



Research Paper

## Investigate the Economic Consequences to the Timing of Earnings News Forecast for Accepted Corporates Agriculture in Tehran Securities Exchange

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### ABSTRACT

Corporate managers can share information about the financial status and corporate future perspective with stockholders in different ways. In recent years, the corporate program for maximizing the appropriate reaction of Securities Exchange to corporate position performance and minimizing the inappropriate reaction to their negative performance has been considered by analysts and accounting researchers. In this research we use the multivariate regression model to test the hypotheses and our statistical population is Tehran stock Exchange corporate. After sampling, 64 corporates have been selected during 2014 to 2018. And to test hypotheses, Multivariate regression has been used According to the results obtained Managers change timing to hide The bad news is that they are using the stock market after hours after the stock market Managers while have made less use of the weekend and busy days to hide bad news. The results also show that companies have used time changes to highlight good news rather than hide bad news So to investors and other users. It is advisable to pay attention to the time changes of the forecast profit, to make a more correct decision.

## 1 Introduction

The timing of the publication of financial statements has important implications for users' decisions. The market response to profit announcements is influenced by the timing of news releases, the market reacts less to financial news, indicating that they are published late. This phenomenon can be attributed to the decrease in the relevance of information [1-8]. Managers are always looking for the best time to disclose; And cost-benefit analysis helps managers determine the optimal disclosure time. The cost-benefit of disclosure affects not only the nature of the information disclosed but also the timing of the disclosure. News release timing can be a key element in corporate information disclosure strategies (Collins and Kothari [17]). Because there is an undeniable link between the manager's interests and the company's stock price, the manager may try to manage the market reaction in his favor by changing the timing of the financial news presentation (Graham et al., [23]). When the manager has good news, he

tries to inform the market as soon as possible in order to enjoy the benefits of a positive market reaction, but hides the bad news as much as possible, in order to reduce the effects of the negative market reaction. It is noteworthy that in this context, the manager's benefit from the delay in reporting bad news may lie in greater job stability, or an increase in the stock price of the company owned by the manager. If there really is a difference between the market reaction to late news and early news, corporate executives will be motivated to announce the bad news later to reduce the negative market reaction to the bad news [9-12]. Researchers often use a relationship between unexpected changes in earnings and an abnormal rate of return on a firm's share when examining the effect of accounting dividends on stock prices (Watts and Zimmerman [31]). Companies are required to submit financial reports, but at the same time, it can be argued that the rate of delay in publishing financial reports and the amount of information provided to the market on holidays varies considerably from company to company. Previous research has shown that there is a relationship between lower-than-expected earnings (bad news) and delays in announcing the news [18, 25, 28, 29] and this The relationship is known as the pattern of good news-early and bad news-late. One of the motivations for managers to report late can be to try to reduce the negative reaction of the market [25], because the market reacts less to late news (Bagnoli et al., [15]).

Past research has shown that it is inappropriate to report earnings news after office hours and on Fridays, and time also shows results (Patel and Wolfson [27], Damodaran [20], and Doyle and Magilke [21]). The results of previous research show that companies use a management strategy to reduce the impact of bad news by companies and submit profit reports to the market after business hours and on holidays, which has been considered by analysts. The level of awareness and how the market reacts to this strategy is questionable. According to the contents of the present study, the research seeks to examine the market reaction and the company's plans to announce good and bad news and thus wants shareholders and investors to Help make decisions and provide them with more relevant and accurate information. For this reason, the stock exchange has been selected, which provides us with more accurate and up-to-date information.

## 2 Theoretical foundations of research

Based on the issues raised, the following hypotheses are:

- 1- The market reaction to the change in the time of announcing bad profit news from the market working hours after the working hours is negative and significant.
- 2-. The market reaction to the change in the time of announcing good profit news from after the market working hours to the working hours is positive and significant.
- 3- The market reaction to the change in the time of announcing bad profit news from the working days of the market to the end of the week is negative and significant.
- 4- The market reaction to the change in the time of announcing good profit news from the end of the week to the working days of the market is positive and significant.
- 5- The market reaction to the change in the time of announcing bad profit news from the lonely days of the market to the busy ones is negative and significant.
- 6- The market reaction to the change in the time of announcing good profit news from the busy days of the market to privacy is positive and significant.

The capital market reacts to information that, in particular, publishes amazing news announcements and has a huge impact on stock prices. One side of the issue is earnings announcements; this section provides useful information for capital shareholders [13-21]. Provides action investors as well as potential investors. Researchers have shown that dramatic changes in price are an expectation of real profits. According to the theory of an efficient market hypothesis, stock prices should react to surprising news or earnings surprises. However, it may take a few days (or even longer) for the market to fully adapt. In addition, some researchers have found that buying stocks after positive earnings surprises is a

profitable investment strategy Jordan et al. [14] proved that abnormal market performance occurs before the disclosure of earnings reports. For example, (Bohnert et al. [16]) examined the overall market reaction to earnings announcements and found evidence of a negative relationship between earnings news and market returns. The aforementioned research examined the extent to which delays in announcing quarterly or annual profits, in other words, the number of days elapsed since the end of the quarter or fiscal year to calculate the delay [22-30]. Another group of researches on profit scheduling examines the differences in declared earnings news on different days of the week and at different times of the day. Patel and Wolfson [27] compared the difference between reported earnings news during business hours and stock market closing hours. The results of their research on earnings reporting time showed that companies tend to report good news before the market opens and bad news after the market closes. Damodaran [20] also showed that the profit news announced on the last working day of the week (Friday in Western countries and Wednesday in Islamic countries) are more likely to contain bad news. These two recent studies focus on the time of publication of the report during the day and the day of publication of the report during the week, and their research results have been confirmed in several subsequent studies, with varying intensity and weakness (Doyle and Magilke [21, 24, 31, 36]).

Moslemi [12], in his research has examined the relationship between the publication of earnings news and stock returns in companies listed on the Tehran Stock Exchange during the years 2012 to 2016. The main issue of the research is whether there is a relationship between the publication of earnings news and its type with stock returns and whether the effect of favorable and unfavorable earnings news on stock returns is the same or not. According to the results of the research, the publication of favorable news of the company's profit has a positive and significant effect and the publication of unfavorable news of its profit has a negative and significant effect on stock returns. In addition, the effect of spreading favorable news on profit is greater than the effect of unfavorable news on it. Goshtasbi [10] has investigated the effect of information asymmetry and negative news at the beginning and end of the season on the information content of earnings in companies listed on the Tehran Stock Exchange during the years 2009 to 2014. The results of the research findings indicate that information asymmetry and negative news at the beginning and end of the season affect the information content of earnings in companies listed on the Tehran Stock Exchange.

Azizi [1] in his research has studied the stock market reaction of companies listed on the Tehran Stock Exchange to the news of interim and annual profits during the years 2009 to 2014. The results show that the stock market of companies listed on the Tehran Stock Exchange reacts to simultaneous news of interim and annual profits. Badavarnahandi and Taghizadeh Khaneghah [3], in their research on the effect of dividend payment and non-publication of bad news on the risk of stock price falls by emphasizing information asymmetry in Tehran Stock Exchange companies during the years 2009 to 2014 They have paid. Findings showed that dividend payment has a negative and significant effect on the risk of falling stock prices. Also, when information asymmetry between managers and shareholders is high, the negative effect of dividend payments on the risk of falling stock prices intensifies. Another conclusion is that the non-disclosure of bad news has a positive and significant effect on the risk of falling stock prices, and this effect is more pronounced in companies that have a lot of information asymmetry. Thus, the accumulation of bad news leads to negative and more severe stock returns in the form of falling stock prices.

Ghaemi and Taghizadeh [9] in their research have investigated the effect of information risk and transaction costs on the stock market response to earnings news in Tehran Stock Exchange and Securities companies during the years 2005 to 2014. The results of hypothesis testing showed that higher information risk causes more investors to react initially to quarterly earnings statements, but does not affect subsequent reactions, and transaction costs have no effect on stock market reactions. Bozorg Asl and Adibi [4], in their research has investigated the relationship between the information content of quarterly earnings statements and negative news during the season for the company listed on the Tehran

Stock Exchange between 2008 and 2012. The results show that the presence of negative news during a chapter has a positive and significant effect on the profit information content of that chapter. Mohammadi [11], in his research has investigated the effect of news disclosure on earnings information content in companies listed on the Tehran Stock Exchange during the years 2009 to 2014. Experimental results of the study show that there is no significant relationship between disclosure of good and bad news with profit information content. Therefore; Profit information content will not be affected during the good and bad news seasons. Dehaan et al. [22] in a study called Market Reaction, Company Strategies and Profit Announcement Schedule found that managers with appropriate strategies use profit announcement scheduling and seek to hide bad news and highlight good news and in the final analysis we found Investors react negatively to weekend announcements, and managers are unlikely to be able to effectively hide bad news through instant reporting before the end of the week. Cready and Kumas [19] in a study examined the relationship between information content and numerical profit of companies with the set of capital market trading activities.

The overall result of the research indicates that the information burden of profit declarations has certain effects on the trading activities of the whole market. Other research findings are consistent with two common and accepted ideas in capital market research. First, negative news has a more comprehensive relationship with market transactions than positive news, and second, the information content of profit declarations is higher in periods when most companies disclose this information than in other periods. In a study, Zhang et al. [36] tested how information risk and transaction costs affect market initial and subsequent reactions to earnings news. They found that the initial market response for each unit was greater than the unexpected profit in companies with higher information risk (impact of information content). They also showed that it is information risk that creates transaction costs, limits transaction costs, market reaction, and leads to subsequent deviations (effect of transaction costs). Riaz [39] also examines the effect of changes in the judicial environment on managers' disclosure strategies, specifically the "good news, early, bad news, late" pattern. He concludes that the increase in legal pressure and the risk of complaints and the huge potential losses resulting from these complaints have reduced managers' courage in delaying the release of news and weakened the relationship between the type of profit news and the amount of delay in announcing it. Has announced and the possibility of its removal in the long run. But in China, Kim [26] report that new legal requirements for the disclosure process, while significantly reducing reporting delays, still hold the pattern of good news, good news, bad news, late news. Zhang [40] also showed in his research that since the passage of the Fair Disclosure Act in the United States in 2000, the probability of publishing good news forecasts has increased compared to bad news forecasts (for seasonal profits). The researcher's inference is that the enacted law has affected the public disclosure of good news more than the public disclosure of bad news. His other finding is that the time horizon of good news predictions in the period after the enactment of the law is larger than the horizon of bad news predictions. From this finding, it is inferred that good news type profit forecasts are revealed more quickly than bad news market forecasts.

Research has shown that the unexpected profit sign affects the market response. Predicted earnings per share are good news if they are higher than market expectations, and bad news if they are lower than market expectations. In the case of earnings per share forecast, market expectations (based on the time series pattern) are derived from the last previous forecast [31-36]. Profit scheduling is an important tool through which companies may be able to influence investors' reactions to published information. Some researchers have reported that the market response to profit announcements is influenced by the timing of news releases; As the market reacts less to financial news, they are published with a delay. This phenomenon can be attributed to the decrease in the relevance of information. Managers are always looking for the best time to disclose; And cost-benefit analysis helps managers determine the optimal disclosure time [37-44]. The cost-benefit of disclosure affects not only the nature of the information

disclosed but also the timing of the disclosure. News release timing can be a key element in corporate information disclosure strategies (Collins and Kothari [17]). Because there is an undeniable link between the manager's interests and the company's stock price, the manager may try to manage the market reaction in his favor by changing the timing of the financial news presentation (Graham et al., [23]). When the manager has good news, he tries to inform the market as soon as possible in order to enjoy the benefits of a positive market reaction, but hides the bad news as much as possible, in order to reduce the effects of the negative market reaction. It is noteworthy that in this context, the manager's benefit from the delay in reporting bad news may lie in greater job stability, or an increase in the stock price of the company owned by the manager. If there really is a difference between the market reaction to late news and early news, corporate executives will be motivated to announce the bad news later to reduce the negative market reaction to the bad news.

### 3 Proposed Research Process

The following main keywords are important to understand the whole process developed in this study: Profit forecast news: includes positive news of profit forecast and negative news of profit forecast. The good news is the increase of positive adjustment of profit forecast to previous profit and the bad news of profit forecast is equal to the decrease of profit forecast to previous profit [39]. Market reaction: The price reaction of investors occurs in the form of a change in the price (return) of stocks as a result of earnings information. To measure the profit reaction (meaning the price reaction), a criterion called abnormal accumulated return is used [2]. Bad news - good news: Research has shown that an unexpected profit sign affects the market response. The results showed that the market response to predictions of good news and bad news is different. Predicted earnings per share are good news if they are higher than market expectations, and bad news if they are lower than market expectations. In terms of earnings per share forecast, market expectations (based on the time series model) are derived from the last previous forecast [38].

#### 3.1 Research Methodology

The present research is applied in terms of purpose, in terms of situation, it is field in terms of retrospective time, in terms of data collection and analysis is quantitative, in terms of generalization of inductive results and in terms of data analysis is causal. In the present study, a multivariate regression model is used to investigate the relationship. Therefore, before estimating the model, first the underlying hypotheses of regression patterns including: normality of residual sentences, lack of autocorrelation between residual sentences, lack of heterogeneity of variances and lack of alignment between independent variables and control of patterns, using tests: Jark-Bray, camera and, Pagan\_Good Free and VIF statistics are checked. If these assumptions are made, the F-Limer test is used to determine the use of panel data model (width-origin heterogeneity) or integrated (width-origin uniformity) to estimate the model. If the panel data method is selected based on the F-Limer test, the Hausman test is used to determine whether the width difference from the origin of the cross-sectional units acts as fixed (fixed effects) or random. Finally, in order to analyze the totality of the regression model, statistics are used and for the significance of the coefficients of the parameters of the regression model, statistics are used. Finally, by regression analysis and interpretation of the results, the hypotheses are tested. In this study, according to the statistical population (companies listed on the Tehran Stock Exchange), the sampling method was used. As a result, all companies listed on the Iranian Stock Exchange that do not meet the following conditions were excluded from the statistical sample.

1. The company has announced the projected annual profit for all five periods under review (2013 to 2018).

2. The company is one of the active companies of the stock exchange or is active at least in the weeks under review. For this purpose, companies whose shares have not been traded for more than three weeks in the mentioned period should be removed from the selected sample.
3. No news has been published about the announcement of dividends and capital increase and other important information in the three days before and after the announcement of the estimated earnings per share.
4. In terms of increasing comparability, their fiscal year should end at the end of March.
5. The companies in question are not part of banks and investment companies.

The target population of this study includes all companies listed on the Tehran Stock Exchange and the available population of this study includes all companies whose information about their projected earnings statements and the necessary data is available during the research period. How to form an accessible community from the target community is presented in Table 1.

**Table 1:** Sample Formation Steps Available

|   |     |
|---|-----|
| Number of companies whose forecasts were announced between 1992 and 1997  | 432 |
| Number of companies after deleting companies that were not active at the time. (They did not have a deal during that time)                                  | 394 |
| Number of companies after eliminating companies that have announced dividends and other important information three days before and after forecast earnings | 328 |
| Number of companies after selecting a specific industry (agriculture, etc.)   | 284 |
| Number of companies after the removal of companies due to lack of required data, 89 companies have been removed.  | 120 |

According to the existing variables, the considered time period is the years 2013 to 2018. The specified sample size is 120 companies.

**Table 2:** Statistics of Notifications in the Years Under Review

|                                 |    |     |    |     |    |     |
|---------------------------------|----|-----|----|-----|----|-----|
| Title                           | 92 | 93  | 94 | 95  | 96 | 97  |
| Weekend (bad news)              | 29 | 16  | 21 | 37  | 29 | 36  |
| Week (good news)                | 84 | 104 | 99 | 82  | 91 | 84  |
| Working hours (good news)       | 76 | 102 | 92 | 44  | 89 | 92  |
| After business hours (bad news) | 42 | 18  | 28 | 75  | 31 | 28  |
| Busy day (bad news)             | 28 | 12  | 46 | 8   | 17 | 12  |
| Day of solitude (good news)     | 84 | 91  | 72 | 108 | 95 | 107 |

### 3.2 Statistical Model of Research

The following regression model is used to test the hypotheses.

$$CAR = \beta_0 + \beta_1 \Delta AFTER\_HIDE + \beta_2 \Delta AFTER\_HIGHLIGHT + \beta_3 \Delta FRIDAY\_HIDE + \beta_4 \Delta FRIDAY\_HIGHLIGHT + \beta_5 \Delta EAFREO\_HIDE + \beta_6 \Delta EAFREO\_HIGHLIGHT + \beta_7 SIZE + \beta_8 BTM + \beta_9 LEV + \varepsilon \tag{1}$$

Equation 1 has been used to calculate the accumulated abnormal return

$$CAR_{i,t} = \sum AR_{i,t}$$

CAR: Abnormal Return on Accumulated Shares of the Company to assess the reaction of the stock market around the announcement of the forecasted annual profit, the abnormal daily accumulated return has been used for a period of three working days before the announcement of earnings forecast until three working days after the announcement of earnings forecast.

AR<sub>i</sub> is the abnormal daily return of a company's share and is a test of the difference between the actual return on a stock and the expected return on that share.

$$AR_i = r_i - E(r_i)$$

AR<sub>i</sub>: Abnormal stock returns

*r<sub>i</sub>*: real stock rate of return

*E(r<sub>i</sub>)*: The expected rate of return on stocks *i* in period *t*

The real stock return rate is calculated from the following formula:

$$r_i = \frac{p_1 - p_0 + div}{p_0}$$

*P<sub>0</sub>*: Stock price at the beginning of the period

*P<sub>1</sub>*: Stock price at the end of the period

Div: Course dividend

The expected rate of return is calculated using the capital asset pricing model as follows

$$E(r_i) = r_f + \beta_i (r_m - r_f)$$

*r<sub>f</sub>*: Risk-free returns

*β*: Criteria for measuring systematic market risk

*r<sub>m</sub>*: Market portfolio returns

ΔFAFTER\_HIDE: The virtual variable is equal to one for companies whose earnings announcement news changes from market hours to market hours. For the measurement, announcements are used that have a negative adjustment (bad news based on negative EPS) in the earnings per share forecast (annual) and also the announcement time in the previous period was the working hours of the stock exchange, but in the current period, after Moved from business hours.

ΔAFTER\_HIGHLIGHT: The virtual variable equals one for companies whose earnings forecast news changes from business hours to market business hours. For measurement, announcements are used that have a positive adjustment (good news based on positive EPS) in the earnings per share forecast (annual) and also the announcement time in the previous period was after the stock market end time, but in the current period, Moved to business hours.

ΔFRIDAY\_HIDE: The virtual variable is equal to one for companies whose earnings forecast news changes from market business days to weekends (Wednesdays, when the stock market is working). For measurement, forecast announcements are used that have a negative adjustment (bad news) in the earnings per share forecast (annual) and also the announcement time in the previous period was market working days, but in the current period, the end of the week. Has been transferred.

$\Delta$ FRIDAY\_HIGHLIGHT: The virtual variable equals one for companies that change their earnings forecast news from weekends to market business days. To measure the market reaction, announcements are used that have a positive adjustment (good news) in the earnings per share forecast (annual) and also the announcement time in the previous period was the end of the week (Wednesday), but in the current period, It has been transferred to the working days of the market.

$\Delta$ EAFREQ\_HIDE: The virtual variable is equal to one for companies that change their earnings forecast news from off-peak to busy working days. The total trading volume of listed companies on the day of profit forecast announcement was used in comparison with the average daily trading volume during the year to determine busy and secluded days. To measure the market reaction, announcements are used that have a negative adjustment (bad news) in the earnings per share forecast (annual) and also the announcement time was in the previous period and days of solitude, but in the current period, it was moved to busy days.

$\Delta$ EAFREQ\_HIGHLIGHT: The virtual variable is equal to one for companies that change their earnings forecast news from busy business days to off business days. From market volume on earnings day compared to the average daily trading volume during the year to determine busy days. And privacy was used. To measure the market reaction, forecast announcements are used that have a positive adjustment (good news) in the earnings per share forecast (annual) and also the announcement time in the previous period was busy days, but in the current period, it was transferred to secluded days.

## 4 Research Findings

**Table 3:** Descriptive Statistics of Research Variables

| Variable                  | Average    | Standard Deviation | Mode   | min     | max     |
|---------------------------|------------|--------------------|--------|---------|---------|
| CAR                       | 1.0529E-12 | 5.77279E-11        | 0      | -1      | 1       |
| $\Delta$ AFTER_HIDE       | -0/021     | 0/6707             | 0      | -1      | 1       |
| $\Delta$ AFTER_HIGHLIGHT  | 0/010      | 0/6939             | 0      | -1      | 1       |
| $\Delta$ FRIDAY_HIDE      | 0/036      | 0/6339             | 0      | -1      | 1       |
| $\Delta$ FRIDAY_HIGHLIGHT | 0/047      | 0/8515             | 0      | -1      | 1       |
| $\Delta$ EAFREQ_HIDE      | 0/005      | 0/4960             | 0      | -1      | 1       |
| $\Delta$ EAFREQ_HIGHLIGHT | -0/016     | 0/5265             | 0      | -1      | 1       |
| SIZE                      | 15/779     | 1/7880             | 15/892 | 12/105  | 19/1062 |
| BTM                       | 1/624      | 6/2727             | 2/011  | -79/338 | 19/868  |
| LEV                       | 2/929      | 2/5909             | 2/028  | 0/661   | 16/783  |
| INS                       | 0/024      | 0/0180             | /054   | /006    | /091    |

According to the values of the above tables, which show the information of descriptive statistics of research variables, it can be concluded that there is a moderate dispersion in all variables, which can be deduced from the standard deviation.



### 4.1 Test Hypotheses Test Results

**Table 4:** Summary of Regression Model Results

| Variable   | Symbol                    | Value   | Standard Deviation | Statistic <i>t</i> | Significance level |
|--|---------------------------|---------|--------------------|--------------------|--------------------|
| Width of origin  | $\beta$                   | -0/141  | 0/043              | -1/873             | 0/0032 ***         |
| Bad news after work time                                     | $\Delta$ AFTER_HIDE       | -0/036  | 0/012              | -2/012             | 0/046 ***          |
| Good news after work time                                    | $\Delta$ AFTER_HIGHLIGHT  | 0/079   | 0/012              | 4/412              | 0/0048 ***         |
| Bad news on the weekend                                      | $\Delta$ FRIDAY_HIDE      | 0/006   | 0/011              | 1/863              | 0/751              |
| Good news during the week                                    | $\Delta$ FRIDAY_HIGHLIGHT | 0/022   | 0/011              | 1/096              | 0/0034 ***         |
| Bad news in busy days  | $\Delta$ EAFREQ_HIDE      | 0/016   | 0/011              | 2/148              | 0/016              |
| Good news in secluded days                                   | $\Delta$ EAFREQ_HIGHLIGHT | -0/008  | 0/011              | -1/105             | 0/447              |
| size of the company  | SIZE                      | 0/001   | 0/003              | 0/375              | 0/618              |
| Book value to market value                                   | BTM                       | 0/058   | 0/002              | 25/033             | 0/0003 ***         |
| Operational leverage   | LEV                       | -0/0001 | 0/001              | -0/038             | 0/540              |
| Type of industry   | INS                       | 0/001   | 0/002              | 1/435              | 0/698              |
| ***Significant at 5% level,<br>Source: Research Calculations |                           |         |                    |                    |                    |

### 4.2 Regression Analysis

According to the above tables, the regression model is significant according to the obtained statistics, which indicates the significance of the model. To determine the effect of each of these variables, the significance coefficient test is performed and the validity of the model is determined by the coefficient of determination. Summary of the results of the model includes the value of the coefficient of determination  $r^2$  and the statistic F is presented in the table below, in which the coefficient of determination indicates what percentage of the total change is due to regression changes.

Considering that the coefficient of determination of the model is equal to 0.615, therefore 61.5% of the changes of the dependent variable (abnormally accumulated return) are due to the changes of independent and control variables. The following model is used to test the first and second hypotheses

$$CAR = \beta_0 + \beta_1\Delta AFTER\_HIDE + \beta_2\Delta AFTER\_HIGHLIGHT + \beta_7SIZE + \beta_8BTM + \beta_9LEV + \varepsilon$$

**Table 5:** Model Fitting Results

| Significant level | Statistic F | $r^2$ Adjusted | $r^2$ |
|-------------------|-------------|----------------|-------|
|                   |             |                |       |

|  |        |       |       |
|--|--------|-------|-------|
| 0.0001 ***   | 83/258 | 0/607 | 0/615 |
| ***Significant at 5% level,<br>Source: Research Calculations |        |       |       |

In the first model, the value of the effect coefficient of the independent variable (hiding bad news after working hours) on the dependent variable (abnormal accumulated return) is calculated as -0.046 and the t-test statistic is obtained as -0.012, the absolute value of which is greater than The critical value of t is at the error level of 5%, i.e. 1.96, which indicates that the observed coefficient is significant. Significance is calculated to be 0.004, which is less than the error level of 0.05 and confirms the above finding. Considering the  $\beta_1$  coefficient in the regression model which is equal to -0.036 and is statistically negative and significant, so the first hypothesis is accepted, namely, the market reaction to the change in the time of bad news announcement from working hours to after working hours It is meaningful. Therefore, in order to reduce the negative effects of bad news, companies try to reduce these effects with time changes.

In a study by Doyle and Magilke [21], they found that profit announcements related to post-market news contain relatively worse news, Patel and Wolfson [27]. The results of their research on the time of publication of earnings reports showed that companies tend to announce good news before the market opens and bad news after the market closes. Graham et al. [23] provide evidence that managers tend to spread bad news after trading hours to avoid immediate investor response. Lashkari and Bakhshaish [7] says that managers publish negative news when less attention is paid to them by investors, such as Fridays, before public holidays, and after the market closes. (Doyle and Magilke [21]) The two researchers found strong evidence that bad news usually comes after the market closes or on the last business day of the week. This finding is known as evidence of managers' attempts to hide bad information. Of course, market performance also influences schedule changes. Bagnoli et al. [14] show that bad profit news is often published at the end of the day or on the last working day of the week, which is consistent with the evidence of Zhu [38] and Damodaran [20]. In another article, Dehaan et al. [22] concluded that profit announcement after business hours has more negative news. All of the above research is consistent with our results.

Doyle and Magilke [21] found no evidence that opportunistic managers disclose worse news after the market closes, which is inconsistent with the results of our research. In the first model, the value of the impact factor of the independent variable (highlighting good news in working hours) on the dependent variable (CAR) is calculated to be 0.048 and the t-test statistic is 4.412, the absolute value of which is greater than the critical value of t at the level The error of 5% is 1.96, which indicates that the observed coefficient is significant. Significance is also calculated equal to 0.0001, which is less than the error level of 0.05 and confirms the above finding. Considering the  $\beta_2$  coefficient in the regression model which is equal to 0.079 and is statistically positive and significant, so the second hypothesis is accepted, ie, the market reaction to the change in the time of announcing good news, the projected profit is significant from working hours to working hours. Considering the  $\beta_2$  coefficient in the regression model which is statistically significant, so the second hypothesis is accepted, ie the market reaction to the change in the time of announcing good profit news after business hours to business hours is significant. Therefore, company managers to highlight good news from this strategy They seem to be more interested in hiding bad news than highlighting good news, because they are worried about their job position, and if good news is revealed late, it indicates that management is trying to guarantee good news. More accurately estimates and discloses, and therefore this news is new to the market and the market reaction will be greater. Tetlock [34] findings show that profit announcement during market

closing hours has no effect on market response rate and therefore, managers' strategy to influence market response rate by changing profit announcement time is useless. Lashkari and Bakhshaish [7] says that managers publish negative news when less attention is paid to them by investors, such as Fridays, before public holidays, and after the market closes. However, this pattern does not apply to positive events, which is not consistent with our research. Danesh Payeh [5] in their research concluded that the market response to bad news is greater than the market response to good news. The volume of stock exchanges to disclose bad news (negative adjustment for quarterly earnings forecast) is higher than the disclosure of good news (positive adjustment for quarterly forecast earnings). The following model is used to test the third and fourth hypotheses

$$CAR = \beta_0 + \beta_3 \Delta FRIDAY\_HIDE + \beta_4 \Delta FRIDAY\_HIGHLIGHT + \beta_7 SIZE + \beta_8 BTM + \beta_9 LEV + \varepsilon$$

The value of the impact factor of the independent variable (hiding bad news at the end of the week) on the dependent variable (abnormal accumulated return) is calculated to be 0.751. Significance is calculated to be 1.863 which is greater than the error level of 0.05 and does not confirm the above finding. Considering the  $\beta_3$  coefficient in the regression model which is equal to 0.006 and is not statistically significant, so the third hypothesis is rejected, ie, the market reaction to the change in the time of bad profit announcement from working days to the end of the week is not significant. To hide the negative effect of bad news, companies try to announce the negative news at the end of the week to reduce the effect of this news by closing the market and forgetting investors, but in a study by Ghaemi and Taghizadeh [9] found that unexpected profits at the end of the week with profits Unexpected during the week are not much different from each other. Doyle and Magilke [21] found no evidence that opportunistic managers report worse news after the market closes or on Fridays. Which is consistent with our results. But Patel and Wolfson [27] examined the relationship between the content of earnings news and the timing of news releases on weekdays.

Research shows that earnings reported on weekends are worse news than earnings reported during the week Damodaran [20] also showed that earnings reported on the last working day of the week (Friday in Western countries and Wednesday In Islamic countries), they are more likely to contain bad news. And the results of their research have been confirmed in several subsequent studies, with varying degrees of intensity and weakness ( [21, 24, 31, 37]). Bagnoli et al. [14] show that bad profit news is often published at the end of the day or on the last working day of the week. There is a strong correlation between financial sector scheduling and investor response to earnings announcements on Fridays (weekends) to earnings announcements on non-Fridays (Doyle and Magilke [21]). The two researchers found strong evidence that bad news usually comes after the market closes or on the last business day of the week. This finding is known as evidence of managers' attempts to hide bad information, and also in another study by Dehaan et al. [22] concluded that the news that is announced at the end of the week contains worse information. The value of the impact factor of the independent variable (highlighting good news during the week) on the dependent variable (abnormal accumulated return) is calculated to be 0.022. Significance is also calculated to be 0.003, which is greater than the error level of 0.05 and does not confirm the above finding. Considering the  $\beta_4$  coefficient in the regression model which is equal to 0.022 and is statistically positive and significant, so the fourth hypothesis is accepted, ie, the market reaction to the change in the time of announcing good profit news from the end of the week to working days is significant. Patel and Wolfson [27] examined the tendency of managers to report on certain days of the week and certain hours of the day and concluded that good news, mostly at the time and hours of trading and bad news, after the market closes and in Weekends are published Dehaan et al. [22]. In summary, the evidence is consistent with the fact that managers benefit from market attention on weekdays. Gennotti and Truman (1996) also showed that when news is announced during trading hours, market prices can better reflect the value of the company as long as the news is announced after trading hours, the company's management reveals the good news more quickly Graham et al. [23] found

that managers strategically timed their earnings media announcements in order to maximize (minimize) the response to good news that was consistent with our results. The following model is used to test the fifth and sixth hypotheses

$$CAR = \beta_0 + \beta_5 \Delta EAFREO\_HIDE + \beta_6 \Delta EAFREO\_HIGHLIGHT + \beta_7 SIZE + \beta_8 BTM + \beta_9 LEV + \varepsilon$$

The value of the effect of the independent variable (hiding bad news on busy days) on the dependent variable (abnormally accumulated return) is calculated to be 0.016 and the significant value is calculated to be 0.145 which is less than the error level of 0.05 and Confirms the above finding. Considering the  $\beta_5$  coefficient in the regression model which is equal to 0.016 and is not statistically significant, so the fifth hypothesis is rejected, i.e., the market reaction to changing the time of announcing bad news from lonely days to busy days is not significant. Therefore, companies do not use this strategy to hide their negative news. They seem to believe that the use of this strategy may have the opposite effect. Crowds Cannot Reduce the Negative Effect of News in a study by Zhang et al. [36] examining the fact that profit announcements did not find evidence on days when trading volume was high, the above research is consistent with our results. In the study by Dehaan et al. [22], they examined whether managers use busy days to hide the negative effect of bad news. They conclude that managers use this strategy to hide bad news that is not consistent with our results.

The value of the impact factor of the independent variable (highlighting good news on days off) on the dependent variable (abnormally accumulated return) is calculated to be -0.008. Significance was calculated to be 0.447, which is greater than the error level of 0.05 and does not confirm the above finding. Given the  $\beta_6$  coefficient in the regression model, which is equal to -0.008 and is not statistically significant, so the sixth hypothesis is rejected, ie, the market reaction to the change in the time of announcing good news of profit from busy days to quiet days is not significant. Therefore, companies do not use this strategy to hide their negative news. They seem to believe that using this strategy may have the opposite effect. In the study of Doyle and Magilke [21] found that companies believe that announcing negative profit news in busy days cannot reduce the negative effect of news. In the study of Zhang et al. [36] examined that the announcement of profit on days when the volume of transactions is high What is the difference? They did not find any evidence. The above research is consistent with our results. In the study of Dehaan et al. [22], they examined whether managers use busy days to hide the negative effect of bad news or not. They concluded that managers are using this strategy to hide bad news that is not consistent with our results. Company size, book value to market value, and operating leverage and industry are also control variables, and the results show only the effect of book value to market value.

## 5 Conclusions and Suggestions

Companies' plans to maximize the positive reaction of the stock market to the good performance of companies and to minimize the inappropriate reaction to negative performance have been considered by analysts and accounting and financial researchers in recent years. The timing of the publication of financial statements has important implications for users' decisions. In this research, the content of profit announcement scheduling has been investigated. The purpose of conducting the market response study on profit announcement scheduling was companies listed on the Tehran Stock Exchange. In other words, this study answers the question of whether the market response to the company's plans to announce profits is different at different times. The present study is important because it examines the time changes related to profits in different cases. Is that managers can influence the market reaction at different times by changing the time of profit announcement and try to highlight the good news by managers during periods when there is an expectation of more business reaction and hide the bad news.

Based on the results obtained, it can be concluded that stock exchange companies use changes related to profit announcement scheduling, but the use of this strategy is not considered as a continuous and basic strategy. Also, the results show that companies use profit announcement strategy in days Weekends and holidays use more time, and companies use a strategy of hiding bad news more than a strategy of highlighting good news, indicating that companies are trying to hide their misconduct by using a profit announcement timeline.

The behavior of investors in the stock market affects the way decisions are made, the allocation of monetary resources, pricing and the evaluation of companies' returns. Ambiguous conditions and cognitive errors rooted in human psychology cause investors to make mistakes in shaping their expectations and, as a result, to exhibit specific behaviors when investing in financial markets. Stock market reactions to ads and news vary, and in some cases are not rational, leading to anomalies such as over- or under-pricing. Overreaction an overreaction occurs when people set prices more or less than they really are based on new information. In line with the results of testing the hypotheses, domestic and foreign researchers have presented different results. Patel and Wolfson [27] examined the tendency of managers to report on certain days of the week and certain hours of the day and concluded that good news, mostly at the time and hours of trading and bad news, after the market closes and in Weekend days are published. Damodaran [20], Rezazadeh and Mohammadi [8] confirmed the hypothesis of strategic disclosure on weekdays. Are announced later and vice versa. Companies facing a more favorable auditor opinion than in the previous year (good news) release their financial reports to the market sooner. Bagnoli et al. [25], Yaraghi and Langhe [35], Paape and Speklè [37] concluded that good news comes sooner and bad news comes later. Bagnoli et al. [25] also showed that investors react when the expected reporting time increases, and this reaction is more intense on the next business day, but Subasi [39] showed that the market reacts to negative negative returns that are issued earlier. In a capital market, information is considered the most valuable asset. This information is provided to investors and users through disclosure (mandatory and optional) in the annual reports. According to the results of the hypotheses, the following suggestions are presented:

It is recommended that investors pay more attention to the timing of profit announcements and information provided by companies and pay close attention to these points in their decisions. The first and second hypotheses indicate that the market response to the change in the time of announcement of bad news (good) earnings from working hours to after working hours (vice versa) was significant, so investors are advised to post earnings announcements after business hours. Scholarships pay more attention. Therefore, it is suggested that the stock exchange organization be sensitive to the time of announcing positive and negative news. The third and fourth hypotheses state that companies try to highlight good news but do not try to hide bad news at the end of the week, so investors are advised to pay more attention to good news than bad news. It is suggested that in the context of positive and negative changes, information related to corporate good news, in case of high positive or negative fluctuations, relevant information be transferred to the market on business days. In order for the market to follow its price trend based on the existing reality. The fifth and sixth hypotheses state that busy and secluded days are not used to hide bad news and highlight good news. Investors are advised not to be influenced by the volume of transactions and make decisions based on the content of profits.

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