From K Street to Wall Street: Politically Connected Analysts and Stock Recommendations

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Abstract

In this study, we examine whether sell-side security analysts gain inside information from political connections. We measure analysts' political connections based on political contributions at the brokerage house level. We argue that to the extent brokerages invest in political connections to obtain private information, analysts at politically connected brokerages are more likely to cover firms in general, and especially firms for which this information is more valuable. We use how sensitive the firm is to policy changes (as proxied by their lobbying expenses) to identify situations where this political information is even more valuable. We also predict that analysts at politically connected brokerages issue more profitable stock recommendations. This increased profitability should be more pronounced for politically sensitive stocks. Our evidence is consistent with these predictions. To provide further support, we document that the increased profitability of stock recommendations issued by politically connected brokerages is concentrated when there is high economic policy uncertainty. We also find some evidence that this increased profitability only exists during the times when Congress is in session. Collectively, these results suggest that brokerage houses obtain value-relevant, non-public information from their political connections.

Keywords: Security analysts; Stock recommendations; Political connections; Lobbying; Information flow

JEL Classification: G24, G38, G14

Investors have found that Washington can be a gold mine of market-moving information, easily gathered by those who are politically connected.

– Sanford Bragg, CEO of Integrity Research Associates LLC[1]

1. Introduction

This study examines whether politically connected analysts have an information advantage over other analysts. Whereas many studies have focused on the transfer of firm-specific private information obtained from management (Cohen, Frazzini, and Malloy 2008, 2010; Coval and Moskowitz 2001), in this study, we are interested in the flow of a different type and source of private information: political information obtained from legislators and their staff.[2] Although there is significant controversy surrounding the selective release of private political information to various constituents, this practice is currently legal since it allows lawmakers to solicit feedback on prospective legislation (Kim 2013). An unintended consequence, and the subject of recent debate, is the potential transfer of private political information to intermediaries (Mullins and Pulliam 2011). Abstracting from the views taken by various commentators, we argue that to the extent early access to political information is valuable to market participants, financial intermediaries will have an incentive to acquire this information to aid in making superior stock recommendations (e.g., see Schipper 1991; Stickel 1992).

To investigate the potential flow of political information, we perform two main analyses. First, we investigate whether brokerages with political connections are more likely to cover firms in order to capitalize on any private information obtained. Second, we examine whether connected analysts' recommendations outperform non-connected analysts' recommendations. If

[1] Mullins, Brody; Pulliam, Susan. "Inside Capitol, Investor Access Yields Rich Tips." *Wall Street Journal* [New York, NY] December 20, 2011.

[2] For example, following private meetings organized by former Speaker of the House Newt Gingrich between Credit Suisse analysts and senior Republican congressional health-care policy aides, *The Wall Street Journal* reported that "...Credit Suisse stock analysts used the information gathered at these events to help make stock recommendations to the firm's investor clients" (Mullins 2012a).

analysts obtain value-relevant information through their connections, we predict that their recommendations will be more profitable than those issued by analysts without those political connections.

Since policy decisions can affect many firms or industries, or even all firms, politically connected brokers can apply the benefit of their connections over a broad portfolio of stocks. In addition, a given policy decision may differentially affect firms. Therefore, we also investigate how cross-sectional variation in firms' sensitivity to policy changes is related to both brokerage houses' choice to cover a specific firm and the relative stock picking ability of politically connected brokers.

Consistent with our predictions, our results indicate that the decision to cover a firm is increasing with the brokerage houses' political connectedness, controlling for other known determinants of the brokerages' coverage decision. We also document that politically connected brokerage houses are more likely to cover firms that are more sensitive to government policy changes relative to non-connected brokerage houses.

We then investigate one potential benefit of early access to political information: superior stock recommendations. In both portfolio and regression analyses, we find greater excess returns to a revised recommendation issued by a connected brokerage house than by a non-connected brokerage house. These results are consistent with our predictions and suggest that politically connected brokerage houses issue more profitable stock recommendation revisions than non-connected brokerage houses, controlling for other known firm, analyst and brokerage house characteristics identified in the prior literature as determinants of superior stock picking ability. When we separately examine upgrades and downgrades, we find that the effects are largely driven by upgrades. The results indicate that connected brokerage houses issue upgrades that are

approximately 32 basis points more profitable on the recommendation release date than upgrades issued by non-connected brokerage houses. Further, we find that this difference in profitability is especially apparent for recommendation revisions issued for firms with greater sensitivity to government policy changes.

Overall, this evidence is consistent with brokerage houses obtaining value-relevant information through their political connections. It is also consistent with at least one other alternative explanation; namely, our measure of brokerage house connectedness proxies for some unobservable brokerage house characteristic. In addition to including an extensive list of firm, analyst, and brokerage house controls in our main regressions, we also perform several additional analyses in an attempt to rule out the possibility of an omitted correlated variable driving our results.

Our first set of additional analyses exploits exogenous variation over time in value-relevant political information. We first investigate whether brokers' political connections are more beneficial when there is high policy uncertainty. We use the Economic Policy Uncertainty (EPU) index developed by Baker, Bloom and Davis (2013) as a proxy for policy uncertainty. As expected, our evidence indicates that the superiority of recommendation upgrades issued by politically connected brokers over those from non-connected brokers is concentrated in high policy uncertainty regimes.

Next, we compare the performance of stock recommendation revisions conditional on whether Congress is in session. Assuming that politicians have greater access to value-relevant information when in session, we predict that the superiority of recommendation revisions issued by connected brokerage houses is stronger when Congress is in session. The results from our

portfolio tests are consistent with this prediction, although the regression analysis is inconclusive.

Our second set of analyses more directly addresses the possibility that a time-invariant brokerage house characteristic induces the observed results. To do this, we first include broker fixed effects in our main specification and continue to find that politically connected brokerages issue more profitable recommendations. We then run alternative tests where we hold constant the brokerage house and compare the profitability of recommendation revisions issued during times when the brokerage house is connected versus during times when the brokerage house is not connected. We find that recommendation revisions issued during times when these brokerage houses are connected are significantly more profitable than recommendations issued during times when the same brokerage houses are not connected. Taken together, these analyses are consistent with brokerage houses' obtaining value-relevant information through their political connections, rather than an omitted correlated variable influencing our results.

Our research speaks to the ongoing debate on whether lawmakers and staff should be permitted to release selectively market-moving, nonpublic information about pending or prospective legislation (Mullins and Pulliam 2011; Mullins 2012a, 2012b; Ackerman and Mullins 2012). Our findings help address the need for large sample evidence regarding the extent to which political information is disseminated and whether connected information intermediaries enjoy an information advantage.

In addition to informing the debate on additional legislative reform, we also contribute to three streams of academic literature. First, we contribute to the literature on analysts' private information production. Whereas earlier studies have documented analysts' dependence on management-provided information (Cotter, Tuna, and Wysocki 2006; Das, Levine, and

Sivaramakrishnan 1998; Francis and Philbrick 1993), we suggest an alternative source of private information. Specifically, we contend that analysts have an incentive to acquire private political information to the extent such information is expected to affect the share price of covered firms.

Second, we contribute to the literature on informed trading, which documents the ability of connected agents to incorporate private information into security prices through trading (Cohen, Frazzini, and Malloy 2008, 2010; Coval and Moskowitz 2001). We conjecture that politically connected analysts incorporate private political information into their publicly distributed stock recommendations, thereby providing a mechanism for that information to be incorporated in prices. Furthermore, our focus on analyst stock recommendations allows us to use daily stock price data. The use of daily data (as opposed to quarterly data for mutual funds or hedge funds) can more convincingly rule out risk-based alternative explanations.

Finally, we contribute to the literature on the outcomes of political connections. The extant literature argues that political connections can be important for firm value (Cooper, Gulen, and Ovtchinnikov 2010; Faccio 2006; Faccio, Masulis, and McConnell 2006; Mian, Sufi, and Trebbi 2010; Ovtchinnikov and Pantaleoni 2012; Chaney, Faccio, and Parsley 2011). In contrast, we investigate the benefits that accrue to market participants from their own political connections. In our study, we contend that politically connected analysts have access to political information that may impact the value of covered firms, and that they are able to access this information before it is available to other, non-connected, market participants.

This paper proceeds as follows. In Section 2, we provide background on the institutional details of political information. In Section 3, we discuss the empirical measures for our two key constructs, a brokerage house's political connectedness and a firm's sensitivity to policy changes. Section 4 presents evidence on the association between these constructs and an

analyst's decision to cover a firm. In Section 5, we investigate whether brokerage houses' political connectedness is associated with increased profitability of their recommendation revisions. This section also provides the additional tests to disentangle alternative explanations for our findings. Section 6 concludes.

2. Background

Legal scholars describe political information as material nonpublic information acquired by policymakers through their professional activities (Kim 2013). This can include information about many types of issues such as prospective legislation, upcoming government actions (e.g., military strikes), failed negotiations with other countries, unfolding economic crises, etc. In the past, policymakers could use this information to inform their own stock trades for a broad portfolio of stocks, or for a subset of stocks that are highly sensitive to policy changes, depending on the nature of the political information.[3] The ability to use this political information stemmed from the fact that for years, federal insider trading laws generally did not apply to members of Congress (Jerke 2010). This "exemption" was due to difficulty in establishing a breach of a fiduciary duty, a required element of an insider trading violation, since members of Congress are "neither employees nor agents of any larger entity" (Kim 2013, p. 849). It was not until recently that public scrutiny led to the passage of the Stop Trading on Congressional Knowledge, or STOCK Act, on April 4, 2012, officially banning insider trading by members of Congress.

[3] For example, after learning about the pending collapse of the financial system during closed door briefings with Treasury Secretary Henry Paulson and Federal Reserve Board Chairman Ben Bernanke, Representative Spencer Bachus invested in option funds designed to rise in value when markets fall (Kim 2013). As a function of his position in Congress, Representative Bachus obtained and traded on material nonpublic political information that applied to a broad portfolio of stocks. Additional evidence suggests that legislators can also differentially apply the benefit of their insider knowledge by targeting stocks that are highly sensitive to policy changes. For example, Senators Kerry, Carper, and Webb profited heavily from their insider knowledge, buying low and selling high on pharmaceutical stocks during key points of the healthcare debate (Schweizer 2011).

It is important to note that the final version of the STOCK act, however, did not ban the flow of political information to market participants, despite conflicting views on the desirability of this practice. Proponents of sharing political information argue that communication between Congressmen and outsiders facilitates efficient policymaking by allowing politicians to receive feedback on the impact of proposed legislation, which helps prevent harmful provisions from being signed into law (Hillman and Hitt 1999; Mullins and Pulliam 2011). Thus, this exchange between policymakers and constituents ultimately could lead to more informed policy decisions. In contrast, opponents of sharing political information argue that it benefits only those market participants who are willing to pay for access to informed policymakers (Mullins and Pulliam 2011).

Although early versions of the act included provisions that would have required disclosure around the flow of private political information to market participants, these provisions were removed from the final bill after lobbying from Wall Street (Mullins 2012b). These provisions were instead replaced by a measure calling for more research on the growing use of private political information by market participants (Ackerman and Mullins 2012). This paper helps answer that call, as we investigate whether there is evidence consistent with politically connected brokerage houses obtaining and using value-relevant, private political information from their political connections.

Brokers can establish relationships with policymakers over time through continued investment in campaign support (Hillman and Hitt 1999), which can be very valuable to both parties. This campaign support comes in many forms, such as political contributions through corporate sponsored political action committees (PACs), independent expenditures on advertisements (i.e., electioneering campaigns), hosting fundraising events, etc. Thus, through

various channels and means, not all of which are easily observable, brokers can provide economically meaningful support to candidates' campaigns. In return, brokers can receive various economic benefits, including access to value-relevant political information.[4]

To the extent that there are benefits to being politically connected, a natural question is why are not all brokers connected?[5] There are at least two possible explanations for this. First, a well-known theory in the literature on corporate political activity is the free-rider hypothesis, which suggests that "smaller" firms within an industry will rationally free-ride, and thus benefit from the political investments made by industry leaders (Schuler 1996). In our setting, this hypothesis would suggest that smaller brokerage houses are able to capitalize on the political information obtained by larger brokerage houses without making the investment in political connections. Thus, the free-rider hypothesis predicts no relation between political connections and the resulting benefit we examine, the profitability of stock recommendation revisions.

Second, access to politicians and their staff may be limited due to their constrained schedules. Thus, in order to gain access to politicians, brokerages would need to establish strong political ties though observable and unobservable campaign support. Hojnacki and Kimball (2001) suggest that in a limited attention marketplace, PAC contributions represent table stakes or entrance fees into the overall political process. Consistent with this view, several studies suggest that instead of buying votes, contributions buy "access" to policymakers (Wright 1990; Humphries 1991; Austen-Smith 1995; Schuler, Rehbein, and Cramer 2002; Ansolabehere, Figueiredo, and Snyder 2003). For some brokerage houses, the magnitude of the aggregate

[4] Brokers can also hire political intelligence firms to help get access to informed policy makers. We assume that this unobservable mechanism is a complementary means that brokers can use to expand their access to political information, since it is common for organizations to use multiple political channels to accomplish their objectives (Schuler, Rehbein, and Cramer 2002). However, to the extent that it is a substitute mechanism for obtaining political information, it would bias us against finding our predicted results.

[5] The literature does not uniformly support the existence of benefits to political connections. In fact, some research finds evidence that PAC contributions are negatively associated with shareholder value and instead may represent rent extraction (Aggarwal, Meschke, and Wang 2012; Coates IV 2012).

observable and unobservable contributions necessary to gain this access may outweigh the benefits of the inside information.

3. Measurement of Political Connectedness and Policy Sensitivity

In this section, we outline the measures we use to capture how connected a brokerage house is to politicians and how sensitive a firm is to government policy changes. We rely on prior work that has developed and tested measures for these constructs.

We measure a brokerage's political connectedness based on the approach in Cooper, Gulen, and Ovtchinnikov (2010). Recognizing that many forms of political connections are unobservable, they develop several proxies for a firm's overall political connectedness using the existence of political contributions, the number of candidates supported, and various candidate attributes (e.g., states represented, voting power, seniority, etc.). As they discuss, regardless of how political connections are formed, as long as observable contributions are correlated with other ways that political connections are created and maintained, the measures we use should serve as reasonable proxies for political connections. In constructing our measures, we focus on political contributions at the brokerage house level, as opposed to an individual analyst-level, because we argue that the magnitude and continuity of investment, as well as the reputation capital that accompanies any campaign support, likely dwarfs any attempts by individual analysts to establish political connections.[6]

We consider three measures of a broker's political connectedness. The first, $CONNECTED_{Indicator}$, is an indicator variable that equals 1 if the brokerage house makes any political contributions during the year, 0 otherwise. This dichotomous variable, while simple,

[6] However, in the event that an individual analyst also contributes to a candidate's campaign, it is likely additive, and therefore our estimates of political connections would underestimate early access to policy news.

does not consider the degree of political contributions, the multi-period nature of political support, nor to whom the brokerage houses contribute. Our second measure, $CONNECTED_{Candidate}$, factors in both the number of politicians the brokerage house supports, and also uses a longer window to measure political connections. Thus it may better capture the number of channels through which information can flow. Specifically, following Cooper, Gulen, and Ovtchinnikov (2010), it is defined as:

$$CONNECTED_{Candidate,b} = Ln\left(1 + \sum_{p=1}^{J} Cand_{pt,t-5}\right) \quad (1)$$

where $Cand_{pt,t\text{-}5}$ is an indicator variable equal to one if the broker has contributed money to candidate *p* over the years *t-5* to *t.*

Our last measure, $CONNECTED_{Power,}$ is Cooper, Gulen, and Ovtchinnikov's power-based measure for political connectedness. This measure counts the number of candidates supported by a brokerage and weights each candidate based on the candidates' incumbent status, relative voting power, and committee rankings.[7] In other words, this measure builds off of the $CONNECTED_{Candidate}$ measure by taking into account the fact that some politicians are more powerful than others. Our use of this measure assumes that more powerful members of Congress have greater access to policy news, either through their committee memberships or through their connections with other powerful members (see Gilligan and Krehbiel 1989). $CONNECTED_{Power}$ is defined as follows:

$$CONNECTED_{Power,b} =$$

$$Ln(1 + \sum_{p=1}^{J} Cand_{pt,t-5} \; x \; I_{pt} \; x \; \frac{NCV_{pt}}{NOV_{pt}} \; x \; \left[\sum_{m=1}^{M} \frac{Median\ committee\ rank_{mt}}{Committee\ rank_{mt}}\right]_{p}) \quad (2)$$

[7] For all elected officials, we obtain data on their committee assignments and their party rankings for each committee they serve on. This data comes from Charles Stewart's Congressional Data Page. We thank Charles Stewart III for making this data available on his website, http://web.mit.edu/17.251/www/data_page.html.

where I_{pt} is an indicator variable equal to one if candidate *p* is in office at time *t* and zero otherwise, NCV_{pt} is the number of votes that candidate *p*'s party holds in office at time t; NOV_{pt} is the number of votes that candidate *p*'s opposing party holds in office at time *t*, *Median committee rank*$_{mt}$ is the median number of members on a given committee *m* of which candidate *p* is a member, and *Committee rank*$_{mt}$ is candidate *p*'s rank on committee *m* (where rank = 1 for the most important member, rank = 2 for the next-important member and so on). Following Cooper Gulen, and Ovtchinnikov (2010), we construct our measures using Federal Elections Committee's (FEC) database of political contributions made by firms' PACs and Charles Stewart's data on congressional candidates.[8]

To capture how sensitive a firm is to government policy-related information, we employ a measure based on firms' lobbying expenditures because firms who are affected to a greater extent by government policies and actions are more likely to engage in active lobbying (Gao and Huang 2011; Hochberg, Sapienza, and Vissing-Jørgensen 2009; Karolyi 2009).[9] Since lobbying expenditures are highly skewed (Ansolabehere, Snyder, and Tripathi 2002; Richter, Samphantharak, and Timmons 2009), we follow Gao and Huang (2011) and use an indicator variable for lobbying intensity (*SENSITIVE*) that is equal to one if firm *i* is in the top quintile of lobbying expenditures scaled by sales for year *t*, zero otherwise.[10] We obtain lobbying data from

[8] Political contributions are tracked by the FEC, as required by the Federal Election Campaign Act, and any contribution of $200 or above is publicly available on the FEC website starting with the 1979-1980 election cycle (http://www.fec.gov).

[9] Gao and Huang (2011) document that hedge funds that incur lobbying expenses trade more actively in stocks that also lobby (i.e., politically sensitive stocks), and earn higher returns on these stocks than non-connected hedge funds. In order for the average investor to earn similar returns, they would have to observe and mimic the trades of connected hedge funds. In contrast, financial intermediaries publicly disclose value relevant information through their research reports (see, e.g., Schipper 1991). Furthermore, the inherent limitations of hedge fund data result in less precise return windows and risk adjustments (Mikhail, Walther, and Willis 2004).

[10] As an example of this skewness, Richter, Samphantharak, and Timmons (2009) document that nearly eighty percent of the firms that lobby in their sample have less than the mean level of lobbying expenditures.

the Center for Responsive Politics (CRP), which includes spending by ideological organizations, publicly traded firms, privately held firms, trade associations, and non-profit organizations.

4. Empirical Tests: Coverage Decisions

In this section, we investigate brokers' choices of which firms to cover. In order to exploit any information advantage relative to non-connected brokers, we expect that the likelihood of a broker covering a firm is increasing with their political connections. To investigate this prediction, we estimate the following pooled logistic regression model:

$$COVERAGE_{ibt} = \alpha + \beta_1 CONNECTED_{bt} + \gamma\, CONTROLS_{ibt} + \varepsilon_{ibt} \quad (3)$$

where *COVERAGE* is an indicator variable that equals one if broker *b* covers firm *i* in year *t*, zero otherwise. A broker "covers" a firm if any analyst *k* employed by broker *b* issues at least one stock recommendation about the firm during year *t*. We predict that the likelihood of covering a firm is increasing with brokerages' political connections (i.e., $\beta_1 > 0$).

Since our focus is on the effect of a specific brokerage house characteristic (political connectedness) and not firm characteristics on the coverage decision, we use a matched sample design to hold the firm constant across the brokers' coverage decision. To construct this sample, we identify all firm-broker-year observations where at least one broker *b* covers firm *i* in year *t* (i.e., *COVERAGE* equals one; the treatment group). For the same firm *i*, we then randomly select a second broker *b* that does not cover firm *i* in year *t* (i.e., *COVERAGE* equals zero; the control group). At a minimum, each firm needs to have at least one broker that chooses to cover firm *i* and at least one broker that does not choose to cover firm *i*.

We then control for broker characteristics identified in prior literature (Clement 1999; Mikhail, Walther, and Willis 1997).[11] To control for broker resources, we include *BROKER SIZE*, an indicator equal to one if broker *b* is in the top size decile during year *t*, where the size deciles are based on the total number of analysts employed by broker *b* in year *t* (Clement 1999). Since the coverage decision may be dependent on industry expertise (Mikhail, Walther, and Willis 1997), we also include *INDUSTRY EXPERTISE*, defined as the number of firms that broker *b* issues recommendations for in industry *g* for year *t*, divided by the total number of firms in industry *g* for year *t*, where industry is defined using 49 industries based on Fama and French (1997). Additionally, we include a control for the ability of analysts employed by broker *b* in year *t*, *BROKER EXPERIENCE*, measured as the average general experience among analysts employed by broker *b* in year *t*, where experience is the number of calendar years for which analyst *k* issued a recommendation for any firm (Clement 1999; Mikhail, Walther, and Willis 1997). Finally, we include industry and year fixed effects and cluster standard errors at the firm *i* and broker *b* levels.

We also expect that the likelihood that a broker covers a politically sensitive firm is increasing with the brokers' political connections. Thus, we not only predict that connected brokers are more likely to cover firms in general, but are even more likely to cover politically sensitive firms. We investigate this cross-sectional prediction by re-estimating equation (3) with an additional term, *SENSITIVE*, to capture firms with a heightened sensitivity to governmental policy changes. We expect the coefficient on the interaction term, *CONNECTEDxSENSITIVE*, to be positive and significant.

[11] As an alternative approach to controlling for broker characteristics, we estimate a version of equation (3) that replaces the broker characteristics with brokerage house fixed effects and find similar results (untabulated).

Since a firm's political sensitivity could be correlated with other firm characteristics that are associated with the coverage decision, we further control for firm characteristics by including in equation (3) other determinants of coverage identified in prior literature (e.g., Bhushan 1989; O'Brien and Bhushan 1990; Brennan and Hughes 1991; Lang and Lundholm 1996; Barth, Kasznik and McNichols 2001; De Franco, Kothari, and Verdi 2001). These variables are defined in Appendix A and include the firm's size (*FIRM SIZE),* book to market ratio (*BM*), profitability (*ROA*), research and development (*R&D),* depreciation (*DEPRECIATION*), earnings predictability (*PREDICTABILITY*), earnings volatility (*EARNINGS VOLATILITY*), stock return volatility (*RETURN VOLATILITY*), and trading volume (*VOLUME*). We also include an indicator variable for whether the firm issued debt or equity securities *(ISSUE),* as well as the percentage of the firm's common stock held by institutional owners (*INSTITUTIONAL OWNERSHIP*). Finally, we include industry and year fixed effects and cluster standard errors at the firm *i* and broker *b* levels.

4.1 Coverage Decisions: Sample and Descriptive Statistics

Because of data availability needed to construct measures of political connectedness and governmental policy sensitivity, our sample period begins in 1998 and extends through the end of 2010.[12] We obtain data on political contributions made by firms' political action committees from the FEC detailed committee and candidate summary contribution files. We obtain lobbying data from the Center for Responsive Politics (CRP), and brokerage house coverage data from Zacks Investment Research (Zacks). In our setting, Zacks is advantageous as it provides the

[12] Lobbying reports are filed with the Secretary of the Senate's Office of Public Records and are available by calendar year since 1998. Thus, the first year *SENSITIVE* can be measured is 1998. $CONNECTED_{Candidate}$ and $CONNECTED_{Power}$ are constructed using six years of FEC data, following Cooper, Gulen, and Ovtchinnikov (2010). Hence, values for these two variables for the first year of our sample period (i.e., $CONNECTED_{Candidate}$ and $CONNECTED_{Power}$ measured as of 1998) contain FEC data dating back to 1993.

name of the brokerage house and analyst corresponding to each recommendation, which allows us to match these data with those from FEC and CRP.

We merge the FEC and CRP data with CRSP, Compustat, and Zacks data to build a comprehensive database of broker contributions, firm lobbying expenditures, annual firm accounting characteristics, and broker recommendations.[13] Applying the matched sample approach (explained above) yields a sample of 536,476 firm-broker-years (i.e., *COVERAGE* = 1 for 268,238 firm-broker-years).[14]

Table 1 provides descriptive statistics on the variables used in the coverage test for the matched sample. As shown in Panel A, the sample of 536,476 firm-broker-year observations represents 408 unique brokerage houses and 7,488 unique firms. Of the 408 unique brokerage houses in the sample, there are 35 that are politically connected.

Panel B of Table 1 provides the mean level of contributions and unlogged values of $CONNECTED_{Candidate}$ and $CONNECTED_{Power}$ for each year in our sample. While the amount of annual political contributions in our sample averages $91,718 for the typical brokerage house, there are two discernible trends in the data.[15] First, the mean level of reported contributions has generally increased over time. Second, the mean level is higher in presidential election years than in surrounding years. Over the six-year period of which the variables $CONNECTED_{Candidate}$ and $CONNECTED_{Power}$ are calculated, these brokerage houses support a mean 122 candidates. While the number of candidates supported over this window generally increases over time, there is not a discernible increase in the number of candidates supported during presidential election years.

[13] FEC and CRP do not use company identifiers (i.e., CUSIP, PERMNO, etc.). Therefore we match on company name using a computer-based algorithm. All matches generated from the algorithm are then visually inspected to ensure accuracy.

[14] We also find similar results when we do not impose this match requirement, which increases the sample size to 10,343,024 firm-broker-year observations.

[15] Although these contributions may seem small, it is important to remember that unobservable contributions can easily dwarf these observable contributions. Thus, PAC contributions can be seen as the "tip of the iceberg" (Skroupa 2012).

The mean level of $CONNECTED_{Power}$ shows a similar increase over time, suggesting that our sample brokerage houses have not only increased the amount of their PAC contributions over time, they have also directed an increasing relative amount of these contributions to more powerful politicians.[16]

Of the 7,488 unique firms in the sample, 1,801 have positive lobbying expenditures (see Panel A). Panel C of Table 1 shows that for these firms, the mean annual lobbying expenditures are $1,222,495. Similar to the broker data in Panel B, the mean annual lobbying expenditures exhibit an increasing trend over our sample period.

Panel D of Table 1 provides the descriptive statistics for our independent variables in the coverage decision. The mean value of $CONNECTED_{Indicator}$ in our sample is 0.228, reflecting that the modal brokerage house in our sample does not make political contributions. The mean value of *SENSITIVE* is 0.321, indicating that firms in the top quintile of lobbying expenditures are represented proportionally more in our sample. Given that the tendency for firms to engage in lobbying is positively associated with firm size (Hillman, Keim, and Schuler 2004; Richter, Samphantharak, and Timmons 2009) and that analyst following increases with firm size (McNichols and O'Brien 1997), this finding is not surprising.

The sample brokerage houses employ a mean (median) of 32.53 (19.00) analysts (results not tabulated). The mean value of *BROKER SIZE*, an indicator variable that is equal to 1 if the brokerage is in the top size decile during the year, is 0.265. This descriptive indicates that not surprisingly, the largest brokerage houses are disproportionally represented in our sample. The

[16] To support this inference, we calculate a hypothetical value of $CONNECTED_{Power}$ that forces the rank of the affiliated policymaker to be the middle rank of the committee they serve on. This baseline measure provides us with an expectation of $CONNECTED_{Power}$ had the broker directed their PAC contributions to mid-ranking candidates. We find that the actual value of $CONNECTED_{Power}$ is statistically greater, and in fact almost double, the value of this baseline in each year. Overall, this finding suggests that, on average, politically connected brokers' direct PAC contributions to more powerful politicians.

mean (median) of *INDUSTRY EXPERTISE* is 0.067 (0.031), indicating that the average brokerage house issues recommendations for approximately 7% of the firms in an industry. The brokerage houses employs analysts who have a mean (median) of 2.052 (2.015) years of experience issuing recommendations for any firm (*BROKER EXPERIENCE*).[17]

Panel E of Table 1 compares these brokerage house characteristics for connected and non-connected brokerage houses. These statistics indicate that brokerages that are politically connected are statistically larger, cover more firms within an industry, and employ analysts with less experience than non-connected brokerage houses. These statistics underscore the importance of controlling for other brokerage house characteristics in the analyses presented below.

4.2 Coverage Decisions: Results

Panel A of Table 2 provides the results from estimating equation (3) using logit estimation techniques. Regardless of the measure of political connectedness examined, the estimated coefficient on *CONNECTED* is positive and significant at two-tailed $p < 0.01$. The positive and significant coefficient on *CONNECTED* holds if we estimate this model using ordinary least squares (OLS).[18] Thus, consistent with our predictions, politically connected brokerage houses are more likely to cover firms.

In the logit estimation, the only brokerage house characteristic that is a significant determinant of the coverage decision is *INDUSTRY EXPERTISE*; consistent with our predictions, brokerages with greater expertise in a given industry are more likely to cover firms that belong to that industry. Although insignificant in the logit estimations, in untabulated results using OLS

[17] Untabulated difference-in-means tests confirm that there are no differences in firm-level characteristics between observations where coverage equals one and coverage equals zero, as expected given the matched sample design.
[18] For reference, the coefficient on $CONNECTED_{Power}$ in the OLS estimation of equation (3) is 0.0096 ($t = 26.59$, two-tailed $p < 0.01$; results not tabulated).

the coefficient on *BROKER SIZE* is statistically positive (e.g., $CONNECTED_{Power}$: 0.0912, t = 35.39, two-tailed $p < 0.01$) while the coefficient on *BROKER EXPERIENCE* is statistically negative ($CONNECTED_{Power}$: -0.0135, t = -8.87, two-tailed $p < 0.01$). If we replace the brokerage house characteristics with broker fixed effects, the estimated coefficient on *CONNECTED* remains significantly positive (results not tabulated).

To investigate if the effect of political connections on coverage decisions is even stronger if the firm is sensitive to policy changes, Panel B of Table 2 includes *SENSITIVE* and *CONNECTEDxSENSITIVE* in the model. We present the results using logit estimation techniques. In Panel B, the estimated coefficient on *CONNECTED* is no longer significant. However, the estimated coefficient on *CONNECTEDxSENSITIVE* is significantly positive. Further, consistent with our predictions, the χ^2-test rejects the null hypothesis that the sum of *CONNECTED* and *CONNECTEDxSENSITIVE* is zero in all three estimations, indicating that connected brokerage houses are more likely to cover firms sensitive to policy changes than non-connected brokerage houses.

Given the difficulties in interpreting interaction terms in logit estimations (see Ai and Norton 2003), we also estimate this specification using OLS techniques, consistent with recent research (Atanassov 2013; Cornelli, Kominek, and Ljungqvist, 2013; Becker and Milbourn 2011). In untabulated results, we find that the coefficient on *CONNECTED* is significantly positive across the three measures of political connectedness. The coefficient on *SENSITIVE* is negative and significant, indicating that, *ceteris paribus,* brokerage houses are less likely to cover firms that are sensitive to policy changes. The coefficient on *CONNECTEDxSENSITIVE*, however, is statistically positive for all three measures of *CONNECTED*. Further, if we replace the broker characteristics with brokerage house fixed effects, all inferences hold using either

logit or OLS estimation techniques. Taken together, these results indicate that politically connected brokerage houses are more likely to cover firms that are more sensitive to policy changes than non-connected brokerage houses.

5. Empirical Tests: Recommendation Profitability

In the previous section we document that politically connected brokers are more likely to cover firms, and this effect is stronger for firms that have a heightened sensitivity to policy changes. In this section we investigate one potential benefit of early access to policy news: superior stock recommendations. Policies may affect many firms or industries, or even all firms. As such, we expect that their information advantage will allow politically connected brokers to issue superior stock recommendations relative to non-connected analysts for a broad sample of firms. Following prior work (e.g., Mikhail, Walther, and Willis 2004), we focus on recommendation changes given the dampened market reaction to reiterations. To test whether politically connected brokers issue more profitable stock recommendation revisions, we estimate the following OLS regression:

$$PFT_{jbit} = \alpha + \beta_1 CONNECTED_{bt} + \gamma\, CONTROLS_{ibt} + \varepsilon_{jbit} \quad (4)$$

where profitability of recommendation revisions, *PFT*, is the market-adjusted return to recommendation *j* made by analyst *k* employed at brokerage house *b* for firm *i* on day *t*. We compute the buy-and-hold return for the recommended stock on the recommendation date (i.e., day *t*). We then subtract the buy-and-hold return of the value-weighted CRSP index for the same period from the buy-and-hold return for the recommended stock.[19] To calculate *PFT*, we take a long (short) position in upward (downward) recommendation revisions (O'Brien 1990a, 1990b;

[19] All inferences hold if we instead use raw returns or characteristic-adjusted excess returns (see Daniel, Grinblatt, Titman, and Wermers 1997; Wermers 2000).

Mikhail, Walther, and Willis 2004) and use a one day window to reduce the likelihood of confounding events influencing our results.[20] However, our results are similar using a two or three day window centered on the recommendation issue date, or using a longer 20-day window. Since we assume that analyst *k* benefits from the political connections established by broker *b*, we predict that the estimated coefficient on *CONNECTED* will be positively associated with *PFT* (i.e., $\beta_1 > 0$).

We include additional controls for firm, brokerage house, and analyst characteristics that prior work has identified as determinants of short-window recommendation profitability (e.g., Mikhail, Walther, and Willis 2004; Ertimur, Sunder, and Sunder 2007). The firm characteristics include size, book-to-market, value relevance, and analyst following. *FIRM SIZE* is measured using the natural logarithm of the market value of equity for firm *i* at the end of the year preceding the recommendation revision; *BM* is measured as book value divided by market value of equity for firm *i* at the end of the year preceding the recommendation revision; *VALUE RELEVANCE* is an indicator variable that equals one if firm *i* reports negative income before extraordinary items for the fiscal period preceding the recommendation revision; and *ANALYST FOLLOWING* is equal to the natural logarithm of the number of analysts who issue recommendations for firm *i* in year t.

The brokerage house characteristics include those previously examined in equation (3) (*BROKER SIZE*, *INDUSTRY EXPERTISE*, and *BROKER EXPERIENCE*). The analyst characteristics include timeliness, analyst experience, firms followed, and attentiveness.

[20] One type of confounding event that could affect our results is analyst herding. For example, if a politically connected analyst received a tip and thus issued a recommendation, analysts at non-connected brokerage houses could herd and issue a similar recommendation the next day. Therefore, using a longer event window could lead recommendation revisions issued by non-connected brokerage houses to falsely appear as profitable as those issued by politically connected brokerages. Further, anecdotal evidence suggests that gains from political information are arbitraged away within a single day (e.g., Mullins and McGinty 2013).

TIMELINESS is the natural logarithm of the leader-follower ratio from Cooper, Day and Lewis (2001); *ANALYST EXPERIENCE* is the natural logarithm of the number of years analyst *k* has issued a recommendation for any firm; *FIRMS FOLLOWED* is the natural logarithm of the number of unique firms analyst *k* issues recommendations for during the year; and *ATTENTIVENESS* is the natural logarithm of the number of recommendations analyst *k* issues for firm *i* during the year. Additionally, we include an indicator variable for post-Regulation FD, as well as industry and year fixed effects. In our estimations, we cluster standard errors at the broker *b* and firm *i* level. For robustness, as with equation (3), we also estimate a variation of equation (4) that replaces these brokerage house characteristics with broker fixed effects (see Section 5.3).

Prior research documents that the market reaction to recommendation revisions is asymmetrical, where the market reacts more strongly to downgrades (e.g., Mikhail, Walther, and Willis 2004). Therefore, we also examine whether the market reaction to connected analysts at the time the analyst revises his or her recommendation differs conditional on the direction of the recommendation change by estimating the following OLS regression separately for upgrades and downgrades:[21]

$$BHR_{jbit} = \alpha + \beta_1 CONNECTED_{bt} + \gamma\, CONTROLS_{ibt} + \varepsilon_{jbit} \quad (5)$$

where the *BHR* is the market-adjusted buy-and-hold return to recommendation *j* made by analyst *k* employed at brokerage house *b* for firm *i* at time *t*. We compute the buy-and-hold return for the recommended stock for the recommendation date. We then subtract the buy-and-hold return of the value-weighted CRSP index for the same period from the buy-and-hold return for the

[21] All inferences hold if we estimate the following model on the full sample: $BHR_{jbit} = \alpha + \beta_1 CONNECTED_{bt} + \beta_2 DOWNGRADE_{jbit} + \beta_3 CONNECTEDxDOWNGRADE_{jbit} + \gamma CONTROLS_{ibt} + \theta CONTROLSxDOWNGRADE_{jbit} + \varepsilon_{jbit}$, where *DOWNGRADE* is an indicator variable taking the value of one if analyst *k* revises his or her recommendation *j* for firm *i* downward on day *t* and zero otherwise.

recommended stock. We also control for firm, brokerage house, and analyst characteristics as in equation (4). Finally, we include industry and year fixed effects and cluster standard errors at the broker *b* and firm *i* level. We predict that the estimated coefficient on *CONNECTED* will be positive (negative) if the market reacts more strongly to recommendations upgrades (downgrades) from politically connected brokers.

In the prior section, we document that politically connected brokerages are even more likely to cover firms that are more sensitive to governmental policy changes. Thus, we also investigate whether the recommendations issued by politically connected brokers are even more profitable for recommendations issued for firms with a heightened sensitivity to policy changes. To test this prediction, we include *SENSITIVE* in equations (4) and (5) and re-estimate those models. We expect the coefficient on the interaction term of *CONNECTEDxSENSITIVE* to be positive in equation (4). If the market reacts more strongly to recommendations upgrades (downgrades) from politically connected brokers for firms with greater sensitivity to policy changes, in equation (5) the estimated coefficient on *CONNECTEDxSENSITIVE* will be positive (negative) in the subsample of upgrades (downgrades).

5.1 Recommendation Profitability: Sample and Descriptive Statistics

To examine the relative profitability of connected analysts, we collect stock recommendations issued by analyst *k* for firm *i* from Zacks for the years 1998 through 2010 for all firm-year observations included in our test of brokers' coverage decisions. Using the unique analyst identifying code provided in Zacks, we eliminate recommendations that correspond to unidentified individuals and industry groups. Because we are interested in revisions, we require the current and previous recommendation be available on Zacks in order to determine an

analysts' revision or reiteration, and then exclude all reiterations. Finally, to remove the influence of confounding events, we exclude recommendation revisions issued within a short window around earnings announcements (i.e., t = -2, +2, where t = 0 is the date of the earnings announcement) and other confounding events identified in the CRSP event file. This yields a sample of 30,242 recommendation revisions.

Table 3 provides descriptive statistics for the recommendation revision sample. In this sample, there are 269 unique brokerages represented, 34 of which are politically connected some time during our sample period (see Panel A). As shown in Panel B, the typical connected brokerage house contributes $93,560 annually; similar to the trends apparent in Table 1, this mean level of PAC contributions generally increases over time and in presidential election years. The statistics for $CONNECTED_{Candidate}$ and $CONNECTED_{Power}$ are similar to those for the coverage sample, with the typical brokerage house supporting an average of 124 political candidates.

Of the 1,588 unique firms in the recommendation revision sample, 1,120 are classified as *SENSITIVE* (see Panel A). Panel B of Table 3 documents similar patterns relative to Table 1. Specifically, PAC support by politically connected brokers has increased over time and been directed at more powerful politicians. Panel C of Table 3 provides descriptive statistics on the magnitude of lobbying expenditures by politically sensitive firms. The typical politically sensitive firm spends an average of $1,788,482 each year. As in Table 1, the mean lobbying expenditures increase over time.

As shown in Panel D and consistent with prior research (e.g., Ertimur, Sunder, and Sunder 2007), there is a notable market reaction to recommendation revisions; the mean (median) profitability (*PFT*) is 2.663% (1.646%). The mean (median) buy-and-hold return

(*BHR*) is -0.464% (-0.084%). In our sample of 30,242 recommendation revisions, 51.9% are downgrades (*DOWNGRADE*). The relative proportion of downward recommendation revisions does not differ between connected and non-connected brokerage houses; 52.3% (51.6%) of the sample recommendation revisions issued by connected (non-connected) brokerage houses are downgrades (results not tabulated).

The mean value of *SENSITIVE* in Panel D is 0.603, indicating that firms in the top quintile of lobbying expenditures are represented proportionally more in our recommendation sample than in our coverage sample. Further, the firms represented in the recommendation sample are larger than those in the coverage sample; the mean (median) log of the market value (*FIRM SIZE*) of equity is $8.828 ($8.880) billion, compared to $7.620 ($7.560) billion for the coverage sample (not tabulated). The mean (median) analyst following is 2.627 (2.708) in the recommendation sample. Because analyst following (and thus the number of recommendations issued) increases with firm size (McNichols and O'Brien 1997), these differences in sample composition between the recommendation sample and coverage sample are not surprising. The analysts following the recommendation sample firms have a mean leader-follower ratio of 1.288 (*TIMELINESS*), a mean of 1.940 years of experience (*ANALYST EXPERIENCE)*, follow a mean of 2.758 firms *(FIRMS FOLLOWED)*, and issue a mean of 1.252 recommendations for the sample firms (*ATTENTIVENESS*).

The statistics in Panel D also suggest that brokerage houses are more politically connected in the recommendation sample than in the coverage sample used in our prior tests. For example, while the median value of $CONNECTED_{Indicator}$ in Panel D remains at 0 for this sample, the mean value is 43.6%, which is larger than the mean value of 22.8% in the coverage sample (see Panel D of Table 1). The recommendation sample brokerage houses are also larger,

employing a mean (median) of 58 (47) analysts (results not tabulated). As shown in Panel D, approximately 53.5% of the sample recommendations are issued by analysts employed at brokerage houses in the top decile of size (*BROKER SIZE*). Because brokerage house size is a function of the number of analysts employed by broker *b* in year *t*, it is not surprising that the majority of sample recommendations are issued by the largest brokerage houses simply because the output of analyst research is increasing with the number of analysts employed.

Panel E of Table 3 compares these brokerage house and analyst characteristics for connected and non-connected brokerage house observations. Consistent with the findings in the coverage sample, these statistics indicate that brokerage houses that are politically connected are statistically larger and cover more firms within an industry. In addition, the average experience across all analysts employed by politically connected brokers is lower relative to non-connected brokers. In contrast, the most experienced analysts tend to be employed by politically connected brokers. Taken together, these two statistics would suggest that connected brokers are "top heavy", employing a large amount of novice analysts, relative to a few more experienced analysts. Further, analysts employed at connected brokerage houses follow fewer firms, and issue more recommendations for the firms they do follow. In the multivariate tests below, we control for the effects of these brokerage house and analyst characteristics on recommendation profitability to ensure that any findings for *CONNECTED* are not due to an omitted correlated variable. Further, in Section 5.3, we perform several robustness tests to rule out the possibility that our findings for *CONNECTED* are spurious.

5.2 Recommendation Profitability: Results

Table 4 provides portfolio tests for the differences in recommendation profitability between connected and non-connected brokerage houses.[22] As shown in Panel A the mean *PFT* for connected brokerage houses is 2.171%, which is statistically larger than the mean *PFT* of 1.863% for non-connected brokerage houses (two-tailed $p < 0.01$). This result holds in Panel B for both upgrades and downgrades (two-tailed p's < 0.01). These results are consistent with our predictions, and suggest that connected brokerage houses issue more profitable stock recommendation revisions than non-connected brokerage houses.

Panels C and D of Table 4 further partition on whether the firm is sensitive to policy changes (*SENSITIVE*). The greater profitability of recommendation revisions issued by connected brokerage houses in Panel A holds regardless of whether or not the firm is policy sensitive. In Panel C, the mean *PFT* for recommendation revisions issued by connected brokerage houses for sensitive firms is 2.248%, compared to a mean *PFT* of 1.934% for non-connected brokerage houses ($t = 4.09$, two-tailed $p < 0.01$). Similarly, the mean *PFT* for recommendation revisions issued by connected brokerage houses for less-sensitive firms is 2.055%, compared to a mean *PFT* of 1.754% for non-connected brokerage houses ($t = 3.33$, two-tailed $p < 0.01$). Panel D provides these results separately for upgrades and downgrades; again, consistent with our predictions, we find that connected brokerage houses issue more profitable upgrades and downgrades regardless of whether the firm is politically sensitive (all two-tailed p's < 0.06).

To examine if the inferences from Table 4 hold in a multivariate setting, Panel A of Table 5 provides the results from estimating equation (4) for all three measures for *CONNECTED*.

[22] We provide these statistics conditioning on $CONNECTED_{Indicator}$; the results hold if we instead partition on $CONNECTED_{Candidate}$ or $CONNECTED_{Power}$.

Given that the inferences are identical across the three measures, we focus the following discussion on $CONNECTED_{Power}$ since it is intended to capture the various facets of political connections more completely than the other measures.

Before discussing our variables of interest, we first note that the determinants of stock recommendation profitability examined in prior research hold in our sample. Recommendation revisions issued for larger firms are associated with a lower market reaction (*FIRM SIZE* = −0.538, t = -18.09, two-tailed $p < 0.01$), consistent with Mikhail, Walther, and Willis (2004). This reduced reaction for larger firms is likely due to the increased availability of more timely information for these firms (Stickel 1995). Recommendation profitability also varies with *BM*, *VALUE RELEVANCE*, and *ANALYST FOLLOWING*; the profitability of recommendation revisions is increasing in a firm's book-to-market ratio, value relevance of earnings, and analyst following.

Consistent with Clement (1999), we find that recommendation revisions from the largest brokerage houses are more profitable. In column (3) of Panel A, the estimated coefficient on *BROKER SIZE* is 0.395 (t = 5.08, two-tailed $p < 0.01$). Further, recommendation revisions from brokerage houses that on average employ analysts with greater industry expertise or experience are also associated with a greater market reaction (two-tailed p's < 0.05). This effect of experience is also apparent at the analyst level; the coefficient on *ANALYST EXPERIENCE* is statistically significant at the $p < 0.01$ level. Further, consistent with Ertimur, Sunder and Sunder (2007), analysts who follow more firms (*FIRMS FOLLOWED*) issue less profitable recommendation revisions.

After controlling for the effects of these firm, brokerage house, and analyst characteristics, we continue to find that recommendation revisions issued by connected

brokerage houses are more profitable than those issued by non-connected brokerage houses for all measures of *CONNECTED*. The estimated coefficient on $CONNECTED_{Indicator}$ suggests that on average, the profitability of recommendation revisions issued by connected brokerage houses is 21.9 basis points higher than recommendation revisions issued by non-connected brokerage houses. Relative to the mean *PFT* of 2.663% (Table 3, Panel D), this effect represents an 8% increase in the day zero market reaction.

Next we investigate if our findings hold when we condition on the sign of the recommendation revision. To examine this issue, we estimate equation (5) separately for the subsamples of upgrades and downgrades (Panels B and C, respectively). Consistent with Panel A, we continue to find a positive and significant coefficient on *CONNECTED* across all three measures for the sample of upgrades (Panel B). The estimated coefficient on $CONNECTED_{Indicator}$ in Panel B suggests that the profitability of upgrades issued by connected brokers is 31.5 basis points higher than recommendation revisions issued by non-connected brokers. By contrast, in the sample of downgrades the estimated coefficient on *CONNECTED* is insignificant (Panel C). These findings suggest no difference in the profitability of downgrades across connected and non-connected brokerage houses, and underscore the importance of conditioning on the sign of the recommendation revision in the analyses.

To examine if these findings hold over a longer window, we re-estimated equation (5) using characteristic-adjusted excess returns over the window (0, +20) (results not tabulated). In these estimations, the coefficient on *CONNECTED* is statistically positive at two-tailed $p < 0.05$ for all three measures in the subsample of upgrades. The coefficient on *CONNECTED* is not significant at conventional levels for the subsample of downgrades. Thus, regardless of the event

window examined, it appears that the increased profitability to recommendation revisions issued by connected brokerage houses is concentrated in upgrades.

Following the arguments in Cohen, Frazzini, and Malloy (2010), one explanation for this finding is that politicians are willing to reveal information that has positive (but not negative) implications for firms, perhaps because they are concerned about their relationships with firm management who provide campaign and other support. Alternatively, it could be that analysts receive both good and bad news through their political connections, but only reveal positive information because they do not want to damage their relationship with either of their two key information sources: firm management and politicians. Given this finding, subsequent tables only provide the results from estimating variants of equation (5). All inferences hold, however, if we instead base our estimations on equation (4).

Table 6 examines cross-sectional variation in this finding with the firm's sensitivity to governmental policy changes after controlling for other determinants of recommendation revision profitability. In the sample of upgrades (Panel A), the estimated coefficient on $CONNECTED_{Power}$ and $CONNECTED_{Candidate}$ is marginally positive (two-tailed $p < 0.10$). The estimated coefficient, however, on *CONNECTEDxSENSITIVE* is positive and significant in all three columns. Further, regardless of the measure examined, F-tests reject the null hypothesis that *CONNECTED* + *CONNECTEDxSENSITIVE* is equal to zero. In contrast, we do not find a more negative market reaction to downgrades issued by connected brokerage houses for non-sensitive firms; the estimated coefficients on *CONNECTED* and *CONNECTEDxSENSITIVE* are indistinguishable from zero in Panel B. These findings suggest that the greater market reaction to upgrades issued by connected brokerage houses seen in Table 5 is concentrated in those upgrades for politically sensitive firms.

In summary, the results indicate that brokerage houses that contribute to politicians (i.e., politically connected brokerage houses) are more likely to cover firms, especially ones that engage in intense lobbying activities ("sensitive" firms). These connected brokerage houses also issue more profitable stock recommendation revisions, on average, than non-connected brokerage houses. This greater profitability is concentrated in upgrades, and especially those upgrades issued for policy sensitive firms. Overall, this collection of results is consistent with brokerage houses obtaining value-relevant information through their political connections. However, an alternative explanation for these findings is that our variable *CONNECTED* proxies for some unobservable brokerage house characteristic. In the next section, we provide some additional tests to address this alternative explanation.

5.3 Recommendation Profitability: Additional Tests

While we control for other previously documented determinants of recommendation revision profitability in equations (4) and (5), it remains a possibility that our measure for a brokerage house's political connections, *CONNECTED*, is significant in Tables 5 and 6 because it is correlated with another determinant that is excluded from our regression models. If this were true, the inference that brokerage houses obtain value-relevant information through their political contributions would not be valid.

To disentangle these two possible explanations for the findings in the previous section, we perform two main sets of analyses. First, we investigate the benefits of being politically connected across different time periods. These investigations include comparing the performance of stock recommendation revisions conditional on (1) the level of policy uncertainty, and (2) whether Congress is in session. Second, we control for the identity of the brokerage house by

either including brokerage fixed effects in the models or comparing the profitability of recommendation revisions issued when a brokerage house is connected to those issued when that same brokerage house is not. The following subsections provide the results of these additional tests.

5.3.1. Over Time Variation in the Benefits of Political Connections

To provide further corroborating evidence, we exploit exogenous time-series variation in value-relevant political information to see whether brokers' political connections are more beneficial when there is more value-relevant political information. To do this, we first compare the performance of stock recommendation revisions conditional on the level of economic policy uncertainty. We expect that brokers' political connections are particularly valuable during high policy uncertainty periods. Baker, Bloom and Davis (2013) develop a measure of economic policy uncertainty (EPU) by combining the frequency of newspaper references to economic policy uncertainty, the number of federal tax code provisions set to expire, and the extent of forecaster disagreement over future inflation and government purchases. The authors document spikes in uncertainty corresponding to several well-known prominent events such as "consequential presidential elections, wars, 9/11, and contentious budget battles" (p. 8). Figure 1 provides a graph of the EPU index for the recommendation revisions issued during our sample period. We identify consequential events for our sample that correspond to the high policy uncertainty periods identified by Baker, Bloom and Davis (2013).[23] Relying on the EPU index

[23] Baker, Bloom, and Davis (2013) identify spikes in the EPU index as high policy uncertainty time periods. In an effort to capture recommendations issued around the "spikes" documented by Baker, Bloom and Davis (2013), we identify when the EPU index meets or exceeds its 95th percentile value during our sample period. We consider the corresponding event windows identified in Baker, Bloom, and Davis (2013) as high uncertainty periods for our study. Thus, the high uncertainty periods we flag cover the entire window of the spike, rather than just the day when the EPU index hits an extreme value. This approach successfully captures many notable events, such as the 9/11 terrorist attacks, Bush-Kerry election, bankruptcy of Lehman Brothers, and the debt ceiling debate.

and the time periods outlined by Baker, Bloom and Davis (2013), we construct an indicator variable, *POLICY UNCERTAINTY*, that is set equal to one if a recommendation is issued during a high policy uncertainty period.

Panel A of Table 7 provides portfolio tests for the differences in recommendation profitability between connected and non-connected brokerage houses conditional on the level of policy uncertainty. Consistent with our prior results, we continue to find that upgrades and downgrades issued by connected brokerage houses are, on average, more profitable when policy uncertainty is high (two-tailed p's < 0.01). However, this superiority disappears when policy uncertainty is low.

Panels B and C examine if these inferences hold in a multivariate setting. For the sample of upgrades (Panel B), the estimated coefficient on *CONNECTED* is insignificant while the estimated coefficient on *CONNECTEDxPOLICY UNCERTAINTY* is statistically positive across all three measures (two-tailed p's < 0.01). Further, the null hypothesis that the sum of *CONNECTED* and *CONNECTEDxPOLICY UNCERTAINTY* is equal to zero is rejected at p < 0.01 in Panel B. By contrast, in the subsample of downgrades in Panel C the estimated coefficients on *CONNECTED* and *CONNECTEDxPOLICY UNCERTAINTY* are insignificant. Thus, recommendation upgrades issued by connected brokerage houses are more profitable during high policy uncertainty periods. For an omitted brokerage house characteristic to induce these findings, it must be that this characteristic varies systematically through time with the level of policy uncertainty. Overall, we interpret these results as consistent with the conclusion that political connections established by brokerage houses are particularly useful in issuing upgrades when the level of policy uncertainty is high.

Second, we examine the profitability of recommendation revisions conditional on when Congress is in session. Assuming that politicians have greater value-relevant information when in session, we predict that the superiority of recommendation revisions issued by connected brokerage houses is stronger when Congress is in session.[24] Since the timing of when Congress is in session versus out of session cannot be influenced by individual firms and varies within and across years, this provides another interesting setting to examine the influence of private political information on stock recommendations.

Panel A of Table 8 provides portfolio tests for the differences in recommendation profitability between connected and non-connected brokerage houses conditional on whether Congress is in session. We continue to find that upgrades and downgrades issued by connected brokerage houses are, on average, more profitable when Congress is in session (two-tailed p's < 0.01). However, this superiority disappears when Congress is out of session. For a brokerage house characteristic to induce these findings, it must be that this characteristic varies systematically during the year with when Congress is in session. In untabulated analyses, we further condition these tests on the firm's political sensitivity. Consistent with the inferences from Panel A, we again find that the greater profitability of upgrades and downgrades for both sensitive and non-sensitive firms is only present when Congress is in session.

Panels B and C of Table 8 examine if these inferences hold using regression analysis. In Panel B, the estimated coefficient on *CONNECTED* is statistically positive across all three measures for upgrades. However, in contrast to the portfolio tests, the estimated coefficient on *IN SESSION* and *CONNECTEDxIN SESSION* are insignificant. None of the coefficients of interest are significant for the downgrade sample (Panel C). Thus, while the portfolio analyses support

[24] Consistent with this conjecture, the private meetings organized on May 26, 2011 by former Speaker of the House Newt Gingrich between Credit Suisse analysts and senior Republican congressional health-care policy aides discussed in footnote 2 occurred when Congress was in session.

our prediction, we fail to find significant results in the regression analyses. One possibility for these findings is that the availability and benefits of political information may not be limited to only those periods when Congress is in session.

Overall, we interpret the results in this subsection as being consistent with the conclusion that brokerage houses obtain value-relevant information that yields superior recommendation revisions through their political connections.

5.3.2. Controlling for the Identity of the Brokerage House

To provide further assurances that a time-invariant brokerage house characteristic does not induce the excess returns we have documented, we perform two additional analyses. First, we replace the brokerage house control variables with broker fixed effects. Even after the inclusion of broker fixed effects, we continue to find similar results (results not tabulated).

Second, we hold constant the brokerage house and compare the profitability of recommendation revisions issued during times when the brokerage house is connected versus during times when the brokerage house is not connected. To perform this analysis, we classify brokerage houses in our sample based on their time series of values of $CONNECTED_{Power}$.[25] If the brokerage house does not make any contributions to politicians over our sample period, the value of $CONNECTED_{Power}$ is always 0 for that brokerage house. If the brokerage house consistently makes contributions over our sample period (where consistently means at least once every six years), the value of $CONNECTED_{Power}$ is always greater than zero for that brokerage house. The sample of brokerage houses represented in the "always" connected and "never"

[25] Untabulated analyses classifying brokerage houses on their time series values of $CONNECTED_{Indicator}$ yield similar inferences. We discuss the results based on $CONNECTED_{Power}$ as prior literature argues that investments in policy makers over time, and in particular, investments in high powered policymakers, more adequately proxies for political connectedness (Cooper, Gulen, and Ovtchinnikov 2010).

connected subsamples are, by construction, different. Thus, while our findings above hold when comparing "always" to "never" connected brokerage houses (results not tabulated), this analysis does not rule out the alternative explanation that some unobservable brokerage house characteristic that is correlated with *CONNECTED* accounts for the greater profitability given the different sample composition.

To investigate this alternative explanation, we focus on brokerage houses that have an inconsistent contribution pattern. This varying pattern occurs when the brokerage house either a) contributes early in the sample period then stops, b) does not contribute early in the sample period then starts, or c) contributes during non-consecutive times. In this subsample, the brokerage houses will have values of $CONNECTED_{Power}$ that sometimes equal zero and other times have positive values over our sample period.

Although this analysis controls for the brokerage house identity, it suffers from two potential limitations. First, the decision to begin or cease political contributions is not exogenous. Thus, unmodeled factors associated with that decision could also drive profitability differences. Second, the sample sizes are small, limiting our ability to draw inferences. As a result, and for brevity, we do not tabulate these analyses.

In unreported results, we find that in the sample of brokerage houses that do not contribute early in our sample period but then consistently contribute later in the sample period ("start" subsample, N = 2,099), the estimated coefficient on *CONNECTED* is positive and significant across all three measures (two-tailed p's < 0.01). This result indicates that the market reaction associated with upgrades is significantly higher when these brokerage houses are connected than when they are not. In the subsample of brokerage houses that consistently contribute early in our sample period but then cease making contributions later in the sample

period ("stop" subsample, N = 453), the coefficients of interest are not statistically different from zero in any estimation. While these results are not consistent with political connectedness resulting in superior stock recommendation revisions for this small sample, an alternative explanation that we cannot rule out is that these brokerage houses ceased making political contributions because the cost of these contributions outweighed any benefit obtained while connected. Finally, for the one brokerage house in our sample that has an inconsistent contribution pattern by contributing during non-consecutive times (N = 1,471), we find that the coefficient on *CONNECTED* is not significantly different from zero (two-tailed $p > 0.10$).

Collectively, the results from these additional analyses are not consistent with the greater profitability of recommendation revisions issued by connected brokerage houses being attributable to an unobservable brokerage house characteristic.

6. Conclusion

This study examines the flow of political information from Congress to analysts. We document that the political connectedness of the brokerage house at which the analyst is employed is positively associated with the decision to cover a firm. This effect is even more pronounced for firms that are more sensitive to governmental policy changes. We further show that recommendation revisions issued by politically connected brokerage houses are more profitable than those issued by non-connected brokerage houses. This increased profitability is apparent for upgrades but not downgrades and is concentrated in upgrades issued for politically sensitive firms. In further analyses, we find that this difference in profitability is present when there is high economic policy uncertainty (and not when uncertainty is low). We also find some evidence that the increased profitability of recommendation revisions issued by connected

brokerages is only present when Congress is in session (and not when it is out of session) and when the brokerage house is politically connected (and not when that same brokerage house is not connected). Taken together, these results are consistent with brokerage houses cultivating political connections in order to obtain value-relevant, non-public political information.

We believe our research speaks to the ongoing debate on whether lawmakers and staff should be permitted to selectively release market-moving, nonpublic information about pending or prospective legislation. In addition, whereas earlier studies have documented analysts' dependence on management-provided information (Cotter, Tuna, and Wysocki 2006; Das, Levine, and Sivaramakrishnan 1998; Francis and Philbrick 1993), we suggest an alternative source of private information: legislators and their staff. We also contribute to the literature on informed trading, which documents the ability of connected agents to incorporate firm-specific information into security prices through trading (Cohen, Frazzini, and Malloy 2008, 2010; Coval and Moskowitz 2001). Our study suggests that politically connected analysts incorporate private political information into stock prices by updating their stock recommendations. Finally, we contribute to the literature on the outcomes of political connections. The extant literature argues that political connections can be important for firms (Cooper, Gulen, and Ovtchinnikov 2010; Faccio 2006; Faccio, Masulis, and McConnell 2006; Mian, Sufi, and Trebbi 2010; Ovtchinnikov and Pantaleoni 2012; Chaney, Faccio, and Parsley 2011). In contrast, we investigate the benefits that accrue to market participants from investing in relationships with policymakers.

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Appendix A. Variable Definitions

Variable Name	Variable Description
Dependent Variables	
COVERAGE	The choice to cover firm *i* in year *t*, an indicator variable that equals one if broker *b* covers firm *i* in year *t*, and zero otherwise.
PFT	The recommendation profitability of the recommendation revision, measured as the market-adjusted return to recommendation *k* made by analyst *i* for firm *j*. We compute the buy-and-hold return for the recommended stock for the recommendation date. We then subtract the buy-and-hold return of the value-weighted CRSP index for the same date from the buy-and-hold return for the recommended stock. We take a long (short) position in upward (downward) recommendation revisions.
BHR	The buy-and-hold return of the recommendation revision, measured as the market-adjusted return to recommendation *k* made by analyst *i* for firm *j*. We compute the buy-and-hold return for the recommended stock for the recommendation date. We then subtract the buy-and-hold return of the value-weighted CRSP index for the same date from the buy-and-hold return for the recommended stock.
Independent Variables of Interest	
$CONNECTED_{Indicator}$	The political connections of brokers, measured as an indicator variable that takes the value of one if broker *b* makes a contribution to a candidate campaign through a broker sponsored political action committee, measured at the end of year *t*; zero otherwise.
$CONNECTED_{Candidate}$	The political connections of brokers, defined as the natural logarithm of the sum of supported candidates (House, Senate, and Presidential) over rolling six-year windows.
$CONNECTED_{Power}$	The political connections of brokers, defined as the natural logarithm of the sum of supported candidates (House, Senate, and Presidential) over rolling six-year windows, weighted by the candidate's incumbent status, relative voting power and committee rankings over rolling six-year windows, measured at the end of year *t*.
SENSITIVE	The sensitivity of the firm to policy changes, based on the rank of the firm's lobbying expenditures. Each year we rank firms included in our sample into quintiles by total lobbying expenditures. We measure intense sensitivity to political outcomes as an indicator variable equal to one if firm *i* is in the top lobbying expenditure quintile in year *t*, and zero otherwise.

Appendix A, Continued. Variable Definitions

Independent Variables of Interest, Continued

DOWNGRADE	Downgrade recommendation, measured as an indicator variable that takes the value of one if analyst *k* revises his or her recommendation *j* for firm *i* downward, and zero otherwise.
IN SESSION	Congress in session, measured as an indicator variable that takes the value of one if analyst *k* revises his or her recommendation *j* for firm *i* on or after the first day Congress is in session and on or before the last day Congress is in session during year *t*, and zero otherwise.
POLICY UNCERTAINTY	High economic policy uncertainty, measured as an indicator variables that takes the value of one if analyst *k* revises his or her recommendation *j* for firm *i* during a high policy uncertainty period, as defined by Baker, Bloom and Davis (2013), and zero otherwise.

Control Variables

Broker-Level:

BROKER SIZE	Broker house size, based on the rank of the number of analysts employed at the brokerage house. Each year we rank each broker included in our sample into deciles by the total number of analysts employed by broker *b* in year *t*. We measure brokerage house size as an indicator variable equal to one if broker *b* is in the top size decile during year *t*, zero otherwise.
INDUSTRY EXPERTISE	Broker industry expertise, defined as the number of firms that broker *b* issues recommendations for in industry *g* for year *t*, divided by the total number of firms in industry *g* for year *t*. Industry is defined using 49 industries as classified in Fama and French (1997).
BROKER EXPERIENCE	The average general experience of all analysts employed by broker *b* in year *t*, where analyst experience is the number of calendar years for which analyst *k* issued a recommendation for any firm.

Appendix A, Continued. Variable Definitions

Control Variables, Continued

Firm-Level:

FIRM SIZE	Firm size, measured using the natural log of the market value of equity for firm *i* at the end of the year preceding the recommendation revision.
BM	Book-to-market equity, measured as book value for firm *i* at the end of the year preceding the recommendation revision, divided by market value of equity for firm *i* at the end of the year preceding the recommendation revision.
VOLUME	Trading volume, measured as the natural log of firm *i*'s trading volume of shares (in millions) during the year.
ROA	Return on assets, defined as firm *i*'s income before extraordinary items divided by total assets.
PREDICTABILITY	Predictability of earnings, measured as the adjusted R^2 from a firm-specific AR1 model for earnings estimated over the prior 16 quarters.
EARNINGS VOLATILITY	Earnings volatility, defined as the standard deviation of firm *i*'s earnings deflated by total assets over the prior 16 quarters.
RETURN VOLATILITY	Returns volatility, defined as the standard deviation of firm *i*'s monthly stock returns over the prior 48 months.
R&D	Research and development, defined as firm *i*'s research and development expenditures scaled by total sales less the respective industry mean value of research and development expenditures scaled by total sales
DEPRECIATION	Depreciation, defined as firm *i*'s depreciation expense scaled by total sales less the respective industry mean value of depreciation expense scaled by total sales.
ISSUE	Issuance of securities, defined as an indicator that equals one if firm *i* issues debt or equity securities during year t-1, t or t+1, and zero otherwise.
INST. OWNERSHIP	Institutional ownership, measured as the percentage of firm *i*'s common stock held by institutional owners.
VALUE RELEVANCE	Value relevance of earnings, measured as an indicator variable that equals one if firm *i* reports negative income before extraordinary items for the fiscal period end date for which analyst *k* issues recommendation *j*.
ANALYST FOLLOWING	Analyst following, measured as the natural log of the number of analysts who issue recommendations for firm *i* during year *t*.

Appendix A, Continued. Variable Definitions

Control Variables, Continued

Analyst-Level:

TIMELINESS	Analyst timeliness, measured using the natural log of the leader-follower ratio from Cooper, Day and Lewis (2001). For each recommendation *j* analyst *k* issues for firm *i*, we calculate this measure as the cumulative number of days by which the preceding two recommendations lead forecast *j* divided by the cumulative number of days by which the subsequent two recommendations follow recommendation *j*.
ANALYST EXPERIENCE	Analyst general experience, measured as the natural log of the number of years through year *t* for which analyst *k* issued recommendations for any firm *i*.
FIRMS FOLLOWED	Firms followed, measured as the natural log of the number of firms for which analyst *k* issues recommendations in year *t*.
ATTENTATIVENESS	Analyst attentiveness, measured as the natural log of the number of recommendations analyst *k* issues for firm *i* during calendar year *t*.

FIGURE 1
Economic Policy Uncertainty Index, 1998 - 2010

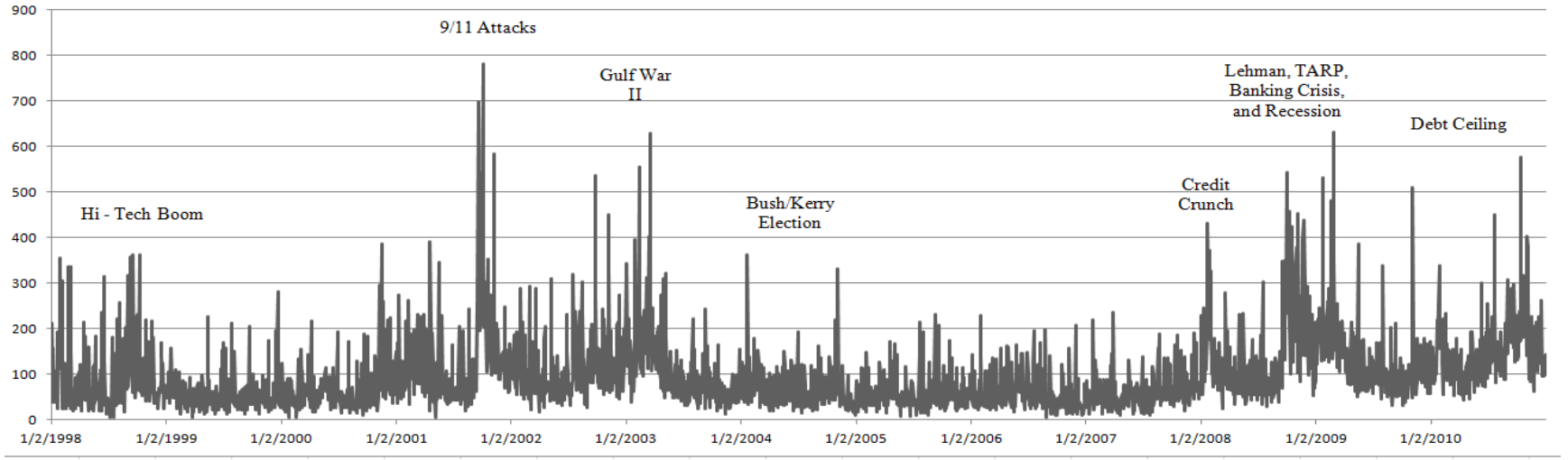

Figure 1. Baker, Bloom and Davis (2013) develop a measure of economic policy uncertainty (EPU) based on: (1) the frequency of newspaper references to economic policy uncertainty, (2) the number of federal tax code provisions set to expire, and (3) the extent of forecaster disagreement over future inflation and government purchases. Figure 1 charts the EPU index throughout our sample period (1998:1 through 2010:12). The spikes in the EPU index identified in our sample correspond to the following high uncertainty periods as defined by Baker, Bloom and Davis (2013): economic BOOM (1992:1-2001:8), 9/11 attacks (2001:9 - 2002:12), GULF WAR II non overlapping with 9/11 period (2003:1 - 2004:12), BUSH/KERRY election (2004:4 - 2004:12), the beginning of the CREDIT CRUNCH period (2007:7 - 2008:8), LEHMAN collapse to the start of the RECOVERY (2008:9 2009:12), and the DEBT CEILING crisis (2010:1 - 2012:4).

Table 1
Descriptive Statistics for Coverage, 1998 - 2010

Panel A: Sample Composition (N = 536,476)

Unique Brokers	408
Unique *CONNECTED*[a,b] Brokers	35
Unique Firms	7,488
Unique *SENSITIVE* Firms	1,801

Panel B: Mean Spending and Supported Candidates for Politically Connected Brokers[c]

Year	Contributions	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
1998	$59,013	105	650
1999	61,250	113	742
2000	75,959	112	783
2001	52,439	116	865
2002	72,473	115	870
2003	90,584	125	927
2004	122,047	127	949
2005	113,912	128	894
2006	117,525	125	911
2007	130,034	129	1030
2008	141,772	134	1113
2009	49,247	129	1199
2010	106,072	126	1175
Sample Mean	$91,718	122	931

Panel C: Mean Lobbying Expenditures for SENSITIVE Firms[c]

Year	Lobbying Expenditures
1998	$977,691
2000	856,624
2001	992,437
2002	947,536
2003	1,027,563
2004	1,043,723
2005	1,075,896
2006	1,213,031
2007	1,422,842
2008	1,635,787
2009	1,567,723
2010	1,656,147
Sample Mean	$1,222,495

Table 1 *(Continued)*
Descriptive Statistics for Coverage, 1998 - 2010

Panel D: Distribution of Model Variables for Coverage (N = 536,476)

Variable	Mean	Std. Dev.	25th Pctl.	50th Pctl.	75th Pctl.
$CONNECTED_{Indicator}$	0.228	0.419	0.000	0.000	0.000
$CONNECTED_{Candidate}$	1.148	2.094	0.000	0.000	0.693
$CONNECTED_{Power}$	1.635	2.931	0.000	0.000	0.000
BROKER SIZE	0.265	0.442	0.000	0.000	1.000
INDUSTRY EXPERTISE	0.067	0.082	0.000	0.031	0.114
BROKER EXPERIENCE	2.052	0.421	1.846	2.015	2.241
SENSITIVE	0.321	0.467	0.000	0.000	1.000
FIRM SIZE	7.620	1.864	6.320	7.560	8.911
BM	0.524	0.444	0.253	0.429	0.661
VOLUME	0.181	0.135	0.082	0.145	0.243
ROA	0.024	0.133	0.007	0.037	0.084
PREDICTABILITY	0.168	0.209	0.012	0.072	0.260
EARNINGS VOLATILITY	0.023	0.038	0.005	0.011	0.025
RETURN VOLATILITY	0.133	0.072	0.081	0.115	0.166
R&D	0.552	0.497	0.000	1.000	1.000
DEPRECIATION	0.015	0.085	-0.012	0.000	0.019
ISSUE	0.062	0.409	0.000	0.000	0.006
INST. OWNERSHIP	0.574	0.312	0.379	0.649	0.818

Panel E: Mean Values of Broker Characteristics by $CONNECTED_{Indicator}$ [d]

	$CONNECTED_{Indicator} = 1$	$CONNECTED_{Indicator} = 0$
BROKER SIZE	0.716	0.133***
INDUSTRY EXPERTISE	0.121	0.052***
BROKER EXPERIENCE	1.974	2.076***

[a] All variables are defined in Appendix A.
[b] All continuous variables are winsorized (reset) at the 1st and 99th percentiles.
[c] The values presented in this table are not logged for ease of interpretation.
[d] *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels (two-tailed test), respectively, for differences in mean values across $CONNECTED_{Indicator} = 1$ and $CONNECTED_{Indicator} = 0$.

Table 2
Politically Connected Analysts and Broker Coverage Decisions

Panel A: Logistic Regression for the Effect of CONNECTED[a,b] on Broker COVERAGE

$$COVERAGE_{ibt} = \alpha + \beta_1 CONNECTED_{bt} + \gamma CONTROLS_{ibt} + \varepsilon_{ibt}$$

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	0.285***	0.058***	0.041***
	(4.47)	(3.69)	(3.69)
BROKER SIZE	0.081	0.072	0.073
	(0.90)	(0.78)	(0.78)
INDUSTRY EXPERTISE	33.480***	33.460***	33.470***
	(21.39)	(21.38)	(21.37)
BROKER EXPERIENCE	-0.008	-0.008	-0.008
	(-0.13)	(-0.13)	(-0.13)
FIRM SIZE	-0.009	-0.009	-0.009
	(-0.30)	(-0.31)	(-0.31)
BM	-0.039	-0.039	-0.039
	(-1.20)	(-1.21)	(-1.21)
VOLUME	-0.260*	-0.260*	-0.261*
	(-1.82)	(-1.83)	(-1.83)
ROA	0.309***	0.309***	0.309***
	(3.30)	(3.31)	(3.31)
PREDICTABILITY	0.042	0.042*	0.042
	(1.64)	(1.65)	(1.64)
EARNINGS VOLATILITY	0.368**	0.367**	0.366**
	(2.01)	(2.00)	(1.99)
RETURN VOLATILITY	1.040***	1.041***	1.041***
	(3.79)	(3.79)	(3.79)
R&D	-0.009	-0.010	-0.010
	(-0.77)	(-0.77)	(-0.77)
DEPRECIATION	-0.010	-0.010	-0.009
	(-0.41)	(-0.40)	(-0.40)
ISSUE	0.073	0.073	0.072
	(0.77)	(0.77)	(0.77)
INST. OWNERSHIP	-0.182*	-0.183*	-0.183*
	(-1.68)	(-1.68)	(-1.68)
Intercept	-1.001***	-0.995***	-0.993***
	(-4.19)	(-4.16)	(-4.15)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Pseudo R-squared	42.18%	42.17%	42.17%
N	536,476	536,476	536,476

Table 2 *(Continued)*
Politically Connected Analysts and Broker Coverage Decisions

Panel B: Logit model for Interaction of CONNECTED and SENSITIVE on Broker COVERAGE

$$COVERAGE_{ibt} = \alpha + \beta_1 CONNECTED_{bt} + \beta_2 SENSITIVE_{it} + \beta_3 CONNECTED*SENSITIVE_{ibt} + \gamma CONTROLS_{ibt} + \varepsilon_{ibt}$$

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	0.147	0.023	0.016
	(1.63)	(1.09)	(1.06)
SENSITIVE	-0.039	-0.057	-0.058
	(-0.94)	(-1.30)	(-1.33)
CONNECTEDxSENSITIVE	0.446***	0.112***	0.079***
	(3.02)	(3.60)	(3.60)
Intercept	-0.947***	-0.937***	-0.934***
	(-4.08)	(-4.04)	(-4.02)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Pseudo R-squared	42.23%	42.25%	42.25%
N	536,476	536,476	536,476
χ^2-Statistic: $\beta_1 + \beta_3 = 0$	33.54***	39.11***	38.06***

*, **, *** indicate statistical significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively.
[a] All variables are defined in Appendix A.
[b] All z-statistics (in parentheses) are calculated based on standard errors that are clustered by broker and firm (Petersen 2009).

Table 3
Descriptive Statistics for Recommendation Profitability, 1998 – 2010

Panel A: Sample Composition (N = 30,242)

Unique Brokers	269
Unique *CONNECTED*[a,b] Brokers	34
Unique Firms	1,588
Unique *SENSITIVE* Firms	1,120

Panel B: Mean Spending and Supported Candidates for Politically Connected Brokers[c]

Year	Contributions	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
1998	$60,447	107	662
1999	62,603	115	756
2000	77,882	114	798
2001	53,555	118	882
2002	73,667	117	889
2003	90,922	126	941
2004	124,049	129	965
2005	116,203	129	904
2006	119,416	126	920
2007	131,712	130	1,037
2008	145,942	135	1,123
2009	50,695	131	1,215
2010	109,192	128	1,190
Sample Mean	$93,560	124	945

Panel C: Mean Lobbying Expenditures for SENSITIVE firms[c]

Year	Lobbying Expenditures
1998	$1,229,015
1999	1,125,851
2000	1,342,601
2001	1,365,893
2002	1,366,134
2003	1,632,967
2004	1,653,492
2005	1,545,990
2006	1,872,300
2007	2,196,525
2008	2,636,686
2009	2,597,648
2010	2,602,331
Sample Mean	$1,788,482

Table 3 *(Continued)*
Descriptive Statistics for Recommendation Profitability, 1998 - 2010

Panel D: Distribution of Model Variables for Profitability, 1998 - 2010 (n = 30,242)

Variable	Mean	Std. Dev.	25th Pctl.	50th Pctl.	75th Pctl.
PFT	2.663	8.388	-1.439	1.646	5.537
BHR	-0.464	5.277	-1.936	-0.084	1.703
DOWNGRADE	0.519	0.500	0.000	1.000	1.000
$CONNECTED_{Indicator}$	0.436	0.496	0.000	0.000	1.000
$CONNECTED_{Candidate}$	2.278	2.571	0.000	0.000	5.043
$CONNECTED_{Power}$	3.208	3.547	0.000	0.000	7.238
SENSITIVE	0.603	0.489	0.000	1.000	1.000
FIRM SIZE	8.828	1.647	7.698	8.880	9.950
BM	0.467	0.380	0.233	0.386	0.596
VALUE RELEVANCE	0.178	0.383	0.000	0.000	0.000
ANALYST FOLLOWING	2.627	0.544	2.303	2.708	3.045
BROKER SIZE	0.535	0.499	0.000	1.000	1.000
INDUSTRY EXPERTISE	0.182	0.108	0.097	0.172	0.256
BROKER EXPERIENCE	1.907	0.244	1.790	1.917	2.040
TIMELINESS	1.288	0.774	0.706	1.149	1.716
ANALYST EXPERIENCE	1.940	0.605	1.609	1.946	2.398
FIRMS FOLLOWED	2.758	0.542	2.485	2.773	3.045
ATTENTIVENESS	1.252	0.410	1.099	1.099	1.386

Panel E: Mean Values of Broker and Analyst Characteristics by $CONNECTED_{Indicator}$ [d]

	$CONNECTED_{Indicator} = 1$	$CONNECTED_{Indicator} = 0$
BROKER SIZE	0.817	0.318***
INDUSTRY EXPERTISE	0.209	0.160***
BROKER EXPERIENCE	1.895	1.917***
TIMELINESS	1.292	1.286
ANALYST EXPERIENCE	1.952	1.932***
FIRMS FOLLOWED	2.712	2.794***
ATTENTIVENESS	1.296	1.219***

[a] All variables are defined in Appendix A.
[b] All continuous variables are winsorized (reset) at the 1st and 99th percentiles.
[c] The values presented in this table are not logged for ease of interpretation.
[d] *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels (two-tailed test), respectively, for differences in mean values across $CONNECTED_{Indicator} = 1$ and $CONNECTED_{Indicator} = 0$.

Table 4

Politically Connected Analysts and Stock Recommendation Profitability – Portfolio Analysis

Panel A: Mean PFT[a] partitioned by CONNECTED$_{Indicator}$

	N	*PFT*(%)
CONNECTED=1	13,174	2.171
CONNECTED=0	17,068	1.863
Difference		0.308
t-statistic		5.25***

Panel B: Mean BHR partitioned by CONNECTED$_{Indicator}$ and DOWNGRADE

	UPGRADE		*DOWNGRADE*	
	N	*BHR*(%)	N	*BHR*(%)
CONNECTED=1	6,282	1.706	6,892	-2.421
CONNECTED=0	8,256	1.318	8,812	-2.150
Difference		0.388		-0.271
t-statistic		5.97***		-2.94***

Panel C: Mean PFT partitioned by CONNECTED$_{Indicator}$ and SENSITIVE

	SENSITIVE = 1		*SENSITIVE* = 0	
	N	*PFT*(%)	N	*PFT*(%)
CONNECTED=1	7,892	2.248	5,282	2.055
CONNECTED=0	10,345	1.934	6,723	1.754
Difference		0.314		0.301
t-statistic		4.09***		3.33***

Panel D: Mean BHR partitioned by CONNECTED$_{Indicator}$, SENSITIVE, and DOWNGRADE

	UPGRADE				*DOWNGRADE*			
	SENSITIVE = 1		*SENSITIVE* = 0		*SENSITIVE* = 1		*SENSITIVE* = 0	
	N	*BHR*(%)	N	*BHR*(%)	N	*BHR*(%)	N	*BHR*(%)
CONNECTED=1	3,751	1.782	2,531	1.592	4,141	-2.478	2,751	-2.336
CONNECTED=0	5,016	1.330	3,240	1.300	5,329	-2.252	3,483	-1.995
Difference		0.453		0.292		-0.226		-0.340
t-stat		5.23***		3.00***		-1.89*		-2.34**

[a] All variables are defined in Appendix A.

[b] All continuous variables are winsorized (reset) at the 1st and 99th percentiles.

Table 5
Politically Connected Analysts and Stock Recommendation Profitability

Panel A: Regression analysis for PFT[a]

Variable[a,b]	*CONNECTED*$_{Indicator}$	*CONNECTED*$_{Candidate}$	*CONNECTED*$_{Power}$
CONNECTED	0.219***	0.0363**	0.0300***
	(3.04)	(2.53)	(2.87)
FIRM SIZE	-0.538***	-0.538***	-0.538***
	(-18.08)	(-18.08)	(-18.09)
BM	0.261*	0.261*	0.261*
	(1.92)	(1.91)	(1.91)
VALUE RELEVANCE	0.508***	0.508***	0.508***
	(4.80)	(4.81)	(4.81)
ANALYST FOLLOWING	0.181**	0.181**	0.181**
	(1.96)	(1.97)	(1.97)
BROKER SIZE	0.404***	0.409***	0.395***
	(5.39)	(5.28)	(5.08)
INDUSTRY EXPERTISE	0.791**	0.791**	0.779**
	(2.41)	(2.41)	(2.37)
BROKER EXPERIENCE	0.601***	0.601***	0.601***
	(4.66)	(4.67)	(4.66)
TIMELINESS	0.000	0.000	0.000
	(-0.00)	(0.01)	(0.00)
ANALYST EXPERIENCE	0.163***	0.166***	0.165***
	(2.90)	(2.96)	(2.94)
FIRMS FOLLOWED	-0.204***	-0.206***	-0.203***
	(-3.55)	(-3.57)	(-3.53)
ATTENTIVENESS	-0.130	-0.126	-0.124
	(-1.61)	(-1.56)	(-1.54)
Intercept	7.356***	7.376***	7.360***
	(10.52)	(10.54)	(10.52)
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	6.10%	6.00%	6.00%
N	30,242	30,242	30,242

Table 5 *(Continued)*
Politically Connected Analysts and Stock Recommendation Profitability

Panel B: Regression analysis of BHR for UPGRADES

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	0.315***	0.069***	0.052***
	(4.06)	(4.34)	(4.53)
Intercept	5.929***	5.894***	5.892***
	(7.48)	(7.44)	(7.45)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	5.90%	5.90%	6.00%
N	14,538	14,538	14,538

Panel C: Regression analysis of BHR for DOWNGRADES

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	-0.127	-0.00860	-0.0109
	(-1.13)	(-0.39)	(-0.68)
Intercept	-8.079***	-8.131***	-8.110***
	(-7.46)	(-7.51)	(-7.49)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	7.10%	7.10%	7.10%
N	15,704	15,704	15,704

*, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.
[a] All variables are defined in Appendix A.
[b] All t-statistics are based on two-tailed tests (in parentheses) and are calculated based on standard errors that are clustered by broker and firm (Petersen 2009).

Table 6
Politically Connected Analysts and Recommendation Profitability for Politically Sensitive Firms[a]

$$BHR_{jbit} = \alpha + \beta_1 CONNECTED_{bt} + \beta_2 SENSITIVE_{it} + \beta_3 CONNECTEDxSENSITIVE_{ibt} + \gamma CONTROLS_{ibt} + \varepsilon_{jbit}$$

Panel A: Regression analysis of BHR for UPGRADES

Variable[a,b]	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	0.142	0.037*	0.030*
	(1.32)	(1.75)	(1.94)
SENSITIVE	0.017	0.019	0.020
	(0.018)	(0.20)	(0.21)
CONNECTEDxSENSITIVE	0.292**	0.054**	0.038**
	(2.24)	(1.91)	(2.08)
Intercept	5.830***	5.805***	5.803***
	(7.06)	(7.08)	(7.09)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	6.00%	6.00%	6.00%
N	14,538	14,538	14,538
F-statistic: $\beta_1 + \beta_3 = 0$	20.69***	22.02***	23.30***

Panel B: Regression analysis of BHR for DOWNGRADES

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	-0.150	-0.016	-0.013
	(-0.97)	(-0.54)	(-0.63)
SENSITIVE	0.149	0.140	0.154
	(1.08)	(1.01)	(1.09)
CONNECTEDxSENSITIVE	0.039	0.012	0.004
	(0.21)	(0.35)	(0.17)
Intercept	-8.235***	-8.280***	-8.267***
	(-7.49)	(-7.54)	(-7.52)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	7.10%	7.10%	7.10%
N	15,704	15,704	15,704
F-statistic: $\beta_1 + \beta_3 = 0$	0.65	0.02	0.22

*, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.
[a] All variables are defined in Appendix A.
All t-statistics are based on two-tailed tests (in parentheses) and are calculated based on standard errors that are clustered by broker and firm (Petersen 2009).

Table 7
Politically Connected Analysts and Stock Recommendation Profitability Conditional On Policy Uncertainty

Panel A: Three-way sort of mean BHR[a,b] partitioned by $CONNECTED_{Indicator}$, Policy Uncertainty, and DOWNGRADE

	High Policy Uncertainty				Low Policy Uncertainty			
	UPGRADE		*DOWNGRADE*		*UPGRADE*		*DOWNGRADE*	
	N	*BHR*(%)	N	*BHR*(%)	N	*BHR*(%)	N	*BHR*(%)
CONNECTED = 1	4,355	1.728	5,245	-2.656	1,927	1.655	1,647	-1.672
CONNECTED = 0	5,944	1.220	6,616	-2.283	2,312	1.570	2,196	-1.751
Difference		0.508		-0.373		0.086		0.078
t-statistic		6.13***		-3.24***		0.89		0.64

Panel B: Regression analysis of BHR for UPGRADES

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	0.073	0.021	0.018
	(0.74)	(1.10)	(1.29)
POLICY UNCERTAINTY	0.075	0.058	0.061
	(0.55)	(0.43)	(0.44)
CONNECTEDxPOLICY UNCERTAINTY	0.353***	0.072***	0.051***
	(2.85)	(3.05)	(2.94)
Intercept	5.809***	5.790***	5.792***
	(7.25)	(7.23)	(7.25)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	6.00%	6.00%	6.00%
N	14,538	14,538	14,538
F-statistic: $\beta_1 + \beta_3 = 0$	20.12***	22.90***	24.08***

Panel C: Regression analysis of BHR for DOWNGRADES

Variable	$CONNECTED_{Indicator}$	$CONNECTED_{Candidate}$	$CONNECTED_{Power}$
CONNECTED	-0.012	0.010	0.001
	(-0.09)	(0.40)	(0.05)
POLICY UNCERTAINTY	-0.896***	-0.903***	-0.910***
	(-5.44)	(-5.38)	(-5.39)
CONNECTEDxPOLICY UNCERTAINTY	-0.153	-0.025	-0.016
	(-0.93)	(-0.81)	(-0.70)
Intercept	-7.362***	-7.416***	-7.389***
	(-6.75)	(-6.81)	(-6.78)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	7.20%	7.20%	7.20%
N	15,704	15,704	15,704
F-statistic: $\beta_1 + \beta_3 = 0$	1.53	0.33	0.60

*, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.
[a] All variables are defined in Appendix A.
All t-statistics are based on two-tailed tests (in parentheses) and are calculated based on standard errors that are clustered by broker and firm (Petersen 2009).

Table 8
Politically Connected Analysts and Stock Recommendation Profitability Conditional on Congress in Session

Panel A: Three-way sort of mean BHR[a,b] partitioned by CONNECTED$_{Indicator}$, In Session, and DOWNGRADE

	Congress in Session				Congress Out of Session			
	UPGRADE		*DOWNGRADE*		*UPGRADE*		*DOWNGRADE*	
	N	*BHR*(%)	N	*BHR*(%)	N	*BHR*(%)	N	*BHR*(%)
CONNECTED = 1	5,799	1.696	6,347	-2.451	483	1.819	545	-2.071
CONNECTED = 0	7,723	1.309	8,035	-2.180	533	1.446	777	-1.848
Difference		0.387		-0.271		0.372		-0.223
t-statistic		5.73***		-2.79***		1.60		-0.78

Panel B: Regression analysis of BHR for UPGRADES

Variable	*CONNECTED*$_{Indicator}$	*CONNECTED*$_{Candidate}$	*CONNECTED*$_{Power}$
CONNECTED	0.431*	0.122***	0.088***
	(1.87)	(2.73)	(2.71)
IN SESSION	-0.219	-0.136	-0.145
	(-1.30)	(-0.81)	(-0.85)
CONNECTEDxIN SESSION	-0.128	-0.058	-0.039
	(-0.55)	(-1.28)	(-1.19)
Intercept	6.167***	6.065***	6.070***
	(7.65)	(7.53)	(7.55)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	6.00%	6.00%	6.00%
N	14,538	14,538	14,538
F-statistic: $\beta_1 + \beta_3 = 0$	14.56***	15.73***	17.46***

Panel C: Regression analysis of BHR for DOWNGRADES

Variable	*CONNECTED*$_{Indicator}$	*CONNECTED*$_{Candidate}$	*CONNECTED*$_{Power}$
CONNECTED	-0.114	0.013	0.009
	(-0.40)	(0.24)	(0.23)
IN SESSION	-0.194	-0.148	-0.133
	(-1.03)	(-0.77)	(-0.69)
CONNECTEDxIN SESSION	-0.012	-0.024	-0.022
	(-0.04)	(-0.42)	(-0.53)
Intercept	-7.891***	-7.998***	-7.994***
	(-7.19)	(-7.29)	(-7.28)
Firm Controls	Yes	Yes	Yes
Broker Controls	Yes	Yes	Yes
Analyst Controls	Yes	Yes	Yes
RegFD Indicator	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adj. R-squared	7.10%	7.10%	7.10%
N	15,704	15,704	15,704
F-statistic: $\beta_1 + \beta_3 = 0$	1.17	0.20	0.57

*, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.
[a] All variables are defined in Appendix A.
All t-statistics are based on two-tailed tests (in parentheses) and are calculated based on standard errors that are clustered by broker and firm (Petersen 2009).