

# Poison Pills and Their Effect on Shareholder Return

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## Abstract

This is an event study that explores stock price reaction immediately following a poison pill announcement. I examine the cumulative abnormal returns of 22 companies within the following event windows: the event itself and the following day (0,+1), periods of three (-1; +1), five (-2; +2) and seven (-3; +3) days, and longer periods of pre-adoption (-15; -4) and post-adoption (+4; +15) which represent “neutral” times. I then compare these returns to the S&P 500 returns, CRSP value-weighted returns, and CRSP equally-weighted returns for the same time period.

Positive abnormal returns are attributed to the Shareholder Maximization Theory. Negative abnormal returns are attributed to the Management Entrenchment Theory.

## Research Question

How is company share price affected by the implementation of a poison pill shareholder rights plan?

## Objectives

The objective of this study is to determine the cumulative abnormal returns (CARs) generated by the announcement of a poison pill plan. These CARs will allow us to understand how the stock market reacted to the shareholder rights plan before the official announcement date as well as how it reacted weeks later using various event windows. Studying stock price reaction to poison pill announcements will help further predict how firm value will be affected by future shareholder rights plans. This could provide wealth opportunities for investors.



Photos: <https://www.fool.com/investing/2018/12/27/why-jc-penney-tesla-and-spectrum-pharmaceuticals-s.aspx>  
<http://www.carlogos.org/Car-Logos/Ford-Logo.html>

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## Methodology

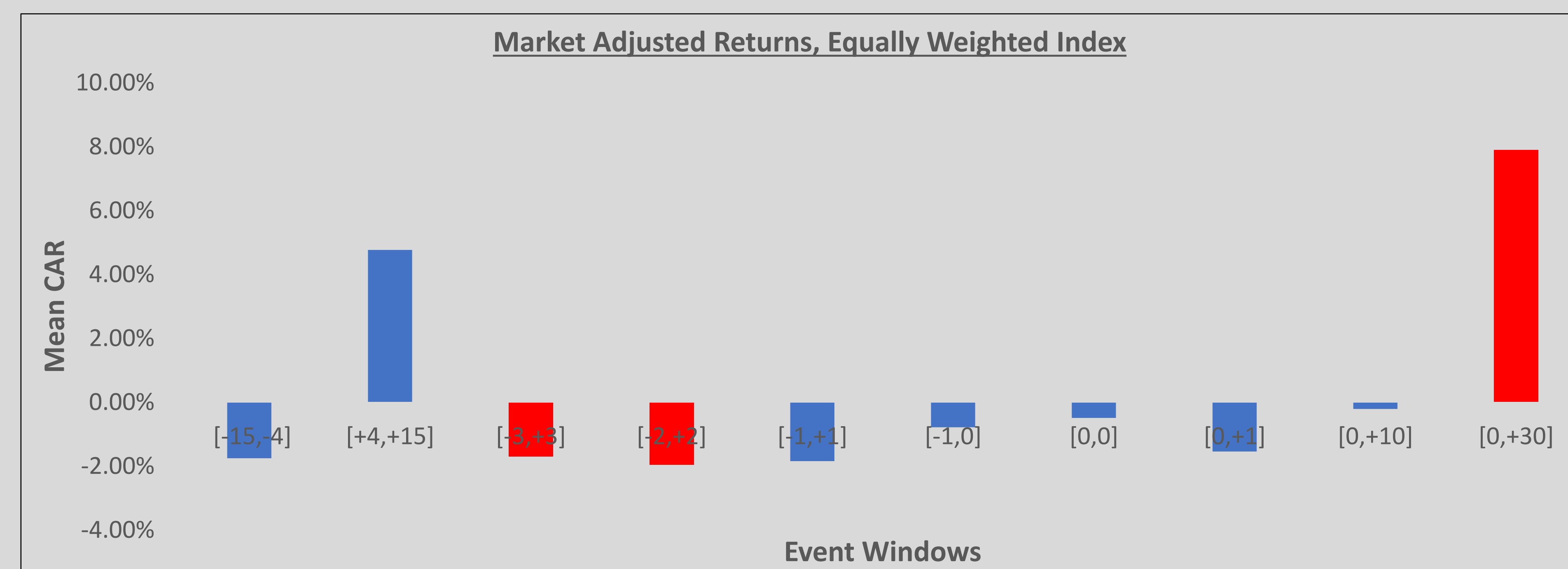
To construct my sample of 22 companies, I utilized Bloomberg to identify companies from the S&P 500, the NASDAQ, and the Russell 1000 that currently had a poison pill in place. I then supplemented my data with several companies from Hurt (2016) to complete my sample. To then determine whether or not the event generated cumulative abnormal returns (CARs), I compared the returns of my companies to the returns of the S&P 500, CRSP value-weighted returns, and CRSP equally-weighted returns for the same time period. To calculate, I utilized the Eventus software via Wharton Research Data Services (WRDS). Eventus is an event study program that utilizes stock data found within the Center for Research in Security Prices (CRSP) databases. Using this data, I found statistically significant CARs for the equally-weighted and value-weighted market model, and the equally-weighted market adjusted model listed below. Ten short-term event windows were studied for statistical significance.

Model	Index
Market Model	Equal Weighted
Market Model	Value Weighted
Market Adjusted	Equal Weighted

## Results

Market Adjusted Returns, Equally-Weighted Index using Estimation Window [-255, -46]										
	Event Window [-15,-4]	Event Window [+4,+15]	Event Window [-3,+3]	Event Window [-2,+2]	Event Window [-1,+1]	Event Window [-1,0]	Event Window [0,0]	Event Window [0,+1]	Event Window [0,+10]	Event Window [0,+30]
<b>Mean CAR</b>	-1.75%	4.77%	-1.69%	-1.95%	-1.84%	-0.78%	-0.49%	-1.54%	-0.21%	7.89%
<b>Std Csect Z</b>	-0.663 (0.507)	1.548 (0.122)	-1.700 (0.089)	-1.835 (0.066)	-1.204 (0.228)	-0.295 (0.768)	-0.183 (0.855)	-1.252 (0.211)	0.194 (0.846)	1.977 (0.048)
<b>Generalized Sign Z</b>	-0.260 (0.795)	1.020 (0.308)	-0.260 (0.795)	-2.393 (0.017)	-0.687 (0.492)	1.020 (0.308)	-0.687 (0.492)	-1.540 (0.124)	0.167 (0.868)	0.593 (0.553)
<b>Signed Rank</b>	-23.500 (0.458)	44.500 (0.153)	-31.500 (0.318)	-70.500 (0.018)	-27.500 (0.384)	8.500 (0.790)	-10.500 (0.742)	-41.500 (0.184)	2.500 (0.938)	42.500 (0.173)

1. P-Values are in parenthesis.



Red bar columns represent CAR'S that were statistically significant

## Conclusions

The purpose of this event study was to further progress the research on shareholders rights plans and their effects on stock price. Some of the results of this study are in line with prior research, notably Hitzelberger's (2017) "What Effect do Poison Pills have on Shareholder Value." Similarly to Hitzelberger, my study found positive mean cumulative abnormal return for the periods (0, +30) and (+4, +15) of roughly 7.10% and 4.72%.

My findings differ from Hitzelberger (2017) in some ways, particularly surrounding the event window (-2, +2). He found highly significant positive abnormal returns, yet I found significant negative returns of -1.95% and -1.82%. When I adjust the event window to see if these negative returns are due simply to the aftermath of the announcement (period (0, +2)) I find no significant results. Thus, the negative returns must be spread amongst the entirety of the event window (-2, +2).

## Areas for Future Research

- Delve deeper into the event window (-2, +2) since the findings differed from some prior literature.
- Perhaps the findings were skewed due to the addition of the NOL poison pills from Hurt (2016). Dividing the sample into subsets based on the type of shareholder rights plans might lead to some fascinating results.
- Examine wider event windows. The event window (0, +30) produced statistically significant returns of 6.32% and 7.89%. What would an even wider event window's returns look like?

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