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What is the Relationship between Company Dividend Announcement and Stock Price?

Introduction & Background

The purpose of this document is to identify the relationship between initial company dividend announcements and the change in its respective stock price. Dividends are a sum of money that companies pay their shareholders periodically for owning stock of that respective company.

Motivation for Analysis

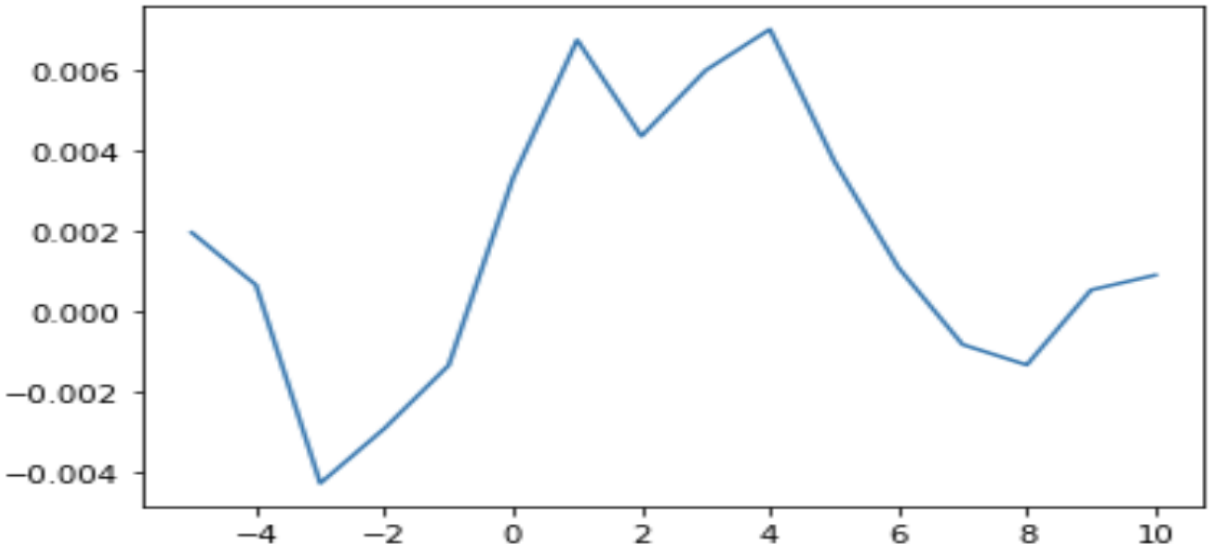
Through reasonable conjecture, we hypothesize that this payment incentivizes more investors to immediately become a shareholder of the company or buy more shares if they are already a shareholder. Thus, the stock price of the company increases because of increased demand. While we believe this is the primary reason for announcing dividends, one could argue that companies issue dividends when they are losing investors or experiencing a decline in stock value. This tension is further confounded by the idea that a company pays out dividends when it "doesn't know what to do with its money." Based on these factors, identifying the correlation between dividend announcements and its impact on a company's stock price is significant because it allows companies to know the practicality of issuing dividends. Additionally, this information provides insight to investors when they are researching which stocks to purchase and if there are benefits to investing in a stock that recently announced a dividend. Despite this reasoning, one may argue that there is no direct relationship between a company's initial dividend announcement and its effect on stock price. One could argue that this phenomenon could be due to confounding events: dividend announcements are the same time when other financial metrics are announced (i.e. earnings). Similarly, it is possible companies are announcing a dividend because they are doing well which may be hard to separate from what an investor is looking at However, based on the research conducted in this study, we discover the dramatic impact dividend announcements have on company stock price. We were unable to fully account for outliers as the nature of our analysis focused on generalizing returns.

Overview of Analysis & Conclusions

Using Compustat and CRSP, databases that provides financial and statistical information regarding inactive and active companies, we are able to collect the data of 50 companies from the NASDAQ and observe a relationship between company dividend announcements and change in stock price. The following sections provide an analysis of the data we collected during this event study. The two partitions used in this event study were age of the company and the industry in which the SIC code was used. Age was partitioned by "old" and "new" companies around the eight year mark (3014 days). This was done because it was the median age of companies and we wanted our partition to be as even as possible. We used the SIC partition as a test to see if a mostly arbitrary delineation of our data would result in any interesting effects. We chose to split the SIC's of the companies based on their first two digits. One group was those with digits starting with greater than 50 and the other less than 50.

Figure 1.1 illustrates the aggregate trend observed when considering all event observations in the data set.

Figure 1.1

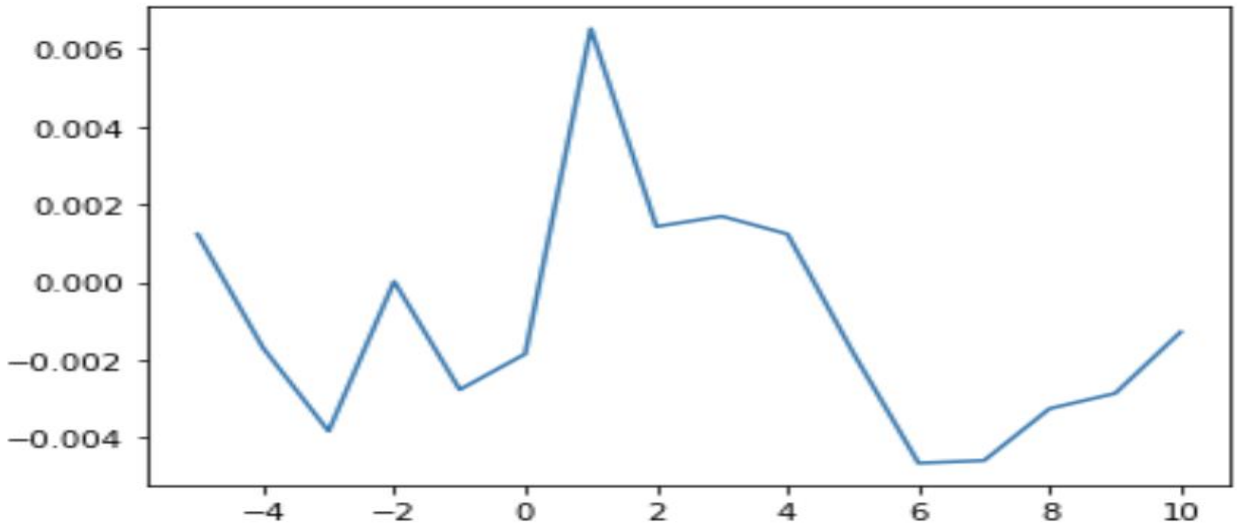


This first glance at an overview of our data reveals the general pattern caused by the impact of the chosen shock event. The trend that is shown is a plateau. This can be seen by a rapid increase in the change in stock price, followed by a flat increase for a while, followed by a downward trend. This makes sense as the demand created for the dividend is short-lived since the stock price increases past a point where it makes sense to invest in it. This data is significant, but barely with a p-value just under .1.

Mean over observation period	.009686045359459461
t = 1.715	p = 0.095

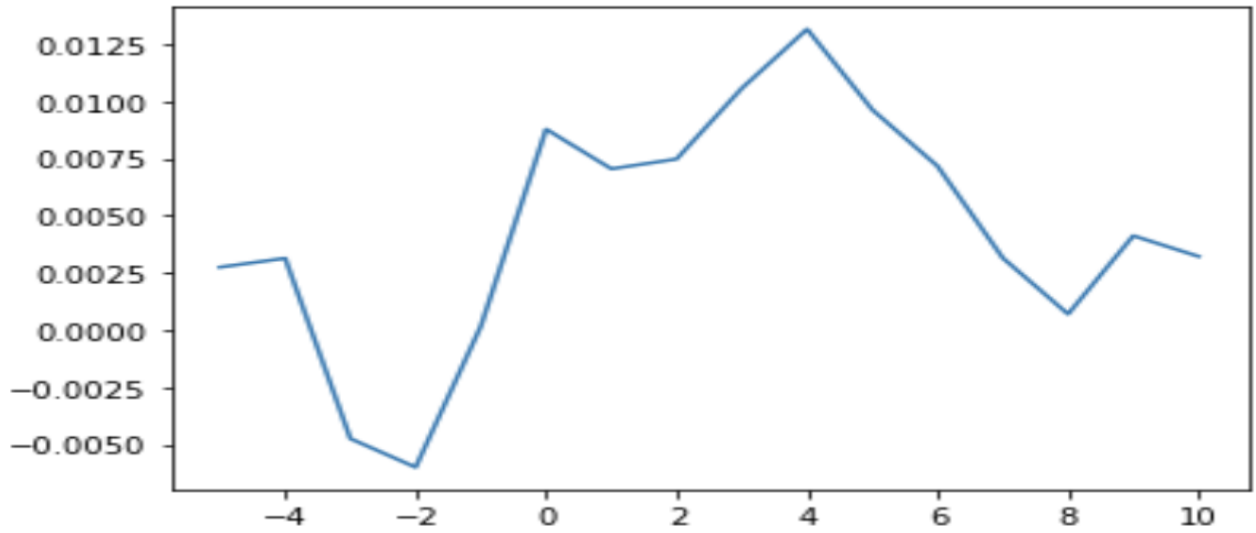
The following graphs illustrate the results of the first partition test.

Figure 2.1



2.1 shows the manner in which “older” companies react to a dividend announcement. This is intriguing as it is negatively received except for the day of and after the announcement. Although these results mirror the results of figure 1.1, we can observe a steep drop-off that trails the peak of the initial excitement caused by the shock event. Rather than plateauing and then stabilizing, stock prices fall harshly and then struggle to reach previous levels. However, the magnitude of these changes is very low which also indicates that dividends may not have that large of an effect on older companies. In fact, a statistical test would say these results are not significantly different from zero as they result in a p-value of .3. This makes sense as they can be evaluated on other factors such as past revenues and their overall success as a business.

Figure 2.2



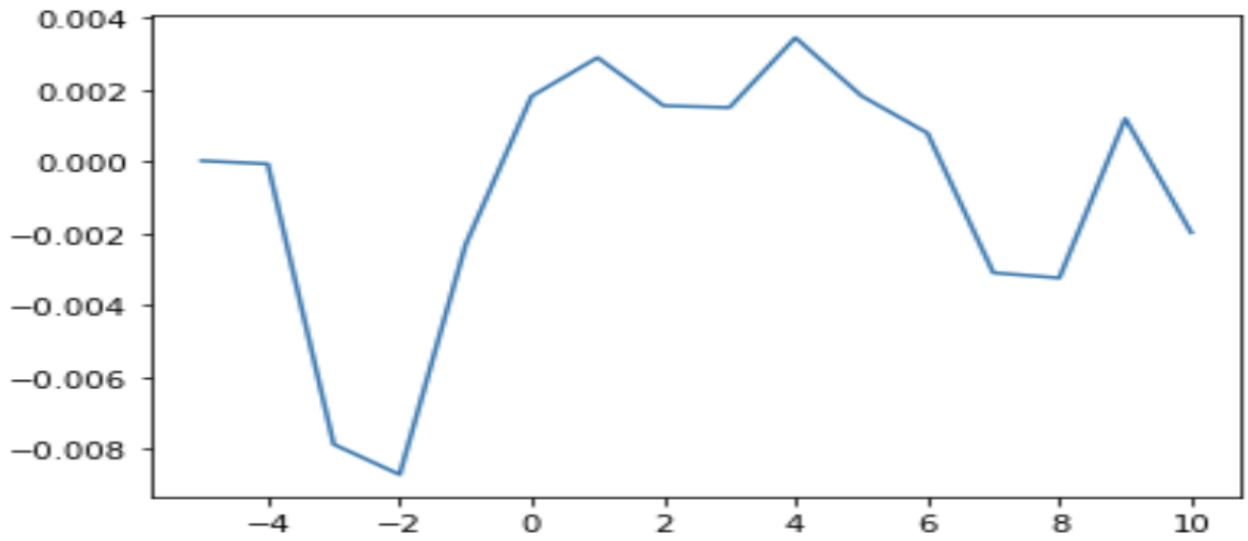
2.2 shows the ”newer” companies react to a dividend announcement. The trend observed here is favorable to both the unpartitioned sample and the previous population sample mentioned. Long-term, there are better results observed as the stock price can better sustain growth following the initial increase and ensuing plateau. This may be related to the fact that a new company that is able to pay dividends is attractive to investors. However, this data is also likely not significantly different from zero with a p-value of about .2.

When comparing new and old companies, while there is a graphical difference between them, we cannot conclude that these are statistically significant as they have a p value that is very high at .569.

	New	**Old**
Mean Return	0.013	0.006
T-test	t = -0.575	p = 0.569

The following graphs illustrate the results of the second partition test.

Figure 3.1



The figure above portrays the change in returns for company stock prices that fall within an industry that has a corresponding SIC code of less than 50. There is little to no significant observed effect, and the impact may be considered as unimportant. a 1 sampled t-test, this data is not significantly different from 0, with a p-value of 0.754.

Figure 3.2

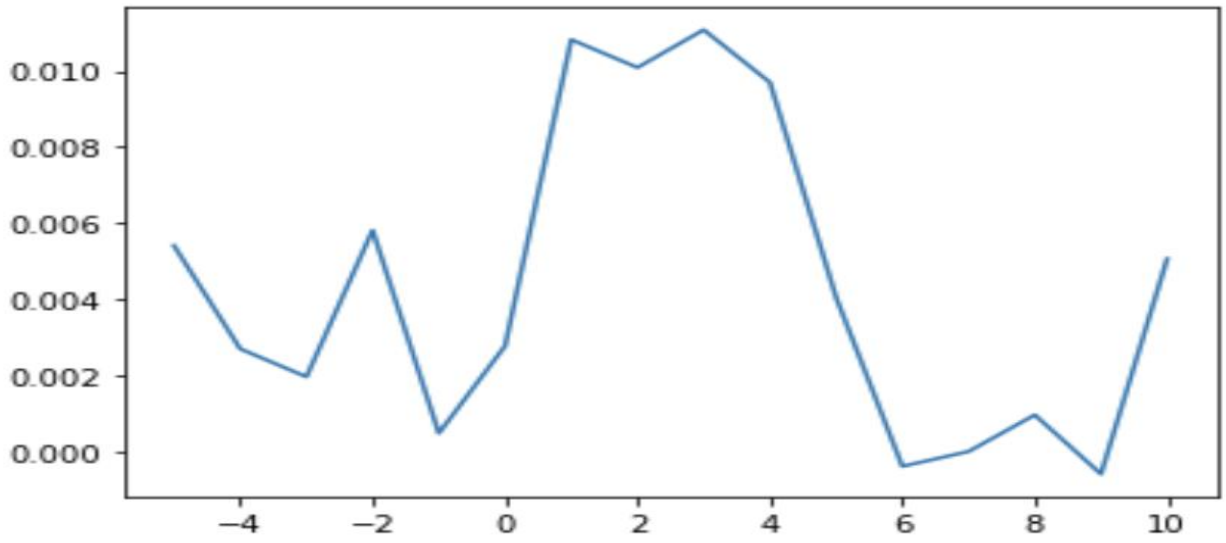


Figure 3.2 portrays the change in returns for company stock prices that fall within industries that have a corresponding SIC code of greater than 50. The results yielded mirror those of the unpartitioned graphic and similarly, the takeaway is as well. The first announcement of a company dividend generates an undeniable yet short wave of excitement, which quickly adjusts itself in the coming days. Choosing to randomly partition our data set along an arbitrary metric demonstrates that the impact had by our chosen shock event is universal, despite the varying circumstances.

Final Conclusions

Ultimately, our analysis has concluded that the only statistically significant result we obtained is that stock prices do slightly increase in the days after a dividend announcement. The reason we may not have seen as conclusive evidence for our partitioned data may be a flaw in our methodology for which partitions to use or a lack of sample size. While 50 is a decent sample size, a larger one would help reduce this uncertainty. However, we still believe we can draw some conclusions from our data. If we were to make recommendations for a potential investor we would say not to get caught up in the "hype" of a dividend announcement. Make sure that is not the only reason you are buying a stock as it has the potential to lose money, even in the short term. For a company, we would also say to be wary of deciding to implement a dividend. This money can be reinvested and becoming beholden to paying out a dividend is not something to be taken lightly. There is also mixed evidence of whether it is totally helpful

Rather than indicating a quantifiable advantage in the market, these results may speak to the psychological aspect of investment trading. It can be assumed that initial stock dividend announcements generate an initial wave of excitement that quickly stabilizes itself soon after.

Works Cited

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