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Corporate Political Strategies and Return Predictability

Abstract

We assess whether observable corporate political strategies can serve as channels of value-relevant political information flow into stock prices and form the basis for profitable return predictability strategies. We document that returns of politically connected firms' stocks lead those of their non-connected peers, suggesting that information shocks associated with new policies and other political developments become evident first in the stock prices of firms that pursue political strategies and then, with delay, in those of similar non-connected firms.

Keywords: Political connections; Boards with ex-politicians; Campaign contributions; Lobbying activities; Return predictability

Many firms choose to employ active political strategies aimed at securing connections to the political establishment. The consensus in finance literature is that there are both benefits and drawbacks associated with political connections.[1] Yet, the lengthy list of recent finance papers examining political connections does not include any studies that examine whether they can play a role in the diffusion of value-relevant political information into equity prices. This issue is important from a practitioner perspective because, if corporate ties to politicians can serve as channels of "complicated" (political) information flow into stock prices, investors can form the basis for profitable investment strategies. Specifically, suppose that investors' ability to assess stock price implications of political developments and news is often compromised due to the complexity of such a task, whereas it is merely abated in the cases of firms with publicly known ties to the political actors involved. In that case, value-relevant political information could diffuse into the market in phases, first being reflected in stock prices of politically connected firms and subsequently, with some delay, in the stock prices of their non-connected peers. In the event that information diffusion follows this two-stage pattern, investors should be able to predict future stock returns of firms lacking political strategies by observing those of similar firms that are politically connected.

The finance literature has documented many instances in which information diffuses slowly through the market causing return predictability.[2] For example, Cohen and Lou (2012) show that conglomerate firms' returns lag those of "pseudo-conglomerate-firms" built as portfolios of focused (single-industry) firms, because conglomerates are more complicated and harder to analyze than focused firms. We use a somewhat similar reasoning when we hypothesize that political information shocks can be assessed in a more straight-forward manner in the case of

firms that use observable corporate political strategies (such as lobbying, making political action committee (PAC) contributions or appointing former politicians to their boards) than in the case of otherwise similar non-connected firms. This is not because non-connected firms are more complicated *per se* (as Cohen and Lou (2012) pointed out is the case for conglomerates), but simply because their political strategies are either unobservable or non-existent thus depriving investors of a valuable tool with which to assess how new political information relates to these firms. Therefore, given investors' limited information processing capacity, it is conceivable that politically non-connected firms' stock prices may respond to political information shocks with delay relative to their politically connected peers. The literature contains plenty of examples of the responsiveness of politically connected firms to information shocks (e.g., Roberts, 1990; Fisman, 2001; Faccio and Parsley, 2009, among others).[3] There is also recent evidence consistent with the notion that cash flow relevant information processing is more straight-forward when firms are politically active. For example, corporate political strategies have been shown to act as a hedging mechanism effectively reducing equity prices' exposure to policy risk (Kim et al., 2018) and the impact of policy risk on firms' cost of debt (Bradley et al., 2016). Based on the above, we argue that in the absence of knowledge about corporate political strategies, as in the case of non-connected firms, investors will be unable to update prices in response to new information at the same speed as in the case of connected firms. Instead, they will resort to using the information included in the price paths of otherwise similar connected firms as their guide and update prices of non-connected firms accordingly, but with a delay. This effect would lead to return predictability from connected to non-connected firms.

The above argument applies to any type of information related to value-relevant political developments that affect markets, the most common of which are new policy initiatives and related legislative activity. In countries with legal systems governed by common law, such as the U.S., most legislative activities start with a member of the legislative body drafting a bill. Politicians prioritize political agenda items and form views on specific issues based on their desire to extend their tenure and maintain a balance between serving the constituents they represent and promoting the interests of those who provide them with financial support. In the U.S. political system, federal bills sponsored by Representatives or Senators typically undergo many changes before they pass through both chambers of Congress and are signed into law by the President. Although relatively few bills are eventually enacted into law,[4] the often lengthy and complicated legislative process is a virtually continuous source of uncertainty.[5] Hence, investors keep a close eye on legislative activity, recognizing that the passage of a bill is enough to change business landscapes by altering firms' investment opportunities, operating costs, market competitiveness, etc. This is the case especially for firms whose industries or business domains overlap with the bill sponsors' geo-political homes (Kim, Pantzalis, and Park, 2012) and the purview of the Congressional committee they serve on (Cohen, Coval, and Malloy, 2011).

In this paper we do not explore corporate political strategy's usefulness *per se* as a potential remedy to policy risk or as means of taking advantage of future growth opportunities that emerge from legislative activities (Drutman, 2015). Instead, we view publicly known corporate political strategies and the connections they help to establish as a mechanism that allows for faster diffusion of policy-related, value-relevant information into stock prices. Policy news and other political developments are often quite complicated in terms of their potential impact on markets,

industries, and individual firms, and therefore their analysis requires sophisticated processing. Since a great amount of information about corporate political strategies is public knowledge, investors can utilize it to infer firms' ability to cope with new policies and other market-related political developments.

We posit that the existence of corporate political strategies enables faster processing of both market-wide and industry-specific information shocks induced by politics, whereas the absence of such strategies results in slower updating of stock prices. This sequential processing of value-relevant political information shocks can arise from representativeness heuristics effects (e.g. see Kahneman and Tversky, 1972) whereby people tend to compare the essential features of an event (i.e., policy risk) to those of the structure from which it originates (i.e., politicians and their connections to corporations). Thus, investors incorporate policy-related information shocks into prices of politically connected firms first. The return predictability from connected to non-connected firms can also be driven by availability heuristics effects (Tversky and Kahneman, 1973) wherein investors' tendency to focus on things that are present (i.e., political connections) and ignoring things that are not (i.e., absence of connections). Alternatively, the above-mentioned sequential processing of information can arise as a natural choice when investors have limited attention and processing capacity (Hirshleifer and Teoh, 2003). Under this scenario, where attention requires effort and is used selectively (Kahneman, 1973), investors will choose to analyze first the effects of policy-related information shocks on firms that they deem to be more adept at dealing with these shocks. Take, for example, a firm that is lobbying on a particular issue that politicians decide to address with a new policy initiative. The related bill is drafted by a Congressional committee, introduced by its sponsors in both chambers of Congress,

is voted on and further modified until its fate is finally decided. There is uncertainty for all affected parties throughout this legislative process. However, arguably, this effect is less pronounced on firms that are actively lobbying or that are connected to the bill's sponsors or other important powerful politicians.[6] The public nature of firms' political connectedness leads to less noisy prices because it allows value-relevant policy information to be incorporated into prices in a more timely fashion. In contrast, investors interested in figuring out the impact of the bill on firms that are in a similar situation as the connected firms (i.e., in the same industry, or of similar size, or with similar other characteristics) but lacking publicly observable political strategies, will not be able to do so until they can gather enough information from the price paths of their connected peers.

Our paper contributes to the part of the finance literature that overlaps with political science and examines how establishing political connections can affect the quality of a firm's information environment.[7] Our main investigation, though, marks a departure from the aforementioned conventional empirical examinations of the effects of political connections on firm performance or corporate decisions and policies. Instead, our primary contribution to the literature is the uncovering of a heretofore unexplored ex-ante firm characteristic that can play the role of cross-firm information flow channel. Namely, this paper postulates and confirms the importance of observable corporate political strategies for the speed of information diffusion across markets consisting of politically connected and otherwise similar non-connected firm groups, which will be useful for both academics and practitioners. Finally, we provide robust evidence that all three dimensions of corporate political strategies, either in isolation or in unison, can be used to devise profitable return predictability strategies based on the premise that non-connected (followers)

firm prices react with delay to price innovations of connected firms (leaders). This new lead-lag effect is shown to exist both within and across industries.

In our empirical analysis of political connections' return predictability implications, we consider connections associated with three different corporate political strategies: (1) having at least one ex-politician on the board; (2) donating hard money to the electoral candidates through their PACs; or (3) being involved in lobbying activities. In the first stage of our analysis we establish causality by demonstrating that stock prices of connected firms are more responsive to political election results, used as an exogenous political news shock. In order to test the return predictability hypothesis, we develop a methodology that is inspired by the work of Cohen and Lou (2012). The key to designing a sound test is to identify matching pairs of connected and non-connected firms. To overcome the challenge of properly identifying the perfect match (i.e., a "clone") for each politically connected firm, we use portfolios as our test assets. Specifically, we begin this part of our analysis using 125 pairs of politically connected and non-connected firms' portfolios. First, we sort all firms independently into size, book-to-market ratio, or momentum quintiles as in Daniel, Grinblatt, Titman, and Wermers (1997) (hereafter DGTW).[8] This procedure generates 125 portfolios (5×5×5) for our sample of politically connected firms. For each portfolio, we obtain a matched portfolio including non-connected firms that present the same characteristics in the three-way sorting. For example, for the portfolio in the combination of lowest quintiles (1,1,1), we construct a clone portfolio in which firms are included in the same quintiles (i.e., in the smallest size group, the lowest book-to-market ratio group, and the lowest past return group). In this way, every one of the 125 portfolio pairs is closely similar by sharing

the same size, book-to-market, and past return characteristics but different in terms of political connectedness. [9]

Every month we rank the 125 politically connected firms' portfolios into deciles based on their prior month's returns. Next, in each decile we report the current month's equal-weighted (and/or value-weighted) returns of the matching non-connected firms' portfolios. In support of our hypothesis, the risk-adjusted returns of non-connected "clones'" portfolios follow the pattern of their connected peers' lagged performance. Indeed, the results are consistent across all three individual measures of political connectedness, as well as in the case of an aggregate political strategy indicator (*PSIdum*) that accounts for all three political strategies. Non-connected "clone" portfolios' current month return performance increases monotonically as one moves from the bottom to the top decile ranks of past month's corresponding politically connected portfolio performance. The abnormal returns of zero-net investment portfolios that are long non-connected clones of best performing connected firms in month *t*-1 (top decile) and short the non-connected clones of the worse performing connected firms in month *t*-1 (bottom decile) are not just statistically significant, but sizeable in economic terms as well. For example, when we perform the tests using the DGTW 125 portfolio pairs as test assets, the arbitrage portfolio returns range between 1.04% and 1.53% per month, depending on how connectedness is measured, the type of asset pricing model used to adjust for risk (one-, three-, four- or five- factor model) and whether returns are equal- or value-weighted. In addition, we find strong confirming evidence of return predictability from cross-sectional tests using Fama-MacBeth regressions (Fama and MacBeth, 1973) of future non-connected "clone" returns as a function of past connected and non-connected firms' returns and other controls.[10] Overall, the results show that politically connected firms'

past returns can predict non-connected firms' future returns, consistent with the notion that value-relevant political information diffuses slowly in the market.

Next, we provide additional tests to get more comprehensive understanding of the return predictability that is produced by political connections. First, we find that the reaction of politically connected firms' stock prices to important political news is significantly faster than that of non-politically connected firms. Second, we document that the role of political connections as a conduit of information flow is more relevant in an environment that is dominated by powerful politicians. Finally, we conduct a battery of additional tests that establish the robustness of our findings.[11]

Our findings have important implications and are relevant to a diverse pool of practitioners, such as investors and security analysts. Specifically, alpha seeking investors can use our findings to devise portfolios that exploit the market's inability to process value relevant political information in a uniform timely manner. The public nature of political connectedness (or lack thereof) makes it possible for investors to identify the types of stocks whose returns will lead (lag) and provide the basis for an investment strategy that yields significant performance net of transactions costs. Abnormal returns in our sample period exceed 1% per month, which according to Novy-Marx and Velikov (2016) represents the benchmark for gross return performance to be large enough to be deemed exploitable, i.e. cover transactions costs typical of a strategy like ours that requires monthly rebalancing of portfolios. However, to exploit this alpha investors need to have timely access to information that is typically available (to academics) only after a time lag of one or more years. Finally, security analysts covering firms lacking political connections can possibly

enhance their earnings forecasts and recommendations by incorporating in their analysis the patterns of information diffusion uncovered in our study.

Data

Our sample is constructed in several steps by compiling information from multiple data sources. We start by merging Compustat and CRSP to obtain firms' accounting data and stock returns, respectively. After eliminating REITs, closed-end funds, ADRs and firms not incorporated in the U.S., our initial sample consists of 130,092 firm-year observations spanning the 22-year period between 1995 and 2016. Our sub-sample period for the tests that account for corporate lobbying effort starts in 1999 because information on lobbying is available starting in the second half of 1998. We then identify whether a firm is politically connected based on whether it engages in any of the following three political strategies: (1) having a director with past political service; (2) making donations to PACs; or (3) incurring lobbying expenditures.

To identify ex-politicians serving on firms' board of directors, we search Form 10-K and Form 10-Q filings with the U.S. Securities and Exchange Commission using the EDGAR database. From EDGAR, we extract the firm's name, filing date, type of filing, central index key (CIK), and every director's name and short biography. In most cases we are able to pinpoint a director's political experience by reading his or her biography. However, we also encountered many cases in which the biographical information was either missing or incomplete. In those cases we cross-checked and matched director names with those on a list of U.S. politicians[12] we compiled from various sources.[13] As a result, we are able to count the number of directors on a particular board who have held a political position in the past.

Additionally, we construct two alternative political connection variables: a firm's PAC donations and lobbying expenditures. We collect corporate PAC donations data from the Federal Election Commission (FEC) website (http://www.fec.gov) and lobbying expenditure data from OpenSecrets (http://www.opensecrets.org). We count the number of electoral candidates that a firm supports through PAC donations and aggregate the amount of lobbying expenditures by year.

For the purpose of categorizing firms as politically connected on the basis of pursuing a particular political strategy, we use indicator variables. For example, *PCDdum* is an indicator variable that takes the value of one if the firm has one or more former politicians on the board, and the value of zero otherwise. Similarly, *PACdum* (*LOBdum*) takes a value of one if the firm makes PAC donations (or has positive lobbying expenditures) during a particular year, and the value of zero otherwise. In practice, a firm may be politically connected in more than one ways, i.e., by simultaneously pursuing more than one of the three political strategies described.

We also create an index variable by combining the aforementioned political strategy variables into one, the aggregate political strategy index dummy (*PSIdum*). We use an indicator variable as the main corporate political connection measure in all our tests, and the three individual political connection indicators mostly in robustness tests. After identifying firms as actively maintaining corporate political strategies using the above measures, we split our sample into two groups: politically connected firms and non-politically connected firms. To mitigate the problems associated with identifying an exact non-connected firm match for each connected firm, we use

portfolios as test assets in our return predictability tests. Specifically, for both the politically connected and non-connected groups of firms we form portfolios based either on: a) size, book-to-market ratio and momentum as in DGTW and Wermers (2000); or b) industry and size. The former yields 125 portfolios every month based on combinations of size, book-to-market ratio, and momentum quintiles. The latter yields 144 portfolios, after splitting each of the 48 Fama and French (1997) industries into size terciles. We label portfolios comprised of politically connected firms as *PCP* and portfolios comprised of matching non-politically connected firms ("clones") as *NPCP*.

Our trading strategies require that we know politically connected firms and non-connected firms. Thus, political connections are determined based on information from year *y*-1 (i.e., one year lagged). We then construct our portfolios after collecting year *y* information from CRSP and Compustat. Our methodology, based on Daniel, Grinblatt, Titman, and Wermers (1997), generates 125 portfolios (5×5×5) for our sample of politically connected firms after independently sorting on firm size, book-to-market ratio, or momentum. In a similar manner, we also construct the corresponding 125 portfolios of non-connected firms. These 125 pairs are then used as test assets in the return predictability of the politically connected firms. Because the execution of the strategy involves ranking on the aforementioned characteristics on a monthly basis, we require the complete information on firm size, book-to-market ratio, and past returns for year *y*.

Table 1 reports descriptive statistics for our sample. In Panel A, we report political connection measures at the firm level. In line with recent studies utilizing similar data (e.g. Antia, Kim, and

Pantzalis, 2013; Kim et al., 2018), we observe that a non-negligible portion of U.S. public firms is politically connected. On average, 18.9% of our sample firms maintain some sort of political strategy, i.e., they are politically connected via either their directors, PAC donations, or lobbying. Panel B presents the Pearson correlation matrix among our different political connection indicators. For instance, the existence of a political director (*PCDdum*) and PAC donations (*PACdum*) exhibit a sizeable correlation coefficient of 0.214. Similarly, the correlation coefficient between *PACdum* and *LOBdum* is 0.303. Overall, all political connection measures are positively correlated with each other indicating that firms that are politically connected are likely to pursue multiple political strategies at the same time. Panel C exhibits descriptive statistics from monthly observations for the deciles of the 125 DGTW portfolios' group used as test assets in our main analysis presented in Table 2. We rank *NPCP*'s monthly returns into deciles every month based on *PCP*'s lagged monthly returns and thereby obtain 264 month observations spanning the 22 years of our sample period. *NPCP*'s value-weighted returns increase monotonically with decile ranking, starting from a low -0.08% in the bottom decile (i.e., $R_m^{Decile=1}$) and reaching 1.44% in the top decile (i.e., $R_m^{Decile=10}$). In addition, we also report summary statistics of known factors such as the excess returns in the market (*MKT*), the "small minus big" (*SMB*), "high minus low" (*HML*), momentum (*UMD*), and liquidity (*LIQ*).

*** Insert Table 1 about here ***

Empirical Results

Can Politically Connected Firms' Past Performance Predict Non-Politically Connected Firms' Future Performance? In Table 2, we test our main hypothesis using the political strategy index dummy (*PSIdum*), the broadest of our political connections definitions, to classify

firms as connected or non-connected. We first assign politically connected firms into 125 portfolios (or *PCP*s) based on the DGTW size, B/M and momentum characteristics, and then sort *PCPs* into decile groups after ranking on their returns in the immediately preceding month. We repeat the same procedure to construct 125 non-connected firms' portfolios (*NPCP*s) and then compute their current month's returns. We then let each *NPCP* take the place of its *PCP* clone in the decile groups that were previously formed after ranking on preceding month *PCP* returns. This procedure allows us to align *NPCP* monthly returns at *t* and *PCP* monthly returns at *t*-1 in a panel setting. Since our test employs firms' monthly returns, portfolio rankings are rebalanced every month. To ensure that our results are not driven by known factor loadings, we construct a "zero-cost investment strategy" that buys the top decile of *NPCP* and sells the bottom decile of *NPCP* and compute its performance using various time-series asset pricing models. Dependent variables are the differences in monthly value-weighted returns between the top ($R_m^{Topdecile}$) and the bottom ($R_m^{Bottomdecile}$) decile of *NPCP*'s current returns at a portfolio level. The asset pricing models used to assess the abnormal returns of the zero-cost investment strategy are as follows:

$$1\ Factor:\ R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT_m + e_m \quad (1)$$

$$3\ Factor:\ R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT_m + \beta_2 SMB_m + \beta_3 HML_m + e_m \quad (2)$$

$$4\ Factor:\ R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT_m + \beta_2 SMB_m + \beta_3 HML_m + \beta_4 UMD_m + e_m \quad (3)$$

$$5\ Factor:\ R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT_m + \beta_2 SMB_m + \beta_3 HML_m + \beta_4 UMD_m + \beta_5 LIQ_m + e_m \quad (4)$$

MKT_m = the value-weighted market return minus the one-month Treasury bill rate. *SMB* (small minus big) = the difference each month between the return on small and big firms, while *HML* (high minus low) = the monthly difference of the returns on a portfolio of high book-to-market

and low book-to-market firms. *UMD* (up minus down) = the momentum factor computed on a monthly basis as the return differential between a portfolio of winners and a portfolio of losers. *LIQ* (liquidity) = the liquidity factor introduced by Pastor and Stambaugh (2003).

We find that the *NPCP*s average monthly returns are positively related to the *PCP*s preceding month returns, supporting our expectation that information processing is slow for firms that are not politically connected. Across four columns, we report the estimated intercept coefficients (i.e., the "alphas" or abnormal returns) from time-series tests with asset pricing models containing 1, 3, 4 and 5 factors, respectively. At the bottom of each column, we also show the differences in the estimated intercept coefficients between the top and bottom deciles. Overall, our findings strongly support the notion that politically connected firms' past performance has strong return predictability for non-politically connected peers' future performance. To summarize, all four alternative zero-net investment portfolio returns (i.e., the value-weighted returns from the four asset pricing models) yield positive abnormal returns ranging from a minimum of 1.45% to a maximum of 1.49% per month and are statistically significant at least at the 1% level. The *t*-statistic values indicate the degree of statistical significance in whether the intercept is different from zero. In the five-factor regression model for a zero-cost investment strategy (buying the top portfolio and selling the bottom portfolio), as an example, the *p*-value for a *t*-statistic value of 5.74 is 0.0000, which suggests that the probability of being incorrect in rejecting the null hypothesis that the value of intercept is extremely close to zero. Alternatively, the probability that the intercept is different from zero is greater than 99.99%.[14] Most importantly, the return performance of the investment strategy is economically significant as well, i.e. large enough to cover transactions costs. Novy-Marx and Velikov (2016) stress that

investment strategies with monthly rebalancing of portfolios such as the one presented here should yield returns in excess of 100 bps per month in order to be profitable. This is indeed the case with our investment strategy that yields alphas in excess of 1.45% per month. Moreover, the short side of the investment strategy does not account for the lion share of the total alpha, thus easing concerns about the impact of short selling constraints. For example, the ratio of the long-to-short side abnormal returns in the case of the five-factor model alphas is 1.28 (0.0082/0.0064). Finally, to account for the possibility that the results could be driven by small firm effect, we excluded stock prices less than $5 to form portfolios and repeated the tests shown in Table 2. Results (untabulated) are qualitatively equivalent to the results presented in Table 2.

*** Insert Table 2 about here ***

We report the detailed results from the estimation of the five factor asset pricing model in Appendix Table A2, which is not included in the paper but available on line. The dependent variables are the value-weighted monthly returns of the *NPCP* decile portfolios. The alphas shown in the second column correspond to those shown in the last column of Table 2. Our results indicate that most factors have significant loadings. In addition, the high R-squared values indicate that the five factor model explains a large portion of variation in *NPCP* decile portfolio returns. However, they do not explain much of the variation in the arbitrage portfolio (T-B) returns; the *R*-squared for that model is 1.1% and none of the coefficients are significant.

Next, we replicate Table 2 using the individual political connection indicators (*PCDdum*, *PACdum*, or *LOBdum*) to classify firms into *PCP* and *NPCP* test asset groups and report results in Table 3. Overall, the results confirm that zero-cost investment strategies based on all

individual political strategies produce statistically and economically meaningful profits. For instance, when we define political connection based on the existence of politically connected directors (*PCDdum*) and employ the five factor model, the long-short investment strategy yields a value-weighted gross return of 1.50% (t=5.67) per month. Notably, there is only a 3 basis points' reduction in gross profits between the alpha from the one factor model in the first column and the alpha from the five factor model reported in the fourth column, which indicates that the bulk of the effect shown in our results is not driven by known factors' loadings. A similar pattern persists in the results obtained when political connections are defined based on the use of PAC donations (*PACdum*) and lobbying (*LOBdum*). The top-bottom (long-short) investment strategy yields risk-free returns per month that exceed 1.04% in the case of PACs and 1.20% in the case of lobbying. Collectively, our results show that, regardless of how we define political connections and/or what asset pricing model we use, the long-short investment strategy generates significant and economically sizeable returns, thereby confirming that there is a positive relation between lagged *PCP*s' returns and concurrent *NPCP*s' returns.

Note that we do not have access to transactions data to accurately estimate the size of the transactions costs and the corresponding economic magnitude of our results. However, we know that in a similar setting Cohen and Lou (2012) measure the net returns to be 84 basis points for alphas of about 118 basis points. Thus, given that our investment strategy is of a similar nature and the alphas we obtain are of a similar magnitude as those used in Cohen and Lou (2012), we conclude that the effect we document here is economically significant as well.

*** Insert Table 3 about here ***

To determine whether our findings remain robust in a cross-sectional test setting, we conduct a series of Fama-MacBeth tests and present the results in Table 4. In Panel A, the dependent variable is the average *NPCP* return in month *t* (*NPCPR*$_t$). The key independent variable is the one-month lagged average *PCP* return (*PCPR*$_{t-1}$). The model also controls for *NPCP*'s lagged variables. Consistent with the time-series tests' results, we find a significant positive relation between *NPCP* returns in month *t* and *PCP* returns in month *t*-1. The coefficients of *PCPR*$_{t-1}$ are positive and statistically significant at the 1% level, ranging from 0.012 to 0.023. To illustrate economic significance, an increase of 1% in *PCPR*$_{t-1}$ would leads to increase in *NPCPR*$_t$ by 23 basis points per month when we define a political connection as *PSIdum*. Collectively, the results from all four models provide strong evidence suggesting that politically connected firms' past returns predict non-connected peers' future returns, in support of the argument that value-relevant political information diffuses slowly in the market.

Panel B examines the persistence of predictability by extending the lagged average return of politically connected firms up to six months. Our aim is to see how long it takes, on average, for value-relevant information to diffuse from politically connected to non-connected peer firms. We find that the returns of non-politically connected firms are strongly predictable by the first four previous returns of the matched *PCP* groups, but this predictability suddenly dissipates from the fifth lagged returns. As we argued earlier, investors' ability to assess stock price implications of political developments and news is often compromised due to the complexity of such a task, and is merely abated in the cases of firms with publicly known ties to the political actors involved. This suggests that political information diffuses into the market in phases, first being reflected in

stock prices of politically connected firms and subsequently, with some delay (i.e., four months), in the stock prices of their non-connected peers.

*** Insert Table 4 about here ***

We conduct additional tests to get more comprehensive understanding of the return predictability that is produced by political connections. First, we show that politically connected firms' stock prices react faster to important political news than those of non-politically connected firms.[15] Second, we uncover that the ability of political connections to act as an information diffusion channel varies with political geography. The return predictability is stronger in the areas where politicians are more influential.[16, 17]

Conclusion

We assess whether firms with political connections can serve as channels of complicated information flow in equity markets. Specifically, we posit that investors facing the difficult task of gauging the impact of political developments on markets can use firms' political strategies to update prices of politically connected firms. In the absence of such information as is the case for firms lacking corporate political strategies, the same task is harder and investors will only be able to assess political value-relevant news by observing the paths of connected firms' stock prices. Thus, value-relevant political information shocks should get reflected into prices of politically connected firms first, and then, with delay, into prices of their non-connected peers. As a practical matter, investors should be able to predict future stock returns of firms lacking political strategies by observing those of similar firms that are politically connected, thereby being able to form the portfolio basis for profitable investment strategies.

We test this slow information diffusion hypothesis using the methodology of Cohen and Lou (2012) and find strong evidence that politically connected firms' stock returns can predict non-connected firms' stock returns. We find that an investment strategy that takes advantage of this slow information diffusion between politically connected firms and their non-connected peers, yields significantly large returns of up to 153 basis points per month before transactions costs. The results are robust to the use of alternative methodologies and test assets.

Moreover, we show that politically connected firms' short term reaction to election outcomes is stronger than that of non-connected firms, consistent with the notion that they react faster to important political news. We also show that the ability of investors to use political connections' characteristics for updating stock prices in response to value-relevant political information shocks strengthens in the parts of the political map where there is greater concentration of political power.

Overall, our study provides evidence that corporate political strategies serve as channels of value-relevant information flow into stock prices causing return predictability that may be exploitable. However whether this predictability can be exploited depends on whether the necessary information can be obtained on a timely basis. Academics (i.e., the authors), can only access this information on a one year or more delay, and it is not clear that access to information on this delayed basis can lead to profitable trading opportunities.

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Table 1. Descriptive Statistics

Panel A. Political connection variables

	N	Mean	Median	Std.	Min.	Max.
PC directors	72,917	0.135	0.000	0.448	0.000	7.000
PCDdum	72,917	0.106	0.000	0.308	0.000	1.000
Supported candidates	130,092	6.497	0.000	35.149	0.000	766.000
PACdum	130,092	0.102	0.000	0.303	0.000	1.000
Lobbying expenditure	92,286	0.124	0.000	3.435	0.000	994.597
LOBdum	92,286	0.115	0.000	0.319	0.000	1.000
PSIdum	130,092	0.189	0.000	0.392	0.000	1.000

Panel B. Correlation matrix

	PCDdum	*PACdum*	*LOBdum*	*PSIdum*
PCDdum	1			
PACdum	0.214	1		
	(<.001)			
LOBdum	0.234	0.303	1	
	(<.001)	(<.001)		
PSIdum	0.686	0.698	0.661	1
	(<.001)	(<.001)	(<.001)	

Panel C. Portfolio characteristics

	Mean	Median	Std.	Min.	Max.
$R_m^{Decile=10}$	0.0144	0.0168	0.0697	-0.2377	0.4115
$R_m^{Decile=9}$	0.0117	0.0152	0.0601	-0.2551	0.2030
$R_m^{Decile=8}$	0.0100	0.0112	0.0594	-0.2012	0.2492
$R_m^{Decile=7}$	0.0079	0.0095	0.0592	-0.2003	0.2304
$R_m^{Decile=6}$	0.0071	0.0089	0.0579	-0.2186	0.1979
$R_m^{Decile=5}$	0.0058	0.0084	0.0613	-0.2245	0.2637
$R_m^{Decile=4}$	0.0054	0.0081	0.0621	-0.2879	0.2221
$R_m^{Decile=3}$	0.0048	0.0088	0.0613	-0.2554	0.1998
$R_m^{Decile=2}$	0.0032	0.0038	0.0662	-0.2377	0.2349
$R_m^{Decile=1}$	-0.0008	0.0040	0.0687	-0.2664	0.3047
MKT	0.0058	0.0124	0.0443	-0.1723	0.1135
SMB	0.0012	0.0000	0.0340	-0.1717	0.2208
HML	0.0018	-0.0003	0.0309	-0.1125	0.2208
UMD	0.0051	0.0062	0.0515	-0.3458	0.1838
LIQ	0.0062	0.0038	0.0390	-0.1078	0.2146

Note: Panel A reports summary statistics of political connection variables for a sample of firms. Panel B reports Pearson correlation coefficients matrix among political connection variables. Panel C reports summary statistics of decile portfolio at the end of every month. *PC directors* represents the number of directors who served as a politician in the past. *PCDdum* is a dummy that equals 1 if a firm has a politically connected director on its board in a given calendar year and 0 otherwise. *Supported candidates* represents the number of electoral candidates to which a firm makes PAC donations in a given calendar year. *PACdum* is a dummy that equals 1 if a firm makes PAC donations in a given calendar year and 0 otherwise. *Lobbying expenditure* represents the dollar amount (in millions) that a firm spends for lobbying in a calendar year. *LOBdum* is a dummy that equals 1 if a firm engages in lobbying in a given calendar year and 0 otherwise. *PSIdum* is a dummy that equals 1 if the firm has at least one ex-politician on the board (*PCDdum*=1), donates hard money to the electoral candidates through their PACs (*PACdum*=1), or is involved in lobbying activities (*LOBdum*=1). R_m^{Decile} is the monthly average returns of the *NPCP* decile portfolios. *MKT, SMB, HML, UMD,* and *LIQ* represent market, size, book-to-market, momentum, and liquidity factor loadings, respectively.

Table 2. Complicated Processing Portfolios, Abnormal Returns: Political Strategy Index

	1 Factor	3 Factor	4 Factor	5 Factor
10 (Top)	0.0068	0.0057	0.0085	0.0082
	(3.06)	(3.30)	(5.09)	(4.83)
9	0.0049	0.0041	0.0059	0.0054
	(2.68)	(2.76)	(4.15)	(3.78)
8	0.0035	0.0030	0.0051	0.0044
	(1.84)	(1.80)	(3.24)	(2.93)
7	0.0012	0.0005	0.0025	0.0019
	(0.67)	(0.29)	(1.63)	(1.31)
6	0.0004	-0.0002	0.0014	0.0007
	(0.25)	(-0.17)	(0.99)	(0.51)
5	-0.0013	-0.0021	-0.0002	-0.0006
	(-0.70)	(-1.32)	(-0.15)	(-0.45)
4	-0.0016	-0.0027	-0.0007	-0.0012
	(-0.86)	(-1.57)	(-0.46)	(-0.84)
3	-0.0022	-0.0029	-0.0013	-0.0022
	(-1.25)	(-1.82)	(-0.88)	(-1.57)
2	-0.0043	-0.0050	-0.0027	-0.0036
	(-2.10)	(-2.71)	(-1.54)	(-2.21)
1 (Bottom)	-0.0082	-0.0092	-0.0062	-0.0064
	(-3.48)	(-4.47)	(-3.49)	(-3.63)
T - B	0.0149	0.0149	0.0147	0.0145
	(6.22)	(6.16)	(5.83)	(5.74)

Note: This table presents abnormal returns (or alphas) obtained from time-series models with a different number of factor loadings. The dependent variable is constructed as follows: politically connected firms and non-politically connected firms are classified into 125 portfolios based on a firm's characteristics such as size, book-to-market ratio, and momentum (Daniel, Grinblatt, Titman, and Wermers, 1997) at the beginning of every month (or *PCP* and *NPCP*, respectively). *NPCP*'s current returns are matched with their corresponding *PCP*'s past returns via DGTW characteristic-based classifications. The 125 portfolios are sorted into decile based on *PCP*'s past returns. The dependent variables for time-series tests are the monthly value-weighted current *NPCP* returns. The decile groups are rebalanced every month. Political connection is defined as existing if a firm is involved in any of three political connections via directors, PAC contributions, or lobbying in a given calendar year. Monthly abnormal returns (or alphas) are reported from the one, three, four, and five factor models. T-B is a difference in alphas from a zero-cost investment strategy that longs the top decile group and shorts the bottom group;

$$\textit{1 Factor}: R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT$$
$$\textit{3 Factor}: R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT + \beta_2 SMB + \beta_3 HML$$
$$\textit{4 Factor}: R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT + \beta_2 SMB + \beta_3 HML + \beta_4 UMD$$
$$\textit{5 Factor}: R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT + \beta_2 SMB + \beta_3 HML + \beta_4 UMD + \beta_5 LIQ$$

Independent variables include known factor loadings; *MKT*, *SMB*, and *HML* from Fama and French (1993), *UMD* from Carhart (1997), and *LIQ* from Pastor and Stambaugh (2003). Numbers in parentheses are *t*-statistics.

Table 3. Complicated Processing Portfolio Abnormal Returns: Individual Political Connections

	1 Factor	3 Factor	4 Factor	5 Factor
		PCDdum		
10 (Top)	0.0096	0.0076	0.0100	0.0089
	(3.77)	(3.81)	(6.00)	(5.15)
1 (Bottom)	-0.0057	-0.0076	-0.0053	-0.0061
	(-2.10)	(-3.22)	(-2.68)	(-3.06)
T - B	0.0153	0.0152	0.0153	0.0150
	(6.23)	(6.20)	(6.05)	(5.67)
		PACdum		
10 (Top)	0.0058	0.0049	0.0073	0.0069
	(2.99)	(3.16)	(5.13)	(4.87)
1 (Bottom)	-0.0050	-0.0057	-0.0031	-0.0035
	(-2.35)	(-2.99)	(-1.91)	(-2.09)
T - B	0.0108	0.0107	0.0104	0.0104
	(5.46)	(5.51)	(5.09)	(4.89)
		LOBdum		
10 (Top)	0.0096	0.0068	0.0084	0.0080
	(3.68)	(3.38)	(4.57)	(4.23)
1 (Bottom)	-0.0034	-0.0057	-0.0038	-0.0040
	(-1.29)	(-2.54)	(-1.98)	(-2.16)
T - B	0.0130	0.0125	0.0122	0.0120
	(4.68)	(4.78)	(4.59)	(4.44)

Note: This table presents abnormal returns (or alphas) obtained from time-series models with a different number of factor loadings. Political connection is measured by individual political connections such as a connection via employment of PC directors, PAC contributions, or lobbying. Corresponding results are reported in Panel A, Panel B, and Panel C, respectively. For brevity, only results from the top and bottom groups are presented. Please refer to Table 2 for details of the procedure. T-B is a difference in alphas from a zero-cost investment strategy that longs the top decile group and shorts the bottom decile group. Monthly abnormal returns (or alphas) and t-statistics (in parentheses) are reported.

Table 4. Complicated Processing Returns, Cross-sectional Fama-MacBeth Regressions

Panel A. In each column, political connections are measured based on a different political strategies' measures

	(1)	(2)	(3)	(4)
	Dependent variable =$NPCPR_t$			
	PSIdum	*PCDdum*	*PACdum*	*LOBdum*
$PCPR_{t-1}$	0.023	0.016	0.012	0.014
	(4.67)	(4.24)	(3.23)	(3.25)
$NPCP\_size_{t-1}$	0.002	0.001	0.001	0.001
	(2.94)	(2.28)	(2.39)	(1.22)
$NPCP\_bm_{t-1}$	14.010	19.327	14.489	11.382
	(7.20)	(8.18)	(6.86)	(5.20)
$NPCPR_{t-1}$	0.022	0.013	0.020	0.033
	(2.06)	(0.96)	(1.74)	(2.65)
$NPCP\_beta_{t-1}$	-0.001	-0.001	-0.001	-0.002
	(-0.49)	(-0.25)	(-0.35)	(-0.75)
$NPCPR_{(t-2,t-12)}$	0.016	0.020	0.020	0.014
	(5.51)	(5.71)	(6.77)	(4.06)
$NPCP\_turnover_{t-1}$	-0.058	-0.051	-0.047	-0.055
	(-0.79)	(-0.52)	(-0.60)	(-0.75)
Constant	-0.023	-0.022	-0.016	-0.008
	(-2.59)	(-2.22)	(-1.91)	(-0.84)
N	264	264	264	264
Avg. R^2	0.017	0.023	0.011	0.023

Panel B. Examining the persistence of cross-asset predictability. Political connections are measured based on a political strategy index dummy (*PSIdum*) throughout.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent variable=$NPCPR_t$						
$PCPR_{t-1}$	0.023						0.025
	(4.67)						(4.94)
$PCPR_{t-2}$		0.023					0.024
		(4.43)					(4.51)
$PCPR_{t-3}$			0.023				0.024
			(4.61)				(4.55)
$PCPR_{t-4}$				0.011			0.011
				(2.23)			(2.14)
$PCPR_{t-5}$					0.005		0.003
					(1.10)		(0.73)
$PCPR_{t-6}$						0.004	0.004
						(0.87)	(0.76)
$NPCP\_size_{t-1}$	0.002	0.002	0.002	0.002	0.002	0.002	0.001
	(2.94)	(2.80)	(2.78)	(2.93)	(2.82)	(2.73)	(2.27)
$NPCP\_bm_{t-1}$	14.010	14.007	14.359	14.428	14.924	14.702	12.119
	(7.20)	(7.13)	(7.23)	(7.32)	(7.48)	(7.27)	(6.40)
$NPCPR_{t-1}$	0.022	0.024	0.025	0.027	0.027	0.028	0.014
	(2.06)	(2.24)	(2.34)	(2.46)	(2.45)	(2.50)	(1.38)
$NPCP\_beta_{t-1}$	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000
	(-0.49)	(-0.57)	(-0.51)	(-0.59)	(-0.50)	(-0.41)	(-0.09)
$NPCPR_{(t-2,t-12)}$	0.016	0.015	0.016	0.016	0.017	0.017	0.011
	(5.51)	(5.37)	(5.46)	(5.45)	(5.73)	(5.68)	(3.88)
$NPCP\_turnover_{t-1}$	-0.058	-0.053	-0.047	-0.050	-0.040	-0.035	-0.023
	(-0.79)	(-0.73)	(-0.64)	(-0.69)	(-0.54)	(-0.47)	(-0.31)
Constant	-0.023	-0.022	-0.022	-0.023	-0.022	-0.022	-0.017
	(-2.59)	(-2.47)	(-2.41)	(-2.55)	(-2.48)	(-2.43)	(-1.88)
N	264	264	264	264	264	264	264
Avg. R^2	0.017	0.011	0.013	0.014	0.013	0.012	0.013

Note: This table presents results from the Fama-MacBeth regressions. The dependent variable is the average returns of portfolios of non-politically connected firms at month t (or $NPCPR_t$). In Panel A the key independent variable is the average returns of portfolios of politically connected firms at month t-1 (or $PCPR_{t-1}$), where connections are measured using either the political strategy index indicator, or each of the three individual political strategies' indicators. In Panel B, we examine the length of time the cross-asset predictability lasts by including lagged monthly returns of *PCPR* (up to six months prior to the current month) in the model. Other explanatory variables include the lagged variables of *NPCP*. Numbers in parentheses are t-statistics adjusted for heteroskedasticity and autocorrelation up to 12 lags (Newey and West, 1987).

[1] On one hand, political strategies such as making donations to political campaigns (Cooper, Gulen, and Ovtchinnikov, 2010), lobbying (Hill, Kelly, Lockhart, and Van Ness, 2011) and/or appointing former politicians as directors on corporate boards (Goldman, Rocholl, and So, 2009) can add value to a firm and can be useful tools in managing policy risk (Bradley, Pantzalis, and Yuan, 2016, and Kim et al., 2018). On the other hand, there is also ample evidence that political connections are associated with riskier corporate behavior. For example, Chaney, Faccio and Parsley (2011) in a cross-country study find that the quality of earnings reported by politically connected firms is significantly poorer than that of similar non-connected companies. Kim and Zhang (2016) find that politically connected firms are more tax aggressive than non-connected firms, especially among those with low institutional ownership.

[2] Lo and MacKinlay (1990) show that small firms' returns are correlated with large firms' past returns, but find no evidence of a reverse effect. Hou (2007) finds that this lead-lag effect between large and small firms is primarily an intra-industry phenomenon. In addition, the literature reports evidence of return predictability based on stocks' information environment. For example, past returns of stocks held by informed institutional traders are positively correlated with returns of stocks held by uninformed retail traders (Badrinath, Kale, and Noe, 1995); returns on portfolios of stocks followed by many analysts tend to lead returns on portfolios of stocks followed by few analysts (Brennan, Jegadeesh and Swaminathan, 1993); and returns on portfolios of stocks with high trading volume lead returns on portfolios of stocks with low trading volume (Chordia and Swaminathan, 2000). Finally, Menzly and Ozbas (2010) find that stocks that are in economically related supplier and customer industries cross-predict each other's returns.

[3] Roberts (1990) finds that the sudden death of senator Henry Jackson resulted in a significant negative (positive) adjustment in the value of firms that contributed to his (his successor) campaign. Fisman (2001) reveals that rumors about the worsening health of Indonesian President Suharto resulted in a much sharper drop in the prices of firms tightly connected to his regime than the prices of less connected firms. Faccio et al. (2009) show that the sudden death of a politician causes a decline in the value of firms headquartered in the politician's hometown.

[4] According to the GovTrack.us, at least 10,000 bills were proposed in each session of Congress during the last decade (http://www.govtrack.us/congress/bills/#statistics). However, only 3-4% of bills have been enacted into law during the same period.

[5] Kim et al. (2012) show that firms located in areas where political networks are tightly linked to the administration outperform those at the other end of the geo-political spectrum. They interpret their evidence as consistent with the notion that firms' proximity to political power exposes them to greater uncertainty about the impact of future policies. Cohen et al. (2013) measure the economic effects of the passage of a bill. Their findings highlight that an investment strategy – purchasing industries that experience positive returns and selling industries that experience negative returns – produces positive abnormal returns of 76 basis points a month. In this sense, at the moment the bill is proposed, Congressional activities create *ex-ante* uncertainty about a firm's growth opportunities and its future cash flow.

[6] Kim et al. (2018) show returns of firms exposed to high policy risk (i.e., facing intense firm-related legislative activity) are significantly higher than those of firms without such exposure. This effect is not significant in the case of firms that have active corporate political strategies, such as lobbying.

[7] There are several studies documenting that political connections are associated with a worsening of financial reporting and thus with a less transparent information environment (for example, see Chaney et al., 2011; Chen, Ding, and Kim, 2011; Kim and Zhang, 2016).

[8] The DGTW approach is relevant to practical applications such as smart beta investments or ETFs that utilize smart beta strategies. Managers can create or follow an index that weights their investments based on fundamentals such as size, book-to-market ratio, momentum and other crucial characteristics.

[9] As an example, in 2008, International Speedway Corp. spends $ 620,000 for lobbying. Its market capitalization is close to 798 million at the end of 2007. According to its Fama-French industry classification, this firm is in the entertainment industry. Based on the DGTW classification, the firm is classified as (2,4,3), i.e. it is in the second market capitalization quintile, the fourth market-to-book quintile, and the third momentum quinitles, respectively. We find 10 firms matching the (2,4,3) DGTW characteristics shared by International Speedway Corp. One of them is Mobile Mini Inc. which has approximately 690 million of market capitalization. It is in the business service industry based on the Fama-French industry classification. To test the lead and lag effect between International Speedway Corp. and Mobile Mini Inc, we compared monthly returns of International Speedway Corp at month *t* and those of Mobile Mini Inc. at month *t*+1.

[10] Alternatively, as a robustness check, we also repeat our tests using 144 pairs of industry-size portfolios formed after dividing each of the 48 Fama-French (FF) industries into three size terciles.

[11] First, we acknowledge that while it is possible for political developments such as new policies to be size- or capital structure-specific, it may be more intuitive to think that policies address specific industries. Therefore, we also test whether our results hold if we match connected/non-connected firms based on industry and size rather than on momentum, BE/ME, and size. Furthermore, to improve the policy-specific signal we sort based on connected stocks' abnormal (DGTW-adjusted) returns the prior month. Our evidence using abnormal returns and industry-size portfolios as test assets is generally in line with that obtained using raw returns and the DGTW portfolios as test assets. Second, we use vector autoregressions (VARs) to assess the possibility of reverse predictability and confirm that the information flow occurs from politically connected to non-connected firms. Third, our placebo tests ensure that our results are indeed involving information diffusion through a political connections channel.

[12] The list includes people who held the following offices: U.S. President, Vice President, and candidates for those offices, secretaries of departments (e.g., Secretaries of State, Treasury, and Defense. etc.), governors, Senators and House Representatives, Attorney Generals, White House Executives, SEC Commissioners, ambassadors, as well as assistant and deputy secretaries of all departments.

[13] Some examples of the different sources we used in compiling these lists are as follows: candidates for U.S. Presidents (http://en.wikipedia.org/wiki/President_of_the_United_States), for U.S. House Representatives (http://www.house.gov/), for U.S. Senators (http://www.senate.gov/), and for secretaries of departments (e.g., Secretary of Defense (http://en.wikipedia.org/wiki/United_States_Secretary_of_Defense) and Secretary of the Treasury (http://en.wikipedia.org/wiki/United_States_Secretary_of_the_Treasury), etc.

[15] A necessary condition on the return predictability is that politically connected firms in fact react first to political news and non-politically connected firms react with a delay. We identify election results as political information shocks and implement a simple event study upon election dates. We calculate absolute value of three day cumulative abnormal returns after election dates (i.e., *AbsCAR[0,+2]*), the Tuesday after the first Monday in November, and regress them on our political connection variables. As reported in the on-line appendix (Table A3), politically connected firms exhibit positive absolute value of cumulative abnormal returns, which are larger when the presidential outcomes are too close to predict. Therefore, these results imply that corporate political connections yield a greater immediate effect on firm value when political news is more unpredictable.

[16] If our view of political connections as information diffusion channel is accurate, we should observe even stronger patterns when these connections involve more powerful politicians who are more actively pursuing their policy agendas. Kim et al. (2012) devised a state-level measure of the degree of presidential party control across the different links in the political power chain and call it *Political Alignment Index* (*PAI*). In the on-line appendix (Table A4), the return predictability patterns are generally stronger and more significant in the high *PAI* subsample, consistent with the notion that the role of political connections as a conduit of information flow is more relevant in an environment that is dominated by powerful politicians introducing new policies that are more often than not designed to address primarily the needs of their local corporate supporters and other local firms.

[17] In addition, we perform various other tests and find that our results are robust. The complete set of results are provided in the on-line appendix.