International Review of Business Research Papers
Volume 6. Number 4. September 2010 Pp. 1 -17

Are Stock Returns Predictable in the Saudi Market? An Investigation of Returns Around Earnings Announcements.

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This study examines stock returns and trading activity around earnings announcements for all listed companies in the Saudi stock market (SSM). Our interest here is to examine the inefficiency issue of the SSM that can arise around earning announcements by stressing that it is possible to predict future returns using current stock returns. We use Event study methodology to document the price drift and then examine return predictability using cross sectional regression. High and significant price and volume reaction around earnings announcement suggest that earnings announcements contain highly informative information. We examine the return predictability and trading volume around quarterly earnings announcements for the period 2001-2009 . We find that earnings announcement return (EAR) can be a good predictor for subsequent returns or drift in the market for the following four weeks. We also find that relative trading volume (turnover) is a another good explanatory for future returns.

Keywords: Post-Earnings Announcement Drift, Market Efficiency, return predictability , Saudi Stock Market, trading volume.

JEL Codes: G14, G15, M40

1. Introduction

This paper examines whether stocks in the Saudi market exhibit a predictable return pattern around their quarterly earnings announcements. Our analysis is motivated by the prior work of Trueman et al. (2003) who document an economically large abnormal return over the five days prior to internet stocks' earnings releases for the period 1998-2000, and a sharp reversal over the subsequent five days. Whether this phenomenon is particular to a specific sector or to the whole market is an empirical question that we aim to investigate in this paper. Our analysis finds the phenomenon to be widespread. Earning announcements period experiences a significant average abnormal market-adjusted returns that continue forming upward price drift for positive news firms, and show an economically and statistically significant overreaction to bad news firms in the first week of the announcement , followed by a price reversal in the subsequent weeks.

We examine the return predictability and trading volume around quarterly earnings announcements for the period 2001-2008. We find that earnings announcement return (EAR) can be a good predictor for subsequent returns or drift in the market for the following four weeks. We also find that relative

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trading volume (turnover) is a another good explanatory for future returns. We also examine the effect of firm size with regard to drift magnitude and return predictability and find that price drift is larger in industries with small-sized firms. Moreover, small sized firms have higher return predictability than larger size firms. Small firm who announce negative news have even higher predictability than small firms with positive news.

The paper is organized as following. Section 2 discusses the literature review. Section 3 illustrates the data and methodology used to conduct our study. Sections 4 & 5 present the results and analysis of the event study and the regression tests. Finally, Section 6 summarizes and concludes.

2. Literature Review

For over 40 years, researchers have consistently documented a pattern in stock markets where stock prices tend to drift in the direction of the earnings surprise following earnings announcements; this phenomenon is called Post-Earnings Announcements Drift (PEAD). In this study, we explore the trading activities around earnings announcements with the aim of examining how investors and the market in aggregate level behave around earnings announcements. This behaviour is reflected in trading volume, abnormal returns, and other factors. A vast body of research has documented the tendency of stock price returns to show a continuous drift after the release of earnings announcement .The systematic increase in price returns around earnings announcements can be observed in periods either before or after earnings announcements .Early event studies even document that the information content of earnings announcement not only affects returns, but other stock characteristics of trading, such as higher abnormal trading volume surrounding announcements (Beaver, 1968).

Many researchers have confirmed the robustness of PEAD using different techniques and different data (e.g., Bernard and Thomas, 1989,1990 ;Ball, 1992). Findings of research on the capital market suggest that earnings announcements contain information which is believed to alter investors' opinion about the values of stocks, through the process of impounding information into prices. This impounding of information into prices and trading activities suggests the existence of privately informed traders and leakage of information or at least varying levels of investors sophistications as more sophisticated investors have higher ability to anticipate and interpret news that other investors.

PEAD is typically explained by the magnitude of the earnings surprises or unexpected component of the earnings. The higher the surprise (the difference between anticipated earnings and actual earnings), the higher the drift found. In attempting to explain the drift, many studies have distinguished between individual trading and institutional trading and suggest that institutional trading is more sophisticated than individual trading. On this basis, individual trading may be more closely related than institutional trading is to market inefficiencies in general and PEAD in particular (see, for instance, Walther, 1997; Berkman et al., 2009). However, recent research provides

some evidence that even relatively more sophisticated investors have difficulty in processing financial information which could delay the price reaction to news (Callen et al., 2005). Alzahrani and Skerratt (2010) have found a post-earningS announcement drift in the Saudi market with a higher magnitude in industries that have higher information asymmetry and lower institutional ownership. Analysing trading activities around earnings announcements should provide us with a clearer picture of the way in which different aspects of the market respond in general, not only the stock returns. The persistent increase of stock returns can be induced by factors other than the earnings surprise. Liquidity, level of information asymmetry, trading volume and order imbalance can all have major effects on price drift.

Past empirical work shows that stock returns around earnings announcements are usually associated with an increase in trading volume and volatility. Trading volume usually increases in response to earnings announcements, due to the reduction of information uncertainty among investors. In addition, as some researchers suggest, investors have different levels of ability to process information and may interpret earnings news differently, hence responding differently (Karpoff, 1986; and Kim and Verrecchia, 1994).

3. Data and Methodology

We use earnings announcements data which are recorded manually from the official stock exchange bulletin (Tadawul) with their time and date stamped. Tadawul has started allowing companies to announce their quarterly earnings on its websites since the beginning of 2001. Therefore, we only include observation from the year 2001. We document 2,170 quarterly earnings announcements covering the period between Q1 in 2001 and Q1 in 2009. After removing announcements whose time or date cannot be verified or announcements coinciding with those of other corporate events, we are left with 1667 earnings announcements. For each observation, we document the date, earnings and nature of the news as good or bad, compared with the reaction of prices to the news on the announcement day. If the reaction on the announcement day is positive (negative) then we classify to good (bad) news category. Ninety-five listed firms are included in the sample, which each have at least six observations (earnings announcements). [i] We only excluded newly established companies that haven't been operating yet.

Moreover, data regarding stock daily prices for all stocks and market index were provided by the official stock exchange bulletin, Tadawul. It includes the following fields: Close, High, Low, Volume, Value and Trades for the eight-year period of 2001-2009. All listed firms in the SSM are required to publish their earnings in the fortnight starting from the last day of the quarter, but the exact timing of announcements is not known until they have been made public. At the end of each financial year, announcements must be made in the first forty days from the end of each company’s financial year.

We use OLS regression to investigate the relationship between past returns and future returns around earnings announcements. To mitigate the

multicollinearity problem among different windows of returns , we use only abnormal returns to remove wide market returns that is common to all firms and we also show in the index the correlations index for all possible returns windows.

Model construction

A large body of research has been devoted to predictability of returns in stock markets and how investors or markets in general react to information. Contrarian investment strategies (buying past losers and selling past winners) was first studied by De Bondt and Thaler (1985, 1987) where these strategies can produce abnormal returns. On the other hand , Jegadeesh and Titman(1993) ,Chan et al(1996) and many others suggest that past returns predict large drifts in future returns. Our interest here is to examine the inefficiency of the SSM that can arise around earnings announcements by stressing that it is possible to predict future returns using current stock returns. We hypothesise that earnings announcement returns or pre-announcement returns can be good explanatory for the future returns or drift in the market. Our model in its simplest form can be constructed as the following:

$$CAR_{Post} = \alpha + \beta CAR_{Ann} \qquad \textbf{(1)}$$

Where:

CAR post= Cumulative Abnormal Returns for period *(T1, T2)* which is defined to be post-earning announcement period.
α = constant representing average return without the effect of the independent variable.
β= beta coefficient representing the effect of current returns (independent variable) on future returns (dependent variable)
CAR Ann= Cumulative Abnormal returns for periods(L,K) which is defined to be the earnings announcement return for time interval that cover announcement day or time period before announcement day.

Volume introduction to the model

Announcement returns seem to explain well the future return as in the case in momentum studies. However to understand the behaviour of the SSM we introduce more variables into the model that should explain the behaviour of returns in more comprehensive framework. The beta coefficient for announcement returns can be further explained by the level of volume and the size of company. Volume-Price relationship is not very well understood in the literature especially around earning announcements. Beaver (1968) suggest that volume corresponding to price change due to arrival of new information to the market is an indication of different interpretations among investors. More recent papers have focused on the use of Abnormal trading volume to examine how the event can change the volume (see for example; Gervais et al , 2001, Garfinkel and Sokobin, 2006, Bajo ,2006, Lerman et al, 2008). We are not interested in examining the price-volume relationship here, we are

rather analysing the post earnings announcement drift from a different angle. As information arrives to the market in form of earning announcements, investors should react, instantly, according to their interpretation as the Efficient Market Hypothesis suggest. When positive (negative) news hit the market, investors buy (sell) stocks in the market forcing the prices to increase (decrease). Trading volume or the availability of tradable stocks can create a delay in investors' response to the news. If there is not enough volume to facilitate this change in price or accommodate the anticipation of news , investors will have to wait for another trading period to place their orders, hence price drift will continue . In other words, volume has negative relationship with PEAD. The more volume available to investors to trade the less PEAD likely to happen and the opposite holds true. Within this context, we can incorporate the volume element to the beta coefficient which measures the effect of current returns on future returns as follows:
From Equation (1) Beta is also a function of Volume as follows:

$$\beta = \alpha + bVOl \qquad \textbf{(2)}$$

VOL= is the trading volume or number of stocks traded on particular day.

Size Dummy

Typically, higher volume companies are larger in size too; therefore we can examine the drift further through size. The third model Eq (3) utilises dummy variables to distinguish between the large and small companies. The criterion was the market capitalization at the announcement day. Large firms consists of those companies whose market capitalization are 10 billion Saudi riyal or higher, whereas small firms are those firm whose market capitalization are less than 6 billion SR. Two companies have market values between 6 and 10 billion were from the service industries which usually don't require higher capital, therefore, we assigned them to the large size firms.

We then assign dummy variables to the firms; the large firms assumed the value of unity and the small firms, zero. The parameters for these dummy variables should capture the difference between the large and small firms. This parameters will pinpoint to how the return on a large firm's stock would react, relative to that of a small firm, to a change in the given independent variable (announcement returns). By examining size, it is possible to find whether size does matter in explaining the drift for the SSM or just the volume as we hypothesized earlier. We add this dummy variable to Eq (2) to measure the impact on the beta coefficient as follows:

$$\beta = \alpha + bVOl + \lambda \,\mathrm{sizeDummy} \qquad \textbf{(3)}$$

Multiplying Eq(1) by Eq(2) and Eq(3) we have our model specified in the following way:

CAR post (T1, T2) = α + β0 CAR Ann(L, k) + β1 CAR Ann(L, k) *Volume(L, k)+ B2 sizeDummy* CAR Ann(L,K) (4)

Where

- CAR post= Cumulative Abnormal Returns for period (T1, T2) which is defined to be post-earning announcement period.
- α= constant representing average return without the effect of the independent variable
- β0 = beta coefficient representing the effect of current returns (independent variable) on future returns (dependent variable)
- CAR Ann= Cumulative Abnormal returns for periods(L,K) which is defined to be the earning announcement return for time interval that cover announcement day or time period before announcement day
- B1= beta coefficient representing the effect of the product of current returns and volume on future returns.
- CAR Ann (L, k) *Volume (L, k) = is the product of multiplying the announcement period cumulative abnormal returns by the matching period Volume.
- B2 = beta coefficient representing the effect of the product of current returns size dummy for large firms 1 and small firms 0.
- sizeDummy* CAR Ann (L,K)= is the product of multiplying the announcement period abnormal returns by the dummy variable .

4. Results

Table 1: Regression analysis for All companies Portfolio (1667 observations)

CAR post (T1, T2) = α + β CAR Ann(L, k) + β1 CAR Ann(L, k) *volume(L, k)+ λ sizeDummy* CAR Ann(L,K)

dependent	Independent	Intercept	Car Ann	CAR Ann*Vol	CARAnn* sizeDummy
CAR(+2,+20)	CAR(-19,-1)	0.0158***	0.1173***	-2.98E-09***	-0.0780
CAR(+2,+20)	CAR(-5,-1)	0.0151	-0.0060	-1.49E-08	-0.1057
CAR(+2,+20)	CAR(-5,0)	0.0150***	0.0244	-1.46E-08***	-0.0197
CAR(+2,+20)	CAR(-1,+1)	0.0162***	0.0108	-1.41E-08**	0.1498
CAR(+2,+20)	CAR(0,+1)	0.0171***	0.1223	-2.95E-08***	0.3681**
CAR(+1,+20)	CAR(-5,0)	0.0111	0.0580	-1.66E-08***	-0.0557
CAR(+1,+10)	CAR(-5,0)	-0.0037	-0.0480	-9.73E-09***	-0.0226
CAR(+2,+10)	CAR(-1,1)	0.0012	-0.0160	-7.10E-09	0.0516
CAR(+2,+5)	CAR(-5,0)	-0.0045***	0.0561**	-5.06E-09***	-0.1412***
CAR(+2,+5)	CAR(0,+1)	-0.0031**	0.2359***	-4.76E-09	-0.0593
CAR(+1,+15)	CAR(-5,0)	0.0029	-0.0493	-1.27E-08***	0.0657
CAR(+2,+10)	CAR(0,1)	0.0022	0.1349**	-1.77E-08**	0.0986

Notes: this table reports regression coefficients of different periods cumulative abnormal returns CARs on the announcement period cumulative abnormal returns for all firms in the market. Size dummy variable represents large firms=1 and small firms=0 . Significance levels are reported as *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Regression analysis for Bad news Portfolio (986 observations)

Model : CAR post (T1, T2) = α + β CAR Ann(t1, t2)

Dependent Variable: Different windows of CAAR around earning announcement

Method: Ordinary Least Squares coefficients

Time period	dependent	Independent	Intercept	CAR Ann
Week 1	CAR(+2,+5)	CAR(0,+1)	0.0011	0.3181***
Week1,2	CAR(+2,+10)	CAR(0,+1)	-0.0070	-0.1568*
Week1,2,3	CAR(+2,+15)	CAR(0,+1)	-0.0131**	-0.5299***
Week1,2,3,4	CAR(+2,+20)	CAR(0,+1)	-0.0082	-0.6226***

Notes: Regression coefficients for the bad news firms show that Post-Announcements returns show large and significant positive coefficient at first week , then negative sign coefficients in subsequent weeks indicating an overreaction to bad news in the first week followed by price reversal in the following weeks.

The regression results for bad news portfolio show that negative significant coefficients at various windows showing return reversal for bad news firms. CAR(+2,+5) when regressed on announcement returns car(0,+1) show opposite sign suggesting there is a return overreaction on the first week of announcement follwo3ed by return reversal and persistence of positive return drift for weeks 2,3,4 post announcement, that can be seen through negative coefficient of 62% for CAR(+2,+20) regressed on announcement returns CAR(0,+1) .

Table 3: Regression analysis for Good news Portfolio (681 observations)

Model : CAR post (T1, T2) = α + β CAR Ann(t1, t2)

Dependent Variable: Different windows of CAAR around earnings announcements

Method: Ordinary Least Squares coefficients

Time period	dependent	Independent	Intercept	Car Ann
Week 1	CAR(+2,+5)	CAR(0,+1)	-0.0024	0.1429**
Week1,2	CAR(+2,+10)	CAR(0,+1)	-0.0011	0.2238**
Week1,2,3	CAR(+2,+15)	CAR(0,+1)	0.0022	0.3745***
Week1,2,3,4	CAR(+2,+20)	CAR(0,+1)	0.0038	0.5622***

Notes: Regression coefficients for the Good news firms show that Post-Announcement returns Have significant positive coefficients that are increasing every week indicating that the drift is persistence . drift for smaller companies is higher than large companies .

CAR (0, +1) in the good news firms seems to explain 56% of the variability in CAR (+2, +20) which is significant at the 1% level. CAR(0,+1) seem to be the best explanatory variable window for the drift , suggesting that positive returns in the announcement period can predict even higher return drift in the following weeks CAR(+2,+20). The longer the window for the cumulative abnormal return the higher the coefficient we get , indicating that the drift is persistence over the event window and suggesting underreaction to positive news initially , that can be seen from a lower coefficient of 14% for the CAR(+2,+5) regressed on CAR(0,+1).

Post-Announcement Drift and Size of the Firm:

Table 4: Returns Predictability and Size of the Firm

CAR post (T1, T2) = α + β CAR Ann(L, k) + β1 sizeDummy* CAR Ann(L,K)

dependent	Independent	Intercept	Car Ann	CAR Ann*sizeDummy
CAR(+2,+20)	CAR(-19,-1)	0.015314***	-0.044803	-0.092926
CAR(+2,+20)	CAR(-5,-1)	0.014888***	-0.156610***	-0.092454
CAR(+2,+20)	CAR(-5,0)	0.014690***	-0.156662	0.035866***
CAR(+2,+20)	CAR(-1,+1)	0.015490***	-0.079452	0.169909
CAR(+2,+20)	CAR(0,+1)	0.016299***	-0.004559	0.373182**
CAR(+1,+20)	CAR(-5,0)	0.010728***	-0.146753***	0.007108
CAR(+1,+10)	CAR(-5,0)	-0.003961	-0.168321***	0.014236
CAR(+2,+10)	CAR(-1,1)	0.000922	-0.061432	0.061732
CAR(+2,+5)	CAR(-5,0)	-0.004711***	-0.006365	-0.122098**
CAR(+2,+5)	CAR(0,+1)	-0.003331**	0.215470***	-0.058492
CAR(+1,+15)	CAR(-5,0)	0.002666	-0.206021***	0.113828
CAR(+2,+10)	CAR(0,1)	0.001758	0.059076	0.101657

Notes: Notes: this table reports regression coefficients of different periods cumulative abnormal returns CARs on the announcement period cumulative abnormal returns and on a dummy variable representing market size of the firm, , large firms=1 for firms whose market values are over 10 billion Saudi riyals, small firms=0 for firms whose market values are below 10 billion Saudi riyals . Significance levels are reported as *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Size of the Firm effect on the drift for Bad news Firms (986 observations)

Model : CAR post (T1, T2) = α + β CAR Ann(t1, t2) + β sizeDummy * CAR Ann(t1, t2)

Method: Ordinary Least Squares coefficients

Time period	dependent	Independent	Intercept	CAR Ann	Size Dummy
Week 1	CAR(+2,+5)	CAR(0,+1)	0.0001	0.3375***	0.1703
Week1,2	CAR(+2,+10)	CAR(0,+1)	-0.0063	-0.1706**	-0.0514
Week1,2,3	CAR(+2,+15)	CAR(0,+1)	-0.0105	-0.5807***	-0.1421
Week1,2,3,4	CAR(+2,+20)	CAR(0,+1)	-0.0041	-0.7027***	-0.0117***

Notes: Notes: this table reports regression coefficients of different periods cumulative abnormal returns CARs on the announcement period cumulative abnormal returns and on a dummy variable representing market size of the firm, , large firms=1 for firms whose market values are over 10 billion Saudi riyals, small firms=0 for firms whose market values are below 10 billion Saudi riyals .Only Bad news firms (986) were reported here. Significance levels are reported as *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Size of the Firm effect on the drift for Good news Firms (681 observations)

Model : CAR post (T1, T2) = α + β CAR Ann(t1, t2) + β sizeDummy * CAR Ann(t1, t2)

Time period	dependent	Independent	Intercept	Car Ann	sizeDummy * CAR Ann
Week 1	CAR(+2,+5)	CAR(0,+1)	-0.00309	0.131883	0.224383
Week1,2	CAR(+2,+10)	CAR(0,+1)	-0.0013	0.2190**	0.2592
Week1,2,3	CAR(+2,+15)	CAR(0,+1)	0.0020	0.3709***	0.4007
Week1,2,3,4	CAR(+2,+20)	CAR(0,+1)	0.0041	0.5680***	0.5193

Notes: Notes: this table reports regression coefficients of different periods cumulative abnormal returns CARs on the announcement period cumulative abnormal returns and on a dummy variable representing market size of the firm, , large firms=1 for firms whose market values are over 10 billion Saudi riyals, small firms=0 for firms whose market values are below 10 billion Saudi riyals .Only Good news firms (681) were reported here. Significance levels are reported as ***p<0.01,**p<0.05,*p<0.1.

Post-Announcement Drift and Trading Volume:

Table 7 : Trading volume effect on predictability for Bad news portfolio.

Model : CAR post (T1, T2) = α + β CAR Ann(t1, t2) + β CAR Ann(t1, t2)*Vol(t1, t2)

Time period	dependent	Independent	Intercept	Car Ann	CAR Ann*VOl
Week 1	CAR(+2,+5)	CAR(0,+1)	0.0018	0.3883***	-1.63E-08*
Week1,2	CAR(+2,+10)	CAR(0,+1)	-0.0057	-0.0415	-2.67E-08**
Week1,2,3	CAR(+2,+15)	CAR(0,+1)	-0.0114**	-0.3691***	-3.73E-08**
Week1,2,3,4	CAR(+2,+20)	CAR(0,+1)	-0.0052	-0.3496**	-6.33E-08***

Notes: this table reports regression coefficients when introducing trading volume to the model. different periods cumulative abnormal returns CARs were regressed on the announcement period cumulative abnormal returns and on variable representing trading volume multiplied by announcement returns to examine how volume might affect returns. values are below 10 billion Saudi riyals .Only bad news firms (980) were reported here. Significance levels are reported as ***p<0.01,**p<0.05,*p<0.1.

Good portfolio when introducing volume

Table 8: Trading volume effect on predictability for Good news portfolio.

Model : CAR post (T1, T2) = α + β CAR Ann(t1, t2) + β CAR Ann(t1, t2)*Vol(t1, t2)

Time period	dependent	Independent	Intercept	Car Ann	CAR Ann*VOl
Week 1	CAR(+2,+5)	CAR(0,+1)	-0.0024	0.1405**	4.65E-10
Week1,2	CAR(+2,+10)	CAR(0,+1)	-0.0014	0.2999***	-1.48E-08
Week1,2,3	CAR(+2,+15)	CAR(0,+1)	0.0019	0.4355***	-1.19E-08
Week1,2,3,4	CAR(+2,+20)	CAR(0,+1)	0.0033	0.6588***	-1.88E-08

Notes: this table reports regression coefficients when introducing trading volume to the model. different periods cumulative abnormal returns CARs were regressed on the announcement period cumulative abnormal returns and on variable representing trading volume multiplied by announcement returns to examine how volume might affect returns. values are below 10 billion Saudi riyals .Only Good news firms (681) were reported here. Significance levels are reported as ***p<0.01,**p<0.05,*p<0.1.

5. Analysis

The regression results suggest that announcement returns and volume can explain the drift in the SSM more than the size. From table 1, we can find the coefficients to be significant for the variables (CAR Ann and CAR Ann*Vol) whereas size dummy variable (CAR Ann*sizeDummy) does only show two significant coefficients. Overall, the periods CAR (-5, 0) and CAR (0, +1) seem to explain the post announcement returns behaviour very well. Price

changes (returns) and volume indicate that activities during the announcement day (0, +1) or even the week prior to the announcement day (-5,0) is of more importance to investors as they could reveal information by themselves that confirm or contradict with investors prior beliefs. The earnings announcement return coefficient is significant at the 1% level for periods (-19,-1) in explaining the future returns for the 4 weeks following the announcement that is CAR (+2, +20) . The sign for the coefficient is positive and 12% of the variability of the future returns can be attributed to the pre-announcements returns CAR(-19,-1) . Moreover, both pre-announcement returns and announcement returns CAR (-5, 0) and CAR (0, +1) have statistically significant coefficients for predicting returns for CAR(+2,+5) at 5% and 1% levels, respectively. Announcement day cumulative returns CAR(0,+1) have positive and significant coefficient at the 5% level which explain almost 14% of future returns for the first 2 weeks of post-announcement returns that is CAR(+2,+10). When introducing the second variable which is multiplying the Volume component by the same period cumulative abnormal returns, we have almost all windows producing significant coefficients at 1 % or 5% significance levels. This variable represents the idea that trading activity during earnings announcements, in terms of price changes and volume levels, has explanatory power in predicting future returns for the month following the announcements. These coefficients are of negative sign indicating that the higher the volume the lower expectation of post earnings announcement drift. We find that the more volume available to investors during announcement period the higher the ability of the market to accommodate these prices changes. Lower availability of volume to investors would create a continues and an artificial investor delayed response to news as not everyone will be able to execute instantly especially in the SSM where the floating stocks represent a small fraction of outstanding stocksii. The firm size dummy variables show significance of 5% and 1% for two periods ,respectively, CAR(0,+1) and CAR(-5,0) .The cumulative abnormal returns CAR (0,+1) for the large firms has a positive sign coefficient indicating that almost 37% of the drift for the next four weeks can be explained by past returns ,while the CAR(-5,0) has a negative coefficient of 12% with regard to the dependent variable CAR(+2,+5) which falls in the first week after the announcement being made. We can infer that large size firms do not show drift in the first week of post announcement in fact the sign indicate underreaction to news for the first week for larger firms. Naturally, the larger firms have higher volume which could affect the magnitude of drift to be more susceptible to the level of volume available to investors. Smaller firms can be associated with lower tradable volume available to investors and that would explain the higher drift for smaller firms. It is important to stress here that the volume we use in our model does not necessarily reflect the size of the firm. A firm can have large market capitalization but less level of average volume that is traded compared to a smaller firm with higher level of average volume. These differences can be attributed to many reasons such as ownership structure and other factors outside the scope of our study.

The higher volume and its relationship to the post earnings announcement drift can be explained by the transaction cost measured by the bid-ask

spread. The larger volume companies have lower transaction cost which encourage investors to take investment decision after the announcements being made faster than decisions related lower volume/higher cost firms. This different costs can delay investors' responses to news, therefore extend the post earning price drift for longer time. Transaction cost has been highlighted by many researcher as a limitation of arbitrage strategy of riding the PEAD wave (e.g., Bernard and Thomas ,1989, 1990, Bhushan ,1994). However, our results are in line with more recent study by Ng et al (2008) where they explain the PEAD existence through transaction cost. They find that transaction costs constrain the informed trades that are necessary to incorporate earning information into price. They suggest weaker returns response at time of announcement and higher subsequent return drift for firms with higher transacting cost. We confirm this transaction cost constrained behaviour in the SSM especially for the good news and small firms portfolio.

In conclusion, from the event study and the regression analyses, we find that SSM underreact to positive news and overreact to negative news. Our results confirm the uncertain information hypothesis suggested by Brown et al (1988, 1993) where they postulate that rational, risk-averse investors may underreact to positive news, and overreact to negative news. We document a return reversal pattern for the bad news firms starting one week after the initial announcement being made. We find upward post-earning announcing drift for both positive and negative news firms that are confirmed through statistically significant CAR around earnings announcements and the four weeks following the event. Moreover, earning announcement returns and volume, as a representation of transaction cost and ability to trade, seem to explain the drift in the SSM. Higher volume/lower transaction cost facilitates the trade and incorporate the information into prices. On the other hand, Lower volume/higher transaction cost delay the price response to information and promote persistence returns drift for the following four weeks.

Interpretation for different reactions for good and bad news firms where good news portfolio shows initial underreaction to positive news and bad news portfolio shows strong overreaction can be easily linked to the literature. This kind of behaviour has been well documented and explained in many ways. Lim and Kong(2004) have explained this behavioural pattern in different ways, first they trace it to the Prospect Theory of Kahneman & Tversky (1979) and conservatism theory (see Edwards, 1968) which have been frequently referred to in the field of behavioural finance, these two theories suggest that investors are risk and loss averse. This attitude makes investors value gains and losses differently which makes them react quickly and strongly to any potential losses whereas they are more careful in taking decisions related to optional gains for due to the risk involved. second, the conservatism theory (Edwards,1968) provides another aspect that is in harmony with the former theory, the conservatism postulates that investors are slow in their updating of their believes in the face of new information .

The underreaction to good news is more consistent to the conservatism theory. Within that context, investors would sell early any bad news stock and buy late any good news stock creating the underreaction to good news and

overreaction to bad news , a behaviour that is observed in the SSM and supported by prospect and conservatisms theories. Third explanation is associated with Barberis et al (1998) on underreaction and overreaction hypothesis, in which conservative investors underreact to good news. Their model of investors' sentiments is motivated by a variety of psychological evidences and display heuristic of representativeness. When investors face an adverse event (bad news here), they will overreact by selling the asset rapidly and even at very low prices which suggest that investors overreact to the bad news announcements and under react to positive news announcements.

6. Conclusion

In general, we find a significant increase in abnormal returns, increases in trading volume, a higher post-earnings announcement drift for small companies. The highly significant abnormal returns around earnings announcements indicate the importance and informativeness of the information content of these announcements. We observe a rise in trading activities and volatility around earnings announcement with a higher information asymmetry which gradually reduces in the 20 days following the announcement date.

The SSM underreact to positive news and overreact to negative news. Our results confirm the uncertain information hypothesis suggested by Brown et al (1988, 1993) where they postulate that rational, risk-averse investors may underreact to positive news, and overreact to negative news. We document a return reversal pattern for the bad news firms starting one week after the initial announcement being made. We find upward post-earning announcing drift for both positive and negative news firms that are confirmed through statistically significant CAR around earnings announcements and the four weeks following the event. Moreover, earning announcement returns and volume, as a representation of transaction cost and ability to trade, seem to explain the drift in the SSM. Higher volume/lower transaction cost facilitates the trade and incorporate the information into prices. On the other hand, Lower volume/higher transaction cost delay the price response to information and promote persistence returns drift for the following four weeks.

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[i] The sample firms represent around 95% of the total market value, and only newly-found insignificant number of firms that haven't made operating earnings were excluded

[ii] According to Tadawul , Only 37% of outstanding shares are considers free-floating shares (excluding Government funds , foreign partners, founders shares during restrictions period and Owners of 10% or more from).

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Table(9): Descriptive statics for different Cumulative Abnormal Returns windows CAR

	AR(0)	CAR(-1,+1)	CAR(-5,0)	CAR(+1,+5)	CAR(+1,+20)
Mean	-0.001031	-0.007009	-0.007352	-0.008513	0.011741
Median	-0.001257	-0.006487	-0.003978	-0.009144	0.001280
Maximum	0.153746	0.321849	0.509305	0.407037	1.148922
Minimum	-0.136678	-0.284731	-0.464886	-0.409136	-0.660068
Std. Dev.	0.030515	0.059032	0.082894	0.075143	0.149313
Skewness	0.039533	0.397889	-0.798430	-0.362239	0.997987
Kurtosis	6.905595	9.182494	9.727811	10.05257	10.78853
Jarque-Bera	1059.929	2698.908	3321.039	3491.223	4487.453
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	-1.719238	-11.68410	-12.25559	-14.19128	19.55982
Sum Sq. Dev.	1.551325	5.805589	11.44785	9.406988	37.12018
Observations	1667	1667	1667	1667	1666

Table (10): Correlation Matrix for different cumulative abnormal return windows (CAR)

	CAR(0,+1)	CAR(+2,+20)	CAR(-5,-1)	CAR(-5,0)	CAR(19,+1)	CAR(+1,+20)	CAR(+2,+5)
CAR(0,+1)	1	0.02439	-0.00726	0.29753	0.29373	0.17687	0.15339
CAR(+2,+20)	0.02439	1	-0.09019	-0.08607	-0.00595	0.97799	0.42748
CAR(-5,-1)	-0.00726	-0.09019	1	0.91776	0.48804	-0.09573	-0.07419
CAR(-5,0)	0.29753	-0.08607	0.91776	1	0.54528	-0.08063	-0.03569
CAR(-19,+1)	0.29373	-0.00595	0.48804	0.54528	1	0.03181	0.00300
CAR(+1,+20)	0.17687	0.97799	-0.09573	-0.08063	0.03181	1	0.44557
CAR(+2,+5)	0.15339	0.42748	-0.07419	-0.03569	0.00300	0.44557	1