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This study examines the relationship between banks' main financial and business characteristics and their lobbying intensity during the last two decades. A novel feature of our analysis is that we adopt a network perspective to measure banks' lobbying intensity. We find that banks are more likely to lobby when they are larger, less creditworthy, venture into non-traditional businesses and face higher agency conflicts. Next, we observe that subsequent to the GFC and with the announcement of the Dodd-Frank bill, there was a significant increase in lobbying undertaken by banks with higher revenues stemming from trading and securitization. Finally, during the Trump Presidency, banks with higher trading revenues lobbied significantly more.

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July 31, 2021

Abstract

This study examines the relationship between banks' main financial and business characteristics and their lobbying intensity during the last two decades. We find that banks are more likely to lobby when they are larger, less creditworthy, venture into non-traditional businesses and face higher agency conflicts. Next, we observe that subsequent to the GFC and with the announcement of the Dodd-Frank bill, there was a significant increase in lobbying undertaken by banks with higher revenues stemming from trading and securitization. Finally, during the Trump Presidency, banks with higher trading revenues lobbied significantly more.

Keywords: banking, deregulation, Dodd-Frank bill, Global Financial Crisis, lobbying, networks, Trump Presidency, Volcker rule.

JEL classification codes: G01, G21, G28.

1

1 Introduction

Jamie Dimon, JPMorgan's chief executive officer, 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 2020, financial firms have spent over nine billion US dollars setting up in-house lobbying teams and hiring external lobbyists to defend their interests.[2] The heaviest spenders within the financial sector are insurance companies, followed by real estate companies, securities and investment firms and banks.

Bank lobbyists do have their supporters as well as their critics, including Mervyn King, former Governor of the Bank of England, and Sheila Blair, former head of the Federal Deposit Insurance Corporation, who have both accused lobbyists of distorting financial regulation.[3]

In this study, we examine the key determinants of US banks' lobbying activity. We focus on the last two decades, which have been characterized by an era of intense regulation after the Global Financial Crisis (GFC) followed by a subsequent period of deregulation under the Trump Presidency. More precisely, we ask two main questions: What are the key financial and business strategy determinants that have shaped banks' decision to lobby and their lobbying intensity? And secondly, how have the two last decades viewed as periods of heightened regulation and deregulation respectively, influenced banks' lobbying intensity especially with respect to their trading and securitization businesses? For that purpose, let us briefly review some of the major events in the recent history of banks' regulatory reforms in the US.

The Gramm-Leach-Bliley Act altered the restrictive definition of banking in 1999 by allowing organizations to combine banking, securities, and insurances services. Since then, even 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 were deemed at least partially responsible for the GFC. The response to such heightened risk-taking behavior could be found in various regulatory reforms put in place after GFC under the Obama administration. On June 17, 2009, President Obama proposed "a sweeping overhaul of the financial regulatory system" in response to

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[1]Source: "Obama aide declines visit to bank board" published on `www.nytimes.com`, July 19, 2009.

[2]Source: Center for Responsive Politics website, `www.opensecrets.org`.

[3]Source: "UK must resist US-style bank lobbying: BoE's King" published on `www.CNBC.com`, July 28, 2010.

the financial meltdown.[4] Bills were introduced in the House of Representatives by Barney Frank on December 2, 2009 ("Wall Street Reform and Consumer Protection Act of 2009", H.R.4173), and in the Senate by 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 intended by the Dodd-Frank bill was to limit excessive risk-taking by systemically important banks that benefit from the government's safety nets. Several studies have highlighted the contribution of securitization businesses in increasing financial fragility across the banking sector; e.g., using a dataset of 92 cash and synthetic securitization transactions issued by 54 European banks over the period from 1997 to 2007, Uhde & Michalak (2010) provide empirical evidence that credit risk securitization had a positive impact on the increase of European banks' systematic risk.

Among the numerous provisions of the bill was the so-called Volcker rule, which aimed at limiting proprietary trading and alternative investments fundship by bank holding companies (hereafter BHCs; see precise definition in Section 3 below). The initial version of the rule called for prohibiting BHCs completely from engaging in any proprietary trading and from investing in hedge funds and private equity, otherwise known as "covered funds". 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 finalized 2013 version of the Volcker rule was, however, less strict and allowed 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.

A decade after the GFC, in May 2018, a proposal for substantial revisions focusing on reducing the restrictions implied by the Volcker rule was announced by Jerome Powell, who had been nominated to the Federal Reserve Chair position by President Trump.[6] The proposed amendments to the Volcker Rule, along with further exemptions from the

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[4]Source: https://obamawhitehouse.archives.gov/the-press-office/remarks-president-regulatory-reform.

[5]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. The entire text of the bill is available at http://banking.senate.gov.

[6]Source: "US regulators begin to ease Volcker rule" published on www.ft.com, May 30, 2018.

3

proprietary trading prohibition, were in line with Donald J. Trump's campaign pledge to "dismantle" parts of Dodd-Frank.[7] The Federal Reserve approved the amendments in October 2019, cementing a significant win for banks under the Trump administration.[8] More recently, on June 25, 2020, the federal financial regulatory agencies issued a final rule that expanded existing covered fund exclusions, added other types of funds such as venture capital funds to the list excluded from the Volcker Rule restrictions, as well as introduced other modifications to allow banks to engage in other permissible activities, that, according to the regulatory agencies did not raise concerns that the Volcker rule was initially intended to address.[9]

In these changing regulatory regimes that we witnessed in the US since the years 2000, our first objective is to examine the relationship between banks' lobbying efforts, on the one side, and their size, financial strength, financial performance, business composition, and agency conflicts on the other. The second objective is to assess how the regulatory changes that occurred after the GFC and during the Trump's presidency have shaped banks lobbying intensity with respect to their revenue streams stemming from securitization and trading. Our sample period extends from 2001:Q1 to 2019:Q4 and includes BHCs domiciled in the US. An original feature of our analysis is that we adopt a network perspective to take into account several dimensions of a bank's engagement in lobbying: hence, not only do lobbying expenses matter but also the number of lobbyists hired by a bank, as well as the interaction term between these two dimensions. These are captured by a measure that we call the banks' "lobbying intensity". As for the econometric methodology, in order to account for the presence of many zero observations in our data, that is, quarters in which a BHC has not lobbied, we use a two-stage Heckman estimation analysis to correct for a possible selectivity bias.[10]

Our main empirical findings can be summarized as follows. First, we find that banks are more likely to lobby when they are larger, are less creditworthy, and have more diversified business profiles. Our second finding corroborates the fact that banks with more diversified business profiles, mainly those that 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. Third, we show that a bank's

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[7]Source: "Trump presidential transition site pledges border wall, end of Dodd-Frank Act" published on `www.ft.com`, November 9, 2016.

[8]Source: "Federal Reserve approves simpler 'Volcker Rule' ban on proprietary trading" published on `www.reuters.com`, October 8, 2019.

[9]Source: `https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200625a.htm`

[10]Indeed, ordinary least squares (hereafter OLS) regression analyses conducted over datasets with a high probability mass at point zero might lead to biased coefficient estimates.

agency conflicts can also lead to more intense lobbying efforts. Next, we observe that the announcement of the Dodd-Frank bill led to increased lobbying by banks with higher revenues stemming from trading and securitization. Finally, we find that during the presidency of Donald J. Trump, banks that engaged more heavily in trading lobbied more intensely.

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 the determinants of BHCs' lobbying efforts during the regulatory regimes that prevailed in the US over the last two decades. Indeed, Lambert (2018) studied bank lobbying but he analyzed the effect of commercial and savings banks' lobbying activities on regulators' enforcement action decisions. Second, we focus on 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 total lobbying expenses and the number of lobbyists hired, we employ a measure we define as the "lobbying intensity" and which is obtained by interacting the lobbying expenses with the number of lobbyists hired. This measure allows one to capture situations where some characteristics of the banks play a role in determining their overall lobbying activities only when those two variables are combined, but would not be detected if each component of their overall lobbying activity was individually examined. Third, this is the first study to examine the effects of the heightened regulation that occurred after the GFC, as well as of the deregulatory push under the Trump administration, on banks' lobbying intensity, with a special focus on banks' revenues stemming from securitization and trading businesses.

The remainder of the paper is organized as follows. The next section discusses the related literature and then presents the five hypotheses we test. Section 3 describes the data collected, the variables constructed, and our estimation technique. Section 4 presents our empirical results. Section 5 concludes the paper.

5

2 Literature review and testable hypotheses

2.1 Literature review

Our paper attempts to nest its testable hypotheses in the existing 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 recent, as it has only recently been made possible thanks to the disclosure of lobbying expenses by US firms starting in 1998.[11] Hill, Kelly, Lockhart & Ness (2013) 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 (2015) 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 (2011) 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.

A few papers study the lobbying efforts of financial firms, some of them in the context of the GFC. Duchin & Sosyura (2012) investigate the determinants of capital allocation to financial institutions under the Troubled Assets Relief Program (TARP) and find that the investment amounts are positively related to banks' lobbying expenditures and political contributions. Similarly, by looking at lobbying expenditures and political connections of banks Blau, Brough & Thomas (2013) find that politically-engaged firms were more likely to receive TARP funds, received a greater amount of TARP support and also received the support earlier than firms that were not politically involved. Igan, Mishra & Tressel (2012) 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. While Igan et al. (2012) look at the association between lobbying activities and risk-taking by financial institutions in the run-up to the GFC, Igan & Mishra (2014) complement this study by looking directly at the impact of lobbying and campaign contributions by the financial

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[11] For a comprehensive review of the literature on corporate political activities sharing common boundaries with finance, accounting, and corporate governance, we refer to Mathur & Singh (2011).

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sector on deregulation. Cornett, Minnick, Schorno & Tehranian (2020) examine bank behavior around Federal Reserve stress tests introduced in 2009 as a response to GFC and find that banks subject to stress-testing spend significantly more on lobbying than banks not subject to stress-testing, to possibly improve their chances of passing the stress tests. There is a limited number of papers that document the various mechanisms through which financial firms seek to influence regulators' decisions on them or to alter the regulation in their best interests. Kroszner & Strahan (1999) provide evidence that pressures from special interest groups of the financial industry account for influencing the timing of bank branch deregulation in the US. Considering firms' campaign contributions rather than their lobbying expenses, Mian, Sufi & Trebbi (2010b) draw similar conclusions as Igan et al. (2012) 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 (2010a) look at two significant pieces of legislation that shaped the regulatory response after the GFC and again find congressional voting behavior to be affected by mortgage industry campaign contributions. In addition to using campaign contributions and lobbying efforts, Agarwal, Amromin, Ben-David & Dinc (2018) suggest that banks influence the political process through a novel channel, via their foreclosure actions, and at comparable and even higher costs to them. They argue that foreclosure delays might help decrease pressure on politicians from their voters and allow banks to obtain more favorable legislative outcomes.

Lambert (2018) examines the relationship between US commercial and savings banks' lobbying and the micro-prudential supervisory decisions of US regulators, in particular the issuance of regulatory enforcement actions during the GFC and its aftermath. He explores the implications of such lobbying activities by banks on their risk-taking behavior and financial performance afterwards. He finds that regulators are 44.7% less likely to initiate enforcement actions against lobbying banks, meaning that banks might engage in lobbying to gain preferential treatment in order to pursue riskier strategies. He further finds that lobbying banks underperform their non-lobbying peers, such that lobbying banks exhibit almost a 50% reduction in their return on assets (ROA) afterwards. He emphasizes that ROA decreases only after the lobbying decision takes place, and lobbying could not be explained by past financial performance. While their focus is on non-financial firms, Adelino & Dinc (2014) also study the lobbying efforts by firms in the context of the GFC, in particular in relation to the funds provided by the Stimulus Act of 2009. They investigate the role of a firm's financial health, measured by its credit default swap (CDS) spreads, on its efforts to influence the government through lobbying. They

find that weaker firms spend more on lobbying, and subsequently the amount spent on lobbying is associated with a greater likelihood of receiving stimulus funds.

Another issue closely linked to the relative importance of personal connections versus formal channels of political influence is the question as to 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 (2014) whose investigation of US lobbyists' profiles and donations shows that it is connections rather than issue expertise that is the relatively scarce resource lobbyists bring to the table.

Finally, our study is also related to the literature on networks in finance, which examines the benefits that networks of social, including political and business, connections bring to firms; see, for example, Cohen, Frazzini & Malloy (2008) and (2010), Pool, Stoffman & Yonker (2015) and Ouimet & Tate (2020). In an interesting study belonging to this line of literature, Child, Massoud, Schabus & Zhou (2021) analyze S&P 500 firms with (and without) business ties to Donald J. Trump and identify the value of having presidential connections after his election victory. They find that connected firms had better performance, received more government contracts, and were less subject to unfavorable regulatory actions.

2.2 Hypotheses

In this subsection, we first state three hypotheses that focus on the determinants of banks' decision to lobby as well as their lobbing intensity. These hypotheses are whenever possible grounded in the existing literature cited in the previous subsection. The two last hypotheses define in a more explorative way the potential impacts that the announcement of the US financial regulatory reform post GFC and subsequently of the Trump's presidency had on BHCs' lobbying intensities while considering their sources of income.[12]

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

Based on the existing literature (e.g., Hill et al. (2013)) we expect BHCs to be more likely to lobby when they are larger. Indeed, as outlined in the literature review above, Hill

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[12]While there is a literature that addresses the mirror question regarding the impacts of banks' lobbying on subsequent banks characteristics (such as their profitability, business model, etc.), the latter question is not addressed in our study.

et al. (2013) find that a firm's lobbying efforts are positively related to the firm's size and investment opportunities which motivates our conjecture that banks' decision to lobby is positively influenced by their size. In addition, given that Adelino & Dinc (2014) find that firms with weaker financial health, as measured by CDS spreads, spend more on lobbying, and subsequently the amount spent on lobbying is associated with a greater likelihood of receiving stimulus funds, we expect BHCs to be more likely to lobby when they are less creditworthy, have more vulnerable balance sheets, hedge their portfolio exposures less and venture into non-traditional and/or heavily regulated businesses. Past financial performance could be an important determinant of the capability and incentive to lobby for a firm. On one hand, lobbying may be a response to poor past performance to facilitate better business conditions. On the other hand, more profitable banks may have greater resource capability to engage in lobbying. Based on the findings by Lambert (2018), who finds that lobbying does not depend on past performance for commercial and savings banks, we are agnostic as to which effect dominates.

> **Hypothesis Two** The intensity with which a BHC lobbies can be related to
> the composition of its main sources of income.

In order to gain a better insight into the intensity with which banks lobby, we also look at the composition 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 GFC 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 income, especially during the 2001–10 period as afterwards BHCs' securitization income almost vanished.[13] Our result expectations are supported by studies on corporate lobbying in the context of the GFC. For instance, Mian et al. (2010b) find that special interests influenced congressional voting patterns on housing-related legislation during the subprime mortgage credit expansion from 2002 to 2007.

> **Hypothesis Three** BHCs with stronger agency conflicts lobby more intensely.

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[13]see Figure 3

There exist a large body of literature that suggests that corporate lobbying may also be agency driven. Mathur & Singh (2011) provide a comprehensive review of the literature on corporate lobbying and its determinants, and point out to two alternative views in the literature to corporate lobbying decisions: as value maximizing investments, or as driven by managerial perquisite consumption; thus lobbying may not be in the best interest of firms. Based on this line of literature, we expect BHCs to lobby more intensely when they face more severe agency problems.

> **Hypothesis Four** The announcement of the financial regulatory reforms following the GFC 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) and securitization (as a result of the Dodd-Frank bill).

Igan & Mishra (2014) document the direct link between politically targeted activities, such as lobbying, and outcomes of the legislative process governing financial regulation. Based on this line of research that studies the connection between financial sector's lobbying efforts and their successful outcomes towards deregulation, we expect the announcement of the Volcker rule, that brings restrictions on BHCs' proprietary trading and alternative investments, to induce more intense lobbying by BHCs that extract a larger fraction of their revenues from trading.[14] 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 proxy measure of how much is at stake. We also investigate whether the initial announcement of the financial regulatory reform by President 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 GFC and were targeted by several provisions in this reform bill.

> **Hypothesis Five** During the presidency of Donald J. Trump, BHCs that engaged more heavily in trading lobbied more intensely.

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[14]The finalized 2013 version of the Volcker rule was less strict compared to the version initially announced in 2010. The softening of the restriction may, at least in part, hint to banks' success in their lobbying efforts on this issue. Indeed banks, especially with larger trading revenues, were reported to attempt to delay or overturn the implementation of the finalized rule until the last day. Source: "Frank says Wall St attempts to derail Volcker will fail" published on `www.ft.com`, December 9, 2013.

Based on the existing literature that document the direct link between financial sector's lobbying efforts and deregulatory outcomes (e.g., Igan & Mishra (2014)), we expect that BHCs whose sources of income heavily depended on trading revenues lobbied more intensely throughout the presidency of Donald J. Trump, possibly with the aim to influence the Volcker rule's streamlining process in their best interests.[15] As explained in the introduction, the Dodd-Frank Act was targeted by Donald J. Trump in 2016 for "dismantling", and not surprisingly, under his administration in 2018 a proposal for substantial revisions to the Volcker rule was made. Further amendments to the Volcker rule followed later in 2020. We conjecture that, the aforementioned initiatives at the beginning and during the Trump Presidency were partly the result of BHCs with higher trading revenues increasing their lobbying efforts.

3 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.gov`)." 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).[16]

Our sample period runs from 2001:Q1 to 2019:Q4 and is determined by the availability of both lobbying and financial data. We begin constructing our sample by taking the top 50 BHCs in terms of USD nominal value of total assets as declared in 2010:Q4 by the Federal Financial Institutions Examination Council (FFEIC). 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 also 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. Appendices A and B provide the list of BHCs included in our sample and few remarks on these banks with

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[15]Since its finalization in 2013 the first proposal for substantial revisions focusing on reducing the restrictions implied by the Volcker rule was announced in 2018 by Jerome Powell, who had been nominated to the Federal Reserve Chair position by President Trump. Bank lobbyists are reported to mention that they welcomed this effort for simplifying the rule. Source: "Volcker rule reforms promise banks trading boost" published on `www.ft.com`, May 31, 2018. As explained in the introduction, the proposed amendments are finalized and approved in October 2019, cementing a significant win for banks under the Trump administration. Finally, the Volcker rule was further loosened, more recently, in 2020.

[16]Most BHCs in our sample hold the special status of "financial holding company - domestic" (FHC).

reference to our sample period running from 2001:Q1 to 2019:Q4.

Table 1 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.

3.1 Banks' lobbying activities

3.1.1 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, legislators raised the required reporting frequency from semi-annual to quarterly.

Lobbying reports are made available to the public by the Center for Responsive Politics on its OpenSecrets.org website, as well as by the US Senate at its 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.[17] There is large variability in BHCs' lobbying activities over 2001–2019: of the 52 banks included in our sample, 10

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[17]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.

banks have lobbied in all quarters or almost (i.e over 90% of the time), 36 have lobbied occasionally, while the remaining 6 have never lobbied.[18]

Although these 6 BHCs are among the 52 largest BHCs in the US just as the other 46 BHCs that do lobby (at least in some if not all quarters), they possess some specific characteristics that deserve to be mentioned. Table 4 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 $31 billion total nominal assets per quarter; whereas, the other 46 BHCs hold an average of $304 billion. They also have a higher average tier one capital ratio than lobbying BHCs (8.99 versus 8.26), indicating stronger financial health. In terms of business profile, non-lobbying BHCs are very similar to lobbying ones (with a business concentration index of 0.40 versus 0.41) 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 6 non–lobbying banks in our sample indirectly support the specification of our first hypothesis and of the selection equation that will be tested.

Figure 1 shows that the cross-sectional average quarterly lobbying expenses across all lobbying BHCs in our sample increased from 2001:Q1 to 2019: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 increase significantly their lobbying expenditures. The lobbying expense levels remained high for a long period until they started decreasing steeply from 2014:Q4 to 2015:Q3, and remained at medium levels thereafter.

3.1.2 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 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 2019, 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

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[18]See Appendix A.
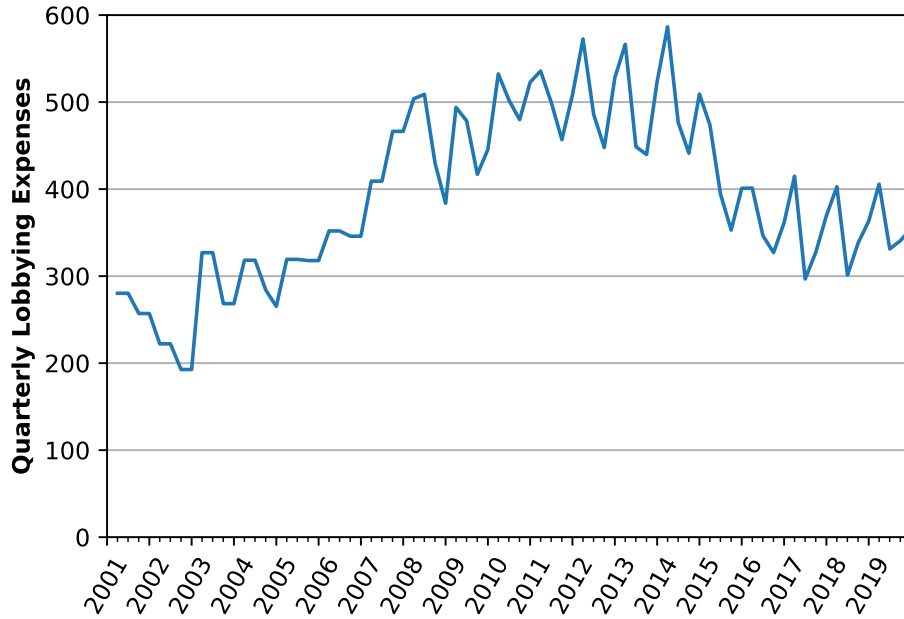
Figure 1: Cross-sectional average quarterly lobbying expenses (USD '000) across all lobbying BHCs in our sample.

consider the sum of weights of all links departing from each node representing a BHC, or "node strength" in network terminology. We construct the variable $LobbyExpenses_{i,t}$ that expresses 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:[19]

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

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

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

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

14

Throughout our sample period each BHC hired on average between seven and eight lobbyists per quarter. Breaking down the numbers into in-house and external lobbyists, each BHC hired on average between one and two in-house lobbyist and six 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 87 lobbyists, 79 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. We believe this is an interesting measure, because, by giving equal weights to both a bank's lobbying expenses and the number of lobbyists hired, it tells us which banks were more active in lobbying under both aspects combined. As an example, suppose banks with higher trading income systematically spend 5% less for lobbying, while they choose to hire around twice as much external lobbyists as hired by the remaining BHCs in our sample (could be due to a broader expertise required for lobbying on trading related issues). In this case, our regression analysis using the $LobbyExpenses$ variable would be misleading, while the regression with the $LobbyMix$ variable would correctly capture these banks' more intense lobbying efforts. This measure also allows one to capture the cases where some characteristics of the banks play a role in determining their overall lobbying activities only when those two variables are combined, but would not be able to explain each component of their overall lobbying activity individually. Thus, we believe that this last measure better captures a BHC's lobbying intensity than simply looking at lobbying expenditures or number of lobbyists separately.

3.2 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 offi-

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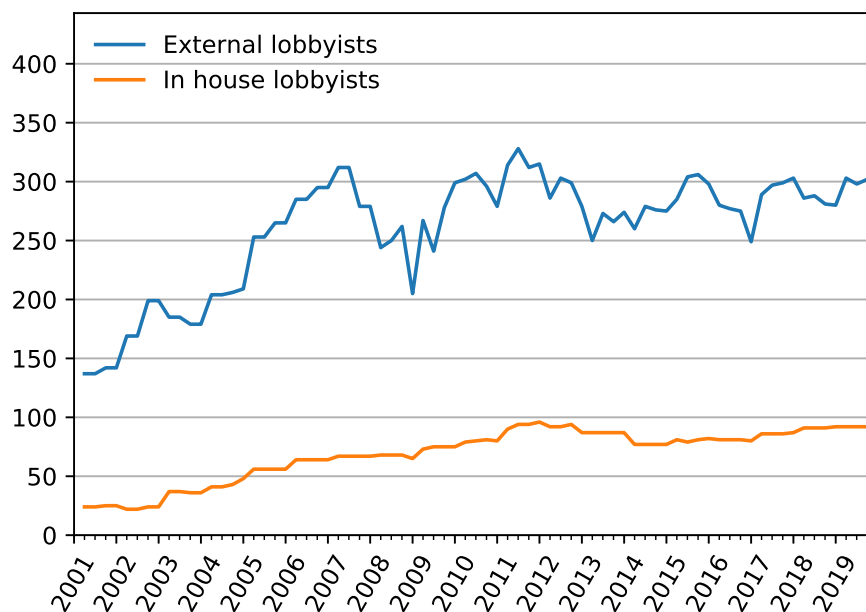
Figure 2: Comparing the time evolution of banks' hiring of in-house lobbyists (lower orange line) versus external lobbyists (upper blue line). Figures represent aggregate values over all 52 BHCs in our sample.

cially known as the FR-Y-9C reports and are filed on a quarterly basis. Quarterly data are available from the Federal Reserve's National Information Center website.

3.2.1 Banks' financial strength, financial performance 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 TD Bank US Holding Company for 2008 and DB USA Corporation from 2001 to 2011, which the latter has apparently raised concern among U.S. Senators in June 2010.[20] This case

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[20]See "Heard on the Street: Deutsche Bank deserves bite Bair gave it" published on www.wsj.com,

is isolated, though. On average, our sample BHCs maintain a tier one capital ratio of 8.34 in each quarter.

From S&P Ratings Direct and 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 two cases, namely for First Bancorp and First Citizens Bancshares we take S&P ratings of their (only) bank subsidiaries, FirstBank Puerto Rico and First Citizens Bank and Trust Co. respectively. 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 1 (for AAA) to 23 (for D) indicating the strength of BHC i's credit rating in quarter t. The average BHC in our sample has an A- rating.

Besides $Rating_{i,t}$, we consider alternative measures of a bank's riskiness. Riskiness of a bank can be significantly influenced by whether and to what degree the bank is hedging its various exposures. Hence, accounting for hedging practices of the sample BHCs helps us identify the effect of a bank's financial strength on its lobbying activities. To measure a BHC's hedging portfolio exposures we construct the variable $DerivativesHedging_{i,t}$, which is BHC i's derivatives held for hedging purposes expressed as a fraction of BHC i's total assets. Past financial performance could be an important determinant of the capability and incentive to lobby for a firm. To measure banks' financial performance, we use the variables $ReturnonAssets_{i,t}$, and alternatively the $ReturnonEquity_{i,t}$.

3.2.2 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 Dodd-Frank 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:

June 7, 2010.

17

- $Securitization_{i,t}$ is net securitization income.

- $Trade_{i,t}$ is trading revenue from cash instruments and derivative instruments. This 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 at relatively high levels until the end of 2007. Our sample BHCs have then experienced severe losses on their securitization businesses in all quarters in 2008. Securitization income in 2009 were roughly at the same level as in the pre-2005 period. However, being the target of the Dodd-Frank regulatory reform, securitization income fell to its lowest values in 2010 and remained at that low since then. Thirty three BHCs in our sample were at some point in time engaged in the securitization business, and twelve of these BHCs at least for half of the entire sample period.

Banks' trading activities were loosely regulated throughout 2001–2009. Figure 4 markedly reveals the losses suffered by the BHCs in our sample on their trading activities from 2007:Q2 to 2008:Q4. Nineteen 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. We however notice a significant rise in banks' trading revenues after the GFC and during the entire second half of our period, the revenues generated by trading activities varied between 3% and 4% of total banks income and thus seemed

18

to have benefited from the long uncertainty surrounding the regulatory process that was supposed to curb them.

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 generated 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 0.568 between $BizConcentration$ and *Loans* shown in Table 3 confirms our statement of high business concentration corresponding to a focus on the traditional lending activity.

3.2.3 Banks' agency conflicts

Numerous studies have explored whether lobbying activities may be agency driven. In other words, banks may be lobbying to promote personal interests. Since the GIM corporate governance index data is not available for BHCs[21], as a proxy for the agency conflict in our analysis we instead include the variable $Cash_{i,t}$, that is BHC i's cash and cash equivalents held[22] as a fraction of BHC i's total assets.

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[21]Gompers, Ishii & Metrick (2003)'s GIM index is a proxy for the level of shareholder rights and a measure of the quality of firms' corporate governance. There exist other governance indices in the literature, such as Bebchuk, Cohen & Ferrell (2009)'s entrenchment index. But none of the publicly available data for these indices cover our full analysis period, therefore they couldn't be used in our study.

[22]This variable is the sum of the cash and the federal funds sold variables and we construct it in the same way as Acharya & Mora (2015).
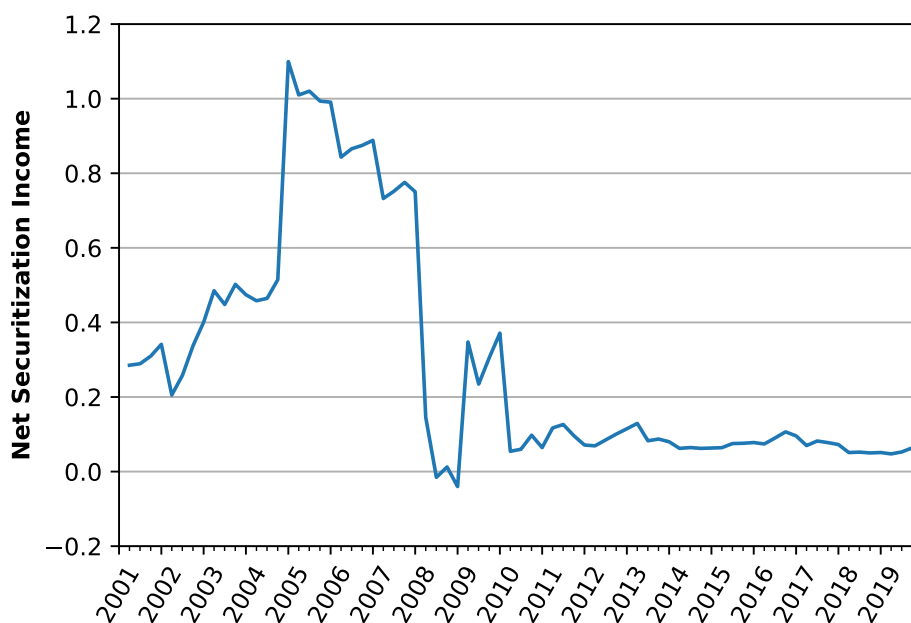
Figure 3: Cross-sectional average quarterly securitization income (as a percentage of total income) across all 52 BHCs in our sample.

3.2.4 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. The 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.[23]

3.3 Estimation technique

Our final sample - after collecting the data as described above - is an unbalanced panel set comprising 52 cross sections and 76 time periods. We run panel regressions with each one of our four connectedness measures respectively on the left hand side and a

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[23]The 11 BHCs in our sample with foreign ownership are: Barclays Group US, BBVA USA Bancshares, BMO Financial Corp (owned by Bank of Montreal), Citizens Financial Group (Royal Bank of Scotland Group, until 2015:Q3), DB USA Corporation (Deutsche Bank), Bancwest Corporation (BNP Paribas, until 2016:Q1), HSBC North America Holdings, MUFG Americas Holdings Corporation (Mitsubishi UFJ Financial Group), RBC USA Holdco Corporation (Royal Bank of Canada), TD Bank US Holding Company (Toronto-Dominion Bank), Utrecht-America Holdings (Rabobank).

20
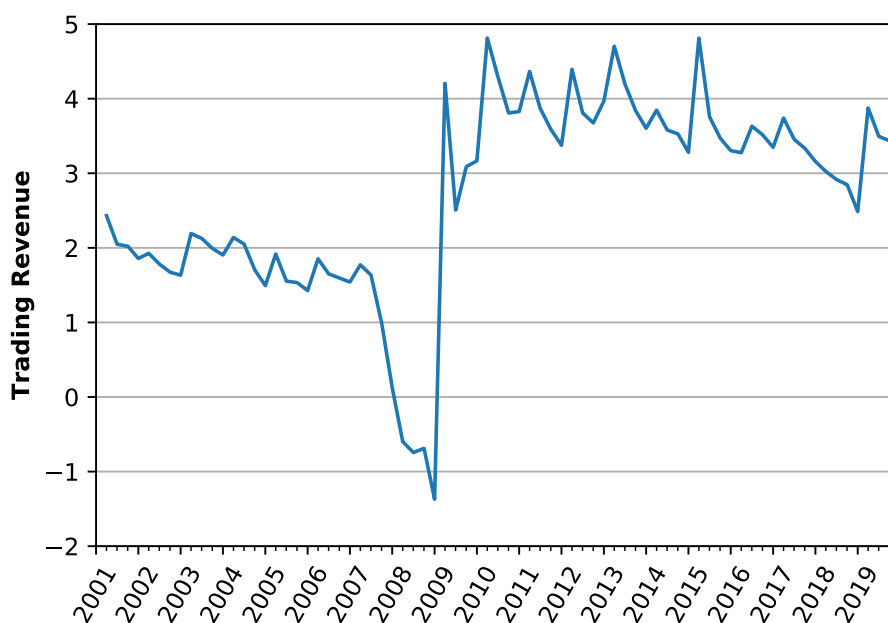
Figure 4: Cross-sectional average quarterly trading revenue (as a percentage of total income) across all 52 BHCs in our sample.

set of independent variables on the right hand side. The choice of independent variables depends on which of the five hypotheses outlined in Section 2.2 we are testing. We include in all regressions the cross-sectional fixed effect $Foreign_i$.

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 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 1380 of the 3345 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, financial performance

21

and business profile, we run the following probit regression:

$$
\begin{aligned}
LobbyDummy_{i,t} \;=\;\; & \delta_1\, TierOne_{i,t-1} + \delta_2\, Rating_{i,t-1} + \delta_3\, DerivativesHedging_{i,t-1} \\
& + \delta_4\, ReturnonAssets_{i,t-1} + \delta_5\, BizConcentration_{i,t-1} \\
& + \delta_6\, TotalAssets_{i,t-1} + \delta_7\, Foreign_i + \epsilon_t. \qquad\qquad (5)
\end{aligned}
$$

We expect a positive sign on $Rating$, and a negative sign on $DerivativesHedging$ and $TierOne$. Indeed, banks with worse credit ratings, hedging their portfolio exposures less, or with more vulnerable balance sheets are more likely to lobby to obtain regulatory changes that could subsequently facilitate their business conditions. Past financial performance could be an important determinant of the capability and incentive to lobby for a firm. On one hand, lobbying may be a response to poor past performance. On the other hand, more profitable banks may have greater resource capability to engage in lobbying. Based on the findings by Lambert (2018), who finds that lobbying does not depend on past performance for commercial and savings banks, we are agnostic as to which effect dominates. $TotalAssets$ should have a positive sign, since lobbying is a costly activity and only banks with considerable size can spend enough money to finance the regulatory changes they are after.

We expect a negative sign on $BizConcentration$. Indeed, banks with more diversified business profiles tend to lobby more, since they engage in non-traditional activities and need to spend more time with congressmen and regulators to explain the complexities and potential risks associated with these businesses. As for foreign firms in the US, the sign is less clear, on one side a negative sign may be warranted by the fact that these banks do not like to be seen as interfering too much with domestic affairs (see, for example, Hansen & Mitchell (2000)) or because they could be excluded from some future regulatory policies intended to ease banks' burdens. But, on the other side one could also conjecture that they should lobby more to establish themselves and fight for their status and for a level playing field in the US.

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

Equation (5) and the response equation given by the following regression:

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

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

In order to test our third hypothesis, namely that a BHC's agency problems between its managers and shareholders can explain its more intense lobbying activities, the variable $Cash_{i,t}$, as a proxy for the agency conflict, is included in the regression analysis.

The explanatory variables used for the selection equation (to test the first hypothesis) and the ones used for the response equation partly differ from each other. Because, at the first selection stage we analyze the factors playing a role in a bank's decision on whether to lobby or not, whereas at the second stage we investigate further aspects given a bank's decision to lobby, such as the relation between the composition of a bank's business revenues and its lobbying intensity. Accordingly, the $BizConcentration$ variable of the selection stage is replaced with its detailed components corresponding to banks' various sources of income. Moreover, as an aggregate characteristic of the banks for representing the financial strength, we keep only the $TierOne$ variable from the first stage to the second. That way, we also satisfy a technical requirement: indeed, the Heckman-Probit estimation method requires that the first stage and second stage equations do not have identical variables. In addition, we discard the $TotalAssets$ variable at the second stage regressions where the dependent variables are the $LobbyExpenses_{i,t}$ or the $LobbyMix_{i,t}$, since these variables already contain the $TotalAssets$ due to normalization.

We expect a positive relationship between $Lobby_{i,t}$ and $Securitization_{i,t-1}$, in line with studies on bank lobbying in the context of the GFC. For instance, Igan et al. (2012) find that lenders lobbying more on issues related to mortgage lending in the run-up to the GFC securitized more intensively. We also expect a positive sign on $Trade_{i,t-1}$, since trading is a relatively new and risky banking activity that might require spending time with congressmen to explain how trading in some complex securities such as derivatives works, as well as on $Insurance_{i,t-1}$, since insurance activities are a heavily regulated business.

Next, in order to test the fourth hypothesis, namely whether the announcement of

23

the financial regulatory reforms following the GFC 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 Equation (5)) over the 2001:Q1 to 2010:Q4 period:

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

where $Post\text{-}Reform1$ 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 (until 2010:Q4), while $Pre\text{-}Reform1$ takes value one for each quarter until 2009:Q2; similarly, $Post\text{-}Reform2$ is a dummy variable accounting for the announcement of the Volcker rule on January 21, 2010, and taking value one for each quarter from 2010:Q2 onwards (until 2010:Q4), while $Pre\text{-}Reform2$ takes value one for each quarter until 2010:Q1.[24] While the interaction term $Securitization * Pre\text{-}Reform1$ is designed to capture the contribution of securitization income in explaining banks' lobbying activities before the announcement of the financial regulatory reform in June 2009, the interaction term $Securitization * Post\text{-}Reform1$ is intended to capture the potentially modified impact of the contribution of securitization income after the announcement. In a similar fashion, while $Trade * Pre\text{-}Reform2$ captures the contribution of trading revenues before the announcement of the Volcker rule in January 2010, $Trade * Post\text{-}Reform2$ captures the potentially modified impact of the contribution of trading revenues after the announcement.[25]

Finally , in order to test the fifth hypothesis, namely whether BHCs that engaged more heavily in trading lobbied more intensely during the presidency of Donald J. Trump, we run the following response regression in a two-stage Heckman regression analysis (where

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[24]See https://obamawhitehouse.archives.gov/the-press-office/Remarks-President-Regulatory-Reform and https://obamawhitehouse.archives.gov/the-press-office/Remarks-President-Financial-Reform for the announcements of the financial regulatory reform and of the Volcker rule, respectively.

[25]As we rely on quarterly lobbying data and the regulatory announcements we study do not exactly fall to the quarter ends, in our announcement studies we assume that banks do not yet alter their lobbying activities as a reaction to regulatory announcements before the end of that quarter where the announcements were made.

the selection equation is again given by Equation (5)) over the 2011:Q1 to 2019:Q4 period:

$$
\begin{aligned}
Lobby_{i,t} \;=\; & c + \delta_1\, TierOne_{i,t-1} + \delta_2\, Securitization_{i,t-1} \\
& + \delta_3\, Trade_{i,t-1} * Pre\text{-}Trump + \delta_4\, Trade_{i,t-1} * Trump \\
& + \delta_5\, Loans_{i,t-1} + \delta_6\, InvestBank_{i,t-1} + \delta_7\, Insurance_{i,t-1} \\
& + \delta_8\, Cash_i + \delta_9\, Foreign_i + IMR + \epsilon_t,
\end{aligned} \tag{8}
$$

where $Trump$ is a dummy variable accounting for the period after the U.S. presidential election results on November 8, 2016 that was followed by the inauguration of Donald J. Trump on January 20, 2017 and his presidency term afterwards, and taking value one for each quarter from 2017:Q1 onwards (until 2019:Q4); while $Pre\text{-}Trump$ variable takes value one for each quarter until 2016:Q4. Splitting the $Trade$ variable into subperiods via two interaction terms allows the contribution of trading revenues in explaining banks' lobbying activities to exhibit different regimes before and during the Trump era.

4 Empirical results

Our first set of results investigating the impact of BHCs' characteristics on their decision to lobby and the impact of the composition of BHCs' income sources on the intensity of their lobbying efforts are both presented in Table 5. Our full sample period covers almost two decades from 2001 to 2019, where the first decade included the GFC and the announcements of the financial regulatory reform in 2009 and the Volcker Rule in 2010, while the second decade witnessed first the implementation of various post-GFC regulation and later the loosening or even elimination of some, such as the amendments done to Volcker rule during the presidency of Donald J. Trump, particularly from 2018 onwards. Due to the different characteristics of these two decades and in order to bring further insights to our results in Table 5, we repeat the same regression analysis for the two subperiods 2001 to 2010 and 2011 to 2019, and present these results in Tables 6 and 7 respectively.

4.1 Banks' characteristics and their decision to lobby

In this section, we investigate the impact of BHCs' characteristics on their decision to lobby.

As conjectured in our first hypothesis, and presented in Table 5 column one, the

size of a BHC's total assets is positively related to its decision to lobby. Hence, larger banks are more prone to engaging in lobbying activities. Next, a BHC's credit rating is positively related to its decision to lobby with a statistical significance at the 1% level. Since higher values of *Rating* refer to lower creditworthiness, our result implies that less creditworthy BHCs are more likely to engage in lobbying. Regarding the relation between the extent to which a BHC hedges its portfolio exposure and its decision to lobby we have mixed results. Our regression results for the subperiod 2001–10, as presented in Table 6 column one, shows this variable is negatively related to its decision to lobby. That means that less risky banks have also less incentives to lobby. This observation is consistent with our previous result regarding BHCs' creditworthiness. When we turn to the regression results for the subperiod 2011–19 in Table 7 column one, we observe however that banks which hold more derivatives for hedging purposes are more likely to lobby, with a statistical significance at the 1% level. Rather than stemming from banks' riskiness, we believe that these results could be capturing the increased lobbying efforts of banks whose outstanding derivatives positions came under increased regulatory scrutiny following the GFC, especially for their over-the-counter (OTC) derivatives.[26] Finally, we do not observe a significant result for the tier one capital ratio for explaining banks' decision to lobby.

Banks may be lobbying to ease up regulation and thereby improve their poor past performance. Regarding the impact of past financial performance, measured via return on assets (ROA), we find no evidence of a significant impact on the BHC's lobbying decision in Table 8. That can be the case because while poor past performance might be giving the BHCs incentives to lobby, it might also be making them financially less capable to engage in lobbying. Note that, in addition to the return on assets, we also repeat our analysis using the return on equity (ROE) as a second measure of financial performance (regression results are unreported, available upon request). But, we still find that past performance is not strongly significant in influencing BHCs' decision to lobby.[27] These results are consistent with those of Lambert (2018) who finds that lobbying does not depend on past performance (ROA). Lambert (2018) analyzes the relationship between

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[26]Some of the important post-GFC OTC derivatives reforms included central clearing mandate, margin requirements for non-centrally cleared derivatives, as well as Basel III framework related additional capital and leverage ratio requirements for derivatives. See for details `https://www.fsb.org/2019/10/otc-derivatives-market-reforms-2019-progress-report-on-implementation/`. In the US these reforms were adopted through the requirements of Dodd-Frank Act, while in the EU they were under EMIR.

[27]As a result, all the subsequent probit regressions are then run based on the version of the selection equation, given by Equation (5) but without the $ReturnonAssets_{i,t}$ explanatory variable.

lobbying and banks' financial performance both before and after their decisions to lobby and find significant results only for post lobbying periods.

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 business profiles become more diversified. This is in line with our initial conjecture that BHCs intensify their lobbying efforts as they no longer restrict themselves to the traditional deposit-taking and lending activities and venture into non-traditional businesses. Finally, as conjectured, we find for the full sample period of our study that the fixed effect *Foreign* does not have a significant impact on BHCs' decision to lobby.[28]

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

We next test our second hypothesis and investigate the impact of the composition of BHCs' income sources on the intensity of their lobbying efforts. The response equation results in Table 5 (i.e., columns two to four) show that, two businesses are the most strongly and positively related to BHCs' lobbying activities, both in terms of money spent and of number of lobbyists hired as well as in terms of lobbying intensities - as expressed by *LobbyMix* namely, securitization and insurance. It is important to note that since BHCs' securitization incomes have almost vanished after 2010 (see Figure 3) for securitization results we refer to our analysis over the 2001–10 subperiod presented in Table 6. Indeed, columns two to four in Table 6 show that, consistent with our second hypothesis, the coefficient on securitization income 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, hire more lobbyists and spend larger amounts on lobbying. Our results are also in line with the findings by Igan et al. (2012), who show intense lobbying by financial firms on issues regarding mortgage lending in the run-up to the GFC. 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.

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[28]Indeed, first column in Table 6 (2001–10 subperiod) shows that the coefficient on Foreign is significant and positive, while at the first column in Table 7 (2011–19 subperiod) we observe a significant and negative coefficient on *Foreign*.

The coefficient on trading revenues is positive and significant when considering the BHC's overall lobbying intensity, as measured by the variable *LobbyMix*. In contrast, income from investment banking has negative and highly significant coefficients in response regressions for both number of lobbyists hired and money spent for lobbying. This is consistent with the lax 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.[29]

It is also worth noting that, in line with the results obtained for our first hypothesis, columns two to four in Table 5 show that a BHC's lobbying intensity, too, can be explained by its previously studied characteristics. Indeed, banks with higher capital ratios tend to lobby more intensely in terms of both money spent and the number of lobbyists hired. To understand this result better we turn to our regressions results for the subperiods 2001–10 and 2011–19, as presented in Tables 6 and 7 respectively. In line with the full period results, the columns two to four of Table 7 (2011–19 subperiod) exhibit highly significant and positive coefficients for *TierOne* in all three response regressions; even with coefficients about double of the full period coefficients (e.g., 0.59 versus 0.32 at columns two corresponding to the regressions with lobbying money spent as the dependent variable). Meanwhile, in Table 6 (2001–10 subperiod) we observe a significant result only in terms of lobbying money spent, and more interestingly that coefficient is much lower (that is, 0.07) compared to the full period coefficient (0.59). Rather than the status of banks' financial strength, as conjectured in our first hypothesis, we believe these results are driven by increased lobbying efforts of banks that had to attain higher tier one capital ratios due to increased regulatory scrutiny following the GFC, in particular the Basel III capital framework and the Federal Reserve's counterpart rules for it.[30]

We find that foreign-owned BHCs' lobbying intensity - as expressed by *LobbyMix* – as well as their lobbying expenses are significantly higher than that of their US-owned peers. Such higher lobbying efforts might be connected to various regulatory proposals targeting foreign banks or treating them adversely throughout our sample period (such as Federal Reserve Board's post-GFC "foreign banking organizations" proposal as an-

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

[30]Basel III capital framework's minimum tier 1 capital ratio requirement, additional capital buffers requirement, leverage ratio requirement and higher loss absorbency requirement for G-SIBs & D-SIBs put in place and implemented gradually throughout the period from 2010 to 2019 forced the banks to increase their tier one capital ratios, meanwhile resulting in heightened bank lending costs and hitting bank profits.

nounced in November 2012)[31]. Meanwhile, a foreign-owned BHC in the US hires on average two lobbyists less than a US-owned BHC. This result is mainly driven by the number of external rather than in-house lobbyists.[32] It could be due to the fact that foreign-owned banks have more limited access to external lobbyists in the US as they are still not fully integrated into the lobbying network. This finding is also consistent with the results 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 are less likely to engage in visible lobbying for political influence than their domestic counterparts (see, for example, Hansen & Mitchell (2000)). All these lobbying differences for foreign-owned BHCs may finally reflect a cultural issue as well: 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, for example, McGrath (2005) for a detailed analysis of the similarities and differences in lobbyists' activities in Brussels, London, and Washington).

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

4.3 Banks' agency conflicts and their impact on lobbying

We next investigate whether agency problems between managers and shareholders could be one of the drivers of the intensity of BHCs' lobbying efforts. As explained previously, higher amounts of cash holdings can be a signal for the existence of more severe agency conflicts between managers and shareholders. The response equation results in Table 5 (i.e., columns two to four) show that, the coefficient of a BHC's cash holdings is positively related to its lobbying intensity with a statistically significance at the 1% level. Hence, potential agency conflicts between a BHC's managers and shareholders are positively correlated with their lobbying activities.

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[31]See https://www.federalreserve.gov/newsevents/speech/tarullo20121128a.htm for former Governor Daniel K. Tarullo's speech on this proposal, and see "Exclusive: Europeans lobby Fed's Tarullo over bank curbs" published on www.reuters.com on March 22, 2013.

[32]In order to understand the impact of various sources of income on a bank's choice between in-house and external lobbyists we run a modified version of the regression testing our second hypothesis taking either one of the following dependent variables: $InHouseLobbyists$ and $ExternalLobbyists$. The results are reported in Table 9.

4.4 The effect of the Dodd-Frank bill and of the Volcker rule

We now focus on the 2001–10 subperiod and examine whether the announcement of the financial regulatory reforms following the GFC affected the intensity with which banks lobby. The fourth hypothesis outlined in Section 2.2 states that the announcement of stricter regulation should lead to more intense lobbying by BHCs whose sources of income stem in particular from businesses under increased regulatory scrutiny, such as securitization and trading.

In order to test this hypothesis, we employ panel regressions on banks' lobbying intensity as in Table 5, except that we now split each of the Securitization and Trade terms into two interaction terms, $Securitization * Pre\text{-}Reform1$ and $Securitization * Post\text{-}Reform1$, and $Trade * Pre\text{-}Reform2$ and $Trade * Post\text{-}Reform2$. Table 10 presents the results of our test regarding the impact of the 2009/10 regulatory proposals on BHCs' lobbying efforts.

As columns two to four in Table 10 illustrate, securitization income was a significant determinant of BHCs' lobbying activities in the run-up to the financial crisis. The coefficients on $Securitization * Pre\text{-}Reform1$ interaction term are positive and significant at the 1% level in all three response regressions. However, this relation became stronger after the announcement of Dodd-Frank financial regulatory reform in June 2009. As columns two and four of Table 10 further illustrate, the coefficients on $Securitization * Post\text{-}Reform1$ are about three times higher than the coefficients on $Securitization * Pre\text{-}Reform1$.[33] These findings confirm our expectations that when securitization came under higher regulatory (and public) scrutiny in the aftermath of the GFC, BHCs that depended to a larger extent on securitization income intensified their lobbying efforts and expenses.

Furthermore, in Table 10, the interaction term $Trade * Post\text{-}Reform2$ coefficients are positive and highly significant at the 1% level for both lobbying intensity and number of lobbyists hired (columns three and four), while the corresponding $Trade * Pre\text{-}Reform2$ coefficient for lobbying intensity is insignificant and for number of lobbyists hired it is significant but lower. This supports the conjecture that the announcement of the Volcker rule in 2010 has led BHCs with larger trading revenues to noticeably strengthen their lobbying efforts.

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[33]For clarity, in Table 10 the coefficient associated with $Securitization * Pre\text{-}Reform1$ has a p-value of 0.0000 and the coefficient associated with $Securitization * Post\text{-}Reform1$ has a p-value of 0.0136. Therefore, both coefficients are highly significant.

4.5 Lobbying during the Trump Presidency

Having analyzed the announcement of the financial regulatory reform following the GFC and its effect on the intensity with which banks lobbied, we finally focus on the second subperiod, that is, 2011–19 to investigate whether during the presidency of Donald J. Trump, BHCs that engaged more heavily in trading lobbied more intensely. When Donald J. Trump was elected to the presidency in November 2016, it was announced that his administration's financial services policy implementation team would be working to "dismantle" the Dodd-Frank Act. In line with that, later during his presidency there were two major proposals to revise and curb the Volcker rule, both of which got eventually finalized as rule changes. One could thus conjecture that BHCs with high trading revenues and thus subject to the Volcker rule would have had valid incentives to lobby more intensely, starting with the election of Donald J. Trump, and perhaps even more intensely later during the Volcker rule's streamlining process under his administration, with the aim to influence it in their best interests.

In order to test the fifth hypothesis outlined in Section 2.2, we employ panel regressions on banks' lobbying intensity as in Table 5, except that we now, as discussed in Subsection 3.3, split the Trade term into two interaction terms, $Trade * Pre\text{-}Trump$ and $Trade * Trump$. Table 11 presents the results of our test regarding the impact of the presidency of Donald J. Trump on BHCs' lobbying efforts. Splitting the Trade variable into subperiods via two interaction terms allows the contribution of trading revenues in explaining banks' lobbying activities to exhibit different regimes before and during the Trump era.

In Table 11, both interaction terms $Trade * Pre\text{-}Trump$ and $Trade * Trump$ are positive and highly significant at the 1% level for both lobbying intensity and number of lobbyists hired aspects (columns three and four). The pre Trump era witnessed the implementation of various post-GFC regulation including the Volcker rule, and our finding that trading revenue was a significant determinant of BHCs' lobbying activities during this era is consistent with banks especially with larger trading revenues attempting to delay or overturn the implementation of the rule through lobbying; even on the day before the rule was finalized.[34] However, we find that this relation further strengthened during the Trump era. As columns three and four of Table 11 illustrate, the coefficients on $Trade * Trump$ are at least 40% higher than the coefficients on $Trade * Pre\text{-}Trump$. This observation confirms our expectations that BHCs with a higher fraction of their

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[34]Source: "Frank says Wall St attempts to derail Volcker will fail" published on `www.ft.com`, December 9, 2013.

revenues stemming from trading lobbied more intensely throughout the presidency of Donald J. Trump.

4.6 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 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 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, among others, to the following variables: total assets, sources of income, ratings, 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, available upon request), and we found no significant changes in our main empirical results.

5 Conclusion

This study examines the main determinants of BHCs' decision to lobby and of their lobbying intensity over a twenty year period characterized by two noticeably different regulatory regimes: first, a tightening regulatory environment under the Obama administration and then arguably a loosening one during the Trump Presidency.

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, are less creditworthy, and have more diversified business profiles. Our second finding corroborates the fact that banks with more

32

diversified business profiles, mainly those that engaged in non-traditional businesses, e.g. securitization and trading, or in highly regulated businesses, e.g. insurance, lobby more intensely. Third, we show that a bank's agency conflicts can also lead to more intense lobbying efforts. Our fourth finding relates to the announcement of the financial regulatory reform in June 2009 as well as the announcement of the Volcker rule in January 2010. These announcements were followed by significantly higher lobbying intensity on behalf of banks with higher securitization and trading revenues respectively. Finally, we find that during the presidency of Donald J. Trump, banks that engaged more heavily in trading lobbied more intensely.

It is important to note that our study focuses on BHCs' lobbying activities and not 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 presidential election. An interesting question for future research 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 - only Agarwal et al. (2018)'s work provides a step in this direction in the banking sector, focusing on foreclosure actions to influence the political process.

In future work, it may also be worthwhile to examine 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, it seems relevant to assess 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".[35] As outlined in the literature review, Lambert (2018) shows that regulators are less likely to initiate enforcement actions against lobbying banks, allowing them to pursue riskier strategies. The loosening of the restriction on banks' proprietary trading and alternative investments in the final version of the Dodd-Frank bill, in addition to the recently finalized streamlining process of the Volcker rule, may hint to lobbying having had some tangible success in the banking industry.

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[35]See quote in the introduction.

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 2019:Q4.

1. Ally Financial Inc. (1562859)

2. American Express Company (1275216)

3. Associated Banc-Corp* (1199563)

4. Bank of America Corporation (1073757)

5. Bank of New York Company, Inc. (1033470)

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

7. Barclays Group US, Inc. (2914521)

8. BBVA USA Bancshares, Inc. (1078529)

9. BMO Financial Corp. (1245415)

10. BOK Financial Corporation* (1883693)

11. Capital One Financial Corporation (2277860)

12. CIT Group, Inc. (1036967)

13. Citigroup, Inc. (1951350)

14. Citizens Financial Group, Inc. (1132449)

15. City National Corporation* (1027518)

16. Comerica Incorporated* (1199844)

17. Commerce Bancshares, Inc.* (1049341)

18. DB USA Corporation (2816906)

19. East West Bancorp, Inc. (2734233)

20. First Bancorp (2744894)

34

21. First Citizens Bancshares, Inc. (1075612)

22. First Hawaiian, Inc. (1025608)

23. First Horizon National Corporation (1094640)

24. First Niagara Financial Group, Inc. (2648693)

25. Fifth Third Bancorp (1070345)

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

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

28. Huntington Bancshares Incorporated (1068191)

29. JPMorgan Chase & Co. (1039502)

30. Keycorp (1068025)

31. M&T Bank Corporation (1037003)

32. Marshall & Ilsley Corporation* (3594612)

33. Mellon Financial Corporation (1068762)

34. MetLife, Inc. (2945824)

35. Morgan Stanley (2162966)

36. MUFG Americas Holdings Corporation (1378434)

37. New York Community Bancorp, Inc. (2132932)

38. Northern Trust Corporation (1199611)

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

40. Popular, Inc. (1129382)

41. RBC USA Holdco Corporation (3226762)

42. Regions Financial Corporation (3242838)

43. State Street Corporation (1111435)

44. Suntrust Banks, Inc. (1131787)

45. Synovus Financial Corp. (1078846)

46. TD Bank US Holding Company (1249196)

47. Truist Financial Corp (1074156)

48. US Bancorp (1119794)

49. Utrecht-America Holdings, LLC (2307280)

50. Wachovia Corporation (1073551)

51. Wells Fargo & Company (1120754)

52. Zions Bancorporation (1027004)

Appendix B: Notes on the sample covering 2001:Q1 to 2019:Q4

Data availability:

- Data for Ally Financial Inc. available from 2009:Q2 onwards, since it previously had the status of "Finance Company", i.e., "Financial intermediary that makes loans to individuals or business" (Source: www.ffeic.gov).
- Data for American Express Company available from 2009:Q1 onwards, since it previously had the status of "Savings and Loan Holding Company", i.e., "A company that directly or indirectly controls a savings association or another savings and loan holding company" (Source: www.ffeic.gov).
- Data for Bank of New York Company Inc. and Mellon Financial Corporation available until 2007:Q2, since the two merged into Bank of New York Mellon Corporation in July 2007. Data for Bank of New York Mellon Corporation available from 2007:Q3 onwards.
- Data for Barclays Group US Inc. available from 2004:Q4 to 2010:Q3 and from 2016:Q3 onwards, since until 2004:Q3 and from 2010:Q4 to 2016:Q2 it 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). From 2016:Q3 onwards while it had the status of financial holding company its financial data has been reported by its "Intermediate

36

Holding Company" parent (i.e., Barclays US LLC); intermediate holding company is "a company established or designated by a foreign banking organization as its U.S. intermediate holding company under subpart O of the Federal Reserve Board's Regulation YY (12 CFR part 252)" (Source: `www.ffeic.gov`).

- Data for Capital One Financial Corporation available from 2004:Q4 onwards, since it previously had the status of "Domestic Entity Other".

- Data for CIT Group Inc. available from 2009:Q1 onwards, since it previously had the status of "Domestic Entity Other".

- Data for City National Corporation available until 2015:Q3, at which point it was acquired by RBC USA Holdco Corporation.

- Data for DB USA Corporation available until 2011:Q4 and from 2016:Q3 onwards, since in between it had the status of "Domestic Entity Other".

- Data for First Niagara Financial Group, Inc. available until 2002:Q3 and 2010:Q2 onwards, between which it had the status of "Savings and Loan Holding Company". Furthermore, its most recent data available only until 2016:Q2, since in August 2016 it was acquired by Keycorp.

- Data for Goldman Sachs Group available from 2009:Q1 onwards, since it previously had the status of "Domestic Entity Other".

- Data for HSBC North America Holdings Inc. available from 2004:Q1 onwards, when it was established as a financial holding company.

- Data for Marshall & Ilsley Corporation available from 2007:Q4 onwards, when it was established as a financial holding company, to 2011:Q2, when it was acquired by Harris Financial Corp (now BMO Financial Corp.).

- Data for Metlife Inc. available until 2012:Q3, since from January 2013 onwards it was no longer regulated by the Federal Reserve System.

- Data for Morgan Stanley available from 2009:Q1 onwards, since it previously had the status of "Savings and Loan Holding Company".

- Data for RBC USA Holdco Corporation available until 2011:Q4 and 2015:Q4 onwards, between which it had the status of "Domestic Entity Other". Data for RBC USA Holdco Corporation until 2010:Q3 is reported by its main subsidiary "RBC Bancorporation (USA)", which it acquired in November 2010. And, its data from 2018:Q2 onwards has been reported by its "Intermediate Holding Company" parent (i.e., RBC US Group Holdings LLC).

- Data for Suntrust Banks available until 2019:Q3, since it was acquired by Truist Financial Corporation in December 2019.

37

- Data for TD Bank US Holding Company from 2015:Q3 onwards has been reported by its "Intermediate Holding Company" parent (i.e., TD Group US Holdings LLC).
- Data for Utrecht-America Holdings LLC available between 2003:Q2 and 2019:Q2, outside of which its status was "Domestic Entity Other".
- Data for Wachovia available until 2008:Q3, since it was acquired by Wells Fargo & Company in December 2008.
- Data for Zions Bancorporation available until 2018:Q2, since in September 2018 it was acquired by ZB, National Association (not a holding company).

Renamings:

- Ally Financial Inc. was named General Motors Acceptance Corporation until July 2006, GMAC LLC until June 2009, and then GMAC Inc. until May 2010.
- BBVA USA Bancshares Inc. was named Compass Bancshares Inc. until October 2007, BBVA USA Bancshares Inc. until May 2013 and then BBVA Compass Bancshares Inc. until June 2019.
- BMO Financial Corp. was until July 2007 named Harris Financial Corp and until January 2004 Bankmont Financial Corp.
- Citizens Financial Group Inc. was known as RBS Citizens Financial Group Inc. between March 2012 and April 2014.
- DB USA Corporation was until July 2014 named Taunus Corporation.
- First Hawaiian Inc. was until April 2016 named Bancwest Corporation.
- First Horizon National Corporation was until April 2004 named First Tennessee National Corporation.
- Morgan Stanley was named Morgan Stanley, Dean Witter and Co before June 2002.
- MUFG Americas Holding Corporation was until July 2014 known as Unionbancal Corporation.
- TD Bank US Holding Company was until October 2009 named TD Banknorth Inc. and until March 2005 Banknorth Group, Inc.
- Truist Financial Corporation was until December 2019 named BB&T Corporation.
- Utrecht-America Holdings LLC was until July 2019 named Utrecht-America Holdings Inc.
- 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 $Lobbyists_{i,t}$, given by Equation (3)	OS
$InHouseLobbyists_{i,t}$	Number of in-house lobbyists hired by BHC i in quarter t	OS
$ExternalLobbyists_{i,t}$	Number of external lobbyists hired by BHC i in quarter t	OS
$Rating_{i,t}$	Standard&Poor's domestic long-term issuer credit rating for BHC i in quarter t	SP/C
$TierOne_{i,t}$	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	NIC
$DerivativesHedging_{i,t}$	Total gross notional amount of BHC i's interest rate, exchange, equity, commodity and other derivative contracts held for hedging in quarter t divided by its total assets in the same quarter	NIC
$BizConcentration_{i,t}$	Concentration index of BHC i's income sources in quarter t (1 if full concentration)	NIC
$Securitization_{i,t}$	Net securitization income of BHC i as a ratio over its total interest and non-interest income in quarter t	NIC
$Trade_{i,t}$	BHC i's trading revenue from cash instruments and derivative instruments as a ratio over its total interest and non-interest income in quarter t	NIC
$Loans_{i,t}$	BHC i's interest and fee income on loans in domestic and foreign offices as a ratio over its total interest and non-interest income in quarter t	NIC
$InvestBank_{i,t}$	BHC i's non-interest income from fees and commissions from securities brokerage, investment banking, advisory, underwriting, and annuity sales as a ratio over its total interest and non-interest income in quarter t	NIC
$Insurance_{i,t}$	BHC i's underwriting income from insurance and reinsurance activities as a ratio over its total interest and non-interest income in quarter t	NIC
$ReturnonAssets_{i,t}$	BHC i's return on assets in quarter t	NIC
$Cash_{i,t}$	BHC i's sum of cash and federal funds sold that are held in quarter t as a fraction of its total assets in the same quarter	NIC
$TotalAssets_{i,t}$	BHC i's total assets in quarter t	NIC
$Foreign_i$	1 if BHC i is foreign-owned, 0 else	NIC

Table 1: Description of variables.

This table describes the variables used in our regression analyses. Data sources: SP/C = S&P Ratings Direct and Compustat; NIC = National Information Center of the Federal Reserve; OS = OpenSecrets.org by Center for Responsive Politics.

Variable	Units	Mean	St. dev.	Min	Max
LobbyDummy	dummy	0.587	0.492	0.000	1.000
LobbyExpenses	ppm	0.819	1.399	0.000	16.814
Lobbyists	no.	7.501	12.795	0.000	87.000
LobbyMix	ppm*no.	2.032	2.759	0.000	21.176
InHouseLobbyists	no.	1.573	2.496	0.000	14.000
ExternalLobbyists	no.	5.928	10.740	0.000	79.000
TierOne	fraction	8.342	2.540	-3.510	20.020
BizConcentration	fraction	0.412	0.136	0.123	0.855
Rating		A-	(A+ , BBB-)	AAA	SD
DerivativesHedging	%	19.310	40.918	0.000	749.802
Securitization	%	0.284	1.900	-29.920	26.519
Trade	%	2.721	6.642	-89.706	56.415
Loans	%	48.715	20.699	0.152	121.235
InvestBank	%	5.212	8.248	-2.121	54.728
Insurance	%	2.034	7.710	-0.209	73.394
ReturnonAssets	%	0.508	0.688	-7.358	3.699
Cash	%	11.432	13.344	0.075	75.579
TotalAssets	USD	273bn	500bn	2.6bn	2'765bn
Foreign	dummy	0.219	0.414	0.000	1.000

Table 2: Descriptive statistics of variables.

This table reports descriptive statistics for our 52 sample banks. The sample period covers 76 quarters running from 2001:Q1 to 2019:Q4. Table 1 provides the variable definitions. For standard deviation of the *Rating* variable we provide a range that is one standard deviation below and above the mean. The abbreviation "ppm" stands for "part per million".

40

	TierOne	Rating	DerivativesHedging	BizConcentration	Securitization	Trade	Loans	Insurance	InvestBank	ReturnonAssets	Cash	TotalAssets	Foreign
TierOne	1.000												
Rating	0.535	1.000											
DerivativesHedging	0.032	-0.057	1.000										
BizConcentration	0.240	0.298	-0.175	1.000									
Securitization	0.093	0.024	0.066	-0.096	1.000								
Trade	0.009	-0.029	0.027	-0.239	0.120	1.000							
Loans	0.295	0.354	-0.091	0.568	-0.006	-0.431	1.000						
Insurance	-0.103	0.008	0.054	0.035	-0.018	-0.072	-0.201	1.000					
InvestBank	-0.178	-0.185	0.190	-0.335	0.001	0.505	-0.501	-0.106	1.000				
ReturnonAssets	0.087	-0.089	0.004	0.002	0.107	0.027	-0.082	-0.029	-0.015	1.000			
Cash	-0.392	-0.308	0.015	-0.349	-0.034	0.399	-0.697	-0.159	0.548	-0.088	1.000		
TotalAssets	-0.162	-0.215	0.094	-0.445	0.054	0.324	-0.269	0.045	0.360	0.003	0.321	1.000	
Foreign	-0.299	-0.337	0.039	0.099	-0.077	-0.178	0.082	-0.092	0.016	-0.218	0.197	-0.139	1.000

Table 3: Correlations between explanatory variables.

This table reports the correlations between explanatory variables for our 52 sample banks over 76 quarters running from 2001:Q1 to 2019:Q4. Table 1 provides the variable definitions.

41

Variable	Non-lobbying BHCs	Lobbying BHCs
TotalAssets	31'022'405'000	303'779'896'000
TierOne	8.994	8.258
Rating	BBB+	A-
DerivativesHedging	6.781	20.906
BizConcentration	0.403	0.413
Securitization	0.001	0.320
Trade	1.868	2.830
Loans	55.095	47.902
InvestBank	1.899	5.634
Insurance	0.977	2.169
Cash	5.213	12.224
Foreign	0.000	0.247
No. of BHCs	6	46

Table 4: Comparison of non-lobbying BHCs versus lobbying BHCs.
This table reports average descriptive statistics for our 52 sample banks. The sample period covers 76 quarters running from 2001:Q1 to 2019:Q4. A BHC is defined as a "lobbying BHC" if it has lobbied in at least one quarter during our sample period. Table 1 provides the variable definitions.

42

Dependent variable	Selection eq. (Probit) LobbyDummy	Response equations (OLS)		
		LobbyExpenses	Lobbyists	LobbyMix
C		0.3255 (0.2367)	-3.1123* (1.6744)	1.0591** (0.4411)
$TierOne(-1)$	0.0169 (0.0129)	0.3206*** (0.0173)	0.5151*** (0.1237)	0.3407*** (0.0323)
$Rating(-1)$	0.0420*** (0.0139)			
$DerivativesHedging(-1)$	0.0005 (0.0010)			
$BizConcentration(-1)$	-3.1152*** (0.2336)			
$Securitization(-1)$		0.0165 (0.0137)	0.1812* (0.0965)	0.0653** (0.0254)
$Trade(-1)$		-0.0144*** (0.0052)	0.3565*** (0.0375)	0.0454*** (0.0097)
$Loans(-1)$		-0.0367*** (0.0027)	0.0491** (0.0206)	-0.0177*** (0.0051)
$InvestBank(-1)$		-0.0293*** (0.0041)	-0.2139*** (0.0294)	-0.0605*** (0.0077)
$Insurance(-1)$		0.0084** (0.0038)	0.4148*** (0.0273)	0.0925*** (0.0072)
$Cash(-1)$		-0.0084** (0.0042)	0.2598*** (0.0303)	0.0454*** (0.0078)
$TotalAssets(-1)$	1.13e-08*** (5.16e-10)		1.43e-08*** (4.75e-10)	
$Foreign$	0.0958 (0.0770)	1.2071*** (0.0974)	-1.9014*** (0.7220)	0.4620** (0.1814)
IMR		0.1694* (0.0896)	-2.7188*** (0.7068)	-1.2219*** (0.1670)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.4566	0.3280	0.5990	0.2688
No. observations	3070	1878	1878	1878

Table 5: Determinants of banks' lobbying activities from 2001:Q1 to 2019:Q4.

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 2019:Q4. Table 1 provides the variable definitions. Standard errors are reported in parentheses. Asterisks *, **, and *** indicate significance at the 10, 5, and 1% levels, respectively.

43

Dependent variable	Selection eq. (Probit) LobbyDummy	Response equations (OLS) LobbyExpenses	Lobbyists	LobbyMix
C		1.1411*** (0.2530)	-1.9773 (2.5511)	2.1602*** (0.5900)
$TierOne$(-1)	0.0068 (0.0173)	0.0665*** (0.0197)	-0.0169 (0.2007)	-0.0303 (0.0460)
$Rating$(-1)	0.0533*** (0.0182)			
$DerivativesHedging$(-1)	-0.0051** (0.0020)			
$BizConcentration$(-1)	-3.1352*** (0.3390)			
$Securitization$(-1)		0.0630*** (0.0099)	0.2720*** (0.0994)	0.1441*** (0.0230)
$Trade$(-1)		0.0034 (0.0053)	0.2219*** (0.0535)	0.0525*** (0.0124)
$Loans$(-1)		-0.0170*** (0.0031)	0.0708** (0.0326)	0.0195*** (0.0071)
$InvestBank$(-1)		-0.0201*** (0.0049)	-0.0759 (0.0493)	-0.0304*** (0.0114)
$Insurance$(-1)		0.0175*** (0.0036)	0.4619*** (0.0362)	0.1170*** (0.0084)
$Cash$(-1)		-0.0088* (0.0046)	0.1861*** (0.0467)	0.0450*** (0.0107)
$TotalAssets$(-1)	0.98e-08*** (6.77e-10)		2.18e-08*** (9.05e-10)	
$Foreign$	0.2634** (0.1062)	1.1260*** (0.1187)	-1.9102 (1.2417)	0.0786 (0.2769)
IMR		0.3456*** (0.0842)	0.0967 (1.0042)	-1.1180*** (0.1964)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.4370	0.3150	0.6836	0.4230
No. observations	1510	802	802	802

Table 6: Determinants of banks' lobbying activities from 2001:Q1 to 2010:Q4.

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:Q4. Table 1 provides the variable definitions. 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		-1.4032*** (0.3467)	-9.2220*** (2.1487)	-1.6064*** (0.6166)
TierOne(-1)	0.0411* (0.0210)	0.5866*** (0.0244)	1.1538*** (0.1516)	0.7267*** (0.0434)
Rating(-1)	-0.0029 (0.0235)			
DerivativesHedging(-1)	0.0185*** (0.0057)			
BizConcentration(-1)	-2.7375*** (0.3383)			
Securitization(-1)		0.4414** (0.1779)	1.5910 (1.1088)	0.5028 (0.3164)
Trade(-1)		-0.0184** (0.0077)	0.5820*** (0.0486)	0.0585*** (0.0137)
Loans(-1)		-0.0510*** (0.0038)	0.0396 (0.0249)	-0.0403*** (0.0067)
InvestBank(-1)		-0.0258*** (0.0058)	-0.3415*** (0.0357)	-0.0690*** (0.0102)
Insurance(-1)		0.0125 (0.0079)	0.2917*** (0.0488)	0.0683*** (0.0140)
Cash(-1)		-0.0166*** (0.0058)	0.3058*** (0.0373)	0.0372*** (0.0103)
TotalAssets(-1)	1.18e-08*** (1.03e-09)		1.10e-08*** (5.00e-10)	
Foreign	-0.2654** (0.1247)	1.0195*** (0.1266)	-1.4588* (0.8200)	0.4285* (0.2252)
IMR		-0.2784** (0.1407)	-4.8431*** (0.9420)	-1.8241*** (0.2502)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.5111	0.4878	0.6168	0.3292
No. observations	1560	1076	1076	1076

Table 7: Determinants of banks' lobbying activities from 2011:Q1 to 2019:Q4.
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 2011:Q1 to 2019:Q4.
Table 1 provides the variable definitions. 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		0.3268 (0.2364)	-3.0339* (1.6727)	1.1012** (0.4408)
$TierOne(-1)$	0.0198 (0.0131)	0.3198*** (0.0173)	0.5112*** (0.1236)	0.3378*** (0.0323)
$Rating(-1)$	0.0396*** (0.0140)			
$DerivativesHedging(-1)$	0.0006 (0.0010)			
$ReturnonAssets(-1)$	-0.0544 (0.0391)			
$BizConcentration(-1)$	-3.0764*** (0.2356)			
$Securitization(-1)$		0.0168 (0.0136)	0.1836* (0.0964)	0.0668*** (0.0254)
$Trade(-1)$		-0.0145*** (0.0052)	0.3560*** (0.0375)	0.0452*** (0.0452)
$Loans(-1)$		-0.0368*** (0.0027)	0.0479** (0.0205)	-0.0182*** (0.0051)
$InvestBank(-1)$		-0.0292*** (0.0041)	-0.2137*** (0.0294)	-0.0603*** (0.0077)
$Insurance(-1)$		0.0085** (0.0038)	0.4141*** (0.0273)	0.0923*** (0.0072)
$Cash(-1)$		-0.0083** (0.0042)	0.2585*** (0.0302)	0.0448*** (0.0078)
$TotalAssets(-1)$	1.14e-08*** (5.19e-10)		1.43e-08*** (4.75e-10)	
$Foreign$	0.0788 (0.0781)	1.2040*** (0.0974)	-1.8947*** (0.7220)	0.4590** (0.1816)
IMR		0.1855** (0.0895)	-2.6759*** (0.7053)	-1.1914*** (0.1670)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.4570	0.3283	0.5989	0.2678
No. observations	3070	1878	1878	1878

Table 8: Determinants of banks' lobbying activities, including previous corporate performance, from 2001:Q1 to 2019:Q4.

This table presents estimates from the two-stage Heckman analysis investigating the impact of banks' characteristics, including previous corporate performance, and sources of income on the intensity of their lobbying activities from 2001:Q1 to 2019:Q4. Table 1 provides the variable definitions. 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		-0.5538* (0.2842)	-2.5585* (1.5381)
$TierOne$(-1)	0.0169 (0.0129)	0.1550*** (0.0210)	0.3601*** (0.1137)
$Rating$(-1)	0.0420*** (0.0139)		
$DerivativesHedging$(-1)	0.0005 (0.0010)		
$BizConcentration$(-1)	-3.1152*** (0.2336)		
$Securitization$(-1)		0.1413*** (0.0164)	0.0399 (0.0886)
$Trade$(-1)		0.0400*** (0.0064)	0.3165*** (0.0344)
$Loans$(-1)		0.0077** (0.0035)	0.0414** (0.0189)
$InvestBank$(-1)		-0.0059 (0.0050)	-0.2080*** (0.0270)
$Insurance$(-1)		0.0667*** (0.0046)	0.3481*** (0.0251)
$Cash$(-1)		0.0276*** (0.0051)	0.2322*** (0.0278)
$TotalAssets$(-1)	1.13e-08*** (5.16e-10)	0.29e-08*** (8.07e-11)	1.13e-08*** (4.37e-10)
$Foreign$	0.0958 (0.0770)	0.0678 (0.1226)	-1.9692*** (0.6632)
IMR		-1.0992*** (0.1200)	-1.6196** (0.6493)
Quarter fixed effects		✓	✓
(Pseudo-)R-squared	0.4566	0.6833	0.5351
No. observations	3070	1878	1878

Table 9: Determinants of banks' choice between in-house and external lobbyists from 2001:Q1 to 2019:Q4.

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 2019:Q4. Table 1 provides the variable definitions. 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		1.1354*** (0.2570)	-1.9023 (2.6099)	2.1531*** (0.6013)
$TierOne(-1)$	0.0068 (0.0173)	0.0699*** (0.0200)	-0.0193 (0.2047)	-0.0252 (0.0468)
$Rating(-1)$	0.0533*** (0.0182)			
$DerivativesHedging(-1)$	-0.0051** (0.0020)			
$BizConcentration(-1)$	-3.1352*** (0.3390)			
$Securitization(-1)$ $*Pre\text{-}Reform1$		0.0611*** (0.0101)	0.2739*** (0.1026)	0.1412*** (0.0237)
$Securitization(-1)$ $*Post\text{-}Reform1$		0.2236*** (0.0674)	0.3604 (0.6797)	0.3901** (0.1577)
$Trade(-1)$ $*Pre\text{-}Reform2$		-0.0015 (0.0062)	0.2133*** (0.0622)	0.0450 (0.0144)
$Trade(-1)$ $*Post\text{-}Reform2$		0.0170* (0.0091)	0.2435*** (0.0924)	0.0736*** (0.0213)
$Loans(-1)$		-0.0174*** (0.0031)	0.0700** (0.0328)	0.0189*** (0.0072)
$InvestBank(-1)$		-0.0208*** (0.0049)	-0.0772 (0.0496)	-0.0315*** (0.0114)
$Insurance(-1)$		0.0173*** (0.0036)	0.4611*** (0.0365)	0.1167*** (0.0084)
$Cash(-1)$		-0.0092** (0.0046)	0.1849*** (0.0471)	0.0443*** (0.0108)
$TotalAssets(-1)$	0.98e-08*** (6.77e-10)		2.18e-08*** (9.08e-10)	
$Foreign$	0.2634** (0.1062)	1.1242*** (0.1185)	-1.9278 (1.2482)	0.0755 (0.2773)
IMR		0.3475*** (0.0840)	0.1008 (1.0055)	-1.1148*** (0.1965)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.4370	0.3230	0.6836	0.4260
No. observations	1510	802	802	802

Table 10: Announcements of the Dodd-Frank bill & Volcker Rule and banks' lobbying activities from 2001:Q1 to 2010:Q4.

This table presents estimates from the two-stage Heckman analysis investigating how the announcements of the Dodd-Frank bill & Volcker Rule following the GFC affected the intensity with which banks lobby. In these regressions, we introduce new interaction terms to the regressions presented in Table 6: $Securitization * Pre\text{-}Reform1$ & $Securitization * Post\text{-}Reform1$ (replacing $Securitization$) and $Trade * Pre\text{-}Reform2$ & $Trade * Post\text{-}Reform2$ (replacing $Trade$). $Post\text{-}Reform1$ is a dummy variable accounting for the announcement of Dodd-Frank bill in June 2009, and taking value one for each quarter from 2009:Q3 onwards (until 2010:Q4), while $Pre\text{-}Reform1$ takes value one for each quarter until 2009:Q2; similarly, $Post\text{-}Reform2$ is a dummy variable accounting for the announcement of the Volcker rule in January 2010, and taking value one for each quarter from 2010:Q2 onwards (until 2010:Q4), while $Pre\text{-}Reform2$ takes value one for each quarter until 2010:Q1. Table 1 provides the remaining variable definitions. Standard errors are reported in parentheses. Standard errors are reported in parentheses. Asterisks *, **, and *** indicate significance at the 10, 5, and 1% levels, respectively.

48

Dependent variable	Selection eq. (Probit) LobbyDummy	Response equations (OLS) LobbyExpenses	Lobbyists	LobbyMix
C		-1.4030*** (0.3469)	-9.1582*** (2.1407)	-1.5966*** (0.6166)
$TierOne$(-1)	0.0411* (0.0210)	0.5865*** (0.0244)	1.1350*** (0.1512)	0.7253*** (0.0434)
$Rating$(-1)	-0.0029 (0.0235)			
$DerivativesHedging$(-1)	0.0185*** (0.0057)			
$BizConcentration$(-1)	-2.7375*** (0.3383)			
$Securitization$(-1)		0.4412** (0.1780)	1.4510 (1.1057)	0.4925 (0.3165)
$Trade$(-1)*Pre-$Trump$		-0.0185** (0.0082)	0.5361*** (0.0508)	0.0531*** (0.0145)
$Trade$(-1)*$Trump$		-0.0180 (0.0122)	0.7596*** (0.0770)	0.0774*** (0.0217)
$Loans$(-1)		-0.0510*** (0.0038)	0.0418* (0.0248)	-0.0404*** (0.067)
$InvestBank$(-1)		-0.0259*** (0.0058)	-0.3451*** (0.0356)	-0.0695*** (0.0102)
$Insurance$(-1)		0.0125 (0.0079)	0.2912*** (0.0486)	0.0681*** (0.0140)
$Cash$(-1)		-0.0166*** (0.0058)	0.3082*** (0.0372)	0.0371*** (0.0103)
$TotalAssets$(-1)	1.18e-08*** (1.03e-09)		1.09e-08*** (5.02e-10)	
$Foreign$	-0.2654** (0.1247)	1.0198*** (0.1270)	-1.3716* (0.8175)	0.4475** (0.2258)
IMR		-0.2782** (0.1409)	-4.8772*** (0.9386)	-1.8136*** (0.2504)
Quarter fixed effects		✓	✓	✓
(Pseudo-)R-squared	0.5111	0.4878	0.6201	0.3301
No. observations	1560	1076	1076	1076

Table 11: Trump Presidency and banks' lobbying activities from 2011:Q1 to 2019:Q4. This table presents estimates from the two-stage Heckman analysis investigating how presidency of Donald J. Trump affected the intensity with which banks lobby. In these regressions, we introduce new interaction terms to the regressions presented in Table 7: $Trade * Pre$-$Trump$ & $Trade * Trump$ (replacing $Trade$). $Trump$ is a dummy variable accounting for the period after the U.S. presidential election results on November 8, 2016, and taking value one for each quarter from 2017:Q1 onwards (until 2019:Q4); while Pre-$Trump$ variable takes value one for each quarter until 2016:Q4. Table 1 provides the remaining variable definitions. Standard errors are reported in parentheses. Standard errors are reported in parentheses. Asterisks *, **, and *** indicate significance at the 10, 5, and 1% levels, respectively.

49

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