

# Portuguese Stock Market Reaction to Earnings and Dividend Announcements

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## Conteúdo

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>Literature review</b>	<b>4</b>
<b>3</b>	<b>Data and methodology</b>	<b>5</b>
<b>4</b>	<b>Results</b>	<b>9</b>
4.1	Abnormal return analysis . . . . .	9
4.2	Trading volume analysis . . . . .	10
<b>5</b>	<b>Conclusions</b>	<b>11</b>
<b>6</b>	<b>References</b>	<b>12</b>

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### Abstract

**Purpose** – The main intent of this paper is to contribute to a better understanding of the Portuguese stock market based on empirical evidence on the semi-strong market efficiency. To achieve this goal, we focused on the announcement effect of financial information (both corporate earnings and dividend announcements).

**Design/methodology/approach** – The investigation is based on the event studies methodology, with the analysis of 548 events, 446 earnings announcements and 102 dividend announcements for companies listed on the PSI-20 stock index from January 2005 through December 2010.

**Findings** – The results provide some evidence of the information content of earnings and dividends, as we found evidence of abnormal returns and abnormal trading volume around the announcement day. Nevertheless, our evidence also suggests that the Portuguese stock market is not semi-strong form efficient regarding the disclosure of financial information, as we verify that the stock market does not reacts immediately and fully to the new information.

**Research limitations/implications** – Our findings are limited by the event studies methodology adopted and by the model used to determine the normal or expected returns and trading volume. Furthermore, we analyse only companies included in the Portuguese stock index PSI-20, which includes the listings with the largest market capitalisation instead of analysing all the companies listed on the PSI Geral as they may conduct to the thin trading problem.

**Practical implications** – This work is useful for both researchers and investors. For researchers that examine the Portuguese stock market, our findings may imply a further analysis on the possible reasons for the stock market inefficiency and for investors, our findings may help to determine trading rules around the announcement dates.

**Originality/value** – This paper provides new evidence on the information content of financial information for the Portuguese stock market, as we aim to analyse both earnings and dividend announcements through the analysis of the stock price and the trading volume response to good, bad and no news announcements. By using the stock price relative range, our study adds to the existing literature, as far as we know, no previous study explored the analysis of the stock price range variation around certain announcements.

**Keywords:** Earnings, Dividends, Semi-strong Form Efficiency, Stock Prices, Event Studies, Abnormal Return, Abnormal Trading Volume.

**Paper type:** Research paper

# 1 Introduction

Understanding the market efficiency has been one of the most important and controversial topics in the economic literature and has increased the interest and demand on different applications. The Efficient Market Hypothesis defined by Eugene Fama in 1970, which states that in an efficient capital market new information is immediately reflected in the stock market, as it is, without any delay or lag, incorporated in the stock prices has been the basis for a vast number of published papers searching to analyse the stock market efficiency with respect to new publicly available information.

“Assuming that managers possess inside information about their firms’ future prospects, they may use various signalling devices to convey this information to the public. Two of the most important signalling devices available are earnings and dividend figures”. (Aharony and Swary (1980)) The relevance of the accounting earnings disclosure and dividend and the different empirical results obtained in the previous studies lead us to investigate the impact of earnings and dividend announcements in the firm’s value for the Portuguese stock market in order to assess the capital market semi-strong efficiency. In this sense we analyse the abnormal stock return, the abnormal relative range and the abnormal stock trading volume behaviour around both earnings and dividend announcements in the Portuguese Stock Index PSI-20 between 2005 through 2010 using the event studies methodology to determine whether the Portuguese stock market reacts to the selected announcements, supporting or rejecting the market efficiency hypothesis.

In this paper we seek to extend the existent literature in three directions. The first main contribution of the present paper is that our empirical work considers a more recent period than the periods analysed by the previous studies, as the empirical study covers the period of 2005 through 2010. The second main contribution is that we attempt to test the information hypothesis analysing both the stock price reaction (through the analysis of the abnormal returns and the abnormal relative range) and the trading volume reaction (through the analysis of the abnormal trading volume). The third contribution of this paper is that we try to give special attention to the cases where the market reacts differently to the announcements, furthermore we separate earnings announcements in annual and interim announcements and categorize all the announcements in three categories: good news, bad news or no news announcements in order to assess if the market reacts differentially according to the adopted categorization, both at the stock price and trading volume level.

The remainder of the paper is organized as follows. Section two presents a brief literature review on the information content of earnings and dividend announcements. Section three relates to the data and methodology used in the empirical study. Section four provides the analysis of the empirical results. Section five concludes.

## 2 Literature review

Since the first empirical studies of Ball and Brown (1968) and Fama, Fisher, Jensen and Roll (1969) who analysed the stock price adjustment to earnings and stock splits announcements, respectively, a considerable number of studies have been investigating the information content of several different events, seeking to assess the semi-strong stock market efficiency hypothesis defined by Fama (1970).

The empirical evidence on this issue has provided evidence of an informational effect in developed capital markets, as stock prices incorporate the available information almost immediately, approaching an efficient capital market and evidence of a non informational effect in emerging capital markets, as they react slowly to the available information, hence not consistent with the efficient capital market hypothesis as earnings and dividend announcements carry little or no information value for investors.

In the Portuguese stock market a few authors attempted to analyse the stock market reaction to accounting earnings and dividends. Table 1 shows a summary of the main Portuguese empirical studies on these matters.

A number of studies found the Portuguese stock market to react efficiently to accounting earnings announcements (Fernandes (1996), Isidro (1997), Romacho and Cidrais (2007) and Lourenço and Coelho (2008)). Furthermore, Fernandes (1996), Isidro (1997) and Romacho and Cidrais (2007) also found evidence of an anticipation effect, as the stock market anticipates some of the information contained in the announcement. On the other hand, the authors that analysed the information content of dividends found the stock market to react only marginally to the dividend information (Vieira (2007) and Farinha and Soro (2006)), highlighting that the dividend signalling theory is not verified for the Portuguese stock market.

Even though the somehow vast previous evidence on the Portuguese stock market reaction to earnings and dividend announcements, the results are discordant and lack more recent data.

Table 1: Previous Portuguese evidence on the information content of earnings and dividend announcements

Author(s)	Data	Methodology	Results
Fernandes (1996)	16 companies (1991 - 1995)	Event studies methodology - API	"(...) clear semi-strong efficiency"
Isidro (1997)	51 companies (Jan. 1993 - June 1997)	Event studies methodology - CAR, SRV and GSR	"(...) accounting earnings contain useful market information"
Wilton (2002)	30 companies (2002)	Statistical hypotheses tests	"(...) variability of prices has, in aggregate, few sensitivity"
Borges (2004)	All companies quoted in the Lisbon stock exchange (1990 - 1999)	Event studies methodology - Brown and Warner (1980)	"(...) evidence of a positive abnormal volume, although not very strong."
Alves and Santos (2005)	86 companies (Jan. 1994 - June 2004)	Event studies methodology	"(...) the information of the first and third quarters (...) is significant"
Vieira (2005)	84 companies (1988 - 2002)	Abnormal returns calculated from a buy-and-hold strategy (BHARs)	"(...) find no significant market reaction to dividend change announcements"
Farinha and Soro (2006)	40 companies (Jan. 1993 - June /2002)	Elton and Gruber's (1970) model	"(...) market efficiency "
Romacho and Cidrais (2007)	10 companies (Jan. 1999 - Sep. 2004)	Event studies methodology - SRV	"For the generality of the set of stocks, the market is efficient."
Lourenço and Coelho (2008)	41 companies (1992 - 2002)	Event studies methodology	"(...) earnings disclosure possess information content."

### 3 Data and methodology

In this study we investigate the Portuguese stock market reaction to financial disclosure through the analysis of the abnormal stock price, abnormal relative range and abnormal trading volume behaviour.

The study uses data from Bloomberg for companies listed on the PSI-20 index between 1 January 2005 through 31 December 2010. The companies to include in the sample have been chosen on the basis of the following criteria: (a) listed on the Portuguese Stock Index PSI-20 (index composed by the 20 largest companies listed on the Portuguese stock market) for at least more than a year in order to collect sufficient data to perform the tests and (b) stock price and trading volume data available.

The selection criteria resulted in a sample of 25 companies that announced 460 accounting earnings and 102 dividend distributions[1]<sup>1</sup>.

With the purpose of perceiving the different reactions to the announcements, we distinguished three types of announcements, using the same announcements categorization as Duque and Pinto (2005) and Correia (2009): good news, bad news and no news. Good news when the return for the stock  $i$  in the announcement day is positive, bad news when the return for the stock  $i$  in the announcement day is negative, no news when the return for the stock  $i$  in the announcement day is zero. This criteria lead to the categorization of the 460 accounting earnings into 226 good news, 196 bad news and 38 no news announcements and of the 102 dividend announcements into 45 good news, 43 bad news and 14 no news announcements[2]<sup>2</sup>.

The methodology employed to assess whether the stock market reflects, or not, the information contained in the financial disclosure is the event studies methodology used in the empirical literature regarding this issue. This methodology is based on the estimation of the abnormal return ( $AR$ ) due to the disclosure through the difference between the actual return and the estimated normal return. The abnormal return is thus defined as:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}|X_t) \quad (1)$$

Where,

$AR_{i,t}$  - Abnormal return of the stock  $i$  for the period  $t$ .

$R_{i,t}$  - Actual return of the stock  $i$  for the period  $t$ .

$E(R_{i,t}|X_t)$  - Expected or normal return of the stock  $i$  for the period  $t$  conditioned by the information for the normal return model ( $X_t$ ).

To model the expected or normal return we decided to select the market model, as “the market model approach is straight-forward and relatively easy to use” Binder (1998) and is also “potentially superior as it removes the portion of the return that is related to movement in the market (...) since the use of the market model generally improves the chances of being able to isolate the effects of specific events” Beverley (2008).

The market model, as stated by MacKinlay (1997) “relates the return of any given security to the return of the marker portfolio” is defined as:

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<sup>1</sup>[1] After the market model estimation, two companies were eliminated from our analysis and the final sample used in the empirical study included a total of 23 companies who made 548 announcements (446 earnings announcements and 102 dividend announcements).

<sup>2</sup>[2] The 446 earnings announcements and 102 dividend announcements included in the final sample were categorized into 220 good news, 191 bad news and 35 no news announcements for the earnings sample and of the 45 good news, 43 bad news and 14 no news announcements for the dividend sample.

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \quad (2)$$

Where,

$R_{i,t}$  - Actual return of the stock  $i$  for the period  $t$ .

$R_{m,t}$  - Actual return of the market portfolio for the period  $t$ .

$\alpha_i$  and  $\beta_i$  - The market model parameters of the stock  $i$ .

$\varepsilon_{i,t}$  - Zero mean disturbance term. Where  $E(\varepsilon_{i,t}) = 0$  and  $Var(\varepsilon_{i,t}) = \sigma_{\varepsilon_{i,t}}^2$ .

As we analyse the Portuguese stock market and considering that our data we decided to select the Portuguese Stock Index – PSI-20 as the market portfolio to estimate the market model.

To measure and analyse the abnormal returns is necessary to define the time line of the event. Given that there is no standard time line defined in the event studies literature we decided to consider as the event period the 31 days around the announcements, with  $[-15; -1]$  as the pre-event window and  $[+1, +15]$  as the post-event window in line with Vieira (2007), Romacho and Cidrais (2007) and Lourenço and Coelho (2008). For the estimation window we chose to consider all trading days excluding the event window days in line with Isidro (1997), Duque and Pinto (2004), Romacho and Cidrais (2007), Francisco and Gonçalves (2008) and Lourenço and Coelho (2008).

Once defined the model to estimate the expected or normal return and the time line for the study, the next stage is to calculate the abnormal return, which is defined as:

$$AR_{i,t} = R_{i,t} - \hat{\alpha}_i - \hat{\beta}_i R_{m,t} \quad (3)$$

Where,

$\hat{\alpha}_i$  and  $\hat{\beta}_i$  - Estimated market model parameters.

According to MacKinlay (1997) “the abnormal return observations must be aggregated in order to draw overall inferences for the event of interest.” This aggregation can be held both through time (time aggregation) and through securities (stock aggregation).

To aggregate the abnormal returns for the stock  $i$  through time is used the cumulative abnormal return ( $CAR$ ). The cumulative abnormal return from  $t_1$  to  $t_2$ , where  $T_1 < t_1 \leq t_2 \leq T_2$  is defined as:

$$CAR_i = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (4)$$

To aggregate the abnormal returns across securities is used the average abnormal returns ( $\overline{AR}$ ). Given  $N$  events, the aggregated abnormal return for the period  $t$  is defined as:

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t} \quad (5)$$

Aggregating the average abnormal return over the event window, the cumulative average abnormal return for any interval in the event window is defined as:

$$\overline{CAR}(t_1, t_2) = \sum_{t=t_1}^{t_2} \overline{AR}_t \quad (6)$$

To analyse the market reaction to earnings and dividend announcements we also tested the trading volume reaction over the event window.

Following a similar approach to the abnormal return calculated to analyse the price reaction to the selected announcements we also calculated the abnormal trading volume ( $AV$ ) and the average abnormal trading volume ( $\overline{AV}$ ) defined by Beaver (1986).

To calculate the expected trading volume we used the model proposed by Beaver (1986), which is analogous to the market model used to calculate the expected or normal stock return.

This model is defined as:

$$V_{i,t} = \alpha_i + \beta_i V_{m,t} + \varepsilon_{i,t} \quad (7)$$

Where,

$V_{i,t}$  - Actual trading volume of the stock  $i$  for the period  $t$ .

$$V_{i,t} = \frac{\text{Number of Shares Traded in Day } t \text{ for the Stock } i}{\text{Number of Shares Outstanding in Day } t \text{ for the Stock } i} \quad (8)$$

$V_{m,t}$  - Actual trading volume of the market portfolio (PSI-20 Index) for the period  $t$ .



$\alpha_i$  and  $\beta_i$  - The model parameters for the stock  $i$ .

Therefore, the abnormal trading volume is defined as:

$$AV_{i,t} = V_{i,t} - \hat{\alpha}_i - \hat{\beta}_i V_{m,t} \quad (9)$$

Where,

$\hat{\alpha}_i$  and  $\hat{\beta}_i$  - Estimated model parameters.

Analogously to the average abnormal return calculated, given N events, the average abnormal trading volume ( $\overline{AV}$ ) for the period t is defined as:

$$\overline{AV}_t = \frac{1}{N} \sum_{i=1}^N AV_{i,t} \quad (10)$$

## 4 Results

### 4.1 Abnormal return analysis

Analysing the average abnormal returns for the 31-day event window around the earnings announcements made during the years of 2005 through 2010 (table 2a-2b) we observe that, in general, investors experience abnormal returns in the announcement day, consistent with the informational content of earnings.

When separating the earnings announcements in good, bad or no news announcements we observe that announcements categorized as good news are associated with positive excess returns and announcements categorized as bad news are associated with negative excess returns.

Nevertheless, we also found persistence of abnormal returns both in the pre-event window and in the post-event window, results not consistent with the semi-strong market efficiency, as the market does not reacts to the announcements in an efficient manner.

[Insert Table 2a]

[Insert Table 2b]

[Insert Table 2c]

Contrarily to the results obtained when analysing earnings announcements, our findings do not suggest the existence of a significant abnormal return in the day (day 0) for dividend announcements. Nevertheless our results show a positive and statistically significant excess return in the day after the announcement (day 1), which is, technically the first trading day after the announcement, thereby demonstrating that dividend announcements impact the stock market as they lead to an abnormal return just after the announcement.

As in earnings announcements, when separating the dividend announcements in good, bad or no news announcements we observe the existence of an average abnormal return in the event day positive and statistically significant for announcements categorized as good news and negative and statistically significant for announcements categorized as bad news.

Furthermore, as in earnings announcements the results suggest that the market is not semi-strong form efficient as we verify that the Portuguese stock market does not incorporate the new available information immediately and fully.

[Insert Table 3a]

[Insert Table 3b]

## 4.2 Trading volume analysis

Table 4 shows the results for the abnormal trading volume estimation for all the earnings (tab 04a) and dividend (tab 04b) announcements. Regarding the trading volume effect of the financial information, we observe that the Portuguese stock market reacts, at the trading volume level, more to accounting earnings than to dividend announcements. Moreover, we also observe that the higher abnormal trading volume is recorded in day 1, the first trading day after the announcements and that announcements categorized as good news show a statistically higher increase in the stock trading volume in the days surrounding the announcements.

[Insert Table 4a]

[Insert Table 4b]

Hence, empirical evidence on the stock price reaction suggests that both earnings and dividends convey relevant information to the market, as we found statistically significant abnormal returns in the announcement day (at a level of 5% for the overall earnings announcements sample and at a

level of 10% for the overall dividend announcements sample). The relative range results show us that earnings announcements induce greater stock price range variation, as we found evidence of an abnormal relative range in the period surrounding the announcements. The results from the trading volume analysis lead us to conclude that earnings announcements have a significant impact in terms of trading volume, as we found evidence of an average abnormal trading volume around the announcement day (from day 0 until the second day after the announcement) although around dividend announcements we found no activity excess. Therefore, empirical results point out that earnings announcements convey more useful information to investors than dividend announcements as we found the abnormal returns in the announcement day and the abnormal trading volume to be positively higher for the overall earnings announcements sample. On the other hand our results also show statistically significant abnormal returns both in the pre-event window and post-event window, which is not consistent with the semi-strong form efficiency, both for earnings and dividend announcements.

## 5 Conclusions

The stock market efficiency assumes a crucial importance in finance, as investors who understand the market behaviour and possess information can explore opportunities in the periods surrounding certain events. Because of this, researchers tend to understand which factors influence the stock market behaviour and to study the market efficiency with respect to several different events.

In this sense, in this paper we address this issue, as we investigate the Portuguese stock market semi-strong efficiency with respect to earnings and dividend announcements.

Our results are based on the traditional event studies methodology, as we tested for the existence of abnormal stock returns, abnormal price stock relative range and abnormal trading volume around the 31 days surrounding 446 earnings announcements, 220 categorized as good news, 191 categorized as bad news and 35 categorized as no news and 102 dividend announcements, 45 categorized as good news, 43 categorized as bad news and 14 categorized as no news announcements.

Overall, our empirical evidence from the earnings and dividend announcements made during the period of 2005 through 2010 by Portuguese companies listed on the PSI-20 stock index conditioned by the event studies methodology limitations, lead us to conclude that the Portuguese stock market is not semi-strong form efficient regarding the disclosure of financial information (both dividends and earnings) as the stock market does not adjust quickly and fully to the new information present in the announcements, however it is clear that the announcements convey new and valuable information to the market, as they origin significant market reactions both in terms of share prices and trading volume. These results obtained for the Portuguese stock market are in line with the results obtained for markets considered as emerging, once in a developed stock market we would expect that the financial disclosure has informational value and that the market reacts rapidly and efficiently to the

announcements.

Notwithstanding the rejection of the market hypothesis obtained based on the Portuguese stock market reaction to earnings and dividend announcements, there is still a debate on the efficient market hypothesis, as the empirical evidence on this issue is somehow discordant. In this thesis we addressed this important topic, as we investigated recent data and attempted to differentiate the market response, assessing not only the stock price and trading volume reaction but also the relative range, in order to perceive the maximum and minimum stock price difference variation over the event period.

A possible trend of future research would be to categorize the announcements in good, bad or no news announcements considering the market expectations. In this sense, considering the earnings and dividend figures with the market expectations would be a better measure, as it would enable a better recognition of the market reaction, also enabling to perceive if the market really responds to the information conveyed in the announcements taking into account the investors' expectations.

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Figura 1: Table 2a: Earnings announcements - average abnormal returns and cumulative average abnormal returns results

Day	AR	Test t1	CAR	Test t2
-15	0,08%	1,0504	0,08%	1,0504
-14	0,11%	1,4529	0,18%	1,7701
-13	0,07%	0,9512	0,25%	1,9945
-12	0,09%	1,1849	0,34%	2,3197
-11	-0,01%	-0,0852	0,33%	2,0367
-10	0,08%	1,1338	0,42%	2,3221
-9	-0,04%	-0,6083	0,37%	1,9200
-8	-0,04%	-0,4827	0,34%	1,6253
-7	0,13%	1,7464	0,46%	2,1145
-6	0,13%	1,8335	0,60%	2,5858
-5	-0,01%	-0,1873	0,59%	2,4090
-4	-0,02%	-0,2061	0,57%	2,2469
-3	0,22%	2,9961	0,79%	2,9897
-2	0,11%	1,5584	0,90%	3,2975
-1	0,11%	1,5225	1,02%	3,5788
0	0,15%	2,0647	1,17%	3,9813
1	-0,19%	-2,6244	0,97%	3,2259
2	-0,10%	-1,3475	0,88%	2,8174
3	-0,15%	-2,0172	0,73%	2,2795
4	-0,12%	-1,6593	0,61%	1,8508
5	0,03%	0,3847	0,63%	1,8901
6	-0,08%	-1,1458	0,55%	1,6024
7	-0,03%	-0,4384	0,52%	1,4757
8	-0,08%	-1,0914	0,44%	1,2219
9	-0,03%	-0,3437	0,41%	1,1284
10	-0,04%	-0,6092	0,37%	0,9871
11	-0,06%	-0,7740	0,31%	0,8196
12	0,07%	0,9499	0,38%	0,9844
13	0,14%	1,9328	0,52%	1,3262
14	0,00%	-0,0368	0,52%	1,2972
15	-0,17%	-2,3807	0,35%	0,8485

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.

Figura 2: Table 2b: Earnings announcements - average abnormal returns and cumulative average abnormal returns results

Day	Good News				Bad News				No News			
	AR	Test t1	CAR	Test t2	AR	Test t1	CAR	Test t2	AR	Test t1	CAR	Test t2
-15	0,00%	-0,0404	0,00%	-0,0404	0,25%	2,1461	0,25%	2,1461	-0,16%	-0,6996	-0,16%	-0,6996
-14	0,28%	2,7361	0,28%	1,9061	-0,06%	-0,5180	0,19%	1,1513	-0,12%	-0,5062	-0,28%	-0,8526
-13	-0,01%	-0,0638	0,27%	1,5195	0,24%	2,0991	0,43%	2,1519	-0,16%	-0,6973	-0,45%	-1,0987
-12	-0,02%	-0,1610	0,26%	1,2354	0,22%	1,9079	0,64%	2,8176	-0,11%	-0,4881	-0,56%	-1,1956
-11	0,13%	1,2235	0,38%	1,6522	-0,19%	-1,6321	0,46%	1,7902	0,05%	0,2264	-0,51%	-0,9681
-10	0,09%	0,9107	0,48%	1,8800	0,05%	0,4371	0,51%	1,8127	-0,06%	-0,2624	-0,57%	-0,9909
-9	0,00%	0,0096	0,48%	1,7442	-0,05%	-0,4625	0,45%	1,5034	0,01%	0,0312	-0,56%	-0,9056
-8	-0,09%	-0,8913	0,39%	1,3164	0,02%	0,1547	0,47%	1,4610	0,04%	0,1688	-0,52%	-0,7874
-7	0,02%	0,2144	0,41%	1,3126	0,21%	1,8053	0,68%	1,9792	-0,10%	-0,4293	-0,62%	-0,8855
-6	0,18%	1,7341	0,59%	1,7936	0,16%	1,4052	0,84%	2,3220	-0,21%	-0,8802	-0,83%	-1,1184
-5	0,00%	0,0243	0,59%	1,7174	0,02%	0,1397	0,86%	2,2561	-0,03%	-0,1373	-0,86%	-1,1077
-4	0,01%	0,1364	0,61%	1,6837	-0,05%	-0,4420	0,80%	2,0325	0,02%	0,0906	-0,84%	-1,0344
-3	0,24%	2,3414	0,85%	2,2670	0,20%	1,7808	1,01%	2,4466	-0,23%	-0,9694	-1,07%	-1,2627
-2	-0,03%	-0,3017	0,82%	2,1039	0,29%	2,5507	1,30%	3,0393	-0,15%	-0,6224	-1,21%	-1,3831
-1	0,05%	0,5087	0,87%	2,1639	0,19%	1,7015	1,49%	3,3756	-0,14%	-0,5789	-1,35%	-1,4857
0	1,16%	11,1787	2,03%	4,8899	-1,02%	-8,9534	0,47%	1,0301	0,01%	0,0539	-1,34%	-1,4250
1	-0,10%	-0,9712	1,93%	4,5083	-0,36%	-3,1921	0,11%	0,2251	0,27%	1,1659	-1,06%	-1,0997
2	-0,02%	-0,1809	1,91%	4,3387	-0,20%	-1,7761	-0,10%	-0,1999	0,12%	0,5247	-0,94%	-0,9451
3	-0,08%	-0,8073	1,83%	4,0378	-0,20%	-1,7461	-0,30%	-0,5951	0,14%	0,5785	-0,81%	-0,7871
4	-0,15%	-1,4212	1,68%	3,6177	-0,08%	-0,7002	-0,38%	-0,7366	0,11%	0,4527	-0,70%	-0,6660
5	0,07%	0,7200	1,76%	3,6876	-0,04%	-0,3141	-0,41%	-0,7874	-0,01%	-0,0459	-0,71%	-0,6599
6	-0,11%	-1,0562	1,65%	3,3777	-0,07%	-0,6350	-0,49%	-0,9047	0,10%	0,4195	-0,61%	-0,5553
7	-0,09%	-0,8218	1,56%	3,1321	0,04%	0,3493	-0,45%	-0,8120	0,01%	0,0570	-0,60%	-0,5312
8	-0,03%	-0,2755	1,53%	3,0099	-0,14%	-1,2132	-0,58%	-1,0425	0,09%	0,3723	-0,51%	-0,4440
9	-0,04%	-0,3918	1,49%	2,8707	-0,02%	-0,1967	-0,61%	-1,0608	0,04%	0,1621	-0,47%	-0,4026
10	0,04%	0,4280	1,54%	2,8989	-0,13%	-1,1186	-0,73%	-1,2596	0,04%	0,1651	-0,43%	-0,3624
11	-0,10%	-0,9193	1,44%	2,6678	-0,02%	-0,1623	-0,75%	-1,2673	0,06%	0,2447	-0,38%	-0,3086
12	0,12%	1,1216	1,56%	2,8317	0,00%	0,0067	-0,75%	-1,2432	-0,05%	-0,2036	-0,42%	-0,3415
13	0,22%	2,1556	1,78%	3,1827	0,05%	0,4770	-0,70%	-1,1330	-0,14%	-0,5839	-0,56%	-0,4440
14	-0,05%	-0,4334	1,74%	3,0501	0,04%	0,3510	-0,66%	-1,0498	0,00%	0,0095	-0,56%	-0,4348
15	-0,20%	-1,8923	1,54%	2,6606	-0,20%	-1,7880	-0,86%	-1,3539	0,23%	0,9660	-0,33%	-0,2542

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.



Figura 3: Table 2c: Earnings announcements - average abnormal returns and cumulative average abnormal returns results

Annual and interim earnings announcements - Results of Average Abnormal Returns and Cumulative Average Abnormal Returns												
Day	Annual Announcements				Half-yearly Announcements				Quarterly Announcements			
	AR	Test t1	CAR	Test t2	AR	Test t1	CAR	Test t2	AR	Test t1	CAR	Test t2
-15	0,01%	0,0685	0,01%	0,0685	0,16%	1,0903	0,16%	1,0903	0,07%	0,6611	0,07%	0,6611
-14	0,28%	1,9127	0,29%	1,4009	-0,12%	-0,8352	0,04%	0,1804	0,14%	1,3063	0,20%	1,3912
-13	0,22%	1,4753	0,51%	1,9956	-0,12%	-0,7949	-0,08%	-0,3117	0,09%	0,8753	0,29%	1,6413
-12	-0,01%	-0,0868	0,49%	1,6849	0,19%	1,2669	0,11%	0,3635	0,09%	0,8347	0,38%	1,8387
-11	0,17%	1,1404	0,66%	2,0170	0,13%	0,9071	0,24%	0,7308	-0,16%	-1,5684	0,22%	0,9432
-10	0,20%	1,3786	0,86%	2,4040	0,09%	0,6376	0,33%	0,9274	0,02%	0,1809	0,24%	0,9349
-9	-0,16%	-1,0879	0,70%	1,8145	0,23%	1,5796	0,57%	1,4557	-0,13%	-1,2215	0,11%	0,4039
-8	0,12%	0,8310	0,82%	1,9911	0,16%	1,0665	0,72%	1,7387	-0,21%	-2,0269	-0,10%	-0,3389
-7	0,13%	0,9003	0,96%	2,1774	0,28%	1,9257	1,01%	2,2812	0,05%	0,4659	-0,05%	-0,1642
-6	0,08%	0,5622	1,04%	2,2434	0,25%	1,6820	1,25%	2,6960	0,10%	1,0005	0,05%	0,1606
-5	0,11%	0,7474	1,15%	2,3644	-0,03%	-0,2001	1,22%	2,5102	-0,07%	-0,6478	-0,01%	-0,0421
-4	0,15%	0,9984	1,29%	2,5519	0,17%	1,1681	1,39%	2,7405	-0,19%	-1,8256	-0,20%	-0,5674
-3	0,32%	2,1808	1,61%	3,0566	0,01%	0,0810	1,41%	2,6555	0,27%	2,6484	0,07%	0,1894
-2	-0,01%	-0,0659	1,60%	2,9279	0,10%	0,7049	1,51%	2,7473	0,18%	1,7488	0,25%	0,6499
-1	0,04%	0,2958	1,65%	2,9050	0,11%	0,7235	1,62%	2,8409	0,15%	1,4307	0,40%	0,9973
0	0,36%	2,4692	2,01%	3,4300	0,17%	1,1627	1,79%	3,0414	0,04%	0,3572	0,44%	1,0549
1	-0,13%	-0,8820	1,88%	3,1137	0,02%	0,1545	1,81%	2,9881	-0,33%	-3,2032	0,11%	0,2465
2	-0,43%	-2,9562	1,45%	2,3292	0,05%	0,3179	1,86%	2,9788	-0,01%	-0,0553	0,10%	0,2266
3	-0,05%	-0,3475	1,39%	2,1873	0,02%	0,1310	1,88%	2,9294	-0,28%	-2,7031	-0,18%	-0,3996
4	0,07%	0,5069	1,47%	2,2453	0,23%	1,5492	2,10%	3,2017	-0,39%	-3,8077	-0,57%	-1,2409
5	0,01%	0,0802	1,48%	2,2087	0,07%	0,4718	2,17%	3,2275	0,02%	0,1517	-0,56%	-1,1779
6	0,00%	-0,0104	1,48%	2,1557	0,10%	0,7117	2,28%	3,3050	-0,22%	-2,1209	-0,78%	-1,6030
7	0,06%	0,4071	1,54%	2,1932	-0,01%	-0,1012	2,26%	3,2113	-0,09%	-0,8342	-0,87%	-1,7417
8	0,04%	0,2782	1,58%	2,2038	0,09%	0,5968	2,35%	3,2655	-0,22%	-2,1649	-1,09%	-2,1469
9	-0,06%	-0,3806	1,52%	2,0831	0,26%	1,7960	2,61%	3,5587	-0,16%	-1,4986	-1,24%	-2,4033
10	0,05%	0,3704	1,58%	2,1153	0,23%	1,5408	2,84%	3,7918	-0,23%	-2,2201	-1,47%	-2,7920
11	0,12%	0,8470	1,70%	2,2388	-0,10%	-0,6968	2,74%	3,5868	-0,12%	-1,1940	-1,60%	-2,9696
12	0,31%	2,0964	2,01%	2,5946	-0,04%	-0,2754	2,70%	3,4701	0,01%	0,0667	-1,59%	-2,9035
13	0,32%	2,1551	2,32%	2,9497	0,20%	1,3430	2,90%	3,6592	0,03%	0,2629	-1,56%	-2,8042
14	-0,08%	-0,5367	2,24%	2,8021	0,24%	1,6605	3,14%	3,9008	-0,09%	-0,8580	-1,65%	-2,9137
15	0,02%	0,1179	2,26%	2,7777	-0,07%	-0,4529	3,07%	3,7560	-0,32%	-3,1284	-1,98%	-3,4282

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.

Figura 4: Table 3a: Dividend announcements - average abnormal returns and cumulative average abnormal returns results

Annual Announcements				
Day	AR	Test t1	CAR	Test t2
-15	-0,23%	-1,5299	-0,23%	-1,5299
-14	0,21%	1,3840	-0,02%	-0,1032
-13	-0,10%	-0,6759	-0,12%	-0,4745
-12	0,20%	1,3372	0,08%	0,2577
-11	-0,14%	-0,9555	-0,07%	-0,1969
-10	0,18%	1,2093	0,12%	0,3140
-9	0,38%	2,5233	0,49%	1,2444
-8	0,12%	0,7750	0,61%	1,4381
-7	-0,10%	-0,6851	0,51%	1,1274
-6	-0,24%	-1,6326	0,26%	0,5533
-5	0,22%	1,4534	0,48%	0,9658
-4	0,06%	0,3899	0,54%	1,0372
-3	0,06%	0,4101	0,60%	1,1103
-2	0,20%	1,3133	0,80%	1,4209
-1	0,31%	2,0452	1,10%	1,9008
0	0,28%	1,8846	1,38%	2,3116
1	0,48%	3,1874	1,86%	3,0156
2	0,03%	0,2020	1,89%	2,9782
3	-0,09%	-0,6305	1,80%	2,7542
4	-0,01%	-0,0894	1,78%	2,6644
5	-0,34%	-2,2369	1,45%	2,1121
6	-0,34%	-2,2903	1,11%	1,5752
7	0,03%	0,1815	1,13%	1,5784
8	-0,48%	-3,2171	0,65%	0,8885
9	-0,10%	-0,6395	0,56%	0,7427
10	-0,28%	-1,8387	0,28%	0,3677
11	0,00%	-0,0314	0,28%	0,3547
12	-0,32%	-2,1545	-0,05%	-0,0588
13	0,14%	0,9595	0,10%	0,1204
14	-0,01%	-0,0360	0,09%	0,1118
15	0,08%	0,5100	0,17%	0,2016

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.

Figura 5: Table 3b: Dividend announcements - average abnormal returns and cumulative average abnormal returns results

Day	Good News				Bad News				No News			
	AR	Test t1	CAR	Test t2	AR	Test t1	CAR	Test t2	AR	Test t1	CAR	Test t2
-15	-0,37%	-1,5644	-0,37%	-1,5644	-0,08%	-0,3408	-0,08%	-0,3408	0,22%	0,5934	0,22%	0,5934
-14	0,34%	1,4373	-0,03%	-0,0898	0,09%	0,3844	0,01%	0,0308	-0,22%	-0,5987	0,00%	-0,0038
-13	-0,36%	-1,5216	-0,39%	-0,9519	0,22%	0,9752	0,23%	0,5882	0,03%	0,0932	0,03%	0,0507
-12	0,57%	2,4216	0,18%	0,3865	-0,09%	-0,3810	0,15%	0,3189	-0,28%	-0,7741	-0,25%	-0,3431
-11	0,15%	0,6490	0,33%	0,6359	-0,48%	-2,1241	-0,34%	-0,6647	0,19%	0,5177	-0,06%	-0,0754
-10	0,28%	1,1941	0,61%	1,0680	0,06%	0,2819	-0,27%	-0,4917	-0,16%	-0,4495	-0,22%	-0,2523
-9	0,53%	2,2484	1,14%	1,8386	0,28%	1,2263	0,00%	0,0083	-0,43%	-1,1804	-0,65%	-0,6797
-8	-0,03%	-0,1296	1,11%	1,6740	0,16%	0,7230	0,17%	0,2633	-0,02%	-0,0499	-0,67%	-0,6534
-7	-0,09%	-0,4044	1,02%	1,4435	-0,05%	-0,2165	0,12%	0,1761	0,04%	0,1145	-0,63%	-0,5779
-6	-0,38%	-1,6311	0,63%	0,8536	0,01%	0,0223	0,13%	0,1741	0,13%	0,3667	-0,50%	-0,4323
-5	-0,05%	-0,1971	0,59%	0,7544	0,44%	1,9293	0,56%	0,7477	-0,18%	-0,4825	-0,67%	-0,5576
-4	0,46%	1,9800	1,05%	1,2939	-0,32%	-1,4206	0,24%	0,3058	-0,08%	-0,2280	-0,76%	-0,5997
-3	-0,03%	-0,1173	1,02%	1,2106	0,16%	0,7199	0,41%	0,4935	-0,07%	-0,2062	-0,83%	-0,6334
-2	0,42%	1,7978	1,45%	1,6471	-0,01%	-0,0232	0,40%	0,4693	-0,22%	-0,6053	-1,05%	-0,7721
-1	0,54%	2,2903	1,98%	2,1826	0,09%	0,4147	0,49%	0,5605	-0,33%	-0,8961	-1,38%	-0,9773
0	1,32%	5,6019	3,30%	3,5137	-0,73%	-3,2086	-0,24%	-0,2595	-0,30%	-0,8310	-1,68%	-1,1540
1	0,67%	2,8430	3,97%	4,0983	0,49%	2,1301	0,25%	0,2649	-0,68%	-1,8569	-2,35%	-1,5699
2	-0,12%	-0,5081	3,85%	3,8631	-0,01%	-0,0229	0,24%	0,2520	0,15%	0,4256	-2,20%	-1,4254
3	-0,19%	-0,8109	3,66%	3,5741	-0,22%	-0,9763	0,02%	0,0213	0,32%	0,8753	-1,88%	-1,1865
4	-0,07%	-0,2980	3,59%	3,4169	0,08%	0,3416	0,10%	0,0972	-0,02%	-0,0584	-1,90%	-1,1696
5	-0,17%	-0,7093	3,42%	3,1798	-0,64%	-2,7983	-0,54%	-0,5158	0,47%	1,2892	-1,43%	-0,8600
6	-0,58%	-2,4719	2,84%	2,5797	-0,01%	-0,0431	-0,55%	-0,5131	0,25%	0,6796	-1,19%	-0,6954
7	0,20%	0,8330	3,04%	2,6967	-0,11%	-0,4890	-0,66%	-0,6038	-0,06%	-0,1568	-1,24%	-0,7128
8	-0,64%	-2,7453	2,39%	2,0795	-0,18%	-0,8112	-0,84%	-0,7567	0,35%	0,9555	-0,90%	-0,5028
9	-0,24%	-1,0040	2,16%	1,8367	0,01%	0,0444	-0,83%	-0,7325	0,13%	0,3571	-0,77%	-0,4212
10	-0,54%	-2,3116	1,61%	1,3477	-0,16%	-0,7102	-1,00%	-0,8576	0,43%	1,1801	-0,34%	-0,1816
11	0,19%	0,8122	1,80%	1,4788	-0,30%	-1,3145	-1,30%	-1,0945	0,10%	0,2860	-0,23%	-0,1232
12	-0,12%	-0,5308	1,68%	1,3518	-0,42%	-1,8456	-1,72%	-1,4236	0,22%	0,6112	-0,01%	-0,0054
13	0,21%	0,9151	1,89%	1,4983	-0,03%	-0,1361	-1,75%	-1,4241	-0,04%	-0,1104	-0,05%	-0,0258
14	0,05%	0,2096	1,94%	1,5114	-0,23%	-1,0046	-1,98%	-1,5836	0,17%	0,4790	0,12%	0,0621
15	0,69%	2,9262	2,63%	2,0123	-0,51%	-2,2424	-2,49%	-1,9606	-0,10%	-0,2748	0,02%	0,0117

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.

Figura 6: Table 4a: Average abnormal trading volume results - earnings

Day	AV	Test t3	CAV	Test t4
-15	-0,01%	-0,4629	-0,01%	-0,4629
-14	0,02%	0,7853	0,01%	0,2280
-13	0,00%	0,0020	0,01%	0,1873
-12	0,00%	0,0389	0,01%	0,1816
-11	-0,03%	-1,1655	-0,02%	-0,3588
-10	-0,04%	-1,4527	-0,06%	-0,9206
-9	-0,03%	-1,2545	-0,09%	-1,3264
-8	0,02%	0,7025	-0,07%	-0,9924
-7	0,04%	1,6382	-0,03%	-0,3896
-6	0,05%	1,9224	0,02%	0,2384
-5	0,05%	1,9409	0,07%	0,8125
-4	0,04%	1,6063	0,11%	1,2416
-3	0,06%	2,1761	0,17%	1,7964
-2	0,01%	0,5378	0,18%	1,8748
-1	0,03%	1,1317	0,21%	2,1035
0	0,08%	3,1605	0,30%	2,8268
1	0,16%	6,0647	0,45%	4,2133
2	0,06%	2,3965	0,52%	4,6594
3	0,01%	0,5587	0,53%	4,6633
4	-0,03%	-1,0180	0,50%	4,3176
5	0,03%	1,0621	0,53%	4,4453
6	-0,02%	-0,7676	0,51%	4,1795
7	-0,03%	-1,1884	0,48%	3,8398
8	-0,03%	-0,9996	0,45%	3,5549
9	-0,01%	-0,2516	0,45%	3,4328
10	-0,02%	-0,7851	0,43%	3,2121
11	-0,01%	-0,5025	0,41%	3,0554
12	-0,02%	-0,7946	0,39%	2,8502
13	-0,02%	-0,8393	0,37%	2,6447
14	0,00%	-0,1783	0,37%	2,5677
15	-0,03%	-1,2641	0,33%	2,2990

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.

Figura 7: Table 4b: Average abnormal trading volume results - dividends

Day	AV	Test t3	CAV	Test t4
-15	-0,07%	-1,2192	-0,07%	-1,2192
-14	-0,03%	-0,6362	-0,10%	-1,3119
-13	-0,03%	-0,5595	-0,13%	-1,3942
-12	-0,03%	-0,5993	-0,16%	-1,5071
-11	-0,06%	-1,0602	-0,22%	-1,8221
-10	0,03%	0,6144	-0,19%	-1,4125
-9	0,00%	-0,0297	-0,19%	-1,3190
-8	-0,08%	-1,4829	-0,27%	-1,7581
-7	-0,09%	-1,7248	-0,36%	-2,2325
-6	-0,10%	-1,7995	-0,46%	-2,6870
-5	-0,02%	-0,3603	-0,48%	-2,6705
-4	-0,03%	-0,6032	-0,51%	-2,7310
-3	-0,05%	-0,9357	-0,56%	-2,8834
-2	-0,07%	-1,2402	-0,63%	-3,1099
-1	0,04%	0,7804	-0,58%	-2,8030
0	0,09%	1,6462	-0,50%	-2,3024
1	0,09%	1,6679	-0,41%	-1,8291
2	0,07%	1,3279	-0,33%	-1,4646
3	0,06%	1,1587	-0,27%	-1,1597
4	0,03%	0,5733	-0,24%	-1,0022
5	0,01%	0,2579	-0,23%	-0,9217
6	-0,05%	-0,8893	-0,28%	-1,0902
7	-0,04%	-0,7451	-0,32%	-1,2216
8	-0,03%	-0,6314	-0,35%	-1,3247
9	0,06%	1,0702	-0,29%	-1,0839
10	0,00%	-0,0204	-0,29%	-1,0669
11	0,00%	0,0180	-0,29%	-1,0435
12	0,04%	0,6958	-0,25%	-0,8932
13	0,02%	0,4452	-0,23%	-0,7950
14	0,06%	1,0366	-0,17%	-0,5923
15	0,23%	4,3671	0,06%	0,2016

\* Parameters statistically significant at 1% significance level.

\*\* Parameters statistically significant at 5% significance level.

Figura 8: Anexo 01

	Earnings announcements	Dividend announcements
Altri, S.G.P.S., S.A.	22	3
Banco Comercial Português, S.A.	24	8
Banco Espírito Santo, S.A.	24	6
Banco Português de Investimento, S.G.P.S., S.A.	24	6
Brisa - Auto-Estradas de Portugal, S.A.	24	6
Cimpor - Cimentos de Portugal, S.G.P.S., S.A.	24	6
Cofina, S.G.P.S., S.A.	10	4
EDP - Electricidade de Portugal, S.A.	24	6
EDP Renováveis, S.A.	10	0
Galp Energia, S.G.P.S., S.A.	17	8
Impresa, S.G.P.S., S.A.	12	0
Jerónimo Martins, S.G.P.S., S.A.	24	8
Grupo Media Capital, S.G.P.S., S.A.	6	0
Mota-Engil, S.G.P.S., S.A.	22	5
Novabase, S.G.P.S., S.A.	10	0
Portugal Telecom, S.A.	24	7
Pararede, S.G.P.S., S.A.	8	0
Portucel, S.A.	16	5
Redes Energéticas Nacionais, S.G.P.S., S.A.	13	3
Semapa - Sociedade de Investimento e Gestão, S.G.P.S., S.A.	24	7
Sonae, S.G.P.S., S.A.	24	5
Sonae Industria, S.G.P.S., S.A.	18	1
Sonae.com, S.G.P.S., S.A.	24	0
Teixeira Duarte, S.A.	8	2
ZON Multimédia, S.G.P.S., S.A.	24	6
<b>Total</b>	<b>460</b>	<b>102</b>

Figura 9: Anexo 02

	<b>Good News</b>	<b>Bad News</b>	<b>No News</b>	<b>Total</b>
<b>Earnings Announcements</b>				
Earnings events	226	196	38	460
Events Percentage	49,1%	42,6%	8,3%	
<b>Dividend Announcements</b>				
Dividend events	45	43	14	102
Events Percentage	44,1%	42,2%	13,7%	
	<b>Annual earning</b>	<b>Half-yearly earnings</b>	<b>Quarterly earnings</b>	<b>Total</b>
<b>Earnings Announcements</b>				
Earnings events	115	115	230	460
Events Percentage	25,0%	25,0%	50,0%	

Figura 10: Anexo 03a

Anúncio Resultados	Altri	BCP	BES	BPI	Brisa	Cimpor	Cofina	Corticeira Amorim	EDP
4º T - 2004		25-01-2005	03-02-2005	27-01-2005	22-02-2005	17-03-2005	16-03-2005	Sai 1 Jan 2006	01-03-2005
1º T - 2005		19-04-2005	03-05-2005	21-04-2005	26-04-2005	25-05-2005	29-04-2005		24-05-2005
2º T - 2005		08-09-2005	20-07-2005	28-07-2005	21-07-2005	26-07-2005	30-09-2005		29-07-2005
3º T - 2005		27-10-2005	19-10-2005	27-10-2005	20-10-2005	25-10-2005	23-11-2005		27-10-2005
4º T - 2005	08-03-2006	24-01-2006	02-02-2006	26-01-2006	22-02-2006	16-03-2006	09-03-2006	Sai 3/09/2007	07-03-2006
1º T - 2006	26-04-2006	24-04-2006	24-04-2006	26-04-2006	28-04-2006	30-05-2006	27-04-2006		25-05-2006
2º T - 2006	06-09-2006	25-07-2006	25-07-2006	27-07-2006	26-07-2006	29-08-2006	08-09-2006		28-07-2006
3º T - 2006	25-10-2006	24-10-2006	24-10-2006	23-10-2006	31-10-2006	13-11-2006	26-10-2006		09-11-2006
4º T - 2006	07-03-2007	30-01-2007	01-02-2007	25-01-2007	27-02-2007	15-03-2007	08-03-2007		08-03-2007
1º T - 2007	09-05-2007	25-04-2007	26-04-2007	24-04-2007	27-04-2007	18-05-2007	10-05-2007		04-05-2007
2º T - 2007	05-09-2007	24-07-2007	25-07-2007	27-07-2007	26-07-2007	24-08-2007			26-07-2007
3º T - 2007	07-11-2007	30-10-2007	25-10-2007	25-10-2007	30-10-2007	14-11-2007			08-11-2007
4º T - 2007	12-03-2008	19-02-2008	28-01-2008	28-01-2008	26-02-2008	26-03-2008			06-03-2008
1º T - 2008	28-05-2008	12-05-2008	29-04-2008	23-04-2008	29-04-2008	28-05-2008			08-05-2008
2º T - 2008	27-08-2008	22-07-2008	30-07-2008	24-07-2008	29-07-2008	27-08-2008			29-07-2008
3º T - 2008	05-11-2008	28-10-2008	29-10-2008	24-10-2008	28-10-2008	27-11-2008			05-11-2008
4º T - 2008	25-03-2009	17-02-2009	25-02-2009	23-01-2009	27-02-2009	17-03-2009			05-03-2009
1º T - 2009	27-05-2009	11-05-2009	05-05-2009	22-04-2009	29-04-2009	15-05-2009			07-05-2009
2º T - 2009	26-08-2009	29-07-2009	28-07-2009	23-07-2009	29-07-2009	26-08-2009			30-07-2009
3º T - 2009	25-11-2009	11-11-2009	27-10-2009	22-10-2009	29-10-2009	25-11-2009			29-10-2009
4º T - 2009	10-03-2010	10-02-2010	27-01-2010	29-01-2010	25-02-2010	03-03-2010			04-03-2010
1º T - 2010	05-05-2010	28-04-2010	03-05-2010	23-04-2010	28-04-2010	11-05-2010			06-05-2010
2º T - 2010	25-08-2010	28-07-2010	26-07-2010	21-07-2010	28-07-2010	17-08-2010			29-07-2010
3º T - 2010	03-11-2010	27-10-2010	02-11-2010	29-10-2010	02-11-2010	09-11-2010			04-11-2010
4º T - 2010									

Figura 11: Anexo 03b

Anúncio Resultados	Gescartão	GALP	Inapa	Impresa	JM	Media Capital	Mota Engil	Nova Base	PT	Pararede
4º T - 2004	Sai 1 Julho 2005			07-03-2005	09-03-2005	10-03-2005		23-02-2005	03-03-2005	05-04-2005
1º T - 2005				26-04-2005	27-04-2005	04-05-2005		27-04-2005	03-05-2005	30-05-2005
2º T - 2005				25-07-2005	03-08-2005	26-07-2005		31-08-2005	15-09-2005	23-09-2005
3º T - 2005				25-10-2005	26-10-2005	07-11-2005		11-11-2005	02-11-2005	18-11-2005
4º T - 2005	Sai dia 3 Julho 2006	30-11-2006		09-03-2006	21-02-2006	15-02-2006	15-03-2006	14-02-2006	06-03-2006	05-05-2006
1º T - 2006				27-04-2006	03-05-2006	26-04-2006	25-05-2006	26-04-2006	18-05-2006	12-05-2006
2º T - 2006				24-07-2006	27-07-2006		06-09-2006	26-07-2006	14-09-2006	12-07-2006
3º T - 2006				23-10-2006	02-11-2006		15-11-2006	25-10-2006	09-11-2006	11-10-2006
4º T - 2006				08-03-2007	01-03-2007		12-03-2007	07-02-2007	09-02-2007	Sai 2 Jan 2007
1º T - 2007				03-05-2007	03-05-2007		30-05-2007	24-04-2007	10-05-2007	
2º T - 2007				31-07-2007	26-07-2007		19-09-2007	Sai 2/07/2007	07-08-2007	
3º T - 2007				29-10-2007	25-10-2007		14-11-2007		14-11-2007	
4º T - 2007					27-02-2008		12-03-2008		28-02-2008	
1º T - 2008				Sai 4 Março 2008	30-04-2008		21-05-2008		08-05-2008	
2º T - 2008					30-07-2008		29-08-2008		07-08-2008	
3º T - 2008					30-10-2008		12-11-2008		13-11-2008	
4º T - 2008					06-03-2009		31-03-2009		18-02-2009	
1º T - 2009					06-05-2009		15-05-2009		07-05-2009	
2º T - 2009					27-07-2009		31-08-2009		06-08-2009	
3º T - 2009					29-10-2009		20-11-2009		17-11-2009	
4º T - 2009					03-03-2010		15-03-2010		04-03-2010	
1º T - 2010					28-04-2010		13-05-2010		06-05-2010	
2º T - 2010					28-07-2010		31-08-2010		05-08-2010	
3º T - 2010					28-10-2010		18-11-2010		03-11-2010	
4º T - 2010				Saida 21 Março 2011						



Figura 12: Anexo 03c

Anúncio Resultados	Portucel	Reditus	REN	Semapa	Soares da Costa	Sonae	Sonae Industria	Sonaeacom	Teixeira Duarte	ZON
4º T - 2004		Sai Dez 2005		16-03-2005		10-03-2005		25-02-2005		03-03-2005
1º T - 2005				31-05-2005		16-05-2005		28-04-2005		03-05-2005
2º T - 2005				12-09-2005		09-09-2005		26-07-2005		15-09-2005
3º T - 2005				28-11-2005		03-11-2005		27-10-2005		02-11-2005
4º T - 2005	Sai 3 Jan 2005- Entrou dia 2 Jan 2007			17-03-2006		07-04-2006		08-03-2006		06-03-2006
1º T - 2006				31-05-2006		12-05-2006		02-05-2006		18-05-2006
2º T - 2006				29-09-2006		07-09-2006	31-08-2006	27-07-2006		14-09-2006
3º T - 2006				29-11-2006		09-11-2006	02-11-2006	30-10-2006		09-11-2006
4º T - 2006	15-02-2007			05-03-2007		20-03-2007	01-03-2007	15-03-2007	Entra 04/03/2008	09-02-2007
1º T - 2007	30-04-2007			25-05-2007		10-05-2007	17-05-2007	26-04-2007		10-05-2007
2º T - 2007	06-08-2007			28-09-2007		30-08-2007	29-08-2007	27-07-2007		07-08-2007
3º T - 2007	31-10-2007			30-10-2007		29-11-2007	07-11-2007	29-10-2007		16-10-2007
4º T - 2007	13-02-2008			07-03-2008	Saiu 30 Junho 2008	17-03-2008	05-03-2008	03-03-2008	31-03-2008	27-02-2008
1º T - 2008	30-04-2008			02-05-2008		28-05-2008	07-05-2008	05-05-2008	15-05-2008	07-05-2008
2º T - 2008	20-08-2008			29-07-2008		06-08-2008	31-07-2008	29-07-2008	29-08-2008	30-07-2008
3º T - 2008	30-10-2008			28-10-2008		13-11-2008	06-11-2008	29-10-2008	28-11-2008	10-11-2008
4º T - 2008	05-02-2009			25-02-2009		18-03-2009	19-02-2009	09-03-2009	09-03-2009	04-03-2009
1º T - 2009	28-04-2009			29-04-2009		21-05-2009	06-05-2009	05-05-2009	09-06-2009	06-05-2009
2º T - 2009	29-07-2009			28-07-2009		26-08-2009	30-07-2009	31-07-2009	31-08-2009	31-07-2009
3º T - 2009	27-10-2009			28-10-2009		13-11-2009	05-11-2009	02-11-2009	26-11-2009	18-11-2009
4º T - 2009	02-02-2010			26-02-2010		17-03-2010	24-02-2010	08-03-2010	Sai 01/03/2010	01-03-2010
1º T - 2010	27-04-2010			03-05-2010		20-05-2010	13-05-2010	07-05-2010		11-05-2010
2º T - 2010	27-07-2010			27-07-2010		26-08-2010	29-07-2010	29-07-2010		29-07-2010
3º T - 2010	27-10-2010			03-11-2010		16-11-2010	04-11-2010	03-11-2010		22-10-2010
4º T - 2010										

Figura 13: Anexo 04a

Anúncio Dividendos	Altri	BCP	BES	BPI	Brisa	Cimpor	Cofina	Corticeira Amorim	EDP
1º T - 2000	Entrou 1 Julho 2005	20-03-2000	29-03-2000	11-04-2000	05-04-2000	28-04-2000		Entra dia 2 Jan 2004 14-04-2005	18-05-2000
2º T - 2000		27-03-2001	30-03-2001	09-04-2001	02-04-2001	10-05-2001	16-04-2003		15-05-2001
3º T - 2000		28-03-2002	27-03-2002	09-04-2002	28-03-2002	21-05-2002	07-04-2004		21-05-2002
4º T - 2000		27-02-2003	26-03-2003	14-04-2003	21-03-2003	27-05-2003	14-04-2005		30-05-2003
1º T - 2001		19-03-2004	31-03-2004	23-04-2004	01-04-2004	04-06-2004	07-04-2006		05-04-2004
2º T - 2001		22-10-2004	30-03-2005	21-04-2005	12-04-2005	05-05-2005	06-12-2006		08-04-2005
3º T - 2001		21-03-2005	17-04-2006	24-04-2006	24-03-2006	08-05-2006	02-04-2007		12-04-2006
4º T - 2001		30-09-2005	29-03-2007	19-04-2007	11-04-2007	18-05-2007			18-04-2007
1º T - 2002		21-03-2006	31-03-2008	23-04-2008	10-04-2008	13-05-2008			18-04-2008
2º T - 2002		30-10-2006	16-03-2009	23-04-2009	14-04-2009	22-05-2009			23-04-2009
3º T - 2002		30-05-2007	06-04-2010	23-04-2010	07-04-2010	07-05-2010			27-04-2010
4º T - 2002		13-11-2007							
1º T - 2003		31-03-2009							
2º T - 2003		15-04-2010							
3º T - 2003									
4º T - 2003									
1º T - 2004									
2º T - 2004									
3º T - 2004									
4º T - 2004									
1º T - 2005									
2º T - 2005		05-04-2006							
3º T - 2005		02-04-2007							
4º T - 2005		09-06-2008							
1º T - 2006	Sai 1 Jan 2006							Sai 3/09/2007	
2º T - 2006									
3º T - 2006									
4º T - 2006									
1º T - 2007									
2º T - 2007									
3º T - 2007									
4º T - 2007									
1º T - 2008									
2º T - 2008									
3º T - 2008									
4º T - 2008									
1º T - 2009									
2º T - 2009									
3º T - 2009									
4º T - 2009									
1º T - 2010									
2º T - 2010									
3º T - 2010									
4º T - 2010									

Figura 14: Anexo 04b

Anúncio Dividendos	EDPR	Gescartão	GALP	Ibersol	Inapa	Impresa	JM	Media Capital	Mota Engil	Nova Base
1º T - 2000							05-05-2000			
2º T - 2000							25-05-2001			Entra Janeiro 2001
3º T - 2000							30-03-2005			
4º T - 2000							11-04-2006			
1º T - 2001							30-03-2007			
2º T - 2001							14-03-2008			
3º T - 2001							07-04-2009			
4º T - 2001							09-04-2010			
1º T - 2002							22-11-2010			
2º T - 2002							15-12-2010			
3º T - 2002										
4º T - 2002										
1º T - 2003										
2º T - 2003										
3º T - 2003										
4º T - 2003										
1º T - 2004										
2º T - 2004										
3º T - 2004										
4º T - 2004										
1º T - 2005										
2º T - 2005										
3º T - 2005										
4º T - 2005										
1º T - 2006										
2º T - 2006										
3º T - 2006										
4º T - 2006										
1º T - 2007										
2º T - 2007										
3º T - 2007										
4º T - 2007										
1º T - 2008										
2º T - 2008										
3º T - 2008										
4º T - 2008										
1º T - 2009										
2º T - 2009										
3º T - 2009										
4º T - 2009										
1º T - 2010										
2º T - 2010										
3º T - 2010										
4º T - 2010										

Figura 15: Anexo 04c

Anúncio Dividendos	PT	Pararede	Portucel	Reditus	REN	SAG	Semapa	Soares da Costa	Sonae	Sonae Industria
1º T - 2000	27-04-2000	Entrou 12/06/2000	09-05-2000			Entrou 12/06/2000	19-04-2000		17-04-2000	
2º T - 2000	13-03-2001		11-04-2001			06-04-2001	10-04-2001		06-04-2001	
3º T - 2000	24-04-2002		24-04-2002			02-10-2001	08-04-2002		21-03-2002	
4º T - 2000	07-04-2003		04-04-2003			12-04-2002	03-04-2003		12-03-2003	
1º T - 2001	04-03-2004		21-04-2004			18-09-2002	26-04-2004		08-04-2004	
2º T - 2001	06-05-2005					03-04-2003	12-04-2005		18-04-2005	
3º T - 2001	02-05-2006					01-04-2004	10-04-2006		06-04-2006	
4º T - 2001	02-05-2007						05-04-2007		04-05-2007	
1º T - 2002	03-04-2008						24-03-2008		28-04-2008	
2º T - 2002	06-04-2009						08-04-2009		27-04-2009	
3º T - 2002	21-04-2010						28-04-2010			
4º T - 2002	16-12-2010						30-11-2010			
1º T - 2003										
2º T - 2003										
3º T - 2003										
4º T - 2003										
1º T - 2004										
2º T - 2004						Sai 1 Julho 2004				
3º T - 2004				Entra 3 Jan 2005						
4º T - 2004										
1º T - 2005										
2º T - 2005										
3º T - 2005										
4º T - 2005				Sai Dez 2005						
1º T - 2006			Sai 3 Jan 2005- Entrou dia 2 Jan 2007							Entrou dia 3 Julho 2006 28-04-2008
2º T - 2006										
3º T - 2006										
4º T - 2006		Sai 2 Jan 2007	30-03-2007		Entrou dia 5 Setembro 2007			Entrou dia 2 Julho 2007		
1º T - 2007			03-12-2007							
2º T - 2007			20-03-2008		30-04-2008					
3º T - 2007			24-03-2009		08-04-2009					
4º T - 2007			26-03-2010		25-03-2010					
1º T - 2008										
2º T - 2008								Saiu 30 Junho 2008		
3º T - 2008										
4º T - 2008										
1º T - 2009										
2º T - 2009										
3º T - 2009										
4º T - 2009										
1º T - 2010										
2º T - 2010										
3º T - 2010										
4º T - 2010										

Figura 16: Anexo 04d

Anúncio Dividendos	Sonaecom	Teixeira Duarte	Telecel	ZON
1º T - 2000	Entrou 12/06/2000			29-03-2004
2º T - 2000			25-07-2000	13-05-2005
3º T - 2000			12-07-2001	02-05-2006
4º T - 2000				02-05-2007
1º T - 2001				22-04-2008
2º T - 2001				29-04-2009
3º T - 2001				19-04-2010
4º T - 2001				
1º T - 2002				
2º T - 2002				
3º T - 2002				
4º T - 2002		Entra 04/04/2003		
1º T - 2003			Sai 3/04/2003	
2º T - 2003				
3º T - 2003				
4º T - 2003				
1º T - 2004		Entra 1 Julho		
2º T - 2004				
3º T - 2004		Sai 3 Jan 2005		
4º T - 2004				
1º T - 2005				
2º T - 2005				
3º T - 2005				
4º T - 2005				
1º T - 2006				
2º T - 2006				
3º T - 2006				
4º T - 2006				
1º T - 2007				
2º T - 2007		Entra 04/03/2008		
3º T - 2007				
4º T - 2007		30-05-2008		
1º T - 2008		09-06-2009		
2º T - 2008				
3º T - 2008				
4º T - 2008				
1º T - 2009				
2º T - 2009				
3º T - 2009				
4º T - 2009				
1º T - 2010		Sai 01/03/2010		
2º T - 2010				
3º T - 2010				
4º T - 2010				

**Companies included in the initial sample**

Altri, S.G.P.S., S.A.

Banco Comercial Português, S.A.

Banco Espírito Santo, S.A.

Banco Português de Investimento, S.G.P.S., S.A.

Brisa - Auto-Estradas de Portugal, S.A.

Cimpor - Cimentos de Portugal, S.G.P.S., S.A.

Cofina, S.G.P.S., S.A.

EDP - Electricidade de Portugal, S.A.

EDP Renováveis, S.A.

Galp Energia, S.G.P.S., S.A.

Impresa, S.G.P.S., S.A.

Jerónimo Martins, S.G.P.S., S.A.

Grupo Media Capital, S.G.P.S., S.A. \*

Mota-Engil, S.G.P.S., S.A.

Novabase, S.G.P.S., S.A.

Portugal Telecom, S.A.

Pararede, S.G.P.S., S.A. \*

Portucel, S.A.

Redes Energéticas Nacionais, S.G.P.S., S.A.

Semapa - Sociedade de Investimento e Gestão, S.G.P.S., S.A.

Sonae, S.G.P.S., S.A.

Sonae Indústria, S.G.P.S., S.A.

Sonae.com, S.G.P.S., S.A.

Teixeira Duarte, S.A.

ZON Multimédia, S.G.P.S., S.A.

\* Company excluded from the final sample.

Figura 1: Anexo 05a

Figura 2: Anexo 05b

**Earnings and dividend announcements made by the companies included in the initial sample**

	Earnings announcements	Dividend announcements
Altri, S.G.P.S., S.A.	22	3
Banco Comercial Português, S.A.	24	8
Banco Espírito Santo, S.A.	24	6
Banco Português de Investimento, S.G.P.S., S.A.	24	6
Brisa - Auto-Estradas de Portugal, S.A.	24	6
Cimpor - Cimentos de Portugal, S.G.P.S., S.A.	24	6
Cofina, S.G.P.S., S.A.	10	4
EDP - Electricidade de Portugal, S.A.	24	6
EDP Renováveis, S.A.	10	0
Galp Energia, S.G.P.S., S.A.	17	8
Impresa, S.G.P.S., S.A.	12	0
Jerónimo Martins, S.G.P.S., S.A.	24	8
Grupo Media Capital, S.G.P.S., S.A. *	6	0
Mota-Engil, S.G.P.S., S.A.	22	5
Novabase, S.G.P.S., S.A.	10	0
Portugal Telecom, S.A.	24	7
Pararede, S.G.P.S., S.A. *	8	0
Portucel, S.A.	16	5
Redes Energéticas Nacionais, S.G.P.S., S.A.	13	3
Semapa - Sociedade de Investimento e Gestão, S.G.P.S., S.A.	24	7
Sonae, S.G.P.S., S.A.	24	5
Sonae Industria, S.G.P.S., S.A.	18	1
Sonae.com, S.G.P.S., S.A.	24	0
Teixeira Duarte, S.A.	8	2
ZON Multimédia, SGPS, S.A.	24	6
<b>Total</b>	<b>460</b>	<b>102</b>

\* Company excluded from the final sample.

Figura 3: Anexo 05c

Daily stock returns descriptive statistics		
	Average	Standard Deviation
Altri	0.10%	2.4730%
BCP	-0.05%	1.9670%
BES	-0.05%	1.5167%
BPI	0.03%	2.0850%
Brisa	0.03%	1.5443%
Cimpor	0.06%	2.0938%
Cofina	0.04%	1.3124%
EDP	0.03%	1.6940%
EDPR	0.03%	2.4407%
GALP	0.03%	2.2078%
Impresa	-0.07%	1.7245%
JM	0.11%	2.1238%
Media Capital *	0.08%	1.0377%
Mota Engil	-0.07%	2.2033%
Nova Base	-0.03%	1.0441%
PT	0.01%	1.6884%
Pararede *	0.04%	2.7195%
Portucel	-0.11%	1.7451%
REN	-0.03%	1.6348%
Semapa	0.06%	1.4383%
Sonae	-0.04%	2.2144%
Sonae Indústria	-0.07%	2.4088%
Sonae.com	0.05%	2.1290%
Teixeira Duarte	0.09%	3.9159%
ZON	-0.03%	1.7096%

\* Company excluded from the final sample.



Figura 4: Anexo 05d

**Daily stock relative range descriptive statistics**

	<b>Average</b>	<b>Standard Deviation</b>
Altri	2.81%	2.3065%
BCP	2.43%	1.6663%
BES	2.01%	1.5197%
BPI	2.30%	1.8285%
Brisa	2.02%	1.4367%
Cimpor	2.43%	2.0299%
Cofina	1.70%	1.3186%
EDP	1.95%	1.4244%
EDPR	3.02%	2.0060%
GALP	2.71%	1.7862%
Impresa	2.20%	1.7754%
JM	2.53%	2.0729%
Media Capital *	1.32%	1.1004%
Mota Engil	2.91%	2.0809%
Nova Base	1.26%	0.9554%
PT	1.94%	1.5073%
Pararede *	4.21%	1.8661%
Portucel	2.37%	1.4584%
REN	2.00%	1.3349%
Semapa	2.12%	1.3889%
Sonae	2.52%	2.0868%
Sonae Indústria	3.02%	2.2942%
Sonae.com	2.76%	2.0562%
Teixeira Duarte	4.83%	3.2428%
ZON	2.22%	1.8611%

\* Company excluded from the final sample.

Figura 5: Anexo 05e

**Daily transaction volume descriptive statistics**

	Average	Standard Deviation
Altri	1.10%	1.2236%
BCP	0.55%	0.4219%
BES	0.18%	0.1700%
BPI	0.24%	0.3414%
Brisa	0.27%	0.1940%
Cimpor	0.31%	0.6322%
Cofina	0.43%	0.6410%
EDP	0.50%	0.4475%
EDPR	0.50%	0.2893%
GALP	1.21%	1.1654%
Impresa	0.68%	0.8194%
JM	0.47%	0.4101%
Media Capital *	0.30%	0.2313%
Mota Engil	0.41%	0.4057%
Nova Base	0.52%	0.6177%
PT	0.24%	0.3319%
Pararede *	0.19%	0.1998%
Portucel	0.39%	0.5134%
REN	0.54%	0.6303%
Semapa	0.45%	0.4559%
Sonae	0.43%	0.7190%
Sonae Indústria	0.69%	0.8010%
Sonae.com	0.34%	0.4681%
Teixeira Duarte	1.10%	1.2236%
ZON	0.55%	0.4219%

\* Company excluded from the final sample.

Figura 6: Anexo 05f

**Market Model Estimation Results – Stock price analysis**

	$\alpha_i$	$\beta_i$	$R^2$	N
Altri	0.064041 (0.4035)	1.098165 (0.0000)	0.323752	706
BCP	-0.023689 (0.6563)	1.168571 (0.0000)	0.513626	666
BES	-0.062641 (0.1372)	0.908779 (0.0000)	0.467058	693
BPI	0.008277 (0.8922)	1.105911 (0.0000)	0.323916	789
Brisa	0.023185 (0.6023)	0.846505 (0.0000)	0.399475	725
Cimpor	0.032035 (0.5770)	1.036522 (0.0000)	0.441518	744
Cofina	-0.038542 (0.5513)	0.86735 (0.0000)	0.207459	333
EDP	0.000336 (0.9935)	1.037088 (0.0000)	0.577132	709
EDPR	-0.019488 (0.8329)	1.150766 (0.0000)	0.525455	333
GALP	0.090530 (0.2900)	1.152007 (0.0000)	0.403549	400
Impresa	-0.127394 (0.0942)	0.828398 (0.0000)	0.156551	439
JM	0.109054 (0.1159)	0.901067 (0.0000)	0.247612	708
Media Capital *	0.069104 (0.3589)	0.111951 (0.3537)	0.004391	198
Mota Engil	-0.035185 (0.573)	1.169432 (0.0000)	0.461445	671
Nova Base	-0.100258 (0.0798)	0.480321 (0.0000)	0.076507	327
PT	0.022207 (0.6388)	0.885947 (0.0000)	0.454245	697
Pararede *	-0.007494 (0.9633)	0.425022 (0.1235)	0.008247	289
Portucel	-0.039118 (0.5519)	0.791387 (0.0000)	0.407035	421
REN	-0.000874 (0.9850)	0.584009 (0.0000)	0.315552	422
Semapa	0.064182 (0.1726)	0.615970 (0.0000)	0.252121	701
Sonae	-0.009780 (0.8596)	1.262319 (0.0000)	0.531561	753
Sonae Indústria	-0.090098 (0.2018)	1.275109 (0.0000)	0.4972	588
Sonae.com	0.016924 (0.7948)	0.952408 (0.0000)	0.259342	795
Teixeira Duarte	0.164917 (0.4064)	1.213524 (0.0000)	0.364865	249
ZON	-0.029118 (0.5598)	0.836543 (0.0000)	0.373629	736

P-value is presented in parentheses below the regression coefficients and test whether they differ from zero.

\* Company excluded from the final sample.

Figura 7: Anexo 05g

	$\beta_i$	$R^2$	N
Altri	1.099422 (0.0000)	0.32308	706
BCP	1.168899 (0.0000)	0.51348	666
BES	0.907954 (0.0000)	0.46535	693
BPI	1.106030 (0.0000)	0.3239	789
Brisa	0.846729 (0.0000)	0.399249	725
Cimpor	1.036958 (0.0000)	0.441283	744
Cofina	0.860433 (0.0000)	0.206607	333
EDP	1.037095 (0.0000)	0.577132	709
EDPR	1.150443 (0.0000)	0.525391	333
GALP	1.148770 (0.0000)	0.401867	400
Impresa	0.815056 (0.0000)	0.151122	439
JM	0.901175 (0.0000)	0.244972	708
Media Capital *	0.13298 (0.2618)	0.000095	198
Mota Engil	1.170058 (0.0000)	0.46119	671
Nova Base	0.44346 (0.0000)	0.067734	327
PT	0.885705 (0.0000)	0.454072	697
Pararede *	0.422524 (0.1177)	0.00824	289
Portucel	0.793173 (0.0000)	0.406533	421
REN	0.584027 (0.0000)	0.315552	422
Semapa	0.615990 (0.0000)	0.250127	701
Sonae	1.262461 (0.0000)	0.531542	753
Sonae Indústria	1.274350 (0.0000)	0.495799	588
Sonae.com	0.952802 (0.0000)	0.259279	795
Teixeira Duarte	1.210781 (0.0000)	0.363086	249
ZON	0.836670 (0.0000)	0.373338	736

P-value is presented in parentheses below the regression coefficients and test whether they differ from zero.

\* Company excluded from the final sample.

Figura 8: Anexo 05h

**Market Model Estimation Results – Relative range analysis**

	$\alpha_i$	$\beta_i$	$R^2$	N
Altri	1.126831 (0.0000)	1.298687 (0.0000)	0.342783	707
BCP	0.776562 (0.0000)	1.34024 (0.0000)	0.504199	667
BES	0.364559 (0.0000)	1.382876 (0.0000)	0.563446	694
BPI	0.526427 (0.0000)	1.521065 (0.0000)	0.390467	790
Brisa	0.582746 (0.0000)	1.193816 (0.0000)	0.534726	726
Cimpor	0.656106 (0.0000)	1.360316 (0.0000)	0.556128	745
Cofina	0.632404 (0.0000)	1.33269 (0.0000)	0.199193	334
EDP	0.580307 (0.0000)	1.098100 (0.0000)	0.62565	710
EDPR	1.154696 (0.0000)	1.167693 (0.0000)	0.45209	334
GALP	1.047037 (0.0000)	1.199999 (0.0000)	0.390511	401
Impresa	0.946207 (0.0000)	1.390668 (0.0000)	0.261314	440
JM	0.743819 (0.0000)	1.454344 (0.0000)	0.438568	709
Media Capital *	1.555638 (0.0000)	-0.300981 (0.2622)	0.006378	199
Mota Engil	1.181861 (0.0000)	1.323435 (0.0000)	0.482854	672
Nova Base	0.693979 (0.0000)	0.756449 (0.0000)	0.063048	328
PT	0.744768 (0.0000)	0.953167 (0.0000)	0.465547	698
Pararede *	3.801856 (0.0000)	0.570105 (0.0632)	0.011936	290
Portucel	1.097018 (0.0000)	0.849725 (0.0000)	0.379532	422
REN	0.888222 (0.0000)	0.725002 (0.0000)	0.297118	423
Semapa	1.069259 (0.0000)	0.861248 (0.0000)	0.346345	702
Sonae	0.690353 (0.0000)	1.454042 (0.0000)	0.58462	754
Sonae Indústria	1.119707 (0.0000)	1.412355 (0.0000)	0.431689	589
Sonae.com	1.174893 (0.0000)	1.317633 (0.0000)	0.318541	796
Teixeira Duarte	2.52705 (0.0000)	1.169066 (0.0000)	0.266047	250
ZON	0.691879 (0.0000)	1.220575 (0.0000)	0.469277	737

P-value is presented in parentheses below the regression coefficients and test whether they differ from zero.

\* Company excluded from the final sample.

Figura 9: Anexo 05i

**Market Model Estimation Results – Trading volume analysis**

	$\alpha_i$	$\beta_i$	$R^2$	N
Altri	0.770998 (0.0000)	0.717049 (0.0005)	0.017317	707
BCP	-0.094968 (0.0003)	1.459266 (0.0000)	0.530817	667
BES	0.072689 (0.0000)	0.249823 (0.0000)	0.09887	694
BPI	0.021960 (0.4054)	0.482802 (0.0000)	0.093303	790
Brisa	0.126681 (0.0000)	0.324817 (0.0000)	0.122035	726
Cimpor	0.052089 (0.2973)	0.55943 (0.0000)	0.043379	745
Cofina	0.237578 (0.0010)	0.441441 (0.0029)	0.02647	334
EDP	-0.067650 (0.0206)	1.264347 (0.0000)	0.403814	710
EDPR	0.271799 (0.0000)	0.547304 (0.0000)	0.122001	334
GALP	0.324562 (0.0201)	1.892479 (0.0000)	0.107813	401
Impresa	0.496743 (0.0000)	0.410564 (0.0151)	0.013398	440
JM	0.262730 (0.0000)	0.469900 (0.0000)	0.063286	709
Media Capital *	0.345125 (0.0001)	-0.416494 (0.0352)	0.022326	199
Mota Engil	0.143572 (0.0000)	0.340943 (0.0000)	0.111218	672
Nova Base	0.291429 (0.0000)	0.281433 (0.0032)	0.026388	328
PT	-0.060206 (0.1957)	1.291015 (0.0000)	0.21745	698
Pararede *	0.23612 (0.1249)	0.988373 (0.0063)	0.02559	290
Portucel	0.04458 (0.2508)	0.394604 (0.0000)	0.065526	422
REN	0.112534 (0.0000)	0.167227 (0.0000)	0.032648	423
Semapa	0.133002 (0.0014)	0.602866 (0.0000)	0.065176	702
Sonae	-0.070799 (0.0829)	1.329321 (0.0000)	0.276853	754
Sonae Indústria	0.067673 (0.1272)	0.822405 (0.0000)	0.131784	589
Sonae.com	0.061158 (0.2586)	0.826504 (0.0000)	0.070404	796
Teixeira Duarte	-0.170220 (0.1296)	1.822046 (0.0000)	0.219144	250
ZON	-0.018161 (0.6107)	0.798875 (0.0000)	0.144645	737

P-value is presented in parentheses below the regression coefficients and test whether they differ from zero.

\* Company excluded from the final sample.