

## INVESTORS' DIVIDEND PREFERENCE ON THE ROMANIAN EQUITY MARKET: A CROSS-SECTIONAL EMPIRICAL INVESTIGATION

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**Abstract:** *The literature on dividend policy and its relationship to stock returns relies on two important concepts: information asymmetry and agency theory both of which suggesting that there should be a positive relationship between dividend changes and stock returns. The Dividend irrelevance theory claims that dividend policy should not affect shareholders' wealth. In this paper, we investigate whether there is any preference among investors on the Romanian stock market for dividend paying stocks, as reflected by their abnormal return around certain key dates related to companies' dividend policies. To serve our purpose, we take three events related to the dividend policy for each of the 25 companies included in the BET-XT index, namely: 1. The announcement date of the proposed dividend for the year 2011; 2. The General Shareholders Meeting date, a date when dividend distribution becomes certain; 3. The Ex-dividend date. We define abnormal return as the difference between a company's return and a constructed index unaffected by dividend-related events. We cannot report that investors exhibit a preference for dividend paying companies during the investigated time period, but we find that among dividend paying companies there seems to exist a preference for the larger-dividend-paying companies and that this preference seems to manifest strongest between the announcement date and the General Shareholders Meeting date. We also analyze the relationship between dividend yields and the abnormal return for the dividend paying Romanian listed companies. We can report that for the period between dividend announcement and the General Shareholders Meeting there is a statistically significant positive correlation between the dividend yield and the subsequent stock return. We offer a possible explanation for the two seemingly contradictory findings which would be supported by a clientele effect combined with the different tax treatment of dividends as compared with capital gains, for institutional investors and retail investors.*

**Keywords:** *dividend policy, ex-dividend date, abnormal returns, dividend preference, Bucharest Stock Exchange*

**JEL classification:** G14, G15, G35

## **1. Introduction and related literature**

The relationship between a company's dividend policy and its value remains an unresolved issue in the financial literature. Starting with the seminal work of Miller and Modigliani (1961) which proposes the Dividend irrelevance theory i.e. in the absence of market imperfections, dividend policy should not affect shareholders' wealth – other subsequent studies reached mixed results. For example, Black and Scholes (1974) also show that the relationship between dividend yields and stock returns is unclear and therefore it cannot be showed using the best available methods, neither what effects dividend yield has on stock returns nor what effect, if any, a change in dividend policy will have on a corporation's stock price.

Among others, Goetzmann and Jorion (1993) study the ability of dividend yields to predict stock returns over long-horizon periods by employing both the bootstrap methodology and simulations and conclude that there is no strong statistical evidence indicating that dividend yields can be used to forecast stock returns over long-horizons. Further, Ang and Bekaert (2007) examine the predictive power of the dividend yields for forecasting excess returns, cash flows, and interest rates and find that dividend yields predict excess returns only at short horizons together with the short rate but do not have any long-horizon predictive power. Their results are therefore in line with those of Goetzmann and Jorion (1993).

On the other hand, Kothari and Shanken (1997) report that both book-to-market (B M) and dividend yield track time-series variation in expected real stock returns over the period 1926 -1991 while for the subperiod 1941–1991 dividend yield is a even stronger explanatory factor.

A number of other empirical studies have examined whether stock prices behave differently after events that affect the dividend distribution or the dividend policy in general.

Asquith and Mullins (1983) study the impact of dividends on stockholders' wealth; the analysis is based on a data sample of 168 firms that either pay the first dividend in their corporate history or initiate dividends after a 10-year hiatus. They found evidence that initiating dividends increases shareholders' wealth and also that dividend increases positively impact shareholders' wealth. Dewenter and Warther (1998) compare dividend policies of U.S. and Japanese firms and show that Japanese firms experience smaller stock price reactions to dividend omissions and initiations, but the US stock prices reactions are significantly affected by the change in the companies' dividend yields.

Michael (1991) analyzes the behavior of stock prices around ex-dividend days after the implementation of the 1986 Tax Reform Act - the most dramatic change in the U.S. tax code during the last 40 years - and show that this tax change had no effect on the ex-dividend stock price behavior. Before the enactment of the federal income tax, stock prices fell, on average, by the full amount of the dividend (Barclay, 1987). Lang and Shackelford (2000) study the effect of the 1997 US capital gains tax reduction on stock prices and empirically prove that stock prices moved inversely with dividend yields during the May, 1997 week when the White House and Congress agreed on a budget accord that included a reduction in the capital gains tax rate. Studying the UK equity market, Lasfer (1996) finds that the differential taxation of dividends and capital gains results in a decrease in ex-day share prices by significantly less than the amount of the dividend. Very recently, Chen, Chow, and Shiu (2013) find that differential taxes are an important factor affecting share prices

and the behavior of investors around the ex-dividend day based upon an examination of 987 ex-dividend events that took place on the Taiwan Stock Exchange between January 1992 and December 2006.

The literature on dividend policy and its relationship to stock returns relies on two important concepts: information asymmetry and agency theory. With respect to the asymmetry of information, it is argued that managers have more information than investors on the company and its prospects and therefore dividends reveal some of this information to the market. Consequently, it should be a positive relationship between dividend increases and stock returns. The agency theory argues that dividends serve as a tool to constrain managers through the reduction of the free cash flow available to them which in turn forces them to submit to the discipline of the market. The agency theory also predicts a positive correlation between dividend increases and stock returns, as higher dividends reduces managers possibility to waste free cash flows.

Overall, the empirical research concerning the explanatory power of dividend yields on stock returns and the relationship between dividend policy and firm value contains mixed results. We investigate whether there is any preference among investors on the Romanian stock market for dividend paying stocks, as reflected by their abnormal return around certain key dates. We also analyze the relationship between dividend yields and the abnormal return of the dividend paying Romanian listed companies. We contribute the literature with a unique dataset and also by proposing and constructing an index which is further used in the quantitative analysis, namely the "Non-dividend index" by employing a procedure similar to the one used by the Bucharest Stock Exchange to compute its BET-XT index.

The remainder of the paper is organized as follows. In Section II, the data, the construction of the two indexes and methodology are presented. The empirical results are reported in Section III, while Section IV concludes the study.

## **2. Data and Method**

We employ daily returns adjusted for dividends and corporate actions covering the period from December 19th 2011 to May, 31st 2012, for all the 25 companies included in the BET-XT index published by the Bucharest Stock Exchange. BET-XT is a capitalization-weighted index of the most traded companies listed on the stock market. We have further devised the number of companies in a dividend-paying group comprised of 16 companies representing initially 83.5% of the weight in the BET-XT index; and, a non-dividend paying group of the remaining 9 companies, representing initially 16.5% of the weight of BET-X.

### **2.1. The Non-dividend index**

The group of non-dividend paying stocks was used to construct a new sub-index ("Non-dividend index"). Our index was initialized at 66.323 points at December 19th, 2011 (corresponding to 16.5% of BET-XT at that date). The initial weight for each company in the new index matches the weight of the respective company in the BET-XT index, divided by the initial cumulated weights of these companies in the BET-XT as of December 19th 2011 or 16.5% (at this date a new decision of the Indices Committee of Bucharest Stock Exchange regarding the weights came into force). For all subsequent days the weights were re-calculated based on previous trading day stock returns and their respective weights, using the formula:

$$w_{j,t} = \frac{w_{j,t-1} * (1 + r_{j,t-1})}{\sum_{j=1}^N w_{j,t-1} * (1 + r_{j,t-1})}$$

Where

$$\begin{aligned} w_{j,t} &= \text{weight of stock } j \text{ at time } t \\ r_{j,t} &= \text{return of stock } j \text{ at time } t \\ N &= \text{the number of stocks in the index (here, 9)} \end{aligned}$$

The daily index returns were computed as the sum of the weighted returns for the stocks included in the index. Consequently, the daily values for the index were chain-computed using the formula:

$$Index\ value_t = Index\ value_{t-1} * (1 + \sum_{j=1}^N w_{j,t} * r_{j,t})$$

The procedure used to compute the new index mirrors the one used by the Bucharest Stock Exchange to compute its BET-XT index. For comparison purposes we have also constructed an index of dividend-paying stocks (“Dividend index”), using the same methodology as described above. The initial value of the Dividend Index was chosen to equal 83.5% of the BET-XT index (or 335.6 points) so that the sum of the values of the two new sub-indices will be equal to that of the BET-XT index. This procedure was used not only to provide a tool for comparison purposes but also to ensure that our data collection process was correct. The sum of the values computed for the two new indices only infinitesimally diverged from those computed by Bucharest Stock Exchange, most likely due to rounding errors (we used the higher standard precision of the econometric software, while the Bucharest Stock Exchange uses a 6 digits precision). The values start to diverge only after the ex-dividend date, which is expected since we have used dividend-adjusted returns that suit our research, while the Bucharest Stock Exchange does not adjust its indices for dividends.

## 2.2. The Events

The need for a valid benchmark (the Non-dividend Index) becomes obvious since we want to draw valid inferences about the stocks behavior between certain events related to dividends. The main events are:

1. The announcement of the proposed dividends for year 2011 for the 25 companies included in BET-XT
2. The General Shareholders Meeting, a date when dividend distribution becomes certain
3. The Ex-dividend date, the date when share-holders are no longer entitled to dividends.

Since companies listed at Bucharest Stock Exchange normally pay or announce dividend distribution only during the time frame between the date when End of Year results are announced and the First quarter results announcement, we feel confident that the time frame chosen to study the price behavior related to dividends is correctly settled between the months December and May.

Since companies do not announce dividends, organize General Shareholders Meetings nor chose identical reference dates, we had to investigate the price behavior of each of the 25 companies separately, according to its own relevant dates for the above mentioned events. Furthermore, in order to draw valid conclusions we needed a sample of stocks whose returns were unlikely to be influenced by dividends, but likely to be influenced by other events (macro-events, for example) - hence the need to compute the Non-dividend Index comprised of companies whose stock returns should not be influenced by dividends but who are affected by the same external factors as dividend-paying companies.

Consequently, we were able to derive abnormal returns related to dividend distribution, calculated as the difference between the return of the respective stock between two defined events and the return of the constructed Non-dividend Index for the same period in the following manner:

$$\hat{r}_{j,[a,b]} = r_{j,[a,b]} - r_{Index,[a,b]}$$

Where

$\hat{r}_{j,[a,b]}$   
 = *abnormal return of stock j over a period from and including event a, until*  
 – *but not including – event b*

For comparison purposes we also needed to compute Average daily returns for the previously computed abnormal returns since different time intervals have been employed. We used geometric average compounding to derive daily returns.

### 3. Empirical results

Table 1 summarizes our statistics for the four time intervals delineated by the three dividend events, including daily abnormal returns for the dividend-paying stocks, as well as average returns and standard deviation for the specified event intervals:

**Table 1:** Daily abnormal returns for the dividend-paying stocks

Symbol	(2012-Announcement Day)	[Announcement Day -GSM)	[GSM-Ex Div Date)	Ex-Div date
ALR	-0.0051	-0.0026	0.0022	0.0721
ATB	-0.0023	-0.0031	-0.0007	0.0467
BIO	-0.0032	-0.0013	-0.0021	0.0235
BRD	-0.0029	-0.0017	0.0011	0.0112
BVB	-0.0007	-0.0004	-0.0079	0.0337

FP	0.0026	-0.0025	0.0030	-0.0020
OIL	-0.0042	-0.0037	-0.0089	0.0322
SCD	-0.0027	-0.0012	0.0015	-0.0230
SIF1	0.0012	-0.0037	0.0020	0.0152
SIF2	0.0057	-0.0023	0.0039	0.0205
SIF3	0.0001	0.0016	0.0007	0.0024
SIF4	0.0034	-0.0015	0.0183	0.0512
SIF5	0.0006	0.0005	-0.0067	0.0072
SNP	0.0018	0.0017	-0.0028	0.0319
TEL	-0.0046	-0.0031	0.0001	0.0078
TGN	-0.0019	0.0014	0.0033	0.0086
Average	-0.0008	-0.0014	0.0004	0.0212
STDev	0.0031	0.0018	0.0062	0.0232
Correlation with DivYield	0.416	0.499*	0.365	-0.172

\*- statistically significant at 95% confidence level

For a more intuitive depiction of our results we also present in Table 2 the average abnormal returns for the whole period (without adjusting for different holding periods):

**Table 2:** Average abnormal returns (whole period)

	(2012-Announce)	[Announce-GSM)	[GSM-ExDividend)	Ex-Dividend day
Average	-5.53%	-3.93%	0.27%	2.12%

The negative excess returns for the period before and after the Announcement Day might indicate that investors are more likely to prefer non-dividend paying companies. This hypothesis is supported by the preferential tax treatment of capital gains versus dividends for private individuals: both are currently taxed at 16%, but since capital gains could be offset by losses on other securities in their portfolio it is only natural that investors would prefer the possibility of deferring the payment of taxes for as long as possible. This is especially relevant for periods when portfolios have most likely incurred losses. However since the mean is not significantly different from 0 we cannot draw any substantial conclusion from these results alone.

As expected, the time period between the General Shareholders Meeting (GSM) and the ex-dividend date does not bring any additional gains or losses for the dividend-paying companies as compared with those not paying dividends. That is because most of the surprise concerning dividends was priced before the day of the

announcement and almost entirely eliminated after the announcement. The GSM itself is unlikely to bring any additional surprises and that could be the reason why stock prices fluctuate insignificantly after this date compared to the benchmark.

However, an interesting finding is related to the last period presented in the table – actually a single trading day, when the right to receive dividends already expired. The returns presented in the last column of Table 1 are dividend adjusted returns, as the actual returns would most likely show significant price declines for that day. The average abnormal return for the ex-dividend date equal 2.12% (a large value, but without statistical significance). This finding suggests that prices do not actually adjust as much as they should considering the dividend that has just expired and a possible advantageous trading strategy would be present. Nevertheless, considering the double trading commission involved for such a sell-buy strategy, at least half of the related profit would melt away. Moreover, we need to consider that the actual dividend adjustment applied to prices was based on gross dividends adjustments when in fact most of the investors (private individuals) are actually concerned with net dividends. In fact our own price adjustments based on net instead of gross dividends (calculation not shown here) reveal that prices do indeed adjust much closer to where they should when net dividends are taken into account. Consequently even that potential source of gain from the last period is not actually relevant except for companies and investment funds that do not pay taxes on dividends per se.

Finally, the correlation coefficients between the dividend yield at the beginning of the period and the excess return reveals some of the usual relations we would have expected to see when analyzing returns of dividend paying stocks. Some qualification is necessary here, since for the first period there is no dividend yield for the beginning of the period, but only expectations for such a yield. However, considering a perfect analysis and estimate for such yield, we see that there is actually a seemingly positive relation between the yield and the return of the respective stock. Dividend yield might help explain some of the variation of returns for dividend paying stocks, though this positive correlation is not always statistically significant. However, for the period following the dividend announcement and the General Shareholders Meeting there is a statistically significant positive correlation between the dividend yield as of the date of the announcement and the subsequent stock return for the period. This is in line with our expectations that dividends are most likely to influence market prices starting with the moment when they become a reality – and that it's the day when they are announced.

Yet another interesting observation is related to the negative correlation between the yield of high-dividend-paying stocks and the return on the ex-dividend date. It may be a fact that the investors who prefer dividends are mostly investment funds and companies that are not concerned about the taxes on dividends since they pay their respective corporate tax that is only marginally related to dividends. If this is the case, then we would expect high-dividends stocks to adjust with the gross value of the dividend (hence more), while low dividend stocks only adjust with the value of the net dividend which is of concern for individual investors. Hence we have a negative correlation between the dividend-yield and the abnormal return on the ex-dividend day.

#### **4. Conclusions**

Contrary to both the information asymmetry theory and the agency theory, it seems that investors on the Romanian capital market do not seem to exhibit a preference for dividend paying stocks, at least not for the short time span between key dividend-related events that we have studied. The irrelevance theory seems to better explain investors' reaction, though we suspect that the different taxation treatment of dividends as compared to capital gains could also be a relevant factor. We could not completely rule out the possibility that the companies' decision to pay dividends might not be a surprise at all, being actually priced in long before the announcement is made public. It would be interesting to study what was the investor's reaction when a company that was supposed to pay dividends (according to some simple AR model) doesn't actually pay dividends: for the few cases that we could identify the reaction was negative, but a larger sample is necessary to formulate any definitive conclusions.

However, it is also apparent that between dividend-paying companies there is a preference for the larger-dividend-paying companies, a finding that would support the information asymmetry theory or the agency theory. This preference seems to manifest strongest between the announcement day and the General Shareholders Meeting and the positive relation is statistically significant. For the other two time intervals that we had studied the relation is also positive, though not significantly.

A possible explanation for these two seemingly contradictory conclusions might be the clientele effect among investors. Accordingly, it is apparent that overall there is no preference for dividend paying companies, and the investment preference is somehow evenly split between those who prefer dividends and those who want to benefit from taxation advantages inherent to capital gains. However, we would expect investors who form the clientele of dividend paying companies to appreciate large dividends, and hence stock returns of those companies are positively and significantly related to dividend yields.

Finally, an interesting and unexpected relation was the negative correlation between dividend yield and adjusted returns on ex-dividend day. We suspect that large dividend yield companies find their investor clientele among companies and investment funds. Consequently, the price of these companies is adjusted on ex-dividend day with the full, gross value of the dividend, since the gross value of the dividend is more relevant for such institutional investors. On the other hand, the price of low-dividend-paying companies is only adjusted with the net dividend, which is of interest for retail investors. Hence the different taxation system combined with a clientele effect might explain these short-term price anomalies.

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