

## **The Effect of Earnings Announcements on Firm Value: A Quantile Regression Approach**

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### **Abstract**

In this study, we examine the effect of earnings announcements on firm value by looking at the relationship at different points of the conditional distribution. The analysis covers non-financial companies listed in Borsa Istanbul's BIST100 index for the 2009-2013 years. The study also takes into account the effect of earnings persistence, whether the firm pay dividends, and brand name on the relationship between earnings announcements and firm value. Our analysis also investigates that relationship using an accurate method, namely Quantile Regression, by looking at the relationship at different points of the conditional distribution.

**Keywords:** Earnings announcements, Regression Quantile, Firm value

### **1. Introduction**

According to efficient market hypothesis, asset prices will reflect all available information and hence an expected arrival of information should not have any influence on asset prices. To test the validity of this expectation, researchers in the past investigated the effect of public information arrival on asset returns and asset return volatility. One group of researchers used macroeconomic announcements as a proxy for new information arrival (Ederington and Lee 1993; Andersen and Bollerslev 1998; Almeida, Goodhart and Payne 1998; Pearce and Roley 1985; Pearce and Solakoglu 2007, Kutan and Aksoy, 2004a), while some other researchers used trading volume or the frequency of news arrival to the market as the proxy for the new information arrival (Lamoureux and Lastrapes 1990; Andersen 1996; Bollerslev and Domowitz 1993, Locke and Sayers 1993; Berry and Howe 1994; Kalev et al. 2004; Mitchell and Mulherin 1994; Janssen 2004; Chang and Taylor 2003, Baklacı et al. 2011; Solakoglu and Demir, 2015).

Güvercin and Demir (2015a) examined the relationship between earnings announcements, earnings stability and firm value using panel data analysis. Their study revealed that firm value responds positively to earnings surprises. That is, a positive surprise leads to an increase in firm value, while a negative surprise causes firm value to

decline. In another study, Güvercin and Demir (2015b) investigated the short term effects of earnings announcements on firm value by using event-study methodology. Their result, contrary to the expectations, showed that firm value declined after the announcements.

In this study, we utilize a third group of news arrival measure and focus on the announcement of financial news. In particular, we focus on quarterly earnings announcements. The announcement of financial information is expected to influence firm value as that announcement will influence expected return and risk distribution which, in turn, can change portfolio decisions (Beaver, 1968). Ball and Brown (1968) study shows that announcement of earnings, if better than expected, influence firm value positively.

As mentioned earlier, in this study, we examine the effect of earnings announcements on firm value, using quarterly earnings announcements of non-financial firms listed in BIST100 index of Borsa Istanbul. Different from earlier studies, instead of using mean regression or event-study approaches, we use Regression Quantile approach of Koenker and Bassett (1978) to investigate the effect of earnings announcements on firm value at different points of the conditional distribution. Moreover, the study takes into account some firm level characteristics on the aforementioned relationship, such as earnings persistence, dividend policy and firm name/brand name recognition.

The rest of the paper is organized as follows. Next section presents information and data and the methodology used in the study. Section 3 provides estimation results and our discussion. The last section is left for concluding remarks.

## 2. Data and Methodology

This study uses quarterly earnings announcement of 78 firms listed in BIST100 index of Borsa Istanbul between the years 2009 and 2013. Since there are missing years for some firms, the final data set includes 920 usable information. The majority of firms, about 44%, come from manufacturing industries. All financial information at the firm level are gathered from balance sheets, income statements and annual reports provided at the Public Disclosure Platform web page ([www.kap.gov.tr](http://www.kap.gov.tr)). To calculate firm level returns, we use daily share prices obtained from Datastream database.

**Tablo1: Descriptive Statistics**

| All Firms           | Ortalama | Standart Sapma | Minimum | Maksimum |
|---------------------|----------|----------------|---------|----------|
| Age                 | 33,51    | 16,59          | 1       | 80       |
| Number of employees | 6378     | 12355          | 10      | 78232    |
| Monthly return      | 0,8      | 13,3           | -36,31  | 168,15   |
| Pays dividend       | 0,76     | 0,43           | 0       | 1        |

Table 1 provides descriptive statistics on the firms used in the analysis. We observe that firm age ranges from really young, age of 1, to mature, about 80 years, firms. Similarly, Table 1 shows that some firms are much smaller based on number of employees and some are large, with an average of 6378 employees. In addition, this table reveals that about 76% of the firms paid dividends at least once during our sample

period. We denote a firm as a dividend paying firm if the firm paid dividend even once in the sample period.

For firm value, we use a change in firm value, as measured by the share price return, in a month after the announcement of earnings. We choose to use one month because we wanted to cover long enough for investors to adjust their portfolios but short enough to eliminate the effect of other factors on firm value. Using a daily return, we thought, can be misleading as many of the firms have announcements scheduled closer to each other. To determine the surprise earnings announcement, we compared current earnings announcement to 4-quarter lagged announcement, following Ball and Brown (1968), due to short sample size for each firm and we denote a positive difference as good news and a negative difference as bad news.

To take into account earnings persistence, following Dichev and Tang (2009) study, we estimated the following regression.

$$E_t^* = \alpha + \beta E_{t-4}^* + \varepsilon_t \quad (1)$$

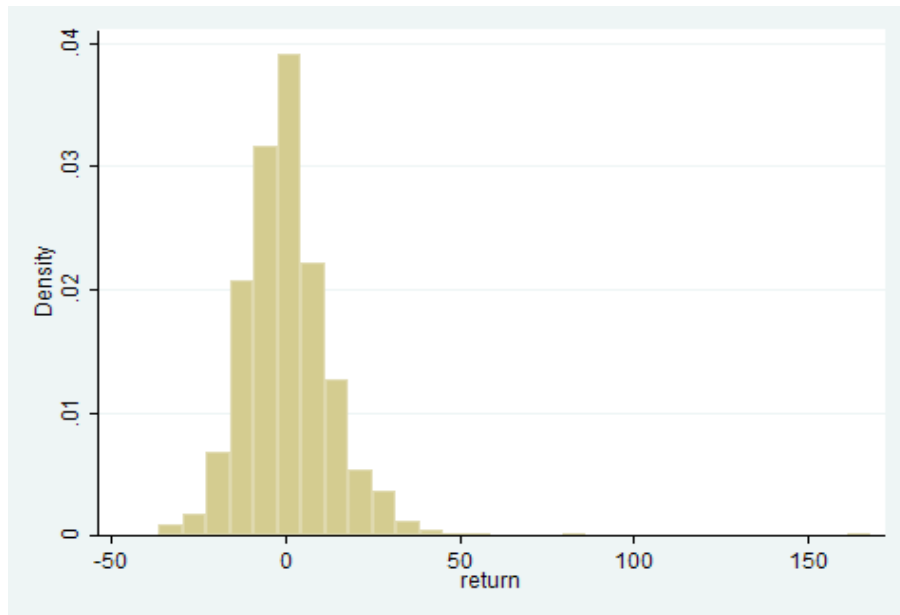
In this regression,  $E_t^*$  shows deflated earnings announcements at time  $t$ . To deflate earnings, we used consumer price index. The coefficient, in this model provides the level of earnings persistence. We should note that earnings persistence also implies earnings predictability.

The final model used in the analysis is provided below.

$$R_{i,t} = \alpha + \beta_1 ES_{i,t} + \beta_2 (ES_i \times BN_i) + \beta_3 (ES_i \times EP_i) + \beta_4 (ES_i \times D_i) + \beta_5 Age_i + \beta_6 Size_i + \varepsilon_i \quad (2)$$

In this model,  $R_{i,t}$  represent monthly return for firm  $i$  at time  $t$ . In a similar fashion,  $ES$  represent earnings surprise,  $EP$  represent earnings persistence and  $D$  is a dummy variable indicating whether firm paid dividend at least once in our sample period.  $BN$  is an index that represents recognition of the firm by public. We created an index based on a short survey.  $Age$  variable shows the age of the firm in years and  $Size$  variable shows the size of the firm as calculated by the number of employees.

In this study, instead of using a mean regression approach, we use a robust alternative, Regression Quantile (RQ) method, introduced by Koenker and Bassett (1978) that provides the relationship between independent variables and dependent variable at different points of the conditional distribution. If the variable has a normal distribution, there will be no penalty as RQ and mean regression will provide the same results at all quantiles. On the other hand, if we have non-normal distribution or outliers in the data, RQ will be a robust alternative. Figure 1 provides the histogram for monthly return series.



**Figure 1: Histogram of monthly return**

As seen from figure 1, return series appears to be non-normal and also a skewness coefficient of 2.3 and kurtosis coefficient of 25.3 indicate a leptokurtic distribution with extreme returns on the right tail. As a result, use of RQ approach should provide us with robust results.

To introduce this estimation method briefly, let  $y_i$  ( $i=1, \dots, n$ ) denote the dependent variable and  $\mathbf{x}_i'$  ( $i=1, \dots, n$ ) denote a sequence of row vectors denoting the independent variables. Let  $u_i = y_i - \mathbf{x}_i' \boldsymbol{\beta}(\theta)$  have a distribution function  $F$ , where  $\boldsymbol{\beta}(\theta)$  is an unknown vector of parameters whose estimation for different values of the  $\theta^{\text{th}}$  quantile,  $0 < \theta < 1$ , is the aim of this study. The  $\theta^{\text{th}}$  Regression Quantile is a vector  $\hat{\boldsymbol{\beta}}(\theta)$  that solves the following with linear programming methods:

$$\min_{\boldsymbol{\beta} \in \mathbb{R}^k} \left[ \sum_{i \in \{i: y_i \geq \mathbf{x}_i' \boldsymbol{\beta}\}} \theta |y_i - \mathbf{x}_i' \boldsymbol{\beta}| + \sum_{i \in \{i: y_i < \mathbf{x}_i' \boldsymbol{\beta}\}} (1 - \theta) |y_i - \mathbf{x}_i' \boldsymbol{\beta}| \right] \quad (3)$$

It is well known that the estimation results of mean regression models are not robust with respect to outliers and non-Gaussian distributions. The RQ estimation technique, on the other hand, is a robust alternative to mean regression models with respect to these issues (Koenker and Bassett, 1978; Coad and Rao, 2008; Koenker and Hallock, 2001).

### 3. Results and Discussion

Table 2 provides estimation results for LS (least squares) and RQ methods. LS results indicate that earnings surprise has a positive impact on the firm performance. Firm age is also significant and has a positive impact. RQ estimation, however, shows that the effect of earnings surprise on firm value is not stable across all quantiles of the conditional distribution. Only between quantiles 30 and 70, the effect is positive and significant, but not at the tails. Moreover, firm age seems to be significant at the median and at the right tail of the conditional distribution. While firm size has no impact on

firm value under LS estimation, the effect is significant mostly at the left tail and at the center of the conditional distribution.

**Table 2: Results For All Firms**

| VARIABLES    | (1)<br>LS                 | (2)<br>Q10              | (3)<br>Q20              | (4)<br>Q30               | (5)<br>Q40                | (6)<br>Q50                | (7)<br>Q60                | (8)<br>Q70               | (9)<br>Q80              | (10)<br>Q90             |
|--------------|---------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|-------------------------|-------------------------|
| surprise     | 1.53e-06***<br>(5.75e-07) | 7.82e-07<br>(7.18e-07)  | 1.12e-06<br>(7.67e-07)  | 1.51e-06**<br>(6.40e-07) | 1.93e-06***<br>(5.71e-07) | 1.42e-06***<br>(5.40e-07) | 1.59e-06***<br>(5.22e-07) | 1.23e-06**<br>(6.19e-07) | 1.15e-06<br>(8.68e-07)  | 1.94e-06<br>(1.26e-06)  |
| ESxBN        | -1.19e-07<br>(1.73e-06)   | 1.00e-06<br>(2.16e-06)  | 2.69e-06<br>(2.31e-06)  | 1.10e-06<br>(1.93e-06)   | -3.27e-07<br>(1.72e-06)   | -1.66e-06<br>(1.63e-06)   | -1.65e-06<br>(1.57e-06)   | -1.39e-06<br>(1.86e-06)  | -5.21e-07<br>(2.62e-06) | -1.88e-06<br>(3.80e-06) |
| ESxEP        | 9.68e-07<br>(9.88e-07)    | -1.23e-06<br>(1.23e-06) | -8.78e-07<br>(1.32e-06) | 2.75e-07<br>(1.10e-06)   | 1.04e-06<br>(9.82e-07)    | 1.52e-06<br>(9.29e-07)    | 1.13e-06<br>(8.97e-07)    | 2.22e-06**<br>(1.06e-06) | 6.83e-07<br>(1.49e-06)  | -1.21e-08<br>(2.17e-06) |
| ESxD         | -1.32e-06<br>(1.04e-06)   | 7.76e-07<br>(1.29e-06)  | -6.14e-07<br>(1.38e-06) | -1.33e-06<br>(1.15e-06)  | -1.76e-06*<br>(1.03e-06)  | -1.16e-06<br>(9.74e-07)   | -9.11e-07<br>(9.40e-07)   | -1.58e-06<br>(1.11e-06)  | -3.87e-07<br>(1.56e-06) | -7.38e-08<br>(2.27e-06) |
| age          | 0.0569**<br>(0.0268)      | 0.0621*<br>(0.0334)     | -0.0196<br>(0.0357)     | 0.0210<br>(0.0298)       | 0.0281<br>(0.0266)        | 0.0490*<br>(0.0252)       | 0.0492**<br>(0.0243)      | 0.0735**<br>(0.0288)     | 0.117***<br>(0.0404)    | 0.144**<br>(0.0587)     |
| size         | 0.419<br>(0.319)          | 0.794**<br>(0.398)      | 0.836**<br>(0.426)      | 0.895**<br>(0.355)       | 1.026***<br>(0.317)       | 0.729**<br>(0.300)        | 0.560*<br>(0.289)         | 0.388<br>(0.343)         | -0.0494<br>(0.482)      | -1.023<br>(0.699)       |
| Constant     | -11.26<br>(6.898)         | -33.90***<br>(8.612)    | -26.92***<br>(9.206)    | -26.08***<br>(7.676)     | -26.53***<br>(6.854)      | -18.23***<br>(6.486)      | -12.42**<br>(6.259)       | -6.952<br>(7.427)        | 4.958<br>(10.42)        | 31.00**<br>(15.12)      |
| Observations | 920                       | 920                     | 920                     | 920                      | 920                       | 920                       | 920                       | 920                      | 920                     | 920                     |
| R-squared    | 0.019                     |                         |                         |                          |                           |                           |                           |                          |                         |                         |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3 and 4 replicates the estimation results for two sub-samples: firms with positive earnings announcements and firms with earnings announcements below expectations. As expected, there is not significant effect of earnings surprises on firm value using both estimation methods, reported in Table 2. In other words, investors do not change their behavior when they face with positive surprises.

**Table 3: Positive Surprises and Firm Value**

| VARIABLES    | (1)<br>LS               | (2)<br>Q10              | (3)<br>Q20              | (4)<br>Q30              | (5)<br>Q40              | (6)<br>Q50              | (7)<br>Q60               | (8)<br>Q70              | (9)<br>Q80              | (10)<br>Q90             |
|--------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| surprise     | 7.63e-07<br>(8.58e-07)  | -1.15e-06<br>(9.43e-07) | -1.54e-07<br>(9.88e-07) | 7.60e-07<br>(9.21e-07)  | 1.07e-06<br>(8.30e-07)  | 8.57e-07<br>(7.46e-07)  | 1.54e-06**<br>(7.17e-07) | 1.01e-06<br>(9.23e-07)  | 5.82e-07<br>(1.09e-06)  | 1.62e-06<br>(1.74e-06)  |
| ESxBN        | 1.43e-06<br>(2.59e-06)  | 4.45e-06<br>(2.85e-06)  | 3.12e-06<br>(2.99e-06)  | 1.22e-06<br>(2.78e-06)  | 2.93e-07<br>(2.51e-06)  | -1.25e-06<br>(2.26e-06) | -9.69e-07<br>(2.17e-06)  | -5.32e-07<br>(2.79e-06) | 2.50e-07<br>(3.31e-06)  | -3.78e-07<br>(5.27e-06) |
| ESxEP        | 1.28e-06<br>(1.34e-06)  | -6.15e-07<br>(1.47e-06) | -1.07e-06<br>(1.54e-06) | 2.78e-07<br>(1.44e-06)  | 9.09e-07<br>(1.30e-06)  | 1.07e-06<br>(1.17e-06)  | 1.62e-06<br>(1.12e-06)   | 1.96e-06<br>(1.44e-06)  | 9.91e-07<br>(1.71e-06)  | 1.17e-06<br>(2.72e-06)  |
| ESxD         | -1.71e-06<br>(1.45e-06) | 1.48e-06<br>(1.59e-06)  | 7.46e-07<br>(1.67e-06)  | -3.76e-07<br>(1.55e-06) | -1.25e-06<br>(1.40e-06) | -3.97e-07<br>(1.26e-06) | -1.37e-06<br>(1.21e-06)  | -2.02e-06<br>(1.56e-06) | -1.35e-06<br>(1.84e-06) | -3.46e-06<br>(2.94e-06) |
| age          | 0.0677<br>(0.0414)      | -0.0149<br>(0.0455)     | -0.0457<br>(0.0477)     | -0.00587<br>(0.0444)    | 0.0397<br>(0.0400)      | 0.0487<br>(0.0360)      | 0.0698**<br>(0.0346)     | 0.0896**<br>(0.0445)    | 0.162***<br>(0.0528)    | 0.1638<br>(0.0840)      |
| size         | 0.357<br>(0.523)        | 1.1057<br>(0.574)       | 0.840<br>(0.602)        | 0.747<br>(0.561)        | 0.517<br>(0.505)        | 0.287<br>(0.455)        | 0.140<br>(0.437)         | 0.0777<br>(0.562)       | -0.300<br>(0.666)       | -0.720<br>(1.061)       |
| Constant     | -8.957<br>(11.24)       | -36.88***<br>(12.35)    | -25.79**<br>(12.95)     | -21.77*<br>(12.06)      | -14.70<br>(10.87)       | -8.007<br>(9.774)       | -3.557<br>(9.392)        | 0.137<br>(12.09)        | 9.957<br>(14.32)        | 25.74<br>(22.81)        |
| Observations | 517                     | 517                     | 517                     | 517                     | 517                     | 517                     | 517                      | 517                     | 517                     | 517                     |
| R-squared    | 0.011                   |                         |                         |                         |                         |                         |                          |                         |                         |                         |

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \*p&lt;0.1

For the negative earnings surprises, on the other hand, investor responds significantly to earnings announcements. However, the response is significant only at the center of the conditional distribution, as reported in Table 4. That is, the negative earnings surprise causes a decline in firm value. Moreover, if a firm pays dividend, the effect of negative earnings surprise is lower as shown by the negative coefficient on interaction term. As before, firm age and size are important but only at specific quantiles.

**Table 4: Negative Surprises and Firm Value**

| VARIABLE     | (1)                      | (2)                     | (3)                     | (4)                       | (5)                       | (6)                       | (7)                     | (8)                     | (9)                     | (10)                    |
|--------------|--------------------------|-------------------------|-------------------------|---------------------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| S            | LS                       | Q10                     | Q20                     | Q30                       | Q40                       | Q50                       | Q60                     | Q70                     | Q80                     | Q90                     |
| surprise     | 2.11e-06**<br>(8.52e-07) | 5.72e-07<br>(1.31e-06)  | 1.32e-06<br>(1.32e-06)  | 1.96e-06*<br>(1.07e-06)   | 2.60e-06***<br>(8.55e-07) | 2.81e-06***<br>(8.67e-07) | 1.23e-06<br>(9.72e-07)  | 1.19e-06<br>(1.03e-06)  | 1.87e-06<br>(1.21e-06)  | 2.33e-06<br>(2.16e-06)  |
| ESxBN        | -2.14e-06<br>(2.70e-06)  | -6.56e-07<br>(4.14e-06) | 1.21e-06<br>(4.19e-06)  | 1.17e-06<br>(3.38e-06)    | -5.40e-07<br>(2.71e-06)   | -1.04e-06<br>(2.75e-06)   | -1.36e-06<br>(3.08e-06) | -2.71e-06<br>(3.28e-06) | -4.02e-06<br>(3.83e-06) | -3.43e-06<br>(6.85e-06) |
| ESxEP        | 1.35e-06<br>(1.56e-06)   | -1.47e-06<br>(2.39e-06) | -4.22e-07<br>(2.42e-06) | 1.68e-06<br>(1.95e-06)    | 3.74e-06**<br>(1.56e-06)  | 1.98e-06<br>(1.58e-06)    | 2.51e-06<br>(1.78e-06)  | 3.21e-06*<br>(1.89e-06) | 2.84e-06<br>(2.21e-06)  | 1.97e-06<br>(3.95e-06)  |
| ESxD         | -1.40e-06<br>(1.64e-06)  | -9.43e-07<br>(2.51e-06) | -3.17e-06<br>(2.54e-06) | -4.50e-06**<br>(2.05e-06) | 5.06e-06***<br>(1.64e-06) | -3.86e-06**<br>(1.67e-06) | -2.10e-06<br>(1.87e-06) | -1.25e-06<br>(1.99e-06) | -8.05e-09<br>(2.32e-06) | 4.42e-07<br>(4.16e-06)  |
| age          | 0.0368<br>(0.0335)       | 0.110**<br>(0.0514)     | -0.00631<br>(0.0520)    | 0.0132<br>(0.0419)        | 0.0183<br>(0.0336)        | 0.0380<br>(0.0341)        | 0.00403<br>(0.0382)     | 0.0300<br>(0.0406)      | 0.0499<br>(0.0475)      | 0.123<br>(0.0850)       |
| size         | 0.754<br>(0.460)         | -0.0127<br>(0.705)      | 0.0180<br>(0.714)       | 0.472<br>(0.575)          | 1.223***<br>(0.461)       | 0.716<br>(0.468)          | 0.857<br>(0.525)        | 1.081*<br>(0.558)       | 1.145*<br>(0.652)       | 0.819<br>(1.167)        |
| Constant     | -18.70*<br>(9.715)       | -19.33<br>(14.90)       | -11.23<br>(15.08)       | -17.84<br>(12.15)         | -31.00***<br>(9.748)      | -18.62*<br>(9.883)        | -18.19<br>(11.08)       | -20.82*<br>(11.78)      | -19.12<br>(13.78)       | -9.432<br>(24.64)       |
| Observations | 407                      | 407                     | 407                     | 407                       | 407                       | 407                       | 407                     | 407                     | 407                     | 407                     |
| R-squared    | 0.024                    |                         |                         |                           |                           |                           |                         |                         |                         |                         |

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \*p&lt;0.1

To better understand the effect of earnings surprise on firm value, the below analysis takes into account the role of earnings persistency. The persistency of the announcements may impact how investor responds to earnings surprises. Table 5 reports estimation results for firms with high earnings persistency. First, we notice that earnings surprise has a positive and statistically significant effect on firm value with both methods. Furthermore, the effect is stable across all quantiles of the conditional distribution. Results also show that the effect of surprises on firm value is smaller if firm pays dividend to shareholders. This finding is also significant across all quantiles.

**Table 5: High Persistence and Firm Value**

| VARIABLES    | (1)<br>LS      | (2)<br>Q10 | (3)<br>Q20  | (4)<br>Q30  | (5)<br>Q40  | (6)<br>Q50  | (7)<br>Q60 | (8)<br>Q70  | (9)<br>Q80  | (10)<br>Q90 |
|--------------|----------------|------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|
| surprise     | 2.23e<br>05**  | 6.71e-01   | 1.23e-05*   | 1.34e-05**  | 1.20e-05**  | 1.30e-05**  | 1.18e-05** | 1.99e-05**  | 3.21e-05**  | 4.29e-05**  |
| ESxBN        | (4.64e-06      | (5.54e-06  | (5.01e-06   | (4.52e-06   | (4.01e-06   | (3.91e-06   | (4.32e-06  | (5.90e-06   | (7.02e-06   | (7.34e-06   |
|              | 1.34e-01       | 5.04e-06   | 2.81e-01    | 2.23e-01    | 7.03e-01    | 5.30e-01    | -7.66e-01  | -4.66e-01   | 4.11e-01    | 1.74e-01    |
|              | (2.25e-06      | (2.69e-06  | (2.43e-06   | (2.19e-06   | (1.95e-06   | (1.90e-06   | (2.10e-06  | (2.86e-06   | (3.41e-06   | (3.56e-06   |
| ESxEP        | -2.21e<br>05** | -6.92e-01  | -1.27e-05** | -1.39e-05** | -1.16e-05** | -1.21e-05** | -1.05e-05* | -1.87e-05** | -3.16e-05** | -4.31e-05** |
|              | (4.70e-06      | (5.61e-06  | (5.07e-06   | (4.58e-06   | (4.06e-06   | (3.95e-06   | (4.37e-06  | (5.97e-06   | (7.10e-06   | (7.43e-06   |
| ESxD         | -0.0049        | 0.00071    | -0.108*     | -0.063      | -0.014      | 0.011       | 0.0054     | 0.045       | 0.061       | 0.076       |
|              | (0.0480        | (0.0572    | (0.0517     | (0.0467     | (0.0414     | (0.0403     | (0.0446    | (0.0609     | (0.0725     | (0.0758     |
| size         | -0.078         | 0.59       | 0.65        | 0.64        | 0.52        | 0.30        | 0.55       | -0.00056    | -0.55       | -1.06       |
|              | (0.467         | (0.557     | (0.504      | (0.455      | (0.404      | (0.393      | (0.435     | (0.594      | (0.706      | (0.738      |
| Constant     | 2.29           | -26.89*    | -19.42      | -17.41      | -13.6       | -7.87       | -10.4      | 3.10        | 18.7        | 34.93*      |
|              | (10.59         | (12.63     | (11.42      | (10.31      | (9.145      | (8.905      | (9.848     | (13.45      | (16.00      | (16.73      |
| Observations | 45             | 45         | 45          | 45          | 45          | 45          | 45         | 45          | 45          | 45          |
| R-squared    | 0.05           |            |             |             |             |             |            |             |             |             |

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 6 reports estimation results for firms with low earnings persistence. As before, earnings surprise has a positive and significant impact on firm value with LS and RQ method (except at the far left tail). Whether the firm pays dividend or brand recognition is high appears to be unimportant for firm value.



**Table 6: Low Persistence and Firm Value**

| VARIABLES    | (1)<br>LS                 | (2)<br>Q10              | (3)<br>Q20              | (4)<br>Q30               | (5)<br>Q40               | (6)<br>Q50               | (7)<br>Q60                | (8)<br>Q70                | (9)<br>Q80               | (10)<br>Q90             |
|--------------|---------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|-------------------------|
| surprise     | 1.54e-06***<br>(5.44e-07) | 1.07e-06<br>(1.03e-06)  | 1.09e-06<br>(8.88e-07)  | 1.65e-06**<br>(6.45e-07) | 1.51e-06**<br>(6.11e-07) | 1.38e-06**<br>(5.88e-07) | 1.44e-06***<br>(5.43e-07) | 2.25e-06***<br>(6.42e-07) | 1.92e-06**<br>(8.45e-07) | 2.19e-06*<br>(1.21e-06) |
| ESxBN        | -3.67e-06<br>(2.78e-06)   | -6.86e-06<br>(5.27e-06) | -2.36e-06<br>(4.53e-06) | -1.09e-06<br>(3.29e-06)  | -4.41e-07<br>(3.12e-06)  | -4.18e-06<br>(3.00e-06)  | -3.47e-06<br>(2.77e-06)   | -6.99e-06**<br>(3.28e-06) | -6.98e-06<br>(4.31e-06)  | -4.53e-06<br>(6.18e-06) |
| ESxEP        | 7.16e-07<br>(1.03e-06)    | 2.82e-06<br>(1.95e-06)  | 1.41e-06<br>(1.68e-06)  | -4.69e-07<br>(1.22e-06)  | -1.23e-06<br>(1.15e-06)  | 4.08e-08<br>(1.11e-06)   | 4.20e-08<br>(1.02e-06)    | 2.98e-07<br>(1.21e-06)    | 1.87e-06<br>(1.60e-06)   | 9.89e-07<br>(2.28e-06)  |
| ESxD         | 0.0608**<br>(0.0299)      | 0.106*<br>(0.0567)      | 0.0134<br>(0.0488)      | 0.0377<br>(0.0354)       | 0.0380<br>(0.0336)       | 0.0457<br>(0.0323)       | 0.0507*<br>(0.0298)       | 0.0515<br>(0.0353)        | 0.0735<br>(0.0464)       | 0.148**<br>(0.0665)     |
| size         | 0.642<br>(0.440)          | 0.855<br>(0.833)        | 0.423<br>(0.717)        | 0.688<br>(0.521)         | 0.919*<br>(0.493)        | 0.874*<br>(0.475)        | 0.664<br>(0.438)          | 0.582<br>(0.519)          | 0.648<br>(0.683)         | 0.360<br>(0.977)        |
| Constant     | -17.26*<br>(9.259)        | -36.79**<br>(17.54)     | -19.68<br>(15.10)       | -22.60**<br>(10.96)      | -24.88**<br>(10.39)      | -21.35**<br>(10.01)      | -14.96<br>(9.227)         | -11.18<br>(10.92)         | -9.731<br>(14.37)        | -0.997<br>(20.58)       |
| Observations | 462                       | 462                     | 462                     | 462                      | 462                      | 462                      | 462                       | 462                       | 462                      | 462                     |
| R-squared    | 0.038                     |                         |                         |                          |                          |                          |                           |                           |                          |                         |

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

#### 4. Concluding Remarks

This study investigates the effect of earnings announcements on firm value, using quarterly earnings announcements of non-financial firms listed in BIST100 index of Borsa Istanbul. Different from earlier studies, instead of using mean regression or event-study approaches, we use Regression Quantile approach of Koenker and Bassett (1978) to investigate the effect of earnings announcements on firm value at different points of the conditional distribution. Moreover, the study takes into account some firm level characteristics on the aforementioned relationship, such as earnings persistence, dividend policy and firm name/brand name recognition.

Results indicate that the effect of earnings announcements on firm value is not stable across all quantiles of the conditional distribution. Results indicate that investor responds more to negative earnings announcements and the effect is significant around the center of the conditional distribution. Brand recognition appears to be not important for the effect of earnings surprises on the firm value. On the other hand, firms that pays dividends and have high earnings persistence are less affected by earnings surprises.

In this study, we used a statistical method to calculate expectations so that earnings surprises can be calculated. For stakeholders, the announcements of earnings will provide more value if firms and/or analyst provide information on the expected earnings. The future work can focus on the estimation of earnings expectations.

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