

A Fistful of Dollars: Lobbying and the Financial Crisis[†]

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Abstract

Has lobbying by financial institutions contributed to the financial crisis? This paper uses detailed information on financial institutions' lobbying at the federal level and their mortgage lending activity at the local level to answer this question. We find that lenders' lobbying expenses on specific issues related to mortgage lending and securitization are associated with specific mortgage loans characteristics and outcomes. During the mortgage lending boom, lenders that lobbied more intensively had (i) higher loan-to-income ratios, (ii) a greater tendency to securitize mortgages, and (iii) faster growing mortgage loan portfolios. Ex-post, delinquency rates are higher in areas in which these lenders experienced a larger expansion of their market share during the boom. Finally, lenders that lobbied experienced negative abnormal stock returns during key events of the financial crisis. The findings are robust to adopting an instrumental variables strategy, falsification tests relying on lobbying activities on issues unrelated to mortgage lending, and a difference-in-difference approach based on state-level lending laws. These results suggest these lenders may have expected special treatments from policymakers, allowing them to engage in riskier lending behaviors during the boom.

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I. INTRODUCTION

On December 31, 2007, the Wall Street Journal reported that Ameriquest Mortgage and Countrywide Financial, two of the largest mortgage lenders in the nation, spent \$20.5 million and \$8.7 million, respectively, in political donations, campaign contributions, and lobbying activities from 2002 through 2006.^{1, 2} The sought outcome, according to the article, was the defeat of anti-predatory lending legislation in Georgia and New Jersey and fending off of similar laws in other states and at the federal level. In other words, according to the article, timely regulatory response that could have mitigated reckless lending practices and the consequent rise in delinquencies and foreclosures was shot down by the mortgage industry.

Such anecdotal evidence has supported assertions that regulatory failure, driven by the political influence of the financial industry, contributed to the 2007 mortgage crisis, which, in the fall of 2008, generalized in the worst bout of financial instability since the Great Depression.^{3 4} However, formal analysis of the political economy causes of the crisis has so far remained scant.

We construct a unique dataset combining information on lobbying by the financial industry in the federal government and mortgage lending activities at the local level to explore the

¹ Simpson, Glenn, 2008, "Lender Lobbying Blitz Abetted Mortgage Mess," The Wall Street Journal, December 31; available at http://online.wsj.com/public/article_print/SB119906606162358773.html. See also the Financial Times front page coverage of the Center for Public Integrity study linking subprime originators (a large share of which are now bankrupt) to lobbying efforts to prevent tighter regulations of the subprime market (May 06, 2009, "US banks spent \$370 million to fight rules", May 06, 2009, available at: http://www.ft.com/cms/s/0/a299a06e-3a9f-11de-8a2d-00144feabdc0.html?nclink_check=1).

² Ameriquest Mortgage, one of the US leading wholesale lender during this period, was shut down in August of 2007. Countrywide Financial was acquired by Bank of America in July 2008, at only a fraction of its market value one year earlier.

³ Some argue that recovery from the crisis will fail unless the financial industry's grip on the government is broken: see Johnson, Simon, 2009, "The Quiet Coup," *The Atlantic*, May; available at <http://www.theatlantic.com/doc/200905/imf-advice>.

⁴ For a detailed account of the subprime crisis, see Gorton (2008a, 2008b). For a discussion of the mechanisms underlying the various phases of the crisis, see Diamond and Rajan (2009).

political economy factors leading the way to the crisis and assess the effect of lobbying activities on outcomes. By going through individual lobbying reports, we identify lobbying activities *on* issues specifically related to rules and regulations of consumer protection in mortgage lending, underwriting standards and securities laws.⁵ We show that lenders that lobbied on such issues adopted lending behaviors significantly different from that of other lenders, in particular more lax lending standards and a greater tendency to securitize, and they also experienced worse outcomes.

To determine the relationship between lobbying and lending behaviors of financial institutions, we exploit variation in lobbying and lending practices at the financial intermediary and at the Metropolitan Statistical Area (MSA) level. First, we analyze the relationship between lobbying activities at the federal level and *ex-ante* characteristics of loans originated by each lender at the MSA level. We estimate the association between lobbying and three measures of lending behavior: loan-to-income ratio (which we consider as a proxy for lending standards), proportion of loans sold (measuring recourse to securitization), and mortgage loan growth rates (a potential sign of excessive risk-taking⁶). Next, we analyze measures of *ex-post* performance of loans associated with lobbying lenders. We explore whether ex-post delinquency rates at the MSA level – an indicator of the quality of a pool of mortgages - are associated with the expansion of lobbying lenders' market share during the mortgage boom period. We also carry out an event study during key episodes of the financial crisis to assess whether the stocks of lobbying intermediaries performed differently than those of other financial institutions.

Our analysis establishes that financial intermediaries lobbying activities on specific issues such as consumer protection related to the mortgage market and accounting rules governing securitization are significantly related to both their mortgage lending behavior and their ex-

⁵ A sample lobbying report, shown in Table A2, filed by Bear Stearns and Co. to the Senate for Public Records (SOPR) documents that the company lobbied to change regulations related to mortgage lending standards for the period January-June 2007.

⁶ For implications of fast credit growth on risk, see Dell'Ariccia and Marquez (2006) and references therein.

post performance. We find that, after controlling for lender and area specific unobserved characteristics as well as changes over time in the overall macroeconomic and local conditions, lenders that lobby more intensively: (i) originate mortgages with higher loan-to-income ratios; (ii) sell a higher proportion of loans originated; and (iii) have faster growing mortgage loan portfolios. Our analysis of ex-post performance comprises two pieces of evidence: (i) a faster relative growth of mortgage loans by lobbying lenders is associated with higher ex-post default rates at the MSA level in 2008; and (ii) lobbying lenders experienced negative abnormal stock returns during the main events of the financial crisis in 2007 and 2008. This evidence suggests that lenders that lobbied intensively on issues related to mortgage lending and securitization are significantly more exposed to poorly performing mortgage pools.

There are two broad interpretations of the motivation for lobbying by the financial industry before the financial crisis. The first one, the *moral hazard* or *quid pro quo* interpretation, claims that lobbying buys political influence to set laws and regulations that increase the likelihood of obtaining private benefits under certain states of the world.⁷ In other words, lenders lobby for laxer laws and regulations because they expect private benefits if they choose more risky lending strategies.^{8 9} A first potential source of moral hazard is associated with the “too big to fail” problem: during a systemic crisis, lobbying lenders would be more likely to be bailed out than other lenders, and under potentially less stringent conditions. A second potential source of moral hazard would be created by “short-termism” in financial markets. In the originate-and-distribute model of financial intermediation, incentives may be distorted and lead to risk-shifting resulting from temporary high profitability associated with

⁷ A related example in the trade literature would be the leading *quid pro quo* common agency model of Grossman and Helpman (1994), in which producer lobbies offer money to incumbent politicians in exchange for import protection.

⁸ A fact suggesting the probable relevance of this interpretation is that most foreclosures stem from loans originated in 2005 and 2006, at a time when market participants should have been able to understand that a significant fall in prices would cause a large increase in foreclosures, but assigned a low probability to such an event (Gerardi et al. (2009)).

⁹ An extreme version of the moral hazard interpretation would materialize if the financial industry was, for all practical purposes, setting its own regulations. Another possible source of moral hazard is that some financial institutions have an expertise in short-supply that is needed in time of crisis (Acemoglu, 2009).

origination, underwriting and securitization fees.^{10 11} As a consequence of moral hazard, we would therefore observe more risk-taking *ex-ante*, and a worse *ex-post* quality of loans originated by lobbying financial intermediaries, as manifested in higher delinquency rates.

In the political economy literature, the foremost alternative interpretation of lobbying behavior comes from *signaling theories of information*, which views lobbying as a means by which special interests strategically convey information to policy makers about the relative merits of different policy options.¹² These theories would imply that financial institutions lobby to inform the policy-maker with the objective to induce a business environment that fits best their characteristics and their priors on the state of the world. For example, lenders that have more to gain from less stringent laws and regulations because they have a better underwriting technology, screening process, or a better knowledge of the state of the world than the policy maker and other lenders have, would lobby more intensively to signal their superior information and ensure that the regulations allow them to fully exploit such relative advantages.

According to the signaling theory, lobbying lenders would originate loans of higher quality and have higher credit growth rates for a given specialization, if lobbying is indeed effective at influencing policies.¹³ In particular, if such lenders specialize in catering to borrowers with

¹⁰ Calomiris (2008) provides an overview of incentive problems leading the way to the crisis, including on the buyer side of mortgage-backed securities.

¹¹ Theories of asymmetric information show that banks must bear part of the risk of their loans to have adequate incentives to screen and monitor borrowers (Holmstrom and Tirole, 1997, Gorton and Pennacchi, 1995). Keys et al (2008) and Rajan, Seru, and Vig (2008), find microeconomic evidence consistent with the moral hazard hypothesis and show that securitization of subprime, low documentation mortgage loans, reduced the incentives to collect soft information on loans originated and led to worse ex-post performance of these loans.

¹² Signaling theories of lobbying that go back to Crawford and Sobel (1982). See Grossman and Helpman (2001), and Potters and Van Winden (1992) for theories in which firms signal their type or their knowledge of the state of the world by lobbying.

¹³ In theory, the information transmitted by the act of lobbying could also be non-credible and may have no influence on policies. However, the sheer size of the amounts spent on lobbying by the financial industry in relation to consumer protection in mortgage lending and securitization cast doubts on this interpretation (lobbying expenditures reached a total of US\$475 million between 1999 and 2006, among which US\$161 million for 2005 and 2006 alone).

lower income levels or operate in areas with higher average property prices, one would expect to observe higher loan-to-income ratios, not necessarily indicating lower credit standards but signaling the specialization or better screening technology of the lobbying firm. Hence, we cannot reject this view based on the evidence that lobbying activities are associated with higher loan-to-income ratios and higher credit growth. Yet, under the assumption that these lenders have a better screening technology, better risk management practices, or expertise within a particular segment of the market, there is little reason to expect a higher securitization rate, or their loans to be of lower average quality *ex-post* after controlling for their specialization. Therefore, the estimated relationship between *ex-post* loan characteristics and lobbying activities seems to be more consistent with the moral hazard view than with the signaling view.

We perform a number of tests to discern the interpretation that is more likely to be consistent with our results. First, we make use of a sign restriction on the key coefficients estimated. Second, to mitigate omitted variables and reverse causality, we include fixed effects capturing lenders and MSAs characteristics whenever possible and adopt an instrumental variables strategy using the distance between the headquarter of the financial institution and Washington D.C. to proxy for the cost of lobbying. Third, we conduct falsification tests by exploiting information on lobbying on financial sector issues that are *unrelated* to mortgage lending and securitization. Fourth, we adopt a difference-in-difference strategy to test whether the characteristics of mortgage loans originated by lobbying lenders respond differently to the introduction of anti-predatory lending laws at the state level than those originated by other lenders. Finally, we conduct an event study during key events of the financial crisis.

Overall, our findings are more likely consistent with the moral hazard view than with the signaling view. They suggest that lobbying might reflect, at least partially, the lenders' expectations of special treatments from policymakers, allowing them to engage in riskier lending strategies *ex-ante*. In particular, the fact that we observe a worse *ex-post* quality of loans originated by lobbying financial intermediaries, which is manifested in higher

delinquency rates and negative abnormal returns during key events of the crisis tends to substantiate the moral hazard interpretation.

The rest of the paper is organized as follows. Section II discusses related papers, and outlines the framework that motivates our empirical approach. Section III describes the empirical methodology and our new dataset. Section IV presents the results of the empirical analysis and Section V summarizes the evidence presented in this paper and concludes.

II. RELATED LITERATURE AND EMPIRICAL MODEL

A. Related Papers

Since the pioneering work by Krueger (1974), rent seeking has been identified as a key activity of economic agents in market economies.¹⁴ In developing countries, rent seeking by firms is usually performed through personal connections with politicians providing various private benefits to firm owners (Fisman (2001), Johnson and Mitton (2003), and Faccio and Parsley (2006)), and can materialize through a variety of channels (preferential access to credit, bail-out guarantees, privileged access to licenses, procurement contracts, etc.). In contrast, in developed countries, *lobbying* – defined as legal activity aiming at changing existing rules or policies or procuring individual benefits – is a common form of rent-seeking activity, while personal connections with politicians appear to be of a lesser value (Fisman et al., 2006).¹⁵

Research on lobbying can be classified into two strands: studies that focus on the relationship between lobbying activities and specific *policies* (see, for instance, Grossman and Helpman, 1994, Goldberg and Maggi, 1999 and Facchini, Mayda, and Mishra, 2008 for trade policy, and Kroszner and Stratmann, 1998, for financial services) and those that aim to explore the consequences of rent-seeking activity by special interest groups for specific economic

¹⁴ See Stigler (1971) and Becker (1983) on the private-interest theory of regulation.

¹⁵ Harstad, and Svensson (2008) develop a theory of endogenous evolution of corruption and lobbying over the development process: in less developed countries, firms tend to rely on corruption to bend the rules, while, in richer countries, they choose to lobby the government to change the rules.

outcomes (see, for example, Bertrand et al., 2004, and Claessens et al., 2006). Issues specific to banking and finance have been studied by, among others, Kroszner and Strahan (1999), who show that special interest theory can explain the design and timing of bank regulation in the U.S.;¹⁶ and Kwahja and Mian (2005), who find that, in Pakistan politically-connected firms obtain exclusive loans from public banks and have much higher default rates.

The second strand of literature related to this paper comprises a number of papers, which have analyzed the characteristics of the credit boom phase of the current crisis. Mian and Sufi (2008) analyze the contribution of subprime lending to the expansion of mortgage credit and its impact on default rates. Dell’Ariccia, Igan, and Laeven (2008), provide evidence that areas in which lenders relaxed lending standards more also experienced larger increases in subprime delinquency rates, and that the relaxation of lending standards was associated with the entry of large lenders. Mian and Sufi (2009) show that home-equity based borrowing contributed to the credit boom, and caused higher default rate when home price deflated after 2006.

Theoretical explanations of variations of credit standards during the cycle are mostly based on asymmetric information theories of financial accelerator (see Dell’Ariccia and Marquez, 2006, for a literature review). Moral hazard theories include the one of Rajan (1994), in which banks have an incentive, in good times, to set excessively liberal credit policies when bank earnings are very informative about bank ability; and, in bad times, to disclose bad earning performance which is more likely to be attributed to the state of nature than to the ability of the bank. Tressel and Verdier (2008) show that, in emerging markets experiencing capital inflows, a low cost of capital can endogenously lead to collusion between financial intermediaries and borrowers with political influence, and results in inefficient projects being financed.

¹⁶ Recent theories on private agents’ impact on policies and regulations include the work of Caselli and Gennaioli (2008), who model the general equilibrium political consequences of financial reforms and entry deregulation when a market for corporate control exists.

Finally, there remains scarce evidence in the literature on the political economy of the current financial crisis. Mian, Sufi, and Trebbi (2008) and Igan and Landoni (2008) and are, to the best of our knowledge, the two other studies looking at certain aspects of the political economy of the crisis, but they do not analyze the political economy factors of lending practices. Igan and Landoni (2008) study passing of anti-predatory lending laws in relation to campaign contributions and show that contributions increase after a law comes into effect, presumably pointing to coordination problems among lenders. Mian, Sufi and Trebbi (2008) focus on the consequences of the financial crisis and show that constituent and special interests theories explain voting on key bills in 2008. In contrast to these papers, we study the role of political economy factors in shaping lending practices during the credit boom and their impact on loan outcomes during the crisis.

B. Empirical Model

In this section, we lay out basic relationships derived from standard lobbying models to motivate our empirical strategy. Specifically, we show that existing theories imply that lobbying behavior can be related to lending standards in a reduced form equation, and discuss how such reduced form equations might be used to tell apart the moral hazard and signaling interpretations outlined in section I.

Lobbying and Policies

We consider a general framework relating lobbying to policies. Our framework aims at summarizing behavioral relationships under two sets of existing theories of lobbying: (i) *common agency theories* in which lobbying firms compete for influence over a policy by strategically choosing their contribution to politicians (Bernheim and Whinston, 1986, and Grossman and Helpman, 1994)¹⁷ and (ii) *information-based theories* in which lobbying firms have better information than the policy makers and partly reveal their information by endogenously choosing their lobbying effort (Potters and van Winden, 1992, Lohmann, 1995, Grossman and Helpman, 2001, Chapter 5).

¹⁷ Earlier models of rent-seeking see lobbying activities as a quid-pro-quo exchange of money for favorable political decisions when agents compete for rents (the traditional example being the allocation of import licenses, see Krueger, 1974, Becker, 1983).

A lender i among a set of n lenders can lobby the legislator or the regulator to influence the choice of a policy or to communicate and disseminate information on the mortgage loan market. A given contribution level $lobbying_i(pol)$ is chosen by lobbyist i to maximize his welfare (net of the contribution to the policy maker), taking the contribution schedules of other lobbyists as given, and anticipating that the policy maker chooses the policy pol that maximizes his welfare given his and other lobbyists contributions.¹⁸ Formally, the contribution level of lobbyist i depends on policies and other lobbyists contribution schedule as follows:

$$lobbying_i(pol) = \lambda \cdot B_i + \nu \cdot C_i + \vartheta \cdot LOBBYING_{-i}(pol) + \phi \cdot pol + \varepsilon_i \quad (1)$$

where $lobbying_i$ is either a dummy variable equal to 1 or to the amount lobbied if a firm lobbies and equal to zero otherwise; and the contribution schedules of other lobbyists are summarized in the vector

$LOBBYING_{-i}(pol) = \{lobbying_1, \dots, lobbying_{i-1}, lobbying_{i+1}, \dots, lobbying_n\}$. B_i is a vector of lender specific information or benefits of lobbying in favor or against certain laws and regulations. Such factors could include: (i) probability of being bailed out in the event of a financial crisis, (ii) the screening technology of lenders or more generally the degree of efficiency in providing financial services, or the specialization of the lender; (iii) the capacity to acquire private information (or beliefs) regarding the probability distribution of future states of the world¹⁹ or (iv) better underwriting technology and higher profits associated with origination and securitization of mortgages. C_i is a vector of exogenous fixed or marginal costs associated with lobbying, capturing the efficiency of the lender's lobbying

¹⁸ In a common agency game, each lobbyist would independently design contribution schedules associating a gift to the policy maker with every possible policy option, taking other lobbyist contributions as a given. After each group communicates their schedules to the policy maker, the latter chooses the policy that maximizes her welfare.

¹⁹ This would include, for instance, private information or beliefs regarding the probability distribution of future house prices and of future economic activity, an estimation of probability of defaults in a loan category for a given decline in house prices, or an estimation of losses given default.

technology.²⁰ Finally, ε_i includes other, non-observable lender-specific factors affecting the decision to lobby.

In response to lobbying activities and contributions of financial intermediaries, the policy maker chooses a policy level that maximizes his welfare. Hence, it is a function of various lobbying activities:²¹

$$pol = \alpha \cdot lobbying_i + \beta \cdot LOBBYING_{-i} \quad (2)$$

Assuming an equilibrium exists, the equilibrium lobbying level of lobbyist i would be a function of various parameters:

$$lobbying_i = \lambda'_i \cdot B_i + \nu'_i \cdot C_i + \mathcal{G}'_i \cdot \{B_{-i}, C_{-i}\} + \phi' \{\alpha, \beta\} + \varepsilon'_i \quad (3)$$

Lobbying and Loan Characteristics

Characteristics of mortgage loans originated by lender i - including ex-ante characteristics, such as the loan-to-income ratio and the probability of securitization, as well as ex-post characteristics, such as the probability of delinquency – are a function of a set of average borrower characteristics Z_i , lender characteristics X_i , and of policies:

$$LOAN_i = \phi \cdot Z_i + \phi \cdot X_i + \mu \cdot pol + \varpi_i \quad (4)$$

where $LOAN_i$ is a vector of loan characteristics, ϕ , ϕ and μ are parameters to be estimated, and ϖ_i is a residual.

²⁰ A dollar spent on lobbying may be more or less effective in influencing policy outcomes depending, for instance, on political connections of CEOs and of Board members, on the choice of the lobbyist hired, on the geographical proximity to Washington D.C.

²¹ In the Grossman and Helpman (1994) framework, the welfare of the policy maker would be a function of the sum of political contributions and of social welfare.

The parameter μ is assumed to depend on some lenders' characteristics according to $\mu = n + m_i$, where n is a parameter common to all lenders and m_i is specific to lender i . Under the assumption that policies pol are common across all lenders²², the common effect will be absorbed by the constant term (in cross-sectional regressions), or by year fixed effects in panel regressions. Our key hypothesis is that the parameter m_i depends on the lender-specific benefits B_i associated with the decision of lobby, as well as on other factors O :

$$m_i = \psi \cdot B_i + O \quad (5)$$

For example, the impact of a given policy environment on loan characteristics will depend on lenders' screening technologies, private information or beliefs regarding future state of the world, underwriting and securitization technologies, or bail-out probabilities. Hence the same (partly unobserved) factors that affect the decision to lobby must also shape the marginal impact of policies on the characteristics of the loans being originated.

Combining equations (3), (4) and (5), and adding a time dimension t , yields the following reduced-form equation:

$$LOAN_{i,t} = \varphi \cdot Z_{i,t} + \phi \cdot X_{i,t} + \sigma \cdot lobbying_{i,t} \cdot pol_{i,t} + \tau \cdot pol_{i,t} + \varpi_i \quad (6)$$

where $\sigma = \frac{\psi}{\lambda}$, and $\tau = n + O$.

Relationship (6) is therefore the reduced form equation of a lobbying game in which the presence of the lobbying variable reflects the hypothesis that factors affecting the decision to lobby are also correlated with the marginal effect of policies on loan characteristics.²³ This

²² This assumption is satisfied as regulations we concentrate on generally define the restrictions applicable to mortgage loans and securitization, irrespective of the type of lender that originates the loan.

²³ This formulation also implies that the coefficient on the lobbying variable will be higher: (i) the higher the impact of the set of benefits B_i on the marginal effect of lending laws on loan characteristics (higher ψ); (ii) the lower the impact of these benefits on the lobbying intensity (lower λ_i).

relationship can be generalized to a framework in which we distinguish federal level policies, $Fpol_t$ from state level policies, $Spol_t$:

$$LOAN_{i,t} = \varphi \cdot Z_{i,t} + \phi \cdot X_{i,t} + \sigma_F \cdot lobbying_{i,t} \cdot Fpol_{i,t} + \tau_F \cdot Fpol_{i,t} + \sigma_S \cdot lobbying_{i,t} \cdot Spol_{i,t} + \tau_S \cdot Spol_{i,t} + \varpi_i \quad (7)$$

To draw conclusions on the incentives driving lobbying decisions and loan characteristics we exploit restrictions on the sign of the estimated parameter σ in equation (6) and σ_F, σ_S in equation (7). For example, if the relationship between lobbying and indicators of loan performance reflect a better underlying business model, more precise information on the probability distribution of the state of the world, or a specialization, the estimated coefficient σ would be non-negative when estimating the ex-post performance of the loan. Conversely, if lobbying and characteristics of loans reflect incentive problems related to expectations of a bail-out or short-termism, the estimated coefficient σ would be negative when estimating the ex-post performance of the loan. Moreover, given the presence of omitted factors in equations (6) and (7), one needs to find a set of factors that shift the equilibrium lobbying decision given by equation (3), but do not affect the loan decision of equation (4). Equation (3) suggests two potential sets of instruments unrelated with a lender's business model: (i) factors related to the costs of lobbying *in general*; and (ii) factors related to other firms' benefits and costs of lobbying. We further discuss the choice of instruments based on this intuition in Section III.

III. EMPIRICAL METHODOLOGY AND DATA

A. Empirical Approach

Lobbying and Loan Characteristics

Our empirical strategy consists of several alternative approaches based on equations (6) and (7) aiming at exploiting variations across lenders, across MSAs, as well as within lenders and

MSAs.²⁴ We consider the following loan characteristics: (i) the average loan-to-income ratio of loan originated by a lender during a specific year and in a given MSA; (ii) the proportion of mortgages securitized; and (iii) the annual growth rate in the amount of loans originated.

First, we estimate the following basic panel equation:

$$y_{itm} = \alpha + \beta \cdot l_i + \gamma \cdot X_{mt} + \lambda \cdot Z_{itm} + v_{itm} \quad (8)$$

where y_{itm} is a measure of loan characteristics for lender i , in MSA m during year t , l_i is a dummy for lenders that lobby for specific issues related to consumer protection in mortgage lending and securitization. Z_{itm} denotes a set of control variables at the lender-MSA level, and X_{mt} denotes a set of MSA-year varying controls. Depending on the specification, the residual v_{itm} includes a set of MSA, year, or cross MSA-year fixed effects. The set X_{mt} does not need to be included in regressions with cross MSA-year fixed effects, The parameter of interest is β , which captures time-invariant differences in mortgage loans characteristics between lenders that lobby and lenders that do not lobby.

Second, we estimate the following panel equation:

$$y_{itm} = \alpha + \delta \cdot \log(LOBAM)_{it-1} + \gamma \cdot X_{mt} + \lambda \cdot Z_{itm} + \varepsilon_{itm} \quad (9)$$

where outcome variables are the same as in equation (8), $(\log(LOBAM))_{it-1}$ is the logarithm of the amount of lobbying expenditures by lender i during year $t-1$.²⁵ The residual ε_{itm} contains lender, year, MSA, cross MSA-year fixed effects depending on the specification.. The preferred specification includes lender, year effects and and MSA*year interactions; capturing the effect of respectively (i) lenders time invariant unobserved characteristics (such

²⁴ We will throughout assume that relevant Federal laws did not significantly change during the period 2000-06, and is therefore proxied by a constant. Given the absence of anti-predatory lending laws at the federal level and in particular of changes in the Truth in Lending Act of 1968 during 2000-06, we consider this assumption a good first order approximation (Reiss (2009)). In contrast, we will make use of state lending laws that vary across state and over time in our difference –in-difference analysis.

²⁵ The variable is assumed to be equal to zero when a lender does not lobby.

as a time invariant specialization of business model); (ii) changes in the overall macroeconomic environment; and (iii) any unobserved MSA level factor.²⁶

The coefficient of interest is δ , which captures the effect of a one percent change in lobbying expenditure on the outcome variable. In specifications in which lender fixed effects are not included, it captures both *within* and *between* lender changes in mortgage lending behavior as lobbying expenditures change over time. In specifications in which lender fixed effects are included, the effect of lobbying on lending behaviour is identified based on the within-lender correlation over time between lobbying expenditures and mortgage lending behavior.

Next, we exploit state-level variation in lending laws to uncover whether stricter laws at the state level have differential effects on the mortgage lending behavior of financial intermediaries that lobby relative to those that do not lobby. The index of strength of anti-predatory laws is from Bostic et al. (2008), who extend and refine an index of anti-predatory laws first created by Ho and Pennington-Cross (2006). North Carolina was the first state to pass an anti-predatory lending law in 1999 and other states followed suit.²⁷ By 2007, all but six states have some form of anti-predatory lending law in place. It is important to recognize that state lending legislation efforts are likely to be affected by the FIRE industry's lobbying activities, but once a law is in effect what we are interested in is the relative response of lobbying versus non-lobbying lenders to these regulatory changes.²⁸ However, lobbying at

²⁶ We cannot include lender cross time fixed effects because lobbying expenses vary at the lender level only.

²⁷ Arkansas (2003), California (2002), Colorado (2003), Connecticut (2001), Florida (2002), Georgia (2002), Illinois (2004), Indiana (2004), Kentucky (2003), Maine (2003), Maryland (2002), Massachusetts (2001), Nevada (2003), New Jersey (2003), New Mexico (2004), New York (2003), Ohio (2002), Oklahoma (2004), Pennsylvania (2001), South Carolina (2004), Texas (2001), Utah (2004), Washington, DC (2003), and Wisconsin (2004). These states have laws that use triggers to define a class of loans eligible for restrictions and disclosures, following the lead of Home Ownership and Equity Protection Act at the federal level. Other states have laws that are more general in scope in the sense that they do not focus on high-cost or subprime loans and do not use triggers. These include Idaho, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, Oregon, Tennessee, Washington, and West Virginia.

²⁸ This approach is similar to the applications in the literature in which randomness of an experiment cannot be verified.

the federal level may be less likely to be dictated by any individual state decision to pass a law. We estimate the following panel equation:

$$y_{itm} = \alpha + \delta \cdot LOBAM_{it} + \varphi \cdot LOBAM_{it} \cdot APL_{st} + \gamma \cdot X_{mt} + \lambda \cdot Z_{itm} + \varepsilon_{itm} \quad (10)$$

Where X_{mt} denotes a set of MSA-year varying controls, and Z_{itm} denotes a set of control variables at the lender-MSA level. The preferred set of fixed effects would include MSA-year and lender fixed effects. In specifications with lender fixed effects, the control group includes branches or subsidiaries of the same lender located in states that have not yet implemented anti-predatory laws. In regressions *with* lender fixed effects, the treatment group comprises branches and subsidiaries of the *same* financial intermediary but located in states that have not implemented anti-predatory laws. In regressions *without* lender fixed effects, the treatment group includes all lenders located in states without anti-predatory lending laws.

Delinquency Rates and Credit Growth

We estimate the following cross-sectional empirical model:

$$dr_{m,2008} = \alpha + \theta \cdot \overline{gmsh}_m + \mu \cdot X_m + \eta \cdot Z_m + \varepsilon_m \quad (11)$$

where $dr_{m,2008}$ is the MSA level delinquency rate as of 2008, \overline{gmsh}_m is the growth rate of the lobbying lenders' market share X_m averaged over 2000-2006, X_m is a set of MSA characteristics and Z_m is a set of mortgage loans characteristics and bank characteristics averaged at the MSA level. The coefficient of interest θ captures the partial correlation between delinquency rates and the growth rate of mortgage lending by lobbying financial institutions relative to competitors.

Event Study Analysis

We consider the following empirical specification:

$$R_{ie} = \alpha + \beta \cdot L_i + \gamma \cdot X_i + \varepsilon_i \quad (12)$$

where R_{ie} is the ex-dividend return on firm i 's stock over the event period e , L_i is a dummy for financial institutions that lobbied on the specific issues we identified, X_i is a set of control variables, and ε_i is a residual. The stock price return is computed using data from Compustat and over the month that includes the event of interest.²⁹ For example, if the event takes place in September, stock returns are computed from the end of August to the end of September. In addition to the simple stock market return, we also consider two measures of abnormal returns: (i) the mean-adjusted return, defined as the stock return adjusted for its mean over 2007-08; (2) the market- and risk-adjusted return defined as the stock return adjusted for the predicted return based on the CAPM.³⁰

Endogeneity

A potential problem with the panel and cross-sectional regressions is that the decision to lobby may be endogenous, in particular as a result of omitted variables. As suggested by the discussion in the theoretical background section, there may be factors omitted in the loan characteristics equations (8)-(10) that are correlated with the decision to lobby. In addition, there could be reverse-causality concerns; for example, changes in loan characteristics could affect the decision to lobby.

Endogeneity could also bias our estimates in the cross-sectional regression of delinquency rates on lobbying lenders' market share growth. For example, lobbying lenders may have expanded credit faster in MSAs in which delinquency rates are high in 2008 as a result of unobserved characteristics of the pool of potential borrowers in the 2 or 3 years preceding the subprime crisis.³¹ In particular, they may have lent more aggressively in areas with a higher

²⁹ The events we consider are described in Section IV.G.

³⁰ The market- and risk-adjusted return is defined as: $Abnormal_return_{ie} = R_{ie} - K_{it}$ where $K_{it} = a_i + b_i \cdot R_{mt}$ where a_i and b_i are firm specific coefficients estimated over 2007-08, and R_{mt} is the market return (proxied by the return on the stock market index of banks in the S&P500).

³¹ Most of the 2008 foreclosures were on properties financed by loans originated in 2005 and 2006.

share of risky borrowers. However, endogeneity concerns should not be exaggerated in the analysis of delinquency rates at the MSA level. It seems indeed unlikely that lending conditions in specific MSAs may have been a factor driving lobbying efforts at the national level.

It is a priori not clear in which direction the coefficient of interest may be biased as a result of endogeneity. To reduce omitted variables and reverse-causality concerns, we follow four strategies:

(1) *Fixed effects estimations*: whenever possible, we include in particular (a) lender fixed effects (that absorb for instance the effect of any time invariant business models and specializations on the dependent variable); (b) MSA*year fixed effects (that absorb the effects of any unobserved MSA level factor).

(2) *Instrumental variables estimations* based on exogenous components of the cost of lobbying such as the distance between a financial intermediary's headquarters and Washington, DC,

(3) *Generalized Method of Moments* (GMM) using internal instruments; and

(4) *Falsification tests* based on financial intermediaries' lobbying on financial sector issues unrelated to those we identified as being crucial for the mortgage market (see Data Description).

B. Data Description³²

Lobbying

Lobbyists in the U.S. - often organized in special interest groups - can legally influence the policy formation process through two main channels. First, they can offer campaign finance contributions, in particular through political action committees (PACs). These activities have received a fair amount of attention in the literature.³³ Second, they are allowed to carry out

³² This subsection provides information on the key features of the data used in the analysis. For more detailed information on the data sources and definitions, see Appendix.

³³ See, for instance, Claessens et al., 2006, Snyder, 1990, Goldberg and Maggi, 1999, Gawande and Bandyopadhyay, 2000.

lobbying activities in the executive and legislative branches of the Federal government. These lobbying activities, albeit accounting for about 90 percent of lobbyists' expenditures (Table 1), have in contrast received scant attention in the literature. Individual companies and organizations have been required to provide a substantial amount of information on their lobbying activities starting with the introduction of the Lobbying Disclosure Act of 1995. Since 1996, all lobbyists (intermediaries who lobby on behalf of companies and organizations) have to file semi-annual reports to the Secretary of the Senate's Office of Public Records (SOPR), listing the name of each client (firm), the total income they have received from each of them, and specific lobbying issues. In parallel, all firms with in-house lobbying departments are required to file similar reports stating the total dollar amount they have spent (either in-house or in payments to external lobbyists). Legislation requires the disclosure not only of the dollar amounts actually received/spent, but also of the issues for which lobbying is carried out. Thus, unlike PAC contributions, lobbying expenditures of companies can be associated with very specific targeted policy areas. Finally, the reports must also state which chamber of Congress and which executive departments or agencies were contacted. Such detailed information is reported by roughly 9000 companies, around 600 of which are in the FIRE industry.

Mortgage Lending

Mortgage lenders are required to provide detailed information on the applications they receive and the loans they originate under the Home Mortgage Disclosure Act (HMDA). Enacted by Congress in 1975, HMDA data covers a broad set of depository and non-depository financial institutions. Comparisons of the total amount of loan originations in the HMDA and industry sources indicate that around 90 percent of the mortgage lending activity is covered by the loan application registry. Our coverage of HMDA data starts from 1996 and ends in 2007, but the empirical analysis concentrates on the 1999-2006 period to match the lobbying database.

We compile these data from 1999 to 2007 and then collapse it to MSA-lender level with 378 MSAs and almost 9000 lenders. Then, we construct our variables of interest: loan-to-income ratio at origination, loan securitization rates distinguishing between private issuers and

government-sponsored enterprises, mortgage loan growth rate, and the extent of lending activity in high-delinquency areas.

Other Economic and Social Indicators

We supplement the information from the lobbying and HMDA databases with MSA-level and state-level data on economic and social indicators such as income, unemployment, population, and house price appreciation.³⁴ We also obtain data on delinquent loans from LoanPerformance, a private data company. At the state level, we gather information on the enactment of anti-predatory lending laws from Bostic et al (2008).

Matching Lobbying Firms to Lenders

The matching of the lobbying and HMDA databases is a tedious task that needs to be done manually using company names. We use an algorithm that finds potential matches in HMDA of lenders in the lobbying database by searching for common words in the name strings. After the algorithm narrows down the potential matches of lobbying firms among the HMDA lenders, we go through the list one by one to determine the right match. We examine meticulously the corporate structure of the firms that appear in the lobbying database and that might be matched to particular HMDA lenders based on our algorithm. We created four lobbying identifiers reflecting several types of matches: (i) exact matches; (ii) matches to parent firm; (iii) matches to affiliated firms; and (iv) matches to subsidiaries (see the appendix for details on the matching procedure). The lobbying variables used in the regressions combines these four variables.

Identifying Lobbying Activity Targeted to the Mortgage Market

For identification purposes, it is important for us to distinguish between lobbying expenditures that are targeted to mortgage-market-specific issues. Even if we found a relation between overall lobbying activity and mortgage lending behavior and loan outcomes, it would be hard to interpret such findings as evidence of a causal relationship. Hence, we

³⁴ Data source include The Bureau of Economic Analysis (BEA), the Bureau of Labor Statistics (BLS), the Census Bureau, and the Office of Federal Housing Enterprise Oversight (OFHEO).

first concentrate only on issues related to the five general issues of interest (accounting, banking, bankruptcy, housing, and financial institutions) and then gather information on the specific issues, which are typically acts proposed at the House or the Senate, that were listed by the lobbyists as the main issue for the lobbying activity.³⁵ Then, we go through these specific issues one by one and determine whether an issue can be directly linked to restrictions on mortgage market lending. To illustrate with an example, H.R. 1163: Predatory Mortgage Lending Practices Reduction Act, is an issue that we deem to be specific to mortgage market lending while H.R. 2201: Consumer Debt Prevention and Education Act of 2005, although in general related to banking, does not include any provisions directly related to mortgage lending and is not classified as a mortgage-market-specific issue. After classifying all listed issues, we split the total lobbying expenditure by a lender into lobbying expenditure on specific and non-specific issues. In order to estimate lobbying expenditures associated with specific issues, we split lobbying expenditures evenly across issues. To be more specific, we first divide the total lobbying expenditure by the number of *all* general issues and multiply by the number of general issues selected. Then, we divide this by the total number of specific issues listed under the five general issues and multiply by the number of specific issues of interest.³⁶

IV. RESULTS

A. A First Look

As shown in Table 1, between 1999 and 2006, interest groups have spent on average about \$4.2 billion U.S. dollars per political cycle on targeted political activity, which includes PAC campaign contributions and lobbying expenditures. Lobbying expenditures represent by far the bulk of all interest groups' money spent on targeted political activity (close to 90 percent). Expenditures by FIRE companies constitute roughly 15 percent of overall lobbying

³⁵ 'General issue area codes' are provided by the SOPR and listed in line 15 while the 'specific lobbying issues' are listed in line 16 of the lobbying reports. See Appendix for more details on what the reports look like and a full list of general issues as well as that specific issues selected for the analysis.

³⁶ For robustness, we adopt an alternative splitting approach that distributes expenditures using as weights the proportion of reports that mention the specific issues of interest. The results remain the same.

expenditures in any election cycle. Approximately 10 percent of all firms that lobbied during this time period were associated with FIRE.

Lobbying in the FIRE industry seems to be more prominent than it is in other industries. Figure 1 shows data on lobbying intensity (defined as lobbying expenditures per firm) by sector. Firms lobbying in the FIRE industry spent approximately \$479,500 per firm in 2006 compared to \$300,273 per firm in defense lobbying or \$200,187 per firm in construction lobbying. Moreover, as shown in Figure 2, the lobbying intensity for FIRE has increased at a much faster pace relative to the average lobbying intensity over 1998–2006. Finally, Table 1b shows that lobbying by financial intermediaries on issues related to mortgage lending and securitization totaled US\$475 millions during 1999–2006, among which US\$161 millions for 2005 and 2006 only. Lobbying expenditures by lenders' associations remained comparatively smaller (US\$76 millions during 1999–2006).

Similar inspection of the HMDA database reveals time trends indicating higher loan-to-income ratios and increased recourse to securitization (Figures 3 and 4). Our matching process ends up matching around 250 firms in the lobbying database to one or more lenders in the HMDA database, corresponding to roughly 40 percent of FIRE firms that lobby and 3 percent of HMDA lenders. In the final MSA-lender level dataset, the lenders that lobby comprise around 13 percent of the observations, reflecting the fact that lobbying lenders tend to be larger and/or more geographically diverse than those that do not lobby. In 2006, roughly 13 percent of lender-MSA pairs lobbied; and about 9 percent lobbied on regulations related to the FIRE. Summary statistics on the variables used in the empirical analysis and the match rates are shown in Table 2. As a first impression, the only significant difference between lenders that lobby and those that do not seems to be that lobbyists tend to be larger (in terms of assets). In the formal analysis, we explore whether controlling for other factors and accounting for endogeneity reveals a relationship between lobbying and mortgage market lending.

B. Empirical Analysis of Loan-to-Income Ratio

Table 3 presents various versions of the fixed-effect regression (7) of the loan-to-income ratio (LIR) of originated loans on a dummy variable for lenders lobbying on specific issues related to mortgage lending and securitization. The coefficient on the dummy variable for lenders lobbying on specific issues is positive and highly significant in all regressions, showing that loans originated by lenders lobbying on specific issues have higher LIR on average. The coefficient remains highly significant when control variables on MSA characteristics (column (2)) and on lender-MSA characteristics (column (3)) are added to the regressions. Moreover, the size of the coefficient increases as control variables are added to the regression suggesting that omitted variables at the MSA level and at the lender-MSA level may have resulted in attenuation bias.³⁷

³⁷ Standard errors are robust to heteroskedasticity and clustered at the lender-MSA level to correct standard errors for potential correlation of standard errors over time.

Adding MSA, year, or cross MSA-year fixed effects to the regressions does not affect the magnitude or the significance of the estimated coefficients (columns (4) to (7)). These set of fixed effects confirm that our results do not reflect unobserved, either time-invariant or time-varying MSA characteristics, or time effects common to all MSAs. Importantly, MSA-year fixed effects in column (7) guarantee that the estimated effect are not biased due to, for example, the average quality of the pool of applicants at the MSA level. Moreover, MSA-lender-year level control variables ensure that the estimated coefficient on the dummy for lobbying lenders does not reflect characteristics such as the size of the lender (proxied by log of assets), the market power of the lender in a particular MSA (proxied by its market share), or other factors proxying for observable and unobservable characteristics of a lender's pool of applicants such as (i) whether the lender focuses on community development mortgages or has a brokerage-type business model (proxied by a dummy for HUD regulated lenders), (ii) whether the lender specializes in subprime lending, and (iii) the average income of applicants of loans originated by the lender in a particular MSA.

The magnitude of the effect is not trivial. The estimated coefficient of 0.14 implies that the average LIR of mortgages originated is about 14 percentage points higher for lobbying lenders than for other lenders. This is about 7 percent of the average LIR of 1.91 in the complete sample.

Table 4 reports regressions of LIR on lobbying amounts.³⁸ The coefficient on the lobbying amount is positive and significant at a 1 percent level for various set of fixed effects and control variables. The advantage of this specification is that the time variation in lobbying amounts now allows us to introduce lender fixed effects, and therefore to identify the coefficient of interest on the *within* dimension. In specifications including lender fixed effects (columns (3) to (5)), the coefficient of interest therefore reflects a correlation over time between the LIR and the lagged lobbying amounts for lobbying lenders only. In other words, any time-invariant lender-specific factors – such as a superior screening technology,

³⁸ The variable of interest is equal to $\log(\text{lobbying amount})$ if lobbying amount is different from zero, and equal to zero otherwise.

time invariant specialization, or more generally all characteristics of the lender's business model that change slowly over time - affecting both the decision to lobby and lending standards are absorbed by the lender fixed effects. Another source of concern is that changes in lobbying amounts over time may reflect a time trend in LIR of originated loans that is common to all lenders. Columns (2) to (5) show that the coefficient remains significant when year fixed effects are introduced in the regression. The range of estimated coefficient suggests that a one percent rise in lobbying expenditures is associated with a 0.2-1.0 percent rise in LIR. Importantly, MSA*year fixed effects ensure that MSA unobserved characteristics – such as unobserved characteristics of the pool of borrowers - cannot be biasing our estimated coefficients.

C. Instrumental Variable Regressions, GMM and Falsification Tests

To further address endogeneity concerns, we develop an instrumental variable strategy (first-stage and second-stage regressions are reported in Tables 5a and 5b). As discussed earlier, the concern is that lobbying on issues specific to mortgage lending may be correlated with unobserved lender-time or lender-MSA-time varying loan characteristics, which could bias our estimates. The within lender estimations reported in the previous section in Table 4 partially address endogeneity bias, but only if the unobserved lender characteristics e.g. the efficiency of lenders' screening technology does not vary over time. If the efficiency of the screening technology varies over time, one may simultaneously observe an intensification of lobbying and an increase in LIR of originated loans.

To address the identification issue in the regressions with lender fixed effects, we need an instrument that is both lender specific and time varying. To construct such an instrument, we combine the following variables. First, we need a variable potentially correlated with the cost of lobbying and that is specific to a given lender. A number of papers have shown that distance affects financial decisions both within countries (Petersen and Rajan, 1995), and across countries (Mian, 2006). Following this literature, we hypothesize that the cost of lobbying is a decreasing function of the distance between the headquarter of a financial institution and Washington, DC. For this purpose, we compute the distance between the city where the headquarter of a financial institution is located and Washington, DC. Second, we

assume that the opportunity cost of lobbying is lower when capital is abundant. As an exogenous proxy for the cost of capital, we use annual data on the rest of the world purchases of US Treasury securities from the Flow of Funds Accounts published by the Federal Reserve.³⁹ Next, we multiply these two variables to obtain an instrument that is both lender specific and time varying.

Table 5a shows that the coefficient on lobbying expenditures remains highly significant in the second stage of the two-stage least squares regression when it is instrumented. Moreover, the size of the coefficient increases dramatically which suggests that, indeed, the OLS estimate was biased downward suggesting attenuation bias. Table 5b reports the first stage and suggests that the instrument is strong. The first-stage F-statistic is very high, with the p-value for the test of significance of excluded instruments being equal to 0.

Table 6 reports the results from the system GMM estimation. In this case, identification is based on the lags of lobbying expenditures (in addition to the external instrument of Table 5). Lagged levels of lobbying expenditures are used as instruments in the difference equation whereas lagged differences are used in the level equations. Columns [1]-[5] implement the system GMM using alternative number of lags as instruments. The results support the finding that increase in lobbying expenses are associated with higher LIR. The estimated coefficient is statistically significant at the one percent level in all the specification. The magnitude of the coefficient is higher than in Table 4, suggesting evidence a negative correlation between the unobserved component of LIR and lobbying expenses in the OLS. Importantly, in all specifications, the Hansen's test for over-identifying restrictions passes at the 1 percent significance level; also the null hypothesis of no two-period serial correlation in the residuals cannot be rejected.

Table 7 displays the results of yet another check on the main finding regarding LIR and lobbying. Under certain interpretations of the signaling view of lobbying as discussed above,

³⁹ In recent years, a majority of foreign purchases of new issues of US Treasury securities were central banks, with motives a priori unrelated to the characteristics of the US mortgage market.

lobbying would signal a lender's superior efficiency in screening good borrowers. If lobbying was signaling the technological superiority of certain lenders in providing financial services in general, we would expect to obtain a similar result for lenders that lobby on financial sector issues that are unrelated to mortgage lending. To take a first step in falsifying this theory, we create a dummy variable for lenders lobbying on issues that are *not* related to mortgage lending and securitization, including: (i) consumer credit and security of personal information; (ii) financial services other than mortgage lending; (iii) deposit insurance, and (iv) anti-money laundering. We repeat the regressions presented in Table 3 by adding variables that measure lobbying on issues that are *not* among the specific issues selected. In column (2)-(6), with only MSA and year fixed effects, we find that the dummy for lobbying on specific issues has a positive and significant coefficient while the dummy for lobbying on *other* issues has a negative and significant sign. These falsification tests further support the assertion that the relationship between lobbying and mortgage lending behavior is not coincidental.⁴⁰

D. Difference-in-Difference Estimations

We exploit the state-level and time-level variation in the strictness of anti-predatory lending laws at the state level to uncover whether stricter laws have a differential effect on the mortgage lending behavior of lobbying lenders related to those that do not lobby. While concerns on the randomness of the experiment are likely to be justified, this difference in difference estimation allows to address potential endogeneity concerns associated with the decision to lobby.⁴¹

The treatment group considered in the regression analysis varies depending on the set of fixed effects included in the regression. In regressions *without* lender fixed effects, the

⁴⁰ We conduct further robustness tests on clustering, exclusion of outliers, alternative split of total expenditures to specific and non-specific issues, using lobbying expenditures scaled by assets and taking into account lobbying expenditures by bankers' associations. The main result that higher lobbying activity is associated with higher LIR remains unaltered (see Table A4 in the Appendix).

⁴¹ Bostic et al. (2008) describe characteristics of federal and state-level anti-predatory lending laws.

control group in a particular year comprises all lobbying lenders located in other states that have not implemented anti-predatory laws yet. In regressions, *with* lender fixed effects, the control group includes only offices of the *same lender* that are located in other states that have not implemented anti-predatory laws yet. In this second case, the difference in difference approach is therefore very neat in the sense that the control group and the treated group are a priori very similar among many dimensions, including organizational and technological efficiency, as well as broad corporate strategy. Any significant result in this difference in difference analysis will give us some confidence that our previous results cannot be driven by slow moving unobserved differences in business models across lenders.

As shown in Table 8, LIR of loans originated are lower in MSAs that belong to states with stricter anti-predatory lending laws in place. This result is consistent with anti-predatory lending laws being a binding constraint on the origination of mortgage loans with a higher LIR in general, and therefore suggests that a high LIR is indeed symptomatic of high risk taking by the lender. If the coefficient reflected reverse causality (anti-predatory lending laws being passed in states with, on average, worse pools of borrowers), we would expect to observe a positive correlation between the LIR and the strictness of anti-predatory lending laws. The coefficient on the interaction term between the index measuring the strength of an anti-predatory lending law and lobbying intensity is negative and significant at the 1 percent level in all regressions. This interaction term result is consistent with the hypothesis that lobbying lenders, at the margin, reduce their lending standard more than other lenders, when anti-predatory laws are weaker, according to the general formulation of equation (7). As already discussed, this result cannot reflect differences across lenders in their time invariant business model, including specialization or screening technology. We check that the result is robust to including lender, MSA and year fixed effects, and to controlling for MSA-time, lender-time or lender-MSA-time level observable characteristics. As before the coefficient on the lobbying intensity variable itself remains significant and positive.

E. Evidence on Lobbying and Securitization and Mortgage Loans Growth

The proportion of mortgage loans that are securitized is another potentially important indicator of the quality of mortgages originated by financial institutions. Keys et al. (2008)

show that securitization reduces the incentives of financial intermediaries to screen borrowers, and that, comparing pools of otherwise identical mortgages, the portfolio that is more likely to be securitized defaults by around 20 percent more. If this moral hazard effect of securitization is correct for an average pool of mortgages, the securitization rate should be inversely correlated with the screening intensity of a particular lender.

Table 9 reports regressions of securitization rates on lobbying intensity, with various sets of MSA, year, and lender fixed effects, and lender control variables. The proportion of mortgage loans securitized appears to be positively correlated with the lobbying intensity across lenders. The result is robust to the inclusion of lender, MSA and year fixed effects and MSA*year interactions. Including lender effects captures lender unobserved characteristics, and therefore the result holds *within* lenders as well. Controlling for cross MSA-year fixed effects' interactions absorbs all observed and unobserved characteristics of the average pool of borrowers in any given MSA and does not alter our result. Finally, in columns (4) to (6), we show that our results are robust to instrumenting the lobbying variable.

Next, Table 10 shows that lobbying intensity is positively correlated with the growth of mortgage loans. This result is positive and significant at the 1 percent level in both the fixed effects and IV specifications, suggesting that lobbying lenders, through faster expansion of their mortgage loan portfolios, might tend to lend more aggressively and potentially take bigger risks.

F. Lobbying and Ex-post Delinquency Rates

So far, the evidence reported suggests that there exists a strong link between lobbying on issues related to mortgage lending and the characteristics of loans originated. In this section we analyze the relationship between the relative growth of mortgage loans of lenders who lobby on the specific issues we identified and the ex-post average delinquency rate at the MSA level as of 2008, based on specification (11). We follow a very conservative approach by clustering the error terms at the state level.

Regression results reported in Table 10a and 10b show that delinquency rates in 2008 are significantly higher in MSAs in which mortgage lending by lobbying lenders has expanded relatively faster than mortgage lending by other lenders. This result is robust to the inclusion of various MSA-level characteristics, including characteristics of the mortgage lending market such as the share of subprime loans and the number of lenders, the inclusion of state fixed effects to control for state specific unobserved factors, and the exclusion of states in which the mortgage market boom was more severe (California, Florida and Nevada) to ensure that mortgage market outcomes of these three states are not driving the results. The estimated effect is economically significant: a one standard deviation increase in the relative growth of mortgage loans of lobbying lenders is associated with almost a 1 percentage point increase in the delinquency rate. A potential concern is that lobbying lenders may have expanded their activity faster in MSAs which, for other reasons, suffered from higher delinquency rates *ex-post*.

To address endogeneity concerns, we perform two tests. First, as in the analysis of loan characteristics, we make use of a falsification test to show that expansion of mortgage lending by lobbying firms does not merely reflect higher credit growth by financial intermediaries that may be more efficient at providing financial services and that, for this reason, may be more likely to lobby on financial sector issues in general (columns (5) and (6) of Table 10a). Indeed, we find no statistically significant relationship between delinquency rates and the relative expansion of mortgage lending by lenders that lobbied for financial sector laws and regulations other than those related to securitization and to consumer protection in mortgage lending. This result is inconsistent with one signaling theory interpretation according to which faster expansion of credit by lenders who decide to lobby the policy maker would reflect their higher overall efficiency in providing financial services in areas that had a worse pool of borrowers in the years preceding the crisis. Indeed, if lobbying by financial institutions on other financial sector issues, such as consumer credit and deposit taking, was a signal of lenders' overall efficiency in providing financial services in more risky areas, we would expect to find a similar positive association.

Second, we develop an instrumental variable strategy to further address omitted factors bias. As a first instrument, we consider the sum of the 1998 market share in the MSA of lenders who lobbied on specific issues, in which each lender's initial market share is weighted by the distance between each lender's headquarters and Washington, DC. The rationale for this instrument is the following: (i) the initial presence of a lender in a MSA is pre-determined and is unlikely to be correlated with the lending conditions that prevailed in this MSA during the following years; (ii) the distance between a lender's headquarters and Washington, DC – a proxy for certain costs of lobbying in general – is uncorrelated with lending conditions in any specific MSA. We consider a second instrument defined in a similar way (an initial market share weighted by the distance variable), but considering instead the initial market share of other lenders lobbying on financial sector issues that are not related to securitization and mortgage lending. The rationale is that, in MSAs in which such lenders have a large initial presence, lenders lobbying on our issues of interest may expand more (too) aggressively by focusing on the risky segments of the market, independently of the characteristics of this market.

Regression results are reported in Table 10b, and confirm the conclusions of our OLS estimations. When instrumenting the variable of interest, the coefficient increases significantly, suggesting that there might be an attenuation bias in the OLS estimates. In regressions combining the two instruments, the Hansen J tests accepts the validity of the instruments. Furthermore, to allay concerns of weak instrument bias, we also make use of LIML estimator known to be more robust to weak instrument bias, and confirm 2SLS results.

G. Stock Price Returns During Crisis

In this section, we conduct an analysis of financial institutions' stock return during major market events of the financial crisis to investigate the relationship between lobbying activities and ex-post lender stock price performance during the financial crisis. In other words, we estimate the *ex-post* market value of lobbying for banks' shareholders.

We follow the methodology developed in recent studies assessing the value of political connections (Fisman, 2001, Faccio, 2005, and Fisman et al., 2006, among others).⁴² Specifically, we perform an event study around dates of major events of the financial crisis, and ask whether lenders who lobbied on the specific issues related to mortgage lending and securitization experienced abnormal stock market returns during the month the event took place. If lobbying was signaling better lending technologies or better knowledge of the state of the world, we would expect to observe a non-negative abnormal return during major events of the crisis.⁴³ In contrast, if lobbying was associated with laxer lending standards and excessive risk taking in mortgage lending during the boom, we would expect to observe a negative abnormal return during these events, suggesting a larger exposure to low quality mortgage related financial assets. Such abnormal stock returns could indeed signal a fall in the value of the firm associated with higher exposure to poorly performing pools of mortgage loans.

We consider major events of the crisis related to the pressure in short-term funding markets in 2007 and the collapse of major investment banks exposed to subprime products that triggered waves of financial panic in 2008. The event dates are: (i) August 1-17, 2007 (ECB injection of overnight liquidity in response to problems in French and German banks); (ii) Dec 12, 2007 (coordinated injection of liquidity by major central banks to address short-term funding market pressures); (iii) March 11-16, 2008 (JP Morgan acquires Bear Stearns after Fed provides \$30 billion in non-recourse funding; Fed expands liquidity provision); and (iv) September 15-16, 2008 (Lehman Brothers files for bankruptcy while AIG is bailed out).

Regression results are reported in Table 11. Our analysis indicates that financial institutions that lobbied on issues related to mortgage lending and securitization experienced negative

⁴² There exists a key difference with the approach of these papers that quantify the value of political connections. They conduct the event study around periods of news under the assumption that these news *a priori* specifically affect politically connected firms only, while other firms should not be directly impacted, and confirm the initial hypothesis. In our case, however, all firms are *a priori* potentially affected by the market news, but we show that the effect of news on market value varies systematically across financial intermediaries according to lobbying behavior in a direction that is consistent with our hypothesis.

⁴³ Furthermore, if lobbying was not systematically related to the quality of mortgage loans originated by the lenders, we would not expect to find any significant abnormal returns.

abnormal returns during the major events of the financial crisis, suggesting that these financial institutions were significantly more exposed to pools of bad mortgage loans. The specification also includes a dummy for lenders that were classified as subprime lenders by HUD. Interestingly, the coefficient on the subprime lender dummy is insignificant in most regressions - and even positive in one specification – suggesting that the estimated coefficient does not merely reflect the effect of a specialization of the lender considered. Another proxy for lenders’ specialization – the log of mortgage loans originated in proportion to total assets – does not alter our coefficient of interest, even though it has the expected negative sign.⁴⁴ We also control for the log of assets of the lender as a proxy for size, but find no significant effect on abnormal stock returns.

The coefficient of interest is significant at the 5 percent level in 8 out of 9 specifications. Moreover, the estimated effect is very large. Using the estimated coefficient for the market and risk adjusted returns, lobbying financial institutions lost on average 6.7 percent more in value during the 2007 events than other financial institutions; and 16.6 percent more in value during the 2008 events. The differential loss of value is even more impressive during the September events: a 28 percent additional loss of value when returns are adjusted for the market correlation.

This set of results is suggestive of a moral hazard interpretation, and seems to rule out a signaling interpretation based on the lender’s specialization. However, another signaling interpretation could be as follows: it is probable that lobbying lenders were not perfectly informed, even if they had a more precise information on the state of the world than the policy-maker and than other financial intermediaries. Hence, it remains a possibility that lobbying lenders underestimated the likelihood of an adverse event affecting the mortgage market more than other financial intermediaries did.⁴⁵ Such an interpretation of the event

⁴⁴ This variable is constructed for the year 2006.

⁴⁵ It is common knowledge that, for instance, rating agencies and sponsors were severely underestimating the probability of default, and losses given default when assigning ratings to mortgage backed securities (see Calomiris, 2008, and references therein).

study would also be consistent with a higher ex-post exposure to poorly performing pools of mortgages by lobbying lenders. However, even if such an interpretation was correct, it remains difficult to explain why over-optimism would have affected the most the lenders supposed to have the most precise information on the state of the real estate market, in particular during the last two years of the boom. Indeed, lobbying on issues related to consumer protection in the mortgage market and securitization turned out to be more (not less) intensive in 2005 and 2006 – years during which negative signals suggesting a likely significant housing market correction should have alerted these lenders especially in 2006 – a fact apparently inconsistent with the information theory interpretation.^{46 47} While *total* lobbying expenditures by financial intermediaries *declined* in 2005 and 2006, lobbying expenditures associated with issues specific to mortgage lending and securitization on the contrary increased substantially to a total of US\$161 millions during these two years (Table 1b).

V. CONCLUSION

To uncover the relationship between lending standards and lobbying of the executive and legislative branches of government, we carefully construct a dataset on lobbying expenditures by financial intermediaries and we identify specific laws and regulation that were targeted by lobbying activities. We focus on laws and regulations related to consumer protection and underwriting standards in mortgage origination and securitization. Combining this information with detailed information on mortgage lending, we show that lenders that lobby more intensively on these specific issues have (i) more lax lending standards, (ii) greater tendency to securitize, (iii) faster growing mortgage loan portfolios, (iv) larger expansion of their market share in areas that ex-post suffer more from delinquencies, and (v) negative abnormal returns during key events of the financial crisis. These findings seem to be inconsistent with a signaling theory of lobbying, whereby financial intermediaries lobby

⁴⁶ See Gerardi et al. (2009).

⁴⁷ Yet another possible possibility is that lenders misreported their private information to policy makers, but the policy makers considered the information transmitted as credible and truthful.

to signal higher efficiency, a better knowledge of the mortgage market than the policy maker and other lenders, and convey some information on this market to the policy maker. Instead, they tend to support a theory of “moral hazard” whereby financial intermediaries lobby to obtain private benefits, making loans under less stringent terms not because they have necessarily better capacity to evaluate risks associated with the loans, but because they expect short term gains from these loans during the boom phase, or to be bailed out when losses amount during a financial crisis. These results suggests the importance of political economy factors - the fact that law proposals on consumer protection and disclosure were shut down in the 2000s - in the run-up to the current systemic financial crisis, and provide indirect evidence that lobbying might have the potential to threaten financial stability and increase systemic risk.

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Table 1a. Targeted Political Activity Campaign Contributions and Lobbying Expenditures

(millions of dollars)

Election cycle	1999- 2000	2001- 02	2003- 04	2005- 06
Contributions from PACs	326	348	461	509
Overall lobbying expenditure	2,972	3,348	4,081	4,747
<i>Of which expenditure by finance, insurance, and real estate industry (FIRE)</i>	437	478	645	720
<i>Share of FIRE in overall lobbying (in percent)</i>	14.7	14.3	15.8	15.2
Total targeted political activity	3,298	3,696	4,542	5,256

Source: Center for Responsive Politics.

Table 1b. Lobbying Expenditures on Issues Related to Mortgage Lending by Financial Institutions and Lenders's Associations

	Total lobbying by financial intermediaries	Of which: lobbying on specific issues	Total lobbying expenditures by associations
1999	62,000,000	47,900,000	3,807,334
2000	71,400,000	54,200,000	3,614,617
2001	76,600,000	37,800,000	5,980,497
2002	80,300,000	57,300,000	9,269,181
2003	98,700,000	54,500,000	10,500,000
2004	98,900,000	61,700,000	12,100,000
2005	94,600,000	76,800,000	13,400,000
2006	94,400,000	84,700,000	14,000,000
Total (US\$)	677,000,000	475,000,000	76,300,000
Total 2005-2006	189,000,000	161,500,000	27,400,000

Table 2. Summary Statistics

	Mean	Median	Std. Deviation	
<u>Lender level</u>				
Lobbying dummy	0.19	0.00	0.39	
Lobbying amount, total	179702	0.00	910208	
Lobbying on specific issues dummy	0.06	0.00	0.24	
Lobbying on specific issues amount, total	4775	0.00	31821	
Loan-to-income ratio	1.97	1.91	0.91	
Percent of loans sold	70.10	99.64	40.75	
Percent of loans sold to GSEs	16.11	0.00	32.06	
Subprime dummy	0.24	0.00	0.43	
Log assets	12.62	11.02	3.69	
<u>Lenders that lobby</u>				
Lobbying amount, total	940729	80000	1910834	
Lobbying on specific issues dummy	0.29	0.00	0.45	
Lobbying on specific issues amount, total	24973	0.00	69596	
Loan-to-income ratio	1.92	1.90	0.70	
Percent of loans sold	0.65	0.81	0.38	
Percent of loans sold to GSEs	0.30	0.00	0.37	
Subprime dummy	0.22	0.00	0.41	
Log assets	14.93	16.97	3.87	
<u>Lenders that do not lobby</u>				
Loan-to-income ratio	1.99	1.91	0.96	
Percent of loans sold	0.71	1.00	0.41	
Percent of loans sold to GSEs	0.13	0.00	0.30	
Subprime dummy	0.24	0.00	0.43	
Log assets	12.08	10.34	3.43	
<u>MSA level</u>				
Average income	31044	29858	7278	
GDP growth	5.38	5.32	3.02	
Self-employment rate	3.72	4.15	3.53	
Unemployment rate	4.91	4.60	1.83	
House price appreciation	6.70	5.12	6.52	
Log population	13.25	12.92	1.39	
Number of lenders	262	232	124	
Number of applications, total	44134	16499	69645	
Number of applications, average lender	122	8	653	
Regulation dummy	0.79	1.00	0.41	
<i>Match Statistics between HMDA and Lobbying Datasets</i>				
	Number of lender-MSA		Fraction that lobby	
Year			Total	Specific issues
1998	71,984		0.12	
1999	74,404		0.14	
2000	69,899		0.15	0.07
2001	70,788		0.16	0.04
2002	76,920		0.15	0.08
2003	92,482		0.14	0.09
2004	82,955		0.15	0.08
2005	93,685		0.12	0.08
2006	94,978		0.13	0.09

Table 3. Effect of Lobbying on Loan-to-Income Ratio

Dependent variable: Loan-to-income ratio at (lender, MSA, year) level

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Dummy=1 if lender lobbies for specific issues	0.012*** [0.005]	0.077*** [0.004]	0.144*** [0.004]	0.074*** [0.003]	0.078*** [0.004]	0.138*** [0.004]	0.144*** [0.004]
Average income in MSA		0.023*** [0.000]	0.024*** [0.000]		0.030*** [0.001]	0.028*** [0.001]	
GDP growth rate in MSA		-1.042*** [0.042]	-1.168*** [0.042]		-1.132*** [0.053]	-1.095*** [0.052]	
Self-employment rate in MSA		1.567*** [0.050]	1.509*** [0.050]		-0.26 [0.159]	-0.276* [0.157]	
Unemployment rate in MSA		2.837*** [0.081]	2.652*** [0.082]		-1.672*** [0.183]	-1.656*** [0.181]	
Log total population in MSA		-0.089*** [0.003]	-0.080*** [0.003]		-0.469*** [0.055]	-0.479*** [0.054]	
Annual change in house price appreciation		1.555*** [0.025]	1.533*** [0.025]		0.118*** [0.033]	0.119*** [0.032]	
Number of competing lenders in MSA		0.282*** [0.008]	0.268*** [0.008]		0.248*** [0.015]	0.255*** [0.015]	
Number of loan applications in MSA		0.020*** [0.004]	0.046*** [0.004]		0.152*** [0.009]	0.178*** [0.009]	
Log (assets of lender)			0.008*** [0.001]			0.011*** [0.001]	0.009*** [0.001]
Dummy=1 if regulator is US HUD			0.236*** [0.004]			0.213*** [0.004]	0.212*** [0.004]
Market share of lender in MSA			3.637*** [0.112]			3.870*** [0.106]	4.109*** [0.104]
Log (income of applicants of loans originated by lender)			-0.052*** [0.001]			-0.058*** [0.001]	-0.063*** [0.001]
Dummy=1 if lender is subprime			-0.014*** [0.003]			-0.006** [0.003]	0.000 [0.003]
Number of observations	648,938	581,105	581,105	648,938	581,105	581,105	648,938
MSA fixed effects	No	No	No	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	Yes	Yes	Yes	Yes
MSA*year fixed effects	No	No	No	No	No	No	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. See text for details. Standard errors denoted in parentheses are clustered at the lender-MSA level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 4. Effect of Lobbying Expenditures on Loan-to-Income Ratio

Dependent variable: Loan-to-income ratio at (lender, MSA, year) level

	[1]	[2]	[3]	[4]	[5]
(Log lender lobbying expenditures on specific issues)t-1	0.007***	0.009***	0.003***	0.003***	0.002***
	[0.000]	[0.000]	[0.001]	[0.001]	[0.001]
Log (assets of lender)					0.006***
					[0.000]
Market share of lender in MSA					3.017***
					[0.090]
Log (income of applicants of loans originated by lender)					-0.031***
					[0.001]
Number of observations	406,035	406,035	406,035	406,035	406,035
MSA fixed effects	No	Yes	Yes	Yes	Yes
Year fixed effects	No	Yes	Yes	Yes	Yes
Lender fixed effects	No	No	Yes	Yes	Yes
MSA*year fixed effects	No	No	No	Yes	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. See text for details. Standard errors denoted in parentheses are clustered at the lender-MSA level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 5. Effect of Lobbying Expenditures on Loan-to-Income Ratio: Instrumental Variables

Dependent variable: Loan-to-income ratio at (lender, MSA, year) level

	[1]	[2]	[3]
(Log lender lobbying expenditures on specific issues)t-1	0.586*** [0.096]	0.612*** [0.021]	0.856*** [0.033]
Log (assets of lender)			-0.030*** [0.002]
Market share of lender in MSA			1.932*** [0.206]
Log (income of applicants of loans originated by lender)			-0.047*** [0.002]
Number of observations	405,839	405,837	405,837
First stage F-stat	113	1192	688
p-value	0.000	0.000	0.000
MSA fixed effects	No	Yes	Yes
Year fixed effects	No	Yes	Yes
Lender fixed effects	No	Yes	Yes
MSA*year fixed effects	No	Yes	Yes

First Stage Results

Dependent variable: Log lender lobbying expenditures on specific issues at at (lender, year) level

	[1]	[2]	[3]
(Log distance to Washington DC * ROW purchases of US treasuries)t-1	0.080*** [0.007]	0.207*** [0.006]	0.155*** [0.006]
Log (assets of lender)			0.041*** [0.001]
Market share of lender in MSA			1.434*** [0.215]
Log (income of applicants of loans originated by lender)			0.016*** [0.001]
Number of observations	405,839	405,839	405,839
MSA fixed effects	No	Yes	Yes
Year fixed effects	No	Yes	Yes
Lender fixed effects	No	Yes	Yes
MSA*year fixed effects	No	Yes	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. In Table 5a, lender lobbying expenditures on specific issues is instrumented by the interaction of distance of the lender's headquarter to Washington, DC (lender-varying) and rest of the world's purchases of US treasuries (time-varying). See text for details. The first-stage regressions are shown in Table 5b. Standard errors denoted in parentheses are clustered at the MSA level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 6. Effect of Lobbying Expenditures on Loan-to-Income Ratios -- System GMM

Dependent variable: Loan-to-income ratio at (lender, year) level

	[1]	[2]	[3]	[4]	[5]
(Log lender lobbying expenditures on specific issues)t-1	0.020***	0.020***	0.020***	0.020***	0.020***
	[0.007]	[0.007]	[0.006]	[0.006]	[0.006]
Log (assets of lender)	-0.001	0.000	0.000	0.000	0.000
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]
Market share of lender in MSA	-0.391*	-0.387*	-0.394*	-0.390*	-0.389*
	[0.214]	[0.213]	[0.213]	[0.213]	[0.213]
Log (income of applicants of loans originated by lender)	-0.052***	-0.052***	-0.053***	-0.053***	-0.053***
	[0.005]	[0.005]	[0.005]	[0.005]	[0.005]
Number of observations	54,751	54,751	54,751	54,751	54,751
Hansen Test: P-value	0.075	0.236	0.264	0.344	0.404
AR2 test: P-value	0.555	0.555	0.555	0.554	0.554
Number of instruments	22	26	29	31	32
Number of lags used as instruments	1	2	3	4	5
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Lender fixed effects	Yes	Yes	Yes	Yes	Yes

The data is collapsed at the lender-year level. Market share at the lender-year level is a weighted average of market shares at the lender-MSA-year level, with weights being the share of loans originated by a lender during a particular year in a given MSA. Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. See text for details. All specifications are estimated by system GMM. Lagged log lender lobbying expenditures on specific issues is treated as endogenous. Lagged levels (in the first difference equation) and lagged differences (in the levels equation) of this variable are used as internal instruments, whereas the external instrument is the same as in Table 5, i.e., the interaction of distance of the lender's headquarter to Washington, DC (lender-varying) and rest of the world's purchases of US treasuries (time-varying). Standard errors denoted in parentheses are clustered at the lender level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 7. Effect of Lobbying on Loan-to-Income Ratio : Falsification Tests

Dependent variable: Loan-to-income ratio at (lender, MSA, year) level

	[1]	[2]	[3]	[4]	[5]	[6]
Dummy=1 if lender lobbies for specific issues	-0.002 [0.005]	0.069*** [0.004]	0.140*** [0.004]	0.065*** [0.004]	0.134*** [0.004]	0.141*** [0.004]
Dummy=1 if lender lobbies only for other issues	-0.160*** [0.005]	-0.088*** [0.005]	-0.026*** [0.005]	-0.084*** [0.004]	-0.023*** [0.005]	-0.019*** [0.005]
Average income in MSA		0.023*** [0.000]	0.024*** [0.000]		0.028*** [0.001]	
GDP growth rate in MSA		-1.047*** [0.042]	-1.170*** [0.042]		-1.095*** [0.052]	
Self-employment rate in MSA		1.560*** [0.050]	1.507*** [0.050]		-0.275* [0.157]	
Unemployment rate in MSA		2.805*** [0.081]	2.654*** [0.082]		-1.654*** [0.181]	
Log total population in MSA		-0.089*** [0.003]	-0.080*** [0.003]		-0.479*** [0.054]	
Annual change in house price appreciation		1.549*** [0.025]	1.534*** [0.025]		0.119*** [0.032]	
Number of competing lenders in MSA		0.280*** [0.008]	0.267*** [0.008]		0.255*** [0.015]	
Number of loan applications in MSA		0.019*** [0.004]	0.045*** [0.004]		0.178*** [0.009]	
Log (assets of lender)			0.009*** [0.001]		0.012*** [0.001]	0.010*** [0.001]
Dummy=1 if regulator is US HUD			0.237*** [0.004]		0.215*** [0.005]	0.214*** [0.004]
Market share of lender in MSA			3.632*** [0.113]		3.862*** [0.106]	4.100*** [0.104]
Log (income of applicants of loans originated by lender)			-0.051*** [0.001]		-0.057*** [0.001]	-0.062*** [0.001]
Dummy=1 if lender is subprime			-0.015*** [0.003]		-0.008** [0.003]	-0.001 [0.003]
Number of observations	648,938	581,105	581,105	648,938	581,105	648,938
MSA fixed effects	No	No	No	Yes	Yes	Yes
Year fixed effects	No	No	No	Yes	Yes	Yes
MSA*year fixed effects	No	No	No	No	No	Yes

Lobbying on specific issues refers to laws and regulations related to financial and banking sector policies. See text for details. Lobbying on other issues is measured by total lobbying expenditures if the lender lobbies only for other issues, and zero otherwise. Standard errors denoted in parentheses are clustered at the lender-MSA level. ***, ** and * represent significance at 1, 5 and 10 percent, respectively.

Table 8. Effect of Specific Issues Lobbying Expenditures: Difference-in-Difference Strategy

Dependent variable: Loan-to-income ratio at (lender, MSA, year) level

	[1]	[2]	[3]	[4]
Dummy=1 if anti-predatory lending law in (MSA, year)	0.166*** [0.004]	0.015*** [0.005]	0.006 [0.005]	0.006 [0.005]
(Log lender lobbying expenditures on specific issues)t-1	0.007*** [0.001]	0.009*** [0.001]	0.008*** [0.001]	0.007*** [0.001]
(Log lender lobbying expenditures)t-1*Lending law	-0.001 [0.001]	-0.007*** [0.002]	-0.006*** [0.001]	-0.005*** [0.001]
Average income in MSA			0.028*** [0.002]	0.028*** [0.002]
GDP growth rate in MSA			-0.959*** [0.053]	-0.952*** [0.053]
Self-employment rate in MSA			-0.128 [0.165]	-0.104 [0.164]
Unemployment rate in MSA			-2.221*** [0.255]	-2.251*** [0.252]
Log total population in MSA			-0.540*** [0.063]	-0.560*** [0.062]
Annual change in house price appreciation			0.086** [0.035]	0.095*** [0.034]
Number of competing lenders in MSA			0.186*** [0.016]	0.188*** [0.015]
Number of loan applications in MSA			0.102*** [0.010]	0.126*** [0.010]
Log (assets of lender)				0.008*** [0.000]
Market share of lender in MSA				2.750*** [0.092]
Log (income of applicants of loans originated by lender)				-0.029*** [0.001]
Number of observations	406,035	406,035	355,656	355,656
Lender fixed effects	No	No	Yes	Yes
MSA fixed effects	No	Yes	Yes	Yes
Year fixed effects	No	Yes	Yes	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. Standard errors denoted in parentheses are clustered at the lender-MSA level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 9. Effect of Specific Issues Lobbying Expenditures on Proportion of Loans Sold

Dependent variable: Proportion of loans sold at (lender, MSA, year) level

	Ordinary Least Squares			Instrumental Variables		
	[1]	[2]	[3]	[4]	[5]	[6]
(Log lender lobbying expenditures on specific issues)t-1	-0.005*** [0.000]	0.007*** [0.000]	0.007*** [0.000]	0.309*** [0.025]	0.024*** [0.005]	0.024*** [0.006]
Log (assets of lender)			-0.000** [0.000]			-0.001*** [0.000]
Market share of lender in MSA			0.215*** [0.026]			0.193*** [0.026]
Log (income of applicants of loans originated by lender)			0.002*** [0.000]			0.001*** [0.000]
Number of observations	406,035	406,035	406,035	405,839	405,837	405,837
First stage F-stat				113	1192	688
p-value				0.000	0.000	0.000
MSA fixed effects	No	Yes	Yes	No	Yes	Yes
Year fixed effects	No	Yes	Yes	No	Yes	Yes
Lender fixed effects	No	Yes	Yes	No	Yes	Yes
MSA*year fixed effects	No	Yes	Yes	No	Yes	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. In Columns [4]-[6], lender lobbying expenditures on specific issues is instrumented by the interaction of distance of the lender's headquarter to Washington, DC (lender-varying) and rest of the world's purchases of US treasuries (time-varying). See text for details. Standard errors denoted in parentheses are clustered at the lender-MSA level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 10. Effect of Specific Issues Lobbying Expenditures on Credit Growth

Dependent variable: Growth in amount of originated loans at (lender, MSA, year) level

	Ordinary Least Squares			Instrumental Variables		
	[1]	[2]	[3]	[4]	[5]	[6]
(Log lender lobbying expenditures on specific issues)t-1	0.277*** [0.085]	0.305*** [0.087]	0.322*** [0.118]	1.997*** [0.677]	2.846** [1.376]	2.629* [1.490]
Log (assets of lender)			-0.113** [0.047]			-0.214*** [0.040]
Market share of lender in MSA			-27.750** [12.112]			-30.550*** [10.803]
Log (income of applicants of loans originated by lender)			0.740*** [0.079]			0.699*** [0.092]
Number of observations	406,996	406,996	385,701	406,799	406,797	385,503
MSA fixed effects	No	Yes	Yes	No	Yes	Yes
Year fixed effects	No	Yes	Yes	No	Yes	Yes
Lender fixed effects	No	No	Yes	No	No	Yes
MSA*year fixed effects	No	No	Yes	No	No	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. In Columns [4]-[6], lender lobbying expenditures on specific issues is instrumented by the interaction of distance of the lender's headquarter to Washington, DC (lender-varying) and rest of the world's purchases of US treasuries (time-varying). See text for details. Standard errors denoted in parentheses are clustered at the lender-MSA level. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

Table 11a. Effect of Lobbying on Loan Outcomes

Dependent variable: Delinquency rate in 2008 at (MSA, year) level

	(1)	(2)	(3)	(4) excl. CA, FL & NE	(5)	(6)
Growth in market share of lenders lobbying on specific issues (average 2000-06)	0.6530*** [0.1411]	0.2197* [0.1174]	0.6431*** [0.1349]	0.6026*** [0.1348]	0.6824*** [0.1442]	0.2234* [0.1180]
Growth in market share of lenders lobbying on other issues (average 2000-06)					-0.0408 [0.0634]	-0.0315 [0.1037]
House price appreciation	-0.3082*** [0.0604]	-0.2806*** [0.0647]	-0.2993*** [0.0551]	-0.4071*** [0.0672]	-0.3052*** [0.0604]	-0.2781*** [0.0645]
Average income	0.0020*** [0.0007]	0.0021*** [0.0006]	0.0023*** [0.0007]	0.0013* [0.0007]	0.0020*** [0.0007]	0.0021*** [0.0006]
Share of subprime loans in MSA	0.7129*** [0.0932]	0.6508*** [0.0930]	0.6546*** [0.0897]	0.6136*** [0.1248]	0.7105*** [0.0928]	0.6495*** [0.0925]
Share of hispanics in population	-0.0435*** [0.0111]	-0.0320*** [0.0074]	-0.0432*** [0.0105]	-0.0454*** [0.0162]	-0.0417*** [0.0111]	-0.0312*** [0.0071]
GDP growth	-0.1886** [0.0849]	-0.1124*** [0.0417]	-0.1613** [0.0781]	-0.1914* [0.0959]	-0.1863** [0.0842]	-0.1124** [0.0423]
Log number of lenders	0.0569*** [0.0126]	0.0344*** [0.0103]	0.0580*** [0.0123]	0.0438*** [0.0140]	0.0561*** [0.0125]	0.0339*** [0.0102]
Log population	-0.0148*** [0.0044]	-0.0094** [0.0037]	-0.0156*** [0.0044]	-0.0080* [0.0043]	-0.0147*** [0.0044]	-0.0092** [0.0037]
Self employment rate			-0.1081 [0.0794]			
Unemployment rate			0.2821 [0.2084]			
Share of population with graduate studies			-0.0154 [0.0463]			
State clusters	YES	YES	YES	YES	YES	YES
State fixed effect	NO	YES	NO	YES	NO	YES
Observations	306	306	305	258	306	306
R-squared	0.54	0.79	0.55	0.61	0.54	0.79

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively. Robust standard errors are in brackets.

Table 11b. Effect of Lobbying on Loan Outcomes: Instrumental Variables

Dependent variable: Delinquency rate in 2008 at (MSA, year) level

Method of estimation	(1) LIML	(2) 2SLS	(3) LIML	(4) LIML
Growth in market share of lenders lobbying on specific issues (average 2000-06)	1.8687** [0.8989]	1.4745** [0.6768]	1.6102* [0.8225]	1.6102** [0.7794]
House price appreciation	-0.2693*** [0.0566]	-0.2819*** [0.0565]	-0.2776*** [0.0576]	-0.2776*** [0.0375]
Average income	0.0018*** [0.0007]	0.0019*** [0.0006]	0.0018*** [0.0006]	0.0018*** [0.0005]
Share of subprime loans in MSA	0.7422*** [0.0914]	0.7327*** [0.0897]	0.7360*** [0.0907]	0.7360*** [0.0739]
Share of hispanics in population	-0.0368*** [0.0114]	-0.0390*** [0.0111]	-0.0383*** [0.0114]	-0.0383*** [0.0088]
GDP growth	-0.114 [0.0947]	-0.1382 [0.0894]	-0.1299 [0.0943]	-0.1299* [0.0727]
Log number of lenders	0.0532*** [0.0115]	0.0544*** [0.0113]	0.0540*** [0.0114]	0.0540*** [0.0092]
Log population	-0.0131*** [0.0043]	-0.0137*** [0.0041]	-0.0135*** [0.0041]	-0.0135*** [0.0030]
State clusters	YES	YES	YES	NO
Observations	306	306	306	306
R-squared	0.36	0.46	0.43	0.43
Hansen J stat (p value)	.	0.29	0.29	0.1102

First Stage Results

Dependent variable: Growth in market share of lenders lobbying on specific issues

Initial market share of lenders lobbying on specific issues Weighted by HQ distance to D.C., in log	-0.0086** [0.0034]	-0.0114*** [0.0039]	-0.0119*** [0.0038]	-0.01193*** [0.0038]
Initial market share of lenders lobbying on other issues Weighted by HQ distance to D.C., in log	.	0.0084** [0.0043]	0.0084** [0.0034]	0.0084* [0.0043]
F-test of excluded instruments	6.462	4.56	4.56	5.78
Stock-Yogo critical values	10% 16.38	19.93	8.68	8.68
	15% 8.96	11.59	5.33	5.33
	20% 6.66	8.75	4.42	4.42
	25% 5.53	7.25	3.92	3.92

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively. Robust standard errors are in brackets.

Table 12. Lobbying and Abnormal Stock Returns

Dependent variable	Stock price return			Mean-adjusted return			Market- and risk-adjusted return		
	(1) & (2)	(3) & (4)	(4)	(1) & (2)	(3) & (4)	(4)	(1) & (2)	(3) & (4)	(4)
Lender lobbies on specific issues	-0.0970*** [0.0104]	-0.1799*** [0.0662]	-0.2973** [0.1252]	-0.0176* [0.0096]	-0.1522** [0.0633]	-0.2745** [0.1210]	-0.0518*** [0.0094]	-0.1569** [0.0627]	-0.2739** [0.1201]
Subprime lender	0.1121*** [0.0082]	0.0869 [0.0718]	0.2370* [0.1339]	0.0327*** [0.0076]	0.0846 [0.0686]	0.2373* [0.1294]	0.0267*** [0.0075]	0.0754 [0.0680]	0.2233* [0.1285]
Log(total assets)	-0.0061*** [0.0018]	0.0060 [0.0103]	-0.0000 [0.0195]	-0.0008 [0.0017]	0.0080 [0.0099]	0.0014 [0.0188]	0.0012 [0.0017]	0.0071 [0.0098]	-0.0004 [0.0187]
Log(mortgage loans/assets)	-0.0095*** [0.0018]	-0.0152* [0.0085]	-0.0211 [0.0160]	-0.0066*** [0.0016]	-0.0120 [0.0081]	-0.0179 [0.0154]	-0.0056*** [0.0016]	-0.0122 [0.0080]	-0.0189 [0.0153]
Constant	0.0077 [0.0278]	-0.1104 [0.1569]	-0.0345 [0.2918]	-0.0151 [0.0257]	-0.0964 [0.1499]	-0.0130 [0.2820]	0.0000 [0.0253]	-0.1023 [0.1487]	-0.0055 [0.2801]
Event fixed effect	YES	YES	NO	YES	YES	NO	YES	YES	NO
Number of observations	459	137	67	459	137	67	459	137	67
R-squared	0.53	0.09	0.13	0.19	0.07	0.12	0.13	0.07	0.12

Mean-adjusted stock price return is the stock price return over the month of the event, adjusted for its mean over 2007-08.

Market- and risk-adjusted return is the stock price return over the month of the event, adjusted for the predicted return based on a CAPM where the market portfolio is proxied by the stock price index of financial institutions in the S&P500.

Market events: (1) August 1-17, 2007: suspension of redemptions on funds with subprime exposures; (2) Dec 12, 2007: Fed, ECB, SNB and Bank of Canada jointly announce measures to address short-term funding market pressures; Fed establishes Term Auction Facility (TAF); (3) March 11-16, 2008: JP Morgan acquires Bear Stearns after Fed provides \$30 billion in non-recourse funding; Fed creates Term Securities Lending Facility (TSLF) and Primary Dealer Credit Facility (PDCF) to expand liquidity provision to wider group of counterparties; (4) September 15-16, 2008: U.S. Investment bank Lehman Brothers files for bankruptcy; U.S. authorities step in to rescue AIG.

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively. Robust standard errors are in brackets.

Figure 1. Lobbying exp/firm, by sector, 2006

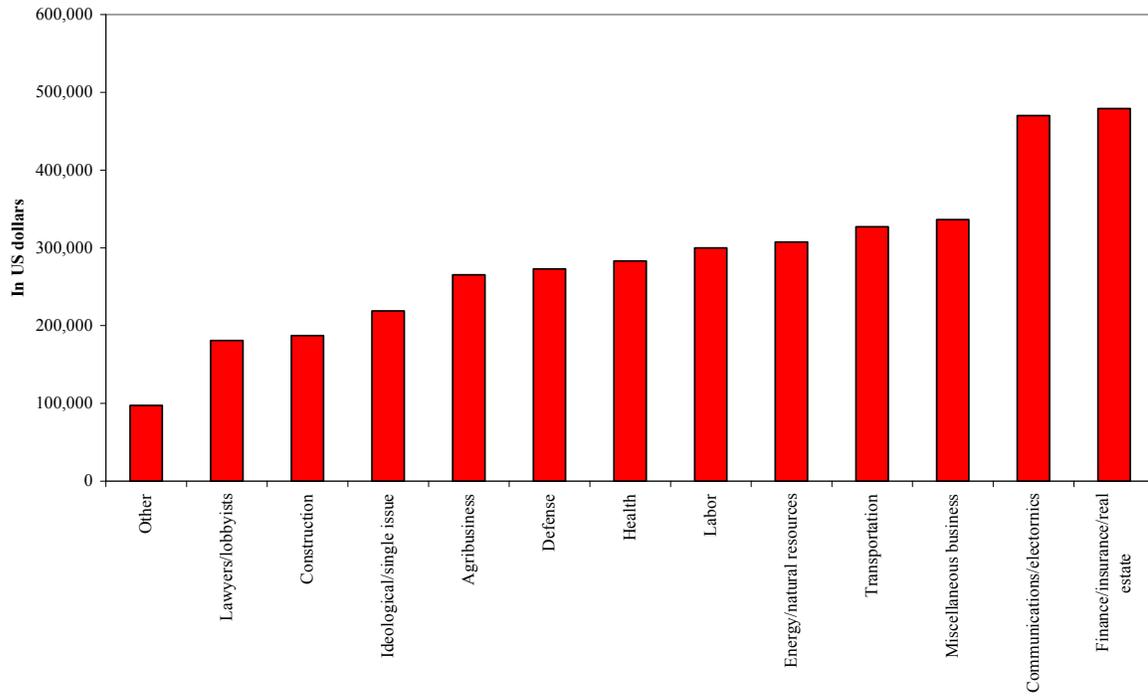


Figure 2. Evolution of lobbying Intensity (expenditures per firm) over time

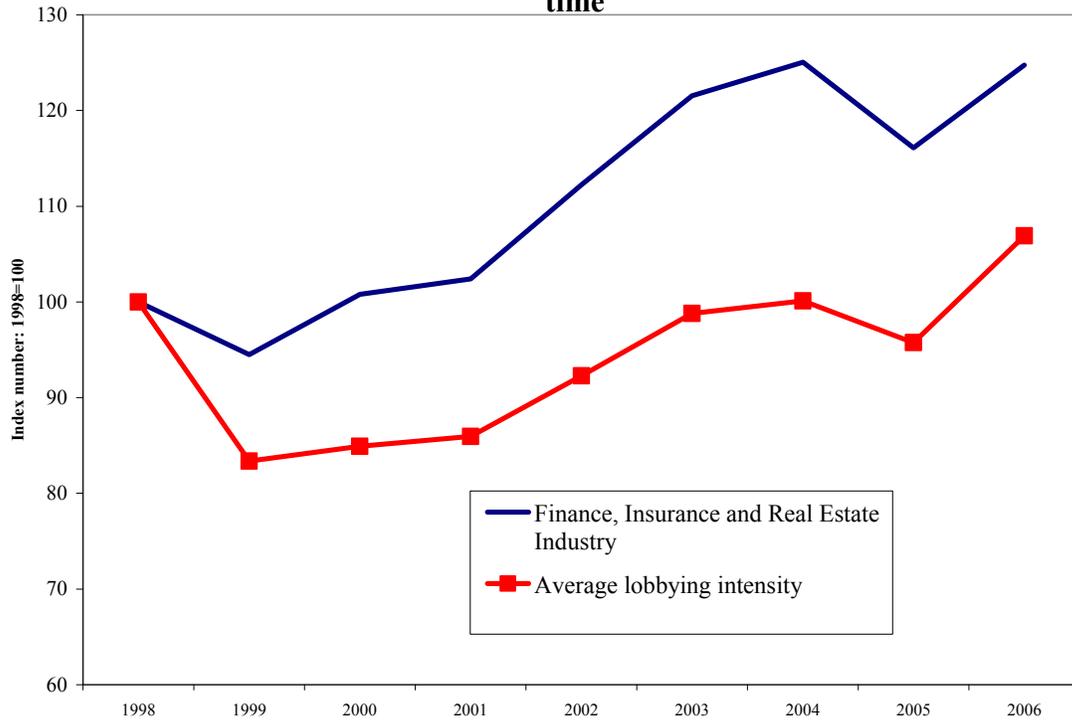


Figure 3. Lending Standards

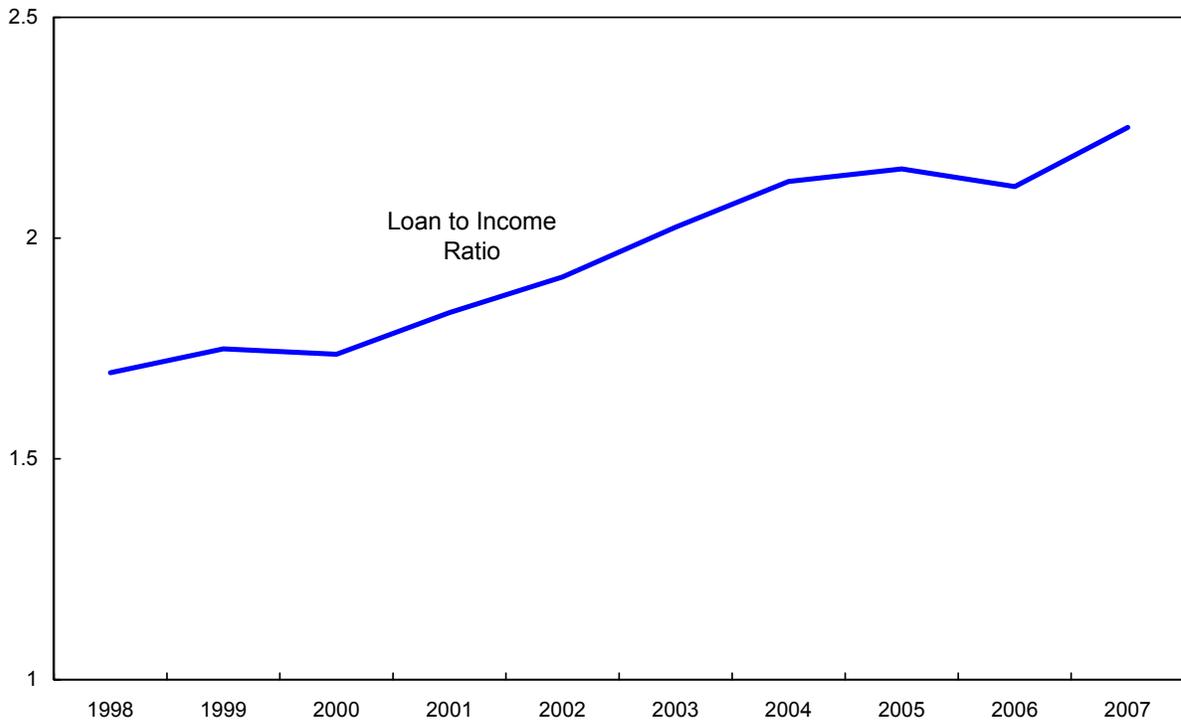
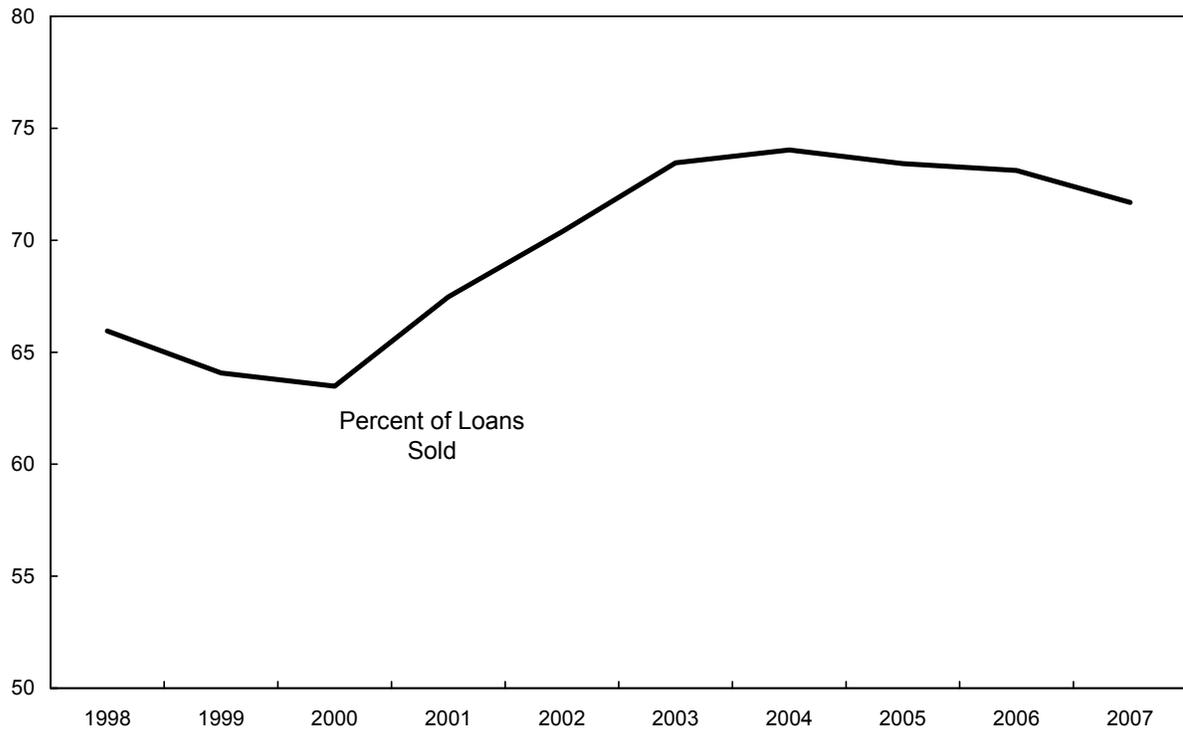


Figure 4. Securitization: GSEs versus Private Issuers

Appendix

Lobbying Expenditures

In addition to campaign contributions to officials and candidates for election purposes, companies, labor unions, and other organizations spend billions of dollars each year to lobby incumbent members of Congress and of federal agencies. Some special interests hire lobbying firms; others have lobbyists working in-house. The data on lobbying expenditures are compiled by the Center for Responsive Politics (CRP) using the semi-annual lobbying disclosure reports filed with the Secretary of the Senate's Office of Public Records (SOPR) and posted to their website. We focus on the reports analyzed by CRP covering lobbying activity that took place from 1998 through 2006.

The Lobbying Disclosure Act (LDA) of 1995 requires lobbying firms and organizations to register and file reports of their lobbying activities with the Secretary of the Senate and the Clerk of the House of Representatives. In general, it requires registration by any individual lobbyist (or the individual's employer if it employs one or more lobbyists) within 45 days after the individual first makes, or is employed or retained to make, a lobbying contact with either the President, the Vice President, a Member of Congress, or any other specified Federal officer or employee, including certain high-ranking members of the uniformed services.

A registrant must file a report for the semiannual period when registration initially occurred and for each semiannual period thereafter, including the period during which registration terminates. Lobbying firms, i.e., entities with one or more lobbyists, including self-employed individuals who act as lobbyists for outside clients, are required to file a separate report for each client covered by a registration. Organizations employing in-house lobbyists file a single report for each semiannual period. The semiannual report is required to be filed no later than 45 days after the end of a semiannual period beginning on the first day of January and the first day of July of every year in which a registrant is registered. LDA requires the Secretary of the Senate and the Clerk of the House of Representatives to make all registrations and reports available to the public as soon as practicable after they are received.

Under Section 3(10) of the LDA, an individual is defined as a "lobbyist" with respect to a particular client if he or she makes more than one lobbying contact (i.e. more than one communication to a covered official) and his or her "lobbying activities" constitute at least 20 percent of the individual's time in services for that client over any six-month period. "Lobbying activity" is defined in Section 3(7) of the LDA as "lobbying contacts or efforts in support of such contacts, including background work that is intended, at the time it was performed, for use in contacts, and coordination with the lobbying activities of others."

Section 15 of the LDA permits those organizations that file under Sections 6033(b)(8) of the Internal Revenue Code (IRC) and organizations that are subject to Section 162(e) of the IRC to use the tax law definitions of lobbying in lieu of the LDA definitions for determining "contacts" and "lobbying activities". The definition of lobbying in the tax law is broader with respect to the type of activities reported, while they are narrower with respect to

executive branch officials contacted. For example, the definition of lobbying under the tax code includes "grass-roots", state and local lobbying, while the LDA excludes these types of lobbying from the definition of "lobbying activities". Under the amendment of the LDA introduced in 1998, registrants who use tax law definitions of lobbying must use the IRC definition for executive branch lobbying and the LDA definition for legislative branch lobbying.

There are three different filing methods listed in the form. Two options are largely identical (one for-profit groups, the other for non-profits) and use the definition of lobbying provided by the IRC. The third follows the definition of lobbying contained in the Lobbying Disclosure Act of 1995. As discussed above, filers using the IRC methods must report state, local and grassroots lobbying costs, which are not included in LDA reports.

Lobbying firms are required to provide a good-faith estimate rounded to the nearest \$20,000 of all lobbying-related income in each six-month period. Likewise, organizations that hire lobbyists must provide a good-faith estimate rounded to the nearest \$20,000 of all lobbying-related expenditures in a six-month period. An organization or a lobbying firm that spends less than \$10,000 in any six-month period does not have to state its expenditures. In those cases, CRP treats the figure as zero.

Annual lobbying expenditures and incomes (of lobbying firms) are calculated by adding mid-year totals and year-end totals. Whenever a lobbying report is amended, income/expense figures from the amendment are generally used instead of those from the original filing. Often, however, CRP staff determine that the income/expenditures on the amendment or termination report are inaccurate. In those instances, figures from the original filing are used.

Occasionally, income that an outside lobbying firm reports receiving from a client is greater than the client's reported lobbying expenditures. Many such discrepancies can be explained by the fact that the client and the outside firm use different filing methods. When both organizations use the same method, discrepancies are generally due to filer error. In cases not already resolved in previous reports and where the discrepancy exceeds the \$20,000 that can be attributed to rounding, the client's expenditures rather than the lobbying firm's reported income are used. The only exception is when a client reports no lobbying expenditures, while the outside lobbying firm lists an actual payment. In such cases, the figure reported by the lobbying firm is used.

In cases where the data appears to contain errors, official Senate records are consulted and, when necessary, the CRP contacts SOPR or the lobbying organizations for clarification. The CRP standardizes variations in names of individuals and organizations to clearly identify them and more accurately represent their total lobbying expenditures.

In cases where both a parent and its subsidiary organizations lobby or hire lobbyists, the Center attributes lobbying spending to the parent organization. Therefore, the lobbying totals reported by the Center for a parent organization may not reflect its original filing with the Senate, but rather the combined expenditures of all related entities.

However, to calculate lobbying expenditures by sector and industry, each subsidiary is counted within its own sector and industry, not those of its parent. The Center makes this distinction when it has the information necessary to distinguish some or all of the subsidiary's lobbying expenditures from either the subsidiary's own filing or from the receipts reported by outside lobbying firms. For example, tobacco giant Altria Group owns Kraft Foods. Although Altria Group's original filing included lobbying for Kraft in its expenditures, in the data set the Center isolated Kraft's payments to outside lobbyists and included them in 'Food Processing and Sales.'

When companies merge within any two-year election cycle, their lobbying expenditures are combined and attributed to the new entity. This is done in order to correlate lobbying data to campaign contribution data for each particular organization and industry.

Interestingly, the LDA also requires the organization to state the issues on which the registrant engaged in lobbying during the reporting period. Table A1 shows 76 issues, at least one of which has to be entered by the registrant / filer. The filer can list more than one issue. In that case, she has to use a separate page of the form for each code selected. The list of issues includes immigration and trade. Surprisingly, the list of issues also includes names of some industries e.g. apparel, computer, tobacco etc.

For each general issue, the filer is also required to list the specific issue which were lobbied for during the semi-annual period. For example, specific bills before Congress or specific executive branch actions are required to be listed in the Form.

Table A2 shows a sample form filed by Bear Stearns for lobbying activity between July 1 – December 31, 2007; Table A3 shows a sample form filed by Bank of America for lobbying activity between July 1 – December 31, 2006. Only three selected pages of each form are shown in the appendix. Page 1 of the form shows the name and details of each company, the time period covered by the report and the expenses incurred by each company relating to lobbying activity during this period (for Bear Stearns, expenses were \$500,000, and for Bank of America, \$1,020,000).

The lobbying expenditure by the organization, however, is listed only once on the first page of the form and the amount is not split among the issues. Bear Stearns lists the reporting method as "Method C"; that is, the reported amounts use Internal Revenue Code definitions of lobbying activities. This method is available to any registrant that is subject to Section 162(e) of the IRC. On the other hand, Bank of America uses "Method A" and reports amounts using LDA definitions only. The amount disclosed pertains to the semiannual period covered by this report, and the grassroots and state lobbying expenses are not subtracted from this amount. The other two pages of the forms in the appendix show general issues for which the companies engaged in lobbying activity (Bear Stearns: Banking and Bankruptcy; Bank of America: Banking and Housing).

Specific House and Senate Bills of Interest

In this paper, we focus on five general lobbying issues: Accounting, Banking, Bankruptcy, Housing, and Financial Institutions. Moreover, certain House and Senate bills are of

particular interest since they promote either tight or lax restrictions in these five general areas of interest.

Bills that introduce tight restrictions for lenders focus primarily on predatory lending practices⁴⁸ and high-cost mortgages⁴⁹. For example, many bills contain restrictions/limits on annual percentage rates for mortgages, negative amortization, pre-payment penalties, balloon payments, late fees, and/or the financing of mortgage points and fees. Expanded consumer disclosure requirements regarding high-cost mortgages (such as including the total cost of lender fees on loan settlement paperwork or disclosing to consumers that they are borrowing at a higher interest rate) are introduced in some of the bills.

Many of the bills prohibit high-cost mortgage lenders from engaging in other unfair or deceptive practices. Creditors are to evaluate each consumer's ability to repay a loan before making the loan, and one bill stipulates that mortgage debt is not to exceed 50 percent of an individual's income, and income is to be verified. Creditors are not to encourage consumers to default on loans; moreover, mortgage lenders and other creditors must report their consumers' payment histories to credit reporting agencies. High-cost mortgage lenders may not accelerate a consumer's debt if the consumer is making payments on time. In addition, individuals who provide mortgage lending or brokerage services must be adequately trained in high-cost lending. Civil penalties for engaging in predatory lending practices are increased.

The following bulleted list offers greater detail on each of the specific bills that promote tighter mortgage market restrictions:

- **H.R. 1051: Predatory Lending Consumer Protection Act of 2001**
 - Introduced March 15, 2001; Never passed by House or Senate; Never signed into law

⁴⁸ While there is no single legal definition of predatory lending practices, the U.S. Department of Housing and Urban Development offers the following examples as predatory lending practices by creditors: 1) charging unnecessary fees; 2) lending more money than a borrower could repay; 3) encouraging borrowers to lie on credit applications; 4) changing the terms of the loan at closing; 5) signing blank loan paperwork; and 6) charging higher fees based on a consumer's race and not on a consumer's credit history. (Please see <http://www.hud.gov/offices/hsg/sfh/buying/loanfraud.cfm> for more information.) For additional information, please see the National Conference on State Legislatures' website (http://www.ncsl.org/programs/banking/predlend_intro.htm) for an overview of the predatory lending practices outlawed by each state legislature.

⁴⁹ High-cost mortgages are often defined as mortgages that have annual percentage rates (APRs) that exceed the APR on Treasury securities by a certain number of percentage points. For example, the Predatory Lending Consumer Protection Act of 2002 (S. 2438) amended the Home Ownership Equity Protection Act to define high cost first mortgages as either 1) mortgages with APRs that are six percentage points above the Treasury security APR or 2) mortgages where the total cost of points and fees is greater than five percent of the total loan amount or \$1000.

- H.R. 1051 amends the Truth in Lending Act regarding allowable annual percentage rates, total points and fees, pre-payment penalties, and balloon payments for high cost mortgages. The bill also requires additional disclosures to consumers and restricts high-cost mortgage creditors in financing mortgage points and fees and from accelerating a consumer's debt or from encouraging consumer default. Consumers must fulfill a credit counseling requirement.
- **H.R. 1163: Predatory Mortgage Lending Practices Reduction Act**
 - Introduced April 8, 2003; Never passed by House or Senate; Never signed into law
 - H.R. 1163 requires that any individual who provides mortgage lending or brokerage services be adequately trained in subprime lending. The bill also includes subprime lender requirements and prohibitions and penalties for unfair and deceptive practices. Furthermore, H.R. 1163 extends grants to community organizations offering education on subprime or illegal lending practices.
- **H.R. 1182: Prohibit Predatory Lending Act 2005**
 - Introduced March 9, 2005; Never passed by House or Senate; Never signed into law
 - H.R. 1182 defines high-cost mortgages as 1) any primary mortgage with an interest rate eight percentage points above the yield on Treasury securities or 2) any secondary mortgage with an interest rate ten percentage points above the yield on Treasury securities. The bill addresses the calculation of points and pre-payment penalties; furthermore, it contains restrictions on balloon payments and late fees and prohibits debt acceleration. Additionally, H.R. 1182 prevents lenders from extending to credit to individuals who do not have the ability to repay the debt. For example, mortgage debt is not exceed 50 percent of an individual's income, and income is to be verified by pay stubs, tax returns, etc.
- **H.R. 1295: Responsible Lending Act**
 - Introduced March 15, 2005; Never passed by House or Senate; Never signed into law
 - H.R. 1295 defines "higher-cost mortgage" and includes requirements for mortgage product evaluation software and appraisals for properties secured by higher-cost mortgages. In addition, mortgage pamphlets distributed to consumers are to be updated and simplified and explain topics such as balloon payments, escrow accounts, and consumer responsibilities; furthermore, information should be provided in multiple languages and formats to reach vulnerable populations.
- **H.R. 1865: Prevention of Predatory Lending Through Education Act**
 - Introduced April 29, 2003; Never passed by House or Senate; Never signed into law

- Under H.R. 1865, the Secretary of Housing and Urban Development is to award grants to state and local governments and non-profit organizations so that they may counsel and educate consumers on predatory lending practices.
- **H.R. 3607: Protecting Our Communities From Predatory Lending Practices Act**
 - Introduced December 20, 2001; Never passed by House or Senate; Never signed into law
 - H.R. 3607 prohibits unfair or deceptive practices and statements regarding consumer credit transactions, applications, etc. In addition, the bill includes provisions that prohibit certain practices involving a consumer's dwelling; that is, practices such as flipping consumer loans, financing credit insurance, charging fees for services not provided, and others are prohibited.
- **H.R. 3807: Predatory Mortgage Lending Practices Reduction Act**
 - Introduced February 27, 2002; Never passed by House or Senate; Never signed into law
 - Please see H.R. 1163.
- **H.R. 3901: Anti-Predatory Lending Act of 2000**
 - Introduced March 9, 2000; Never passed by House or Senate; Never signed into law
 - H.R. 3901 adds the following disclosure requirement to the Home Mortgage Disclosure Act of 1975: "the annual percentage rate of mortgage loans and home improvement loans originated by the institution grouped according to census tract, income level, racial characteristics, and gender." The bill restricts certain rates and fees and mandates that any borrower who would like to obtain a high-cost mortgage complete home ownership counseling. Pre-payment penalties, negative amortization, flipping home loans, extending credit without regard to ability to repay, encouraging default, payments to appraisers by creditors, and creditor-financing of credit insurance are disallowed.
- **H.R. 3915: Mortgage Reform and Anti-Predatory Lending Act of 2007**
 - Introduced October 22, 2007; Passed by House November 15, 2007; Never passed by Senate; Never signed into law
 - H.R. 3915 introduces licensing and training requirements for individuals wishing to become loan originators. In addition, the bill stipulates that certain federal agencies are to regulate mortgage lenders so that they do not encourage borrowers from taking on loans that they do not have the ability to repay. Good faith estimates must include the total loan amount, the type and length of the loan, the annual percentage rate, the total estimated monthly payment, the percentage the monthly payment is of the borrower's monthly income, and other disclosures.
- **H.R. 4213: Consumer Mortgage Protection Act of 2000**

- Introduced April 6, 2000; Never passed by House or Senate; Never signed into law
- The Consumer Mortgage Protection Act of 2000 revises regulations on fees, points, closing costs, annual percentage rates, and pre-payment penalties. Creditors are not to encourage consumers to default on loans and must report quarterly to credit bureaus on the status of consumer loans.
- **H.R. 4250: Predatory Lending Consumer Protection Act of 2000**
 - Introduced April 12, 2000; Never passed by House or Senate; Never signed into law
 - H.R. 4250 requires additional disclosures to consumers who are applying for high-cost mortgages to warn them regarding the higher interest rates and the risks associated with high-cost mortgages. Pre-payment penalties, balloon payments, and the financing of points and fees are restricted. Creditors must evaluate each consumer's ability to repay the loan, and creditors must not encourage a consumer to default on the loan.
- **H.R. 4471: Fair and Responsible Lending Act**
 - Introduced December 8, 2005; Never passed by House or Senate; Never signed into law
 - H.R. 4471 regulates fees, payments, and other costs associated with high-cost home loans. The bill requires that a consumer considering a high-cost mortgage attend credit counseling services. Computer software programs designed to help consumers choose among mortgage products must be certified by the Secretary of Housing and Urban Development.
- **H.R. 4818: Mortgage Loan Consumer Protection Act**
 - Introduced May 22, 2002; Never passed by House or Senate; Never signed into law
 - H.R. 4818 requires disclosure of lenders' fees on settlement paperwork and prohibits lenders from charging certain loan fees.
- **H.R. 833: Responsible Lending Act**
 - Introduced February 13, 2003; Never passed by House or Senate; Never signed into law
 - See also H.R. 1295. H.R. 833 defines high cost mortgages, points, and fees. The bill also creates the Consumer Mortgage Protection Board to offer grants to organizations providing homeownership/rental counseling. Mortgage broker guidelines and requirements are also included in the bill.
- **S. 2415: Predatory Lending Consumer Protection Act of 2000**
 - Introduced April 12, 2000; Never passed by House or Senate; Never signed into law
 - S. 2415 amends the Truth in Lending Act regarding annual percentage rates, total points and fees, pre-payment penalties, and balloon payments for high cost mortgages. The bill also requires additional consumer disclosures and

restricts high-cost mortgage creditors from financing mortgage points and fees and from accelerating a consumer's debt or from encouraging consumer default. High-cost mortgage lenders must report their consumers' payment histories to credit reporting agencies. Civil penalties and the statute of limitations are increased.

- **S. 2438: Predatory Lending Consumer Protection Act of 2002**
 - Introduced May 1, 2002; Never passed by House or Senate; Never signed into law
 - S. 2438 amends the Truth in Lending Act regarding high cost mortgages; as such, the bill requires additional disclosures to the consumer, prohibits balloon payments and prepayment penalties, and limits the points/fees a lender may charge for high cost mortgages. Creditors must report a consumer's payment history/status to consumer reporting agencies.

A second group of bills introduces lax restrictions for lenders in the general issue of Housing. In general, these bills use a wide array of tools including lower down-payment requirements; state and local grant funding to provide down-payment assistance for certain borrowers; hybrid adjustable rate mortgage programs; revised mortgage insurance premiums and cancellation policies; and financial assistance when purchasing homes in high-crime areas or low-income areas. Another channel through which these bills incorporate lax housing regulations is relaxing restrictions on Federal Housing Administration (FHA) loans and oversight of the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac), and the Federal Home Loan Banks.

The following bulleted list offers greater detail on each of the bills in this category:

- **H.R. 1276: American Dream Downpayment Act**
 - Introduced March 13, 2003; Passed by House October 1, 2003; Never passed by Senate; Never signed into law
 - H.R. 1276 amends the Cranston-Gonzalez National Affordable Housing Act and offers down-payment assistance to certain low-income individuals, first-time home buyers, uniformed employees, or teachers through the use of grants to state and local governments.
- **H.R. 1461: Federal Housing Finance Reform Act of 2005**
 - Introduced April 5, 2005; Passed by House October 26, 2005; Never passed by Senate; Never signed into law
 - The Federal Housing Finance Reform Act of 2005 creates the Federal Housing Finance Agency (FHFA) which would have oversight of Freddie Mac, Fannie Mae, and Federal Home Loan Banks. FHFA would become the single regulator for Freddie Mac and Fannie Mae; the Department of Housing and Urban Development would no longer have oversight. The bill requires Freddie Mac and Fannie Mae to set aside funds directed at increasing homeownership among low-income individuals or in low-income areas.

- **H.R. 1629: FHA Multifamily Housing Mortgage Loan Limit Adjustment Act of 2001**
 - Introduced April 26, 2001; Never passed by House or Senate; Never signed into law
 - H.R. 1629 would increase the mortgage loan limits for multifamily housing mortgage insurance.

- **H.R. 176: FHA Single Family Loan Limit Adjustment Act of 2005**
 - Introduced January 4, 2005; Never passed by House or Senate; Never signed into law
 - H.R. 176 increases the amount that can be insured under FHA mortgages in high-cost areas.

- **H.R. 1776: American Homeownership and Economic Opportunity Act of 2000**
 - Introduced May 12, 1999; Passed by House April 6, 2000; Never passed by Senate; Never signed into law
 - H.R. 1776 makes grants available to states and local governments and requires any community development block grant applicant to make an honest effort to reduce barriers to homeownership. The bill extends loan terms for manufactured home lot purchases, lowers down-payment requirements for home purchases, and offers other forms of down-payment assistance for teachers and public safety officers. Hybrid adjustable rate mortgage programs and financial assistance when purchasing homes in high-crime areas are also included.

- **H.R. 2589: Mark-to-Market Extension Act of 2001**
 - Introduced July 23, 2001; Passed by House September 24, 2001; Never passed by Senate; Never signed into law
 - H.R. 2589 revises Section 8 and other multifamily housing mortgage assistance programs. For example, vouchers, rent restructuring, “look-back” project eligibility, and housing insurance restructuring programs are included. The mark-to-market program is extended through 2006.

- **H.R. 3206: Home Ownership Expansion and Opportunities Act of 2001**
 - Introduced November 1, 2001; Never passed by House or Senate; Never signed into law
 - H.R. 3206 permits the Government National Mortgage Association to guarantee securities through the use of certain conventional mortgages.

- **H.R. 3755: Zero Downpayment Act of 2004**
 - Introduced February 3, 2004; Never passed by House or Senate; Never signed into law
 - H.R. 3755 would permit the Department of Housing and Urban Development to insure single family primary residences for first-time homebuyers who do not make a down-payment. Applicants must participate in mortgage counseling, and in certain circumstances, foreclosure prevention counseling.

No more than ten percent of the mortgages held by the Federal Housing Administration may qualify for this program.

- **H.R. 4110: FHA Single Family Loan Limit Adjustment Act of 2004**
 - Introduced April 1, 2004; Never passed by House or Senate; Never signed into law
 - Please see H.R. 176

- **H.R. 5121: Expanding American Ownership Act of 2006**
 - Introduced April 6, 2006; Passed by House July 25, 2006; Never passed by Senate; Never signed into law
 - H.R. 5121 raises the maximum insurable amount of a home to be equal to the full median price of area homes. With regards to FHA mortgage loans, the bill extends the maximum length of the loan from 35 to 40 years and removes the requirement of a three percent down-payment. H.R. 5121 also revises the mortgage insurance premium structure.

- **H.R. 5503: FHA Multi Family Loan Limit Adjustment Act**
 - Introduced May 25, 2006; Passed by House September 27, 2006; Never passed by Senate; Never signed into law
 - H.R. 5503 increases the FHA loan limits in high cost areas for the following types of housing: rental, cooperative, rehabilitation, neighborhood conservation, moderate income, displaced family, condominiums, and housing for the elderly.

- **H.R. 5640: American Homeownership and Economic Opportunity Act of 2000**
 - Introduced December 5, 2000; Passed by House December 5, 2000; Passed by Senate December 7, 2000; Signed into law December 27, 2000
 - H.R. 5640 affords greater protection to consumers with regards to mortgage insurance cancellations and offers grants to provide downpayment assistance to Section 8 tenants. The bill addresses standards for manufactured homes and eliminates the National Manufactured Home Advisory Council. Programs and services related to rural housing and housing for the elderly or for disabled families are also included.

- **H.R. 811: American Dream Downpayment Act**
 - Introduced April 8, 2003; Passed by Senate November 24, 2003; Passed by House December 8, 2003; Signed into law December 16, 2003
 - H.R. 811 amends the Cranston-Gonzalez National Affordable Housing Act and offers down-payment assistance to low-income, first-time home buyers through the use of grants to state and local governments. The bill revises certain criteria for hybrid adjustable rate mortgages and increases the loan limits for FHA multifamily loans.

- **S. 1163: FHA Multifamily Housing Mortgage Loan Limit Adjustment Act of 2001**

- Introduced July 11, 2001; Never passed by House or Senate; Never signed into law
- S. 1163 increases mortgage loan limits for multifamily housing mortgage insurance.
- **S. 1620: Home Ownership Expansion Act of 2001**
 - Introduced November 1, 2001; Never passed by House or Senate; Never signed into law
 - S. 1620 would permit the guaranteeing of conventional mortgage-backed securities.
- **S. 2169: PROMISE (Promoting Refinancing Opportunities for Mortgages Impacted by the Subprime Emergency) Act of 2007**
 - Introduced October 16, 2007; Never passed by House or Senate; Never signed into law
 - S. 2169 gives the Director of the Office of Federal Housing Enterprise Oversight of the Department of Housing and Urban Development authority to suspend, modify or lift the limitation on growth provision in the Fannie Mae Consent Decree and the voluntary temporary growth limitation in the Freddie Mac Letter. The Director also is authorized to increase the mortgage portfolio limitations of both Fannie Mae and Freddie Mac by at least 10 percent. The bill then stipulates that 85 percent of this increase should be set aside for refinancing subprime mortgages that are at risk of foreclosure. The definition of subprime mortgages is at the discretion of the Director.
- **S. 3535: Expanding American Homeownership Act of 2006**
 - Introduced June 19, 2006; Never passed by House or Senate; Never signed into law
 - See also H.R. 5121. S. 3535 introduces various changes to conforming loan limits, loan terms, cash investment requirements, mortgage insurance premiums, insurance for condominiums, and insurance for manufactured homes.

A third set of bills introduces tight regulations for lenders in areas not directly related to mortgages and are not included among the specific issues of interest.

Home Mortgage Disclosure Act (HMDA)

Enacted by Congress in 1975, the original purpose of the Act was two-fold: enhance enforcement of anti-discriminatory lending laws and disseminate information to guide investments in housing. The Act requires financial institutions to disclose information to their regulatory agency about every loan application received. Whether an institution is covered depends on its size, the extent of its activity in a metropolitan statistical area (MSA), and the weight of residential mortgage lending in its portfolio. Any depository institution with a home office or branch in an MSA must report HMDA data if it has made a home purchase loan on a one-to-four unit dwelling or has refinanced a home purchase loan and if it

has assets above an annually adjusted threshold. Any nondepository institution with at least ten percent of its loan portfolio composed of home purchase loans must also report HMDA data if it has assets exceeding \$10 million. Under these criteria, small lenders and lenders with offices only in non-metropolitan areas are exempt from HMDA data reporting requirements. Therefore, information for rural areas tend to be incomplete. Yet, U.S. Census figures show that about 83 percent of the population lived in metropolitan areas over our sample period, and hence, the bulk of residential mortgage lending activity is likely to be reported under the HMDA. Information covers both individual characteristics (race, ethnicity, income, geographic location of the property, etc.), loan information (amount requested, response, reasons for denial, etc.) and institution information (regulatory authority, geographic location, and assets). The data can be ordered on CD-ROM's from the Federal Financial Institutions Examination Council (FFIEC), and starting in 2006 they can also be downloaded from their website. The data cover about 250 million loan applications between 1996 and 2007.

In order to make sure that the data are clear of outliers and erroneous values, we follow these procedures:

- Loan amount and applicant income are rounded to a lower limit, hence all observations below \$1000 and \$10000, respectively, are eliminated.
- Definitions of applicant race, loan purpose and purchaser type have changed between 2003 and 2004. For applicant race, an applicant ethnicity variable has been added and the race code for Hispanic has been eliminated. Other codes have been rearranged. In our dataset, these variables are transformed into harmonized dummies for selected ethnicities. Loan purpose category “multifamily” has been moved to a new specific variable called property type in 2004. In order to harmonize the pre-2003 and post-2003 data, all multifamily-related records are eliminated. Purchaser type has gone under a minor recoding to make room for “securitization”, i.e. the packaging and sale of loans on the open market, as opposed to the sale of the whole loan to a private institution or government-sponsored enterprise. As we do not distinguish between loan sales and securitized loans, no adjustments are made for this change.
- We eliminate all application records that did not end in one of the three following actions: loan originated, application approved but not accepted, application denied. Other actions mostly represent dubious statuses (e.g. application withdrawn by applicant) or purchased loans; these have also been excluded because it is not clear whether they are reported twice, once by the originating institution and again by the purchasing institution.

Although HMDA is a relatively homogeneous dataset considering its size, there are some inconsistencies that need to be dealt with. First, HMDA disclosure requirements change, although minimally, from one year to the next to reflect changes in metropolitan area definitions and keep minimum institution size in line with inflation. While there is little that can be done to take account of the fact that the set of institutions qualifying under the applicable rules on the size restriction change, we eliminate the observations that cannot be

associated with a metropolitan area, which typically turn out to be loans made in rural areas by institutions whose primary business is in metropolitan areas and are therefore required to report or loans that were made in an area that happened to be reclassified as rural. Second, 2004 was marked by a major overhaul of the HMDA regulations. New variables were added, including the interest rate when it is set above a certain threshold: the number of variables expanded from 30 to 45. Moreover, the Office of Management and Budget (OMB) increased the number of official Metropolitan areas (MAs) from about 320 to about 390. The boundaries of the MAs themselves were sometimes enlarged, increasing the number of lenders required to report. Trends apparent from a comparison of aggregate figures from 2003 and 2004, therefore, should be taken with a grain of salt. For example, loan market growth rates are likely to be inflated because in the existing MAs more institutions were required to disclose; at the same time, in a specific MA figures could be understated because part of the counties that used to form it have been incorporated into a new MA. In such cases, 2004 aggregate figures have been interpolated using 2003 and 2005 figures. Third, some Loan Application Records (LARs) were found to be wrong or inconsistent by numerous data validity checks operated by the FFIEC. Such records, after being altered automatically, have been marked as “edited” using a flag. Around 6 percent of all records are marked as edited. Edits are distributed in a homogeneous fashion across time and across space. In any event, those records have been eliminated from our database.⁵⁰

To concentrate on a relatively homogeneous set of loans, we drop loans for multi-family purpose from the sample, as this is a distinct market from the overall mortgage market for single family homes. We also drop federally insured loans as their risk profile is likely to differ from that of other loans.

HMDA data does not include a field that identifies whether an individual loan application is a subprime loan application. In order to distinguish between the subprime and prime loans, we use the subprime lenders list as compiled by the U.S. Department of Housing and Urban Development (HUD) each year. HUD has annually identified a list of lenders who specialize in either subprime or manufactured home lending since 1993. HUD uses a number of HMDA indicators, such as origination rates, share of refinance loans, and proportion of loans sold to government-sponsored housing enterprises, to identify potential subprime lenders. Since 2004, lenders are required to identify loans for manufactured housing and loans in which the annual percentage rate (APR) on the loan exceeds the rate on the Treasury security of comparable maturity by at least three (five, for second-lien loans) percentage points and report this information under HMDA. The rate spread can be used as an alternative indicator (to the HUD list) to classify subprime loans. For the years with available data, the ranking of subprime lenders using the rate spread variable alone coincides closely with the ranking in the HUD list (the correlation is around 0.8).

⁵⁰ An exception is Arizona in 2003. For most Arizona MAs in 2003 nearly all records are reported as edited. While the reasons of this remain unknown, such records have been eliminated, and 2003-04 credit growth rates have been interpolated using data from the adjacent years.

Data at the Metropolitan Statistical Area (MSA) Level

Despite its broad coverage on borrower, property, and loan characteristics, several important variables that might have an impact on lending decisions are left out in HMDA. The lack of knowledge on the applicant's credit score and age, interest rate and maturity of the loan, and property price are just examples of missing fundamental information on which the lender might base his the decision. Some of this essential information might be partially recovered through use of economic and social indicators available for the geographical area. For that purpose, we gather data from the following sources.

- Bureau of Economic Analysis (BEA): Annual data on personal income, labor and capital remuneration, proprietors' employment, and population.
- Bureau of Labor Statistics (BLS): Data on unemployment and prices
- U.S. Census Bureau: Data on population
- Office of Federal Housing Enterprise Oversight (OFHEO): Housing price index (HPI)
- LoanPerformance: Mortgage delinquencies (percent of subprime loans that are 60 or more days delayed in payment) from LoanPerformance at four different points in time (February 2005, 2006 and 2007 and November 2007).

Adjustment for Change in Metropolitan Area Definitions

The definitions of MAs change across time, both because of changing administrative standards and, more often, because of the dynamic nature of cities. OMB operated a major change in the definitions in 2003, and HMDA incorporated this change into its requirements in 2004. Hence, it is necessary to adjust the aggregation of data to reflect these changes in definitions to make sure that data are consistent pre- and post-2004. Further harmonization of metropolitan area definitions is necessary as some sources use different codes.

The new codes identify physical MAs as Core-Based Statistical Areas (CBSAs). A CBSA can span more than one state but always covers counties in their entirety without splitting them. Large areas such as New York-Newark-Bridgeport (NY-NJ-CT-PA) are in turn subdivided into Metropolitan Divisions (MDs) in order to maintain a more comparable area size. MDs, too, are made up of whole counties. The only exception to this rule is the New England City and Town Areas (NECTAs) used by BLS. Due to historical reasons, New England city boundaries are administratively allowed to cut across counties. It is therefore impossible to reconduce NECTA borders to CBSA and MD codes; while there are CBSA codes for Boston and other NECTAs, the Census Bureau warns that these codes represent statistical artifacts that do not match exactly the actual borders. For this reason, unemployment and inflation figures for NECTAs have been imputed without adjustment to the corresponding CBSAs (hence, at the highest level of aggregation to minimize errors). LoanPerformance data, excluding the November 2007 version, are expressed using the 1999 codes. At a first approximation, in the 1999 codebook CBSAs were replaced by Consolidated Metropolitan Statistical Areas (CMSAs) and MDs were replaced by Primary Metropolitan

Statistical Areas (PMSAs). In order to fit PMSA-based data to our dataset, the data were merged to single counties according to their former PMSA; CBSA values were then calculated by averaging the value taken by each of the counties constituting the CBSA. This way it was possible to have a continuous and consistent series where one PMSA has been split into two CBSAs in the new codes, or vice versa. However, some of the seventy new MAs of the 2003 definition are new areas, that only recently reached the metropolitan area threshold, and therefore these areas have been excluded.

HMDA data always report the county where the property is located, and therefore it was possible to associate the 2003 definitions with pre-2004 data. We recreated two artificial, coherent “CBSA” and “MD” variables for the individual data in all seven years. Of course, the pre-2004 coverage of MAs created in 2004 is not complete, as local institutions were deemed to be rural and therefore not required to file under HMDA. On the other hand, a large part of lending in non-metropolitan cities is still carried out by lenders that are required to file so we include these observations.

Appendix. Matching Procedure

The matching of the lobbying and HMDA databases is a tedious task that needs to be done manually using company names. We concentrate on the FIRE companies in the lobbying database and perform a first stage of matching based on company names. Then, we go through the unmatched companies filing lobbying expense reports one by one manually to mark any mergers and acquisitions (or other events) that might have induced a name change. Once we obtain a list of previous and current names for each company, we apply a second-stage matching based on an algorithm that finds potential matches by searching for common words in the name strings. After the algorithm narrows down the potential matches of lobbying firms among the HMDA lenders, we go through the list one by one once again to determine the right match.

In order to be able to capture the full extent of the lobbying activities carried out by an entity, we meticulously examine the corporate structure of the firms that appear in the lobbying database and that might be matched to particular HMDA lenders based on our algorithm. This is because, in many cases, we encounter firms that are not exactly the same but are linked in a corporate sense. Based on the affiliation between the lobbying company and the matches, we enter the lobbying amounts under four different variables: amount spent by the lender itself, amount spent by the lender's parent company, amount spent by the lender's affiliates, and amount spent by the lender's subsidiary. To illustrate with an example, Countrywide Financial Corp is a bank-holding company that owns Countrywide Home Loans, Inc., Countrywide Bank N.A., Countrywide Mortgage Ventures, LLC, and Countrywide Real Estate Finance. Both Countrywide Financial Corp and Countrywide Home Loans, Inc. report lobbying expenses and all subsidiaries of Countrywide Financial Corp but not the bank-holding company itself, file HMDA information. In this case, we enter the lobbying expense of Countrywide Financial Corp as that of the "parent" in our merged database for all the subsidiaries. The amount spent by Countrywide Home Loans, Inc. is recorded as the lender's own lobbying expense ("self") while the same amount is entered as that of the "sister" for the other affiliates in the HMDA database. Although it is

not the case in this example, it is also possible that the firm filing the lobbying expense report might be a subsidiary while the parent company does not appear in the lobbying database but only in the HMDA database. Such cases are recorded in the form of a fourth variable, lobbying expense of the “child”. If there are no parent companies or affiliates or subsidiaries or the company itself does not appear in the lobbying database, the corresponding lobbying variable is set to zero.

Table A1: List of Issues

Code	Issue
ACC	Accounting
ADV	Advertising
AER	Aerospace
AGR	Agriculture
ALC	Alcohol & Drug Abuse
ANI	Animals
APP	Apparel/Clothing Industry/Textiles
ART	Arts/Entertainment
AUT	Automotive Industry
AVI	Aviation/Aircraft/ Airlines
BAN	Banking
BNK	Bankruptcy
BEV	Beverage Industry
BUD	Budget/Appropriations
CHM	Chemicals/Chemical Industry
CIV	Civil Rights/Civil Liberties
CAW	Clean Air & Water (Quality)
CDT	Commodities (Big Ticket)
COM	Communications/ Broadcasting/ Radio/TV
CPI	Computer Industry
CSP	Consumer Issues/Safety/ Protection
CON	Constitution
CPT	Copyright/Patent/ Trademark
DEF	Defense
DOC	District of Columbia
DIS	Disaster Planning/Emergencies
ECN	Economics/Economic Development
EDU	Education
ENG	Energy/Nuclear
ENV	Environmental/Superfund
FAM	Family Issues/Abortion/ Adoption
FIRE	Firearms/Guns/ Ammunition

Table A1: List of Issues

Code	Issue
FIN	Financial Institutions/Investments/ Securities
FOO	Food Industry (Safety, Labeling, etc.)
FOR	Foreign Relations
FUE	Fuel/Gas/Oil
GAM	Gaming/Gambling/ Casino
GOV	Government Issues
HCR	Health Issues
HOU	Housing
IMM	Immigration
IND	Indian/Native American Affairs
INS	Insurance
LBR	Labor Issues/Antitrust/ Workplace
LAW	Law Enforcement/Crime/ Criminal Justice
MAN	Manufacturing
MAR	Marine/Maritime/ Boating/Fisheries
MIA	Media (Information/ Publishing)
MED	Medical/Disease Research/ Clinical Labs
MMM	Medicare/Medicaid
MON	Minting/Money/ Gold Standard
NAT	Natural Resources
PHA	Pharmacy
POS	Postal
RRR	Railroads
RES	Real Estate/Land Use/Conservation
REL	Religion
RET	Retirement
ROD	Roads/Highway
SCI	Science/Technology
SMB	Small Business
SPO	Sports/Athletics
TAX	Taxation/Internal Revenue Code
TEC	Telecommunications
TOB	Tobacco
TOR	Torts
TRD	Trade (Domestic & Foreign)

Table A2: Lobbying Report Filed by Bear Stearns

Clerk of the House of Representatives Legislative Resource Center B-106 Cannon Building Washington, DC 20515	Secretary of the Senate Office of Public Records 232 Hart Building Washington, DC 20510
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**Secretary of the Senate
Received: Feb 04, 2008**

LOBBYING REPORT

Lobbying Disclosure Act of 1995 (Section 5) - **All Filers Are Required To Complete This Page**

1. Registrant Name:

BEAR STEARNS & CO

2. Address:

363 MADISON AVE, NEW YORK, NY 10179

3. Principal place of business (if different from line 2):

4. Contact Name: NANCY LOPEZ

Telephone: 9737932267

E-mail (optional): nancy.lopez@bear.com

Senate ID #: 5701-12

House ID #:

7. Client Name: Self

TYPE OF REPORT

8. Year 2007 Midyear (January 1 - June 30): **OR** Year End (July 1 - December 31):

9. Check if this filing amends a previously filed version of this report:

10. Check if this is a Termination Report: => Termination Date:

11. No Lobbying Activity:

INCOME OR EXPENSES

Complete Either Line 12 **OR** Line 13

12. Lobbying Firms

INCOME relating to lobbying activities for this reporting period was:

Less than \$10,000:

\$10,000 or more: => Income (nearest \$20,000): _____

Provide a good faith estimate, rounded to the nearest \$20,000, of all lobbying related income from the client (including all payments to the registrant by any other entity for lobbying activities on behalf of the client).

13. Organizations

EXPENSES relating to lobbying activities for this reporting period were:

Less than \$10,000:

\$10,000 or more: => Expenses (nearest \$20,000): 500,000.00

14. Reporting Method.

Check box to indicate expense accounting method. See instructions for description of options.

Method A. Reporting amounts using LDA definitions only

Method B. Reporting amounts under section 6033(b)(8) of the Internal Revenue Code

Method C. Reporting amounts under section 162(e) of the Internal Revenue Code

Registrant Name: BEAR STEARNS & CO Client Name: Self

LOBBYING ACTIVITY.

Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Attach additional page(s) as needed.

15. General issue area code: BAN (one per page)

16. Specific lobbying issues:

H.R. 3915 The Mortgage Reform and Anti-Predatory Lending Act of 2007. Worked to change provision of the legislation related to lending and securitization standards. H.R. 4178 Emergency Mortgage Loan Modification Act of 2007. Advocated the concepts in the proposal but not the proposal.

17. House(s) of Congress and Federal agencies contacted:
HOUSE OF REPRESENTATIVES

18. Name of each individual who acted as a lobbyist in this issue area:

Name: O'NEILL, MARY LYNN
Covered Official Position (if applicable): N/A

19. Interest of each foreign entity in the specific issues listed on line 16 above. **None**

Table A3: Lobbying Report Filed by Bank of America

Clerk of the House of Representatives Legislative Resource Center B-106 Cannon Building Washington, DC 20515	Secretary of the Senate Office of Public Records 232 Hart Building Washington, DC 20510
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**Secretary of the Senate
Received: Feb 13, 2007**

LOBBYING REPORT

Lobbying Disclosure Act of 1995 (Section 5) - **All Filers Are Required To Complete This Page**

1. Registrant Name:

BANK OF AMERICA

2. Address:

1909 K STREET NW, SUITE 710, WASHINGTON, DC 20006

3. Principal place of business (if different from line 2):

4. Contact Name: JOHN E. COLLINGWOOD

Telephone: 2023510111

E-mail (optional): nwerren@stateandfed.com

Senate ID #: 26400-12

House ID #:

7. Client Name: Self

TYPE OF REPORT

8. Year 2006 Midyear (January 1 - June 30): **OR** Year End (July 1 - December 31):

9. Check if this filing amends a previously filed version of this report:

10. Check if this is a Termination Report: => Termination Date: _____ 11. No Lobbying Activity:

INCOME OR EXPENSES

Complete Either Line 12 **OR** Line 13

12. Lobbying Firms

INCOME relating to lobbying activities for this reporting period was:

Less than \$10,000:

\$10,000 or more: => Income (nearest \$20,000): _____

Provide a good faith estimate, rounded to the nearest \$20,000, of all lobbying related income from the client (including all payments to the registrant by any other entity for lobbying activities on behalf of the client).

13. Organizations

EXPENSES relating to lobbying activities for this reporting period were:

Less than \$10,000:

\$10,000 or more: => Expenses (nearest \$20,000): 1,020,000.00

14. Reporting Method.

Check box to indicate expense accounting method. See instructions for description of options.

- Method A.** Reporting amounts using LDA definitions only
 Method B. Reporting amounts under section 6033(b)(8) of the Internal Revenue Code
 Method C. Reporting amounts under section 162(e) of the Internal Revenue Code

Registrant Name: BANK OF AMERICA Client Name: Self

LOBBYING ACTIVITY.

Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Attach additional page(s) as needed.

15. General issue area code: BAN (one per page)

16. Specific lobbying issues:

(3) HR 29, HR 84 HR 744, S. 1608, S. 687: Spyware - General issues/definitions on using unauthorized computer access and consent. (4) No bill number: Electronic Payment Network strategy discussion. General issues related to electronic payments and interchange with banking institutions. (5) No Bill Number: Student Lending (6) No Bill Number: National Standards/OCC Preemption (7) No Bill Number: Gramm-Leach-Bliley Oversight (8) No Bill Number: Issues Related to Industrial Loan Companies (9) Issues related to bank real estate powers: H.R. 2660, H.R. 111, S. 98 (10) Bank Regulatory Relief legislation: H.R. 3505, S.2856 (11) Industrial Loan Companies I prevent commercially-owned ILC's from engaging in retail banking activities: H.R. 3505 (regulatory relief bill) (12) Regulatory Relief Bill: HR3505 (13) No Bill Number: Interchange (1) HR 1185: Deposit Insurance Reform. (2) HR 1069, HR 1078, HR 815, HR 3140, HR 3374, HR 3375, HR 3997, HR 4127, S 115, S 751, S 768, S 1216, S 1326, S 1332, S 1408 and S 1594; Data Security Breach; General issues covering data breach, use of social security numbers, and file freezing.

17. House(s) of Congress and Federal agencies contacted:
HOUSE OF REPRESENTATIVES
SENATE

18. Name of each individual who acted as a lobbyist in this issue area:

Name: COLLINGWOOD, JOHN
Covered Official Position (if applicable): N/A
Name: HILL, EDWARD J.
Covered Official Position (if applicable): N/A
Name: MINOT, DARRELL
Covered Official Position (if applicable): N/A

19. Interest of each foreign entity in the specific issues listed on line 16 above. **None**

Registrant Name: BANK OF AMERICA Client Name: Self

LOBBYING ACTIVITY.

Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Attach additional page(s) as needed.

15. General issue area code: HOU (one per page)

16. Specific lobbying issues:

Federal Housing Administration Reform: H.R. 5121, S. 3535

17. House(s) of Congress and Federal agencies contacted:

HOUSE OF REPRESENTATIVES

SENATE

18. Name of each individual who acted as a lobbyist in this issue area:

Name: COLLINGWOOD, JOHN

Covered Official Position (if applicable): N/A

Name: HILL, EDWARD J.

Covered Official Position (if applicable): N/A

Name: MINOT, DARRELL

Covered Official Position (if applicable): N/A

19. Interest of each foreign entity in the specific issues listed on line 16 above. **None**



Table A4. Effect of Lobbying on Loan-to-Income Ratio: Additional Robustness Checks

Dependent variable: Loan-to-income ratio at (lender, MSA, year) level

	[1]	[2]	[3]	[4]	[5]
	MSA-clusters	Drop outliers	Alternative measure of lobbying expenditures	Scaled lobbying expenditures	Lobbying expenditures (including associations)
(Log lender lobbying expenditures on specific issues)t-1	0.002*** [0.001]	0.002*** [0.001]		0.008*** [0.000]	0.002*** [0.001]
(Log lender lobbying expenditures on specific issues -- alternative measure)t-1			0.005*** [0.001]		
[Log (lender lobbying expenditures on specific issues/assets)]t-1					
Log (assets of lender)	0.006*** [0.001]	0.004*** [0.000]	0.006*** [0.000]	0.006*** [0.000]	0.006*** [0.000]
Market share of lender in MSA	3.017*** [0.111]	2.032*** [0.069]	3.011*** [0.090]	3.018*** [0.090]	3.017*** [0.090]
Log (income of applicants of loans originated by lender)	-0.031*** [0.002]	-0.014*** [0.001]	-0.031*** [0.001]	-0.031*** [0.001]	-0.031*** [0.001]
Number of observations	406,035	399,984	406,035	406,035	406,035
MSA fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Lender fixed effects	Yes	Yes	Yes	Yes	Yes
MSA*year fixed effects	Yes	Yes	Yes	Yes	Yes

Lobbying on specific issues refers to lobbying on bills and regulations related to mortgage lending (such as consumer protection laws) and securitization. In column [2], we drop the top and bottom first percentile of loan-to-income ratio and lobbying expenditures. In column [3], lobbying expenditures on specific issues is estimated by splitting total lobbying expenditures among various issues using share of lobbying reports noting the specific issues as weights. Column [5] uses an alternative measure of lobbying expenditures which includes expenditures by associations to which the lenders are associated. The lobbying expenditure of associations is split among the members in accordance with the size of the lenders. See text for details. Standard errors denoted in parentheses are clustered at the MSA-level in column [1] and lender-MSA level in columns [2]-[5]. ***, ** and * represent statistical significance at 1, 5 and 10 percent, respectively.

