) argued that the investors who hold the stock will tend to be those who are most optimistic about the stock prospects. The number of information available will affect the volume traded made. Merton (1987) addressed that gathering information on stocks requires resources and suggested that investors conserve these resources by actively following only a few stocks. If investors behave this way, they will buy and sell only those stocks that they actively follow. They will not impulsively buy stocks that they do not follow simply because those stocks happen to catch their attention. Thus, their purchases will not be biased toward the bad news announced.

Daniel *et al.* (1998) addressed overconfidence and biased self-attribution as a result of investors hold too strongly to their own information and discount public signals. Barberis *et al.* (1998) noted the conservatism and the representativeness heuristic of investors because

they found that investors change sentiment about future company earnings based on the past stream of realizations. Odean (1998) argued that many investors trade too much because they are overconfident about the quality of their information. Such investors may overvalue the importance of events that catch their attention, thus leading them to trade suboptimally.

Moreover, Conrad *et al.* (2002) found that the stock price response to negative earnings surprises increases as the relative level of the market rises. Furthermore, the difference between bad news and good news earnings response coefficients rises with the market. Their study is based on a complete sample of annual earnings announcements during the period 1988 to 1998. Boyd *et al.* (2005) found that on average, an announcement of rising unemployment is good news for stocks during economic expansions and bad news during economic contractions. Unemployment news bundles three types of primitive information relevant for valuing stocks: information about future interest rates, the equity risk premium, and corporate earnings and dividends. Hou *et al.* (2006) noted that high individual investor attention can exacerbate price overreactions in up markets while attenuating underreactions to events such as earnings reports. Based on the previous literature, we can surmise the news announcement has a significant effect on market behaviour.

Interestingly, our plot found the similar findings whereas the bad news usually came out on Monday (Figure 1). This is in line with the explanation of Weekend anomaly. Research on this area has suggested that the anomaly could be caused by the attention of investor to the bad news on Monday.

At firm level, our hypothesis is supported by studies on bad news delays. For instance, Kothari *et al.* (2009) suggested that management delay the release of bad news to investor to the first day of trading. The managerial commitment to quickly disclose private infor-

mation, good or bad, actually can reduce information asymmetry and potentially lower the firm's cost of capital (Diamond & Verrecchia, 1991; Verrecchia, 2001; Healy and Palepu, 2001).

However, management usually adjust the timing to affect investor behaviour. For example, Frankel *et al.* (1995), and Lang & Lundholm (2000) report that managers release good news prior to raising capital, and vice versa. Yermack (1997) and Aboody & Kasznik (2000) show that managers accelerate bad news and/or withhold good news in the period immediately preceding option grant dates to lower the exercise price of the options. Some of managers even choose the day where the market tend to decrease in regards of bad news releasing. Aitken (1998) showed that stock behaves accordingly to the event that happened in the market. In a short, there is indeed a bad news delay to adjust to market situation. It supports our hypothesis.

DATA AND METHODOLOGY

1. Data

Our sample period begins in 1 January 1999 and ends in 1 June 2011. The start of the sample period coincides with the availability of announcement data that bought from Bursa Malaysia. We take the reaction on the news only from the bad news announcements. It is built on dummy variables. We put 1 if there is a bad news ($DNews=1$). The criteria of bad news is (a) announcement of decreasing profit, (b) announcement of disclaimer or adverse audit opinion, (c) announcement of suspended or delisted stock, and (d) announcement of negative economy activities. Note that the data of announcement was retrieved (bought) from Data centre of Bursa Malaysia.

Meanwhile, the data of the returns was taken from Thomson Data stream using KLSE database. To make it more robust, we construct size-based portfolio to mimic the small caps, medium caps, and big caps. Moreover,

we introduce business recession as the control by adding Recession Dummy in our model, and split the model to several sub period where recession is the break-point.

2. Empirical Model

This research has several models to be tested. First model is to investigate the existence of Weekend Effect. We replicate the most common model which is French's (1980) model. After proving the existence of the anomaly, we run the second model which is the Bad News Moderated model. The purpose of this model is to reveal the moderating effect of bad news announcement on the day returns. We run this model five times by only changing the day dummies (Monday to Friday). The last model is day-by-day model which is a direct method to investigate the effect of the bad news announcement on the day

Our last attempt is running the model by changing the market returns series with size-based portfolio formation to capture the firm effect. We constructed a total of 10 size portfolios, so for Model (3), there are 50 equations to be estimated each models. Portfolio 1 comprises of the smallest market capitalization firms and Portfolio 10 contains the largest market capitalization firms.

2.1. French's (1980) Day of the Week Anomaly Model

We run French's (1980) Day-of-the Week Model to investigate the existence of the anomaly. This model is commonly used in the calendar anomaly literature. We follow Gujarati & Porter (2010) suggestion by only taking 4 weekday trading dummy variables and excluding the Monday dummy to avoid dummy trap. In this case, the intercept of the model is the proxy for the Monday effect. If the intercept is negatively significant, and the dummy variables are positively significant, we can surmise the existence of Weekend Effect. The model is:

$$r_t = \beta_0 + \beta_1 Tue + \beta_2 Wed + \beta_3 Thu + \beta_4 Fri + \delta_t \quad (1)$$

where R_t is KLCI compounding return series; $d_{Tue,t}$, $d_{Wed,t}$, $d_{Thu,t}$, $d_{Fri,t}$ are dummy for Tuesday, Wednesday, Thursday, and Friday, respectively.

2.3. Bad News Moderation Model

We employed a model with interaction variable using bad news dummy to observe whether the investor's attention on Bad news is the cause of weekend effect. In short, this model has 5 variables which are: Day Dummy, Bad News, the interaction between Day dummy and bad news, the world effect, and recession dummy. Day dummy is the Monday Dummy. It is the main model. The purpose is to examine whether the interaction with Monday would affect the market returns. If it is found a significant sign, it implies the Bad news of Monday has significant influence on the market. For robustness reason, we run also the model on the other trading weekdays (Tuesday until Friday). The purpose is to examine whether the bad news on other days has the influence on the market. If it is found a significant influence, it means the bad news should not be the driver of Monday irrationality.

In the end, there will be 5 empirical models: Monday interaction, Tuesday interaction, Wednesday interaction, Thursday interaction, and Friday interaction. We will conclude and accept our proposition if the interaction only occurs on Monday and not on other weekdays.

$$r_t = \beta_0 + \beta_1 D + \beta_2 Bad_t + \beta_3 D * Bad_t + \beta_4 World_t + \beta_5 Rec_t + \varepsilon_t \quad (2)$$

where D is the dummy variable of trading weekday (Monday, Tuesday, Wednesday, Thursday, Friday); $R_{D,t}$ is the KLCI returns; Bad_t is the Bad News dummy; $World_t$ is US returns as the proxy of world effect; and Rec_t is the Recession dummy variable. We test

separately the dummy interaction by changing the D to Monday, Tuesday, Wednesday, Thursday, and Friday, consecutively.

In our research, we perform additional checks to examine the robustness of our results. Our results might be prone to impact of the misspecification errors. Therefore, this research controls the equation by introducing the world market returns as a proxy of world effect. The last control variable is the dummy of recession.

2.4. Day-by-day Model

As the robustness check, we employ another alternative regression approach to strengthen our findings. We pull out one-day returns of the same week-of-the-day observations from KLCI returns (for example is taking Monday returns only or Tuesday returns only). Therefore, we constructed 5 different KLCI return series, from Monday to Friday. Then, we run the return series on straightforward method where we introduce the bad news dummy again.

The purpose of this model is to investigate further whether the role of investor's attention on bad news does exist on Monday only. This model should confirm our dummy interaction model, whereas there will be no significant relationship between psychological biases and the returns of other weekdays (Tuesday, Wednesday, Thursday, and Friday). The model is as follow

$$r_D = \beta_0 + \beta_1 Bad_D + \beta_2 World_d + \beta_3 Rec_d + \varepsilon_D \quad (3)$$

RESULTS

1. Evidence of Weekend Anomaly

Table 1 depicts the estimates of Model (1). The coefficient of the model, which is the proxy of DOWA, is found significant in 1% level. Meanwhile, there are all significant in other days. The significant sign ($p < 1\%$) on other day dummies indicates their returns sig

significantly different from Monday. These findings confirm the weekend effect in Malaysian over the period of 1999 to 2010. Based on this result, we can proceed to the next procedure to investigate whether psychological factors are the drivers of DOWA.

2. Bad News Moderation Effect

Table 2 reports the results of the moderating effect of Bad news on the relationship of bad news and weekend effect. In a hierarchical model approach, the result supports our hypothesis. Firstly, the bad news has the significant relationship with the market returns. The announcement of bad news has deteriorated the market returns significantly. If the bad news was announced, investor replied it as a bad signal to do trading on that day. It is in line with previous results such as Hirshleifer *et al.* (2003) and Boyd *et al.* (2005).

Second, the Monday dummy and Friday dummy were also found to be significantly associated to the market returns. The other weekdays were found to be not associated

with the market returns. This result implies the weekend anomaly on the market which is also in line with our French's (1980) model result (see Table 1).

Our interaction variable shows a significant relationship on market returns. The significant association only occurred on Monday and Tuesday, and not in other days. This result implies two major findings. First, it showed that the weekend effect that occurred in Malaysia stock market was moderated by the announcement of bad news. The news has brought the role of investor's attention on the weekend anomaly. Lastly, our result showed that the effect of the bad news moderation was carried until Tuesday, and diminished afterwards. This result showed that effect of bad news announcement on investor attention has been lasted for two days. In other way around, investors entail two days to realize the magnitude of the news on firm's performance.

In short, these findings indicate that there is a weekend effect and bad news announcement effect on the market returns.

Table 1. Bad News Effect on Weekend Anomaly

	[Day=Monday]	[Day=Tuesday]	[Day=Wednesday]	[Day=Thursday]	[Day=Friday]
Constant	0.075627 [3.382921]***	0.054718 [2.393735]***	0.066389 [2.903106]***	0.055992 [2.443825]**	0.041045 [1.798641]*
Day	-0.097477 [-1.830203]*	0.020557 [0.41333]	-0.036464 [-0.733555]	0.013907 [0.281202]	0.087075 [1.745693]*
Bad	-0.155985 [-2.231479]**	-0.298384 [-4.882793]***	-0.271472 [-4.454568]***	-0.267661 [-4.430238]***	-0.253072 [-4.118914]***
Bad*Day	-0.205254 [-1.721007]*	0.276001 [1.824263]*	0.090442 [0.590415]	0.096511 [0.600658]	0.00215 [0.014615]
World	0.091047 [6.845976]***	0.091632 [6.880984]***	0.092625 [6.951971]***	0.092218 [6.922959]***	0.09281 [6.967557]***
Rec	0.007507 [0.068018]	0.003175 [0.028733]	0.00578 [0.052265]	0.003984 [0.03603]	0.004473 [0.040471]
R2	0.027981	0.025686	0.024417	0.024391	0.025347
Adj R2	0.026317	0.024017	0.022746	0.022721	0.023678
F-statistic	16.8116***	15.39598***	14.61634***	14.60066***	15.18737***

Note: Figure in the parenthesis is t-statistic values; (*)(**)(***) denotes (10%)(5%)(1%) statistically significance

Table 2. Estimates of DOWA for KLCI Daily Series

Model (1)	Monday	Tuesday	Wednesday	Thursday	Friday
Coefficient	-0.1212 (0.0042)***	0.1954 (0.0011)***	0.1433 (0.0168)**	0.1828 (0.0023)***	0.2197 (0.0020)***
R-Squared	0.0579				
F-Statistic	4.2554				
Prob (F-Statistic)	(0.0020)***				

Note: Figure in the parenthesis is probability values; (*)(**)(***) denotes (10%)(5%)(1%) statistically significance

Then, the interaction dummy between weekend effect and bad news effect also show a significant sign. It means there is a relationship between this variable to the market. As there is weekend effect and bad news effect, the dummy interaction variable shows that the effect of weather occurred during Monday and Tuesday. Moreover, it signifies the role of Bad news on Monday in creating the weekend effect.

Interestingly, the result of our control variables is varied. The world effect has significant relationship on the market returns. It implies that the world stock market still has strong magnitude on Malaysian stock market. Meanwhile, the world recession does not have any impact on the Malaysian stock market.

This is interesting because it tells us that the world recession period does not have any effect on the movement of stock prices in Malaysia.

3. Bad News on Daily Returns

We continued the role of bad news announcement examination in further by investigate whether the influence of the bad news really happened on Monday. Our underlying model is similar from the equation model 2. Thus, we classified first the data by day-by-day. For instance, we took Monday returns only, tested it with bad news on Monday, world returns on Monday, and world recession on Monday. We redid the same protocol with Tuesday, Wednesday, Thursday, and Friday.

Table 3. Bad News Effect on Day-by-Day model

	[Day=Monday]	[Day=Tuesday]	[Day=Wednesday]	[Day=Thursday]	[Day=Friday]
Constant	-0.005798 [-0.526949]	0.017472 [2.11816]**	0.00632 [0.704956]	0.015324 [1.787656]*	0.025553 [2.839331]***
Bad	-0.147195 [-4.890486]***	-0.005492 [-0.243442]	-0.027627 [-1.126692]	-0.025578 [-1.090919]	-0.049851 [-1.025124]
World	0.028333 [3.949452]***	0.000906 [0.168468]	0.0172 [2.943019]***	0.017208 [3.079248]***	0.028811 [4.910466]***
Rec	0.011472 [0.192596]	-0.064895 [-1.453394]	0.048291 [0.995144]	0.002147 [0.046269]	0.007952 [0.163227]
R2	0.014018	0.000751	0.00385	0.003759	0.00992
Adj R2	0.013006	-0.000275	0.002827	0.002736	0.008904
F-statistic	13.84752***	3.731717***	3.763929***	3.675104***	9.759006***

Note: Figure in the parenthesis is t-statistic values; (*)(**)(***) denotes (10%)(5%)(1%) statistically significance

Table 3 shows the result of the role of bad news announcement on a particular day. The R-squared is good and acceptable for a study that lied on event study model. The average of the r-squared is 1%-2%. Further, the F-Value of the model is accepted in 1% significant level. It implies the model cannot be rejected.

Table 3 documents the regression result showing the significant association of bad news on Monday on the making of weekend anomaly. We find the bad news has significant relationship on the market only on Monday. Meanwhile, the bad news has no effect on other weekdays such as Tuesday, Wednesday, Thursday, and Friday. This result implies that the bad news only affected the Monday returns, not other days.

The negative coefficient indicates that when the bad news was announced the Monday returns decreased; an event that match to weekend anomaly characteristic. This could be due to the investor attention on the perceived risk containing on the bad news. It brought the investor to violate their rational behaviour and just followed their fearful. This bias engenders a disorder of decision making, and as consequences the investor be more reluctant to hold on Monday; a violation of rational behaviour assumption. In a nutshell, table 3 explains us that bad news announcement is the drivers of the weekend anomaly in Malaysia.

The world effect has played role on the Malaysian market. It can be seen from the significant sign of it on the entire weekdays in 1%, except on Monday. Confirming Table 2 result, the world recession dummy on certain day also did not have any effect on the Malaysian market. It signifies that the integration magnitude between Malaysian market and world recession is very low.

4. Firms Effect

This research investigates the role of bad news on weekend anomaly further by exploring its firm size effect. We found an interesting result whereas the formation of portfolio has been found to be significantly influenced by the weather. Panel A depicts

portfolio 1 and 2 were found positively significant in the matter of moderating effect of bad news. It indicates the bad news announcement has played important role on the weekend effect for small caps only, not big or medium cap.

First, regarding the day effect, we found only portfolio formation 1 and 2 has the significant association of Monday dummy on market returns. Meanwhile, there is no other significant association between day dummies and market returns on other portfolio formation. This result implies the existence of weekend effect on those two small-sized formations.

Second, the bad news has various results. The effect of bad news occurred on the entire weekdays in portfolio formation 1 (very small caps), and portfolio formation 7 (medium caps). Meanwhile, the magnitude of bad news on portfolio 2 (small caps) was found only on Monday, not other weekdays. Moreover, there is no effect of bad news on the returns for the rest of portfolio formations.

In regards of moderating effect of bad news, we found that the significant relationship to the market only on formation 1 and 2; and it is on a particular day which is Monday. Meanwhile, there is no bad news moderating effect on other portfolio formations. It implies that the bad news attribution belongs to small caps only. Investors will pay more attention of bad news of small caps rather than big caps. It is in line with the active investing strategy that based on weekend anomaly, that the small caps strategy is the best way to do short if there is bad news.

The world effect has also significant effect on most of portfolio formation (except formation 8) confirming our previous result (Table 2 and 3). Interestingly, the big size portfolio formation (portfolio 10) has the impact of world recession. It means that the big size caps are more integrated to the world catastrophe compare to other caps. It might be because of the big size caps in Malaysia are linked with multinational companies.

PANEL A. The Result of Moderating Effect of Bad News on Firms Size

	Portfolio 1 (Very Small)							Portfolio 2							Portfolio 3						
	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	
C	-0.1083	-0.0789	-0.1606	-0.1451	-0.1711	-0.0722	-0.0664	-0.1456	-0.1359	-0.1186	0.0747	0.0669	0.0567	0.0495	0.0498						
Day	-0.1423*	-0.2576	0.1365	0.0573	0.1871	-0.2058**	-0.1974	0.1853	0.1349	0.0539	-0.0880	-0.0340	0.0143	0.0478	0.0478						
Bad	0.7598**	0.4059	0.8740***	0.8300***	0.68025**	0.4755*	0.08332	0.496579	0.351829	0.35231	0.3402	0.1627	0.3030	0.3150	0.2627						
Bad*Day	-0.0593**	1.8228	-1.0489	-0.8854	0.1950	-0.2317*	1.5745	-0.9398	0.0080	-0.0445	-0.1273	0.6838	-0.1952	-0.2902	0.0673						
World	0.1216*	0.1170*	0.1235*	0.1243*	0.1243*	0.1459*	0.1442*	0.1483*	0.1482*	0.1488*	0.1569***	0.1559***	0.1586***	0.1580***	0.1585***						
Rec	-0.1120	-0.1284	-0.1287	-0.1061	-0.1140	0.1667	0.1506	0.1507	0.1618	0.1620	0.2768	0.2700	0.2720	0.2774	0.2751						
R ²	0.0032	0.0049	0.0037	0.0034	0.0033	0.0021	0.0029	0.0022	0.0018	0.0017	0.0052	0.0057	0.0051	0.0051	0.0051						
F-statistic	1.8589*	2.8898**	2.1357*	2.0106*	1.9421*	2.1147*	1.7198	1.2771	1.0628	1.0161	3.0708***	3.3287***	2.9787**	3.0112**	2.9781**						

	Portfolio 4							Portfolio 5							Portfolio 6						
	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	
C	0.0374	0.0485	0.0115	0.0191	0.0269	0.1057	0.0506	0.0368	0.0320	0.0420	0.2396	0.5252	0.4856	0.5043	0.2245						
Day	-0.0507	-0.0943	0.0840	0.0447	0.0086	-0.3016	0.0173	0.0830	0.1032	0.0574	0.8974	-0.6325	-0.4423	-0.5245	0.8308						
Bad	0.3260	0.0910	0.3504	0.3275	0.2408	0.2353	0.0013	0.1894	0.2277	0.0574	-0.1473	-0.6874	-0.5362	-0.5756	-0.1949						
Bad*Day	-0.1334	1.0639	-0.5386	-0.4490	0.1372	-0.0961	0.8464	-0.3323	-0.6377	0.4645	-1.2389	1.4046	0.5140	0.7595	-1.2391						
World	0.11314**	0.1106**	0.114111**	0.1146**	0.1145**	0.1733**	0.1736**	0.1760**	0.1769**	0.1782**	-0.7646***	-0.7737***	-0.7659***	-0.7677***	-0.7701***						
Rec	0.0325	0.0231	0.0238	0.0350	0.0319	0.6393*	0.6290*	0.6309*	0.6403*	0.6374*	-0.1285	-0.1382	-0.1242	-0.1291	-0.1374						
R ²	0.0027	0.0040	0.0029	0.0028	0.0026	0.0105	0.0101	0.0089	0.0093	0.0093	0.0061	0.0059	0.0057	0.0058	0.0061						
F-statistic	1.5663	2.3171**	1.7112	1.6310	1.5215	6.1954***	5.9727***	5.2203***	5.4840***	5.4584***	3.5867***	3.4855***	3.3756***	3.4106***	3.5795***						

Note: The numbers show the coefficient value, except for F-Statistic. (*) (**) (***) denotes (10%) (5%) (1%) statistically significance

Note: The numbers show the coefficient value, except for F-Statistic. (*) (**) (***) denotes (10%) (5%) (1%) statistically significance

PANEL A (continued)

	Portfolio 7					Portfolio 8					Portfolio 9				
	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
C	0.0816	0.0836	0.0709	0.0514	0.0688	0.0099	0.0294	-0.0347	0.0780	-0.0083	-0.0340	-0.0608	-0.0902	-0.0744	-0.1024
Day	-0.0598	-0.0580	0.0019	0.0944	0.0123	0.0283	-0.0699	0.2369	-0.3010	0.1133	-0.2212	-0.0534	0.0876	0.0113	0.1470
Bad	0.5908**	0.3618*	0.4927**	0.5567***	0.4793**	0.2262	-0.1591	-0.1825	-0.1475	-0.0140	0.7942	0.3113	0.4407	0.4209	0.3378
Bad*Day	-0.2270	0.7963	-0.0129	-0.4395	0.0690	-0.7876	0.5338	0.8127	0.3995	-0.3140	-0.7979	0.7961	0.0252	0.1476	0.6312
World	0.1289***	0.1276***	0.1301***	0.1304***	0.1304***	0.0763	0.0766	0.0749	0.0790	0.0776	0.1244**	0.1261**	0.1278**	0.1282**	0.1315**
Rec	-0.2381	-0.2462	-0.2405	-0.2366	-0.2399	-0.1642	-0.1728	-0.1513	-0.1709	-0.1714	0.1687	0.1551	0.1629	0.1594	0.1641
R ²	0.0055	0.0061	0.0052	0.0055	0.0053	0.0009	0.0005	0.0012	0.0008	0.0005	0.0044	0.0031	0.0026	0.0026	0.0033
F-statistic	3.2293***	3.5860**	3.0756***	3.2346***	3.0829***	0.5448	0.3134	0.6929	0.4647	0.2817	2.6001**	1.7933	1.5468	1.5207	1.9159

Note: The numbers show the coefficient value, except for F-Statistic. (*)(**)(***) denotes (10%)(5%)(1%) statistically significance

Portfolio 10 (very Big)					
	Monday	Tuesday	Wednesday	Thursday	Friday
C	0.1590	0.1605	0.1290	0.1476	0.1277
Day	-0.0821	-0.0747	0.0763	-0.0134	0.0831
Bad	0.6318	0.2478	0.3535	0.4132	0.3357
Bad*Day	-0.6041	0.8299	0.2176	-0.2280	0.2991
World	0.0974*	0.0973*	0.0990*	0.1007*	0.1017*
Rec	0.2997**	0.2886**	0.2997**	0.2969**	0.2962**
R ²	0.0034	0.0031	0.0025	0.0025	0.0026
F-statistic	1.9440**	1.7701	1.4628	1.4127	1.5130

Note: The numbers show the coefficient value, except for F-Statistic. (*)(**)(***) denotes (10%)(5%)(1%) statistically significance

DISCUSSION AND CONCLUSION

In this study, we propose attention bias towards bad news as the explanation for the weekend anomaly. This hypothesis comes from the fact that companies tend to delay the disclosure of bad news to a certain day which is perceived as the worst situation in the market. Much research already found that the bad news has significant impact to market behaviour as it is perceived as the deterioration of company's financial abilities. Hence, we investigate further the role of bad news on making the weekend anomaly.

Our empirical tests focus on two major models: the bad news moderating effect and day-by-day model. We construct also size-based portfolio formation to mimic the firm size effect regarding this matter. We control the world effect (world stock market returns) and world's recession cycle (retrieved from NBER) to make our model more robust. In short, the model used in this research is robust enough to capture the role of investor's attention towards bad news announcement on the weekend anomaly.

We found that bad news has significant role on the market through the week. However, the magnitude of the moderating effect of bad news on market behaviour was found only on Monday and Tuesday. This result implies that bad news is the driver of weekend anomaly because it captures the investor's intention on Monday. The Tuesday result indicates that the moderating effect was lasted for two days.

Our day-by-day model confirms this result by showing the significant result only on Monday, not other day. It strengthens our previous findings and concludes that bad news announcement is one of important factors in weekend anomaly making.

In addition, we found evidence that small caps have received more bad news effect compare to big caps or medium caps. In particular, portfolio formations of very small caps

(first lowest 10% in size) and small caps (second lowest 10% in size) were the one that has more integration on the bad news compare to other size formation. This is in line with the volatility characteristic of small size stock that usually reluctant to be the object of active trading strategy.

If we analyzed the role of bad news sentiment on DOWA by the pragmatism perspective, the perspective of bad news would decline the market. In Pragmatism², the sentiment of bad news could be redundant occurred every week in the same way. In the case of the relationship between bad news and DOWA, pragmatism explained investors would treat the bad news from the old opinion as the same as the bad news from new opinion. The sentiment coming from the old opinion will last longer and transform as belief. It explained how individuals (in our case is investors) hold the stock of old opinion and resist change their belief. When they meet a new experience that overcomes the old opinions, they restore their previous experience and match it with the stocks of old opinion. They would never change their belief on these old opinions until there is a desire arose in the individual as the result of the failure old opinion to satisfy. Finally, with the new bad news coming, investors already have their own belief. This process causes the bias decision making as not all bad news actually speedily transform as the performance to the stocks. Pragmatism shows that the belief of bad news, once it on investors head, it would be very hard for them to dispose it. It is proven and described well in Odean (1998) paper.

Investors beliefs the bad news would decline the market as they have this efficiency market hypothesis in their mind. At the time the bad news announced, they perceived it as risk. They would not think it twice to do action. In their belief, bad news is a factor that

² William James made pragmatism become famous with his book "what is pragmatism" in 1904. It describes the process how news can influence of logical thinking.

would affect the value of their stock. This is what is called as Representativeness bias. Montier (2002) and Tvede (2002) addressed that the representativeness on sentiment of news would decline the stock price.

This representativeness bias aligned with the confirmation bias. In confirmation bias, it is explained how investors tends to notice and look for information that confirms their existing belief, whilst ignoring anything that contradicts those belief (Tvede, 2002). Indeed, it is common that bad news is perceived as risk. If the bad news comes, they would not care whether it is false hypothesis or not (Rabin & Schrag, 1999). Pouget & Villeneuve (2011) stated that this behaviour encourages the continuation of the price movement to be stronger if the biased investor belief is more extreme. In other words, if the bad news was perceived as risk, investor would plunge the market. The higher level of perceived risk in bad news, the stronger is the declining prices in the market. This explains the negative relationship between bad news and DOWA.

The effect of bad news on DOWA can also be explicated through behavioural economics literature. For instance is Niederhoffer (1971), He addressed how days with world events were somewhat more likely to be followed by large change in stock prices. If there is negative world events, it will drag the price down; a similar situation with the relationship between bad news and DOWA. Magnusson & Ekehammar (1972) mentioned that the confidence in decision increases with the number of information cues, but the quality of decision deteriorates. The investor would have overconfidence if they have numerous information about the market; however, they tend not to strain it properly. This spontaneous action of the overconfidence of information awards the irrational behaviour on investors.

One of seminal papers is Jacoby (1984) paper. It surmised that bad news suppresses the prices in stock market. Their findings are analogous to the effect of bad news on

DOWA. Furthermore, Dawes (1999) concluded that financial press tends to explain the changes in stock prices with good news induces the market and bad news plunges it. These two papers are in line with our results.

The association between bad news and DOWA can be also explained from the irrational exuberance perspective. Cutler *et al.* (1989) showed that world macroeconomics event can move the market. If there is bad news of world macroeconomics, the stock market will follow it by showing a bearish. Shiller (2000) mentioned this relationship as the irrational exuberance. He stated that market fluctuation occurred because of the mis-evaluation over news received. If investors overvalued good news, there will be bubbling stock market. If the investors overvalued bad news, there will be burst stock market. The Malaysian investor might overvalue the bad news. Hence, it generated the DOWA.

Rabin & Schrag (1999) argued that the first impression of bad news is already bad. Human reacts faster on bad news or false hypothesis than on good news. No matter how many information is received, the perception of bad news is always highly correlated to the perceived of risk. Malaysian investor reacts the bad news fast, makes them irrational, and as consequences, it put the prices in dip. In other words, this impression on bad news is one of the ways in driving DOWA.

How this psychological bias of bad news sentiment hit the investors' physiological system? It is because Malaysian investors are overconfidence and has representativeness bias (Wong & Lai, 2000). Moreover, Malaysian investors were proven prefer to follow their sentiment or other analysis (Maheran & Ismail, 2008). This is why the Malaysian investors can be hit by the psychological bias such as bad news.

In the end, we conclude that bad news is one of the drivers for weekend anomaly. The attention bias towards bad news has play im-

portant role on Monday effect. The announcement of bad news on Monday has given the fear factor and psychology bias attitude to investors. By this fearful feeling and asymmetry information on Monday, plus the common practice of firm to announce bad news on Monday, investors will follow their intuition in trading and as consequence it will create the weekend anomaly.

The bottom line is that investors can try active investing strategy on Monday if there are bad news announcements such as (a) announcement of decreasing profit, (b) announcement of disclaimer or adverse audit opinion, (c) announcement of suspended or delisted stock, and (d) announcement of negative economy activities.

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