

# Stock Performance Prior to Federal Holidays

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*The purpose of this study is to understand the impact of Federal holidays on a stock price. This research analyzed stock performance for the five trading days before each of the ten Federal holidays. Forty data points are found by the difference between a buy price (six days before a holiday) and a selling price (one day before a holiday). A 95% confidence interval is calculated using the difference of two sample means of the buy and sell prices. The mean buy price and sell prices were different enough to show an investible opportunity. This shows Federal holidays impact stock prices.*

*Keywords: stock price, holiday effect, behavioral finance, mood maintenance hypothesis, investment strategy, performance*

## **INTRODUCTION**

Stock prices are driven by human psychology. However, how the masses decide on a stock is how the price will fluctuate. With this reasoning, events that have mass human psychological implications should affect stock prices (Bulkowski, 2019). Federal holidays are deeply ingrained in society and as a result, they share in mass human psychology (The New York Stock Exchange, 2016). Do Federal holidays affect stock prices? By examining this financial problem, a clearer insight into how stock prices move will be gained. A greater understanding of how stock prices move can allow an individual to make more informed investments. Holidays are usually centered around celebrating history, family, or religion; holidays do not often have anything to do with financial markets (Sezer, 2016). For example, no one relates the Federal holiday of Thanksgiving to an annual interest rate fluctuation. That being said, most investors, including powerful fund managers and high-volume traders, take these holidays off and the days leading up to these holidays often cloud one's attention of his or her job (Gondo, 2016). This is a common phenomenon in many fields. During normal five-day workweek, it is common that employees are not as performance driven on Fridays. This lack of attention to financial markets should result in a decrease in trading activity and a decrease in stock prices (Stock Charts, 2019). The general public's focus is shifted to a national event rather than financial markets (Gondo, 2019).

A scan of the Purdue Library database found a multitude of articles on the relationship between financial markets and Federal holidays. These studies look at aspects like how trading strategies differ before and after the holiday, how market volatility is affected by different holiday trading patterns, how much return an investor can earn before and after a single holiday, how religious holidays affect the risk a trader willing to take, and how the day of the week a Federal holiday is on changes investor strategy compared to a normal week.

In reviewing the body of knowledge on this topic, researcher quickly realized the importance of this study due to the lack of knowledge on this subject. Reviewing the articles available on the search engines of the Helmke Library of Purdue University, Fort Wayne showed little is researched on this field. Researchers used the keywords: federal holiday, stock price, and behavior.

**TABLE 1**  
**VOLUME OF ARTICLES FOUND ON THE PURDUE UNIVERSITY, FORT WAYNE**  
**LIBRARIES ON FEDERAL HOLIDAYS**

Search Words	Number of Peer-reviewed Journal Articles
“federal holiday”	372,020
“federal holiday” and “stock price”	54
“federal holiday,” “stock price,” and “behavior”	0

Those keywords used together in different combinations showed there was no research on the how behaviors near federal holidays impact stock prices. Researchers believe that this is a current and important topic given the possibility that there could be a situation where investors could exploit an inefficiency in the Efficient Market Hypothesis.

This study opens a new line in this research. This study is unique in that it is a greater representation of Federal holidays as a whole rather than focusing on one specific holiday. The study is not focused on religious, non-religious holidays, or a single holiday; rather it looks at all Federal holidays and uses data from all of them to form a conclusion. Although this is broad, we look at the problem from this wide scope as well as the narrower scope of each Federal holiday’s effect on the stock price of selected companies.

We noted earlier the psychological impact of holidays on investors. This also diversifies the implications of this research. The study will not only be centered on a business focus but also be focused on behavioral psychology and behavioral psychology is intermixing with business decisions. To our knowledge, we have no research on how human behavior affects the stocks of individual companies. There is significant research on how the highs or lows of stock prices affect the behavior and morale of the investing public, but this study looks at the reverse of those studies. Therefore, it will also open a new line of research in business psychology as well as the financial lane previously discussed.

The purpose of this study is to understand the impact of Federal holidays on a stock price. This research contains the following research question: “Is stock performance impacted by Federal holidays?”

The remainder of this work is organized into the following four sections. First, a literature review looks at prior literature that informs this study. The next section includes methodology, including both the research question and experiment design. The third section includes the research findings. Finally, the research ends with conclusions, including implications for management, limitations, and future research.

## **LITERATURE REVIEW**

Because of Federal holidays leave empty days in the middle of some workweeks, there are calendar anomalies within the stock market. The calendar anomalies exhibit trends of the returns being a generally higher pre-Federal holiday. These holidays can be broken down into the categories “religious” and “non-

religious.” Data from years prior, show the return on stocks is predominately higher before the religious holidays compared to the non-religious ones (Kudryavtsev, 2017).

Before these holidays, the stock market has seen a trend of short-term and long-term trading trends (Yang, 2017). For the short-term, traders buy stock leading up to the holiday and then sell quickly before the holiday or sell the following day of it. They do this to generate revenues while taking less risk. By selling the following trading day of a holiday, allows traders to try and avoid any potential bad news that will lower the price of the stock (Dahlquist, Martinez, & Söderlind, 2017; Stock Charts, 2019).

The traders who use the short-term method have seen great success with both buying and selling stock in the days leading up to a holiday. They are buying the stock at a lower price so when the market reopens after the holiday, the stock prices will be higher (Qadan & Klinger, 2017). Thus, they sell the stock at a higher price. Another method they do is to buy the stock leading up the holiday, and then sell the stock before the market closes on the last trading day before the holiday. Here the traders are trying to avoid possible factors that would lower the price of the stock such as unfavorable news. The traders are trying to avoid risks that will lower the number of their investments (Imas, 2016).

Traders who are practicing the long-term trading technique are willing to wait out the potential short-term bad news for lower prices of entrance into the market (Froot, Scharfstein, & Stein, 1992). Long-term traders will wait until closer to the end of the year or holidays since that is when all the short-term traders are unloading their holdings back into the market. Thus, pushing the stock prices down due to the influx of shares being available again (Stock Charts, 2019).

Following the 1987 stock market crash, the SEC adopted “Order Handling Rules” which required market makers to publish their best bid and ask on the NASDAQ (Lindsey, Byrne, & Schwartz, 2016). Another reform made was the “Small Order Execution System,” or “SOES,” which required market makers to buy or sell, immediately, small orders (up to 1000 shares) at the market maker’s listed bid or ask. The design of the system resulted in arbitrage by a small group of traders known as the “SOES bandits,” who made sizable profits buying and selling small orders to market makers by anticipating price moves before they were reflected in the published inside bid/ask prices. The SOES system ultimately led to trading facilitated by software instead of market makers via ECNs (Schmidt, 2015).

Volatility is a major effect of the trading strategies mentioned above. Depending on what day a holiday occurs on effects this. If a holiday falls on a weekend, where the stock market will not observe any extra days, the market is less likely to be volatile than if the holiday occurred on a Monday or Friday for which, the stock market observed the day. Before the long holiday weekend, returns have been seen to be higher than expected, while the following days after the long weekend have seen generally low returns (Han, Kutan, & Ryu, 2015).

The days leading up the holiday are the days in which the traders are buying stock rapidly. By buying the stock, they are driving the prices up, which activates the higher returns for those who are selling their shares (Qadan & Klinger, 2017). This effect is extremely beneficial for those who are selling before the holiday. The days following the holiday and long weekend, produce lower returns. Traders sell their shares after the holiday, which produces the opposite effects as before. By selling their shares, they are flooding the market with available shares. Thus, reducing the return those shares produce (Imas, 2016).

The days leading up to and following the Federal holidays have lower volatility and a higher return mean than days during a week without a holiday. This is from the higher activity on the market from the traders who are unloading their shares and those who are buying shares (Carchano & Pardo, 2015). The short-term and long-term traders are the reasons for this. Short-term traders use the days following a Federal holiday to sell stocks to avoid price lower news that could be released (Tsiakas, 2010).

Investors who are knowledgeable about the stock market tend to see better returns than those who are not. They focus on only current events and how they affect the market, but also how holidays do as well (Kudryavtsev, 2017). Around these holidays, investors become distracted whether it be from the stress of the shortened trading week or the stress of how they should maintain the good standing of their portfolio currently. Trends have shown that investors base their portfolios around their religious and political beliefs (Hood & Lesseig, 2017). Therefore, these holidays disrupt their trading schedules which cause distractions when the market reopens.

When the stock market closes for Federal holidays, investor inattention becomes a problem. This investor inactivity focuses investors on trying to continue their portfolio's good performance after the holidays. As mentioned above, holidays bring on great stress for traders and investors because many companies wait until the following days after a holiday to announce new that will change the stock price dramatically (Washer, Nippani, & Johnson, 2018).

By wanting to keep portfolio performance high, traders and investors can be less likely to make major trading decisions leading up to the holiday. This affects the volatility of the stock prices because, before the holiday, investors will want to hold onto their stocks rather than sell them. These investors will not practice the short-term approach but will follow the long-term approach. The investors and traders do not want to make any drastic negative changes to their portfolios before the holiday (Kudryavtsev, 2018).

Behavioral finance is the field that describes the psychological feeling that impacts investors. Given the emotional impact that holidays have it makes sense that trading near the holidays too could be impacted (Nader & Zahra, 2018). Behavioral finance is what psychologists use to describe the different behaviors that investors and traders have and consciously use to make decisions about their portfolios (Boylan, 2016). As mentioned above, investors and traders can use their religious and political beliefs as well to help them make decisions for their portfolios. The Federal holidays the stock market closes for also affect these behaviors. When the holiday is considered religious, fewer investors are willing to risk their investments (Kaustia & Rantapuska, 2016).

The nature of the holiday and what day of the week it falls on is important for this research. Religious holidays bring different behavioral finance effects on what stocks are traded when. This is because many investors base their portfolios on companies that they agree with and celebrate the same holidays. These behaviors correlate with when they decide to buy and when they decide to sell. Through this section, it has been detailed the holidays that create a long weekend or in the middle of the week, create a different return and volatility than those that fell on a traditional weekend (Hood & Lesseig, 2017).

## **METHODOLOGY**

Financial theory suggests capital markets reflect all available information about a company. This methodology allows researchers the ability to determine the economic effects of the measured variables. As a result, the firm's stock price is immediately impacted. Scholars developed the "event study methodology to analyze the strength of this reaction. Event studies that look at stock price returns quantify the results by using a requirement of "cumulative abnormal returns" or compounded returns above the expected to measure.

Researchers are looking to see if significant abnormal returns exist during the period studied. If these differences exist, the validity of the semi-strong format of the Efficient Market Hypothesis, with respect to this event, can be questioned. This would mean markets are not quickly absorbing the information or sluggish trading is taking place. This allows researchers to provide an evidence-based recommendation on the release of Information (Kamara, Korajczyk, Lou, and Sadka, 2018).

Researchers have focused this research on the cause and effect of holidays and stock price. They are not concerned with why the relationship is happening but worked to learn the relationship so it can be explained. To determine causality, researchers observed the variation in the variable assumed to cause the change. In this case, the independent variable is the specific federal holidays while the dependent variable it is the change in stock price. Analyzing this relationship is further influenced by people's attitudes and motivations. As a result, researchers selected specific stocks that did not have confounding influences as to minimize the impact of events not related to the federal holiday.

### **Sample and Descriptive Statistics**

This study uses a sample of stocks drawn from the NYSE Top 100 from December 31, 2014, to December 31, 2018. The sample includes 87 stocks that were on this list for the entire sample period. This sample was chosen to help ensure that the stocks analyzed were well known, relatively stable, and had a relatively high trading volume associated with them. This is important because trading must occur in order

to capture abnormal returns in the days leading up to and following federal holidays. We also choose to focus on U.S. federal holidays because they are often days on which trading does not occur and because they tend to have the farthest reach on individual and societal behavior (Stock Charts, 2019).

### Procedures

This research investigates whether U.S. federal holidays have an impact on stock prices, which guides the formulation of the null and alternative hypotheses. The null hypothesis is that U.S. federal holidays do not have an impact on stock prices, while the alternative hypothesis is that U.S. federal holidays do have an impact on stock prices. Because stock prices are a time series, testing these hypotheses as formulated above is problematic. For example, suppose a holiday has a negative effect on stock prices. If the stocks in the sample are trending upward when the holiday occurs, it is possible that the upward trend is large enough to outweigh the negative effect of the holiday and generate an overall positive change in the stock price. This problem is demonstrated in Figure 1 below.

To overcome this difficulty, first differences of the daily close price of each stock in the sample were calculated, effectively removing a linear trend from the data. Thus, our hypotheses for this paper should be restated. The null hypothesis is that U.S. federal holidays do not cause stock prices to move above or below their trends:

$$H_0: C_{t+1} = C_t$$

where  $C_t$  refers to the mean change in close price from day  $t - 1$  to day  $t$ . The alternative hypothesis is that U.S. federal holidays do cause stock prices to move above or below their trends:

$$H_a: C_{t+1} \neq C_t$$

The alternative hypothesis is formulated this way because this study is interested in whether stock prices deviate from their trends near U.S. federal holidays and is ambivalent about whether such deviations are positive or negative.

Another issue related to the NYSE Top 100 data is the variation in the magnitude of the stock prices. The prices of the most expensive stocks are an order of magnitude (or more) larger than the prices of the least expensive stocks. As such, the changes in close prices were scaled to percentages.

### FINDINGS

We begin by dividing U.S. federal holidays into two categories. The first is trading holidays, which are U.S. federal holidays on which markets are open and trading of stocks still occurs. The second is non-trading holidays, which are U.S. federal holidays on which markets are closed and trading does not occur. Table 2 below shows the mean percent change in the close price from the previous day, both on the day before and the day after the holiday. The standard error of the mean is also shown. In the case of trading holidays, the mean and its standard error is also calculated on the holiday itself.

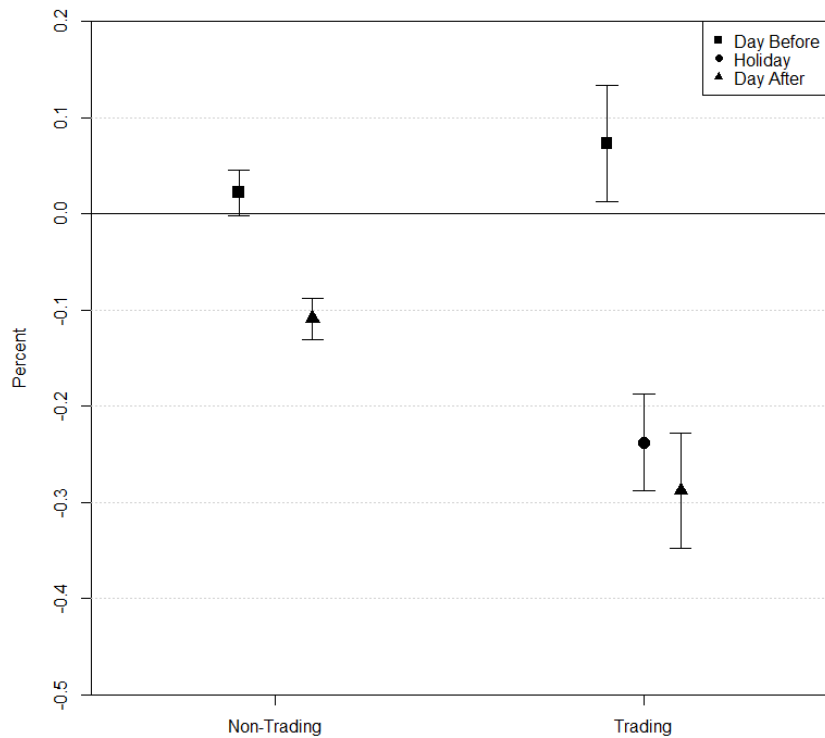
In addition, a one-sample means test was conducted on each mean to provide evidence for the hypotheses guiding this study. The t-value for these tests is also shown in Table 2. From this, it can be determined that on the day after a non-trading holiday, stock prices are approximately 0.11 percent below their trend, and this is a statistically significant result at a 1 percent significance level. For trading holidays, stock prices are approximately .24 percent below their trend, and .29 percent below their trend on the day after. Both of these results are statistically significant at a 1 percent significance level.

Figure 1 below displays the means from Table 2 with error bars equal to the standard errors from the table. It visually shows that the strongest evidence in favor of the alternative hypothesis occurs on the day after the U.S. federal holiday (and on the holiday in the case of trading holidays), and that the stock price is dipping below its trend.

**TABLE 2**  
**CHANGE IN CLOSING PRICE FOR NON-TRADING AND TRADING HOLIDAYS.**

	Mean	Standard Error	t-value	n
<b>Non-Trading Holidays</b>				
Day Before	0.000220	0.000235	0.939	3,430
Day After	-0.001093	0.000211	-5.193	3,528
<b>Trading Holidays</b>				
Day Before	0.000732	0.000602	1.127	784
Holiday	-0.002380	0.000502	-4.74	784
Day After	-0.002881	0.000603	-4.776	784

**FIGURE 1**  
**DISPLAY OF THE MEANS FROM TABLE 2**



Next, we look at each holiday individually. Table 3 below shows the same information as Table 2, but for each holiday rather than aggregated into trading and non-trading categories. Stock prices above or below their trend the day before the holiday at a 1 percent significance level include New Year's Day at .18 percent below, Martin Luther King Jr. Day at .32 percent above, Good Friday at .4 percent below, Fourth of July at .55 percent above, Thanksgiving at .26 percent below, and Christmas at .25 percent below. Stock prices above or below their trend the day after the holiday at a 1 percent significance level include New Year's Day at .75 percent below, President's Day at .61 percent above, Good Friday at .2 percent above, Labor

Day at .27 percent below, Christmas at .69 percent below, and Veteran's Day at .62 percent below. On the trading holidays of Columbus Day and Veteran's Day, prices are below their trend at the 1 percent significance level by .22 and .26 percent, respectively.

**TABLE 3**  
**CHANGE IN CLOSING PRICE FOR EACH U.S. FEDERAL HOLIDAY**

	Mean	Standard Error	t-value	n
<b>New Year's Day</b>				
Day Before	-0.001800	0.000384	-4.687	294
Day After	-0.007483	0.000311	-24.043	392
<b>Martin Luther King Jr. Day</b>				
Day Before	0.003180	0.000747	4.260	392
Day After	-0.000314	0.000946	-0.332	392
<b>President's Day</b>				
Day Before	0.002033	0.000913	2.226	392
Day After	0.006095	0.000683	8.928	392
<b>Good Friday</b>				
Day Before	-0.004036	0.000576	-7.003	392
Day After	0.002024	0.000574	3.527	392
<b>Memorial Day</b>				
Day Before	0.000927	0.000462	2.008	392
Day After	-0.000135	0.000384	-0.351	392
<b>Fourth of July</b>				
Day Before	0.005468	0.000560	9.758	392
Day After	-0.000335	0.000483	-0.694	392
<b>Labor Day</b>				
Day Before	0.000823	0.000519	1.585	392
Day After	-0.002684	0.000509	-5.277	392
<b>Thanksgiving</b>				
Day Before	-0.002598	0.000767	-3.389	392
Day After	-0.000132	0.000562	-0.234	392
<b>Christmas</b>				
Day Before	-0.002520	0.000919	-2.742	392
Day After	-0.006876	0.000704	-9.765	391
<b>Columbus Day (Trading Holiday)</b>				
Day Before	0.001396	0.000644	2.167	392
Holiday	-0.002198	0.000557	-3.946	392
Day After	0.000395	0.000672	0.587	392
<b>Veteran's Day (Trading Holiday)</b>				
Day Before	0.000068	0.001016	0.067	392
Holiday	-0.002561	0.000836	-3.064	392
Day After	-0.006156	0.000975	-6.316	392

Interestingly, thirteen out of twenty-four means tests reject the null in favor of the alternative hypothesis. Thinking of it another way, all but one of the eleven U.S. federal holidays had at least one day of above or below trend stock prices before or after the holiday.

## **Discussion**

This project was a success and failure. It displays specific stock plays that can be taken advantage of, though the overall project goal was a failure. Once the research of the project was finished it clearly showed trends in specific stocks and Federal holidays. It also showed that not all stocks follow trends in accordance with Federal holidays.

Stocks that had strong trends were Pfizer, Microsoft, and Berkshire Hathaway. Each stock showed significant losses. These losses are important because if a stock has predictable patterns investors can take advantage of those trends. The key is the trends are predictable, over ten holidays the stocks still had significant losses. If the stocks had random losses during one or two of the holidays the trend would be negligible. These stocks showed significant and predictable trends that are easy to invest in (Bulkowski, 2016). These results aligned with the prediction in the introduction that Federal holidays bring down stock prices in the trading week before the holiday. A continuation of this research would include a stock's performance the week after a Federal holiday. A Federal holiday artificially brings down a stock's price according to the statistical analysis. A continuation would be to find out when the stock price readjusts itself to a more normal price from this artificial decrease. Also, if this readjustment can be capitalized on like the trading week before the holiday can be.

Federal holidays do not share these limitations, as all ten of the Federal holidays were tested psychology (The New York Stock Exchange, 2016). The holidays also showed significant trends. Individual holidays such as Labor Day and Columbus Day had cumulative percent changes of over 16 percent, negatively and positively respectively. This is also encouraging the other aspect of the project to also display trends. The holidays share similar limitations to the stocks as well. It is evident there are specific trends with individual holidays, though not all holidays have consistent or significant enough trends to be exciting to an investor. Holidays such as Independence Day, New Year's Day, Martin Luther King Jr. Day, and Labor Day all have significant trends of negative stock performance. On the contrary, holidays such as Christmas, and Thanksgiving have insignificant trends comparatively. Also, because Columbus Day and Labor Day's trends are so strong, they may be outliers This exposes a huge limitation for this view of the research, the data is all from 2015. It is certainly possible that this year had poor holiday stock performances while other years there are positive trends more so than negative trends. Another continuation of the research would have to be expanding the timeline of the data to increase the reliability of the statistical analysis. Increasing the number of listed counters may also have an effect on the research.

As previously stated, the research showed specific aspects of investable trends, though, across all ten holidays and all four stocks, the trend was too insignificant. As a result, the original project direction was not supported. This could be fixed by refining the stocks and holidays chosen to fine-tune the trends shown by the statistical analysis.

## **CONCLUSIONS**

The purpose of this study is to understand the impact of Federal holidays on stock price. This research contains the following research question: "Is stock performance impacted by Federal holidays?" Specific stocks have reliable and significant trends in the relationship with specific Federal holidays. These trends are highly investable because of reliability and significance. Though only in specific cases does there exist investable opportunities. This research solely focused on stock performance in the week prior to Federal holidays. To further this research, the stock performance at different intervals, as well as stock performance post-holiday, will have to be conducted.



## Implications for Management

There are several implications management can take away from this research. First, all workdays are important, and managers must treat them as such. Simply taking a day off can have stock price implications. Second, management should not put too much weight into these results. Research shows over the long term they trends will dissipate and become meaningless. Additionally, both corporate managers and investment managers need to understand the systematic market phenomenon.

## Limitations

Limitations of this analysis come from the research only having four stocks and the selection procedure of these four stocks may be criticized in this section as well. To further certify this negative trend more stocks would have to display this trend. It is possible the three stocks displaying this trend are the exception and stocks like General Electric are the norm. additionally, this research assumed that no other information impacts stock price. Though researchers only used companies that did not have significant events, possibly other market communications played a role in the change in price.

## Future Research

As a result of this research, possibilities for future research are plentiful and should proceed full steam ahead. One such option includes looking at trading trends that can occur at the beginning and end of the day. A second topic is the impact of trading done on overseas markets in the off hours of American exchanges. Third, researchers could look at the possible trading differences that exist among the different stock exchanges. For example, is there an impact on the NYSE and not for the NASDAQ? Lastly, research focused on different industries could prove vital for understanding. This type of research could look at if there is a difference in perhaps the airline manufacturing industry where sales often take several years to complete and the banking industry where the daily difference is important.

## REFERENCES

- Berenson, M.L., Levine, D.M., & Szabat, K.A. (2015). *Basic business statistics concepts and applications* (13th Ed.). Upper Saddle River, NJ: Prentice-Hall.
- Boylan, D.H. (2016). *The innovative use of Twitter technology by bank leadership to enhance shareholder value*. ProQuest.
- Boylan, D.H., & Boylan, C.L. (2017). Technology in accounting: Social media as an effective platform for financial disclosures. *The International Journal of Digital Accounting Research*, 17, 93–109. [http://doi.org/10.4192/1577-8517-v17\\_4](http://doi.org/10.4192/1577-8517-v17_4)
- Bulkowski, T. (2019). *Bulkowski's Holiday Research*. Retrieved from <http://thepatternsite.com/Holiday.html>
- Carchano, Ó., & Pardo, Á. (2015). The pan-European holiday effect. *Spanish Journal of Finance & Accounting / Revista Espanola de Financiacion y Contabilidad*, 44(2), 134–145. Doi:10.1080/02102412.2015.1016716.
- Dahlquist, M., Martinez, J.V., & Söderlind, P. (2017). Individual investor activity and performance. *Review of Financial Studies*, 30(3), 866–899. doi:10.1093/rfs/hhw093
- Froot, K.A., Scharfstein, D.S., & Stein, J.C. (1992). Herd on the street: Informational inefficiencies in a market with short-term speculation. *The Journal of Finance*, 47(4), 1461–1484. doi:10.1111/j.1540-6261.1992.tb04665.x
- Gondo, N. (2016, December 23). Stocks quiet ahead of Christmas Holiday; Apple, Microsoft slip on Dow. *Investors Business Daily*, p.31. Retrieved from [search.ebscohost.com/login.aspx?direct=true&db=bth&AN=120483146&site=ehost-live&scope=site](http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=120483146&site=ehost-live&scope=site)
- Han, H., Kutan, A.M., & Ryu, D. (2015). Effects of the US stock market return and volatility on the VKOSPI. *Economics: The Open-Access, Open-Assessment E-Journal*, 9, 1–34. doi:10.5018/economics-ejournal.ja.2015-35

- Hood, M., & Lesseig, V. (2017). Investor inattention around stock market holidays. *Finance Research Letters*, 23, 217–222. doi:10.1016/j.frl.2017.07.015
- Imas, A. (2016). The realization effect: Risk-taking after realized versus paper losses. *American Economic Review*, 108(8), 2086–2109. doi:10.1257/aer.20140386
- Kamara, A., Korajczyk, R.A., Lou, X., & Sadka, R. (2018). Short-Horizon Beta or Long-Horizon Alpha? *Journal of Portfolio Management*, 45(1), 96–105. <http://doi.org/10.2139/ssrn.2890944>
- Kaustia, M., & Rantapuska, K. (2016). Does mood affect trading behavior? *Journal of Financial Markets*, 29, 1–26. doi:10.1016/j.finmar.2015.08.001
- Kliger, D., & Kudryavtsev, A. (2014). Out of the blue: Mood maintenance hypothesis and seasonal effects on investors' reaction to news. *Quantitative Finance*, 14(4), 629–640. doi:10.1080/14697688.2012.745646.
- Kudryavtsev, A. (2017). I'll think about it tomorrow: Price drifts following large pre-holiday stock price moves. *The Review of Finance and Banking*, 9(2), 43–62.
- Kudryavtsev, A. (2018). Holiday effect on stock price reactions to analyst recommendation revisions. *Journal of Asset Management*, 19(7), 507–521. doi:10.1057/s41260-018-0095-6
- Lindsey, R., Byrne, J.A., & Schwartz, R.A. (2016). The SEC's Order Handling Rules of 1997 and Beyond: Perspective and Outcomes of the Landmark Regulation. *Journal of Portfolio Management*, 42(3), 56–64. doi:10.3905/jpm.2016.42.3.056
- Lyle M.R., Rigsby C., Stephen, A., & Yohn, T.L. (2021, July 19). *The Speed of the Market Reaction to Pre-Open versus Post-Close Earnings Announcements (May 9, 2019)*. Kelley School of Business Research Paper No. 17-75, <http://doi.org/10.2139/ssrn.3064160>
- Morningstar. (2019). *Ticker price*. Retrieved on various dates from <http://www.msn.com/en-us/money/stockdetails/fi-126.1.IBKC.NAS?ocid=INSFIST10>
- Nader R., & Zahra E. (2018). Behavioral finance models and behavioral biases in stock price forecasting. *Advances in Mathematical Finance and Applications*, 3(4), 67–82.
- Qadan, M., & Kliger, D. (2016). The short trading day anomaly. *Journal of Empirical Finance*, 38, 62–80. doi:10.1016/j.jempfin.2016.05.007
- Rango, G., Aleksovski, D., Caldarell, G., Gracar, M., & Mozetic, I. (2015). The effects of Twitter sentiment on stock price returns. *PLoS ONE*, 10(9). <http://doi.org/10.1371/journal.pone.0138441>
- Schmidt, D.E. (2015). Trading up. *Marketing Insights*, 27(6), 22–27. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=111483241&site=ehost-live&scope=site>
- Sezer, O., Norton, M.I., Gino, F., & Vohs, K.D. (2016). Family rituals improve the holidays. *Journal of the Association for Consumer Research*, 1(4), 509–526. doi:10.1086/688495
- Stock Charts. (2019). The pre-holiday effect. Retrieved from [http://stockcharts.com/school/doku.php?id=chart\\_school:trading\\_strategies:the\\_pre-holiday\\_effect](http://stockcharts.com/school/doku.php?id=chart_school:trading_strategies:the_pre-holiday_effect)
- The New York Stock Exchange. (2019). Retrieved from <https://www.nyse.com/markets/hours-calendars>
- Tsiakas, I. (2010). The economic gains of trading stocks around holidays. *Journal of Financial Research*, 33(1), 1–26. doi:10.1111/j.1475-6803.2009.01260.x.
- Washer, K.M., Nippani, S., & Johnson, R.R. (2018). Santa Claus rally and firm size. *Journal of Asset Management*, 42(8), 817–829. doi:10.1108/MF-10-2015-0280
- Yahoo.Finance. (2019). *Historical Prices*. Retrieved from <https://finance.yahoo.com/lookup>
- Yang, A.S. (2016). Calendar trading of Taiwan stock market: A study of holidays on trading detachment and interruptions. *Emerging Markets Review*, 28, 140–154. doi:10.1016/j.ememar.2016.08.004