The determinants of banks' lobbying activities*

Rajna Gibson Brandon†
University of Geneva
and Swiss Finance Institute

Miret Padovani‡
Vienna University of Economics and Business

Draft version: November 21, 2011

Abstract

In this paper, we examine the relationship between banks' lobbying activities, their size, financial strength, and sources of income. First, we find that banks are more likely to lobby when they are larger, have more vulnerable balance sheets, are less creditworthy, and have more diversified business profiles. We also find that banks engaged in non-traditional businesses, e.g. securitization and trading, or in highly regulated businesses, e.g. insurance, hire more lobbyists and spend larger amounts on lobbying. Finally, we observe that the announcement of the Dodd-Frank bill led to increased lobbying by banks with higher trading revenues.

Keywords: banking, lobbying, financial regulatory reform, Dodd-Frank bill.

JEL classification codes: G21, G28.

*We thank Lee Drutman, Ran Duchin, Philipp Krueger, Olivier Scaillet, as well as seminar participants at University of Zurich, Vienna University of Economics and Business, Northern Finance Association 2011 meetings, German Finance Association 2011 meetings, and Spanish Finance Association 2011 meetings for helpful discussions or comments. We also thank corporate lobbyists - who wish to remain anonymous - for clarifying issues regarding corporate lobbying activities. Wharton Research Data Services (WRDS) was used in preparing this study. This service and the data available thereon constitute valuable intellectual property and trade secrets of WRDS and/or its third suppliers.

†Mailing address: Geneva Finance Research Institute, Uni Mail, Bd du Pont d'Arve 40, 1211 Geneva 4, Switzerland. Email: rajna.gibson@unige.ch.

‡Email: miret.padovani@wu.ac.at.

1 Introduction

Jamie Dimon, JPMorgan's chief, is reported to have once said that lobbying is JPMorgan's seventh line of business.[1] Indeed, when it comes to lobbying expenditures, the financial services sector tops the list. From 1998 to 2010, financial firms have spent over four billion US dollars setting up in-house lobbying units and hiring external lobbyists to defend their interests.[2] Lobbying expenditures within the financial sector have more than doubled over the last decade, moving from $233mn in 2000 to over $472mn in 2010. The heaviest spenders within the financial sector are insurance companies, followed by securities and investment firms, real estate companies, and banks. This last group is the focus of our paper.

Lobbyists spend time with members of congress and state legislators to clarify and advocate the positions of their clients on regulatory proposals. Many lobbyists are themselves former members of congress and can therefore provide their clients with privileged access to legislators thanks to their personal connections. Bank lobbyists do have their critics, including, most recently, Mervyn King, Governor of the Bank of England, and Sheila Bair, head of the Federal Deposit Insurance Corporation, who have both accused lobbyists of distorting financial regulation.[3] The issue of whether and to what extent corporate lobbying should be regulated is an open and heated debate among political scientists and law scholars (see, e.g., Chari, Hogan & Murphy (2010) for a comparative analysis of lobbying regulation in several countries).

Traditional banking involves taking short-term deposits from customers and channelling these deposits into longer-term loans to households and businesses. But the Gramm-Leach-Bliley Act has altered this restrictive view of banking in 1999 by allowing organizations to combine banking, securities, and insurances services. Since then, even

[1] Source: "Obama aide declines visit to bank board" published on `www.nytimes.com`, July 19, 2009.
[2] Source: `www.opensecrets.org`.
[3] Source: "UK must resist US-style bank lobbying: BoE's King" published on `www.CNBC.com`, July 28, 2010.

the more conservative banks have ventured into non-traditional areas, such as securitization, proprietary trading, and alternative investments. The heightened risk-taking behavior of banks and the opacity and complexity of interbank claims created by financial innovation are now deemed at least partially responsible for the 2007 financial crisis.

On June 17, 2009, US President Barack Obama proposed "a sweeping overhaul of the financial regulatory system"[4] in response to the financial meltdown. Bills were introduced in the House of Representatives by Representative Barney Frank on December 2, 2009 ("Wall Street Reform and Consumer Protection Act of 2009", H.R.4173), and in the Senate by Senator Chris Dodd on April 15, 2010 ("Restoring American Financial Stability Act of 2010", S.3217). The final bill, named the "Dodd-Frank Wall Street Reform and Consumer Protection Act", was signed into law by President Obama on July 21, 2010.[5]

The main objective of the Dodd-Frank bill is to limit excessive risk-taking by systemically important banks that benefit from the government's safety nets. The bill covers a wide variety of topics, including banks' securitization transactions. More precisely and with regards to securitization, the legislation addresses the following points: (i) whether issuers or other parties should be required to retain a portion of the credit risk in securitization transactions; (ii) disclosure and reporting standards related to securitization transactions; (iii) representations and warranties required to be provided in securitization transactions and the mechanisms for enforcing such representations and warranties; and (iv) due diligence requirements with respect to loans underlying securitization transactions.

Also among the numerous provisions of the bill is the so-called Volcker rule, which aims at limiting proprietary trading and alternative investments fundship by bank holding companies (hereafter BHCs; see precise definition in section 4 below). The initial

[4]Source: `http://www.whitehouse.gov/the-press-office/Remarks-of-the-President-on-Regulatory-Reform`.
[5]The entire text of the bill is available at `http://banking.senate.gov`.

version of the rule called for prohibiting BHCs completely from engaging in any proprietary trading and from investing in hedge funds and private equity. A sort of reminder of the Glass-Steagall Act, which was adopted in the aftermath of the 1929 financial crisis and prohibited commercial banks from engaging in investment banking activities. The final version of the Volcker rule is, however, less strict and allows banks to dedicate up to 3% of tier one risk capital to such activities. The softening of the restriction may, at least in part, hint to banks' success in their lobbying efforts on this issue.

The aim of this study is to examine the relationship between banks' lobbying efforts, on the one side, and their size, financial strength, revenue origination, and geographical location, on the other. We also investigate the effect that the announcement of the financial regulatory reform in 2009 had on banks' lobbying activities as they relate to the revenues of their securitization and trading businesses. In order to account for the presence of many zero observations in our data, i.e. quarters in which a BHC has not lobbied, we use a two-stage Heckman estimation analysis to correct for a possible selectivity bias. Indeed, ordinary least squares (hereafter OLS) regression analyses might in our case lead to biased coefficient estimates because of the high probability mass at point zero.

Our main empirical findings can be summarized as follows. First, we find that banks are more likely to lobby when they are larger, have more vulnerable balance sheets, are less creditworthy, and have more diversified business profiles. Our second finding corroborates the fact that more diversified banks, mainly those engaged in non-traditional businesses, e.g. securitization and trading, or in highly regulated businesses, e.g. insurance, hire more lobbyists and spend larger amounts on lobbying. Similarly, banks engaged in traditional businesses, e.g. lending, lobby less intensely. Finally, we observe that since the Dodd-Frank bill was announced, the lobbying activity of banks with higher trading revenues has significantly increased.

The remainder of the paper is organized as follows. The next section discusses

related literature. The following section presents the three hypotheses we test in order to identify the main determinants of banks' lobbying activities. Section 4 describes the data collected, the variables constructed, and our estimation technique. Section 5 presents our empirical results, while section 6 highlights key characteristics of BHCs that have never lobbied over our sample period. Finally, section 7 concludes.

2 Related literature

Our paper provides a contribution to the literature on the determinants and effects of corporate lobbying, including (but not limited to) the lobbying activities carried out by the financial sector. This literature is quite new, as it has only recently been made possible thanks to the disclosure of lobbying expenses by US firms starting in 1998. Hill, Kelly, Lockhart & Ness (2011) investigate the determinants and shareholder wealth effects of corporate lobbying. They find that lobbying is positively related to firm size, investment opportunities, and cash flow. Chen, Parsley & Yang (2010) examine corporate lobbying from a financial perspective and find a positive relationship between firms' lobbying activities and accounting and market measures of financial performance. Yu & Yu (2010) examine the relationship between corporate lobbying and fraud detection, and find that, compared to non-lobbying firms, firms that engage in lobbying activities have on average a significantly lower hazard rate of being detected for fraud, evade fraud detection for a longer time period, and are less likely to be detected by regulators. Gao & Huang (2010) find that hedge fund managers obtain an informational advantage in securities trading through their connections with lobbyists.

A few papers study the lobbying efforts of financial firms in the context of the financial crisis that broke out in 2007. Duchin & Sosyura (2011) investigate the determinants of capital allocation to financial institutions under the Troubled Assets Relief Program and find that the investment amounts are positively related to banks' lobbying expen-

ditures and political contributions. Igan, Mishra & Tressel (2009) empirically examine the relationship between lobbying by financial institutions and mortgage lending in the run-up to the financial crisis. They find that lenders lobbying more on issues related to mortgage lending had higher loan-to-income ratios, securitized more intensively, and had faster growing portfolios. Moreover, delinquency rates during the crisis were higher in areas where lenders' lobbying grew faster. Considering firms' campaign contributions rather than their lobbying expenses, Mian, Sufi & Trebbi (2010*a*) draw similar conclusions as Igan et al. (2009) and find that special interests influenced congressional voting patterns on housing related legislation during the subprime mortgage credit expansion from 2002 to 2007. In a related paper, Mian, Sufi & Trebbi (2010*b*) look at two significant pieces of legislation that shaped the regulatory response after the 2007 crisis and again find congressional voting behavior to be affected by mortgage industry campaign contributions.

Looking at a different historical and geographical context, Claessens, Feijen & Laeven (2007) analyze the campaign contributions by Brazilian firms around the 1998 and 2002 elections and find that cross-sectional variation in stock market responses at the announcement of election results can in part be explained by the campaign contributions of individual firms to candidates. This suggests that campaign contributions help shape policy on a firm-specific, rather than ideological, level. Aslan & Grinstein (2010) investigate the relationship between CEOs' compensation packages and their contributions to political campaigns between 1996 and 2006. Using several measures of a CEO's political connectedness, they find that the returns to a CEO's political network account for 6% of his salary and 9% of his total compensation.

Another related strand of the literature looks at the importance of personal ties between businessmen and politicians, rather than connections operating through formal lobbying or political finance institutions. Several studies consider the situation in emerging markets since the very centralized and stable political structure in those coun-

tries makes it easier to identify politically connected businesses and where personal ties to political leaders play a very important role. Indeed, Faccio, Masulis & McConnell (2006) analyze the likelihood of government bailouts of 450 politically-connected, though publicly-traded, firms in 35 countries over the period 1997-2002. They find that connected firms are more likely to be bailed out in most countries, but that the probability of bailout is much lower in richer countries, which have lower levels of corruption and stronger legal systems. Studies focusing on individual countries include Johnson & Mitton (2003) on Malaysia, as well as Dinç (2005), Fisman (2001), and Leuz & Oberholzer-Gee (2006) on Indonesia. But personal ties to politicians seem to matter in the United States, too: Acemoglu, Johnson, Kermani, Kwak & Mitton (2010) look at personal ties to Timothy Geithner and find that Geithner-connected financial firms gained abnormal positive stock market returns following the announcement of Geithner's nomination for Treasury Secretary. In a similar study, Fisman, Fisman, Galef & Khurana (2006) examine the stock market returns of companies with personal connections (based on board linkages) to Vice-President Richard Cheney in reaction to news about his personal and political fortunes. They find a zero effect, suggesting that formal connections are more useful than informal connections.

Another issue closely linked to the relative importance of personal connections versus formal channels of political influence is the question whether a lobbyist's value comes from his or her expertise in specific technical areas or whether it comes from the connections that the lobbyist maintains with politicians and lawmakers. This topic is taken up by Bertrand, Bombardini & Trebbi (2011), whose investigation of US lobbyists' profiles and donations shows that it is connections rather than issue expertise that might be the relatively scarce resource lobbyists bring to the table.

In a broader context, our study is related to the recent literature on networks in finance, which examines the benefits that networks of social, including political, connections bring to financial firms; see, e.g., Cohen, Frazzini & Malloy (2008) and (2010).

Our contribution to the literature on corporate lobbying is threefold. First, we focus our attention on BHCs and investigate the determinants of lobbying activities specifically within the banking sector rather than for a broader set of financial firms. Although this entails working with a smaller sample set, we believe that such a focus allows us to identify the motives behind the banking sector's lobbying efforts more carefully. We are not aware of any other study taking a closer look at BHCs' lobbying determinants. Second, we rely upon several dimensions of banks' lobbying activities by adopting a network perspective and introduce to the corporate lobbying literature a novel network metric suggested in the social networks literature by Opsahl, Agneessens & Skvoretz (2010). More specifically, besides the sum of lobbying expenses and the number of lobbyists hired, we employ a measure interacting both lobbying expenses and the number of lobbyists hired. To the best of our knowledge, our study is the first to consider this dimension of lobbying intensity. Third, we are the first to examine the effect of the announcement of the Dodd-Frank bill and of the Volcker rule on banks' lobbying, with a special focus on banks with higher securitization and trading revenues.

3 Hypotheses

We test three hypotheses to investigate the determinants of banks' decision to lobby and the intensity with which they lobby, as well as the effect that the announcement of the US financial regulatory reform in 2009 had on banks' lobbying efforts.

> **Hypothesis One** The decision of a BHC to engage in lobbying activities can be explained by its size, financial strength, and business profile.

We expect BHCs to be more likely to lobby when they are larger, have more vulnerable balance sheets, and have more diversified businesses. Higher business diversification, in this case, proxies for a bank's engagement in non-traditional banking activities.

Hypothesis Two The intensity with which a BHC lobbies can be explained by the breakdown of its main sources of income.

To gain more information, we look at the breakdown of BHCs' main sources of income. In particular, we expect a positive relationship with non-traditional businesses, e.g. securitization and trading, or highly regulated businesses, e.g. insurance. Furthermore, securitization has been a politically sensitive business in the run-up to the 2007 financial crisis since it relied on mortgages and access to house ownership in the US (even for lower-income households) which has been highly encouraged by the politicians in power. This reinforces our expectation of a positive relationship between BHCs' lobbying efforts and their securitization revenues.

Corollary A BHC's choice between setting up an in-house lobbying team or hiring an external lobbying firm to lobby on its behalf can be explained by the breakdown of its main sources of income.

We expect BHCs to set up (larger) in-house lobbying teams when their main sources of income originate from businesses traditionally under heavy regulatory scrutiny. Banks recur to external lobbyists for newer business and regulatory issues which require outside expertise.

Hypothesis Three The announcement of the financial regulatory reform following the 2007 financial crisis led to more intense lobbying by BHCs whose sources of income originate from businesses foreseen to be under increased regulatory scrutiny, thus in particular by BHCs more heavily engaged in trading (due to the Volcker rule).

We expect the announcement of the Volcker rule, i.e. of a restriction on BHCs' proprietary trading and alternative investments, to induce more intense lobbying by BHCs that extract a larger fraction of their revenues from trading. Although it is not possible

to distinguish a bank's proprietary trading from the trading it conducts on behalf of its clients, its total trading gains (or losses) certainly provide a good measure of how much is at stake. We also investigate whether the initial announcement of financial regulatory reform by President Barack Obama in June 2009 led to more intense lobbying by banks that extract a larger fraction of their revenues from securitization, since banks' securitization transactions came under increasing regulatory scrutiny following the 2007 financial crisis and were targeted by several provisions in the reform bill.

4 Data and methodology

The focus of this study is on BHCs. The Bank Holding Company Act of 1956 broadly defines a BHC as "a company that owns and/or controls one or more US banks or one that owns, or has controlling interest in, one or more banks (`www.ffeic.com`)." The Federal Reserve Board of Governors is responsible for regulating and supervising BHCs' activities, even if the bank owned by the holding company is under the primary supervision of a different federal agency, e.g. the Federal Deposit Insurance Corporation (FDIC).[6]

We begin constructing our sample by taking the top 50 BHCs in terms of USD nominal value of total assets as declared in September 2010 by the Federal Financial Institutions Examination Council (FFEIC). Our sample period runs from 2001:Q1 to

[6]Most BHCs in our sample hold the special status of "financial holding company - domestic" (FHC), which is defined as follows:

> "A financial entity engaged in a broad range of banking-related activities, created by the Gramm-Leach-Bliley Act of 1999. These activities include: insurance underwriting, securities dealing and underwriting, financial and investment advisory services, merchant banking, issuing or selling securitized interests in bank-eligible assets, and generally engaging in any non-banking activity authorized by the Bank Holding Company Act. The Federal Reserve Board is responsible for supervising the financial condition and activities of financial holding companies. Similarly, any non-bank commercial company that is predominantly engaged in financial activities, earning 85% or more of its gross revenues from financial services, may choose to become a financial holding company. These companies are required to sell any non-financial (commercial) businesses within ten years."
> Source: `www.ffeic.com`.

2010:Q3 and is determined by the availability of both lobbying and financial data. In particular, we exclude three BHCs because we are unable to retrieve their financial data; namely, Ally Financial, Inc., American Express Company, and First Niagara Financial Group, Inc. Moreover, if a BHC in our sample has been formed sometime between 2001 and 2010 as the result of a merger between two banks, we add to our sample the two original banks. As a clarifying example: our sample includes not only Bank of New York Mellon, but also the two former merging banks, Bank of New York and Mellon Financial Corp. Sections 7 and 7 in the appendix provide the list of BHCs included in our sample and a few remarks on these banks with reference to our sample period running from 2001:Q1 to 2010:Q3.

Table 1 in the appendix provides the definitions and the sources of data for all the variables we use, table 2 descriptive statistics of the variables, and table 3 the correlations between them. The following subsections discuss the contents of these tables.

4.1 Banks' lobbying activities

4.1.1 Lobbying data

The Lobbying Disclosure Act of 1995 requires any firm with an in-house lobbying unit and whose lobbying expenses exceed $20'000 semi-annually to register with the Secretary of the Senate and the Clerk of the House of Representatives within 45 days after it first makes a lobbying contact. The registration also applies to any lobbyist whose total income for lobbying activities on behalf of a client it represents exceeds $5'000. Lobbyists and their clients were initially required to file two lobbying reports per year: a mid-year report for lobbying activities carried out between January and June, plus an end-year report for the period between July and December. Since the beginning of 2008, the required reporting frequency has been raised from semi-annual to quarterly.

Lobbying reports are made available to the public by the Center for Responsive Politics on its OpenSecrets.org website. For the period running from 2001 to 2007,

we transform banks' semiannual lobbying expenses into quarterly ones by splitting the amounts into two. Although such procedure may at first seem somewhat arbitrary, one important point motivates our choice. The lobbying figures refer to the entire six-month period and not to the last day of the semester, so we do not know whether the money was actually paid out in, say, January or June. Indeed, support for our procedure is reinforced by looking, for instance, at the money paid by Goldman Sachs to Baptista Group: \$140'000 in 2007:H2 and then \$67'500 in both 2008:Q1 and 2008:Q2. Or to Duberstein Group: \$200'000 in 2007:H2 and then \$100'000 in both 2008:Q1 and 2008:Q2. More generally, Goldman Sachs' total lobbying expenses moved from \$1'340'000 in 2007:H1 and \$1'380'000 in 2007:H2 to \$760'000 in 2008:Q1 and \$980'000 in 2008:Q2.

If there are no lobbying reports for a BHC in a given quarter, we presume that it has not lobbied and take zero as the amount invested in lobbying.[7] There is a large variability in BHCs' lobbying activities over 2001-2010: of the 49 banks included in our sample, 21 banks have lobbied in all quarters or almost (i.e over 90% of the time), 14 have lobbied occasionally, while the remaining 14 have never lobbied at all.

Figure 1 shows that the cross-sectional average quarterly lobbying expenses across all lobbying BHCs in our sample has increased from 2001:Q1 to 2010:Q4. The cross-sectional average moves slightly downward until 2002:Q3, at which point there appears to be a "jump" in BHCs' lobbying expenses. Figure 1 clearly shows that it is mainly after 2006:Q1 that lobbying BHCs started to augment significantly their quarterly lobbying expenditures.

4.1.2 Measures of connectedness

If we interpret BHCs and lobbyists as nodes of a weighted directed network, where a link departing from BHC i to lobbyist j means "BHC i hires lobbyist j" and the weight

[7] It is worth stressing that the variable of interest of our study is individual lobbying carried out by BHCs and not collective lobbying carried out by banks' trade associations. Hence, zero individual lobbying expenses do not rule out any contributions a BHC may have made to a trade association's lobbying efforts. This, however, is outside the scope of our study.

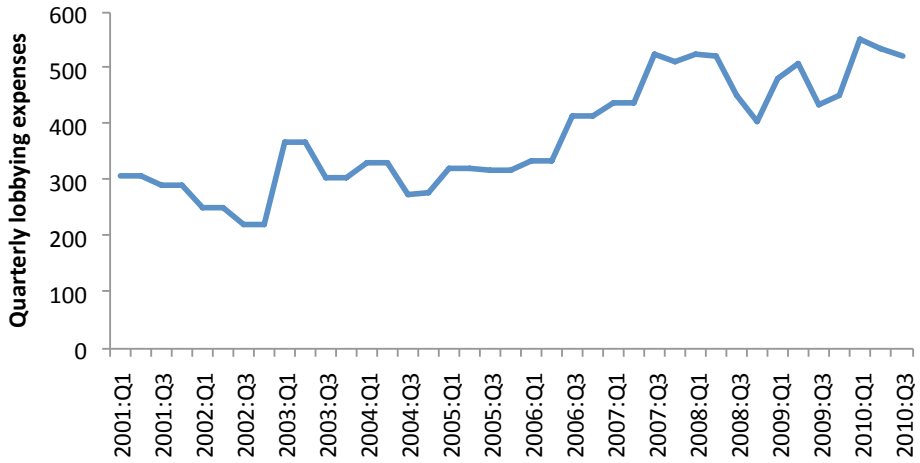

Figure 1: Cross-sectional average quarterly lobbying expenses (USD '000) across all lobbying BHCs in our sample.

attached to the link denotes the amount paid for the lobbyists' services, we can borrow suitable measures from (social) network analysis for our study. Specifically, for each quarter from 2001 to 2010, we construct four distinct variables that capture qualitative and quantitative features of a BHC's lobbying activity.

Our first measure is the dummy variable $LobbyDummy_{i,t}$ which takes on a value of one if BHC i does lobby in quarter t, and zero otherwise. For our second measure we consider the sum of weights of all links departing from each node representing a BHC, or "node strength" in network terminology. We construct a variable $LobbyExpenses_{i,t}$ which expresses the total lobbying expenses of BHC i in quarter t as a part per million (ppm), i.e. 10^{-6}, of its total nominal assets in the same quarter:[8]

$$LobbyExpenses_{i,t} = \frac{TotalLobbyingExpenses_{i,t}}{TotalAssets_{i,t}} * 10^6. \tag{1}$$

As a third measure of connectedness we take the number of links departing from each node representing a BHC, i.e. the node's "out-degree". In our case, this corresponds to

[8]See the description of banks' financial data below.

the total number of both in-house and external lobbyists hired by BHC i in quarter t. This brings to the picture the gregariousness of a node as a further dimension of its network activity. That is, we use the number of a BHC's lobbying connections as a further dimension of its lobbying efforts:

$$Lobbyists_{i,t} = InHouseLobbyists_{i,t} + ExternalLobbyists_{i,t}. \tag{2}$$

Each BHC hired on average six lobbyists per quarter throughout our sample period. Breaking down the numbers into in-house and external lobbyists, each BHC hired on average one in-house lobbyist and five external lobbyists per quarter. Figure 2 compares the time evolution of the total number of in-house lobbyists with that of external lobbyists hired by the BHCs in our sample. There is clearly more variation in the number of external lobbyists hired, intuitively because of the flexibility with which contracts with external lobbyists can be started and ended. The highest number of lobbyists working on behalf of a given bank and in a given quarter was attained by Citigroup in 2002:Q4 with 74 lobbyists, 67 of whom were external.

As a fourth and final measure of connectedness we take a combination of the two last measures, following the suggestion by Opsahl et al. (2010) of a generalized degree measure for weighted networks:

$$LobbyMix_{i,t} = LobbyExpenses_{i,t}^{1-\alpha} \times Lobbyists_{i,t}^{\alpha}, \tag{3}$$

where α is a tuning parameter. We assign to α a value of 0.5, so to give equal weights to the number of connections and to the "value" of those connections.

4.2 Banking data

For our independent variables on banks' characteristics, we refer to several sources. One source of data are BHCs' consolidated financial statements. These statements are

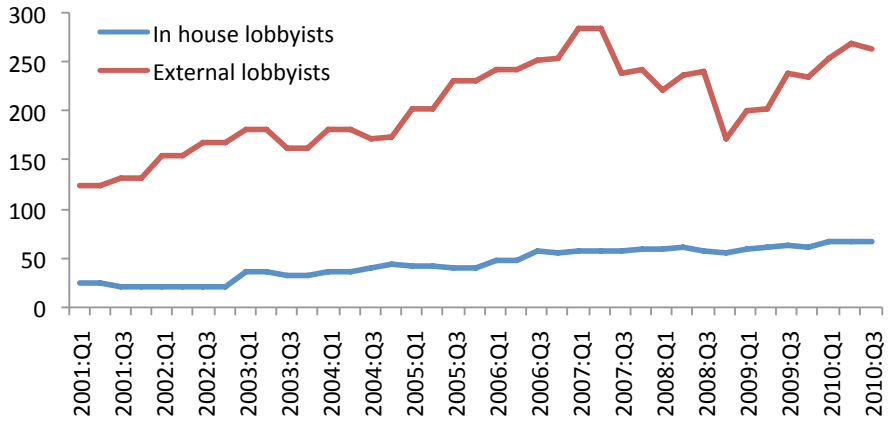

Figure 2: Comparing the time evolution of banks' hiring of in-house lobbyists (lower blue line) versus external lobbyists (upper red line). Figures represent aggregate values over all 49 BHCs in our sample.

officially known as the FR-Y-9C reports and are filed on a quarterly basis. Quarterly data up to 2007:Q4 are available from the Wharton Research Data Services database, whereas quarterly data from 2008:Q1 onwards are available from the Federal Reserve's National Information Center website.

4.2.1 Banks' financial strength and credit risk

One first information we take from banks' financial statements is the nominal value of their total assets. We use this to normalize lobbying expenses (as described in the previous section) and to control for the size of each bank when regressing $LobbyDummy$ and $Lobbyists$ on the independent variables.

As a measure of a bank's financial strength we construct the variable $TierOne_{i,t}$, which is BHC i's tier one capital ratio in quarter t and is obtained by dividing the bank's tier one capital by its average total assets for leverage capital purposes. As table 2 shows, there are negative tier one capital ratio values in the data: These figures belong to Taunus Corporation and have apparently raised concern among US Senators in June

2010.[9] This case is isolated, though. On average, our sample BHCs maintain a tier one capital ratio of 7.42 in each quarter.

From Compustat we obtain the S&P domestic long-term issuer credit rating, which is a current opinion of an issuer's overall creditworthiness, apart from its ability to repay individual obligations. Values range from AAA, meaning that the firm has an extremely strong capacity to meet its financial obligations, to D, meaning that the firm is in default. If a bank's credit rating is not available, we take that of its parent company. In one case, namely for Commerce Bancshares, we take S&P's rating for the BHC's short-term debt, since no long-term rating is available for our entire sample period. S&P ratings are published on a monthly basis, though, for the purposes of our study, we are interested in the rating corresponding to the end of each quarter. We construct the variable $Rating_{i,t}$ which takes on values one (for AAA) to 22 (for D) indicating the strength of BHC i's credit rating in quarter t. The average BHC in our sample has an A rating.

4.2.2 Banks' sources of income

We also look at the various components of interest income and of non-interest income of each BHC. Since the breakdown of both interest income and non-interest income into their single components was not always reported in the same way during our sample period, we carry out a matching of income components over the different years. For the purposes of our study, we are mainly interested in the non-traditional and politically sensitive banking activities that were the target of the recent regulatory reform, plus the more traditional loans business. We focus on the following five income sources, all of which are expressed in percentage terms of total interest and non-interest income:

- $Securitization_{i,t}$ is net securitization income.
- $Trade_{i,t}$ is trading revenue from cash instruments and derivative instruments. This

[9] See "Heard on the Street: Deutsche Bank deserves bite Bair gave it" published on `www.wsj.com`, June 17, 2010.

includes: (i) interest rate exposures, (ii) foreign exchange exposures, (iii) equity security and index exposures, (iv) commodity and other exposures, (v) and credit exposures.

- $Insurance_{i,t}$ includes (i) underwriting income from insurance and reinsurance activities and (ii) income from other insurance activities.

- $InvestBank_{i,t}$ includes (i) fees and commissions from securities brokerage, (ii) investment banking, advisory, and underwriting fees and commissions, and (iii) fees and commissions from annuity sales.

- $Loans_{i,t}$ is interest and fee income on loans in domestic and foreign offices. This includes (i) loans in domestic offices secured by 1-4 family residential properties, (ii) all other loans in domestic offices secured by real estate, (iii) all other loans in domestic offices, and (iv) loans in foreign offices, Edge and Agreement subsidiaries, and IBFs.

A few observations on the time evolution of the two business activities we are most interested in - securitization and trading - are in order. Figure 3 shows that securitization has taken off as a source of income for our sample BHCs towards the end of 2004, after which it has remained relatively stable until the end of 2007. Our sample BHCs have then experienced severe losses on their securitization businesses in all quarters in 2008. Securitization revenues in 2009 are at a roughly same level as in the pre-2005 period. Thirty BHCs in our sample were at some point in time engaged in the securitization business, and half of these BHCs over almost the entire sample period.

Banks' trading activities were loosely regulated throughout 2001-2010 and, to a certain degree, even encouraged by low capital requirements imposed by the Securities and Exchange Commission (SEC).[10] Figure 4 markedly reveals the losses suffered by the BHCs in our sample on their trading activities from 2007:Q2 to 2009:Q1. Nineteen

[10]See, in particular, the changes made by the SEC to leverage rules in 2004.

BHCs have suffered some or substantial losses in those quarters. Individual cross-section graphs show no losses on trading activities for the quarters prior to 2007:Q2.

It is also interesting to note in table 2 that, on average, securitization and trading revenues make up a very small fraction of banks' total income. This is especially true when compared to, say, income from loans. The loans business appears to remain the prevalent business of our sample BHCs, although the high standard deviation of *Loans* reveals large variability within the sample.

We finally quantify the degree of concentration or diversification across a BHC's business activities in each quarter. For this we use a formula similar to the Herfindahl index:

$$BizConcentration_{i,t} = \sum_{x}^{15} |a_{x,t}|^2, \tag{4}$$

where $a_{x,t}$ is the share of the xth source of income in quarter t. There are 15 main sources of income according to the FR-Y-9C reports. We take absolute values because of possible negative values denoting losses in any business segment. Values of $BizConcentration$ closer to one indicate higher business concentration, whereas values closer to zero indicate higher business diversification. The relatively high correlation of 0.561 between $BizConcentration$ and *Loans* shown in table 3 confirms our statement of high business concentration corresponding to a focus on the traditional lending activity.

4.2.3 Further banking data

Since we would also like to control our results for cross-sectional fixed effects, we collect additional time-invariant data on our sample BHCs. One time-invariant variable we construct is $Foreign_i$ which takes on a value of one if the BHC has a foreign (i.e. non-US) parent company, and zero otherwise. There are 11 BHCs in our sample that are foreign-owned.[11]

[11]The 11 BHCs in our sample with foreign ownership are: BancWest Corporation (owned by BNP Paribas), Barclays Group US, BBVA Compass, Citizens Financial Group (Royal Bank of Scotland

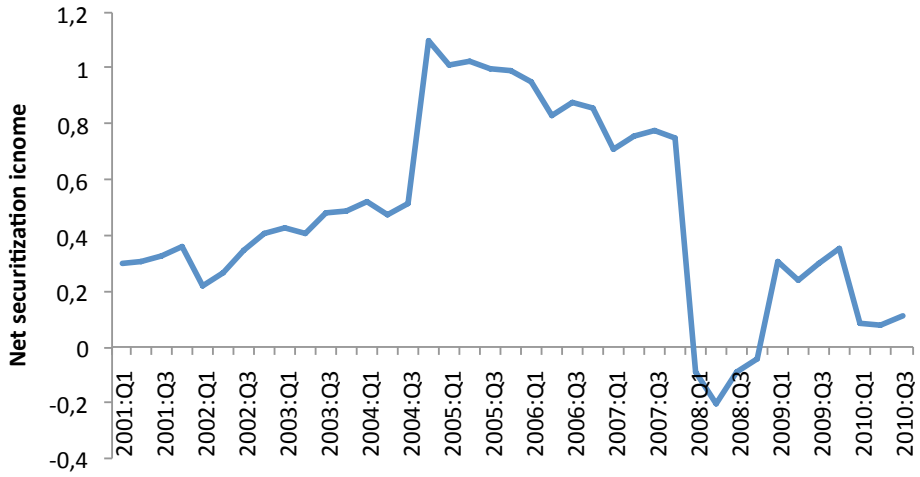

Figure 3: Cross-sectional average quarterly securitization income (as a percentage of total income) across all 49 BHCs in our sample.

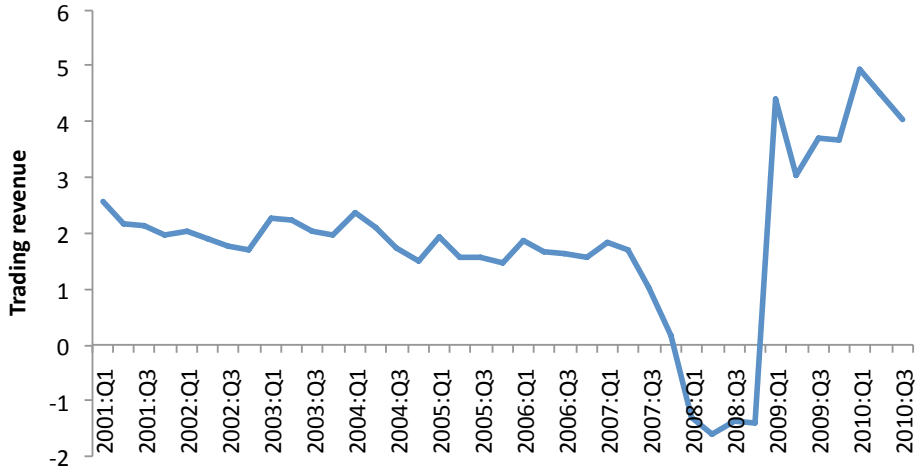

Figure 4: Cross-sectional average quarterly trading revenue (as a percentage of total income) across all 49 BHCs in our sample.

Group), Harris Financial Group (Bank of Montreal), HSBC North America Holdings, RBC Bancorporation USA (Royal Bank of Canada), Taunus Corporation (Deutsche Bank), TD Bank US Holding Company (Toronto-Dominion Bank), Unionbancal Corporation (Mitsubishi UFJ Financial Group), Utrecht-America Holdings (Rabobank). In December 2010, Bank of Montreal purchased Marshall & Ilsley Corporation, thus turning this BHC, too, into a foreign-owned one - however, this does not apply to our sample period.

Another time-invariant variable we take is the location of a BHC's headquarters. We construct the dummy variable $NewYork_i$ that takes on a value of one if a BHC's headquarters are located in the state of New York, and zero if they are located elsewhere. The are 13 BHCs in our sample whose headquarters are located in the state of New York.

While $NewYork_i$ indicates geographical clustering of BHCs in a certain region (namely the state of New York), we are also interested in measuring the geographical distance between lobbying clients and legislators. We construct the time-invariant variable $Distance_i$ as the flying time (in minutes) between Washington DC and the city in which BHC i is headquartered. We obtain this information from United Airlines' website. For each flight we take as departure airport code WAS which stands for "Washington - all airports". In case there is no direct flight to a BHC's headquarters' location, we consider connecting flights and compute the entire flying time.[12] As table 2 shows, the longest flying time is of six hours and 50 minutes for a flight from Washington DC to Honolulu, Hawaii, where BancWest is headquartered. The shortest flying time is to Capital One's headquarters (zero minutes), since McLean VA is actually only a twenty-minute drive away from Washington DC and no flight is needed.

4.3 Estimation technique

Our final sample - after collecting the data as described above - is an unbalanced panel set comprising 49 cross sections and 39 time periods. We run panel regressions with each one of our four connectedness measures respectively on the left hand side and a set of independent variables on the right hand side. The choice of independent variables depends on which one of the three hypotheses outlined in section 3 we are testing. We include in all regressions the cross-sectional fixed effects $Foreign_i$ and $NewYork_i$.

A methodological issue arises in that each one of the dependent variables describing banks' lobbying activities is bounded below, at zero. Banks that have no incentives to

[12]For the flying time from Washington DC to Columbus GA, we need to refer to Delta Airlines' website.

engage in lobbying in a certain quarter do not spend any money on such activities nor do they hire any lobbyists. Zero expenditures occur in 737 of the 1440 bank-quarter observations of our full sample. Such a probability mass at a single point implies biased and inconsistent ordinary least squares estimates. One way to deal with a potential selectivity bias is to run a two-stage Heckman procedure (see Heckman (1979)). Here, a probit model (the so-called 'selection equation') is used in a first stage to predict the probability of a BHC's decision to lobby in a given quarter; in a second stage, the inverse Mills' ratio is included as a regressor (IMR) in an OLS model (the so-called 'response equation') identifying the determinants of a BHC's lobbying intensity.

In order to test the first hypothesis, namely that a bank's decision to engage in lobbying activities can be explained by its size, financial strength, and business profile, we run the following probit regression:

$$\begin{aligned} LobbyDummy_{i,t} &= \delta_1 TierOne_{i,t-1} + \delta_2 Rating_{i,t-1} + \delta_3 BizConcentration_{i,t-1} \\ &\quad + \delta_4 TotalAssets_{i,t-1} + \delta_5 Foreign_i + \delta_6 NewYork_i + \epsilon_t. \quad (5) \end{aligned}$$

In order to test the second hypothesis, namely that the intensity of a bank's engagement in lobbying activities can be explained by the composition of its business revenues, we run a two-stage Heckman regression analysis, with the selection equation given by (5) and the response equation given by the following regression:

$$\begin{aligned} Lobby_{i,t} &= c + \delta_1 TierOne_{i,t-1} + \delta_2 Securitization_{i,t-1} \\ &\quad + \delta_3 Trade_{i,t-1} + \delta_4 Loans_{i,t-1} + \delta_5 InvestBank_{i,t-1} \\ &\quad + \delta_6 Insurance_{i,t-1} + \delta_7 Foreign_i + \delta_8 NewYork_i + IMR + \epsilon_t, \quad (6) \end{aligned}$$

where $Lobby_{i,t}$ is one of the three following measures of connectedness: $LobbyExpenses_{i,t}$, $Lobbyists_{i,t}$, or $LobbyMix_{i,t}$. When regressing $Lobbyists_{i,t}$ over the independent vari-

ables, we also include $TotalAssets_{i,t-1}$ on the right hand side to control for the size of the BHC.

In order to test the third hypothesis, namely whether the announcement of the financial regulatory reform following the 2007 financial crisis exacerbated the lobbying intensity of BHCs with higher securitization and trading revenues, we run the following response regression in a two-stage Heckman regression analysis (where the selection equation is again given by (5)):

$$\begin{aligned} Lobby_{i,t} &= c + \delta_1 TierOne_{i,t-1} + \delta_2 Securitization_{i,t-1} \\ &\quad + \delta_3 Securitization_{i,t-1} * Reform1 + \delta_4 Trade_{i,t-1} \\ &\quad + \delta_5 Trade_{i,t-1} * Reform2 + \delta_6 Loans_{i,t-1} + \delta_7 InvestBank_{i,t-1} \\ &\quad + \delta_8 Insurance_{i,t-1} + \delta_9 Foreign_i + \delta_{10} NewYork_i + IMR + \epsilon_t, \quad (7) \end{aligned}$$

where $Reform1$ is a dummy variable accounting for the announcement of financial regulatory reform by President Obama on June 16, 2009, and taking value one for each quarter from 2009:Q3 onwards; similarly, $Reform2$ is a dummy variable accounting for the announcement of the Volcker rule on January 21, 2010, and taking on value one for each quarter from 2010:Q1 onwards.[13] The interaction term $Securitization * Reform1$ is designed to capture the potentially modified impact of the contribution of securitization revenues in explaining banks' lobbying activities after the announcement of the financial regulatory reform in June 2009. In a similar fashion, $Trade * Reform2$ captures the potentially modified impact of the contribution of trading revenues after the announcement of the Volcker rule in January 2010.

[13] See `http://www.whitehouse.gov/the-press-office/Remarks-of-the-President-on-Regulatory-Reform` and `http://www.whitehouse.gov/the-press-office/remarks-president-financial-reform` for the announcement of the financial regulatory reform and of the Volcker rule, respectively.

5 Empirical results

The results for our three hypothesis tests are reported in tables 4 and 6.

5.1 Banks' aggregate characteristics and their decision to lobby

In this section, we investigate the impact of BHCs' key aggregate characteristics on their decision to lobby. In line with our first hypothesis outlined in section 3, we examine the impact of BHCs' financial strength, business composition, size, and geographical clustering on that decision.

As conjectured in our first hypothesis, the coefficient on $TierOne$ is negative and strongly significant in the selection regression. Thus, more leveraged banks, or those with more vulnerable balance sheets are more likely to lobby. Credit rating is positively related to a BHC's decision to lobby with a statistical significance at the one percent level. Since higher values of *Rating* refer to lower creditworthiness, our result implies that less creditworthy BHCs are more likely to engage in lobbying. This observation is consistent with our previous result regarding BHCs' capital ratios. The business concentration index has a negative and highly significant coefficient in the selection equation, suggesting that banks are more likely to engage in lobbying as their businesses become more diversified. This is in line with our initial conjecture that BHCs increase their lobbying efforts as they no longer restrict themselves to the traditional deposit-taking and lending activities and venture into non-traditional businesses. The size of a BHC's total assets is, as expected, positively related to its decision to lobby. Hence, bigger banks and more diversified banks - in terms of their activities -, are more prone to engage in lobbying activities. Finally, we observe that the fixed effect $Foreign$ is insignificant, whereas $NewYork$ significantly negatively influences a BHC's decision to lobby.

5.2 Banks' sources of income and the intensity of their lobbying activities

We next test our second hypothesis and investigate the impact of BHCs' income sources on the intensity of their lobbying efforts, as measured by the amounts they spend on lobbying and by their lobbying manpower. The response equation results in table 4 (i.e. columns two to four) show that, confirming our expectation that BHCs with larger traditional deposit-taking and lending businesses lobby less intensely, income from loans is negatively related to a BHC's lobbying expenses with a statistical significance at the 1% level.

What also stands out from table 4 is that there are two businesses which are the most strongly and positively related to BHCs' lobbying activities, both in terms of money spent and of number of lobbyists hired: securitization and insurance. Indeed, consistent with our second hypothesis, the coefficient on securitization revenues is positive and significant at the 1% level in all three response regressions. This positive sign confirms our expectation that, among BHCs that do lobby, those engaged in politically sensitive businesses, such as the structuring of products designed on mortgage loans, lobby more intensely. Our results are also in line with the findings by Igan et al. (2009), who show intense lobbying by financial firms on issues regarding mortgage lending in the run-up to the 2007/8 financial crisis. Due to the intense regulation to which insurance activities are subject, insurance income, too, has a positive and strongly significant coefficient in all three response regressions. The fact that insurance regulation is extremely fragmented in the US, since it is almost exclusively conducted at the state rather than at the federal level, may also explain the strong positive impact this source of income exercises on a BHC's lobbying efforts.

The coefficient on trading revenues is positive and significant when considering both the number of lobbyists hired by a BHC and the BHC's overall lobbying intensity (as measured by the variable $LobbyMix$). An increase of slightly over 7% in the contribution of trading revenues to a BHC's total income corresponds to the hiring of an additional

lobbyist. As we show in the following section, this result is mainly driven by the number of external rather than in-house lobbyists, and hints to banks with larger trading businesses gradually hiring more external expertise in order to deal with newer and more complex regulatory issues. In contrast, revenues from investment banking negatively and significantly affect the amount a BHC decides to invest in lobbying and the BHC's overall lobbying intensity. This is consistent with the looser regulation imposed on investment banking; indeed, in the years following the Gramm-Leach-Bliley Act, banking regulation actually incentivized BHCs to increase their investment banking activities.[14]

It is also worth noting that, in line with the results obtained for our first hypothesis, columns two to four in table 4 show that a BHC's lobbying intensity, too, can be explained by its aggregate characteristics. Indeed, banks with higher leverage, tend to lobby more intensely, especially in terms of money spent or the number of lobbyists hired. Foreign-owned banks may spend slightly higher amounts in lobbying than US-owned BHCs, but they also tend to hire less lobbyists. Indeed, a foreign-owned BHC in the US hires on average three lobbyists less than a US-owned BHC. Overall, the lobbying intensity of foreign-owned BHCs - as expressed by $LobbyMix$ - is significantly lower than that of their US-owned peers. This result is consistent with those obtained by political science studies examining foreign firms' political activity in the US: foreign firms do not wish to be perceived as interfering in domestic issues of the host country and therefore dedicate less money to political influence than their domestic counterparts (see, e.g., Hansen & Mitchell (2000)). But the negative coefficient of $Foreign$ may also reflect a cultural issue: Comparative studies of lobbying activities show that variations in lobbying practices in the US, the UK, and the European Union can in part be explained by different cultural norms and values (see, e.g., McGrath (2005) for a detailed analysis of the similarities and differences in lobbyists' activities in Brussels, London, and Washington). Furthermore, among sample BHCs that do lobby, being based in the state of

[14] A summary of the provisions in the Gramm-Leach-Bliley Act facilitating the affiliation among banks, securities firms, and insurance firms is available at textttthttp://banking.senate.gov/conf/grmleach.htm.

New York positively relates to the intensity with which a BHC lobbies. A lobbying BHC headquartered in New York hires on average six more lobbyists than a lobbying BHC headquartered elsewhere. Thus, geographical clustering matters and BHCs located in New York that do lobby appear to get more involved in legislative issues affecting their businesses, probably due to easy access and proximity with politicians.

Finally, let us point out that the inverse Mills' ratio is significant in each one of our response equations, hence indicating the presence of a selection bias which makes ordinary OLS regression analysis inappropriate for our study. The significance of the inverse Mill's ratio provides support for our choice of the Heckman-Probit estimation method.

5.3 Bank's sources of income and their choice of in-house versus external lobbyists

We are also interested in understanding the impact of various sources of income on a bank's choice between in-house and external lobbyists, and thus run a modified version of the regression testing our second hypothesis taking either one of the following dependent variables: $InHouseLobbyists$ and $ExternalLobbyists$. The results of testing the corollary of our second hypothesis are reported in table 5.

The most striking result observed in table 5 is that, while BHCs hire in-house lobbyists to lobby on securitization issues, they tend to recur to external lobbyists when it comes to regulatory proposals affecting their trading activities. Indeed, external lobbyists may offer additional know-how on regulatory issues surrounding this complex source of revenue. A seven percent increase in the total income due to trading revenues leads to the hiring of an additional external lobbyist.

Given the complexity of insurance regulation, it is not surprising to find that BHCs with larger insurance businesses hire a higher number of both in-house and external lobbyists. The hiring of an additional external lobbyist happens at a somewhat higher rate though, as it requires an increase of only three percent of total income due to income ac-

tivities, whereas the hiring of an additional in-house lobbyist requires an increase of 14%. In the response equations reported in table 5, we replace the geographical cross-sectional fixed effect $NewYork$ with the $Distance$ variable to test our conjecture regarding lobbying efforts of BHCs closer to legislators. Since lobbying success depends to a large extent on lobbyists' personal connections, we expect a BHC to invest more in setting up an in-house lobbying team when its lobbyists can more frequently interact with legislators. Table 5 shows that geographical proximity matters, as $Distance$ has a strongly significant and negative coefficient when considering the number of in-house lobbyists. But when considering external lobbyists, geographical distance is, as expected, no longer significant. These results support the intuition that firms that are geographically closer to legislators have stronger incentives to set up in-house lobbying teams, since it will cost their lobbyists less time and effort to interact with legislators on a regular basis.

5.4 The effect of the announcement of the Dodd-Frank bill

Having analyzed the determinants of banks' lobbying activities in the previous sections, we now examine whether the announcement of the financial regulatory reform following the 2007 crisis has affected the intensity with which banks lobby. Our third hypothesis outlined in section 3 states that the announcement of stricter regulation led to more intense lobbying by BHCs whose sources of income strongly depend on businesses under increased regulatory scrutiny, in particular securitization and trading.

In order to test our third hypothesis, we employ panel regressions on banks' lobbying intensity as in table 4, except that we now introduce two interaction terms, $Securitization * Reform1$ and $Trade * Reform2$, in addition to the other variables previously mentioned. Table 6 presents the results of our test regarding the impact of the 2009/10 regulatory proposals on BHCs' lobbying efforts. While the interaction term $Securitization * Reform1$ is intended to capture the potentially modified impact of the contribution of securitization revenues in explaining banks' lobbying activities

after the announcement of the financial regulatory reform in June 2009, the interaction term $Trade * Reform2$ is intended to capture the potentially modified impact of the contribution of trading revenues after the announcement of the Volcker rule in January 2010.

The source of revenue gaining increased importance as a determinant of BHCs' lobbying activities in the aftermath of the crisis is trading. This is consistent with banks perceiving their trading activities to be under heightened regulatory scrutiny following the proposal of the Volcker rule. Indeed, the interaction term $Trade * Reform2$ is highly significant for both lobbing intensity dependent variables. Thus, the announcement of the Volcker rule has intensified BHCs' lobbying efforts mainly through a rise in their lobbying expenses rather than through a significant change in their lobbying connections.

As table 6 clearly illustrates, securitization was a much more significant determinant of BHCs' lobbying activities in the run-up to the financial crisis than afterwards. This is most likely attributable to the fact that problems in the subprime market led BHCs' securitization products to a dramatic halt in 2008. So, although securitization has become under higher regulatory (and public) scrutiny in the aftermath of the 2007 financial crisis, securitization units at BHCs have been considerably downsized since then and thus their revenues have only marginally contributed to the increase in BHCs' lobbying expenses after the announcement of the financial reform.

5.5 Robustness checks

Two issues could potentially affect the robustness of our results, namely the omitted variable problem and reverse causality. The inclusion in our regressions of cross-sectional fixed effects capturing location and foreign ownership of BHCs does reduce but does not exclude the existence of an omitted variable problem. Moreover, it is also true that BHCs have been lobbying on numerous bills over our sample period and that some of these bills were not directly related to their financial and business characteristics. So there

may very well be additional factors occasionally influencing a BHC's decision to intensify its lobbying efforts. For example, the decision by Citigroup to lobby on the Education Jobs and Medicaid Funding Bill (H.R.1586) in 2010:Q1 will hardly be captured by our estimation analysis - but neither is this the focus of our study nor do we believe such "non-finance-related bills" to be of primary importance to the banking sector.

The issue of reverse causality applies in particular to the variables defining banks' total assets, their various sources of income, as well as their tier one capital ratios. For instance, one could argue that higher revenues in a given business may be the result of intense bank lobbying, rather than the other way round. Since we always take one lag for the specification of the independent variables, this direct effect is already dealt with in the core of this study. Additionally, we run regressions taking two and three lags (results not reported in this draft), and find no changes in the significance of the empirical results. Furthermore, a robustness check for endogeneity is provided by our third hypothesis, where we study the effect of the announcement of the Volker rule on BHCs' lobbying activities. The strongly significant impact of the announcement of the Volcker rule on the lobbying intensity of BHCs with higher trading revenues suggests that lobbying efforts increased in response to this natural experiment.

As an additional check of the direction of causation between each of the independent variables and each of the lobbying measures, we run Granger causality tests. Using the standard two-lag length specification, we are able to confirm that the following independent variables (Granger) cause each of our four lobbying measures: $Loans$, $Trade$, $Insurance$, $BizConcentration$, $TierOne$. Furthermore, we are able to confirm that $Securitization$ Granger causes banks' lobbying activities when taking three, four, or five lags. The only independent variable for which we are unable to determine the direction of causation is $InvestBank$.

6 Which banks do *not* lobby?

As we noted in section 4.1.1 above, 14 BHCs in our sample have never lobbied throughout the sample period 2001 to 2010.[15] Although these 14 BHCs are among the 50 largest BHCs in the US just as the other 35 BHCs that do (at least in some if not all quarters) lobby, they possess some specific characteristics that deserve to be mentioned.

Table 7 shows that the non-lobbying BHCs are among the smallest BHCs in our sample in terms of their nominal total assets. Indeed, they hold an average of USD 32'010'870 total nominal assets per quarter; whereas, the other 35 BHCs hold an average of USD 304'682'710. They also have a higher average tier one capital ratio than lobbying BHCs (8.44 versus 7.04), indicating stronger financial health. In terms of business profile, non-lobbying BHCs are less diversified (with a business concentration index of 0.47 versus 0.37) and their major source of revenue is by far the loans' business. In contrast, the other business activities we consider in this paper - securitization, trading, investment banking, insurance - do not constitute important sources of revenue for these non-lobbying BHCs. All these characteristics associated with the 14 non–lobbying banks in our sample indirectly support the specification of our first hypothesis and of the selection equation tested in table 4.

7 Conclusions

This study provides a first attempt to understand the determinants of BHCs' lobbying activities and the effect of recent financial regulation proposals on these activities. More precisely, we examine the relationship between banks' lobbying activities, on the one side, and their size, financial strength, business revenues origination, and geographical proximity, on the other. We also investigate the effect that the announcement of the financial regulatory reform in 2009 had on banks' lobbying activities as they relate to

[15] See Appendix A.

the strength of their trading and securitization businesses' revenues.

We construct four measures of banks' lobbying activities intended to capture the quantitative and qualitative aspects of a bank's lobbying decision and its intensity. Our main empirical findings can be summarized as follows. First, we find that banks are more likely to lobby when they are larger, have more vulnerable balance sheets, are less creditworthy, and have more diversified business profiles. Our second finding corroborates the fact that more diversified banks, mainly those engaged in non-traditional businesses, e.g. securitization and trading, or in highly regulated businesses, e.g. insurance, hire more lobbyists and spend larger amounts on lobbying. Similarly, banks engaged in traditional businesses, e.g. lending, lobby less intensely. Our third finding relates to the announcement by President Obama of the financial regulatory reform in June 2009 as well as the announcement of the Volcker rule in January 2010. The latter announcement was followed by significantly higher lobbying intensity on behalf of banks with higher trading revenues.

It is important to note that our study focuses on BHCs' lobbying activities and not also on other possible forms of BHCs' political participation, such as campaign donations, which is money donated by a BHC or by people connected to the BHC to support candidates running for election. An interesting question for future work is what relationship (if any) exists between the different types of political participation available to banks; e.g. are lobbying expenses and campaign donations substitutes or complements? There are a few papers investigating the relationship between different forms of corporate political participation in the political science literature, but - to the best of our awareness - none focusing on the financial sector.

In other future work, it will also be important to investigate the degree to which banks' lobbying efforts are successful. That is, besides calculating the (absolute and relative) costs of lobbying to the banks, it is important to identify and quantify the benefits of lobbying and determine the "profitability" of what has been called banks'

"seventh line of business."[16] The loosening of the restriction on banks' proprietary trading and alternative investments in the final version of the Dodd-Frank bill may hint to lobbyists' success in this area, but it would be interesting to provide further empirical evidence of lobbying's effectiveness. Another interesting investigation is the relationship between a bank's formal lobbying connections and the personal connections of its CEO or board members to politicians - e.g. through past educational or employment ties. Finally, research is needed to provide insights on the ongoing debate on whether and to what extent bank lobbying activities need to be regulated.

References

Acemoglu, D., Johnson, S., Kermani, A., Kwak, J. & Mitton, T. (2010), The value of political connections in the United States. Working paper.

Aslan, H. & Grinstein, Y. (2010), CEO compensation and political connectedness. Working paper.

Bertrand, M., Bombardini, M. & Trebbi, F. (2011), Is it who you know or what you know? An empirical assessment of the lobbying process. Working paper.

Chari, R., Hogan, J. & Murphy, G. (2010), *Regulating Lobbying: A Global Comparison*, Manchester University Press.

Chen, H., Parsley, D. & Yang, Y. (2010), Corporate lobbying and financial performance. Working paper.

Claessens, S., Feijen, E. & Laeven, L. (2007), 'Political connections and preferential access to finance: The role of campaign contributions', *Journal of Financial Economics* **88**(3), 554–580.

[16] See quote in the introduction.

Cohen, L., Frazzini, A. & Malloy, C. (2008), 'The small world of investing: The use of social networks in bank decision-making', *Journal of Political Economy* **116**(5), 951–979.

Cohen, L., Frazzini, A. & Malloy, C. (2010), 'Sell side school ties', *Journal of Finance* **65**(4), 1409–1437.

Dinç, S. (2005), 'Politicians and banks: Political influences on government-owned banks in emerging markets', *Journal of Financial Economics* **77**(2), 453–479.

Duchin, R. & Sosyura, D. (2011), 'The politics of government investment', *Journal of Financial Economics* (forthcoming).

Faccio, M., Masulis, R. & McConnell, J. (2006), 'Political connections and corporate bailouts', *Journal of Finance* **61**(6), 2597–2635.

Fisman, D., Fisman, R., Galef, J. & Khurana, R. (2006), Estimating the value of connections to Vice-President Cheney. Working paper.

Fisman, R. (2001), 'Estimating the value of political connections', *American Economic Review* **91**(4), 1095–1102.

Gao, M. & Huang, J. (2010), Capitalizing on Capitol Hill: Informed trading by hedge fund managers. Working paper.

Hansen, W. & Mitchell, N. (2000), 'Disaggregating and explaining corporate political activity: Domestic and foreign corporations in national politics', *American Political Science Review* **94**(4), 891–903.

Heckman, J. (1979), 'Sample selection bias as a specification error', *Econometrica* **47**(1), 153–161.

Hill, M., Kelly, G., Lockhart, G. B. & Ness, R. V. (2011), Determinants and effects of corporate lobbying. Working paper.

Igan, D., Mishra, P. & Tressel, T. (2009), A fistful of dollars: Lobbying and the financial crisis. Working paper.

Johnson, S. & Mitton, T. (2003), 'Cronyism and capital controls: Evidence from Malaysia', *Journal of Financial Economics* **67**(2), 351–382.

Leuz, C. & Oberholzer-Gee, F. (2006), 'Political relationships, global financing, and corporate transparency: Evidence from Indonesia', *Journal of Financial Economics* **81**(2), 411–439.

McGrath, C. (2005), *Lobbying in Washington, London, and Brussels: The Persuasive Communication of Political Issues*, Edwin Mellen.

Mian, A., Sufi, A. & Trebbi, F. (2010*a*), 'The political economy of the US mortgage debt crisis', *American Economic Review* **100**(5), 196–198.

Mian, A., Sufi, A. & Trebbi, F. (2010*b*), The political economy of the US mortgage expansion. Working paper.

Opsahl, T., Agneessens, F. & Skvoretz, J. (2010), 'Node centrality in weighted networks: Generalizing degree and shortest paths', *Social Networks* **32**(3), 245–251.

Yu, F. & Yu, X. (2010), 'Corporate lobbying and fraud detection', *Journal of Financial and Quantitative Analysis* (forthcoming).

Appendix A: Sample banks

The following list reports in alphabetical order the names of all banks included in our sample (RSSD ID in brackets). Asterisks indicate banks that have never lobbied during our sample period running from 2001:Q1 to 2010:Q3.

1. Associated Banc-Corp* (1199563)

2. Bancwest Corporation (1025608)

3. Bank of America Corporation (1073757)

4. Bank of New York (1033470)

5. Bank of New York Mellon Corporation, The (3587146)

6. Barclays Group US, Inc. (2914521)

7. BB&T Corporation (1074156)

8. BBVA USA Bancshares, Inc.* (1078529)

9. BOK Financial Corporation* (1883693)

10. Capital One Financial Corporation (2277860)

11. CIT Group, Inc. (1036967)

12. Citigroup, Inc. (1951350)

13. Citizens Financial Group, Inc. (1132449)

14. City National Corporation* (1027518)

15. Comerica Incorporated* (1199844)

16. Commerce Bancshares, Inc.* (1049341)

17. East West Bancorp, Inc.* (2734233)

18. First Bancorp* (2744894)

19. First Citizens Bancshares, Inc. (1075612)

20. First Horizon National Corporation (1094640)

21. Fifth Third Bancorp (1070345)

22. Goldman Sachs Group, Inc., The (2380443)

23. Harris Financial Group* (1245415)

24. HSBC North America Holdings, Inc. (3232316)

25. Huntington Bancshares Incorporated (1068191)

26. JPMorgan Chase & Co. (1039502)

27. Keycorp (1068025)

28. M&T Bank Corporation (1037003)

29. Marshall & Ilsley Corporation* (3594612)

30. Mellon Financial Group (1068762)

31. MetLife, Inc. (2945824)

32. Morgan Stanley (2162966)

33. New York Community Bancorp, Inc.* (2132932)

34. Northern Trust Corporation (1199611)

35. PNC Financial Services Group, Inc., The (1069778)

36. Popular, Inc. (1129382)

37. RBC Bancorporation - USA (1826056)

38. Regions Financial Corporation (3242838)

39. State Street Corporation (1111435)

40. Suntrust Banks, Inc. (1131787)

41. Synovus Financial Corp.* (1078846)

42. Taunus Corporation (2816906)

43. TD Bank US Holding Company (1249196)

44. Unionbancal Corporation* (1378434)

45. US Bancorp (1119794)

46. Utrecht-America Holdings, Inc.* (2307280)

47. Wachovia Corp (1073551)

48. Wells Fargo & Company (1120754)

49. Zions Bancorporation (1027004)

Appendix B: Notes on the sample covering 2001:Q1 to 2010:Q3

- Data availability:
  - Data for Bank of New York and Mellon Financial Group available until 2007:Q2, since the two merged into BNY Mellon in July 2007.
  - Data for Barclays Group US Inc. available from 2004:Q4 onwards, since it previously had the status of "Domestic Entity Other", i.e. "a domestic institution that engages in banking activities usually in connection with the business of banking in the United States". (Source: `www.ffeic.gov`.)
  - Data for Capital One Financial Corporation available from 2004:Q1 onwards, since it previously had the status of "Domestic Entity Other".
  - Data for CIT Group available from 2009:Q1 onwards, since it previously had the status of "Domestic Entity Other".
  - Data for Goldman Sachs available from 2009:Q1 onwards, since it previously had the status of "Domestic Entity Other".

  - Data for HSBC available from 2004:Q1 onwards, when it was established as a financial holding company.
  - Data for Marshall & Ilsley available from 2007:Q4 onwards, when it was established as a financial holding company.
  - Data for Morgan Stanley available from 2009:Q1 onwards, since it previously had the status of "Securities Broker / Dealer".
  - Data for Utrecht-America Holdings available from 2003:Q2 onwards, since it previously had the status of "Domestic Entity Other".
  - Data for Wachovia available until 2008:Q3, since it was acquired by Wells Fargo in December 2008.

- Renamings:
  - TD Bank US was until October 2009 named Banknorth, Inc. and until March 2005 Banknorth Group, Inc.
  - Harris Financial Corp was until January 2004 named Bankmon Financial Corp.
  - BBVA USA Bancshares was until October 2007 named Compass Bancshares and was a FHC until September of the same year.
  - RBC Bancorporation (USA) was until April 2008 named RBC Centura Banks, Inc.
  - First Horizon National was until April 2004 named First Tennessee National Corporation.
  - Wachovia Corporation was until September 2001 named First Union Corporation.

Variable	Description	Source
$LobbyDummy_{i,t}$	1 if BHC i engages in lobbying activities in quarter t, 0 else	OS
$LobbyExpenses_{i,t}$	BHC i's total lobbying expenses in quarter t as a part per million of its total assets in the same quarter	OS
$Lobbyists_{i,t}$	Number of in-house and external lobbyists hired by BHC i in quarter t	OS
$LobbyMix_{i,t}$	Equally-weighted product of $LobbyExpenses_{i,t}$ and $Lobbyists_{i,t}$	OS
$InHouseLobbyists_{i,t}$	Number of in-house lobbyists hired by by BHC i in quarter t	OS
$ExternalLobbyists_{i,t}$	Number of external lobbyists hired by BHC i in quarter t	OS
$TierOne_{i,t}$	BHC i's tier one capital in quarter t divided by the average of its total assets for leverage capital purposes in the same quarter	BR/NIC
$Rating_{i,t}$	Standard&Poor's domestic long-term issuer credit rating for BHC i in quarter t	C
$BizConcentration_{i,t}$	Concentration index of BHC i's income sources in quarter t (1 if full concentration)	BR/NIC
$Securitization_{i,t}$	Net securitization income of BHC i in quarter t	BR/NIC
$Trade_{i,t}$	BHC i's trading revenue in quarter t from cash instruments and derivative instruments	BR/NIC
$Loans_{i,t}$	BHC i's interest and fee income in quarter t on loans in domestic and foreign offices	BR/NIC
$InvestBank_{i,t}$	BHC i's non-interest income in quarter t from fees and commissions from securities brokerage, investment banking, advisory, underwriting, and annuity sales	BR/NIC
$Insurance_{i,t}$	BHC i's underwriting income in quarter t from insurance and reinsurance activities	BR/NIC
$TotalAssets_{i,t}$	BHC i's total assets in quarter t	BR/NIC
$Foreign_i$	1 if BHC i is foreign-owned, 0 else	NIC
$NewYork_i$	1 if BHC i is headquartered in New York, 0 else	NIC
$Distance_i$	Flying time in minutes between the city in which BHC i is headquartered and Washington DC	U

Table 1: Description of variables.

This table reports the variables used in our regression analyses and their description. Data sources: BR = Bank Regulatory; C = Compustat; CRSP = Center for Research on Security Prices; NIC = National Information Center of the Federal Reserve; OS = OpenSecrets.org; U = United Airlines website.

Variable	Units	Mean	St. dev.	Min	Max
LobbyDummy	dummy	0.463	0.499	0.000	1.000
LobbyExpenses	ppm	4.94e-05	8.21e-05	0.000	0.001
Lobbyists	no.	5.692	11.940	0.000	74.000
LobbyMix	ppm*no.	0.015	0.024	0.000	0.122
InHouseLobbyists	no.	1.049	2.098	0.000	12.000
ExternalLobbyists	no.	4.781	10.301	0.000	67.000
TierOne	fraction	7.427	2.527	-3.510	20.020
BizConcentration	fraction	0.400	0.135	0.121	0.855
Rating		A	AA+	AAA	D
Securitization	%	0.475	2.768	-34.595	26.519
Trade	%	1.869	6.647	-89.706	53.249
Loans	%	48.919	20.26	0.152	121.235
InvestBank	%	4.289	6.501	-2.121	49.271
Insurance	%	2.454	9.483	0.00	75.958
TotalAssets	USD	211bn	396bn	2.6bn	2'370bn
Foreign	dummy	0.286	0.452	0.000	1.000
NewYork	dummy	0.265	0.442	0.000	1.000
Distance	minutes	111.225	77.214	0.000	410.000

Table 2: Descriptive statistics of variables.

This table reports descriptive statistics for our 49 sample banks. The sample period covers 39 quarters running from 2001:Q1 to 2010:Q3. ppm = part per million.

	TierOne	*Rating*	*BizConcentration*	*Securitization*	*Trade*	*Loans*	*Insurance*	*InvestBank*	*TotalAssets*	*Foreign*	*NewYork*	*Distance*
TierOne	1.000											
Rating	0.403	1.000										
BizConcentration	0.255	0.201	1.000									
Securitization	0.212	0.103	-0.100	1.000								
Trade	0.098	0.044	-0.180	0.268	1.000							
Loans	0.372	0.279	0.561	0.009	-0.339	1.000						
Insurance	-0.096	0.009	0.076	-0.027	-0.043	-0.322	1.000					
InvestBank	-0.293	- 0.184	-0.424	-0.011	0.307	-0.412	-0.120	1.000				
TotalAssets	-0.251	-0.270	-0.437	0.104	0.134	-0.271	0.104	0.421	1.000			
Foreign	-0.367	-0.436	0.152	-0.117	-0.189	0.094	-0.100	-0.021	-0.129	1.000		
NewYork	-0.366	-0.152	-0.155	-0.010	0.045	-0.352	0.291	0.275	0.378	0.064	1.000	
Distance	0.040	0.271	0.291	-0.105	0.008	0.365	-0.124	-0.266	-0.264	-0.020	-0.390	1.000

Table 3: Correlations between explanatory variables.

This table reports the correlations i in quarter t. $TierOne_{i,t}$ is BHC i's tier one capital in quarter t divided by the average of its total assets for leverage capital purposes in the same quarter. $BizConcentration_{i,t}$ is a concentration index of BHC i's income sources in quarter t. $Rating_{i,t}$ is Standard&Poor's domestic long-term issuer credit rating for BHC i in quarter t. $Securitization_{i,t}$ is BHC i's net securitization income in quarter t. $Trade_{i,t}$ is BHC i's trading revenue in quarter t from cash instruments and derivative instruments. $Loans_{i,t}$ is BHC i's interest and fee income in quarter t on loans in domestic and foreign offices. $InvestBank_{i,t}$ is BHC i's non-interest income in quarter t from fees and commissions from securities brokerage, investment banking, advisory, underwriting, and annuity sales. $Insurance_{i,t}$ is BHC i's underwriting income in quarter t from insurance and reinsurance activities. All income source variables are expressed in %age terms of total non-interest and interest income. $TotalAssets_{i,t}$ is BHC i's total assets in quarter t. $Foreign_i$ is a dummy variable equal to 1 if BHC i is foreign-owned, 0 else. $NewYork_i$ is a dummy variable equal to 1 if BHC i is headquartered in New York, 0 else. $Distance_i$ is the flying time in minutes between the city in which BHC i is headquartered and Washington DC.

Dependent variable	Selection eq. (Probit) *LobbyDummy*	Response equations (OLS) *LobbyExpenses*	*Lobbyists*	*LobbyMix*
C		1.3385***	2.0245	0.0334***
		(0.1617)	(1.9300)	(0.0042)
TierOne(-1)	-0.0916***	-0.0294	-0.4411*	-0.0015***
	(0.0197)	(0.0197)	(0.2288)	(0.0005)
Rating(-1)	0.0840***			
	(0.0220)			
BizConcentration(-1)	-2.1929***			
	(0.3559)			
Securitization(-1)		0.0676***	0.2914***	0.0014***
		(0.0087)	(0.0998)	(0.0002)
Trade(-1)		0.0016	0.1305**	0.0003**
		(0.0047)	(0.0542)	(0.0001)
Loans(-1)		-0.0068***	0.0383	6.81e-05
		(0.0020)	(0.0242)	(5.14e-05)
InvestBank(-1)		-0.0269***	-0.0018	-0.0004**
		(0.0067)	(0.0768)	(0.0002)
Insurance(-1)		0.0216***	0.3331***	0.0008***
		(0.0027)	(0.0317)	(7.04e-05)
TotalAssets(-1)	1.08e-08***		1.89e-08***	
	(6.84e-10)		(9.77e-10)	
Foreign	-0.1355	0.2305**	-3.1091**	-0.0081***
	(0.1131)	(0.1153)	(1.2487)	(0.0030)
NewYork	-0.4726***	0.0022	5.9746***	0.0158***
	(0.1354)	(0.0846)	(1.0332)	(0.0022)
IMR		0.3214***	2.4220**	-0.0052**
		(0.0791)	(1.0350)	(0.0020)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.4565	0.3055	0.6615	0.4483
No. observations	1440	703	703	703

Table 4: Determinants of banks' lobbying activities.

This table presents estimates from the two-stage Heckman analysis investigating the impact of banks' characteristics and sources of income on the intensity of their lobbying activities from 2001:Q1 to 2010:Q3. $LobbyExpenses_{i,t}$ is BHC i's total lobbying expenses in quarter t as a %age of its total assets in the same quarter. $Lobbyists_{i,t}$ is the number of in-house and external lobbyists hired by BHC i in quarter t. $LobbyMix_{i,t}$ is the equally-weighted product of $LobbyExpenses_{i,t}$ and $Lobbyists_{i,t}$. $TierOne_{i,t}$ is BHC i's tier one capital in quarter t divided by the average of its total assets for leverage capital purposes in the same quarter. $Rating_{i,t}$ is Standard&Poor's domestic long-term issuer credit rating for BHC i in quarter t. $Securitization_{i,t}$ is BHC i's net securitization income in quarter t. $Trade_{i,t}$ is BHC i's trading revenue in quarter t from cash instruments and derivative instruments. $Loans_{i,t}$ is BHC i's interest and fee income in quarter t on loans in domestic and foreign offices. $InvestBank_{i,t}$ is BHC i's non-interest income in quarter t from fees and commissions from securities brokerage, investment banking, advisory, underwriting, and annuity sales. $Insurance_{i,t}$ is BHC i's underwriting income in quarter t from insurance and reinsurance activities. All income source variables are expressed in %age terms of total non-interest and interest income. $TotalAssets_{i,t}$ is BHC i's total assets in quarter t. $Foreign_i$ is an indicator equal to 1 if BHC i is foreign-owned, 0 else. $NewYork_i$ is an indicator equal to 1 if BHC i is headquartered in New York, 0 else. Standard errors are reported in parentheses. Asterisks *, **, and *** indicate significance at the 10, 5, and 1 % levels, respectively.

Dependent variable	Selection eq. (Probit) *LobbyDummy*	Response equations (OLS) *InHouseLobbyists*	*ExternalLobbyists*
C		0.1429 (0.2990	4.1640** (1.8894)
TierOne(-1)	-0.0916*** (0.0197)	-0.0062 (0.0338)	-0.5329** (0.2406)
Rating(-1)	0.0840*** (0.0220)		
BizConcentration(-1)	-2.1929*** (0.3559)		
Securitization(-1)		0.1423*** (0.0154)	0.1639* (0.0972)
Trade(-1)		-0.0015 (0.0085)	0.1492*** (0.0540)
Loans(-1)		0.0124*** (0.0041)	-0.0109 (0.0258)
InvestBank(-1)		0.0267** (0.0116)	0.0362 (0.0731)
Insurance(-1)		0.0717*** (0.0046)	0.3221*** (0.0291)
TotalAssets(-1)	1.08e-08*** (6.84e-10)	3.59e-09*** (1.39e-10)	1.73e-08*** (8.78e-10)
Foreign	-0.1355 (0.1131)	0.0339 (0.2109)	-1.8027 (1.3329)
NewYork	-0.4726*** (0.1354)		
Distance		-0.0050*** (0.0009)	0.0029 (0.0059)
IMR		0.2964* (0.1753)	2.5947** (1.1074)
Quarter fixed effects		✓	✓
(Pseudo-)R-squared	0.4565	0.7442	0.5854
No. observations	1440	703	703

Table 5: Determinants of banks' choice between in-house and external lobbyists.

This table presents estimates from the two-stage Heckman analysis investigating the impact of banks' characteristics and sources of income on their choice between in-house and external lobbyists from 2001:Q1 to 2010:Q3. $InHouseLobbyists_{i,t}$ is the number of in-house lobbyists hired by by BHC i in quarter t. $ExternalLobbyists_{i,t}$ is the number of external lobbyists hired by BHC i in quarter t. $Rating_{i,t}$ is Standard&Poor's domestic long-term issuer credit rating for BHC i in quarter t. $Securitization_{i,t}$ is BHC i's net securitization income in quarter t. $Trade_{i,t}$ is BHC i's trading revenue in quarter t from cash instruments and derivative instruments. $Loans_{i,t}$ is BHC i's interest and fee income in quarter t on loans in domestic and foreign offices. $InvestBank_{i,t}$ is BHC i's non-interest income in quarter t from fees and commissions from securities brokerage, investment banking, advisory, underwriting, and annuity sales. $Insurance_{i,t}$ is BHC i's underwriting income in quarter t from insurance and reinsurance activities. All income source variables are expressed in %age terms of total non-interest and interest income. $TotalAssets_{i,t}$ is BHC i's total assets in quarter t. $Foreign_i$ is an indicator equal to 1 if BHC i is foreign-owned, 0 else. $NewYork_i$ is an indicator equal to 1 if BHC i is headquartered in New York, 0 else. $Distance_i$ is the flying time in minutes between the city in which BHC i is headquartered and Washington DC. Standard errors are reported in parentheses. Asterisks *, **, and *** indicate significance at the 10, 5, and 1 % levels, respectively.

Dependent variable	Selection eq. (Probit) *LobbyDummy*	Response equations (OLS) *LobbyExpenses*	*Lobbyists*	*LobbyMix*
C		1.3586***	2.3436	0.0355***
		(0.1642)	(1.9835)	(0.0042)
TierOne(-1)	-0.0916***	-0.0318	-0.4749**	-0.0016***
	(0.0199)	(0.0199)	(0.2338)	(0.0005)
Rating(-1)	0.0840***			
	(0.0220)			
BizConcentration(-1)	-2.1929***			
	(0.3559)			
Securitization(-1)		0.0693***	0.3127***	0.0015***
		(0.0089)	(0.1041)	(0.0002)
Securitization(-1)*$Reform1$		0.1119*	0.0993	0.0018
		(0.0607)	(0.7026)	(0.0016)
Trade(-1)		-0.0040	0.0997	0.0001
		(0.0053)	(0.0613)	(0.0001)
Trade(-1)*$Reform2$		0.0244**	0.1230	0.0006**
		(0.0096)	(0.1109)	(0.0002)
Loans(-1)		-0.0068***	0.0395	8.55e-05*
		(0.0020)	(0.0243)	(5.12e-05)
InvestBank(-1)		-0.0295***	-0.0131	-0.0004**
		(0.0068)	(0.0782)	(0.0002)
Insurance(-1)		0.0215***	0.3314***	0.0008***
		(0.0027)	(0.0318)	(7.02e-05)
TotalAssets(-1)	1.08e-08***		1.89e-08***	
	(6.84e-10)		(9.84e-10)	
Foreign	-0.1355	0.2102*	-3.3119**	-0.0088***
	(0.1131)	(0.1159)	(1.4080)	(0.0030)
NewYork	-0.4726***	-0.0148	5.9701***	0.0157***
	(0.1354)	(0.0841)	(1.0340)	(0.0022)
IMR		0.3251***	2.3906**	-0.0051**
		(0.0786)	(1.0376)	(0.0020)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.4565	0.3161	0.6621	0.4546
No. observations	1440	703	703	703

Table 6: Announcement of the Dodd-Frank bill and banks' lobbying activities.

This table presents estimates from the two-stage Heckman analysis investigating how the announcement of the financial regulatory reform following the 2007 crisis affected the intensity with which banks lobby. In these regressions, we introduce two new interaction terms, $Securitization * Reform1$ and $Trade * Reform2$ to the regressions presented in table 5. The interaction term $Securitization * Reform1$ captures the contribution of securitization revenues in explaining banks' lobbying activities after the announcement of the financial regulatory reform in June 2009. The interaction term $Trade * Reform2$ captures the contribution of trading revenues after the announcement of the Volcker rule in January 2010. Standard errors are reported in parentheses. Asterisks *, **, and *** indicate significance at the 10, 5, and 1 % levels, respectively.

Variable	Non-lobbying BHCs	Lobbying BHCs
$TotalAssets$	32'010'870	304'682'710
$TierOne$	8.44	7.04
$BizConcentration$	0.47	0.37
$Securitization$	0.05	0.75
$Trade$	0.28	4.17
$Loans$	60.78	40.43
$InvestBank$	1.91	7.00
$Insurance$	0.65	2.85
No. of BHCs	14	35

Table 7: Comparison of non-lobbying BHCs versus lobbying BHCs.

This table reports average descriptive statistics for our 49 sample banks. The sample period covers 39 quarters running from 2001:Q1 to 2010:Q3. A BHC is defined as a "lobbying BHC" if it has lobbied in at least one quarter during our sample period. $TierOne_{i,t}$ is BHC i's tier one capital in quarter t divided by the average of its total assets for leverage capital purposes in the same quarter. $BizConcentration_{i,t}$ is a concentration index of BHC i's income sources in quarter t. $Securitization_{i,t}$ is BHC i's net securitization income in quarter t. $Trade_{i,t}$ is BHC i's trading revenue in quarter t from cash instruments and derivative instruments. $Loans_{i,t}$ is BHC i's interest and fee income in quarter t on loans in domestic and foreign offices. $InvestBank_{i,t}$ is BHC i's non-interest income in quarter t from fees and commissions from securities brokerage, investment banking, advisory, underwriting, and annuity sales. $Insurance_{i,t}$ is BHC i's underwriting income in quarter t from insurance and reinsurance activities. All income source variables are expressed in %age terms of total non-interest and interest income. $TotalAssets_{i,t}$ is BHC i's total assets in quarter t.