THE VALUE OF CONNECTIONS IN LOBBYING

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Abstract. This paper uses a unique dataset on lobbying contacts from reports mandated by the Foreign Agent Registration Act to study how access to politicians in the United States is allocated to lobbyists and their clients. We find that politicians grant a disproportionately large amount of access to lobbyists with whom they have prior connections in Congress as a colleague or an employer, in terms of both the likelihood and the intensity of the access. Lobbyists receive larger monetary premiums from contacting politicians with whom they have connections compared to contacting others. Using a revealed preference approach, we find that the value of a contact to a politician by her connected lobbyists varies by the attributes of their lobbying client such as the amount of the US media attention the client is receiving.

Keywords Political connections, Political access, Lobbying (*JEL* D72, D78)

1. Introduction

Access to politicians is one of the most important and scarce resources sought after in the lobbying process (Langbein 1986; Hansen 1991; Austen-Smith 1995; Lohmann 1995; Wright 1996; Austen-Smith 1998; Cotton 2012; Kalla and Broockman 2016; Powell and Grimmer 2016). In determining who receives access to whom and to what extent, lobbyists often intermediate between interest groups and politicians. Our

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paper provides an empirical analysis of the intermediary market for political access, focusing on lobbyists' connections to politicians formed in previous Congresses as colleagues or staffers. In particular, we address the following important, but unanswered questions: How do politicians allocate their access to lobbyists? What roles does a lobbyist with connections to a politician play when the politician decides whom she will listen to and to what extent? Which politicians and interest groups benefit from a lobbyist with connections?

This paper is, to our knowledge, the first to use comprehensive data on lobbying contacts to study the allocation of access to politicians. Some studies have relied on interviews with legislators and lobbyists (Wright, 1990; Hojnacki and Kimball, 2001), but the shortcomings to measuring access by using surveys include non-randomness in response rates. Alternatively, revolving-door career histories or campaign contributions have been used to indirectly measure lobbyists' political access (Blanes i Vidal, Draca and Fons-Rosen, 2012; Bertrand, Bombardini and Trebbi, 2014), but no empirical study has linked these measures to actual lobbying contacts (de Figueiredo and Richter, 2014). With data on lobbying contacts, we observe a source that politicians rely on for policy and political information.

We construct our lobbying contact data from the semiannual lobbying filings mandated by the Foreign Agent Registration Act of 1938 (FARA). Most empirical studies are based on domestic lobbying reports under the Lobbying Disclosure Act of 1995 (LDA), which do not include information on lobbying contacts. FARA, on the other hand, requires that lobbyists representing foreign entities submit reports detailing all their lobbying contacts; including information on to whom, when, why, and how those contacts were made. Because many well-known lobbying firms representing domestic clients also represent foreign entities under FARA, the conclusions of our study could have general implications for the US lobbying industry. Furthermore, since foreign interests tend to be very indirectly related to the interests of domestic constituents, data on foreign lobbying is more useful when studying special interests.

Using over 20,000 lobbying contact records made between 2007 through 2010, we find that access to politicians is concentrated on and granted to a small number of lobbying firms. During the period of our study, members of Congress and their staffers had phone calls or meetings with 2.3 lobbying firms per year on average. Focusing on contacts directly to members of Congress (as opposed to their staffers), this number falls to 0.99. We also find that lobbying firms with connections to a politician were more likely to contact that politician and had more frequent contacts with her and her staffers, compared to firms without connections. These patterns are the most apparent among those having a leadership role or serving on the House Foreign Affairs (HFA) or the Senate Foreign Relations (SFR) committees.

Controlling for all observed attributes of a lobbying report, including the issue and contacts to the executive branch of the government and the media, we find that lobbying clients are willing to pay a larger premium for contacting connected politicians than non-connected ones. Our results indicate that contacting one additional member of Congress is associated with an increase in the lobbying fee of 0.8 to 1 percent; but if that additional member is connected to the firm, the lobbying fee increase is 5.4 to 5.6 percent. This premium of 4.6 percent is both statistically significant and large in its extent. Given that an average semiannual lobbying fee is $279,335, this 4.6 percent premium amounts to $12,849 every six months. Note that these estimated lobbying fee premiums reflect the equilibrium matching of foreign governments to lobbying firms and politicians.

We introduce a model of a trading network between foreign governments and lobbying firms for access to politicians, based on Hatfield, Kominers, Nichifor, Ostrovsky, and Westkamp (2013), and estimate the parameters of the total value of a lobbying contact as a function of its observed attributes. Unlike the literature on estimating the returns to lobbying (de Figueiredo and Silverman, 2006; Richter, Samphantharak and Timmons, 2009; Kang, 2016; Goldstein and You, 2017) and the value of political connections (Cohen, 1986; Fisman, 2001; Khwaja and Mian, 2005; Faccio, 2006; Faccio, Masulis and McConnell, 2006; Ferguson and Voth, 2008; Acemoglu et al., 2016; Cornaggia, Cornaggia and Xia, 2016; Brown and Huang, 2017; Tabakovic and Wollmann, 2017), our approach cannot back out the dollar value or the explicit benefit of lobbying contacts to clients. We can, however, infer how a lobbying contact is collectively valued by all parties directly involved in the contact (i.e., the client and the lobbyist) from their choices.

The estimates of the model show that the total value generated from a lobbyist's contact to a politician on behalf a foreign government varies with the attributes of the foreign government. The value of a contact is higher for those on either end of the polity spectrum from autocracy to democracy than for other foreign governments, while the value decreases in response to an increase in US media attention, as measured by the number of the foreign relations articles in *The New York Times*, for autocratic countries. This variation of the value of a contact with these foreign government attributes is both large and statistically significant when the contact is made by a lobbyist to his connected politician, as opposed to other politicians.

These findings, along with the other empirical regularities in this paper, contribute to our understanding of the role of lobbyists in the market for political access. The majority of the existing literature does not distinguish between lobbyists and special interest groups (Potters and van Winden 1992; Grossman and Helpman 2001; Bennedsen and Feldmann 2006; Cotton 2009, 2012), with notable exceptions from the growing theoretical literature on lobbying firms (Ainsworth 1993; Groll and Ellis 2014, 2017; Hirsch and Montagnes 2016). The recent empirical studies on lobbyists (Blanes i Vidal, Draca and Fons-Rosen, 2012; Bertrand, Bombardini and Trebbi, 2014) have focused on attributing the source of lobbyists' revenue to their prior connections to politicians and policy expertise, and provided evidence that connections are important. Our paper moves this literature a step forward by looking at lobbying contacts and provides support for the idea that lobbyists may screen their clients on behalf of their connected politicians (Hirsch and Montagnes, 2016).

The remainder of the paper proceeds as follows. We first provide background on FARA and describe the data in Section 2. Section 3 shows key patterns in the data regarding the relationship among contacts, connections, and lobbying fees. In Section 4, we describe our model and present the results based on the estimated model. We conclude in Section 5.

2. Data

2.1. **Foreign Agent Registration Act.** The Foreign Agent Registration Act (FARA) regulates lobbying activities of foreign entities in the United States. FARA was enacted in 1938 in an attempt to prevent the influence of Nazi propaganda on US public opinion (Waters, 1988). Under FARA, any person who represents the interests of a foreign entity or principal by "engaging in political activities, acting as public relations counsel, soliciting money for the foreign principal, dispensing contributions, and representing the principal before any agency or official of the government" is defined as a "foreign agent" (Atieh, 2010). These foreign agents are mandated to be registered and to submit semiannual lobbying disclosure reports.

We study the lobbying activities in the FARA reports, as opposed to the more recently-enacted Lobbying Disclosure Act (LDA) reports, for the following three reasons. First, the LDA requires that lobbyists disclose the names of the government bodies they contact, but it does not require them to specify any further details about their lobbying contacts. Unlike the LDA, the reports under FARA list detailed information on lobbying contacts. Each contact record specifies (i) the name of the contacted individual, (ii) the method by which the individual was contacted (phone call, email, in-person meeting, etc.), and (iii) the issues discussed with the contact.

Second, foreign lobbying issues, such as foreign aid or US military overseas deployments, are less likely to affect the interests of the general public than domestic lobbying issues. Therefore, foreign lobbying data are useful to study the politics of special interests, which are not directly related to domestic constituents' interests.

Third, non-compliance—such as missing reports or false statements on reports—is punished more stringently by FARA than by LDA. While a violation of the LDA is considered a civil offense, violations of the FARA are criminal and penalties for noncompliance for the latter are up to five years' imprisonment and a $5,000-$10,000 fine (Atieh, 2010).

The Justice Department has made the FARA reports public as online image files, and ProPublica and the Sunlight Foundation have transcribed some of the lobbying reports into text files. We transcribed additional lobbying reports to expand the period of study.[1] In doing so, we manually extracted all contact records from the image files of the FARA reports, and for each contact, we identified the contacted individuals and the lobbying issue based on the written description of the contact.

Although we focus on foreign lobbying, the conclusions of our study could have general implications for the US lobbying industry. First, out of 93 unique lobbying firms that represented foreign governments in our data, a large fraction of them (61 firms) represented domestic clients in addition to their foreign clients.[2] Second, out of 27 domestic lobbying firms that reaped at least $10 million per year during the period in question, 12 had at least one foreign government as a client.

2.2. **Legislative Lobbying by Foreign Governments.** We study the lobbying activities of foreign governments, as opposed to foreign businesses.[3] We focus on

[1]The lobbying reports can be found at `http://www.fara.gov`; the FARA data project by ProPublica and the Sunlight Foundation is currently discontinued. Initially, they transcribed the foreign lobbying reports from August 2007 through December 2010. We complemented their dataset by adding all reports submitted between January 2007 through July 2007 and some missing reports in the ProPublica-Sunlight Foundation dataset. We identified these missing reports by comparing them with the FARA website reports.

[2]Table A1 in the Appendix provides summary statistics on the lobbying firms by their registration status with the LDA.

[3]After Congress passed the LDA in 1995, foreign businesses with subsidiaries in the US have been allowed to report their lobbying activities via the LDA, instead of through FARA. As a result, most of the foreign entities that submitted reports under FARA since 1995 are foreign governments.

Table 1. Foreign Governments

	Hired lobbying firms		Did not hire lobbying firms	
	Mean	SD	Mean	SD
Lobbying spending ($million)	2.57	3.52	0	-
Number of firms hired	3.03	2.65	0	-
Number of Congress members contacted	54.36	75.29	0	-
Lobbying issues[a]				
Security	0.74	-	-	-
Trade/budget	0.82	-	-	-
Administrative/other	0.90	-	-	-
New York Times articles on foreign relations[b]	207	355	96	173
2005 Polity IV score[c]	3.04	6.62	3.87	6.49
2005 Per capita GDP ($thousand)	8.41	12.6	10.44	16.8
2005 USAID recipient	0.74	-	0.69	-

Notes: We restrict our attention to the 162 countries for which 2005 GDP information is available. Within those countries are 70 that hired a lobbying firm to contact members of Congress and 92 with no congressional lobbying records, based on the lobbying filings of 2007 through 2010. a. We categorize lobbying issues into security, trade/budget, and administrative/other based on the written description of lobbying issues for each contact. b. We count the number of all news articles on the international relations of a given country in *The New York Times* per year, based on the LexisNexis database. c. A Polity IV score of 10 reflects a full democracy and a score of -10 reflects a full autocracy (Marshall, Jaggers and Gurr, 2010).

lobbying firms' activities regarding legislative issues during 2007 through 2010, covering two Congresses (the 110th and the 111th Congresses).[4] To do so, we analyze all lobbying reports that include congressional contacts via phone calls or in-person meetings.[5] In these reports, we identify 20,606 records of contacts between lobbying firms and others, consisting of contacts to members of Congress (73.5 percent), the executive branches of the federal government (18.8 percent), the media (2.9 percent), and others (4.8 percent) such as members of think tanks, labor unions, firms, universities, and non-profit organizations. We do not consider emails or social encounters as contacts, since they are most likely to be one-sided. In total, there are 676 reports of lobbying activities submitted by 98 lobbying firms on behalf of 70 foreign governments in the data.[6]

[4]Although some foreign governments hire in-house lobbyists, their activities seem relatively limited regarding lobbying contacts. In our dataset, 94.3 percent of lobbying contacts were made by lobbying firms, while the remainder was by in-house lobbyists.

[5]In our study, we focus on legislative lobbying. Therefore, lobbying firms exclusively focused on media and/or executive contacts or legal advice are not included in the analysis.

[6]Lobbying firms submit one semiannual report for all foreign clients. The number of physical reports in our sample is 427; by separating the reports at the client level, our total number of reports is 676.

As can be seen in Table 1, a foreign government that hired a lobbying firm to contact members of Congress during the period of study spent on average \$2.57 million over the four years, or roughly over half a million dollars per year. This amount does not include fees to other lobbying firms for legal advice, exclusively media or executive lobbying, or in-house lobbying expenditures.[7] On average, the foreign governments that engaged in legislative lobbying hired three lobbying firms to contact 54 members of Congress during the period of study. Frequent lobbying subjects included security or military-related issues such as US military deployment, arms sales, and nuclear nonproliferation; trade issues, especially regarding a variety of tariff and trade pacts; and foreign aid. The information on the lobbying issues was retrieved from the descriptions on each lobbying contact in the reports. Note that compared to the foreign countries whose governments did not hire a lobbyist to contact members of Congress, the governments in our dataset tended to receive more US media attention, be less democratic, exhibit a lower per capita GDP, and be a US foreign aid recipient.

In the empirical analysis in Section 4, we focus on two attributes of foreign governments. One is the polity of a government. To measure concomitant qualities of democratic and autocratic authority in governing institutions of countries, we use a widely used measure called the Polity IV scores (Marshall, Jaggers and Gurr 2010). These scores range from -10 (full autocracy) to 10 (full democracy). Table A2 in the Appendix shows that the relations of countries with a lower Polity IV score with the US tended to be shorter in history and more distant in terms of trade and United Nations voting.

The other attribute of interest is the amount of US media attention. To measure this, we count the number of all news articles on the international relations of a given country in *The New York Times* per year, based on the LexisNexis database. Table A3 in the Appendix indicates that an increase in these articles was often triggered by important events for US interests, such as military conflicts and election for the head of the country.

2.3. **Lobbying Firms and Connections.** We define a lobbying firm as having *connections* to a politician if one of the lobbyists in the firm satisfies either of the following conditions: (i) he/she was a staffer of the politician; or (ii) he/she was a same-party

[7]The foreign governments in our dataset paid their lobbying firms \$184 million in total during the four years from 2007 through 2010. The total lobbying expenditure by all foreign governments during the same period, including expenditures by in-house lobbyists, was \$821.5 million.

colleague of that politician in Congress *and* he/she made campaign contributions to that politician.

Our definition can be considered an extension of its counterpart in Blanes i Vidal, Draca and Fons-Rosen (2012). In that paper, the authors focused on condition (i) of our definition only. Condition (ii) of the definition is necessary to account for the 51 out of 1,013 lobbyists in the FARA reports we studied who had served as members of Congress before becoming lobbyists. Because the reelection rate is high in Congress, a significant number of the previous same-party colleagues of some of these politicians-turned-lobbyists were still in Congress during the period of study. For example, some lobbyists in our data are same-party ex-colleagues of as many as 298 of the sitting members of Congress. To focus our analysis, we restrict the definition of connections for these lobbyists by using campaign contributions.[8] Lobbyists, like other individual donors, follow partisan lines when they donate (Drutman, 2010), and interviews with lobbyists indicate that they give campaign contributions to politicians whom they have known for a long time or whom they consider a "friend" (Leech, 2013).[9]

To retrieve the information on the career history of lobbyists, we rely on data from Lobbyists.info, which is maintained by Columbia Books and Information Services. For campaign contributions, we use contribution records included in the FARA reports, instead of those collected by the Federal Election Commission. Using the latter records requires matching names between donors and lobbyists, leading to potential mismatches. Table 2 shows that a lobbying firm in our data has connections to 5.5 members of Congress on average. A firm on average contacted 20.8 different members of Congress per year, among whom 2.2 members (10 percent) had connections to a lobbyist hired by the firm; the ratio of the number of contacts made to the members of Congress with connections is 5 percent.

Table 2 also shows that the extent to which lobbying firms concentrate their contacts to certain members of Congress is high in the sense that the Herfindahl index

[8]We considered two alternative methods besides campaign contributions to define connections between a politician-turned-lobbyist and a current member of Congress: committee membership and bill co-sponsorship. These alternatives were not appropriate for our data because some of these 51 politicians-turned-lobbyists had taken leadership positions: Dick Gephardt (House Majority Leader in 1989–1995 and House Minority Leader in 1995-2003), Dick Armey (House Majority Leader in 1995–2003), and Dennis Hastert (House Speaker, 1999-2007) to name a few. Those in the leadership rarely (co)sponsor bills (Volden and Wiseman, 2014) and they are, by definition, not on a committee.

[9]The average annual amount that all employees of a lobbying firm collectively contributed to a member of Congress during the period of our study, conditional on nonzero contribution, is $1,488. See Bertrand, Bombardini and Trebbi (2014) for their arguments on using campaign contributions as a proxy for connections.

Table 2. Lobbying Firms Representing Foreign Governments

	Mean	SD
Annual revenue ($thousand)	802	941
FARA registration year	2002	8.5
Number of government clients	1.7	1.5
Number of connected politicians	5.5	14.8
Number of lobbyists	8.5	8.3
Contacts per year		
Number of contacted politicians	20.8	33.3
Number of contacted politicians with connections	2.2	5.7
Ratio of contacts to connected politicians	0.05	0.13
HHI index over contacted politicians	0.31	0.32
HHI index over directly contacted politicians	0.23	0.25
Number of firms/observations	93/250	

Notes: This table provides summary statistics on lobbying firm and contact attributes based on the 93 lobbying firms in our data. The unit of observation is a firm-year. A *contact* is defined as a phone call or meeting with a member of Congress or his/her staffer, while a *direct contact* is confined to a contact with the member. The *HHI index* (Herfindahl index)) of a lobbying firm is constructed by summing the squared value of the ratio of that firm's (direct) contacts to a member to the total number of contacts by the firm, and it ranges from 0 (no concentration over politicians) to 1 (contacting only one politician).

based on the share of a firm's contacts to a member among the firm's yearly contacts is 0.31 on average.[10] The average value of the same index using the contacts directly made to a member, as opposed to his/her staffer, is smaller (0.23).

2.4. **Politicians' Portfolio of Lobbyists.** Table 3 presents how members of Congress allocated their access across lobbying firms. The average number of lobbying firms that had at least one phone call or meeting with a member of Congress is 2.3, with a maximum of 20 for Senator John Kerry in 2010, then-chairman of the Senate Foreign Relations Committee.[11] Given that there are on average 65 active lobbying firms per year, political access is available to only a small fraction of the active firms. Focusing on contacts made to a member, the average number of lobbying firms with such access is even smaller (0.99). Because the average number of firms with connections to a given politician is very small (0.63), the ratio of contacts to such firms is

[10]The Herfindahl index of lobbying contacts for a given firm i is defined as

$$\sum_j (\text{the number of firm } i\text{'s contacts to politician } j/\text{the total number of firm } i\text{'s contacts})^2.$$

The larger the index is, the more the firm exclusively focuses on contacting a small number of members of Congress.

[11]Figure A1 in the Appendix shows the distribution of the number of lobbying firms to which a given member of Congress gave access during 2010.

Table 3. Politicians' Portfolio of Lobbyists

	All	Leadership /Foreign	Economy /Security	Served 17+ Yrs.	Electorally Vulnerable
Connected firms in the market	0.63	1.2	0.65	1.4	0.26
Number of firms with access					
Based on contacts	2.3	4.6	2.2	3.3	1.6
Based on direct contacts	0.99	1.8	1.0	1.3	0.74
Concentration of contacts					
HHI index	0.57	0.40	0.59	0.50	0.65
Ratio of contacts to connected firms	0.06	0.09	0.07	0.12	0.04
Average contacts: Connected firm	3.5	4.9	2.6	3.7	1.8
Average contacts: Not connected firm	2.1	2.3	2.1	2.2	2.1
Concentration of direct contacts					
HHI index	0.70	0.59	0.71	0.62	0.75
Ratio of contacts to connected firms	0.05	0.08	0.06	0.11	0.04
Average contacts: Connected firm	1.6	2.0	1.5	1.7	1.1
Average contacts: Not connected firm	1.4	1.4	1.5	1.4	1.6
Number of politicians	620	76	238	120	141
Number of observations	2,174	286	854	584	440

Notes: This table provides summary statistics on how members of the 110th and 111th Congresses allocated their access across lobbying firms per year. The unit of observation is a politician-year. A *contact* is defined as a phone call or meeting with a member of Congress or his/her staffer, while a *direct contact* is confined to a contact with the member. The *HHI index* (Herfindahl index) of a member is constructed by summing the squared value of the ratio of (direct) contacts to that member by a lobbying firm to the total number of contacts made to the member, and it ranges from 0 (no concentration over lobbying firms) to 1 (giving access to only one firm). The members in the *Leadership/Foreign* category either held a leadership position or served on the House Foreign Affairs Committee or the Senate Foreign Relations Committee. See footnote 12 for the list of leadership positions that we consider. The members in the *Economy/Security* category served on House committees on Appropriations, Armed Services, Budget, Energy and Commerce, and Ways and Means, and Senate committees on Appropriations, Budget, and Finance. Lastly, those in the *Electorally Vulnerable* category ran for reelection and their vote share in the most recent general election was below 60 percent.

also small (0.06). However, the average number of contacts to a firm with connections is much higher than the number made to a firm without connections.

Table 3 also shows how the aforementioned patterns vary with member attributes. First, members in the leadership or those serving on the House Foreign Affairs (HFA) or the Senate Foreign Relations (SFR) committee tended to maintain a larger pool of lobbying firms for contacts than other members.[12] A similar pattern is found for members who served in Congress for a long period (more than 16 years) as well. This

[12]The leadership positions include House Speaker, Assistant to the Speaker, President pro tempore, Majority/Minority Leaders, and Majority/Minority Whips, Chief Deputy Whip, Party Committee Chairman, Conference Committee Chairman, and Party Caucus Chairman and Vice-Chairman.

may have been driven by the demand side; the more influential a politician is to push or halt a political agenda, the more beneficial it is to acquire access to that politician.

Second, members in the leadership, on the HFA/SFR committees, or with a long tenure in office tended to rely more on lobbyists with connections to them for contacts. The ratio of contacts made by a lobbying firm with connections is higher for them than other members, and so is the difference between the average number of contacts to a firm with connections and that to a firm without connections. In Table A4 in the Appendix, we show that these patterns persist even after controlling for year-specific time trends and other member-specific characteristics.

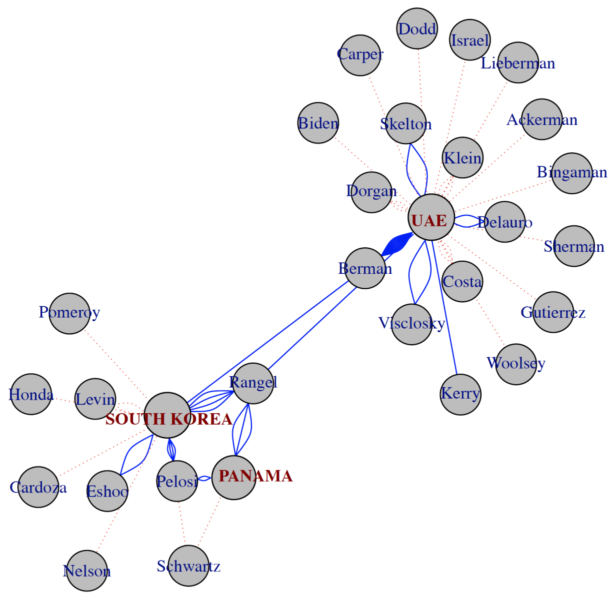
3. Connections and Contacts

3.1. **Connections and Contact Probability.** We begin with an example of the lobbying contacts made by a large lobbying firm—Akin, Gump, Strauss, Hauer & Feld—during the second half of 2008 on behalf of its foreign clients: Panama, South Korea, and the United Arab Emirates. In Figure 1, each line indicates a phone call to or a meeting with a politician or his/her staff, and if the contacted politician is connected to one of the lobbyists in the firm as an ex-staffer or as an ex-colleague in Congress, then the line is solid and blue.

We find two notable features in the data on contacts. First, the fraction of connected politicians among those contacted, 8 (30 percent) out of 27, is higher than the fraction of all politicians who were connected to the firm in Congress, 76 (14 percent) out of 535. In terms of contact frequency, the fraction of contacts with connections, 36 (57 percent) out of 63 total contacts, is significantly higher. Second, the politicians who were contacted for multiple foreign clients (i.e., Howard Berman, the chairman of the House Committee on Foreign Affairs; Nancy Pelosi, Speaker of the House; and Charles Rangel, chairman of the House Ways and Means Committee) were all connected to the firm, while the politicians who were contacted for a single foreign client were most likely not connected. These features suggest that connections are systematically related to contacts.

To investigate these patterns, we statistically test if the contacts are made disproportionately to the connected members. In the second column of Table 4 (*Data*), we show the ratio of the firm-client-year pairs for which the firm made contacts to its connected politicians on behalf of the client. Out of 355 firm-client-year pairs with any congressional contacts, we find that 33.2 percent had contacts to connected

Figure 1. Lobbying Contacts by Akin, Gump, Strauss, Hauer & Feld



Notes: This figure shows the last names of the politicians who were contacted by Akin, Gump, Strauss, Hauer & Feld on behalf of its three foreign clients, Panama, South Korea, and the United Arab Emirates (UAE) during the six-month period from July through December 2008. A red dotted line indicates a phone call to or a meeting with the politician or his/her staff; a blue solid line indicates that such a contact was made to the politician to whom one of the firm's lobbyists was connected as an ex-staffer or as an ex-colleague in Congress.

Table 4. Probability of Contacting Members with Connections

	Data[a]	Hypothetical[b]	Difference
All	0.332	0.163	0.169***
	(0.025)	(0.015)	(0.029)
Leadership/Foreign	0.234	0.129	0.105***
	(0.022)	(0.013)	(0.026)

Notes: Numbers in parentheses are standard errors. Asterisks (***) are provided for the last column only to indicate statistical significance at the 1 percent level. The unit of observation is an observed contractual relationship between a firm and its foreign government client in a given year, with the total number of observations being 355. a. We calculate the ratio of firm-client-year pairs where the firm made contacts to its connected politicians on behalf of the client. b. Assuming that the probability of contacting each politician is equal across all politicians, we calculate the probability that at least one connected politician is contacted given the total number of contacted politicians.

politicians, and 23.4 percent had contacts to those in the leadership or serving on the HFA/SFR committees with connections.

In comparison, the third column of Table 4 (*Hypothetical*) presents the hypothetical probability that at least one connected politician is contacted conditional on the observed total number of contacted politicians. When calculating this probability, we assume that each politician is equally likely to be contacted. Specifically, suppose a lobbying firm with connections to N_c politicians contacts M politicians out of N members in Congress. Under our assumption, the probability that at least one connected politician is contacted is $1 - {}_{(N-N_c)}C_M / {}_N C_M$ if $M \leq N - N_c$, or 1 otherwise.

We find that the differences in the probabilities in the two columns are both large and statistically significant at the 1 percent level. While contact to a connected politician was made for 33.2 percent of the firm-client-year pairs in the data, the hypothetical probability for contacting a connected politician is 16.3 percent. This pattern persists for those in the leadership or on the HFA or the SFR committees. Note that if the assumption is true that the probability of contacting each politician is equal regardless of connections, the differences in the probabilities in the two columns would have expected value equal to zero. Therefore, our finding suggests that lobbying firms are more likely to contact connected politicians, as opposed to non-connected politicians.

3.2. **Connections and Contact Characteristics.** We show that our measure of connections is correlated with an increase in the intensity and quality of lobbying contacts to politicians, as well as the likelihood of contacts. To do so, we consider all possible pairs of a lobbying firm and a member of Congress for each year, and study the attributes of contacts during the year. Table 5 shows that the ratio of the pairs with at least one contact is 3.8 percent while the ratio among those with connections is 23.3 percent; the likelihood that a lobbying contact by a firm to a member exists conditional on connections is six times as high as the likelihood conditional on no connections. Note that this pattern is consistent with our findings in Table 4. We measure the intensity of contacts by the number of lobbying contacts via phone calls or meetings and the ratio of lobbying contacts made directly with a politician, as opposed to with his/her staffer. Table 5 also shows that the average annual number of contacts, both unconditional and unconditional on having any contacts, and the probability of directly contacting the politician or having a face-to-face meeting with the politician or her staff (as opposed to phone calls) increases with connections.

These patterns persist even when we control for time-varying lobbying attributes, such as the number of foreign government clients and the number of lobbyists; as well as politician, firm, and year fixed effects. Table 6 shows the linear regression

Table 5. Contacts and Connections

	All		Connected	
	Mean	SD	Mean	SD
Any contacts	0.038	0.192	0.233	0.423
Number of contacts, unconditional	0.092	0.753	0.845	2.573
Number of contacts, conditional on any contact	2.401	3.041	3.623	4.283
Any direct contacts	0.016	0.125	0.097	0.297
Any meetings	0.025	0.155	0.151	0.358
Number of observations	135,872		1,376	

Notes: This table provides summary statistics on contacts where a *contact* is defined as a phone call or meeting with a member of Congress or his/her staffer, while a *direct contact* is confined to a contact with the member. The unit of observation is a firm-politician-year pair, including 620 unique politicians and 93 unique lobbying firms.

results where the dependent variables indicate (1) whether there was a contact, (2) the number of contacts, (3) whether there was a direct contact with a politician, and (4) whether there was a contact via a direct meeting as opposed to a phone call. We find that connections are a strong indicator for contacts, especially for those who are part of the leadership or on the committees that cover foreign relations issues. For example, the results of Column (2) in Panel A of Table 6 indicate that connections are associated with an increase in the number of contacts by 0.35 with the 95 percent confidence interval being [0.19,0.53] for any given firm-politician-year pair. For a politician in the leadership or on the HFA/SFR committee, such an increase is amplified by 0.86 with the 95 percent confidence interval being [0.30,1.41].

In sum, the results in Panel A of Table 6 show that lobbyists are more likely to contact their connected politicians than others, and that the contact intensity and quality are higher. It is important to note that these results do not show a causal relationship between connections and contacts. For example, a foreign government interested in a trade issue may hire a lobbyist who has expertise and experience in the issue, and such a lobbyist is likely to have worked as a staffer for a member serving on a related congressional committee. In this scenario, the lobbyist is more likely to contact his ex-employer in Congress simply because of the lobbying issue, not necessarily because of his connections.

The results in Panel B of Table 6 show that connections are correlated with lobbying contacts even after controlling for lobbying issues and politicians' committee assignments, although the magnitudes of the estimated coefficients on connections are lower in Panel B than in Panel A. Based on the lobbying issues specified for each contact in the FARA reports, we focus on the lobbying contacts on specific issues:

Table 6. Contact Patterns of Connected Lobbyists

Panel A: *Do lobbyists contact their connected politicians more than others?*	Any Contacts (1)	Number of Contacts (2)	Any Direct Contacts (3)	Any Meetings (4)
Connected	0.073***	0.351***	0.036***	0.042***
	(0.016)	(0.070)	(0.009)	(0.012)
Connected × Leadership/foreign[a]	0.120***	0.858***	0.049*	0.075**
	(0.032)	(0.268)	(0.026)	(0.029)
Connected × Trade	0.005	-0.128	-0.0005	0.036
	(0.033)	(0.240)	(0.032)	(0.037)
Connected × Security	0.089	0.027	0.024	0.048
	(0.066)	(0.173)	(0.043)	(0.039)
Connected × Budget/appropriations	-0.022	-0.317**	0.0006	0.007
	(0.039)	(0.149)	(0.010)	(0.025)
Firm and politician controls[b]	Yes	Yes	Yes	Yes
Firm, politician, and year FEs	Yes	Yes	Yes	Yes
R^2	0.004	0.007	0.002	0.003

(*Continued*)

trade and security issues, respectively. We find that lobbyists increase the probability and the frequency of contacts to their connected politicians, compared to other politicians, regardless of the lobbying issue relevance in terms of the politicians' committee membership. Although these results do not establish a causal relationship, the robust correlation between contacts and connections is an empirical pattern that has not been shown previously due to the lack of data.

3.3. **Connections and Lobbying Fee.** Having shown that lobbying contacts with connections tend to be of a higher intensity in terms of the number of contacts and direct communications with politicians than those without connections, we further show these two types of contacts command different fees in Table 7. The unit of analysis is a semiannual lobbying report, and the dependent variable is the log of the lobbying fee. All regressions reported in the table include a vector of report filing year dummies, a vector of report filing month dummies, a vector of lobbying issue category dummies, and a vector of foreign government dummies.

Everything else equal, we find that contacting one additional member of Congress is associated with a 0.8 to 1 percent increase in the lobbying fee across all specifications. We further find that if the contacted politician is connected to the firm, then the lobbying fee increases by 4.6 percent in addition to the 0.8 percent increase for the contact to that politician, as in specification (2). The difference in the lobbying fee

Table 6. Contact Patterns of Connected Lobbyists (*Continued*)

Panel B: *Do lobbyists contact their connected politicians regarding particular issues?*

	Trade Issues		Security Issues	
	Any Contacts	Number of Contacts	Any Contacts	Number of Contacts
	(5)	(6)	(7)	(8)
Connected	0.016**	0.074***	0.031***	0.092***
	(0.008)	(0.028)	(0.008)	(0.028)
Connected × Leadership/foreign[a]	0.018	0.048	0.041**	0.293***
	(0.016)	(0.078)	(0.016)	(0.104)
Connected × Trade	-0.003	0.038	-0.022	-0.141**
	(0.025)	(0.149)	(0.026)	(0.060)
Connected × Security	0.029	0.042	0.020	-0.067
	(0.028)	(0.078)	(0.030)	(0.054)
Connected × Budget/appropriations	-0.013	-0.052	-0.014	-0.056
	(0.014)	(0.040)	(0.015)	(0.098)
Firm and politician controls[b]	Yes	Yes	Yes	Yes
Firm, politician, and year FEs	Yes	Yes	Yes	Yes
R^2	0.001	0.001	0.001	0.003

Notes: This table reports OLS estimates. The unit of observation is a firm-politician-year pair, and the number of observations is 135,872, including 620 unique politicians and 93 unique lobbying firms. Standard errors, in parentheses, are adjusted for two-way clustering within firms and within politicians. Asterisks indicate the statistical significance at the 1 percent (***), 5 percent (**), and 10 percent (*) levels. The dependent variables in the regressions are: (1) a dummy variable that takes 1 if there was any lobbying contact between a pair; (2) the total number of phone calls and meetings with a politician or his/her staffers; (3) a dummy variable that takes 1 if there was any lobbying contact directly made to a politician; and (4) a dummy variable that takes 1 if there was any meeting. *a*. We interact the connection indicator variable with the member's leadership position or certain congressional committee membership. We categorize House Energy and Commerce, House Ways and Means, and Senate Finance committees as those covering trade issues; and House Armed Services, House Homeland Security, and Senate Homeland Security and Governmental Affairs committees as those covering security issues. *b*. For (time-varying) firm controls, we include the total number of FARA registered lobbyists of the firm during the year; and for politician controls, we include all variables that are interacted with the connection variable.

increase with and without connections, 4.6 percent, is both statistically significant and large in its extent. Given that an average semiannual lobbying fee in the sample is $279,335, an additional premium for contacting a connected member of Congress, as opposed to contacting a member without connections, amounts to $12,849 every six months. Furthermore, if the connected member is a part of the leadership or the committees covering foreign relations issues (the HFA and the SFR committees), the additional premium is about 12 percent, as in specifications (3) and (4), implying a semiannual premium of $33,520 per politician contacted.[13]

[13]The difference between the two specifications is that in specification (3), we include the number of lobbyists in the firm during the period, while in specification (4), we include the firm fixed effects.

Table 7. Lobbying Fee Regressions

Dependent variable: (log) lobbying fee	(1)	(2)	(3)	(4)	(5)
Number of contacted politicians					
All	0.010***	0.008***			0.014**
	(0.003)	(0.003)			(0.006)
Leadership/foreign			0.031	0.022	
			(0.020)	(0.027)	
Not leadership/foreign			0.003	0.007	
			(0.004)	(0.005)	
Num. of contacted & connected politicians					
All		0.046**			0.140
		(0.024)			(0.151)
Leadership/foreign			0.121*	0.117**	
			(0.055)	(0.035)	
Not leadership/foreign			-0.010	-0.013	
			(0.033)	(0.038)	
Made executive contacts[a]	0.137	0.135	0.149	0.204*	0.087
	(0.141)	(0.142)	(0.143)	(0.104)	(0.218)
Made media contacts[b]	0.024	0.024	0.022	0.118	0.011
	(0.143)	(0.142)	(0.140)	(0.121)	(0.176)
Number of lobbyists	0.070***	0.069***	0.068***		
	(0.021)	(0.021)	(0.022)		
(Number of lobbyists)^2/100	-0.108***	-0.113***	-0.112***		
	(0.038)	(0.037)	(0.039)		
Fixed effects for					
Year of the report	Yes	Yes	Yes	Yes	Yes
Month of the report	Yes	Yes	Yes	Yes	Yes
Issues covered by the report[c]	Yes	Yes	Yes	Yes	Yes
Foreign government	Yes	Yes	Yes	Yes	Yes
Lobbying firm	No	No	No	Yes	Yes
Number of observations	644	644	644	644	124
R^2	0.416	0.419	0.422	0.639	0.905

Notes: This table reports OLS estimates. The unit of observation is a semiannual lobbying report. There are 676 reports in the data, and 32 of them are dropped in the regressions because the lobbying firms did not report the lobbying fee amount (usually because the related lobbying activities were pro bono cases). In column (5), we use the reports from the lobbying firms with one connected lobbyist for a robustness check. Standard errors are clustered at the firm level, and are presented in parentheses. The asterisks indicate the statistical significance at the 1 percent (***), 5 percent (**) and 10 percent (*) levels. a. This variable indicates whether or not there was any contact with the executive branch, including the White House, federal departments, and government agencies. b. Lobbying firms sometimes make contacts with the media, and this variable indicates if there was at least one such contact. c. We categorize lobbying issues into security, trade/budget, and administrative/other based on the written description of lobbying issues for each contact. The issue fixed effects are dummy variables for each lobbying issue category.

It is difficult to distinguish the effects of connections from the effects of other qualities of lobbyists. Lobbyists with connections to politicians via previous work experience in Congress could be more talented, have more expertise in certain policy issues, or be better informed about the legislative labyrinth. By exploiting our contact data, however, we can compare a scenario in which a lobbyist contacts a politician with whom she has no previous work connections in Congress and an alternative scenario in which the same lobbyist contacts a politician with whom she has connections. We find that the latter scenario is associated with a much higher lobbying fee.[14]

Even with the lobbying contact data, our estimates of the lobbying fee premium on contacts with connections, as opposed to contacts without, may be biased if there exist unobserved attributes of a lobbying contract that are correlated with contact patterns. Note that we have controlled for all observed attributes, including contacts to the executive branch and the media, lobbying issues, and fixed effects for lobbying firm and foreign government, respectively. One limitation in our contact data is that the detailed issue of a contact beyond a brief description (e.g. Foreign Trade Agreement with Colombia) is not observed. If specific lobbying issues are correlated with employing a lobbyist to contact his connected politicians and these issues are highly valued by a client, then our estimate is biased upward.

3.4. **Lobbying Fee Premium: Comparison with the Extant Literature.** Our estimates of the lobbying fee premium associated with connections, 4.6 percent per contacted member and 12 percent per contacted member in the leadership or serving on the HFA and the SFR committees, are comparable to the counterpart estimates of Blanes i Vidal, Draca and Fons-Rosen (2012) (hereafter *BDF*) and Bertrand, Bombardini and Trebbi (2014) (hereafter *BBT*). The former finds that lobbyists connected to US senators suffer a 24 percent drop in generated revenue on average when their previous employer leaves Congress. The latter finds a premium of 8 to 10 percent in the fee when at least one lobbyist has connections to a member on a committee

For specifications (1) and (2), the key results are quantitatively similar when we include the firm fixed effects instead of the number of lobbyists.

[14]One weakness of our data is that lobbying firms provide the list of all lobbyists who worked for their foreign clients, without specifying which lobbyist worked for which clients. This could weaken the validity of comparing the two scenarios if contacting the politicians with connections is simply correlated with the amount of lobbying activity. For this reason, we run specification (2) with firm fixed effects, using the lobbying firms with only one lobbyist who has connections to members of Congress. The results are presented in column (5) of Table 7, and they are consistent with the findings based on the full sample.

covering the issue. Noting that the HFA and SFR committees are the most relevant to foreign government lobbying issues, comparing the estimates of BBT and our estimate of the 12 percent fee premium for contacting a connected member in the leadership or on these two committees seems appropriate. Given this, our estimate is slightly larger than theirs, which may reflect that connections are not always utilized for contacts and our definition of connections is narrower than theirs.

As for the BDF estimate, we account for two key differences in the definitions of the fee premium. First, the 24 percent revenue drop includes potential loss of lobbying clients while our estimate is on the intensive margin only. Based on the 94 unique lobbyists who lost their Senate connections, as identified from the data provided by BDF, we find that the average number of lobbying clients during the 18 months after the exit of the ex-employer senator is 21.7 percent less than that prior to the exit. We also find that the revenues prior to the exit from the clients who terminated the contract after the exit are not statistically different from those from the clients who did not.[15] Second, the revenue drop of BDF is associated with the loss of a lobbyist's *ability* to contact his connected senator, and he may not have always utilized that ability for all of his clients before the senator's exit. We find that out of 433 semiannual lobbying reports involving lobbyists with connections to a current member of Congress in the data, only 176 (41 percent) record that there was at least one contact to a connected member.

Accounting for these two differences, we do a "back-of-the-envelope" calculation, based on our lobbying fee premium estimate of 4.6 percent, as follows. If a senator with whom a lobbyist has connections leaves office, the lobbyist's total revenue will decrease by

$$\underbrace{4.6\% \times 0.41 \times (1 - 0.217)}_{\text{from serving clients}} + \underbrace{100\% \times 0.217}_{\text{from losing clients}} \simeq 23.18.$$

This value is remarkably similar to the estimate of BDF, especially when we consider that the foreign lobbying market can be different from the domestic one.

Our findings, which are based on the observed lobbying contacts, corroborate and advance the findings in the existing literature. With the data limitations, the attributes of employed lobbyists have been used to unpack lobbying fees, without accounting for their actual activities. We find that although lobbyists are more likely to contact their connected politicians than other politicians, they do not necessarily contact the connected politicians for all clients. We show that when the connections

[15]For the details of these statistics, see Appendix A.5.

are utilized in contacts, there exists a large market premium. This premium could be associated with our findings that lobbyists tend to increase the number of contacts and are more likely to make direct contacts with connected politicians (Tables 5–6).

4. The Market for Political Access

To further study the roles that connected lobbyists play in the allocation of access to politicians among foreign governments, we introduce a model whose equilibrium determines whether an interest group, such as a foreign government, hires a lobbying firm to contact politicians, and if so, which lobbyists and which politicians will be engaged. We estimate the model to quantify the total surplus from lobbying contacts as a function of politician, interest group, and lobbying firm attributes.

4.1. **Model.** Our model of the market for political access is a trading network between interest groups or foreign governments (buyers) and lobbying firms (sellers), based on Hatfield et al. (2013).[16] Interest groups potentially benefit from contacting politicians. They can contact politicians directly, but hiring a lobbying firm to contact the same politicians can be more cost-effective and/or more beneficial. The cost differential reflects the idea that lobbyists have relatively exclusive access to politicians, so that the cost of contacting a politician is much lower for lobbyists than interest groups. Put differently, a congressman would be less likely to answer a phone call from someone he does not know than a call from someone he knows well. The benefit differential is due to the expertise of lobbyists in navigating the legislative process and being more persuasive in communications. Contacting politicians on behalf of a client is costly for lobbying firms, and such costs may vary with the identities of the client and the contacted politicians.

Both buyers and sellers are heterogeneous, and the price of the lobbying service is personalized in that both parties mutually decide with complete information.We allow that lobbying firms can be hired by multiple clients, and that foreign governments

[16]An alternative framework is Gomes and Pavan (2016), where intermediaries price-discriminate under incomplete information. There are two key differences between these two models. One is the information structure: The current model assumes complete information while Gomes and Pavan's model assumes incomplete information. Because the agents are heterogeneous and thus all observed transactions are unique, we cannot test if either of the information structures is more consistent with the data. The other difference is that Gomes and Pavan's model considers a monopolist intermediary, while the current model allows multiple intermediaries or lobbying firms.

can hire multiple lobbying firms. We assume that there is no search friction in this market.[17]

Let us denote the set of all politicians by A, where A is a finite set. A *trade*, ω, is defined by the identities of the buyer, $b(\omega)$, the seller $s(\omega)$, and the set of politicians whom the seller contacts on behalf of the buyer, denoted by $a(\omega) \in \mathcal{P}(A)$, where $\mathcal{P}(\cdot)$ is the power set. A *contract* is a pair of a price and a trade, $\{p_\omega, \omega\}$.

Let $(\mathbf{p}, \Omega)$ be the set of all contracts in the market. The payoff for lobbying firm s from that market outcome is defined as:

$$u_s(\mathbf{p}, \Omega) = \sum_{\omega \in \Omega_s} f_s(a(\omega), b(\omega)) + \sum_{\omega \in \Omega_s} p_\omega,$$

where Ω_s denotes all trades associated with seller s. The cost associated with lobbying firm s contacting politicians $a \in \mathcal{P}(A)$ on behalf of its client b, denoted by $f_s(a, b)$, is allowed to vary by the identities of all parties involved. The cost, however, is not allowed to vary by the firm's other contacts with the same politicians for other clients, its contacts with other politicians, or other firms' contacts. In other words, we assume that the firm's cost for each client is separable; for example, there are no capacity constraints. We also assume that no externalities exist.[18]

The payoff for foreign government b is:

$$u_b(\mathbf{p}, \Omega) = \sum_{\omega \in \Omega_b} g_b(a(\omega), s(\omega)) - \sum_{\omega \in \Omega_b} p_\omega,$$

where Ω_b denotes all trades associated with buyer b. Similarly, we assume that there are no externalities on the buyer side, and that the benefits from multiple contracts with different lobbying firms are the sum of the benefit from each.

[17]The following features in the data support this assumption. First, short lobbying contracts are common. Out of 212 unique contractual relationships between a lobbying firm and a foreign government, the length of 105 contracts (50 percent) was less than six months. Second, foreign governments do hire multiple lobbying firms over time. Among the 70 foreign governments in the data, 21 (30 percent) of them had a contract with more than four different lobbying firms to contact members of Congress during the period of study. The government of Taiwan, for example, hired 13 different lobbying firms. Third, many foreign governments in our sample have been hiring lobbying firms for more than a few decades.

[18]These assumptions are strong, and even if some of them are relaxed, the properties of the equilibrium can be characterized and the model primitives can be estimated. Hatfield et al. (2013), for example, allow diminishing marginal utilities of consumption and increasing marginal costs of production for the case of homogeneous goods. Fox (2016) provides and implements an estimator for many-to-many matching games with transfers when the preferences or payoffs are substitutable or complementary.

Given our assumptions, there exists a competitive equilibrium and that equilibrium is efficient, as shown by Hatfield et al. (2013). Therefore, firm s contacts a set of politicians, $a \in \mathcal{P}(A)$, on behalf of interest group b in equilibrium if and only if for any $a' \in \mathcal{P}(A)$

$$v(s,b,a) \geq v(s,b,a'),$$

where $v(s,b,a) \equiv f_s(a,b) + g_b(a,s)$ is the total value of firm s contacting politicians in set a for client b. Note that the value considered here does not include the social value of lobbying, such as the benefits/costs of the politicians or their constituents.

4.2. **Parameterization.** For the estimation, we simplify the model in two ways. First, we focus on two observed attributes of politicians for a given lobbying firm: whether the politician is in the leadership or on the HFR/SFA committee; and whether the politician is connected to the firm via its lobbyists with congressional experience. Based on these two attributes, we can divide the 535 members of Congress into four groups. Then we assume that the choice that a firm-client pair faces regarding a group of politicians is whether or not to contact at least one of them. In this way, we reduce the total number of the choices to $2^4 = 16$, instead of 2^{535}. This simplification not only reduces the computational burden but is also conducive to our focus on studying the conditions under which connected politicians are contacted as opposed to non-connected politicians, given our data. In the data, conditional on hiring a lobbying firm with connections, the median number of the contacted politicians with whom there exist connections is 0, and the average number is 1.64.

Second, we parameterize $v(s,b,a)$ as a function of observed attributes of foreign government b and an unobserved variable. Note that the latter is unobserved only to researchers; it is observed by all agents involved.[19] As for the foreign government attributes, we consider the extent to which the foreign country's regime is democratic and the amount of US media attention. To be specific, $\mathbf{X}_{bt}$ includes two dummy variables on the polity of the government: a dummy variable indicating that government b's Polity IV score was below -5 in 2005 (*autocracy*) and a dummy variable for the score above 5 (*democracy*). These cutoffs for defining autocracy and democracy are guided by the Polity IV project (Marshall, Jaggers and Gurr, 2010), and in our data, there are 13 countries categorized as autocracies, 38 as democracies, and the rest as *anocracies*. As for (time-varying) US media attention, $\mathbf{X}_{bt}$ also includes a dummy variable that takes 1 if there was an increase of 15 percent or more in the number of

[19]Recall that we assume complete information. By allowing an unobservable variable, we explain why observationally equivalent firm-client pairs choose to make different contacts.

The New York Times articles on foreign relations regarding the country during the period (year) t compared to the previous period $t-1$, and its interactions with the polity indicator variables.[20]

Let $d(a)$ represent the four-dimensional binary vector where each i^{th} element indicates whether at least one politician in the i^{th} group is contacted given the set of contacted politicians, a. For any $a \in \mathcal{P}(A)/\emptyset$,

$$v_t(s,b,a) = \sum_{k=1}^{4}[\beta_k + \delta_k \mathbf{X}_{bt}]d_k(a) + \phi_{sbt} + \epsilon_{s,b,t,d(a)},$$

and if $a = \emptyset$,

$$v_t(s,b,\emptyset) = \phi_{sbt}.$$

The value of no contract between firm s and government b during period t, ϕ_{sbt}, is allowed to be firm-government-time specific. We assume that $\epsilon_{s,b,t,\mathbf{d}}$ are independent across firms, governments, periods, and all (up to) 16 choices, following the Type I extreme distribution. Let J_{st} denote the set of all possible choices given the lobbyists hired by the firm. Then the probability that a binary choice vector, $\mathbf{d}$, is chosen conditional on (X_{bt}, J_{st}) is:

$$\Pr(\mathbf{d} = 1|\mathbf{X}_{bt}, J_{st}) = \frac{\exp(\sum_k [\beta_k + \delta_k \mathbf{X}_{bt}]d_k)}{1 + \sum_{\mathbf{d}' \in J_{st}} \exp(\sum_k [\beta_k + \delta_k \mathbf{X}_{bt}]d'_k)}.$$

Note that firm-client-year fixed effects, ϕ_{sbt}, do not appear in the above formula because they are canceled out. We estimate (β, δ) while controlling for the time-specific firm-client fixed effects.

4.3. **Estimation Results.** Table 8 presents the maximum likelihood estimates of the parameters of the total surplus of a lobbying contact, $v(s,b,a)$. Note that the estimates of β_k values for contacts with connections are much smaller than those without. These estimates reflect the fact that access to politicians is a scarce resource, leading to high costs for making contacts. For an average lobbying firm, the number of politicians with connections is 5.5 (Table 2), which is 1 percent of the politicians serving in Congress.

The estimates of δ_k's suggest that the total surplus of a contact varies with the attributes of the foreign government if the contact is made to the lobbyist's connected politician. In particular, the value increases for countries on either end of the polity spectrum (autocratic or democratic), compared to those in the middle range of the

[20]We use multiple different cutoffs, instead of 15 percent, to define an increase of US media attention (5, 10, and 25 percent), and our results are robust to these cutoff values.

Table 8. Estimates of the Total Surplus of a Lobbying Contact

	Connected		Not Connected	
	Leadership/ Foreign	Other	Leadership/ Foreign	Other
Constants: β_k	-5.446***	-5.352***	-4.395***	-4.184***
	(0.091)	(0.074)	(0.078)	(0.075)
Government attributes: δ_k				
Autocracy (Polity IV< -5)	1.528***	1.170***	0.632	0.511
	(0.384)	(0.428)	(0.690)	(0.780)
Democracy (Polity IV> 5)	1.453***	0.771	0.619	0.460
	(0.368)	(0.593)	(0.627)	(0.783)
Increase in NYTimes coverage†	0.835	0.800	0.474	-0.009
	(0.911)	(0.794)	(1.216)	(65.40)
Increase in NYTimes coverage × Autocracy	-1.966**	-1.295	-1.321	-0.531
	(1.020)	(1.042)	(1.000)	(2.265)
Increase in NYTimes coverage × Democracy	-0.980	-0.644	-0.621	-0.046
	(0.894)	(1.194)	(1.133)	(15.96)
Number of observations/Log-likehood	15,470/-3,934.11			

Notes: Asymptotic standard errors are in parentheses. Asterisks indicate the statistical significance at the 1 percent (***), 5 percent (**), and 10 percent (*) levels. The dependent variable is the choice over the 16 possible combinations of contacts with the four types of politician groups. Sorting into each group is determined by (i) whether a politician is in the leadership or on the committees related to foreign relations and (ii) whether the politician is connected to one of the lobbyists in the firm via previous career relationships in Congress. The results are based on all possible pairings between the 93 lobbying firms and the 70 foreign governments. The number of observations is less than $93 \times 70 \times 4$ because for a given year, we only consider lobbying firms that were active during that year. †.This is an indicator variable that takes 1 if there was a 15 percent or more increase in the number of foreign relations news articles regarding the country in *The New York Times* compared to the previous year.

polity spectrum, measured by the Polity IV scores. It is interesting to note that these trends are present for contacts to non-connected politicians, but they are not statistically significant.

As for US media attention, the total surplus of a contact, with or without connections, increases with heightened coverage in *The New York Times* regarding a foreign government, but such an increase is not statistically significant in general.[21]

[21] Note that an increase in media attention to a foreign government may have countervailing effects on politicians' willingness to give access. On the one hand, the increased salience of the country (Kuziemko and Werker, 2006; Eisensee and Stromberg, 2007; Durante and Zhuravskaya, 2016) may increase the value of information; we find that the news increase tended to be triggered by military conflicts and key elections during the period of study (Table A3 in the Appendix), which could be directly relevant to US interests. On the other hand, politicians may face a public relations risk of being linked to an unpopular foreign county, and such a risk may rise when media attention on the country is heightened (Durante and Zhuravskaya 2016).

It is notable, however, that for an autocratic government with an increased media attention, the surplus of a lobbying contact decreases, especially for politicians in the Congressional leadership or on the HFR/SFA committee.

4.4. **Discussion of the Results.** From a politician's perspective, there are benefits to and costs of granting access to lobbyists and their clients. Information from interest groups can be valuable, and existing studies have argued that an important factor for a politician to grant access is the value of information (Hansen 1991; Austen-Smith and Wright 1994; Grossman and Helpman 2001). However, granting access can be costly in terms of time (Baumgartner and Jones 2015; Cotton 2016) and public opinion (Werner 2015; McDonnell and Werner 2016). The latter two empirical studies show that politicians are more likely to give access to firms with good corporate social responsibility records and to refund contributions from firms facing consumer boycotts. Furthermore, the political risk of being associated with foreign interests is not small; there is ample anecdotal evidence that politicians are criticized for their potential ties with foreign regimes.[22]

Our empirical findings provide support that lobbyists may, at least partially, internalize the interests of politicians, especially those with prior connections. First, although there is a large lobbying fee premium for contacts to a connected politician, a lobbyist does not always contact his connected politician for all clients. Second, the total surplus from a lobbying contact to a connected politician varies with the attributes of the foreign client, a trend that does not manifest for contacts to non-connected politicians.

A mechanism for this (partial) alignment of the interests of lobbyists and their connected politicians is provided by Hirsch and Montagnes (2016). In their model, the value that a lobbyist derives from his ability to investigate and screen clients can discipline the lobbyist who is motivated by profits, amongst other motives. Consistent with this explanation, interviews with lobbyists and anecdotal stories indicate that reputation is extremely important in the lobbying industry, and that building trust and relationships takes considerable effort on the part of lobbyists (Levin 2009; Leech 2013; Groll and McKinley 2015).

[22]For example, Representative Dana Rohrabacher was criticized for having been lobbied by a Soviet-officer-turned-lobbyist about US relations with Russia. Sarah D. Wire, "O.C. Rep. Rohrabacher was lobbied by the former Soviet military intelligence officer who attended Trump J. meeting," *Los Angeles Times*, July 14, 2017.

5. Conclusion

Using unique lobbying contact data constructed from foreign lobbying reports, we document that politicians grant access to only a limited set of lobbying firms and we show that both the quantity and the quality of access that lobbying firms secure from politicians vary by the extent of their political connections. We also find that lobbying firms do not always contact their connected politicians, although contacts to connected politicians are valued highly in the market. We then provide empirical evidence that the value of a contact to a connected politician varies by the attributes of lobbying clients, which suggests that a lobbyist may screen clients on behalf of his connected politician.

Future research may further explore the relationship between the organization and institutions in Congress and the value of connections in lobbying. One notable feature is that members in the leadership or serving on certain committees have disproportionate power in setting the agenda and promoting legislation (Shepsle and Weingast 1987; Taylor 1998; Cox and McCubbins 2005; Knight 2005; Volden and Wiseman 2014). We find that these members tend to rely more on their connected lobbyists than others, and this finding could be important in assessing the influence of special interests on agenda setting and policymaking in general.

Another important trend in Congress is that the number of staff and civil servants supporting legislative research has been reduced over the last decades (Baumgartner and Jones 2015; LaPira and Thomas 2016). In addition, the workloads of members of Congress have significantly increased over time (Curry 2015) while fundraising pressures also have been increasing (Lee 2016). These trends may be associated with the changes in the role of connected lobbyists over time, and this may provide a new avenue in studying the welfare implications of regulating lobbyists with prior connections.

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A. Appendix

A.1. **Comparison between Domestic and Foreign Lobbying.** Among the 93 lobbying firms in our data, 61 firms represented domestic clients in addition to their foreign clients (i.e., the firms were registered by both the LDA and FARA). Table A1 shows that compared to firms registered by FARA only, these firms tended to reap larger yearly revenues, to have more foreign clients, to contact a larger set of politicians, and to employ more lobbyists in number and more high-profile lobbyists, such as former members of Congress or those who worked in the legislative and/or executive branches.

Table A1. Lobbying Firm Characteristics by the LDA Registration

	LDA & FARA		FARA Only	
	Mean	SD	Mean	SD
Annual revenue[a] ($thousand)	740.0	933.9	597.9	864.2
Number of government clients[a]	2.72	2.48	1.43	0.87
Number of contacted members	53.09	64.46	38.15	44.74
Number of connected members[b]	6.43	14.87	0.69	1.51
FARA registration year	2002.3	8.87	2004.9	5.51
Number of lobbyists				
All	9.48	8.30	3.75	4.24
With identified career history[c]	4.44	3.78	1.56	2.14
Former member of Congress	0.51	0.94	0.21	0.55
Executive branch experience	1.54	1.46	0.44	0.79
Congress experience	2.39	2.35	0.86	1.55
Number of observations	61		32	

Notes: As for time-varying variables, the summary statistics are over the average value of each variable across multiple filings for each lobbying firm. a. For these two variables, we consider the lobbying reports included in this paper only. Therefore, the total annual revenues and the total number of foreign government clients are larger than the counterparts included here. b. Connections are measured by previous work relationships in Congress as a member or a staffer. c. For each lobbyist hired by a firm, we match the career history records available at www.lobbyists.info.

A.2. **Foreign Government Characteristics.** We divide the foreign countries whose governments hired lobbyists who were registered under the FARA to contact members of Congress during the period of study into two groups: those with a negative

Polity IV score and the rest. Table A2 shows that the foreign countries in the former group tended to have a better relationship with the United States, as measured by maintaining ambassadors, casting a similar vote in UN meetings, and the size of trades.

Table A2. Foreign Country Characteristics by the Regime

	Polity IV < 0		Polity IV ≥ 0	
	Mean	SD	Mean	SD
UN first year[a]	1954	28.3	1913	61.8
FARA first year[b]	1970	14.9	1970	13.7
US Ambassador first year[c]	1975	14.9	1959	28.6
Fraction of UN votes in agreement with the US[d]	0.06	0.017	0.14	0.11
Export to the US in 2005 ($million)	14,340	50,344	22,601	52,370
Import from the US 2005 ($million)	3,941	9,274	12,917	35,837
US Aid in 2005 ($million)	672	2,238	84	135
Number of observations	23		47	

Notes: a. First year that a country appeared in United Nations voting data (Voeten, 2013). b. First year that a country hired a lobbyist registered under the FARA. c. First year that a foreign country had a US ambassador (Bayer, 2006). d. Lijphart's index of agreement between the country and the US, which equals 1 if a country always agrees with the US, 0 if it always opposes the US vote. If one country votes 'yes' and the other abstains, the vote is coded as 0.5. (Voeten, 2013).

A.3. **News Coverage in *The New York Times*.** The LexisNexis database provides the yearly number of *The New York Times* articles during the period of 2006–2010 by news issue. Table A3 shows that, controlling for foreign country attributes, an increase in *The New York Times* coverage is associated with military conflicts and elections for the head of the country. The dependent variable for Columns (1) and (3) is the number of the news articles (excluding those on sports or recreation); that for Columns (2) and (4) is an indicator variable that takes 1 if the number of such articles increased by 5 percent or more compared to the previous year.

A.4. **Politicians' Portfolio of Lobbyists.** We present the distribution of the number of lobbying firms to which a given member of Congress gave access during the calendar year 2010 in Figure A1. In Table A4, we show that the patterns discussed in Section 2.4 persist even after we control for year fixed effects and other member attributes.

A.5. **Connections and Extensive Margins in Lobbying Contracts.** Here we provide a detailed description of how we calculate the statistics using the data from

Table A3. News Coverage in *The New York Times*

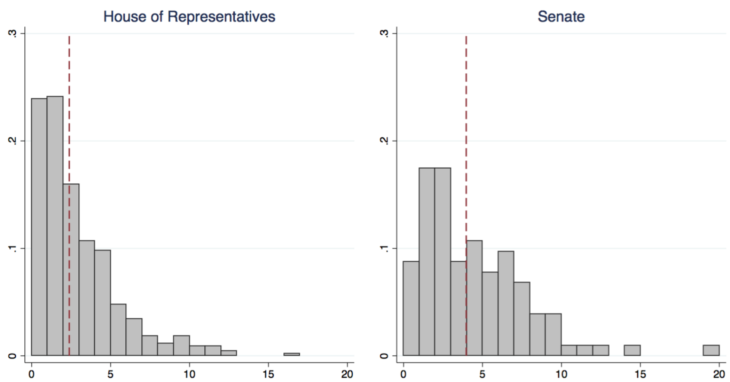
	All Countries		Lobbying Countries	
	Num. of Articles (1)	News Increase (2)	Num. of Articles (3)	New Increase (4)
Military conflict[a]	18.43*	0.036	15.20	0.090**
	(10.58)	(0.024)	(16.59)	(0.038)
Executive election[b]	53.24**	0.125*	87.36*	0.281**
	(22.46)	(0.065)	(46.44)	(0.107)
Legislative election[c]	-4.975	0.007	-10.05	0.013
	(11.83)	(0.045)	(22.32)	(0.066)
Lagged number of articles	0.905***		0.895***	
	(0.028)		(0.038)	
Foreign country controls[d]	Yes	Yes	Yes	Yes
Number of countries	158	158	70	70
Number of observations	632	632	280	280
Adjusted R^2	0.969	0.016	0.962	0.034

Notes: The unit of observation is foreign country × year (2007–2010). In Columns (1) and (2), we include all countries that have country-specific variables used in the regressions; in Columns (3) and (4), we only include those that hired lobbying firms to contact members of Congress. Standard errors are in parentheses. Standard errors are clustered at the client country level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. In counting the number of news articles, we exclude those on sports and recreation. a. Number of militarized conflicts that either started or ended in that year (Palmer et al., 2015). b. 1 if an election for a national executive figure or the head of the country, such as a president, was held (Hyde and Marinov, 2012). c. 1 if there was an election for a national legislative body (Hyde and Marinov, 2012). d. The foreign country controls include GDP, Polity IV score, trade volumes with the US, amount of the US foreign aid, and number of US military personnel residing in a foreign country, all as of 2005. We also include the fixed effects of the region in which the country is located (e.g., Europe, North Africa and Middle East, etc.).

Blanes i Vidal, Draca and Fons-Rosen (2012) (hereafter *BDF*) for the "back-of-the-envelope" calculation in Section 3.4. The data covers the lobbying history of 1,113 congressional staffers turned lobbyists (or revolving door lobbyists) for each six-month period from 1998 to 2008 (22 periods in total). There are 257 lobbyists who lost their connections during the period due to the exit of their connected politicians from Congress, consisting of 94 lobbyists who lost their Senate connections and 163 lobbyists who lost their House connections. In this analysis, we focus on the lobbyists who lost their Senate connections.

For each lobbyist, we identify the period during which a lobbyist's connected politician exited office. Then we calculate the average number of lobbying clients that the lobbyist represented during the three periods (18 months) prior to the exit period and the three periods after. We only include lobbyists who were active in the lobbying market both before and after the exit of their connected politicians, and we find that

Figure A1. Distribution of the Number of Lobbying Firms with Access



Notes: This histogram shows the distribution of the number of lobbying firms to which a given politician gave access during 2010. The unit of observation is a member of Congress. The dotted vertical lines indicate the average number of firms that were given access by a member in each chamber.

Table A4. Politicians' Portfolio of Lobbyists: Regressions

	Num. of Firms	HHI	Rate of Connected Contacts		
	(1)	(2)	(3)	(4)	(5)
Leadership/Foreign	2.123***	-0.161***	0.029*	0.170**	0.177***
	(0.348)	(0.026)	(0.016)	(0.086)	(0.062)
Economy/Security	0.180	-0.021	0.013	-0.003	0.016
	(0.157)	(0.019)	(0.011)	(0.037)	(0.032)
Running for tight reelection	-0.094	0.023	-0.007	-0.062*	-0.028
	(0.135)	(0.023)	(0.014)	(0.037)	(0.020)
Tenure	0.680***	-0.045*	0.077***	0.205***	0.102*
	(0.218)	(0.024)	(0.016)	(0.055)	(0.058)
House	-1.242***	0.123***	-0.007	0.019	0.047
	(0.266)	(0.025)	(0.014)	(0.057)	(0.045)
Democrat	0.055	-0.013	-0.017	-0.054	-0.110**
	(0.157)	(0.020)	(0.012)	(0.045)	(0.046)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	2166	1647	1647	1647	1055
R^2	0.203	0.103	0.050	0.047	0.192

Notes: This table reports OLS estimates. The unit of observation is a politician-year pair. Standard errors, in parentheses, are adjusted for clustering within politicians. Asterisks indicate the statistical significance at the 1 percent (***), 5 percent (**) and 10 percent (*) levels. The dependent variables in the regressions are: (1) the total number of lobbying firms that had a phone conversation or a meeting with a politician or his/her staff during the year; (2) the Herfindahl index based on all contacts (phone calls or meetings) by lobbying firms to a politician; (3) the ratio of contacts made by lobbying firms with connections to a politician to all contacts to that politician; (4) the ratio of the average number of contacts per connected lobbying firm and per non-connected firm; and (5) the ratio of the average number of *direct* contacts per connected lobbying firm and per non-connected firm.

Table A5. Number of Clients: Lobbyists with Senate Connections

	Mean	SD
Number of clients: Pre-exit period	9.90	11.44
Number of clients: Post-exit period	7.97	7.42
Percent change in the number of clients	21.70	12.94

Notes: The unit of observation is a staffer-turned-lobbyist whose connected senator exited office during 1999–2008; the number of observations is 90. *Pre-exit period* (*Post-exit period*) refers to 18 months prior to (after) the exit period.

four lobbyists did not have any lobbying records after losing their connections. Table A5 presents the summary statistics on the average number of clients before and after the exit of the connected politicians. During the three periods before the exit of the connected politicians, revolving door lobbyists who had connections to Senators had, on average, 9.90 lobbying clients, and the number reduced to 7.97 after losing their connections. On average, the number of clients is reduced by 21.7 percent.

We also look at the average lobbying revenues during the three periods before an exit for two distinct groups of clients for each staffer-turned-lobbyist: those who continued the contract and those who terminated it. Here we calculate the average "weighted" revenues by dividing the total per-period lobbying fees of a lobbying contract by the number of the lobbyists who were employed by the contract, following the definition of BDF. Focusing on the revolving door lobbyists whose Senate connections were severed and who had both groups of clients (which reduces the sample size to 71 from 90), the average per-period weighted revenue from the clients who terminated a contract after the exit is \$19,645 and the counterpart from the retained clients is \$22,383, with the difference being statistically insignificant (p-$value = 0.36$).