The value relevance of dividend announcement: An empirical study of the Greek Stock Market

Eleni Gkeka, Kosmas Kosmidis, Georgios Simitsis

pp. 44-50
“The value relevance of dividend announcement: An empirical study of the Greek Stock Market”
Eleni Gkeka1, Kosmas Kosmidis1, Georgios Simitsis1

1Eastern Macedonia and Thrace Institute of Technology, Department of Business Administration, Greece

ARTICLE INFO
Article History
Received 18 January 2018
Accepted 16 March 2018

JEL Classifications
G14, G35, G32

KEYWORDS
Dividend announcement, corporate value, abnormal returns, signaling effect.

ABSTRACT
Purpose
Dividend policy and its impact on share pricing, has been an issue of great concern for the academic society. Over the years, many theories evolved in an effort to explain dividend policy impact on corporate value. A widely accepted approach is the signaling effect theory. The purpose of this paper is to assess the value relevance of dividend announcement.

Design/methodology/approach
Our empirical work uses Greek stock market data. We adopt the event study methodology and incorporate in our research elements that differentiate Greek stock market from other developing markets.

Findings
Our empirical results tend to support the theory. Decisions on dividend policy seem to affect corporate value. Investors perceive incremented dividend payments as an indication of positive future prospect and vice versa.

Research limitations/implications
Different results between large and medium capitalization shares comprise an interesting element for future research.

JEL Classifications
G14, G35, G32

Keywords
Dividend announcement, corporate value, abnormal returns, signaling effect.

©Eastern Macedonia and Thrace Institute of Technology

1. Introduction
Dividend policy and its impact on share pricing remains a controversial issue among economists. While many theories have evolved in an effort to explain dividend impact on firm value, still much of the research supports dividend irrelevance. The purpose of this work is to shed some light on the issue using contemporary Greek stock market data.

Initially, dividend policy theories are reviewed. Signaling effect theory states that dividends carry informational content and therefore affect share price. This theory is tested using empirical data, derived from the Athens Stock Exchange. Greek stock market has a differentiating element from other developed or emerging markets; company boards are imposed—by Greek law—to distribute a minimum dividend. We apply two different criteria to our data and assemble two samples. The first criterion is dividend change compared to previous annual equivalent (naive model). The second criterion derives from the Greek law provision for minimum dividend distribution. Respectively, the second sample derives from the comparison of dividend paid against the minimum legitimate.

Section 3 describes the data and methodology applied. We adopted an event study methodology and tested the occurrence of abnormal returns in a (+,-) twenty day window from dividend announcement. Empirical results are presented in section 4, while section 5 summarizes the findings of this work and suggests points for future research.

2. Literature Review
Unquestionably, the most influential work entailing dividend policy and its impact on firm value belongs to Modigliani & Miller (1961). Based on perfect competition assumptions, they supported the dividend irrelevance theory. Modigliani & Miller supported that firm value is influenced solely on its investment plan, while dividend policy proves neutral when estimating firm value.
Nevertheless, empirical results do not comply with these conclusions. Earlier, Lintner (1956) suggested a “partial adjustment” model, where current dividends are dependent to current profits and last year’s dividend. Lintner argued that dividend policy conveys information from corporate management to shareholders, concerning company’s future prospects. Dividend increase leads to incremented share returns, while a decrease unveils negative influence on them. The “partial adjustment” model was validated by many researchers (Fama & Babiak, 1968; Darling, 1957; Turnovsky, 1967).

Contemporary research indicates that finance managers a) address a pivotal role to constant dividend flow, regardless of profit volume and b) assert that share price highly depends on the adopted dividend policy (Baker & Farrelly, 1988). Allen (1992) verified Lintner’s suggestion regarding the occurrence of a target payout ratio.

An alternative approach, relates dividend policy to income volume and tax burden. In many developed capital markets (US, UK) dividends are taxed as ordinary income, whereas capital gains are treated favorably with a much lower tax rate. According to this perspective, high income investors prefer low dividends, in an effort to avoid tax burden and realize gains on share sale. The opposite applies to low income investors. The preceding discrimination implies different dividend clientele for each share, as proposed by Miller & Modigliani (1961) and Elton & Gruber (1970). Many other researchers have reached the same conclusions by opposing the present value of tax liability against the present value of the capital gains’ tax (Litzenberger & Ramaswamy, 1982; Miller & Scholes, 1982).

The uncertainty of future cash flows formed another group of thought. The “Bird in Hand” theory supported by Gordon (1959) and Lintner (1962) confronted Miller and Modigliani. The ultimate argument is that investors value dividends and capital gains differently. Consequently, they favour the most recent cash flow, provided by dividends (Al-Malkawi, 2007).

Nowadays, dividend policy theories are discriminated by the quantity of information that is available in the market (full information vs information asymmetries), as well as by the influence of psychological factors (behavioral models) (Frankfurter & Wood, 2002).

Much of the research work favours behavioural models, whereas it is generally accepted these are the most challenging to develop. Mass investor psychology may influence market returns (Shiller, 1984). Some also argue that dividends are considered to be a tradition, as well as a means to confront investor fear on their investment outcome (Frankfurter & Lane, 1992). Others support that management executives are influenced by their rivals in other companies, when they decide dividend volume (Michel, 1979).

Alternative dividend policy theories base their arguments on the different interests between management and investors. These theories are known as agency cost theories. Feldstein & Green (1983) suggested that dividends serve as a mean for agency cost reduction. Within this category falls the free cash flow hypothesis (Jensen, 1986). Free cash flow is the remainder cash, after financing all positive net present value investments. This cash challenges management to pursue inappropriate – non-efficient- investments (Berle & Means, 1932). Consequently, incremented dividend payments absorb free cash flow and protect investors.

A considerable number of researchers argue that dividends are conveying information to the market (signaling effect theory). Consequently, dividend policy, when properly used, adds qualitative features to shares. It is considered to be the most economical alternative to support and enhance investors’ confidence (Ambarish, John, & Williams, 1987; Bar-Yosef & Huffman, 1986; Bhattacharya, 1979,1980; Hakansson, 1982; John & Williams, 1983; Kale & Noe, 1990; Kumar, 1988; Makhija & Thompson, 1986; Miller & Rock, 1985; Ofer & Thakor, 1987; Rodriguez, 1992; Talmor, 1981).

The current study challenges signaling effect theory. Similar research work was undertaken by many other academics, presenting however, contradicting conclusions. Dividend irrelevance initially supported by Miller & Modigliani (1961) is also validated by Papaioannou et al. (2000) and Asimakopoulos (2007). On the opposite strand, empirical results derived also from the Greek stock market, support that dividend policy decisions cause abnormal returns, indicative of information content in share prices (Travlos et al., 2001; Dasilas, 2007; Dasilas et al., 2008; Dasilas, 2011; Vazakidis & Athianos, 2010; Kosmidis et al., 2012).

3. Data & Methodology

The sample comprises 45 listed companies under the FTSE Large Cap Index (25) and the FTSE Mid Cap Index (20). The listing criterion is capitalization value, subsequently the sample consists the largest—in terms of capitalization- companies listed in the Athens Stock Exchange. The companies included in each index are presented in the appendix.

Event study methodology was adopted. The event study window included 20 days before and 20 days after the event, as well as the event day. The event day was defined as the public announcement for ordinary shareholders general meeting, set to decide on dividend payout policy. This provided a sub-sample of 41 (the event day included) daily returns for each share. Time horizon lies between years 2009-2013, which implies dividend payments, or retained earnings, accomplished during fiscal years 2008-2012. In addition to this sample, daily corresponding returns of the General Athens Stock Exchange Index were selected.

For the purpose of this research, we analyzed the annual reports and extracted i) the annual dividend payment ii) the minimum dividend payment that should be paid to shareholders according to Greek law provision. The latter element requires the extraction of profits, share capital and retained earnings figures. From 2008 and onwards, Greek companies that record profits are imposed a) to accumulate reserves, by retaining 5% of net profits. This provision is valid until accumulated reserves reach 1/5 of share capital in value b) distribute 35% of net profits, after subtracting the amount of accumulated reserves, to shareholders. Deviations from these provisions can only occur, if they are approved from an incremented majority of shareholders.
Some companies were excluded from the sample because they did not manage to achieve profits in the 5-year period examined. Those companies are the five banks included in the initial sample (Alpha Bank, National Bank of Greece, Piraeus Bank, Eurobank, Attica Bank), Chalkor S.A. and Intrakom Holdings S.A. Finally, Coca Cola Hellenic Bottling Company S.A. was also excluded from the sample, due to lack of primary data (company board decided to withdraw from the Greek Stock Exchange).

All numerical data was derived from www.naftemporiki.gr (Greek Financial Newspaper), whereas all annual reports were made available from www.helex.gr (Hellenic Exchanges).

As already stated above, the event study methodology was adopted. Two criteria were applied to fashion our sample data – same criteria and methodology was applied by Dasilas (2011).

a) Annual dividend change (naive model). This model depicts three categories for share returns, according to dividend change for each financial year. Subsequently, we ended up with three groups of share returns, corresponding to all possible annual changes (increase, decrease, stable).

b) Annual dividend payment was compared to the minimum equivalent, required by the Greek law. This comparison provided three groups of share returns, corresponding to all possible comparison outcomes. The groups comprised share returns for shares paying dividend more, less or equal to the minimum required.

In an effort to test the signaling effect theory, we tested the existence of abnormal returns in the event window (-20 days, +20 days). The market adjusted model was applied for this testing procedure:

\[ A_R = R - R_m \]

where \( A_R \) is the abnormal return of share \( i \), \( R \) is the realized return of share \( i \) and \( R_m \) is the market return. Market return is approximated by the return of ASE General Index. Both share and index returns were continuous and derived from the following formula:

\[ R = \ln(P_t) - \ln(P_{t-1}) \]

Minitab software was employed to calculate average abnormal returns for the event window, as well as to estimate the statistical significance of these returns. The following hypotheses were tested, using t-test methodology.

### Table 1. Dividend Increase – Statistically significant observations

<table>
<thead>
<tr>
<th></th>
<th>FTSE Large Cap</th>
<th>FTSE Mid Cap</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>1.208%</td>
<td>1.46%</td>
<td>0.99%</td>
</tr>
</tbody>
</table>

* 1%, ** 5%, *** 10% significance level

FTSE Large Cap provided only two statistically significant observations, sixteen days before and thirteen days after the event. The average abnormal return for Large Cap shares is less than the FTSE Mid Cap equivalent. As we can observe, table 1 depicts many cases where the anticipated positive reaction is validated by our data.

The opposite pattern of results occurred for the dividend decrease share sample.

### Table 2. Dividend Decrease - Statistically significant observations

<table>
<thead>
<tr>
<th></th>
<th>FTSE Large Cap</th>
<th>FTSE Mid Cap</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>-0.62875%</td>
<td>-1.08%</td>
<td>-0.5051%</td>
</tr>
</tbody>
</table>

4. Results and Discussion

We adopted a two-stage process for our hypothesis testing. We created six sub-samples for each index. Initially, share returns from listed companies that participate in the FTSE Large Cap Index were discriminated in accordance with the aforementioned criteria. The same procedure was followed for the FTSE Mid Cap shares and eventually these samples were merged to be tested on a unified basis. This discrete testing enabled us to record significantly greater – in absolute values – average abnormal returns for the FTSE Mid Cap samples compared to the FTSE Large Cap equivalents.

1st Criterion – Naive Model (Dividend annual changes)

The processing of the samples that included positive annual changes in dividend payments provided some supportive results of the signaling effect theory. Null hypothesis was rejected in many cases; positive overreaction occurred in 6 cases (for the merged sample) with an overall average of 0.99%.
Average abnormal return is less for the FTSE Large Cap shares, albeit the merged sample provided a more moderate percentage change. Table 2 depicts six cases of abnormal returns. The results of the two tables imply that dividend increase has a positive impact on share returns and vice versa. Investors seem to be influenced by dividend change, which is assumed to carry some information on the company’s future performance.

Finally, the stable dividend sample also provided some supportive results to the signaling effect theory. Statistically significant observations are fewer. Additionally, cases of abnormal returns are less in absolute value, compared to the respective ones from previous samples.

Table 3 Stable Dividend - Statistically significant observations

<table>
<thead>
<tr>
<th>Days</th>
<th>FTSE Large Cap</th>
<th>FTSE Mid Cap</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>-11**, -10***, 15**, 20**</td>
<td>-20**, -9***, -20**, -10***, -9***, 13***</td>
<td>-0.1073425%, -0.01915%, -0.11075%</td>
</tr>
</tbody>
</table>

Summarizing the above results, we conclude the following:

- More statistically significant observations are depicted before the event, i.e. the call for Annual General Meeting with dividend payment on its agenda.
- Results change as the sample merges. FTSE Large Cap, which includes heavily traded shares with law levels of concentration, yields more moderate results both in abnormal return value, as well as in absolute number of statistical observations.

2nd Criterion – Actual Dividend Payment vs Minimum Required by Greek Law

The sample this time was segmented to three sub-samples; shares that paid dividend more, less or equal to the minimum required by the Greek law. The application of the second criterion did not alter previous empirical findings. Table 1 presents statistically significant observations for both indices, as well as for the merged sample.

Table 4 Dividend greater than the minimum required

<table>
<thead>
<tr>
<th>Days</th>
<th>FTSE Large Cap</th>
<th>FTSE Mid Cap</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>0.662%</td>
<td>1.302%</td>
<td>0.8573%</td>
</tr>
</tbody>
</table>

FTSE Mid Cap shares record much greater abnormal returns, compared to FTSE Large Cap and the Total sample equivalents. Investors perceive the allocation of a dividend greater than the minimum, as a good prospect for the company's performance. Therefore, when the company decides to pay more dividends, it is believed to be indicative of improved future prospects. Signaling effect theory seems to be supported by these results.

The opposite applies to companies paying fewer dividends than the minimum required. Nevertheless, observations are significantly fewer; only day 2, day 3 and day 5 after the event, record negative abnormal returns.

Table 5 Dividend less than the minimum required

<table>
<thead>
<tr>
<th>Days</th>
<th>FTSE Large Cap</th>
<th>FTSE Mid Cap</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>-0.0824%</td>
<td>-0.0715%</td>
<td>-0.06245%</td>
</tr>
</tbody>
</table>

Finally, the sample with shares paying dividend equal to the minimum required yielded also supportive results. When the company pays dividend equal to the minimum required, no abnormal return should occur. Nevertheless, our sample yielded marginally positive abnormal returns.

Table 6 Dividend equal to the minimum required

<table>
<thead>
<tr>
<th>Days</th>
<th>FTSE Large Cap</th>
<th>FTSE Mid Cap</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>+0.55%</td>
<td>+0.76%</td>
<td>+0.0795%</td>
</tr>
</tbody>
</table>

Papaoanou et al. (2000) studied the existence of abnormal returns on the day of the dividend announcement, as well as the next day of the event. Results were not supportive to signalling effect theory, since no abnormal returns were recorded. They supported that these findings stem from the Greek legal framework, which imposes a minimum required dividend. This provision absorbs any informational content on the announcement day. Additionally, they studied traded volume and recorded a significant decrease on the dividend announcement day. Our findings contrast the overall conclusion, albeit agree on the absence of abnormal returns for the event window (-1,+1). The widening of the event window revealed supportive cases for the theory, mainly before, but also after the event.

Travlos et al. (2001) studied the existence of positive abnormal returns, after the dividend announcement day. Their study included shares traded on the Cypriot stock market, for the period 1985-1995. They concentrated on the dividend increase case and recorded abnormal returns for the (-2,+2) event window. They supported that abnormal returns derive from the absence of specialized financial information, a phenomenon met in emerging markets. If we compare our samples either for dividend increase or dividend payment greater to the minimum required, we tend to agree with Travlos et al. empirical findings. Although, the abnormal returns in our case occur in a wider time frame. We have to bear in mind that Greek stock market is considered to be more developed, compared to the Cypriot.
Asimakopoulos et al (2007) studied share returns in the Greek stock market, for the period 2000-2004. They adopted the criterion of the minimum required dividend according to Greek law provision. They split the sample to shares paying more or equal to the minimum. The event window adopted, was an eleven day interval (-5,+5). No significant abnormal returns were found for shares paying dividend equal to the minimum required. Nevertheless, shares paying more dividend than the minimum, recorded negative abnormal returns. These findings also support the signaling effect theory, even though they contradict to our results in respect to the sign of change, since we witnessed positive abnormal returns for shares paying dividend more than the minimum required.

Vazakidis & Athianos (2010) research framework was widely adopted for the purpose of our survey. This study focused on the 60 largest shares—in terms of capitalization— for a period covering years 2004-2008. The event window was 41 days long (-20,+20), while the event is determined as the call for shareholders meeting with the dividend payment on the agenda. This research does not apply any criterion to split the sample. The common characteristics with our work relate to the same methodology applied when abnormal returns are measured. They also found supporting evidence of the signaling effect theory, taking the form of abnormal returns mainly before, as well as after the event. Shares listed under FTSE/ATHEX Mid index yielded more—in absolute figures—statistically important observations; same phenomenon occurred in our sample for the FTSE Mid Cap share index.

Finally, we are going to compare our empirical findings to those of Dasilas (2011). Dasilas studied the 2000-2004 periods, while our study extends the time horizon adding years 2008-2012. The results are quite similar. Firstly, the informational content of the dividend announcement is confirmed for annual dividend changes. The only contradicting element in our work is the behavior of share returns when dividends remain stable. Dasilas finds no abnormal returns for this case, whereas we find significant negative observations. The sample split according to the minimum required dividend criterion, also provided supportive results. However, the case of dividends equal to the minimum required, also presented some differences. In contradiction to the absence of abnormal returns found by Dasilas, we found, abnormal returns marginally above zero (+0.08%). The non-symmetrical market reaction to dividend increases and decreases appears in both works.

6. Conclusions

The aim of this empirical work is to assess the value relevance of dividend announcement. For this purpose, we used data from the Greek stock market, covering a five-year period between 2009 and 2013. We concentrated on forty-five (45) shares participating in the FTSE Large and Mid Cap indices. This provided a sample with the most important—in terms of capitalization— Greek companies. We adopted the event study methodology to find statistically significant abnormal returns for a period of 41 days around the event (-20,+20). We defined the event as the annual shareholders meeting responsible for a company’s dividend policy.

Firstly, we focused on the annual change in dividend value. We fashioned three samples of share returns. Each sample was grouped based on possible sign change (positive, negative, and stable). These samples were identified for each index and observed individually, as well as on a merged basis. Our t-tests supported the case of the signaling effect theory. Abnormal returns were observed mainly before, as well as after the event. Increased dividends led to increased share returns and vice versa. Stable dividends also affected share returns negatively.

An interesting, non-symmetrical, market reaction was also observed. Positive market reaction—due to dividend increase—was greater in magnitude than the negative equivalent, caused by dividend decrease. Non-symmetrical reaction may be rooted to a) special reasons led to dividend decrease, like the adoption of an investment plan b) investment opportunities caused by share price decline. Apart from the non-symmetrical market reactions, we also witnessed greater abnormal returns—in absolute value terms— for the FTSE Mid Cap shares, against FTSE Large Cap equivalents.

The second criterion adopted for sample split, was the comparison of dividend paid against the minimum, required by Greek law. The results were quite similar. Companies paid dividends greater than the minimum required, witnessed positive abnormal share returns. This finding supports the signaling effect theory. Non-symmetrical market reactions were also observed for these samples. To be concise, positive reactions were more intense, compared to negative equivalents. Greater returns—in absolute value terms— were also recorded for the FTSE Mid Cap shares, compared to FTSE Large Cap equivalents. Lastly, it is worth mentioning that no significant observations occurred one day before, on the event day, or a day after the event (-1,+1), irrespective of the criterion applied for sample splitting.

Future research should focus on the testing procedure, trade volume and share concentration variables. This is confirmed by the differences in the absolute number of significant observations, as well as in abnormal returns values between FTSE Large and Mid Cap shares.

References

Allen D.E. (1992), Managerial Finance, Curtin University of Technology, vol 18 Nr 1


Annex

Table 1 Index – FTSE Large Cap (25)

<table>
<thead>
<tr>
<th>Motor Oil</th>
<th>Frigoglass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hellenic Petroleum Company</td>
<td>Piraeus Port Authority</td>
</tr>
<tr>
<td>Miltiineos Holdings</td>
<td>Coca Cola Hellenic Bottling Company AG</td>
</tr>
<tr>
<td>Corinthos Pipelines</td>
<td>JUMBO</td>
</tr>
<tr>
<td>Titan</td>
<td>Folli Follie</td>
</tr>
<tr>
<td>Ellaktor</td>
<td>Intralot</td>
</tr>
<tr>
<td>GEK –TERNA</td>
<td>OPAP</td>
</tr>
<tr>
<td>METKA</td>
<td>National Telecommunications Company</td>
</tr>
<tr>
<td>Greek Stock Exchanges</td>
<td>Public Power Company</td>
</tr>
<tr>
<td>EYDAP</td>
<td>Alpha Bank</td>
</tr>
<tr>
<td>National Bank of Greece</td>
<td>Piraeus Bank</td>
</tr>
<tr>
<td>EUROBANK PROPERTIES</td>
<td>MIG</td>
</tr>
<tr>
<td>Terna Energean</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Index – FTSE Mid Cap (20)

| J-P AVAX S.A.                | MLS Software S.A.       |
| Attica Bank                  | ELVAL S.A.              |
| AUTOHELлас - Hertz           | Thessaloniki Port Authority |
| Greek Sugar Industry S.A.    | Thrace Plastic S.A.     |
| CABLEL S.A.                  | PLAISIO COMPUTERS S.A.  |
| EYATH S.A.                   | Sarantis S.A.           |
| Eurobank S.A.                | Sidenor S.A.            |
| Athens Medical Group S.A.    | Hygeia S.A.             |
| Iktinos Hellas S.A.          | Fourlis Holdings S.A.   |
| Intrakom Holdings S.A.       | HALCOR S.A.             |