Research

Corporate Political Strategies and Return Predictability

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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.

Many firms choose to use active political strategies aimed at securing connections to the political establishment. The consensus in the 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 because of the complexity of the 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, being reflected first 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) showed 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

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a somewhat similar reasoning when we hypothesize that political information shocks can be assessed in a more straightforward 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. We make this hypothesis not because non-connected firms are more complicated per se—as Cohen and Lou pointed out is the case for conglomerates—but, rather, simply because their political strategies are either unobservable or nonexistent, 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 a 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).[3] There is also recent evidence consistent with the notion that cash flow–relevant information processing is more straightforward 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, Kim, Pantzalis, and Park, forthcoming 2018) and the impact of policy risk on firms' cost of debt (Bradley, Pantzalis, and Yuan 2016). Based on this evidence from the literature, 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.

Our 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 United States, 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 on the basis of 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 US 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, and so on. This is the case especially for firms whose industries or business domains overlap with the bill sponsors' geopolitical homes (Kim, Pantzalis, and Park 2012) and the purview of the congressional committee they serve on (Cohen, Coval, and Malloy 2011).

In this article, we do not explore corporate political strategy's usefulness per se as a potential remedy to policy risk or as a 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 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. Because a great amount of information about corporate political strategies is public knowledge, investors can use 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) with 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) whereby investors tend to focus on things that are present (i.e., political connections) and to ignore things that are not (i.e., absence of connections). Alternatively, the previously 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, 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 for 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 ascertaining the impact of the bill on firms that are in a similar situation as the connected firms (i.e., in the same industry, of similar size, or with similar other characteristics) but that lack 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.

Discussion of Findings

Our article 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. Specifically, in this article, we postulate and confirm 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 prices of non-connected firms (followers) 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 considered 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, and (3) being involved in lobbying activities. In the first stage of our analysis, we established 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 developed 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 used portfolios as our test assets. Specifically, we began this part of our analysis using 125 pairs of politically connected and non-connected firms' portfolios. First, we sorted all firms independently into size, book-to-market ratio (B/M), or momentum quintiles as in Daniel, Grinblatt, Titman, and Wermers (DGTW 1997).[8] This procedure generated 125 portfolios (5 × 5 × 5) for our sample of politically connected firms. For each portfolio, we obtained a matched portfolio consisting of 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 constructed a clone portfolio in which firms are included in the same quintiles (i.e., in the smallest-size group, the lowest-B/M group, and the lowest-past-return group). In this way, each of the 125 portfolio pairs is very similar in sharing the same size, B/M, and past-return characteristics but is different in terms of political connectedness.[9]

For every month, we ranked the 125 politically connected firms' portfolios into deciles based on their prior month's returns. Next, in each decile, we reported

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 "clone" 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 decile rank to the top decile rank of the past month's corresponding politically connected portfolio performance. The abnormal returns of zero-net investment portfolios that are long the non-connected clones of best-performing connected firms in month $t - 1$ (top decile) and short the non-connected clones of the worst-performing connected firms in month $t - 1$ (bottom decile) are not only statistically significant but also sizable in economic terms. For example, when we performed the tests using the 125 DGTW portfolio pairs as test assets, the arbitrage portfolio returns ranged 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 weighted or value weighted. In addition, we found strong confirming evidence of return predictability from cross-sectional tests using Fama–MacBeth (1973) regressions 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 conducted additional tests to get a more comprehensive understanding of the return predictability that is produced by political connections. First, we found 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 found 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 conducted 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 transaction 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—that is, to cover transaction costs typical of a strategy like ours that requires monthly rebalancing of portfolios. To exploit this alpha, however, 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 who cover firms that lack political connections may be able to enhance their earnings forecasts and recommendations by incorporating in their analysis the patterns of information diffusion uncovered in our study.

Data

Our sample was constructed in several steps by compiling information from multiple data sources. We started by merging the Compustat and CRSP databases to obtain firms' accounting data and stock returns, respectively. After eliminating real estate investment trusts, closed-end funds, American depositary receipts, and firms not incorporated in the United States, our initial sample consisted of 130,092 firm-year observations spanning the 22-year period between 1995 and 2016. Our subsample period for the tests that account for corporate lobbying efforts starts in 1999 because information on lobbying is available starting in the second half of 1998. We then identified whether a firm is politically connected on the basis of whether it engages in any of the following three political strategies: (1) having a director with past political service, (2) making donations to PACs, and (3) incurring lobbying expenditures.

To identify ex-politicians serving on firms' board of directors, we searched Form 10-K and Form 10-Q filings with the US Securities and Exchange Commission using the EDGAR database. From EDGAR, we extracted the firm's name, filing date, type of filing, and central index key (CIK), as well as every director's name and short biography. In most cases, we

were 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 US politicians[12] we compiled from various sources.[13] As a result, we were able to count the number of directors on a particular board who have held a political position in the past.

Additionally, we constructed two alternative political connection variables: a firm's PAC donations and lobbying expenditures. We collected corporate PAC donation data from the Federal Election Commission website (www.fec.gov) and lobbying expenditure data from OpenSecrets (www.opensecrets.org). We counted the number of electoral candidates that a firm supports through PAC donations and aggregated 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 used indicator variables. For example, *PCDdum* is an indicator variable that takes a value of 1 if the firm has one or more former politicians on the board and a value of 0 otherwise. Similarly, *PACdum* (*LOBdum*) takes a value of 1 if the firm makes PAC donations (has positive lobbying expenditures) during a particular year and 0 otherwise. In practice, a firm may be politically connected in more than one way—that is, by simultaneously pursuing more than one of the three political strategies described.

We also created an index variable by combining the aforementioned political strategy variables into one, the aggregate political strategy index dummy (*PSIdum*). We used 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 these 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 used portfolios as test assets in our return predictability tests. Specifically, for both the politically connected and non-connected groups of firms, we formed portfolios based on either (1) size, book-to-market ratio, and momentum as in DGTW (1997) and Wermers (2000) or (2) industry and size. The former yields 125 portfolios every month based on combinations of size, B/M, and momentum quintiles. The latter yields 144 portfolios, after splitting each of the 48 Fama–French (1997) industries into size terciles. We labeled portfolios comprising politically connected firms as *PCP* and portfolios comprising 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 were determined on the basis of information from year $y - 1$ (i.e., one year lagged). We then constructed our portfolios after collecting year y information from CRSP and Compustat. Our methodology, based on DGTW (1997), generated 125 portfolios ($5 \times 5 \times 5$) 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 constructed the corresponding 125 portfolios of non-connected firms. These 125 pairs were 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 required 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 using similar data (e.g., Antia, Kim, and Pantzalis 2013; Kim et al., forthcoming 2018), we found that a non-negligible portion of US public firms are politically connected. On average, 18.9% of our sample firms maintain some sort of political strategy (i.e., they are politically connected via their directors, PAC donations, or lobbying). Panel B presents the Pearson correlation matrix among our various political connection indicators. For instance, the presence of a political director (*PCDdum*) and PAC donations (*PACdum*) exhibits a sizable 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 shows descriptive statistics from monthly observations for the deciles of the 125 DGTW portfolios used as test assets in our main analysis presented in **Table 2**. We ranked *NPCP*s' monthly returns into deciles for every month based on *PCP*s' lagged monthly returns and thereby obtained 264 monthly observations spanning the 22 years of our sample period. *NPCP*s' value-weighted returns increase monotonically with decile ranking,

Table 1. Descriptive Statistics

	N	Mean	Median	Std. Dev.	Min.	Max.
A. Political connection variables						
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

	PCDdum	*PACdum*	*LOBdum*	*PSIdum*
B. Correlation matrix				
PCDdum	1			
PACdum	0.214 (<0.001)	1		
LOBdum	0.234 (<0.001)	0.303 (<0.001)	1	
PSIdum	0.686 (<0.001)	0.698 (<0.001)	0.661 (<0.001)	1

	Mean	Median	Std. Dev.	Min.	Max.
C. Portfolio characteristics					
$R_m^{Decile=10}$	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

Notes: Panel A reports summary statistics of political connection variables for a sample of firms. Panel B shows the Pearson correlation coefficient matrix among political connection variables. Panel C reports summary statistics of decile portfolios 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 variable 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 variable 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 on lobbying in a calendar year. *LOBdum* is a dummy variable that equals 1 if a firm engages in lobbying in a given calendar year and 0 otherwise. *PSIdum* is a dummy variable that equals 1 if a firm has at least one ex-politician on its board (*PCDdum* = 1), donates hard money to electoral candidates through its PACs (*PACdum* = 1), or is involved in lobbying activities (*LOBdum* = 1). R_m^{Decile} is the monthly average return of the *NPCP* decile portfolios. *MKT*, *SMB*, *HML*, *UMD*, and *LIQ* represent market, size, book-to-market ratio, momentum, and liquidity factor loadings, respectively.

Table 2. Complicated Processing Portfolio Abnormal Returns: Political Strategy Index (*t*-statistics in parentheses)

	One Factor	Three Factors	Four Factors	Five Factors
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)

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

One factor: $R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT.$

Three factors: $R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT + \beta_2 SMB + \beta_3 HML.$

Four factors: $R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT + \beta_2 SMB + \beta_3 HML + \beta_4 UMD.$

Five factors: $R_m^{Topdecile} - R_m^{Bottomdecile} = \alpha_0 + \beta_1 MKT + \beta_2 SMB + \beta_3 HML + \beta_4 UMD + \beta_5 LIQ.$

Independent variables include known factor loadings: *MKT*, *SMB*, and *HML* from Fama and French (1993), *UMD* from Carhart (1997), and *LIQ* from Pástor and Stambaugh (2003).

starting from a low of −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 report summary statistics of known factors—the excess returns of the market (*MKT*), "small minus big" (*SMB*), "high minus low" (*HML*), momentum (*UMD*), and liquidity (*LIQ*).

Empirical Results

In this section, we seek to answer the question, Can politically connected firms' past performance predict non-politically connected firms' future performance? In Table 2, we show the results of testing our main hypothesis using the political strategy index dummy (*PSIdum*), the broadest of our political connection definitions, to classify firms as connected or non-connected. We first assigned politically connected firms to 125 portfolios (or *PCP*s) based on the DGTW (1997) size, B/M, and momentum characteristics and then sorted *PCP*s into decile groups after ranking on their returns in the immediately preceding month. We repeated the same procedure to construct 125 non-connected firms' portfolios (*NPCP*s) and then computed 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 allowed us to align *NPCP* monthly returns at t and *PCP* monthly returns at $t - 1$ in a panel setting. Because our test uses firms' monthly returns, portfolio rankings were rebalanced every month. To ensure that our results were not driven by known factor loadings, we constructed a "zero-cost investment strategy" that buys the top decile of *NPCP* and sells the bottom decile of *NPCP* and computed 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 ($R_m^{Bottomdecile}$) deciles of *NPCP*s' current returns at the portfolio level. The asset pricing models used to assess the abnormal returns of the zero-cost investment strategy are as follows:

One factor:

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

Three factors:

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

Four factors:

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

Five factors:

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

In these models, MKT_m is the value-weighted market return minus the one-month Treasury bill rate. SMB_m (small minus big) is the difference each month between the returns on small and big firms, and HML_m (high minus low) is the monthly difference between the returns on a portfolio of high-B/M firms and a portfolio of low-B/M firms. UMD_m (up minus down) is the momentum factor computed on a monthly basis as the return differential between a portfolio of winners and a portfolio of losers. LIQ_m (liquidity) is the liquidity factor introduced by Pástor and Stambaugh (2003).

We found 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 in Table 2, we report the estimated intercept coefficients (i.e., the "alphas," or abnormal returns) from time-series tests with asset pricing models containing one, three, four, and five 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 portfolios (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 these returns 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. For example, in the five-factor regression model for a zero-cost investment strategy (buying the top portfolio and selling the bottom portfolio), the p-value is less than 0.0001 (t-statistic 5.74). This suggests a very low probability of being incorrect in rejecting the null hypothesis of a zero intercept. Alternatively, the probability that

the intercept is different from zero is greater than 99.99%. Most importantly, the return performance of the investment strategy is economically significant as well—that is, large enough to cover transaction costs. Novy-Marx and Velikov (2016) stressed 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; it yields alphas in excess of 1.45% per month. Moreover, the short side of the investment strategy does not account for the lion's 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 a small-firm effect, we excluded stocks with prices less than $5 when forming portfolios and repeated the tests shown in Table 2. The results (untabulated) are qualitatively equivalent to the results presented in Table 2.

We report the detailed results from the estimation of the five-factor asset pricing model in Table A2 of the appendix (available online at www.cfapubs.org/doi/suppl/10.2469/faj.v74.n4.5). 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^2 values indicate that the five-factor model explains a large portion of the variation in *NPCP* decile portfolio returns. However, it does not explain much of the variation in the arbitrage portfolio (*T* – *B*) returns; the R^2 for that model is 1.1%, and none of the coefficients are significant.

Next, we replicated Table 2 using the individual political connection indicators (*PCDdum*, *PACdum*, and *LOBdum*) to classify firms into *PCP* and *NPCP* test asset groups, and we report the 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 on the basis of the existence of politically connected directors (*PCDdum*) and use 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 bp reduction in gross profits between the alpha from the one-factor model in the first column and the alpha from the five-factor model 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 on the basis of the use of PAC donations (*PACdum*) and lobbying (*LOBdum*). The top-minus-bottom (long–short) investment strategy yields monthly risk-free returns that are equal to or greater than 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 or what asset pricing model we use, the long–short investment strategy generates significant and economically sizable returns, thereby confirming that there is a positive relationship between lagged *PCP*s' returns and concurrent *NPCP*s' returns.

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

To determine whether our findings remain robust in a cross-sectional test setting, we conducted a series of Fama–MacBeth tests, the results of which are shown 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 test results, we found a significant positive relationship 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 lead to an increase in $NPCPR_t$ of 23 bps per month when using *PSIdum* as the political connection definition. Collectively, the results from all four models provide strong evidence that politically connected firms' past returns predict non-connected peers' future returns, which supports the argument that value-relevant political information diffuses slowly in the market.

Panel B of Table 4 shows the results when we examined the persistence of predictability by extending the lagged average return of politically connected

Table 3. Complicated Processing Portfolio Abnormal Returns: Individual Political Connections (*t*-statistics in parentheses)

	One Factor	Three Factors	Four Factors	Five Factors
A. 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)
B. 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)
C. 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)

Notes: This table presents abnormal returns 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. Monthly abnormal returns and *t*-statistics are reported.

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

We conducted additional tests to get a more comprehensive understanding of the return predictability that is produced by political connections. First, we

Table 4. Complicated Processing Returns: Cross-Sectional Fama–MacBeth Regressions (*t*-statistics in parentheses)

	(1)	(2)	(3)	(4)
A. In each column, political connections are measured on the basis of a different political strategy's measures. 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

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
B. Examining the persistence of cross-asset predictability; political connections are measured on the basis of a political strategy index dummy (PSIdum) throughout. 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)

(continued)

Table 4. Complicated Processing Returns: Cross-Sectional Fama–MacBeth Regressions (*t*-statistics in parentheses) (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$NPCP\_bm_{t-1}$	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

Notes: This table presents results from the Fama–MacBeth regressions. The dependent variable is the average return of portfolios of non-politically connected firms at month *t*, or $NPCPR_t$. In Panel A, the key independent variable is the average return 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. Panel B shows the results when we examined 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*. The *t*-statistics are adjusted for heteroskedasticity and autocorrelation up to 12 lags (Newey and West 1987).

found that politically connected firms' stock prices react faster to important political news than do those of non-politically connected firms.[14] Second, we discovered 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.[15,16]

Conclusion

We assessed whether firms with political connections can serve as channels of complicated information flow in equity markets. Specifically, we posited 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 be able to assess value-relevant political news only by observing the paths of connected firms' stock prices. Thus, value-relevant political information shocks should be reflected in the prices of politically connected firms first and then, with a delay, in the 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 tested this slow information diffusion hypothesis using the methodology of Cohen and Lou (2012) and found strong evidence that politically connected firms' stock returns can predict non-connected firms' stock returns. We found 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 bps per month before

transaction costs. The results are robust to the use of alternative methodologies and test assets.

Moreover, we showed 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 showed that the ability of investors to use political connections' characteristics for updating stock prices in response to value-relevant political information shocks is greater in the areas of the political map where there is a 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 (e.g., the authors) can access this information only with a one-year or longer delay, and it is not clear that access to information on this delayed basis can lead to profitable trading opportunities.

Editor's Note

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Notes

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 2013), and 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; Kim, Kim, Pantzalis, and Park, forthcoming 2018). On the other hand, there is ample evidence that political connections are associated with riskier corporate behavior. For example, Chaney, Faccio, and Parsley (2011) found in a cross-country study that the quality of earnings reported by politically connected firms is significantly poorer than that of similar, non-connected companies. Kim and Zhang (2016) found that politically connected firms are more tax aggressive than non-connected firms, especially among those with low institutional ownership.

2. Lo and MacKinlay (1990) showed that small firms' returns are correlated with large firms' past returns but found no evidence of a reverse effect. Hou (2007) found that this lead–lag effect between large and small firms is primarily an intra-industry phenomenon. In addition, evidence of return predictability based on stocks' information environment has been reported in the literature. 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) found that stocks that are in economically related supplier and customer industries cross-predict each other's returns.

3. Roberts (1990) found 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's) campaign. Fisman (2001) revealed 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 in the prices of less connected firms. Faccio and Parsley (2009) showed that the sudden death of a politician causes a decline in the value of firms headquartered in the politician's hometown.

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

5. Kim, Pantzalis, and Park (2012) showed that firms located in areas where political networks are tightly linked to the administration outperform those at the other end of the geopolitical spectrum. They interpreted 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, Diether, and Malloy (2013) measured the economic effects of the passage of a bill. They found that the investment strategy of purchasing industries that experience positive returns and selling industries that experience negative returns produced positive abnormal returns of 76 bps a month. In this sense, at the moment a bill is proposed, congressional activities create *ex ante* uncertainty about a firm's growth opportunities and its future cash flow.

6. Kim et al. (forthcoming 2018) showed that 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 2010; Kim and Zhang 2016).

8. The DGTW (1997) approach is relevant to such practical applications as smart beta investments and exchange-traded funds that use smart beta strategies. Managers can create or follow an index that weights their investments on the basis of fundamentals, such as size, book-to-market ratio, momentum, and other crucial characteristics.

9. As an example, in 2008, International Speedway Corporation spent $620,000 for lobbying. Its market capitalization was 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 (1997) classification, the firm is classified as (2, 4, 3)—that is, it is in the second market-capitalization quintile, the fourth market-to-book quintile, and the third momentum quintile. We found 10 firms that match the (2, 4, 3) DGTW characteristics of International Speedway Corporation. One of them is Mobile Mini Inc., which has a market capitalization of approximately $690 million. It is in the business service industry based on the Fama–French industry classification. To test the lead–lag effect between International Speedway Corporation and Mobile Mini Inc., we compared monthly returns of International Speedway Corpation at month t and those of Mobile Mini Inc. at month $t + 1$.

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

11. First, we acknowledge that although it is possible for political developments, such as new policies, to be specific to size or capital structure, it may be more intuitive to think that policies address specific industries. Therefore, we also tested whether our results held if we matched connected and non-connected firms based on industry and size rather than on momentum, book value of equity/market value of equity (B/M), and size. Furthermore, to improve the policy-specific signal, we sorted on the basis of connected stocks' abnormal (DGTW-adjusted) returns in 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 used vector autoregressions to assess the possibility of reverse predictability and confirmed that the information flow occurs from politically connected to non-connected firms. Third, our placebo tests ensured that our results indeed involve information diffusion through a political connection channel.

12. The list includes people who held the following US offices: president, vice president (as well as candidates for those two offices), secretaries of departments (e.g., secretaries of state, the Treasury, and defense), governors, senators and House representatives, attorneys general, White House executives, SEC commissioners, ambassadors, and assistant and deputy secretaries of all departments.

13. Some examples of the various sources we used in compiling this list are as follows: candidates for US president: http://en.wikipedia.org/wiki/President_of_the_United_States; US House representatives: www.house.gov; US senators: www.senate.gov; secretaries of defense: http://en.wikipedia.org/wiki/United_States_Secretary_of_Defense; and secretaries of the Treasury: http://en.wikipedia.org/wiki/United_States_Secretary_of_the_Treasury.

14. 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 identified election results as political information shocks and implemented a simple event study on election dates. We calculated the 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 regressed them on our political connection variables. As we report in the appendix (Table A3, available online at www.cfapubs.org/doi/suppl/10.2469/faj.v74.n4.5, 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.

15. If our view of political connections as an 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 called it the Political Alignment Index (PAI). In the appendix (Table A4, available online at www.cfapubs.org/doi/suppl/10.2469/faj.v74.n4.5), 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.

16. In addition, we performed various other tests and found that our results are robust. The complete set of results is provided in the appendix (available online at www.cfapubs.org/doi/suppl/10.2469/faj.v74.n4.5).

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