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Financial Red Flags: Empirical Mapping of Firm Political Preferences by Sector in Mexico

Ian Connors
University of San Francisco, ianshorsconnors@gmail.com

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Ian Shors Connors

Department of Economics
University of San Francisco
2130 Fulton St.
San Francisco, CA 94117

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e-mail: *isconnors@usfca.edu*
Advisers: Peter Lorentzen & Michael Jonas

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Abstract: Can the stock market be used to determine the political preferences of individual economic sectors? This paper explores the conceptual relationship between electoral outcomes and financial markets in Mexico. Specifically, it analyzes how financial markets predict the expected effects of a given political platform on the performance of firms within specific sectors. To do this, the study used event-study methodology to calculate abnormal returns on stock prices across the nine sectors listed on the Bolsa Mexicana de Valores stock exchange following the historic election of leftist candidate Andrés Manuel López Obrador (AMLO), On July 1, 2018. However, despite the uncertainty generated by the business unfriendly and anti-establishment rhetoric of AMLO as a candidate, the study was unable to definitively ascribe political preferences to firms at the sectoral level. Despite the lack of support for this hypothesis, the results do provide interesting information that can provide the basis for further study.

1. Introduction

Studies from economics and other social sciences have long recognized that political and economic outcomes are highly correlated (albeit endogenously). These two fundamental aspects of human society have existed in tandem since the first organization of humans into cohesive political and economic units and remain the focal points of interest for those who endeavor to study the nature of human interactions. In the modern day, it has become possible to perform empirical analyses and experiments that quantify these interactions via the advent of easily measurable indicators such as stock market returns (as used in this study), interest and exchange rates, income levels, democratic political outcomes and many more. Within that context, this project focused on how fluctuations in firm values on the stock market can be linked to specific political outcomes in an attempt to determine the political preferences associated with individual economic sectors.

To do this, this project calculated Cumulative Average Abnormal Returns (CAARs, later referred to as ARs for brevity) using event-study methodology with the goal of determining how investors in the nine sectors listed on the Bolsa Mexicana de Valores stock exchange viewed the election of Andrés Manuel López Obrador (AMLO). The aim of these measurements and calculations was to quantify the predictions of investors on the potential effects of AMLO's controversial brand of leftist politics in particular economic sectors in a country long-dominated by more centrist and business friendly political factions. To do so, this study used six different event windows over three important dates around and during the official campaign season:[1] the end of intra-party primaries, the first day of the official campaign season (which is enforced by the government and prohibits campaign activities outside of specific dates) and the election itself. The use of six event windows is important because each gives a different perspective on the interpretation of ARs, with windows looking results prior to the event to take into account reductions in uncertainty and windows looking into the future taking into account market adjustments and long-term changes to firms' stock prices.

To perform this event-study analysis, abnormal returns will be calculated using the methodology developed by Pacicco, Vena and Venegoni (2018). The use of this methodology is worth noting because it represents the culmination of previously proposed event-study methodologies and provides model flexibility for utilizing different theoretical approaches and

[1] Which is specified and enforced by the government, with no campaigning activities permitted outside of their pre-established window.

diagnostic tests. Furthermore, its replicable structure makes the results for each date under consideration comparable to one another, which makes tracking the individual preferences of sectors and individual firms easier to manage.

This study predicted that certain economic sectors would have strong political preferences based upon the potential effects that the political platforms of each candidate would have on their particular industries. We considered factors such as trade dependency, the beneficiaries of state-involvement in the economy and the sale of luxury items as the basis for predicting how certain sectors would regard the election of AMLO, who is widely considered to be a far-left of center politician suspicious of free-trade and hostile to the economic elite (The Economist, 2018; Krupskaia, 2018). Unfortunately, the study was unable to definitively determine the political preferences of entire sectors using this methodology alone, but did uncover some interesting statistical evidence that suggest the analysis could be reformulated at the individual firm level using the same data and results but adjusting the assumptions used in this present work.

Background and Political Context

Because the candidates from the opposition National Action Party won the presidency in 2000 and 2006, the election of AMLO is technically not the first disruption to the otherwise stable political order, which had previously been dominated by the Institutional Revolutionary Party (PRI) for 80 uninterrupted years. Following the relatively brief period of PAN leadership between 2000-2012, the following two presidential elections were won by the PRI and the MORENA (AMLO) candidates in 2012 and 2018 respectively. Thus, the return to power of the PRI between 2012-2016 represented a return to the old system of politics and economic policy. The perception by the electorate of the failure of the PRI to deliver on campaign promises and improve the country's economic well-being (as well as numerous political scandals at the highest levels of power) led to a powerful backlash amongst voters, who rallied around AMLO and his promises of drastic changes to the political and economic systems of the country.

Furthermore, the current President, AMLO, took part in the last three electoral cycles, losing in all but the most recent. This is important because over that time period he was labeled by the press and his political rivals as a radical leftist candidate akin to Hugo Chavez in Venezuela and Fidel Castro in Cuba (The Economist, 2018; Montes, 2018). Whether or not this vilification

of his candidacy has any merit, economic and political analysts generally framed him as an anti-business candidate who would potentially nationalize many important industries and bring back state-management of the economy rather than free-market practices. His emphasis on economic inequality and social spending for Mexico's large impoverished population also generated fears among investors about the safety of their property rights and ability to continue with business as usual (Montes, 2018). Both of these points are important because, regardless of their veracity, this was the information that was widely disseminated to investors and the general public during the electoral process.

The qualities of AMLO as a candidate are crucial to the analysis presented by this project because they represent, at least superficially, a political force diametrically opposed to the general principles espoused by commercial interests and financial markets. Therefore, upon his election, we would expect the markets to demonstrate abnormal behavior due to his unapologetic populist and leftist political and economic philosophies. Furthermore, as his principle campaign promise was to challenge institutional corruption, would also suggest that the well documented illicit relationships between firms and public officials would be fundamentally threatened by his victory (Rosas, 2018) This uncertainty and fear of his candidacy should in turn be reflected in firm's stock prices as investors consider the potential threat to their investments.

Underlying Assumptions in this Study

Due to the unique characteristics of Mexico as a country and political system as well as for interpreting the results of the event studies featured in this study, the following major assumptions are made in the interpretation of the results of this analysis:

- **Andrés Manuel López Obrador represents the antithesis of the political and economic establishment.** As a self-proclaimed leftist and outspoken skeptic of globalization and modern capitalism, AMLO is expected to cause an overall decline in sectors and firms that have benefited from past presidencies under the PAN and PRI political parties (The Economist, 2018; Montes, 2018; The Wall Street Journal, 2018). Therefore, an AMLO/MORENA victory would represent the first time that a president outside of the two preeminent political parties would have occupied the presidency. This would likely have major implications for firms with historical relationships with PAN and PRI political operatives (including through corruption) as well as the fact that his personal politics might provoke concern across the market about the new overall direction of Mexican economic policy.

- **In many respects, we can expect the presence of abnormal returns to be the result of the reevaluation of the well documented corrupt relationships that have existed under the PRI and PAN governments of the past.** Corruption is rampant and well documented in Mexico. This has been particularly evident under the previous administration of Enrique Peña Nieto, which suffered from corruption scandals at the highest levels of the government—including the president himself (Verza, 2018). In Mexico, corruption is often seen as a cost of doing business—required to get through the glacial bureaucracy and ensure the continuity of business operations. Thus, in many ways, measuring the political connectedness and preferences of firms acts as a proxy for estimating the presence of illicit relationships between government actors and firms. Therefore, it can be assumed that many of the largest firms in the country have spent decades cultivating power and influence amongst these two traditional political power-brokers.

- **For a myriad of reasons, including weak economic growth, rampant corruption and social exclusion, the Mexican electorate is expected to elect AMLO to the presidency.** This is an important assumption in this study because of the nature of financial markets to adapt themselves to changing contexts and price-in new developments as uncertainty decreases. This is particularly important for calculating abnormal returns via event-studies because abnormal returns are usually the result of unanticipated news and the sudden generation of uncertainty. For this study, knowing that AMLO is came into the presidential campaign with sizeable political support and that his opponents (PAN and PRI) are likely to split any vote in opposition to his candidacy, it is likely that markets will adjust accordingly and will take steps over time to adjust to the possibility of an AMLO victory—limiting the size of abnormal returns reported on the date of the election (Bloomberg, 2018). For this reason, this analysis will use multiple event-studies and windows over the duration of the campaign season. However, in light of Mexican political history fears of election irregularities and AMLO's previous electoral loss by less than a percentage point will ensure that investor uncertainty remains a factor until the day of the election.

- **Cumulative Average Abnormal Return (CAAR) data will differ by sector.** Much of the fearmongering and negative rhetoric directed at front-runner candidate AMLO is focused upon his alleged adherence to a leftist ideology often referred to as "Venezuelan-Style Socialism (The Economist, 2018)." While these fears may or may not be founded in reality, the plethora of propaganda expressing this type of sentiment have the ability to affect the perspectives of investors who fear the deterioration of property rights as well as the introduction of policy more akin to a state-planned economy. For this reason, it is likely that abnormal returns (positive or negative) will likely reflect this expectation by investors.

2. Literature Review

The following sections aim to provide information about the main strategies and theoretical basis for analyzing the political preferences of firms operating in Mexico. As mentioned in the introduction, the primary methods of analysis rely on well-known event-study

and time series regression estimation models, which have been firmly established in the literature for several decades. That being said, inferences made from the study's results are subject to the same limitations faced by all financial econometrics projects. This is due to the unobservable nature of many of the relationships between electoral and economic outcomes (such as propensity to vote or time-invariant personal traits that guide electoral decisions) and the difficulty and debate over their precise definition.

However, as will now be shown, several attempts have already been made to mathematically identify both how stock prices react to political outcomes as well as how financial markets behave in the presence of institutional corruption. These strategies will form the basis for the analysis performed in this present project, which in of itself will essentially be a hybrid model combining the most important econometric techniques of each incorporated within event-study methodology.

2.1 Financial Time Series Data Analysis & Event Studies

The primary underlying theory for this project can be found in the practical use of financial time series data in the construction of an event-study analysis. In order to achieve results with minimal bias and which also provide tractable information for policy makers or academics, the model must be properly designed and specified. Thankfully, the econometric theory behind event studies using time series data has a relatively long history of academic attention and thus the foundational approaches to these methods have been well documented.

2.1.1 The Theory Behind Event Studies

In 1985, Stephen Brown and Jerold B. Warner released a manual in the Journal of Financial Economics in which they set forth the specific process by which individual daily stock returns can be analyzed under this event-study framework (Brown, Stephen J and Jerold B Warner, 1985). This specific focus on the use of daily stock returns as a data source is important for this present project as this particular type of data can produce results with substantially different inferences depending upon the construction of the model. For example, this paper specifically compares how daily returns differ from monthly returns in terms of departures from normality (daily returns often take the form of fat-tailed density distributions, rather than

normal) and an overall increase in the observed variance that can complicate the interpretation of the results when analyzing a specific time window during a study. They also address the increased power of autocorrelation on the overall results as there is a greater propensity for the value of individual stocks to be directly affected by previous values, which as mentioned above show a greater amount of overall variance compared with higher-level time variables such as monthly return data.

In later years, the literature began to focus more intensively on specific nuances in the structure of financial time series data and the irregularities associated with autocorrelation and non-stationarity of the error term. For example, a more recent proposal to account for serial correlation and irregularity is through the use of an approximate entropy technique, which is an outside-of-the-model approach to measure sequential departures from normality (Pincus and Kalman, 2004). The focus on normality is crucial for the proper functioning of event studies because if the stock-return data used does not have a normal distribution it skews the results, which tends to be the case more often than not with financial time series data. Fortunately, the lack of normality can be accounted for by specifying the type of diagnostic statistic (used to calculate standard errors) to determine the extra volatility within the structure of ARs, which accounts for non-normal distributions.

This project will use the "estudy" command on STATA which is a user-created command authored by Fausto, Vena and Venegoni and published in the STATA journal in 2018. The command itself simplifies the process of calculating Abnormal and Cumulative Abnormal returns over a maximum of six different event windows and provides several options for calculating the returns with different market models and statistical significance tests. (For more detail see Appendix C).

2.2 The Political Preferences of Firms

One of the key factors for the analysis of financial market outcomes following the 2018 Mexican presidential election will be the ability to link individual sectors to political party preferences using stock price returns as the primary indicator. Fortunately, there is a fairly large body of literature that provides examples and strategies for how to perform these types of analyses.

One of the best examples of how to link political outcomes to firm value can be found in the work of Acemoglu et al (2015). This study showed a realistic approach to establishing a quantitative link between political and financial market outcomes utilizing event study methodology. The stock returns of firms that had an established direct or indirect association with Timothy Geithner when he was nominated to be Secretary of the Treasury by President Barrack Obama were found to have statistically significant abnormal returns when new information on the likelihood of his nomination was released. Because Geithner had worked for several years as the head of the New York Federal Reserve Bank, he was in constant communication with some of the largest financial firms in the country and had direct professional relationships with them as determined by public records of his meetings and correspondence (Acemoglu et al, 2016). To do this the authors analyzed cumulative abnormal returns for the firms sampled following the announcement of his nomination as well as when his nomination was almost derailed by a potential tax problem he had. By choosing these dates for their event-study they were able to prove that indeed, those firms with personal and professional associations with Geithner saw a bump in their stock prices when his political future changed (Ibid).

Another important example of this type of event-study analysis comes from the work of Raymond Fisman, who analyzed the value of political connections by looking at firms in Indonesia under strong-man Suharto to measure how his perceived political longevity would affect firms assumed to have strong connections to him. This connectivity of firms to Suharto was done through identifying rumors and anecdotal evidence about the nation's leader and then analyzing the stock prices of firms before and after this information became public. For example, when there were rumors about potential threats to Suharto's health, certain firms had consistently similar declines in value compared with other firms considered less-well connected (Fisman, 2001). This analysis was then run for various types of similar political events with the firms identified as well-connected having statistically significant fluctuations in value consistent with Fisman's hypothesis (Ibid).

In a similar fashion, the idea of volatility has been directly applied to political outcomes. While it is generally accepted that political instability would have these types of negative financial market outcomes, by looking at different countries with disparate levels of institutional quality and proving its universality statistically, the concept can be applied to broader contexts (Hira, 2017). Because the election of Vicente Fox (PAN) in 2000 and of Andrés Manuel López Obrador (MORENA) in 2018 represented a massive shift in the political order (The PRI political

party ruled the country uninterrupted for 80 years), these elections inherently represented moments of political instability and uncertainty. Thus, by using Hira's results as a baseline for understanding how political instability can affect firm value, it can also be inferred that in the context of Mexico, volatility in stock prices in the face of a profound electoral change can be interpreted as a political preference for a political party or platform—be that positive or negative.

Indeed, some firms may have a greater sensitivity to political risk than others which are then reflected in their stock prices. For example, local and global political risks affect individual firms and sectors differently. There is evidence showing that industries more dependent on trade, contract enforcement and labor face greater return volatility in the presence of greater local political risk, with similar effects occurring when these risks occur in major trading partners (Boutchkova et al, 2012). This is important to the analysis of Mexican presidential elections because the various political parties in the country have very distinct political ideologies and economic philosophies—ranging from far-left to far-right—and these differences could be reflected in the prices of firms which could be perceived to benefit or lose under the rule of a given party. Furthermore, Mexico's economy has many of the features mentioned by the authors: a heavy reliance on labor and international trade, as well as relatively weak property rights and pervasive institutional corruption that can threaten the enforcement of contracts (Ibid).

From a more simplistic perspective, it may be possible to judge how "business-friendly" a given political party or candidate is by monitoring the number of IPOs that occur in a country given the expectation that one or the other political group is likely to win an election (Çolak et al, 2017). In one study," Çolak et al, analyzed the number of IPOs in individual States in the USA in years when they are to hold a gubernatorial election. Using bordering states who are not holding elections as a control group, they were able to find that the political uncertainty of a given election year has a dampening effect on the number of IPOs in a given jurisdiction (Çolak et al, 2017). This was particularly true for companies whose home states had higher concentrations of businesses and firms with greater dependence on government contracts (Ibid). While this particular methodology will not be used in this paper, it does demonstrate that using empirical methods to measure financial outcomes can be directly linked to political outcomes and that these results are quantifiable using econometrics. This is important for the analysis in Mexico because many firms in the country are either outrightly state-owned or have the government as a major stakeholder. Thus, a change in power could be seen as a threat to the operation of these firms and subsequently their overall value on the market. Therefore, a drop in

IPOs (or in the case of this project—abnormal returns data) might theoretically be correlated with the uncertainty of firms about the policies of a presumptive new president of the republic.

2.3 Corruption

One of the major assumptions (discussed later in this section) made within the framework of this project, is that institutional corruption is rampant in the Mexican political and economic systems—so much so, that abnormal returns for firms can be taken to be a direct result of radical changes in the structure that supported these illicit relationships. This aspect of the paper is necessarily more difficult to quantify due to the covert nature of illicit relationships. However, due to the well documented presence of corruption in the country (Naim, 2005; Rosas, 2018) as well as the lack of political variability in the country over the past 100 years, it is likely that a major political change would disrupt longstanding relationships between government and business which would result in a change in the value of those firms as a result of the loss of these valuable relationships.

One way to consider the problem of corruption in a middle-income country with fairly weak institutions such as Mexico is to first look at how corruption affects economic outcomes in more developed countries with greater institutional capacity. The work of Jared Smith (2016) provides an interesting insight into what to look for in Mexico. His findings, using data from the US Department of Justice, are that firms in more corrupt areas hold less cash and have greater leverage than firms in less corrupt areas (Smith, 2016). What this entails is that lower levels of cash and higher debt ratios are used a defensive mechanism to avoid expropriation by corrupt government officials (Ibid). This is important to the present analysis because these same underlying processes will likely show up in abnormal returns as firms reconsider the composition of their balance sheets.

From the perspective of the firm, Pat Akey (2016) shows that firms who donate money to winning political candidates tend to see an abnormal equity return approximately 3% higher than firms that did not (Akey, 2015). Within the context of US congressional elections, this study demonstrates that firms truly do have political preferences and that by donating to winning candidates they are able to establish a political network that will, more often than not, act in their favor on legislation important to the firm (Ibid). This same underlying logic was the foundation

for this analysis as it does empirically demonstrate that economic interests have certain political preferences and that when they attain them, they benefit materially.

3. Data &Methodology

3.1 The Data

All of the data utilized by this project is derived from the Bloomberg Professional Services platform available at terminals provided by the University of San Francisco at their 101 Howard Street Campus. The total dataset is composed of 57 firm securities listed on the Bolsa Mexicana de Valores (BMV) stock exchange, with daily stock prices for each between January 1, 2017 and December 31, 2018 for a total of 502 observations for each firm. The decision to use two years of data was based upon the study "The Value of Connections in Turbulent Times: Evidence from the United States" by Acemoglu et. al., in which the authors calculated their event-study estimation window by using 250 trading days of data prior to the events under question. This study does not follow their formula precisely because several important dates during the 2018 campaign cycle make the estimation windows for earlier events slightly smaller than those that come after. However, all of the estimation windows utilized comprise at least one year's worth of data, which the Acemoglu study specifically mentioned as an important barometer for calculating abnormal returns (ARs; which are discussed later in this section). The sample size would have been far larger than 57—there are a total of 145 firms listed on the exchange at the time this project was undertaken—but for unknown reasons, Bloomberg is missing data for many of the listed firms, in various degrees of severity. However, while the Bloomberg data obtained is flawed in terms of its completeness and accessibility to information for all firms listed on the BMV exchange, it remains a respected and widely used source of financial information across the world—and as such—where complete information is available it can be considered a trustworthy and verified source for the financial data used in this present project.

3.1.1 The Sample

The sample was restricted to those firms for which complete information was available through the dates under analysis, (with a few exceptions) for a total of 57 securities across all nine sectors listed by the BMV[2]. It should be noted, however, that only one firm represents the entirety of four individual sectors—predominantly because of missing data in the Bloomberg network but also because only one firm currently exists in the information technology sector.

In the case of five firms, the problem of missing data was relatively minor (less than 12 observations out of 502) and these missing data points were then imputed by taking the geometric average, which is the square root of the product of the price before the missing observation and the price after the missing observation. This method of imputing the data was utilized in order to preserve as large a sample as possible without polluting the data with too many daily price estimations that could potentially lower the accuracy of the results or which do not reflect the true values of the data. Furthermore, the additional firms listed on Bloomberg with missing data have a much larger incidence of missing observations ranging from 25%-80%. This study considers this large figure of missing values inadmissible for data imputing due to firm-specific fluctuations in market price which would likely lead to inaccurate estimations of firm value at any given time. I believe these concerns also become more problematic with less data available to make the proper imputations.

3.1.2 The BMV and the S&P/BM V IPC

An important aspect of this study with implications on the overall results is the composition and behavior of the S&P/BMV IPC index which is used as an approximate measure of the BMV's overall performance and which, in this study, was used to calculate abnormal returns for each firm. The index is designed to give a broad measure of the equities market by indexing the largest and most liquid stocks listed on the exchange. The firms are then weighted using a capitalization-weighted index (CWI), which is subject to diversification requirements to ensure the index accurately encompasses the overall performance of the market across sectors

[2] The nine sectors utilized by the BMV exchange are: Energy, Industrials, Materials, Consumer Staples, Health Care, Telecommunications Services, Financial Services, Consumer Discretionary and Services and Information Technology.

(Bloomberg.com, 2019; BMV.com, 2019). As of April 30, 2019, the index consists of 35 firms, of which 28 appear in this analysis. This is an important point because as these firms have been chosen based on their capitalization share, their presence in the analysis (28/57 securities) will likely outweigh may of the other smaller and more illiquid firms and skew the abnormal return readings by sector towards the overall index return outcomes. Therefore, the volatility of the S&P/BMV IPC was an important factor for understanding the abnormal return outcomes for individual firms and sectors. It also played a role in inference in the sense that, knowing the analysis was weighted heavily towards the index results allows a determination to be made about the political preferences of the largest firms in the country and their expectations about the outcome of the 2018 election.

3.1.3 Sample Selection

Because there are so many firms for which information is missing in the Bloomberg system, it is worth discussing how the sample selection may have influenced the results of this study. From the data of the 114/145 firms whose daily closing prices are available for download on Bloomberg Professional Services, there are some noticeable differences in the trading characteristics of the firms in the sample (57/145) versus those that were not included. One of the primary findings is that the grand majority of firms with large amounts of missing data also had overall low share-value and market capitalization when compared to the 35 firms that compose the S&P/BMV IPC index. For example, for the logistical services firm Accel (ACCELSAB), between March 2 and November 30, 2018 only 34 daily closing prices are available and they show a very modest increase in value from 10.31MXN to 14.20MXN (USD $0.54.-$0.74). While this is a significant gain in terms of percentage increase, it remains miniscule in terms of market capitalization weight (the 35 firms composing the S&P/BMV IPC have share prices three to thirty times greater than Accel).

In addition, many of these firms showed very little change in value over long periods of time, indicating that the missing values from Bloomberg may have resulted from an overall lack of activity by a given firm on the market, which in turn may have led Bloomberg to eliminate the redundant data points in the interest of conciseness. The Accel example used above also applies under this scenario: the increase of slightly less than four pesos over 8 months appears to have

been very gradual and many of the available data points show the same value on consecutive observations.

Regardless of the reason for the discrepancy in available data provided by Bloomberg for many of the firms listed on the exchange, the lack of daily closing price information from this source necessitated their removal from the sample as the calculation of abnormal returns would then be inconsistent over time and across firms. However, the smaller sample also provides problems with inference as it becomes more difficult to determine if smaller or less-volatile firms were affected in the same way as the sample firms that provide full information. This is particularly true due to the large percentage of firms in the sample that also compose the S&P/BMV IPC index.

3.2 Methodology

In order to calculate the political preferences and connectedness of firms, this study utilized event-study methodology to calculate the abnormal returns to firms' stock prices during certain events of significance during the 2018 Mexican General Election that had the likely potential to affect financial markets. Specifically, this study will rely upon the new (2018) event-study methodology developed by Pacicco, Vena and Venegoni and peer reviewed by the STATA Journal. This model will be used to analyze three key dates during the campaign process:

Date:	Electoral Significance:
February 11, 2018	The completion of the intra-party primary election process.
April 2, 2018	First day markets open after the official start to the campaign season.
July 1, 2018	The day of the election itself.

These three event windows were selected to determine whether new information (particularly polls and the expectations for the postulation and subsequent selection of candidates) affected the value of certain firms or sectors consistently over time. This will be determined by checking for abnormal returns (in this case Cumulative Average Abnormal Returns; CAARs) over six separate event windows surrounding the three selected dates of importance. The event windows will be consistent over the dates analyzed and each provides a slightly different perspective for interpreting the results.

One important factor to keep in mind when analyzing the results from these six event windows is that due to the mathematical nature of calculating abnormal returns and the cross-

correlation that occurs between firms and the market as a whole, the larger the event window, the less accurate the results tend to be. When there are too many factors involved over an extended period of time, it becomes difficult to distinguish the effects of overall market trends from the results of individual firms. Therefore, with the exception of two of these (used to analyze the extremes of both positive and negative CAARs), the event windows have been kept purposefully small in order to gain greater insight into the sudden fluctuations (positive or negative) of individual firms and sectors following specific events.

Furthermore, it is important to note that the structure of the event windows can tell different stories based upon the time periods covered. The most obvious are the CAARs calculated following the event itself which measure how firms' values fluctuate following the release of new information. While for the purposes of this study, these are the most valuable for inference, they suffer from previous knowledge and expectations of investors who may have predicted the outcome of an event and bought and sold securities accordingly. Thus, forward-looking event-studies are best utilized to analyze unexpected information or events, as in the case of the Acemoglu et. al.'s study regarding the uncertain nomination of Timothy Geithner to the Secretary of the Treasury or in the case of Fisman's study on the rumors to the health of Indonesian strongman Suharto. However, in many cases, information is leaked beforehand or is easily discernible from readily available information. This reduces uncertainty and allows investors to price-in events before they happen, which subsequently reduces the ability of event studies to pick up on abnormal returns. This present study analyzes firm value over the course of a hard-fought presidential campaign with constant media coverage and the regular release of opinion polls, so it is also necessary to look back in time in order to account for changes in the value of firms who have previously accounted for potential uncertainty. This is particularly true in the case of the Mexican General Election because the front-runner candidate, Andrés Manuel López Obrador, steadily increased his lead over his rivals in every poll from the beginning of the campaign season. Thus, despite documented expectations that many people and firms expected irregularities in the electoral process and possible corruption aimed at keeping AMLO out of office (Wall Street Journal, 2018; The Economist, 2018) uncertainty in the markets naturally decreased over time as it became clear who the winner would be. As such, this study also utilizes two event windows that take into account the days before an event occurred in order to try and capture the effects of investors changing expectations and their forecasts on market conditions.

The event windows used on each important date are as follows:

Days Previous to Event	Days Following the Event	Reasoning Behind Specific Event Windows
0	1	This will capture the immediate effects of abnormal returns following an event, without regard to previous market movements or future market adjustments. It is the primary window of interest.
0	3	This window captures two additional days of market adjustments following the event in question
0	10	This was borrowed from the methodology of Acemoglu et. al., in order to check whether abnormal changes were temporary or more permanent in nature by looking at the extremes of the event window.
-3	3	This window will capture the cumulative effects of an event, taking into account both changing previous expectations and market adjustments after the fact.
-5	1	This seeks to analyze the effect of potentially reduced uncertainty or changing expectations in the market a week prior to the event
-10	1	Same as above but looks at two weeks of previous information rather than one.

3.2.2 Hypotheses

Null Hypothesis, H_0: No abnormal returns will be registered following the election, or will be uncorrelated with political events and/or inconsistent by firm over the dates currently under analysis.

Alternative Hypotheses, H_A: AMLO's victory, or the expectation thereof, will cause negative abnormal returns in firms that fear his political ideology and economic policies, while positive abnormal returns are expected for the firms likely to benefit from his victory. The specific hypotheses for this study can be found below.

Within the context of Mexican democracy, Andrés Manuel López Obrador is a divisive candidate in many respects. He is one of the first to truly challenge the integrity of the Institutional Revolutionary Party (PRI), which had ruled the executive branch of the country as

well as the majority of the congress (through coalitions) in the country uninterrupted for 71 years. This ended only when, Vicente Fox (National Action Party; PAN), of the equally long-lasting opposition, reached the presidency in the year 2000 and his successor of the same party, Felipe Calderón, in 2006. However, despite these PAN victories, their administrations tended to be criticized for not departing far enough from the political platforms of former PRI governments. For this reason, the emergence of a new candidate and political party leaning heavily to the left of center and one who, in the previous electoral contest, lost by less than 1% of the vote, presented a threat to the established political order (Wall Street Journal, 2018; The Economist, 2018).

Thus, in the interest of this study, the following hypotheses take these perceived radical changes into account:

1) **Firms in sectors with high trade dependency—particularly with the United States—will see negative returns in the event of an AMLO victory.**

Considering the rhetoric of both the candidate AMLO and that seen in Mexican and international news sources, sectors that depend heavily on international trade are predicted to decline in value (Boutchkova et al, 2012; Wall Street Journal 2018). This is due to both the policy platforms proposed by AMLO as a candidate, as well as how they were interpreted by the international community, which have been described in several international news sources as "Venezuelan-Style Socialism." In addition, AMLO's own 2018 political platform expressly stated that his highest priorities are: 1) The market shall not replace the state; 2) for the well-being of all, the poor must come first." (AMLO National Development Plan, 2018). This type of rhetoric has been interpreted by some to mean an implied threat to property rights, the ease of doing business, and the hostility towards the political and economic regimes of some of Mexico's most important trading partners. The well-publicized reactions to this type of rhetoric, in addition to outside academic evidence, leads this study to hypothesize that firms in the Industrials, Materials, and Financial Services sectors will register negative abnormal returns in the event of AMLO's victory.

2) **Firms that provide luxury or consumer discretionary products will see negative returns.**

AMLO spent the majority of his last three presidential campaigns bringing attention to the conditions faced by the impoverished in Mexico (Villarreal, 2006). In a nation that has historically dealt with high levels of income inequality, poverty and classist social strife, the perception of a president hostile to the economic elite has caused an outpouring of public indignation from many well-known figures in the ultra-wealthy class, including threats to move themselves and their business interests from the country in the event of his election (Linthicum, 2018). For this reason, this study predicts negative abnormal returns in the Consumer and Discretionary Services Sector, which includes the sale of luxury items and businesses related to tourism.

3) **Firms that provide consumer staples, infrastructure construction and maintenance and public goods can expect to benefit from government subsidies and contracts that will provoke positive abnormal returns.**

Despite many fears in the market about the potential effects of AMLO's policies, there are certain firms and sectors which could be expected to gain under his administration. The rhetoric concerning the possible renationalization of important industries such as PEMEX in the energy sector (petroleum and natural gas and not listed on the BMV) and a return of public influence to economic planning could potentially benefit the providers of public goods—such as utilities and infrastructure providers—as well as consumer staples, which candidate AMLO has publicly endorsed as possible recipients for government subsidies (Villarreal, 2006; Linthicum, 2018). Furthermore, in November, 2018 AMLO's incoming government proposed using coal as a way to decrease dependence on Electricity provided by the United States (Solis, 2018). His focus on the poor and emphasis on providing greater government services would indicate that private healthcare providers and consumer staples would also see a general increase in their stock value. Therefore, this study predicts that the Energy, Consumer Staples, Health Care, Telecommunications and Information Technology sectors will register positive abnormal returns in the event of AMLO's victory.

3.2.3 Calculating Abnormal Returns (ARs)

The formula for calculating returns is quite simple:

$$\mathrm{AR}_{i,t} = R_{i,t} - E(R_{i,t}|X_t)$$

Where Xt is the parameter of interest + the overall index return.

$$\mathrm{AR}_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t})$$

- Alpha represents the parameter under consideration (firm)
- Beta represents the estimate of the impact of the total market returns.

However, simple abnormal returns are not sufficient for the purposes of this study due to the fact that the event-studies undertaken will analyze multi-day periods to account for reductions in uncertainty prior to the event, as well as delayed reactions in the market after the event. To capture these effects, Cumulative Abnormal Returns (CARs) are calculated, which are simply the sum of abnormal returns over the period of time specified.

In addition, because this study will analyze a group of firms, it will also be necessary to take a cross-sectional aggregation (the average) of the CARs in order to account the total effect of the events under study on the group of firms overall. These are known as Cumulative Average Abnormal Returns (CAARs):

$$\mathrm{CAAR}(t_1, t_2) = \sum_{t=t_1}^{t_2} \mathrm{AAR}_t$$

4. Results

4.1 Overall impressions

The final results of this study are a mixed bag with many potential points of inference. In general, we fail to reject the null hypothesis on hypotheses one and three, with a mixed effect present in hypothesis two in which several firms demonstrate the opposite effect than was predicted by the study. The primary conclusion that we reach from these results is that determining the political preferences of firms in Mexico is not possible from a sectoral perspective. The reasons for this are varied and multi-faceted, but can be essentially explained by the fact that falling into a particular economic sector does not preclude the role of economic forces on each unique individual firm. For example, the idea of trade dependency was posited to affect certain sectors more than others on the basis of the products and services provided, but failed to take into account the supply chains and destination markets for goods and services in other sectors, which ultimately were also trade dependent (see explanation of hypothesis three).\

In addition, there is likely to be a certain degree of measurement error stemming from the incomplete data set due to the fact that the abnormal returns were calculated without more than half of all the listed firms and which is also based upon a heavily weighted baseline index. Furthermore, the operationalization of the AR variables within this methodological framework (e.g. using them as a proxy for sectoral political preferences) makes it difficult to determine whether the overall magnitude of a change or its statistical significance as an AR is more pertinent to understanding the political preferences of those firms.

However, despite the failure of these hypotheses to capture a causal effect of politics on specific economic sectors, there is a good deal insight to be gained from these results that could potentially influence future projects and analyses. The fact that higher levels of analysis (sectors over individual firms) did not adequately capture political preferences as was hypothesized, in this case, the widely-cast net still managed to capture some interesting information outside of the scope of the sectoral analysis.

The following section will explain the results of this analysis in the following order:

1) An analysis of the overall performance of the Bolsa Mexicana de Valores as determined by the S&P/BMV IPC index. This index was also used as the baseline value upon which the abnormal returns in this study were calculated.
2) A discussion of the Cumulative Average Abnormal Returns on the day of the election (July 1, 2018) of the firms in the sample will be described by sector as they relate to the three hypotheses presented earlier in this paper.
3) A review of the robustness checks for the primary event date of interest (the election day), which were the two other milestone events during the official campaign season (end of intra-party primary elections and the official start to the legally mandated campaign season) will be reviewed for their consistency with the election day results.
4) The presentation of the overall conclusion presented by the results of this study, theories for the discrepancies in the hypotheses and suggestions for further research.

Primary event of interest—July 1, 2018. Mexican General Election

An Overview of the Market as a Whole

On Monday July 2, 2018, the markets opened for the first time following the election on the previous day (Sunday July 1, 2018) with fairly surprising results. One of the primary points of interest regarding the behavior of the BMV on that day is that, despite the rhetoric and fear of economic collapse propagated by AMLO's opponents and widely disseminate in the media, the sample under evaluation in this project collectively had a miniscule and statistically insignificant positive reaction of 0.59%. In addition, a visual analysis of the S&P/BMV IPC shows that the uncertainty predicted by the hypotheses in this study are represented in an overall decline in the days leading up to the election, followed by a massive comeback in the days and months following the election of AMLO. It is important to mention that the market lost all of its gains, and fell to its lowest level in two years in the final months of 2018, which in many respects supports the underlying assumptions and hypotheses of this study, but which also fall outside of the time period under analysis and therefore cannot be considered within the interpretation of these results.

Furthermore, two weeks after his election (10 market days), the sample as a whole registered a 2.20% cumulative increase which was statistically significant at the 10% level. This indicates two important points that validate the underlying assumptions of this project. First, the negligible abnormal returns (at least initially) registered by the portfolio of firms in this sample following the largest general election in the history of the country (in terms of the number of executive and legislative seats contested) radically shifted the political climate of the country, was expected by most firms for some time and had already been priced into their operating strategies. This demonstrates the value of looking backwards in time for abnormal returns when conducting event-study analyses where long-standing public information is available to investors. In this particular case, fears of electoral misconduct and a general mistrust of the federal government were enough to maintain a certain level of uncertainty amongst investors up until at least two weeks before the election—despite the abundance of polls predicting his victory (Council of Americas, 2018).

Second, it demonstrates that AMLO's actions and rhetoric on the campaign trail denying the imposition of a radically leftist "Hugo Chavez"-style government, were enough to quell the misgivings of investors (The Economist, 2018; Linthicum, 2018). Thus, positive abnormal returns in this case could represent market corrections after firm prices fell on initial fears of his policies. This view is supported by the (0,10) trading-day event window which fell on July 12, 2018, the same day that AMLO met with United States Secretary of State Mike Pompeo and other officials of the Donald J. Trump administration in order to quell fears over trade and bilateral relations between the two nations (Krupskaia, 2018; LopezObrador.org, 2018). On that date, several more firms registered statistically significant abnormal returns, and others with non-statistically significant results saw their return estimations flip signs.

In addition, when taking into account one to two weeks before the election, it appears that certain firms were affected by reduced political uncertainty amongst investors with many firms seeing large and statistically significant abnormal returns in the run-up to the event.

Results by Sector[3]

Hypothesis 1: Firms in sectors with high trade dependency—particularly with the United States—will see negative returns in the event of an AMLO victory (Industrials, Materials and Financial Services).

Hypothesis 1	CAAR (0,1)	CAAR (0,3)	CAAR (0,10)	CAAR (-3,3)	CAAR (-5,1)	CAAR (-10,1)
Industrials	0.76%	1.51%	2.60%	1.52%	1.08%	1.15%
Materials	0.73%	-0.34%	1.84%	0.47%	1.02%	2.09%
Financial Services	1.05%	2.60%**	4.88%**	0.86%	-0.14%	-1.28%

The trade dependency hypothesis of the three sectors mentioned above resulted in the most surprising result in the study. Not only was it impossible to reject the null hypothesis of negative abnormal returns across the sectors hypothesized, but in fact, the opposite effect tended to be true across all event windows.

On the first trading day after the election, eight out of thirteen firms in the industrials sector registered positive returns (although only Aeromexico was statistically significant; at the 1% level). While the statistical significance of these results is minimal, it is quite telling that these firms did not have the severe negative impact predicted by the study. In this case, the absence of negative statistically significant abnormal returns, disproves the theory that these trade-reliant firms would have been damaged by AMLO's victory. Thus, their political preferences cannot be determined by the scope of this study although it is quite possible that anticipation of victory led them to take safeguard measures ahead of time that were not captured by these event windows.

The hypothesis finds more support in the materials sector, where more negative returns were registered across the majority of firms. However, the overall lack of statistical significance and the differences between the firms in terms of their sub-sector designations make inference a difficult task. For example, the day after the election, two mining firms Industrias Peñoles (PEOLES) and Minera Autlán (AUTLANB), which would have been expected to come under greater scrutiny by the new administration in terms of fiscal contributions and human rights and environmental issues, saw abnormal returns at the 10% level of significance, negative in the case of the former (-4.46%) and positive in the latter (3.17%). It is therefore more likely that these

[3] ***P-value < .01, **P-value < .05, *P-value <.1

returns demonstrate changing international market conditions for mining products or an internal change within the firm itself and not related to AMLO's victory.

The greatest surprise derived from these results is what occurred in the financial sector. The results suggest that major financial institutions in the country reacted positively to the election of AMLO, with statistically significant positive abnormal returns of 2.60% three days after the event at the 10% level and after 10 trading days the sample firms in this sector registered overall abnormal returns of 4.88% also at the 10% significance level. However, these results were driven by one firm in particular, Gentera, a bank which is specifically dedicated to helping the poor and providing credit to those usually outside of the traditional financial system. Thus, while the hypothesis was incorrect, it is consistent with the assumptions made by this study—that firms working for the benefit of the lower classes, in terms of investment and government interest, would see positive abnormal returns. In fact, Gentera saw positive and statistically significant returns in every event window used in this study—with both only past and only future results considered (see Appendix C). In addition, one of the largest banks in Mexico, Spain-based Santander, saw consistent losses up until the day of AMLO's election, but began recovering (albeit statistically insignificantly), three days after and ended up with a positive 10.76% abnormal return after 10 trading days at the 1% level—the same day AMLO met with Secretary of State of the United States, Mike Pompeo. On that same day, Credito Real, a finance firm based in the City of Mexico, also registered a 10.89% abnormal return, significant at the 10% level. Thus, the initial results were favorable for financial firms engaged in financial markets directed towards the poor and following AMLO's meeting with the Secretary of State of the United States, were beneficial to more traditional financial firms as well.

Therefore, while the sectoral hypothesis was not sufficient to describe the political preference of individual firms by sector that were predicted by the study, the results are quite compelling and still fall within the boundaries of the initial assumptions of this analysis.

Hypothesis 2: Firms that provide luxury or consumer discretionary products will see negative abnormal returns.

Hypothesis 2	CAAR (0,1)	CAAR (0,3)	CAAR (0,10)	CAAR (-3,3)	CAAR (-5,1)	CAAR (-10,1)
Consumer Discretionary Services	0.27%	-0.22%	3.09%	-1.14%	0.64%	-0.56%

As in the case of trade-dependency, the sectoral analysis on the sale of luxury goods was not sufficient to reject the null hypothesis. However, at the level of individual firms there are some inferences to be made. Sare, a holding company for firms that work in the residential construction and sales business, saw a significant abnormal return (5.37%) at the 10% level. While the rest of the sector did not register significant changes neither by magnitude nor by statistical significance, the gains by this firm on the first trading day after the election could suggest that AMLO's populist concern regarding the lack of adequate housing for the Mexican people (CONEVAL, 2018) resonated with investors who expected a further expansion of state-financed/supported housing developments. However, Alsea, which is the parent company that holds franchises for fast-food and casual dining establishments, most of which are based in the United States, saw a decline in value (-2.37%) at the 10% level, which gives credence to the previous hypothesis of negative returns for trade dependent firms—albeit not in the sectoral sense predicted by this study.

Hypothesis 3: Firms that provide consumer staples, infrastructure construction and maintenance and public goods can expect to benefit from government subsidies and contracts that will provoke positive abnormal returns (Energy, Consumer Staples, Health Care, Telecommunications and Information Technology sectors).

Hypothesis 3	CAAR (0,1)	CAAR (0,3)	CAAR (0,10)	CAAR (-3,3)	CAAR (-5,1)	CAAR (-10,1)
Energy	0.84%	1.84%	1.50%	1.97%	2%	4.71%
Consumer Staples	0.28%	-0.37%	0.10%	1.03%	1.38%	2.6%*
Healthcare	-0.33%	-1.18%	-1.07%	-2.50%	-1.87%	-1.62%
Telecommunications	-0.18%	-2.11%	-2.19%	-2.16%	-1.15%	-2.72%
Information Technology	0.54%	0.09%	-0.90%	0.85%	3.12%	3.80%

As in the case of the previous two hypotheses, a sectoral analysis to determine the political preferences of firms is not possible with this sample and time period. However, as in the other hypotheses presented above, there are notable exceptions that merit discussion.

First, and most importantly, the idea of trade dependence is once again proven to be independent of sectoral affiliation. Herdez, one of the most prolific brands of ready-to-eat and canned goods (such as salsas, chilies and beans) in Mexico and the United States, saw chronologically consistent negative returns across all event windows—with a negative 3.42% abnormal return (significant at the 5% level) registered on the day after the election. However, Herdez was merged with an equally ubiquitous American brand, Hormel, in 2009 and as such, is likely to have suffered from investor uncertainty about AMLO's trade priorities with the United States. From the opposite side of the spectrum, the supermarket chain, La Comer—a domestically-based firm, (providing food, durable consumer products and other products and services) saw strong and statistically significant positive abnormal returns leading up to the election, with a cumulative abnormal return of 10% (at the 1% level) in the (-5,1) event window and a 11.02% (at the 5% level) cumulative return when taking into account an additional week before. However, despite a 6.29% (significant at the 1% level) positive abnormal return the day after the election, their returns dropped sharply, albeit without statistical significance, in the succeeding event windows. This example does provide support for the underlying reasoning behind the hypothesis, but was the exception to the rule in the context of the rest of the sector.

It is also worth noting, that the Consumer Staples sector, which the hypotheses of this study hypothesized would benefit from the election of an individual whose rhetoric included the provision of subsidies to the poor for their basic needs—money that inevitably ends in the hands of the provider of those goods and services—showed some of the of the most lackluster results in terms of volatility. With the exception of the stand-out firms mentioned previously, the rest of the sample registered statistically insignificant returns of less than 2%.

Robustness checks—April 2 and February 11, 2018

The purpose of performing the same event-studies on these other significant days during the campaign process was to see whether the same firms reacted consistently at certain electoral milestones. Both of these events could be construed as beneficial to AMLO (he was officially

nominated as presidential candidate by his party on February 11 and polls indicated that he held a double digit lead over his opponents by the official opening of campaign season on March 30) and as such, the study expected firms to register ARs with the same sign as on the day of the election—confirming their political preferences one way or the other (Council of the Americas, 2018). There were only three firms that met that criteria over all three windows: Volaris Airlines (VOLARA; Industrials), Minera Autlán (AUTLANB; Materials) and La Comer (LACOMBUC; Consumer Staples). All three of these firms registered positive ARs in event windows for the dates under analysis, but only La Comer's ARs fit the hypotheses of the study. However, these results are instructional, as they could provide evidence of the political preferences of these firms outside of the sectoral context that is the focus of this study. Thus, they could form the basis for further research into the financial impact of this election as will be discussed in the conclusion.

Additionally, six other firms showed ARs consistent with their results during the election in at least one of the additional dates under analysis. Those firms were: Gentera (GENTERA, Financial Services), Grupo GICSA (GICSAB; Financial Services), Bolsa de Valores Mexicana (BOLSAA; Financial Services), Credito Real (CREAL; Financial Services), El Puerto de Liverpool (LIVEPOLC; Consumer and Discretionary) and Herdez (HERDEZ; Consumer Staples). However, further statistical analysis would be needed to confirm that these results were not simply coincidental, particularly given that most of these firms are in the Financial Services sector and therefore have correlated outcomes. Despite this, the results from these firms would provide a good starting point for further analysis using different statistical methodologies in a future investigation into the political preferences of firms in Mexico.

1. Summary and Conclusion

In effect, none of the hypotheses posited here could be proven with statistical evidence. Despite that, this study has revealed unexpected information that could be utilized as the basis for future analysis. Determining firm political preferences based upon event-study methodology cannot be adequately determined at the sectoral level due to the heterogenous nature of the firms involved. Furthermore, such a generalization detracts from the true goal of analyzing how Mexican firms listed on the Bolsa Mexicana de Valores and their shareholders viewed what was widely considered a seminal moment in the political history of the country. There were also technical and statistical limitations that may have lent themselves to the failure to reject the three null hypotheses presented in this study. Notwithstanding those limitations, there is much to learn from this data:

1) Despite the incorrect sectoral-based hypotheses, trade dependency was indeed an important factor in the distribution of returns. This study erroneously hypothesized that certain sectors would be universally affected by the election of a fire-brand leftist candidate. However, the results from this study suggest that was not the case. The concept of trade dependency, for example, appears to have inter-sectoral impacts, which are not exclusively determined by the sector they pertain to. The results did suggest that a few individual firms such as Volaris, Grupo Autlán and La Comer registered consistent abnormal terms across the three event windows studied—but again, these were not part of any discernable pattern amongst the other firms from the sample in their sector.

2) The sample size was too small as a result of the incompleteness of the Bloomberg Professional Services database, which lacked full information for more than half of the listed firms with no explanation provided. Furthermore, due to the inexplicable segments of missing data provided by Bloomberg Professional Services, only that half of the listed firms on the BMV exchange with full information were utilized in this analysis, reducing both the power of the estimates and the ability to infer the accuracy of the hypotheses under study. However, the individual firm results did provide a basis for further analysis, and in fact, their AR calculation utilizing the BMV as the baseline would very likely be valid even in the presence of the additional autocorrelation that would have been present with additional firms in the sample—given that the largest and most liquid firms are already included.

3) This election, though seminal, was widely predicted by opinion polls many months before July 1, 2018—limiting the effectiveness of event-study methodology which relies on new (and generally unexpected) information in the presence of uncertainty. Thus, while the hypotheses in this study were formulated nearly a year prior to the election, when the outcome was less certain, over time the opinion polls tracking voting preferences universally demonstrated a definitive advantage for AMLO (Council of the Americas, 2018). Several months before the election date, AMLO held a double-digit advantage over his opponents—a difference that continued to increase as time went on. Therefore, in all likelihood the market had already priced in the potential benefits or damages that his election could pose to firms in advance and were therefore less likely to register abnormal changes in value during the event itself.

4) The firms that did demonstrate abnormal returns, both positive and negative, exhibit certain characteristics that can be retrospectively inferred to be related to the assumptions and hypotheses presented by this study, laying the foundation for future analysis. For example, Aeromexico, the largest Mexican airline and formerly a State-Owned Enterprise (SOE) saw a positive and statistically significant abnormal return after the election, suggesting a possible political preference of these types of firms (Until the 1980s-1990s, there were nearly a 1000 SOEs) that could potentially benefit from a government interested in taking more direct control over economic planning. Therefore, an analysis at the firm level takes into account the assumption utilized by this study regarding AMLO's views on free-market capitalism, while providing a more nuanced lens of analysis than a purely sectoral analysis could provide. Another potential method for future analysis could focus on one sector in particular, such as the financial sector which provided surprising results in this study. Additional information about these firms and their preferences could be potentially inferred using event studies if other sectors are excluded and a greater period of time is considered (perhaps over additional years or presidential administrations).

Therefore, while this study was unsuccessful in showing firm political preferences from a sectoral perspective, it does provide several opportunities for further analysis outside of the restrictive confines of the hypotheses presented here. In addition, the results produced by this study could, in and of themselves. be reanalyzed using other methods that would help to

illuminate the true causes of the ARs registered and provide more robust evidence of links between economic and political outcomes.

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Appendices

Appendix A: Firms by Sector

Industrials

Ticker	Name
ASURB	Grupo Aeroportuario del Sureste
PINFRA	Promotora y Operadora de Infraestructura
URBI	Urbi Desarrollos Urbanos
GAPB	Grupo Aeroportuario del Pacifico
HOMEX	Desarrolladora Homex
VOLARA	Volaris
ALFAA	Alfa
OMAB	Grupo Aeroportuario del Centro Norte
AEROMEX	Aeromexico
VESTA	Corp Inmobiliaria Vesta
GCARSOA1	Grupo Carso
ARA	Consorcio ARA
AGUA	Grupo Rotoplas

Materials

Ticker	Name
ICHB	Industrias CH
ELEMENT	Elementia
MFRISCOA	Minera Frisco
PAPPEL	Bio Pappel
AUTLANB	Minera Autlán

PE&OLES (PEOLES)	Grupo Peñoles
GISSAA	Grupo Industrial Saltillo
MEXCHEM	Mexichem
GMEXICOB	Grupo Mexico
SIMECB	Grupo Simec
ALPEKA	Alpek

Financial Services

Ticker	Name
GENTERA	Gentera
UNIFINA	Unfin Financiera
Q	Qualitas Controladora
GICSAB	Grupo Gicsa
BSMXB	Banco Santander Mexico
GFNORTEO	Grupo Financiero Banorte
BOLSAA	Bolsa Mexicana de Valores
GFINBURO	Grupo Financiero Inbursa
CREAL	Credito Real
RA	Regional

Consumer Discretionary and Services

Ticker	Name
RASSINIA	Rassini
LIVEPOLC	El Puerto de Liverpool
NEMAKA	Nemak
HCITY	Hoteles City Express
ALSEA	Alsea

HOTEL	Grupo Hotelero Santa Fe
ELEKTRA	Grupo Elektra
SAREB	Sare Holding
RASSICP	Rassini

Energy

Ticker	Name
IENOVA	Infraestructura Energetica Nova

Consumer Staples

Ticker	Name
BACHOCOB	Industrias Bachoco
HERDEZ	Herdez
LALAB	Grupo Lala
GRUMAB	Gruma
KIMBERA	Kimberly-Clark Mexico
WALMEX	Wal-Mart de Mexico
KOFL	Coca Cola Femsa
CHDRAUIB	Grupo Commercial Chedraui
SORIANAB	Organizacíon Soriana
BIMBOA	Grupo Bimbo
LACOMUBC	La Comer
AC	Arca Continental

Healthcare

Ticker	Name
LABB	Genomma Lab Internacional

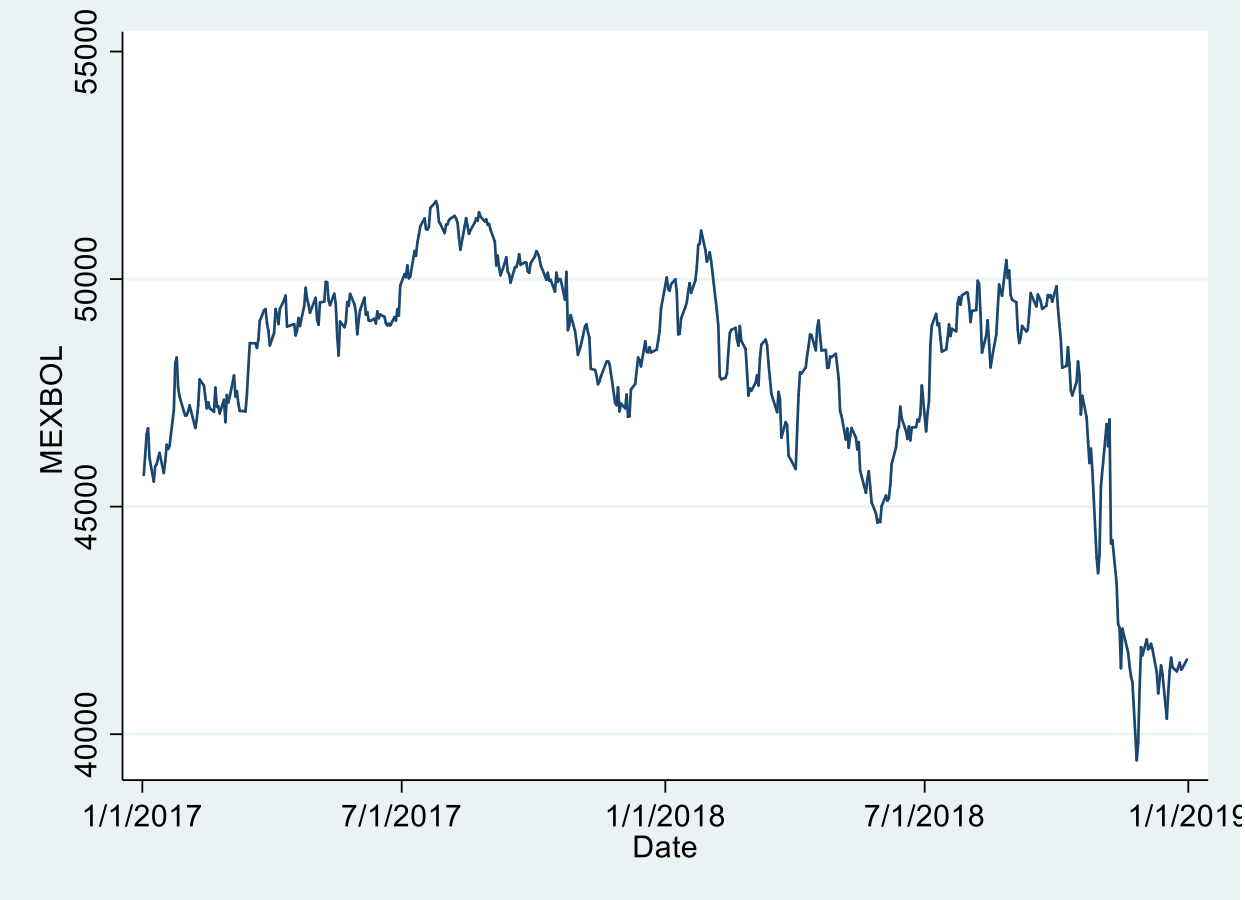
Telecommunications

Ticker	Name
AMXL	America Movil

Information Technology

Ticker	Name
SITESB1	Telesites

Appendix B: Bolsa Mexicana de Valores (MEXBOL)



Appendix C: Cumulative Abnormal Returns

July 1, 2018 (Election Day, All Firms)

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_AC	0.77%	-1.24%	-1.90%	-2.38%	-1.25%	0.09%
_AEROMEX	4.38%***	4.93%*	3.49%	10.32%***	16.68%***	16.95%***
_AGUA	-1.89%	-0.03%	-3.56%	7.28%*	6.25%*	9.92%*
_ALFAA	-0.01%	-0.91%	-1.73%	2.14%	2.15%	2.85%
_ALPEKA	0.10%	-0.03%	-1.02%	0.66%	2.86%	3.43%
_ALSEA	-2.37%*	-3.21%	-4.27%	-0.82%	-1.02%	2.94%
_AMXL	-0.18%	-2.11%	-2.19%	-2.16%	-1.15%	-2.72%
_ARA	-0.11%	-2.74%	-0.02%	-3.96%	-0.66%	4.94%
_ASURB	1.17%	-0.48%	-2.62%	-1.78%	-2.61%	-2.00%
_AUTLANB	3.17%*	-0.52%	0.49%	-2.16%	0.74%	2.26%
_BACHOCOB	0.06%	-0.90%	-0.74%	-3.43%	0.29%	0.56%
_BIMBOA	-1.18%	-1.14%	1.46%	1.37%	1.10%	2.75%
_BOLSAA	2.83%*	5.05%*	4.38%	1.11%	-1.07%	0.52%
_BSMXB	-0.69%	3.36%	10.76%***	2.51%	-1.28%	-6.68%
_CHDRAUIB	0.73%	0.13%	2.80%	3.03%	3.55%	9.11%**
_CREAL	1.20%	3.45%	10.89%**	-0.52%	-1.94%	-2.82%
_ELEKTRA	-4.24%	-2.39%	8.77%	-2.26%	-0.11%	-1.36%
_ELEMENT	1.90%	1.29%	3.21%	0.02%	1.04%	2.33%
_GAPB	0.92%	2.32%	0.77%	-0.43%	-2.24%	-0.39%
_GCARSOA1	0.00%	2.94%	1.72%	5.14%	1.93%	3.02%
_GENTERA	5.09%***	8.26%***	11.06%*	9.65%**	9.16%**	11.60%*
_GFINBURO	2.78%*	2.08%	4.09%	-1.11%	-1.04%	-0.77%
_GFNORTEO	-1.93%	0.37%	0.41%	1.89%	0.66%	3.45%
_GICSAB	2.30%	5.77%*	5.18%	-0.35%	-2.83%	-3.02%
_GISSAA	2.02%	-0.54%	1.98%	1.03%	0.10%	13.00%***
_GMEXICOB	1.48%	-1.70%	-7.27%	-3.25%	-2.19%	-4.42%
_GRUMAB	-0.53%	1.04%	1.56%	4.20%	0.82%	3.94%
_HCITY	1.17%	1.65%	9.68%**	-4.98%	-4.80%	-9.06%*
_HERDEZ	-3.42%**	-4.23%	-3.81%	-2.24%	-3.42%	0.37%
_HOMEX	0.32%	10.69%	2.53%	9.24%	-4.47%	-13.22%
_HOTEL	-0.86%	2.71%	4.52%	0.53%	-1.58%	0.32%
_ICHB	-2.34%	-2.30%	-2.74%	-0.58%	1.54%	2.57%
_IENOVA	0.84%	1.84%	1.50%	1.97%	2.00%	4.71%
_KIMBERA	0.70%	0.22%	1.61%	2.34%	5.90%*	5.04%
_KOFL	-0.40%	1.16%	1.87%	-1.36%	-5.05%*	-7.23%**
_LABB	-0.33%	-1.18%	-1.07%	-2.50%	-1.87%	-1.62%
_LACOMUBC	6.29%***	0.99%	-3.30%	2.71%	10.00%***	11.02%**
_LALAB	1.73%	4.92%*	1.04%	6.76%	2.14%	1.04%
_LIVEPOLC	1.23%	0.95%	7.15%	3.92%	7.23%**	7.28%
_MEXCHEM	1.37%	0.32%	0.54%	2.14%	1.29%	2.06%
_MFRISCOA	1.34%	0.78%	11.11%*	1.58%	0.44%	-0.24%
_NEMAKA	0.63%	1.20%	-1.51%	1.58%	0.63%	0.90%
_OMAB	0.61%	0.45%	1.72%	0.31%	2.04%	2.35%
_PAPPEL	2.22%	2.24%	23.35%***	1.18%	-1.05%	-2.39%
_PEOLES	-4.46%**	-1.69%	-8.64%	1.31%	-1.30%	-2.67%
_PINFRA	0.80%	0.54%	4.10%	-2.52%	-1.11%	-2.40%
_Q	-0.81%	-2.29%	-0.59%	-4.17%	-3.63%	-6.84%
_RA	-0.09%	1.13%	4.62%	1.76%	0.81%	-0.59%
_RASSICPO	0.48%	-0.32%	0.40%	-1.21%	-0.56%	-3.05%
_RASSINIA	1.05%	-4.55%	-5.43%	-2.99%	3.23%	2.59%
_SAREB	5.37%*	1.96%	8.45%	-4.02%	2.70%	-5.60%
_SIMECB	1.28%	-1.63%	-0.76%	3.24%	7.81%**	7.05%
_SITESB1	0.54%	0.09%	-0.90%	0.85%	3.12%	3.80%
_SORIANAB	-1.68%	-4.65%**	1.15%	3.78%	5.33%**	4.88%
_URBI	1.31%	-0.40%	-1.86%	-8.16%	-3.74%	-2.09%
_UNIFINA	-0.15%	-1.21%	-1.98%	-2.13%	-0.25%	-7.64%
_VESTA	1.97%	0.07%	7.06%*	2.37%	5.33%*	1.09%
_VOLARA	-0.42%	1.50%	21.70%***	-0.97%	-6.50%	-7.99%
_WALMEX	0.25%	-0.80%	-0.60%	-2.45%	-2.86%	-0.38%
Ptf CARs n 1 (59 securities)	0.60%	0.58%	2.20%*	0.58%	0.83%	0.94%
CAAR group 1 (59 securities)	0.59%	0.57%	2.19%*	0.57%	0.82%	0.92%

*** p-value < .01, ** p-value <.05, * p-value <.1

July 1, 2018 by Sector (Divided by Horizonal Line)

Hypothesis 1: Industrials, Materials and Financial Services

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_ASURB	1.17%	-0.48%	-2.62%	-1.78%	-2.61%	-2.00%
_PINFRA	0.80%	0.54%	4.10%	-2.52%	-1.11%	-2.40%
_URBI	1.31%	-0.40%	-1.86%	-8.16%	-3.74%	-2.09%
_GAPB	0.92%	2.32%	0.77%	-0.43%	-2.24%	-0.39%
_HOMEX	0.32%	10.69%	2.53%	9.24%	-4.47%	-13.22%
_VOLARA	-0.42%	1.50%	21.70%***	-0.97%	-6.50%	-7.99%
_ALFAA	-0.01%	-0.91%	-1.73%	2.14%	2.15%	2.85%
_OMAB	0.61%	0.45%	1.72%	0.31%	2.04%	2.35%
_AEROMEX	4.38%***	4.93%*	3.49%	10.32%***	16.68%***	16.95%***
_VESTA	1.97%	0.07%	7.06%*	2.37%	5.33%*	1.09%
_GCARSOA1	0.00%	2.94%	1.72%	5.14%	1.93%	3.02%
_ARA	-0.11%	-2.74%	-0.02%	-3.96%	-0.66%	4.94%
_AGUA	-1.89%	-0.03%	-3.56%	7.28%*	6.25%*	9.92%*
Ptf CARs n 1 (13 securities)	0.80%	1.55%	2.64%	1.56%	1.12%	1.21%
CAAR group 1 (13 securities)	0.76%	1.51%	2.60%	1.52%	1.08%	1.15%
_ICHB	-2.34%	-2.30%	-2.74%	-0.58%	1.54%	2.57%
_ELEMENT	1.90%	1.29%	3.21%	0.02%	1.04%	2.33%
_ALPEKA	0.10%	-0.03%	-1.02%	0.66%	2.86%	3.43%
_MFRISCOA	1.34%	0.78%	11.11%*	1.58%	0.44%	-0.24%
_PAPPEL	2.22%	2.24%	23.35%***	1.18%	-1.05%	-2.39%
_AUTLANB	3.17%*	-0.52%	0.49%	-2.16%	0.74%	2.26%
_PEOLES	-4.46%**	-1.69%	-8.64%	1.31%	-1.30%	-2.67%
_GISSAA	2.02%	-0.54%	1.98%	1.03%	0.10%	13.00%***
_MEXCHEM	1.37%	0.32%	0.54%	2.14%	1.29%	2.06%
_GMEXICOB	1.48%	-1.70%	-7.27%	-3.25%	-2.19%	-4.42%
_SIMECB	1.28%	-1.63%	-0.76%	3.24%	7.81%**	7.05%
Ptf CARs n 2 (11 securities)	0.73%	-0.34%	1.84%	0.47%	1.02%	2.09%
CAAR group 2 (11 securities)	0.73%	-0.34%	1.84%	0.47%	1.02%	2.09%
_GENTERA	5.09%***	8.26%***	11.06%*	9.65%**	9.16%**	11.60%*
_UNIFINA	-0.15%	-1.21%	-1.98%	-2.13%	-0.25%	-7.64%
_Q	-0.81%	-2.29%	-0.59%	-4.17%	-3.63%	-6.84%
_GICSAB	2.30%	5.77%*	5.18%	-0.35%	-2.83%	-3.02%
_BSMXB	-0.69%	3.36%	10.76%***	2.51%	-1.28%	-6.68%
_GFNORTEO	-1.93%	0.37%	0.41%	1.89%	0.66%	3.45%
_BOLSAA	2.83%*	5.05%*	4.38%	1.11%	-1.07%	0.52%
_GFINBURO	2.78%*	2.08%	4.09%	-1.11%	-1.04%	-0.77%
_CREAL	1.20%	3.45%	10.89%**	-0.52%	-1.94%	-2.82%
_RA	-0.09%	1.13%	4.62%	1.76%	0.81%	-0.59%
Ptf CARs n 3 (10 securities)	1.05%*	2.60%**	4.88%**	0.86%	-0.14%	-1.28%
CAAR group 3 (10 securities)	1.05%	2.60%**	4.88%**	0.86%	-0.14%	-1.28%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 2: Consumer Discretionary and Services

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_RASSINIA	1.05%	-4.55%	-5.43%	-2.99%	3.23%	2.59%
_LIVEPOLC	1.23%	0.95%	7.15%	3.92%	7.23%**	7.28%
_NEMAKA	0.63%	1.20%	-1.51%	1.58%	0.63%	0.90%
_HCITY	1.17%	1.65%	9.68%**	-4.98%	-4.80%	-9.06%*
_ALSEA	-2.37%*	-3.21%	-4.27%	-0.82%	-1.02%	2.94%
_HOTEL	-0.86%	2.71%	4.52%	0.53%	-1.58%	0.32%
_ELEKTRA	-4.24%	-2.39%	8.77%	-2.26%	-0.11%	-1.36%
_SAREB	5.37%*	1.96%	8.45%	-4.02%	2.70%	-5.60%
_RASSICP	0.48%	-0.32%	0.40%	-1.21%	-0.56%	-3.05%
Ptf CARs n 1 (9 securities)	0.27%	-0.22%	3.09%	-1.14%	0.64%	-0.56%
CAAR group 1 (9 securities)	0.27%	-0.22%	3.09%	-1.14%	0.64%	-0.56%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 3: Energy, Consumer Staples, Healthcare, Telecommunications, Information Technology

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_IENOVA	0.84%	1.84%	1.50%	1.97%	2.00%	4.71%
_BACHOCOB	0.06%	-0.90%	-0.74%	-3.43%	0.29%	0.56%
_HERDEZ	-3.42%**	-4.23%	-3.81%	-2.24%	-3.42%	0.37%
_LALAB	1.73%	4.92%*	1.04%	6.76%	2.14%	1.04%
_GRUMAB	-0.53%	1.04%	1.56%	4.20%	0.82%	3.94%
_KIMBERA	0.70%	0.22%	1.61%	2.34%	5.90%*	5.04%
_WALMEX	0.25%	-0.80%	-0.60%	-2.45%	-2.86%	-0.38%
_KOFL	-0.40%	1.16%	1.87%	-1.36%	-5.05%*	-7.23%**
_CHDRAUIB	0.73%	0.13%	2.80%	3.03%	3.55%	9.11%**
_SORIANAB	-1.68%	-4.65%**	1.15%	3.78%	5.33%**	4.88%
_BIMBOA	-1.18%	-1.14%	1.46%	1.37%	1.10%	2.75%
_LACOMUBC	6.29%***	0.99%	-3.30%	2.71%	10.00%***	11.02%**
_AC	0.77%	-1.24%	-1.90%	-2.38%	-1.25%	0.09%
Ptf CARs n 2 (12 securities)	0.28%	-0.37%	0.10%	1.03%	1.38%	2.60%*
CAAR group 2 (12 securities)	0.28%	-0.37%	0.10%	1.03%	1.38%	2.60%
_LABB	-0.33%	-1.18%	-1.07%	-2.50%	-1.87%	-1.62%
_AMXL	-0.18%	-2.11%	-2.19%	-2.16%	-1.15%	-2.72%
_SITESB1	0.54%	0.09%	-0.90%	0.85%	3.12%	3.80%

*** p-value < .01, ** p-value <.05, * p-value <.1

February 11, 2018 (End of Primaries, All Firms)

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_AC	-0.46%	-1.40%	-2.75%	-0.56%	-0.96%	-0.82%
_AEROMEX	0.54%	0.73%	6.37%	-2.15%	-3.15%	-4.78%
_AGUA	0.70%	-2.17%	4.51%	-8.32%**	-5.46%	-5.99%
_ALFAA	-2.00%	-2.15%	-1.63%	1.82%	-0.48%	-1.07%
_ALPEKA	2.54%	1.24%	-2.16%	1.78%	2.44%	6.11%
_ALSEA	-0.15%	-0.56%	2.92%	2.64%	5.24%	2.80%
_AMXL	-0.03%	2.99%	4.65%	2.88%	0.23%	0.48%
_ARA	-0.21%	-0.22%	0.44%	-0.02%	-2.08%	-1.15%
_ASURB	0.70%	0.09%	0.75%	-1.93%	-2.16%	-2.14%
_AUTLANB	0.58%	2.90%	4.23%	7.67%*	2.41%	-0.07%
_BACHOCOB	1.18%	1.04%	-1.57%	0.49%	0.29%	-2.15%
_BIMBOA	-1.03%	-3.01%	-1.96%	-2.44%	1.77%	2.65%
_BOLSAA	-0.08%	0.59%	0.65%	-3.69%	-4.31%	-3.67%
_BSMXB	-0.10%	0.24%	0.39%	-1.08%	-2.10%	-4.32%
_CHDRAUIB	1.52%	0.82%	-0.45%	0.29%	1.76%	2.67%
_CREAL	0.23%	-1.33%	10.24%**	-4.41%	-3.09%	-3.44%
_ELEKTRA	-3.08%	-0.55%	-3.73%	-9.82%	-13.21%*	-12.05%
_ELEMENT	0.37%	2.34%	0.54%	-1.39%	-2.23%	0.59%
_GAPB	1.86%	0.62%	1.05%	-0.39%	-0.68%	-3.83%
_GCARSOA1	0.00%	-2.08%	-3.81%	3.47%	3.80%	10.49%**
_GENTERA	1.03%	-1.26%	6.63%	-1.53%	-1.09%	1.79%
_GFINBURO	-1.11%	-3.57%	-2.27%	-4.29%	0.68%	-2.93%
_GFNORTEO	-0.46%	-1.39%	-2.62%	3.61%	5.42%	8.35%*
_GICSAB	2.84%*	11.40%***	7.50%	15.75%***	4.21%	0.82%
_GISSAA	-1.31%	-3.65%*	-5.93%*	-6.79%**	-4.95%*	-5.44%
_GMEXICOB	1.35%	3.18%	3.64%	3.40%	1.69%	1.75%
_GRUMAB	0.40%	-2.64%	-2.80%	0.44%	2.02%	2.36%
_HCITY	1.91%	2.25%	5.80%	5.42%*	3.40%	2.72%
_HERDEZ	0.04%	-0.64%	-0.18%	-2.30%	-3.19%	-2.02%
_HOMEX	-5.56%	-8.76%	-6.80%	-16.13%	-13.07%	-9.36%
_HOTEL	-1.21%	-0.77%	3.76%	1.01%	-2.14%	-3.41%
_IENOVA	-0.42%	-1.08%	-3.32%	-0.46%	0.37%	2.24%
_KIMBERA	1.11%	1.58%	3.03%	1.22%	2.79%	4.33%
_KOFL	-0.63%	-2.76%	-5.30%	-4.41%*	-2.47%	-2.47%
_LABB	-0.91%	-1.35%	-5.58%	2.89%	2.39%	-2.87%
_LACOMUBC	2.48%*	1.40%	3.12%	-2.67%	-2.18%	-2.45%
_LALAB	-0.63%	1.59%	-1.19%	2.00%	-0.56%	-2.40%
_LIVEPOLC	0.87%	0.44%	3.18%	0.27%	0.04%	2.56%
_MEXCHEM	-0.13%	1.98%	5.18%	3.25%	0.50%	0.47%
_MFRISCOA	2.28%	5.00%	1.07%	0.18%	1.60%	2.21%
_NEMAKA	-0.53%	-9.19%***	-10.36%**	-9.98%***	-0.29%	-0.53%
_OMAB	0.02%	-1.11%	1.58%	1.08%	2.26%	-0.28%
_PAPPEL	1.89%	-0.90%	0.31%	-4.59%	-1.52%	-3.04%
_PEOLES	-0.59%	-0.79%	3.71%	2.15%	-3.26%	-5.31%
_PINFRA	-0.29%	0.89%	-0.80%	6.04%**	4.48%	4.51%
_Q	-0.36%	3.38%	4.33%	5.14%	3.15%	18.48%***
_RA	1.93%	1.34%	5.41%	-0.04%	3.30%	4.51%
_RASSICPO	2.01%	4.77%*	6.14%	0.58%	1.60%	2.30%
_RASSINIA	0.00%	1.97%	5.41%	1.16%	1.80%	0.35%
_SAREB	6.83%**	-5.15%	9.77%	-9.43%	-5.71%	-23.83%**
_SITESB1	-0.43%	7.05%***	6.85%	10.73%***	-1.07%	-8.05%
_SORIANAB	0.61%	-1.12%	-1.66%	-0.69%	-0.80%	-1.85%
_UNIFINA	0.52%	-1.01%	1.78%	-1.87%	-2.53%	-1.90%
_VESTA	0.82%	4.67%**	2.79%	6.03%*	1.70%	1.12%
_VOLARA	2.38%	7.31%**	14.89%**	4.06%	-4.55%	-2.24%
_URBI	0.27%	0.63%	5.35%	-5.99%	-7.27%	0.55%
_ICHB	1.28%	1.17%	5.11%	-1.59%	-1.28%	-6.92%
Ptf CARs n 1 (57 securities)	0.38%	0.27%	1.52%	-0.20%	-0.63%	-0.78%
CAAR group 1 (57 securities)	0.38%	0.27%	1.53%	-0.20%	-0.64%	-0.79%

*** p-value < .01, ** p-value <.05, * p-value <.1

February 11, 2018 by Sector (Divided by Horizonal Line)

Hypothesis 1: Industrials, Materials and Financial Services

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_ASURB	0.70%	0.09%	0.75%	-1.93%	-2.16%	-2.14%
_PINFRA	-0.29%	0.89%	-0.80%	6.04%**	4.48%	4.51%
_URBI	0.27%	0.63%	5.35%	-5.99%	-7.27%	0.55%
_GAPB	1.86%	0.62%	1.05%	-0.39%	-0.68%	-3.83%
_HOMEX	-5.56%	-8.76%	-6.80%	-16.13%	-13.07%	-9.36%
_VOLARA	2.38%	7.31%**	14.89%**	4.06%	-4.55%	-2.24%
_ALFAA	-2.00%	-2.15%	-1.63%	1.82%	-0.48%	-1.07%
_OMAB	0.02%	-1.11%	1.58%	1.08%	2.26%	-0.28%
_AEROMEX	0.54%	0.73%	6.37%	-2.15%	-3.15%	-4.78%
_VESTA	0.82%	4.67%**	2.79%	6.03%*	1.70%	1.12%
_GCARSOA1	0.00%	-2.08%	-3.81%	3.47%	3.80%	10.49%**
_ARA	-0.21%	-0.22%	0.44%	-0.02%	-2.08%	-1.15%
_AGUA	0.70%	-2.17%	4.51%	-8.32%**	-5.46%	-5.99%
Ptf CARs n 1 (13 securities)	-0.06%	-0.13%	1.88%	-0.97%	-2.08%	-1.08%
CAAR group 1 (13 securities)	-0.06%	-0.12%	1.90%	-0.96%	-2.12%	-1.12%
_ICHB	1.28%	1.17%	5.11%	-1.59%	-1.28%	-6.92%
_ELEMENT	0.37%	2.34%	0.54%	-1.39%	-2.23%	0.59%
_ALPEKA	2.54%	1.24%	-2.16%	1.78%	2.44%	6.11%
_MFRISCOA	2.28%	5.00%	1.07%	0.18%	1.60%	2.21%
_PAPPEL	1.89%	-0.90%	0.31%	-4.59%	-1.52%	-3.04%
_AUTLANB	0.58%	2.90%	4.23%	7.67%*	2.41%	-0.07%
_PEOLES	-0.59%	-0.79%	3.71%	2.15%	-3.26%	-5.31%
_GISSAA	-1.31%	-3.65%*	-5.93%*	-6.79%**	-4.95%*	-5.44%
_MEXCHEM	-0.13%	1.98%	5.18%	3.25%	0.50%	0.47%
_GMEXICOB	1.35%	3.18%	3.64%	3.40%	1.69%	1.75%
_SIMECB	-0.21%	-1.57%	0.98%	0.08%	0.22%	-0.88%
Ptf CARs n 2 (11 securities)	0.73%	0.99%	1.52%	0.38%	-0.40%	-0.96%
CAAR group 2 (11 securities)	0.73%	0.99%	1.52%	0.38%	-0.40%	-0.96%
_GENTERA	1.03%	-1.26%	6.63%	-1.53%	-1.09%	1.79%
_UNIFINA	0.52%	-1.01%	1.78%	-1.87%	-2.53%	-1.90%
_Q	-0.36%	3.38%	4.33%	5.14%	3.15%	18.48%***
_GICSAB	2.84%*	11.40%***	7.50%	15.75%***	4.21%	0.82%
_BSMXB	-0.10%	0.24%	0.39%	-1.08%	-2.10%	-4.32%
_GFNORTEO	-0.46%	-1.39%	-2.62%	3.61%	5.42%	8.35%*
_BOLSAA	-0.08%	0.59%	0.65%	-3.69%	-4.31%	-3.67%
_GFINBURO	-1.11%	-3.57%	-2.27%	-4.29%	0.68%	-2.93%
_CREAL	0.23%	-1.33%	10.24%**	-4.41%	-3.09%	-3.44%
_RA	1.93%	1.34%	5.41%	-0.04%	3.30%	4.51%
Ptf CARs n 3 (10 securities)	0.44%	0.84%	3.21%*	0.76%	0.36%	1.77%
CAAR group 3 (10 securities)	0.44%	0.84%	3.21%*	0.76%	0.36%	1.77%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 2: Consumer Discretionary and Services

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_RASSINIA	0.00%	1.97%	5.41%	1.16%	1.80%	0.35%
_LIVEPOLC	0.87%	0.44%	3.18%	0.27%	0.04%	2.56%
_NEMAKA	-0.53%	-9.19%***	-10.36%**	-9.98%***	-0.29%	-0.53%
_HCITY	1.91%	2.25%	5.80%	5.42%*	3.40%	2.72%
_ALSEA	-0.15%	-0.56%	2.92%	2.64%	5.24%	2.80%
_HOTEL	-1.21%	-0.77%	3.76%	1.01%	-2.14%	-3.41%
_ELEKTRA	-3.08%	-0.55%	-3.73%	-9.82%	-13.21%*	-12.05%
_SAREB	6.83%**	-5.15%	9.77%	-9.43%	-5.71%	-23.83%**
_RASSICP	2.01%	4.77%*	6.14%	0.58%	1.60%	2.30%
Ptf CARs n 1 (9 securities)	0.74%	-0.76%	2.54%	-2.02%	-1.03%	-3.23%
CAAR group 1 (9 securities)	0.74%	-0.76%	2.54%	-2.02%	-1.03%	-3.23%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 3: Energy, Consumer Staples, Healthcare, Telecommunications, Information Technology

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_IENOVA	-0.42%	-1.08%	-3.32%	-0.46%	0.37%	2.24%
_BACHOCOB	1.18%	1.04%	-1.57%	0.49%	0.29%	-2.15%
_HERDEZ	0.04%	-0.64%	-0.18%	-2.30%	-3.19%	-2.02%
_LALAB	-0.63%	1.59%	-1.19%	2.00%	-0.56%	-2.40%
_GRUMAB	0.40%	-2.64%	-2.80%	0.44%	2.02%	2.36%
_KIMBERA	1.11%	1.58%	3.03%	1.22%	2.79%	4.33%
_WALMEX	0.45%	-0.79%	-1.04%	1.77%	1.86%	1.87%
_KOFL	-0.63%	-2.76%	-5.30%	-4.41%*	-2.47%	-2.47%
_CHDRAUIB	1.52%	0.82%	-0.45%	0.29%	1.76%	2.67%
_SORIANAB	0.61%	-1.12%	-1.66%	-0.69%	-0.80%	-1.85%
_BIMBOA	-1.03%	-3.01%	-1.96%	-2.44%	1.77%	2.65%
_LACOMUBC	2.48%*	1.40%	3.12%	-2.67%	-2.18%	-2.45%
_AC	-0.46%	-1.40%	-2.75%	-0.56%	-0.96%	-0.82%
Ptf CARs n 2 (12 securities)	0.42%	-0.49%	-1.06%	-0.57%	0.03%	-0.03%
CAAR group 2 (12 securities)	0.42%	-0.49%	-1.06%	-0.57%	0.03%	-0.03%
_LABB	-0.91%	-1.35%	-5.58%	2.89%	2.39%	-2.87%
_AMXL	-0.03%	2.99%	4.65%	2.88%	0.23%	0.48%
_SITESB1	-0.43%	7.05%***	6.85%	10.73%***	-1.07%	-8.05%

*** p-value < .01, ** p-value <.05, * p-value <.1

April 2, 2018 (First Market Day of Campaign Season, All Firms)

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_AC	-0.46%	-1.90%	-0.07%	-3.48%	-2.82%	-3.02%
_AEROMEX	-0.24%	-1.10%	-0.39%	0.99%	1.88%	6.49%
_AGUA	-2.97%	-4.35%	-6.63%	3.05%	2.76%	1.39%
_ALFAA	1.02%	-0.61%	-3.51%	-0.40%	0.42%	4.30%
_ALPEKA	-2.39%	-2.64%	0.31%	-5.21%	-2.28%	1.85%
_ALSEA	1.28%	-0.45%	3.09%	-1.17%	0.82%	4.93%
_AMXL	0.30%	-2.02%	-4.67%	-1.83%	0.78%	0.89%
_ARA	-2.71%	1.36%	-2.47%	-1.27%	-10.66%***	-10.53%**
_ASURB	-1.34%	-3.00%	-1.06%	-3.84%	-3.07%	-4.66%
_AUTLANB	0.47%	7.06%**	6.11%	8.04%*	2.00%	1.16%
_BACHOCOB	-2.03%	-0.15%	-2.78%	3.00%	-1.35%	-0.68%
_BIMBOA	-1.87%	-0.43%	0.37%	-3.82%	-4.47%	-2.06%
_BOLSAA	3.51%*	1.25%	4.00%	0.91%	12.90%***	5.30%
_BSMXB	1.01%	1.85%	1.46%	5.02%	3.59%	2.30%
_CHDRAUIB	0.21%	-1.72%	-0.79%	-1.96%	-1.21%	-1.46%
_CREAL	3.16%	4.80%	7.03%	3.02%	-0.52%	4.20%
_ELEKTRA	-0.67%	-0.49%	-3.97%	-1.37%	-3.20%	-6.03%
_ELEMENT	-0.85%	-2.52%	-5.66%	-7.99%**	-6.53%*	-4.46%
_GAPB	0.78%	1.40%	3.84%	2.16%	-0.36%	1.84%
_GCARSOA1	0.63%	-0.02%	0.32%	-1.20%	-0.27%	-1.80%
_GENTERA	-2.30%	5.29%	11.05%*	5.31%	-3.31%	-0.96%
_GFINBURO	-0.60%	-1.37%	-3.19%	-1.19%	-1.98%	-0.60%
_GFNORTEO	-0.61%	-1.52%	0.77%	-2.70%	0.01%	1.12%
_GICSAB	-0.93%	2.95%	-2.19%	0.69%	-6.87%	-0.32%
_GISSAA	-1.24%	-0.13%	0.95%	5.63%*	3.69%	1.16%
_GMEXICOB	0.96%	-1.30%	-1.13%	-1.04%	-1.79%	-0.64%
_GRUMAB	-0.28%	2.13%	5.99%	2.03%	-3.27%	-3.04%
_HCITY	-0.71%	3.15%	-0.90%	-3.87%	0.70%	-0.24%
_HERDEZ	-3.26%	-1.76%	5.33%	-3.79%	-7.18%*	-4.49%
_HOMEX	-5.24%	-12.57%	-23.79%	-15.06%	-7.29%	-5.55%
_HOTEL	-4.67%***	-4.76%**	-4.98%	-2.62%	-3.58%	-4.26%
_IENOVA	0.56%	1.11%	-3.95%	1.20%	0.19%	1.33%
_KIMBERA	-2.57%	-3.33%	-1.84%	-4.76%	-5.26%	-0.41%
_KOFL	-2.01%	-2.52%	-2.39%	-2.91%	-2.14%	-2.40%
_LABB	2.13%	-1.00%	-1.63%	-1.05%	4.52%	5.09%
_LACOMUBC	5.84%***	4.85%*	4.22%	7.65%**	8.88%**	11.02%**
_LALAB	-2.67%	-2.88%	-7.59%	-4.49%	-2.11%	-5.58%
_LIVEPOLC	0.84%	-0.97%	-4.44%	-1.08%	1.76%	4.66%
_MEXCHEM	-0.14%	0.39%	-0.28%	0.33%	-0.11%	5.84%
_MFRISCOA	-2.95%	2.40%	-2.01%	0.02%	-4.57%	-1.73%
_NEMAKA	1.83%	2.85%	-3.14%	6.31%	2.05%	1.95%
_OMAB	-0.47%	-0.35%	6.41%	-1.22%	-3.47%	-2.77%
_PAPPEL	-0.93%	-2.60%	-2.21%	0.52%	3.19%	-1.75%
_PEOLES	-1.59%	3.16%	-1.34%	0.99%	-5.37%	-6.01%
_PINFRA	-0.48%	0.10%	-0.58%	0.01%	-2.38%	-1.52%
_Q	1.71%	-0.26%	-0.95%	-2.01%	-0.62%	-0.02%
_RA	1.62%	-0.14%	-0.24%	1.20%	1.78%	3.00%
_RASSICPO	-0.15%	-0.03%	3.21%	2.02%	1.59%	2.14%
_RASSINIA	-4.89%**	-4.74%	1.25%	1.41%	2.54%	0.29%
_SAREB	-2.64%	-4.87%	-7.21%	-10.63%	-4.93%	1.95%
_SITESB1	-1.50%	-1.76%	-3.05%	-1.89%	-0.62%	0.25%
_SORIANAB	-2.06%	-1.72%	-2.37%	-0.59%	0.08%	-2.70%
_UNIFINA	2.16%	7.16%**	4.60%	5.17%	0.12%	-3.36%
_VESTA	2.40%	2.67%	0.44%	4.80%	5.83%*	11.33%**
_VOLARA	4.44%*	8.51%**	10.65%*	7.01%	2.53%	1.47%
_URBI	-6.46%	-3.83%	-1.86%	-5.94%	-7.85%	-5.97%
_ICHB	2.40%	23.15%***	20.95%***	16.72%***	-0.90%	-1.11%
Ptf CARs n 1 (57 securities)	-0.48%	0.21%	-0.22%	-0.10%	-0.85%	-0.05%
CAAR group 1 (57 securities)	-0.48%	0.21%	-0.23%	-0.10%	-0.85%	-0.06%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 1: Industrials, Materials and Financial Services

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_ASURB	-1.34%	-3.00%	-1.06%	-3.84%	-3.07%	-4.66%
_PINFRA	-0.48%	0.10%	-0.58%	0.01%	-2.38%	-1.52%
_URBI	-6.46%	-3.83%	-1.86%	-5.94%	-7.85%	-5.97%
_GAPB	0.78%	1.40%	3.84%	2.16%	-0.36%	1.84%
_HOMEX	-5.24%	-12.57%	-23.79%	-15.06%	-7.29%	-5.55%
_VOLARA	4.44%*	8.51%**	10.65%*	7.01%	2.53%	1.47%
_ALFAA	1.02%	-0.61%	-3.51%	-0.40%	0.42%	4.30%
_OMAB	-0.47%	-0.35%	6.41%	-1.22%	-3.47%	-2.77%
_AEROMEX	-0.24%	-1.10%	-0.39%	0.99%	1.88%	6.49%
_VESTA	2.40%	2.67%	0.44%	4.80%	5.83%*	11.33%**
_GCARSOA1	0.63%	-0.02%	0.32%	-1.20%	-0.27%	-1.80%
_ARA	-2.71%	1.36%	-2.47%	-1.27%	-10.66%***	-10.53%**
_AGUA	-2.97%	-4.35%	-6.63%	3.05%	2.76%	1.39%
Ptf CARs n 1 (13 securities)	-0.76%	-0.86%	-1.36%	-0.89%	-1.73%	-0.50%
CAAR group 1 (13 securities)	-0.77%	-0.86%	-1.36%	-0.88%	-1.73%	-0.51%
_ICHB	2.40%	23.15%***	20.95%***	16.72%***	-0.90%	-1.11%
_ELEMENT	-0.85%	-2.52%	-5.66%	-7.99%**	-6.53%*	-4.46%
_ALPEKA	-2.39%	-2.64%	0.31%	-5.21%	-2.28%	1.85%
_MFRISCOA	-2.95%	2.40%	-2.01%	0.02%	-4.57%	-1.73%
_PAPPEL	-0.93%	-2.60%	-2.21%	0.52%	3.19%	-1.75%
_AUTLANB	0.47%	7.06%**	6.11%	8.04%*	2.00%	1.16%
_PEOLES	-1.59%	3.16%	-1.34%	0.99%	-5.37%	-6.01%
_GISSAA	-1.24%	-0.13%	0.95%	5.63%*	3.69%	1.16%
_MEXCHEM	-0.14%	0.39%	-0.28%	0.33%	-0.11%	5.84%
_GMEXICOB	0.96%	-1.30%	-1.13%	-1.04%	-1.79%	-0.64%
_SIMECB	-0.02%	3.93%	0.45%	2.82%	-0.07%	-1.97%
Ptf CARs n 2 (11 securities)	-0.57%	2.81%**	1.47%	1.89%	-1.16%	-0.70%
CAAR group 2 (11 securities)	-0.57%	2.81%	1.47%	1.89%	-1.16%	-0.70%
_GENTERA	-2.30%	5.29%	11.05%*	5.31%	-3.31%	-0.96%
_UNIFINA	2.16%	7.16%**	4.60%	5.17%	0.12%	-3.36%
_Q	1.71%	-0.26%	-0.95%	-2.01%	-0.62%	-0.02%
_GICSAB	-0.93%	2.95%	-2.19%	0.69%	-6.87%	-0.32%
_BSMXB	1.01%	1.85%	1.46%	5.02%	3.59%	2.30%
_GFNORTEO	-0.61%	-1.52%	0.77%	-2.70%	0.01%	1.12%
_BOLSAA	3.51%*	1.25%	4.00%	0.91%	12.90%***	5.30%
_GFINBURO	-0.60%	-1.37%	-3.19%	-1.19%	-1.98%	-0.60%
_CREAL	3.16%	4.80%	7.03%	3.02%	-0.52%	4.20%
_RA	1.62%	-0.14%	-0.24%	1.20%	1.78%	3.00%
Ptf CARs n 3 (10 securities)	0.87%	2.00%*	2.23%	1.54%	0.51%	1.06%
CAAR group 3 (10 securities)	0.87%	2.00%*	2.23%	1.54%	0.51%	1.06%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 2: Consumer Discretionary and Services

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_RASSINIA	-4.89%**	-4.74%	1.25%	1.41%	2.54%	0.29%
_LIVEPOLC	0.84%	-0.97%	-4.44%	-1.08%	1.76%	4.66%
_NEMAKA	1.83%	2.85%	-3.14%	6.31%	2.05%	1.95%
_HCITY	-0.71%	3.15%	-0.90%	-3.87%	0.70%	-0.24%
_ALSEA	1.28%	-0.45%	3.09%	-1.17%	0.82%	4.93%
_HOTEL	-4.67%***	-4.76%**	-4.98%	-2.62%	-3.58%	-4.26%
_ELEKTRA	-0.67%	-0.49%	-3.97%	-1.37%	-3.20%	-6.03%
_SAREB	-2.64%	-4.87%	-7.21%	-10.63%	-4.93%	1.95%
_RASSICP	-0.15%	-0.03%	3.21%	2.02%	1.59%	2.14%
Ptf CARs n 1 (9 securities)	-1.09%	-1.15%	-1.90%	-1.22%	-0.25%	0.60%
CAAR group 1 (9 securities)	-1.09%	-1.15%	-1.90%	-1.22%	-0.25%	0.60%

*** p-value < .01, ** p-value <.05, * p-value <.1

Hypothesis 3: Energy, Consumer Staples, Healthcare, Telecommunications, Information Technology

SECURITY	CAAR[0,1]	CAAR[0,3]	CAAR[0,10]	CAAR[-3,3]	CAAR[-5,1]	CAAR[-10,1]
_IENOVA	0.56%	1.11%	-3.95%	1.20%	0.19%	1.33%
_BACHOCOB	-2.03%	-0.15%	-2.78%	3.00%	-1.35%	-0.68%
_HERDEZ	-3.26%	-1.76%	5.33%	-3.79%	-7.18%*	-4.49%
_LALAB	-2.67%	-2.88%	-7.59%	-4.49%	-2.11%	-5.58%
_GRUMAB	-0.28%	2.13%	5.99%	2.03%	-3.27%	-3.04%
_KIMBERA	-2.57%	-3.33%	-1.84%	-4.76%	-5.26%	-0.41%
_WALMEX	1.15%	1.27%	3.66%	2.86%	2.49%	3.72%
_KOFL	-2.01%	-2.52%	-2.39%	-2.91%	-2.14%	-2.40%
_CHDRAUIB	0.21%	-1.72%	-0.79%	-1.96%	-1.21%	-1.46%
_SORIANAB	-2.06%	-1.72%	-2.37%	-0.59%	0.08%	-2.70%
_BIMBOA	-1.87%	-0.43%	0.37%	-3.82%	-4.47%	-2.06%
_LACOMUBC	5.84%***	4.85%*	4.22%	7.65%**	8.88%**	11.02%**
_AC	-0.46%	-1.90%	-0.07%	-3.48%	-2.82%	-3.02%
Ptf CARs n 2 (12 securities)	-0.83%	-0.68%	0.14%	-0.86%	-1.53%	-0.92%
CAAR group 2 (12 securities)	-0.83%	-0.68%	0.14%	-0.86%	-1.53%	-0.92%
_LABB	2.13%	-1.00%	-1.63%	-1.05%	4.52%	5.09%
_AMXL	0.30%	-2.02%	-4.67%	-1.83%	0.78%	0.89%
_SITESB1	-1.50%	-1.76%	-3.05%	-1.89%	-0.62%	0.25%

*** p-value < .01, ** p-value <.05, * p-value <.1

Appendix C: The "estudy" command in STATA

"Estudy" is a user-contributed command in the STATA statistical package that allows researchers to quickly and easily calculate abnormal returns using a ready-set template. While it is uncommon to provide the STATA code in the methodology section of an economic paper, in this particular case a brief description will prove insightful about the exact mechanics of the present analysis being discussed.

The format for the most important elements and options of the code are the following:

```
estudy varlist1 [(varlist2) ... (varlistN)], datevar(varname) evdate(date)
    dateformat(string) lb1(#) ub1(#) [lb2(#) ub2(#) ... lb6(#) ub6(#)
    eswlbound(#) eswubound(#) modtype(string) indexlist(varlist)
    diagnosticstat(string) suppress(string) decimal(#) showpvalues nostar
    outputfile(filename) mydataset(datasetname)]
```

Logarithmic returns must be initially calculated from the raw daily closing-price data in order for the command to properly identify and calculate abnormal returns.

$Ln(Price_{i,t}/Price_{i,t-1})$

The "estudy" command can handle as many variables as necessary, which can be divided into six distinct variable lists which separates the firms into different columns on the output table if desired. It then requires a timeseries date variable to control for time.

Once the date variable has been determined and specified, specific periods across time called the event windows (lb/ub[4]) and estimation window (eswlbound/eswubound[5]) must be established. The event windows are the days directly surrounding the date of interest in the study. According to the authors of the command as well as Craig Mackinlay, smaller estimations generally give greater precision in their calculations. However, it can be useful to account for the days nearest to the event both before and after to capture the effects of information leaks (inside trading) in the former, and account for delays in market reaction time in the latter.

The Modtype variable is used to determine which market index (indices) will be utilized along with the firm variables of interest in order to account for autocorrelation and cross-sectional correlation, which is absolutely necessary for accurately determining abnormal returns.

[4] Lower Bounds/Upper Bounds

[5] Estimation Window Upper/Lower Bound

Individual stocks are heavily influenced by the performance of the market overall and therefore in order to isolate the individual effect of an information shock on specific firms, this covariation much be accounted for. The command can process the effects of a single market or a multi-factor model with several indices accounted for. This project will use a single market model, using the overall Bolsa Mexicana de Valores index as the aggregate control for calculating abnormal returns.

Finally, and perhaps one of the most important features of the "estudy" command is the diagnosticstat option, which provides several variations of tests for statistical significance of the abnormal returns. The default command assumes normality in the distribution of the returns themselves. However, following initial Shapiro-Wilk normality tests, most firms showed non-normal distributions and therefore this study will use the test for the statistical significance of abnormal returns proposed by Boehmer, Masumeci, and Poulsen in 1991 and corrected for cross-sectional autocorrelation by Kolari and Pynnönen in 2010.