Journal of Banking & Finance 60 (2015) 76–92

Contents lists available at ScienceDirect

Journal of Banking & Finance

journal homepage: www.elsevier.com/locate/jbf

Political power, economic freedom and Congress: Effects on bank performance ☆

Daniel M. Gropper [a,1], John S. Jahera Jr. [b,*], Jung Chul Park [c,2]

[a] Department of Finance, College of Business, Florida Atlantic University, Boca Raton, FL 33431, United States
[b] Department of Finance, Harbert College of Business, 303 Lowder Hall, Auburn University, Auburn, AL 36849, United States
[c] Department of Finance, Muma College of Business, University of South Florida, Tampa, FL 33620, United States

ARTICLE INFO

Article history:
Received 21 May 2014
Accepted 3 August 2015
Available online 6 August 2015

JEL classification:
G21
G18

Keywords:
Political effects
Government regulation
Economic freedom
Bank performance

ABSTRACT

This paper studies the linkages between bank performance, connections to powerful politicians, and the degree of economic freedom in a bank's home state. We find that bank performance is positively related to state economic freedom. We also reconfirm the finding of Gropper et al. (2013) that bank performance is improved by political connections. However, the positive effect of political connections appears to be significantly reduced when there is a higher degree of economic freedom in the state, indicating that political connections may matter less to banks when there is more economic freedom. Economic freedom in a state can have a beneficial effect on state economic growth and hence may outweigh any political connection benefits. However, the declines in state economic freedom in recent years could make political connections potentially more valuable to banks.

1. Introduction

The link between firm performance and political connections and influence has long captured the interest and attention of researchers across the spectrum of business and politics. This is particularly important for firms in more highly regulated industries where a simple change in either law or regulatory policy can result in significant costs, or open new profitable opportunities. Firms in such industries may devote a great deal of time and resources toward lobbying efforts directed at influencing elected officials, regulators, or public opinion. There has been much research that demonstrates the importance of such political connections not only in the U.S. but also in other countries (Fisman, 2001; Johnson and Mitton, 2003; Faccio, 2006; Faccio et al., 2006; Ferguson and Voth, 2008; Bunkanwanicha and Wiwattanakantang, 2009; Niessen and Ruenzi, 2010; Chaney et al., 2011; Cingano and Pinotti, 2013; Amore and Bennedsen, 2013, among others).

The specific strategies undertaken by firms vary from making political campaign contributions and lobbying expenditures (Cooper et al., 2010; Hill et al., 2013), having family ties with local politicians (Amore and Bennedsen, 2013), building the social network of educational backgrounds (Do et al., 2012, 2014), having top officers and large shareholders who enter politics (Faccio, 2006; Faccio et al., 2006), to the selection of former politicians for seats on the firm board of directors (Goldman et al., 2009, 2013). According to Kim et al. (2013), many firms use a multi-faceted approach to gaining influence. Clearly, the overall goal is to insure that the business environment for the firm and industry is such that adequate profits can be earned.

A question arises as to the business and economic environment where such influence proves to be most important. In this research, we investigate how the degree of economic freedom in the respective states affects bank performance and how it interacts with the importance of political connections. That is, if a bank operates primarily in a state that is characterized by a greater degree of economic freedom, then does political influence still carry much importance?

We focus on the banking industry given the high level of regulatory oversight. Such a high level of oversight may suggest that

☆ We would like to express our appreciation to the anonymous referees for their valuable comments that have resulted in a significantly improved paper.
* Corresponding author. Tel.: +1 (334) 844 5344; fax: +1 (334) 844 4960.
E-mail addresses: dgropper@fau.edu (D.M. Gropper), jaherjs@auburn.edu (J.S. Jahera Jr.), jpark5@usf.edu (J.C. Park).
[1] Tel.: +1 (561) 297 3635; fax: +1 (561) 297 3638.
[2] Tel.: +1 (813) 974 2081; fax: +1 (813) 974 3084.

http://dx.doi.org/10.1016/j.jbankfin.2015.08.005
0378-4266/

political connections and influence become even more valuable. The industry has witnessed many significant legislative actions with major changes occurring since the early 1980s, beginning with the Depository Institutions Deregulation and Monetary Control Act of 1980. Since the 1980s, legislation has removed prior restrictions, so that now full interstate banking is allowed, with subsequent consolidation in the industry and decline in the number of banks from over 15,000 to under 7000. The entire financial sector has been affected more recently by the Dodd–Frank Act, which was enacted largely in response to the latest financial crisis. In essence, the banking environment has changed considerably and will likely continue to change as the U.S. Congress acts in response to economic conditions and as the regulations which flesh out Dodd–Frank are fully developed (Barth et al., 2012). The U.S. Congress is often a reactive body rather than proactive as we have seen with Dodd–Frank and more recently the Jumpstart Our Business Startups Act of 2012. In a recent paper, Gropper et al. (2013) analyze the banking industry and the role elected members of the U.S. Congress play in their positions as chair of their respective banking committees. They provide evidence that banks headquartered in states where a Senator or member of the House of Representatives serves as the chairman on their respective banking committee in Congress outperform banks headquartered in other states.

In this paper we examine whether political connections provide any measurable benefits to banks in a particular state and whether such effects are mitigated by the economic environment in that state. To operationalize this question, we consider both profitability and stock performance of banks and use the Economic Freedom Index of the States to capture the overall economic environment in a particular area. Further, we examine such connections in the context of financial crises.

Our tests clearly show that state economic freedom is highly and positively related to a local bank's stock performance. We measure return on assets and find that high economic freedom leads to economically large ROAs. For instance, an increase in economic freedom by 0.5215 (one standard deviation in the sample) is associated with an increase of 0.71% in ROA, compared to the mean ROA of 0.84%. In the following tests, we confirm the finding in Gropper et al. (2013) showing that banks generate significantly higher ROAs when their headquarters are located in the states where a senator or member of the U.S. House of Representatives is the chair of their respective banking committee in Congress. More importantly, we find that the positive effect of the bank committee chair on the home state bank's ROA is significantly impacted by the degree of economic freedom in the state.

This pattern persists when we test bank stock performance. Buying and holding the banks that get a positive chair effect generates a significantly higher abnormal return. The average buy-and-hold-abnormal-return (BHAR) is increased up to 11.15% a year when invested in those banks that are located in less economically free states that also have a local politician serving as a chair in the respective Congressional bank committee. However, this impact on firm performance is not found for those banks headquartered in states with a high level of economic freedom. Therefore, we conclude that, while there is a significant political influence on local bank performance in the banking industry, that effect may be limited in the areas that are characterized as more economically free. However, our results also suggest that the declines in state economic freedom in recent years could make political connections potentially more valuable to banks.

This study contributes to the literature by providing an important piece of evidence in understanding the financial implications of political connections suggested by the recently established stream of research. We show that the effects of political connections should be carefully analyzed because they are substantially affected by the conditions and characteristics of specific business environments.

It is worth emphasizing that our results hold when we consider the nature of endogenous relationships and self-selection bias. We address potential concerns regarding these problems in three ways. First, we examine bank performance related to changes in the chair position for the respective member of the U.S. House or Senate. The results indicate that bank performance does indeed improve subsequent to their home state representative or senator assuming the chair position of the relevant committee. Consistent with other results, however, the positive impact from a home state committee chair would be captured primarily for banks that also experience less positive changes in economic freedom. Second, we conduct a propensity score matching analysis, which has become popular to resolve an issue related to self-selection bias. The average effect of the bank committee chair on bank performance is positive and significant only for the sample with low economic freedom. The effect turns to be insignificantly negative for the high economic freedom group. Third, we analyze whether or not our findings could be attributed to the fact that economic freedom may be highly correlated with other state characteristics, such as the level of bank business in the state, political corruption, and state size, and thus those other factors may be driving our results. We find that the positive relations of bank chair and economic freedom to a bank's ROA and the negative interaction effect are not altered by the addition of these variables. Based on these test results, we conclude that our results hold even after control for endogenity and self-selection. At the end of the paper, we show that our results are robust to the alternative methods of measuring key variables as well as to the various econometric models that control for state-, regulatory-, bank-, and year-fixed effects and clustering at the bank level.

Our study is structured as follows. The next section relates this study to the existing literature and provides expectations, followed by hypothesis development in Section 3. Section 4 includes the description of data sources and sample selection procedure. Section 5 discusses the methodology and shows the empirical results on the relations of the state economic freedom to bank chair effects. Section 6 provides the analysis of stock performance measures. Finally, the last section summarizes our study and concludes.

2. Related literature

The general research into the relationship between firm performance and political connections is varied and covers a broad array of issues. Obviously, firms have utilized various ways of connections because such connections are strongly believed to provide them substantial benefits. This expectation has been demonstrated by many studies. For example, Faccio (2006) finds that the market positively greets announcements where a CEO, other executives, and large shareholders take a political position. Goldman et al. (2009) show that when firms that have a board member who was connected to the winning party (the Republican Party) in the 2000 U.S. presidential election, the firm experienced significant and positive abnormal returns around the election dates. Moreover, these connected firms get a significant and large increase in procurement contracts after the election (Goldman et al., 2013). Others have focused on lobbying efforts and expenditures as a means of building connections and political influence (Alexander et al., 2009; Richter et al., 2009; Yu and Yu, 2011; Hill et al., 2013). In another take on gaining influence, Cooper et al. (2010) relate corporate campaign contributions to firm returns. They find a positive and significant correlation between the level of campaign contributions and firm returns. They also find what

can be called a home state bias. That is, the correlation between contributions and returns tends to be greater for firms which provide support for political candidates in the home state of the firm.

Concern over political connections and influence is not limited to the U.S.[3] In a comprehensive set of cross-country data, Faccio (2006) and Faccio et al. (2006) define political connection as having a company official in some high ranking position within the government in the home country. In their analysis, Faccio et al. (2006) conclude that firms with political connections do benefit in terms of government assistance and bailouts.

Political and interest group motivations in banking regulation have been studied extensively; see for example Kroszner and Strahan (1999) and Kroszner (2001). With regard to banks, Levine (2004) offers a strong justification for why banks are different. He highlights two unique attributes of banks that make them different in practice. After reviewing the major governance concepts for corporation, he insists that banks present greater opaqueness and face greater government regulation. More specifically, he notes that banks have a greater ability to adjust their risk levels and also to "hide" problems as compared to non-financial firms. A second point he makes is the significant regulation that banks face. He says that "at the extreme, banks are government owned." In addition, Laeven and Levine (2009) show the various effects of bank regulations on bank risk taking depending on the bank's corporate governance structure. Hence, one would expect that such regulation could well be affected by or influenced by political forces. For our purposes, the study of banks further avoids any issues regarding inter-industry differences and allows for clearer analysis and conclusions.

3. Hypothesis development

More specific to the U.S. banking industry is a recent paper by Gropper et al. (2013). They considered a similar issue of political influence but did not include any state specific factors such as the economic climate. In that work, the results did indicate that being located in a state with an elected member of the US House or Senate who also chaired a respective banking committee was beneficial in terms of higher returns. Gropper et al. (2013) do not claim that such committee chairs provide any direct "favors" for constituent banks but nonetheless the data does show higher returns. The gains in returns could be related to greater accessibility to information as the House or Senate chairs return to their home states and meet with various bankers and banking organizations. This information flow can go two ways as bankers will use such opportunities to convey their views of any pending legislation and the elected officials can discuss potential legislation and get feedback.

Political connections in the banking industry are extensively examined in relation to the Troubled Asset Relief Program (TARP) during the recent financial crisis. In recent studies, banks with political connections are more likely to receive TARP capital injections (Bayazitova and Shivdasani, 2012; Li, 2013; Duchin and Sosyura, 2012, 2014; Berger and Roman, 2015). Duchin and Sosyura (2012) use several measures of political influence including any connections members of a bank board may have had to members of Congress or banking regulators. They also consider bank representation on the U.S. House Financial Services Committee, the level of political campaign contributions and the amount of lobbying expenditures. In summary, they find that firms that are more politically connected had a greater chance of receiving TARP funding. Blau et al. (2013) also look at banks that received TARP funding and conclude that firms that have political connections and/or expended funds on lobbying have a greater probability of receiving TARP funds.

A number of recent papers have further addressed the TARP issue and the implications for banks. Berger and Roman (2015) show that banks that received TARP funding are able to increase market shares and market power relative to those not receiving funding. The implication is that such benefits accrued to those banks that repaid the TARP funding early. Hence, Berger and Roman (2015) contend that this is indicative of such institutions being viewed as "safer." Cornett et al. (2013) also examine bank performance considering the pre-crisis condition of banks. They find that the probability of gaining TARP funding was indeed different for banks they categorize as "under achievers" or "over achievers."

There have been many studies in economics to link economic freedom and growth. In this research domain, economic freedom has been shown to be positively related to economic growth.[4] Gwartney et al. (1996) develop the Fraser Institute's measure of economic freedom of the world, and they find that the countries with the highest economic freedom scores have an average annual growth rate of per capita real GDP of 2.4%, while those with the lowest economic freedom scores have an average of negative 1.3% during the 1980–1994 period. They also find that countries with most improvement in economic freedom present higher rates of growth. One study by Lawson and Roychoudhury (2008) examines state level economic freedom and equity returns. They consider the time period from 1981 to 2000 and utilized a large sample of firms with over 7000 firm returns in 2000. Their overall conclusion is that firms operating in states deemed to be more economically free do display higher equity returns.

Based on the literature, we expect that economic freedom in the states is positively related to bank performance. Therefore, banks in a state with a high level of economic freedom may not need to exploit political influence, and the marginal benefits from political connections would be small. The political effects found in Gropper et al. (2013) are expected to be stronger in areas that are less economically free.

The theoretical underpinning for this research is the issue of frictions in the marketplace for banks. These frictions from the higher level of regulatory oversight create distortions in the competitive environment for banks. As Berger and Roman (2015) note with regard to the TARP program, such distortions may have resulted in a misallocation of resources. In our hypotheses, we contend that any frictions caused by what some may view as burdensome regulatory oversight can be mitigated to some degree through effective political connections. Such connections need not be explicit but can be implicit where it is difficult to demonstrate any specific quid pro quo. However, evidence suggests that it does indeed pay to know people in high places. Banking is no exception.

In terms of the relationship between political connections and economic freedom in a state, a priori, it is not clear that these two items act as substitutes or as complements. One can make an argument however that in a state that has a high level of economic freedom, firms are already able to position themselves for higher returns. Hence, any benefits from political connections may not be as great. Further, our measure of political connection captures a more implicit benefit in that no politician will admit

[3] It has already been convincingly shown that political connections have a significant effect in the financial markets not only in less transparent countries such as Indonesia (Fisman, 2001), Malaysia (Johnson and Mitton, 2003), Thailand (Bunkanwanicha and Wiwattanakantang, 2009), and Italy (Cingano and Pinotti, 2013) but also in accountable systems including Germany (Ferguson and Voth, 2008; Niessen and Ruenzi, 2010) and Denmark (Amore and Bennedsen, 2013).

[4] The literature related to the effect of economic freedom to economic growth and development is extensively summarized in De Haan et al. (2006).

to showing favorable treatment to firms in their home state. This is as opposed to some studies that have utilized direct measures such as lobbying expenditures, etc. In terms of political connections and economic freedom, that case is much less clear however.

We develop empirical models to test the hypothesis that political connections and economic freedom, in essence, act as substitutes and not complements for banks. That is:

H1a. Banks in states defined as economically free exhibit higher performance levels.

H1b. Banks in states defined as economically free exhibit lower performance levels.

Next, we introduce the issue of political connections defined as having an influential member of the U.S. House or Senate from the home state. More specifically, we test the following hypotheses.

H2a. Banks in states with strong political connections exhibit stronger performance.

H2b. Banks in states with strong political connections exhibit weaker performance.

In addition to the above hypothesis, we combine the information to consider the performance implications of political connections while also considering the level of overall economic freedom in the specific state.

H3a. Banks in states with high economic freedom levels do not benefit from strong political connections.

H3b. Banks in states with high economic freedom do benefit from strong political connections.

The following section discusses our data as well as the details of the empirical tests done regarding the above hypotheses.

4. Data and sample selection

We collect all firm-year observations for firms with Standard Industry Classification (SIC) code of 6020, which includes commercial banks, for a sample period, 1989–2010, drawing from both CRSP as well as Compustat. We choose this time frame because meaningful regulatory changes in banking industry were made frequently in this period. We focus only on the chair position instead of including the entire congressional membership of the banking committee in our study of political influences on banks. As discussed in Gropper et al. (2013), if the states of all members in the banking committee are considered, too many states (especially for the House) are included in the politically connected group (e.g. almost every bank would be considered politically connected). Moreover, the chairs of the committees are regarded as the members who are by far the most politically influential. It is the chair who has the ability to schedule hearings and committee votes. Hence the chair has significant power to either push legislation through the process or to delay or squash legislation. Therefore, in our study we focus on the chair as the key position of political influence.

We extract historical information on state economic freedom from the Fraser Institute (http://www.freetheworld.com/). The Fraser Institute prepares an annual index of economic freedom for North America. We use the state level index for our research purposes (Stansel et al., 2014). The Economic Freedom of the States Index is designed to summarize the overall economic climate of a particular state by collapsing a large number of business related factors into one easy to use index. The index is comprised of a number of factors selected to capture three main elements: the size of government, takings and discriminatory taxation, and regulation. The index is a relative index with a score of 10 representing the highest level of economic freedom.[5]

The first graph in Fig. 1 presents the average value of economic freedom scores for each state over the sample period, 1989–2010. Delaware is the only state that shows an average value (8.06), which is higher than 8, followed by Texas (7.60), North Carolina (7.42), Georgia (7.42), and New Hampshire (7.41). The average score ranges downs to about 5.5. At the bottom part of the distribution, the five states include Maine (6.04), New Mexico (6.03), Mississippi (5.97), Montana (5.86), and West Virginia (5.51). The second figure shows the average value of economic freedom by year. The economic freedom index has been substantially reduced since 2004. This reflects the increased size of government, more discriminatory taxation, and newly introduced regulations due to the recent credit crisis.

Stock price data for the banks are obtained from the Center for Research in Security Prices (CRSP). The annual data on accounting variables as well as the geographic location of firm headquarters is from the Compustat data file. To be included in the final sample, firms must have financial and accounting data on both CRSP and Compustat. Firms in the District of Columbia are excluded since the political variables are only for the states. Following prior research (Fahlenbrach and Stulz, 2011; Gropper et al., 2013), small banks whose total assets are less than $1 billion are excluded. The result is a final sample of 410 commercial banks with 3835 bank-year observations.

The biographical and political information has been hand gathered from *Wikipedia* (http://www.wikipedia.org/) and other sites such as *Biographical Directory of the United States Congress* (http://bioguide.congress.gov/biosearch/biosearch.asp). The data includes information on the controlling parties in Congress as well as biographical information about the chairmen of the respective banking committees in the U.S. Congress. We present descriptive statistics for the banking committee chairs in Appendix A. We find six different chairs in the Senate and four different chairs in the House of Representatives over the 11 Congresses, from 101st to 111th. The party affiliation is evenly distributed with three Democrats and three Republicans from the Senate group. The House group has two Democrats and two Republicans.

In our robustness tests, we examine whether the effects of economic freedom are correlated with other state characteristics. We consider three dimensions of state level characteristics such as bank business environment, political corruption, and state size, measured by state population. We use U.S. Census Bureau (http://www.census.gov) information to construct population estimates and rely on the U.S. Department of Justice Public Integrity Section (http://www.usdoj.gov/criminal/pin/) for extracting public officials' corruption data.

Table 1 provides a summary of the descriptive statistics for the data utilized in this study. In Panel A, we present information for 832 state-year observations. Of primary interest is the level of economic freedom for the included states. The mean economic freedom index value is 6.79 of a possible 10 points, with a range from 5.16 to 8.41. In terms of the chair effect, we include six Senate chairs and four chairs from the U.S. House of Representatives over the time period under consideration. They represent nine different states. Interestingly, the party affiliation is equally divided over that time period also reflecting the ebb

[5] This index has been widely used for various topics. For instance, Belasen and Hafer (2012) use it in their study of wellbeing in the states. Campbell et al. (2010) examine the index to predict income for the states, while Apergis et al. (2012) relate corruption to economic freedom.

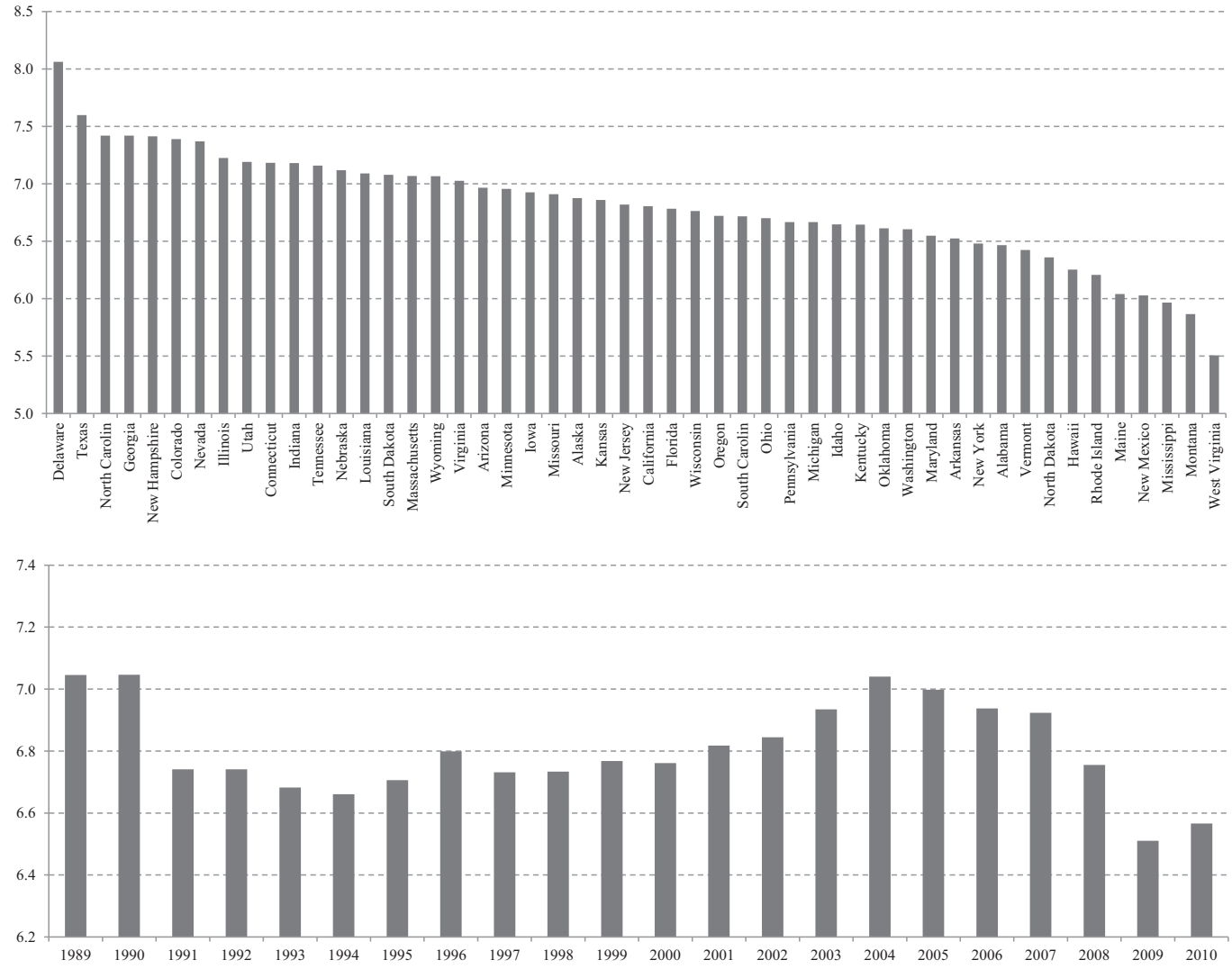

Fig. 1. Average values of economic freedom. The first figure shows the average value of economic freedom for each state over the sample period, 1989–2010, while the second figure shows the average value of economic freedom by year. The historical information on state economic freedom is extracted from the Fraser Institute (http://www.freetheworld.com/).

and flow of political power in Washington, D.C. About five commercial banks, on average, belong to one state. We find that the average state population over the sample period is 6.70 millions and 3.41 convictions out of one million residents.

The descriptive statistics for firm-year variables for 3835 firm-years are documented in Panel B. The average return on assets (ROA) for the banks included is 0.84%. The average firm in the sample has an income of $200M with total assets of $22.2B. The book-to-market ratio is around 0.94. We find the average capital ratio of 10.97%. The ratio of non-performing loans to total assets is 0.74%. The banks in the sample present an average monthly return of 0.97% and a buy-and-hold abnormal return of 0.44% over the year.

5. Findings

5.1. Economic freedom and bank performance

We begin by examining the effect of economic freedom on local bank performance in the regression where return on total assets is used to proxy for bank's performance in its operation. The empirical model is:

$$\begin{aligned} ROA_t = {} & \beta_0 + \beta_1\, Economic\ freedom_{t-1} + \beta_2\, Size_{t-1} \\ & + \beta_3\, Book\text{-}to\text{-}market_{t-1} + \beta_4\, Capital\ ratio_{t-1} \\ & + \beta_5\, Non\text{-}performing\ loans_{t-1} + \sum \beta s\ State \\ & + \sum \beta s\ Regulatory, \end{aligned} \tag{1}$$

where *Size* is measured by the natural log of one plus total assets. *Book-to-market* is computed by the ratio of total assets to the market value of firm. *Capital ratio* is the ratio of total equity to total assets. *Non-performing loans* are the sum of loans 90+ days late and total loans not accruing divided by total assets. We then include the state-fixed and regulatory-fixed effects.

The results in Table 2 are consistent and not surprising. Banks located in states with a greater level of economic freedom as measured by the index do enjoy a higher return on assets. The positive effect of economic freedom is not only statistically significant but also economically sizeable. The estimated coefficient on economic freedom in Model [I] is 0.0137 with a *t*-statistic of 18.85. The estimate implies that if we make an increase in economic freedom by one standard deviation, 0.5215, the associated increase in ROA is 0.71%. This implied value is very large given the fact that bank

Table 1
Descriptive statistics.

	Mean	Standard deviation	Minimum	25th percentile	Median	75th percentile	Maximum
Panel A: State-year variables (N = 832)							
Economic freedom	6.7929	0.5215	5.1564	6.4998	6.8043	7.1365	8.4101
Chair	0.0517	0.2215	0.0000	0.0000	0.0000	0.0000	1.0000
Bank clustering	5.1418	4.3683	1.0000	2.0000	4.0000	7.0000	28.0000
Political corruption	3.4125	2.7820	0.0000	1.5916	2.8604	4.6035	24.5656
State population (in millions)	6.7047	6.5621	0.5352	2.6930	4.9056	8.2433	37.2540
Panel B: Firm-year variables (N = 3835)							
Return on assets	0.0084	0.0094	−0.0459	0.0073	0.0102	0.0127	0.0207
Asset growth	0.0784	0.0885	−0.1581	0.0211	0.0731	0.1311	0.2869
Income before extraordinary items	200	933	−5611	13.2740	27.3460	90.0310	21111
Total assets	22240	109432	348	1583	3011	9459	2223299
Size	22.2271	1.3905	19.6684	21.1825	21.8255	22.9703	28.4300
Book-to-market	0.9417	0.1584	0.6090	0.9049	0.9456	0.9793	10.0679
Capital ratio	0.1097	0.1282	0.0000	0.0730	0.0849	0.1010	1.0000
Non-performing loans	0.0074	0.0108	0.0000	0.0019	0.0043	0.0085	0.1778
BHAR	0.0044	0.3683	−1.1472	−0.2094	−0.0134	0.1963	3.2781
Average monthly return	0.0097	0.0294	−0.1996	−0.0042	0.0112	0.0267	0.1534
Past return	0.1397	0.3636	−0.9653	−0.0702	0.1117	0.3334	3.4167
Volatility	0.0224	0.0121	0.0026	0.0151	0.0191	0.0252	0.0990

This table provides descriptive statistics for the sample. *Economic freedom* = the state-level index of economic freedom. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Bank clustering* = the number of commercial banks whose total assets are greater than 1 billion dollars in the state. *Political corruption* = measured by the number of public officials' convictions divided by state population (in millions). *State population* = state's total population. *Return on assets* = the ratio of income before extraordinary items to total assets. *Asset growth* = the growth rate of total assets between year $y-1$ and year y. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. *BHAR* = the buy-and-hold abnormal return over 12 months, computed as the difference between the firm's buy-and-hold return from January to December of year y and the mean buy-and-hold return of the matched group over the same period. *Average monthly return* = the average monthly return from January to December of year y. *Past return* = firm's return from January to December of year $y-1$. *Volatility* = the standard deviation of daily returns over the year.

Table 2
Economic freedom and bank performance.

Dependent variable: *Return on assets*	[I]	[II]
Economic freedom	0.0137***	0.0088***
	(18.85)	(13.11)
Size		0.0006***
		(5.42)
Book-to-market		−0.0053***
		(−6.48)
Capital ratio		−0.0039***
		(−3.64)
Non-performing loans		−0.3436***
		(−27.73)
Constant	−0.0820***	−0.0513***
	(−14.71)	(−8.89)
State-fixed effects	Yes	Yes
Regulatory-fixed effects	Yes	Yes
N. of observations	3835	3835
R-squared	0.1426	0.3048

Panel A reports the estimated coefficients of the bank performance regression. *Return on assets* = the ratio of income before extraordinary items to total assets. *Economic freedom* = the state-level index of economic freedom. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. *** Indicates significance at the 1% level.

performance is generally low compared to other industries in our sample period. As reported in Table 1, the mean and median ROA is 0.84% and 1.02%, respectively. Being located in the more economically free states is associated with a large improvement in ROA.

This is expected as banks and possibly other firms have greater freedom to operate. If there is any surprise, it is that even in the face of the significant federal regulatory environment faced by banks, they still do better in states where economic freedom is greater. This higher level of performance may be related to the fact that business customers of banks do better in more economically free states. In other words, when banks have a customer base that is doing well, then one would expect banks to do well also.

This strong relation between economic freedom and bank ROA persists when we include other controls in Model [II]. The coefficient on economic freedom drops to 0.0088, but is still strongly significant with a *t*-statistic of 13.11. The estimated coefficients on *size* and *book-to-market* indicate that large and growing banks generate better returns, consistent with findings in Fahlenbrach and Stulz (2011). Banks with low capital ratios and non-performing loans also present higher performance. All of the controlling variables present statistical significance at the l% level.

5.2. Economic freedom, chairing the banking committee, and bank performance

This sub-section incorporates the political variable, *chair*, into the analysis. Table 3 provides a univariate test by comparing the mean values of return on assets after double-sorting on economic freedom (two groups, *low* and *high*) and the bank chairmanship (two groups, *chair* and *not chair*). The first column shows the mean of ROA for low economic freedom groups. On average, ROA is 0.82% when banks are located in the *not chair* states. It increases to 1.09% for banks whose headquarters is located in states where a Senator or member of the House of Representatives serves as the chairman on their banking committee in Congress. The difference between the two groups, 0.27%, is not only economically large but also statistically significant at the 1% level.

However, if we pay attention to the high economic freedom group, we find that mean values of ROAs are very similar between the *chair* and *not chair* banks and the difference (−0.09%) is statistically insignificant. Among the four sub-samples, the highest ROA is found from the chair state banks in low economic freedom areas, which is in line with the findings of positive political effects in the previous studies.

In Table 4, we provide results of our regression analysis. Model [I] includes the chair and economic freedom variables and adds the interacted variable. The coefficient of *Chair* is positive and significant in both models, as is the coefficient on *Economic*

Table 3
Economic freedom, chairing the banking committee, and bank performance.

	Low economic freedom	High economic freedom	High–low [*p*-value]
Not chair	0.0082	0.0084	0.0002 [0.2936]
Chair	0.0109	0.0075	−0.0034*** [0.0001]
Chair–Not chair [*p*-value]	0.0027*** [0.0002]	−0.0009 [0.2070]	

This table reports the mean values of *return on assets* and computes the mean differences between the sub-samples. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* indicates that the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress. *Not chair* indicates that the bank is located in the state where none of the state's Senators or House Representatives is the chair on the banking committee in Congress. Banks are included in high (low) *economic freedom* group if their *economic freedom* is higher (lower) than the median value, where *economic freedom* = the state-level index of economic freedom. ***Indicates significance at the 1% level.

Freedom. The interaction term of *Chair * Economic Freedom* is negative and significant. This evidence indicates that the positive chair effect is reduced when banks are located in more economically free states. It is conceivable that being in a state with a high level of economic freedom means that banks simply do not need to exploit political influence, and that the marginal benefits from political connections are not that strong. This is what one would expect in a well-functioning, more free economic and business environment.

In Model [II] we control for high economic freedom using an indicator, which takes a value of 1 if the state's economic freedom value is higher than the median value, and a value of 0 otherwise. We find that the results with the high economic freedom indicator are similar. The *Chair* variable alone is positive and significant, while the interaction term is again negative and significant at the 1% level. The two coefficients on *Chair* and *Chair * High economic freedom* suggest that banks in states with low economic freedom get larger positive effects on ROA from the *Chair*, while that effect is significantly reduced for banks headquartered in states with higher than the median *Economic freedom*.

The measure we use throughout the paper is the aggregated index that combines the three components (size of government, takings and discriminatory taxation, and regulation), which can make it difficult to draw policy conclusions. Therefore, it is

Table 4
Economic freedom, chairing the banking committee, and bank performance.

Dependent variable: *Return on assets*	Aggregated index of economic freedom		Economic freedom components		
			Government size (G)	Taxation (T)	Regulation (R)
	[I]	[II]	[III]	[IV]	[V]
Chair	0.0329*** (3.11)	0.0022*** (3.08)	0.0154*** (5.44)	0.0065* (1.68)	0.0098** (2.13)
Economic freedom	0.0089*** (13.24)				
*Chair * Economic freedom*	−0.0047*** (−3.04)				
High economic freedom		0.0017*** (3.28)			
*Chair * High economic freedom*		−0.0045*** (−3.86)			
Economic freedom^G			0.0027*** (11.35)		
*Chair * Economic freedom^G*			−0.0023*** (−5.05)		
Economic freedom^T				0.0015*** (3.91)	
*Chair * Economic freedom^T*				−0.0009 (−1.50)	
Economic freedom^R					−0.0005 (−1.58)
*Chair * Economic freedom^R*					−0.0015** (−2.02)
Size	0.0006*** (5.34)	0.0006*** (5.05)	0.0006*** (5.49)	0.0006*** (5.27)	0.0005*** (4.94)
Book-to-market	−0.0053*** (−6.47)	−0.0062*** (−7.38)	−0.0055*** (−6.65)	−0.0060*** (−7.15)	−0.0066*** (−7.73)
Capital ratio	−0.0040*** (−3.76)	−0.0047*** (−4.38)	−0.0037*** (−3.42)	−0.0047*** (−4.32)	−0.0044*** (−4.03)
Non-performing loans	−0.3416*** (−27.57)	−0.3785*** (−30.70)	−0.3350*** (−26.29)	−0.3766*** (−30.49)	−0.3823*** (−30.59)
Constant	−0.0517*** (−8.97)	0.0112*** (3.49)	−0.0024 (−0.70)	−0.0012 (−0.25)	0.0160*** (4.21)
State-fixed effects	Yes	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes	Yes
N. of observations	3835	3835	3835	3835	3835
R-squared	0.3068	0.2775	0.2988	0.2765	0.2749

This table reports the estimated coefficients of the bank performance regression. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *High economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher than the median value, and a value of 0 otherwise. *Economic freedom^G* = the state-level index of economic freedom solely based on the size of government. *Economic freedom^T* = the state-level index of economic freedom solely based on takings and discriminatory taxation. *Economic freedom^R* = the state-level index of economic freedom solely based on regulation. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

interesting to investigate what specific types of economic freedom components are important for bank performance.

We create three individual measures solely based on each component and present the results in Models [III] to [V]. The results show that our finding is strongly supported by the economic freedom components related to the size of government and regulation. However, we find that the measure based on takings and discriminatory taxation does not generate significant relationships.

We conduct an additional analysis to distinguish between chairs in the Senate and those to the House of Representatives as these could be different as explained by Duchin and Sosyura (2014). We create three different *Chair* variables. First, we make a district-level dummy if the bank is located in the district where the Representative is the chair on the House banking committee. Second, we make a state-level dummy for any House Representative in the same state where a bank headquarters is located. Third, we create a state-level dummy for a Senator who is the banking committee chair.

As reported in Table 5, the chair effect and the reduction in the effect on banks in the areas with high economic freedom are more pronounced with the chair measure that uses the district-level link. These patterns are not found for the measure that solely uses the Senate position measure. This finding suggests that since election districts for the House are substantially smaller, a closer link between a politician and firms headquartered in his district is likely to exist.

As a further refinement, we consider the effects while controlling for bank charter type. These results are given in Table 6. We separately test for large (small) national chartered banks and for large (small) state-chartered banks. For banks to be included in the large (small) national charter group, they need to be chartered nationally and the bank size must be greater (smaller) than the median value. For banks to be included in the large (small) state chartered group, they need to be chartered by the respective state and the bank size must be greater (smaller) than the median value.

The effects of the banking committee chair and the interaction for large banks are not significant. In particular, the effects are weakest for large national charter group. One may expect such a finding given that national banks tend to be larger and more geographically dispersed in their operations. Hence any state level economic freedom effects may be mitigated due to this geographic dispersion. As can be seen in Table 6, the major significance is strong for small banks. The size of negative interaction is −0.0067 and −0.0055 for small national charter and small state charter groups, respectively, which are relatively larger than −0.0047 for the whole sample in Model [I] of Table 4. This evidence indicates that the sensitivity of political effect is more affected by bank size than charter type, and the variation of chair effect is larger for small-sized banks.

It is known that many banks suffered losses during the crisis, and a large number even had to be bailed out. Therefore, the results we find may be different during financial crises compared to normal time periods. This is particularly true given the heightened level of legislative activity as Congress moves to enact legislation designed to avert future crises. Clearly, many legislative acts have been passed in response to a specific crisis making political connections more important during the formulation of such legislation. Therefore, it is interesting to know if economic freedom and political connections help banks improve their performance more or less during the financial crises.

We follow Berger and Bouwman (2013) in defining periods of financial market crises. Since our data are based on yearly information, we set financial crises including the 11 years 1987, 1990–1992, 1998, 2000–2002, and 2007–2009. All other years are regarded as the normal periods. As seen in Table 7, many of the coefficients are not statistically significantly different from each other between crisis and normal periods. For instance, we find that the coefficient on the interaction term *(Chair * Economic freedom)* is not statistically significantly different across the two periods. However, we do find that the coefficient on *Economic freedom* is significantly larger in the crisis periods. We also find that the *Chair* coefficient is positive in both normal and crisis periods, and larger and statistically significant in normal periods; however these two positive coefficients are not statistically significantly different from each other across the periods. Our results also show that the effects of *Book-to-market* and *Non-performing loans* are significantly different across crisis and normal periods.

Table 5
Chairs in House vs. chairs in Senate.

Dependent variable: *Return on assets*	Chair in house – district level [I]	Chair in house – state level [II]	Chair in Senate [III]
$Chair^{House\text{-}District}$	0.4077***		
	(3.07)		
$Chair^{House\text{-}State}$		0.0390**	
		(2.01)	
$Chair^{Senate}$			0.0096
			(0.71)
Economic freedom	0.0089***	0.0089***	0.0089***
	(13.26)	(13.16)	(13.24)
$Chair^{House\text{-}District}$ * *Economic freedom*	−0.0550***		
	(−3.15)		
$Chair^{House\text{-}State}$ * *Economic freedom*		−0.0058**	
		(−2.10)	
$Chair^{Senate}$ * *Economic freedom*			−0.0011
			(−0.52)
Size	0.0006***	0.0006***	0.0006***
	(5.42)	(5.45)	(5.35)
Book-to-market	−0.0053***	−0.0053***	−0.0053***
	(−6.45)	(−6.42)	(−6.50)
Capital ratio	−0.0039***	−0.0039***	−0.0039***
	(−3.70)	(−3.69)	(−3.69)
Non-performing loans	−0.3405***	−0.3421***	−0.3417***
	(−27.48)	(−27.58)	(−27.58)
Constant	−0.0520***	−0.0516***	−0.0517***
	(−9.02)	(−8.95)	(−8.97)
State-fixed effects	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes
N. of observations	3835	3835	3835
R-squared	0.3081	0.3063	0.3069

This table reports the estimated coefficients of the bank performance regression. *Return on assets* = the ratio of income before extraordinary items to total assets. $Chair^{House\text{-}District}$ = a district-level dummy variable that takes a value of 1 if the bank is located in the district where one of the House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. $Chair^{House\text{-}District}$ = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. $Chair^{Senate}$ = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the Senators is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *High economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher than the median value, and a value of 0 otherwise. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. *** and ** indicate significance at the 1% and 5% level, respectively.

5.3. Endogeneity and self-selection bias

So far we have shown that the banking committee chair effect is positive and sizeable. This effect is more pronounced in the areas where the degree of economic freedom is low. However, it is possible that the nature of this relationship is endogenous. Also,

Table 6
Bank size and charter type.

Dependent variable: *Return on assets*	Large national chartered banks [I]	Small national chartered banks [II]	Large state chartered banks [III]	Small state chartered banks [IV]
Chair	0.0116	0.0456***	0.0220	0.0399**
	(0.60)	(2.63)	(1.02)	(1.97)
Economic freedom	0.0035***	0.0019	0.0092***	0.0103***
	(2.83)	(1.44)	(6.77)	(8.10)
*Chair * Economic freedom*	−0.0016	−0.0067***	−0.0031	−0.0055*
	(−0.57)	(−2.61)	(−0.97)	(−1.85)
Size	0.0004*	0.0019***	0.0010***	0.0007
	(1.68)	(2.75)	(3.73)	(1.01)
Book-to-market	−0.0640***	−0.0514***	−0.0594***	−0.0010
	(−13.59)	(−8.45)	(−13.50)	(−1.15)
Capital ratio	−0.0007	−0.0028	−0.0054***	−0.0041
	(−0.44)	(−1.20)	(−3.33)	(−0.62)
Non-performing loans	−0.1544***	−0.3566***	−0.2333***	−0.3996***
	(−7.77)	(−11.89)	(−9.50)	(−16.14)
Constant	0.0422***	0.0149	−0.0150	−0.0690***
	(3.59)	(0.80)	(−1.18)	(−4.16)
State-fixed effects	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes
N. of observations	890	606	1083	1256
R-squared	0.4004	0.4762	0.4822	0.3686

This table reports the estimated coefficients of the bank performance regression. We separately test for large (small) national chartered banks and for large (small) state-chartered banks. For banks to be included in the large (small) national charter group, they need to be chartered nationally and the bank size must be greater (smaller) than the median value. For banks to be included in the large (small) state chartered group, they need to be chartered by the respective state and the bank size must be greater (smaller) than the median value. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *High economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher than the median value, and a value of 0 otherwise. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

it can suffer from a self-selection bias. Therefore, in this subsection we attempt to resolve these issues in three ways.

5.3.1. Cause and effect: change in bank performance following chair events and change in economic freedom

In the first method to address potential endogeneity issues, we examine bank performance related to changes in the chair position for the respective member of the U.S. House or Senate. As was noted by Gropper et al. (2013), high performance banks may be able to exert their political influence with regard to selection of committee chairs from their home state. One means of testing for such potential problems is to look at any performance changes that occur during the time frame of one year prior to any committee change and one year after any change ($\Delta ROA_{y-1,y+1}$).

We code $\Delta Chair_{y-1,y}$ with 1 if none of the state's Senators or Members of the House of Representatives is chair of the banking committee in Congress in the previous year $y-1$, but one of them becomes the chair in year y. In contrast, $\Delta Chair_{y-1,y}$ takes a value of −1 when one of the state's Senators or Representatives was chair in year $y-1$ but none of them holds the chair position in year y. A value of 0 is assigned for the firms whose states do not show any change in chairmanship between year $y-1$ and y. We also compute the change value for economic freedom. $\Delta Economicfreedom_{y-1,y}$ is the difference in economic freedom between year $y-1$ and y. Finally, we calculate the change in ROA around these chair and economic freedom events, i.e. ROAs between year $y-1$ and $y+1$.

Table 7
Financial crises vs. normal periods.

Dependent variable: *Return on assets*	Financial crises [I]	Normal periods [II]	Coefficient difference [I]–[II]
Chair	0.0293	0.0369***	−0.0076
	(1.48)	(3.73)	(−0.37)
Economic freedom	0.0161***	−0.0009	0.0170***
	(13.21)	(−1.34)	(12.86)
*Chair * Economic freedom*	−0.0041	−0.0054***	0.0014
	(−1.41)	(−3.71)	(0.45)
Size	0.0004**	0.0005***	−0.0001
	(2.23)	(4.81)	(−0.27)
Book-to-market	−0.0025**	−0.0546***	0.0521***
	(−2.52)	(−20.20)	(13.80)
Capital ratio	−0.0037*	−0.0032***	−0.0004
	(−1.90)	(−3.35)	(−0.21)
Non-performing loans	−0.3808***	−0.2387***	−0.1420***
	(−18.01)	(−18.84)	(−5.88)
Constant	−0.1036***	0.0654***	−0.1588***
	(−10.26)	(9.92)	(−10.93)
State-fixed effects	Yes	Yes	
Regulatory-fixed effects	Yes	Yes	
N. of observations	1729	2106	
R-squared	0.3459	0.4297	

This table reports the estimated coefficients of the bank performance regression. Financial crises include the years 1987, 1990, 1991, 1992, 1998, 2000, 2001, 2002, 2007, 2008, and 2009 following Berger and Bouwman (2013). All other years are regarded as the normal periods. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

The results indicate that bank performance as measured by ROA does indeed improve subsequent to their home state representative or senator assuming the chair position of the relevant committee. This is confirmed in Models [I] and [II] in Table 8. The effect related to the positive impact from the chair event is sizeable. The estimated coefficient on $\Delta Chair_{y-1,y}$ is 0.0107 with a *t*-statistic of 5.98 in Model [II] where we control for bank characteristics.[6] This evidence suggests that if one of the Senators or House members becomes a new chair of the banking committee, banks in their home state experience a large improvement in return on assets of about 1.07% between one-year before and after the chair event.

Models [III] and [IV] look at performance as related to changes in the economic freedom index. Here, we find that increases in the index are positively related to performance in line with the findings in Table 2. A change by 1 in economic freedom leads to a 1.07% increase in ROA, which is larger than the size of one standard deviation, 0.94%.

More importantly, Model [V] introduces the interaction of the chair change variable with the economic freedom index change

[6] We find that the results hold when we use changes in the controlling variables in lieu of raw values.

Table 8
Change in bank performance following chair events and change in economic freedom.

Dependent variable: $\Delta ROA_{y-1,y+1}$	[I]	[II]	[III]	[IV]	[V]
$\Delta Chair_{y-1,y}$	0.0105***	0.0107***			0.0101***
	(5.89)	(5.98)			(5.69)
$\Delta Economic\ freedom_{y-1,y}$			0.0087***	0.0107***	0.0091***
			(3.69)	(4.42)	(3.76)
$\Delta Chair_{y-1,y} * \Delta Economic\ freedom_{y-1,y}$					−0.0375***
					(−2.79)
Size		0.0003		0.0003	0.0003
		(0.96)		(1.04)	(1.00)
Book-to-market		−0.0003		0.0007	0.0005
		(−0.13)		(0.36)	(0.27)
Capital ratio		−0.0074***		−0.0062**	−0.0067**
		(−2.71)		(−2.27)	(−2.48)
Non-performing loans		0.0999***		0.1370***	0.1304***
		(2.78)		(3.72)	(3.56)
Constant	0.0008	−0.0040	0.0019	−0.0044	−0.0041
	(0.16)	(−0.52)	(0.37)	(−0.58)	(−0.53)
State-fixed effects	Yes	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes	Yes
N. of observations	3443	3443	3443	3443	3443
R-squared	0.0300	0.0347	0.0239	0.0301	0.0417

This table reports the estimated coefficients of state-fixed effect regression. $\Delta ROA_{y-1,y+1}$ = the change in *return on assets* between year $y-1$ and $y+1$, where *return on assets* = the ratio of income before extraordinary items to total assets. $\Delta Chair_{y-1,y}$ = 1 if none of the state's Senators or House Representatives is chair on the banking committee in Congress in the previous year $y-1$, but one of them becomes the chair in year y; −1 if one of the state's Senators or House Representatives was chair in year $y-1$ but none of them holds the chair position in year y; or 0 if the firms whose states do not show any change in chairmanship between year $y-1$ and y. $\Delta Economic\ freedom_{y-1,y}$ = the change in economic freedom between year $y-1$ and y, where *economic freedom* = the state-level index of economic freedom. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. *** and ** indicate significance at the 1% and 5% level, respectively.

variable. This interaction term has a negative and significant relation with ROA, consistent with the results in the earlier tables. The positive impact from obtaining the committee chair would be captured primarily for banks that also experience less positive changes in economic freedom.

5.3.2. Propensity score matching method

A propensity score matching analysis has become popular in order to resolve an issue related to self-selection bias. Following the conventional way in the literature, we use the probit model in which we include the bank characteristics to match the banks headquartered in the states with chairs with banks not headquartered in states with chairs. These variables are bank size, book-to-market ratio, beta, capital ratio, and the ratio of non-performing loans to total assets. Then, we report the average effect of treatment on the treated (ATT) estimation, which is made with nearest neighbor matching method to explain bank performance (*Return on assets*).

As reported in Table 9, the average effect is positive and significant only for the sample with low economic freedom. The effect turns to be insignificantly negative for the high economic freedom group, which is consistent with other findings.

Table 9
Propensity score matching analysis.

Dependent variable: *Chair*	Low economic freedom [I]	High economic freedom [II]
Panel A: Probit estimation of Chair		
Size	0.2339***	0.0341
	(6.93)	(0.90)
Book-to-market	−0.8473	0.0976
	(−1.00)	(0.58)
Beta	−0.4535***	0.0308
	(−4.29)	(0.31)
Capital ratio	0.3215	−0.6463
	(1.10)	(−1.34)
Non-performing loans	−11.4793	−7.8402
	(−1.62)	(−1.38)
Constant	−5.4458***	−2.4628***
	(−4.91)	(−2.93)
N. of observations	1805	2030
Pseudo *R*-squared	0.0627	0.0063
Panel B: Propensity score-based estimates of the effect of Chair on ROA		
Average effect of treatment on the treated (ATT)	0.002**	−0.001
	(2.12)	(−0.61)

This table reports the results of the analysis based on the propensity score matching technique. Pane A shows the probit model in which we include the following bank characteristics to match the banks headquartered in the states with chairs with banks not headquartered in states with chairs. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Beta* = beta on excess market returns from the market model based on weekly returns in year y. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. In Panel B, average effect of treatment on the treated (ATT) estimation is made with nearest neighbor matching method to explain bank performance (*Return on assets*). *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *High (low) economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher (lower) than the median value, and a value of 0 otherwise. *** and ** indicate significance at the 1% and 5% level, respectively.

5.3.3. Omitted variable problem: are the results driven by other state characteristics?

One may argue that our findings can be attributed to the fact that the economic freedom measure we use is highly correlated with other state characteristics, such as the level of bank business in the state, political corruption, and state size, and thus those other factors are driving our results. We address this important issue (i.e., omitted variable problem) in the following tests.

The first variable, *bank clustering*, is the number of commercial banks whose total assets are greater than 1 billion dollars in the state. This variable is constructed to proxy for the degree of bank business in the state. If the chair effect is mainly driven by the size of bank business in the state, the interacted effect we find in the

Table 10
Controlling for state characteristics.

Dependent variable: *Return on assets*	[I]	[II]	[III]	[IV]
Chair	0.0378***	0.0390***	0.0685***	0.0762***
	(2.85)	(3.34)	(3.62)	(3.76)
Economic freedom	0.0090***	0.0090***	0.0079***	0.0079***
	(13.44)	(13.34)	(11.98)	(11.79)
Bank clustering	−0.0046***			−0.0006
	(−7.38)			(−0.89)
Political corruption		−0.0001*		−0.0001*
		(−1.66)		(−1.86)
State population			−0.0318***	−0.0310***
			(−14.95)	(−12.87)
*Chair * Economic freedom*	−0.0059***	−0.0055***	−0.0087***	−0.0079***
	(−3.39)	(−3.30)	(−5.65)	(−4.04)
*Chair * Bank clustering*	0.0012			0.0020
	(0.91)			(0.96)
*Chair * Political corruption*		−0.0003		−0.0001
		(−1.00)		(−0.28)
*Chair * State population*			−0.0006	−0.0016
			(−0.55)	(−1.07)
Size	0.0005***	0.0006***	0.0005***	0.0005***
	(4.42)	(5.28)	(4.50)	(4.32)
Book-to-market	−0.0057***	−0.0053***	−0.0068***	−0.0067***
	(−6.99)	(−6.43)	(−8.43)	(−8.38)
Capital ratio	−0.0036***	−0.0040***	−0.0019*	−0.0020*
	(−3.40)	(−3.75)	(−1.86)	(−1.90)
Non-performing loans	−0.3407***	−0.3440***	−0.3365***	−0.3389***
	(−27.67)	(−27.66)	(−27.93)	(−28.02)
Constant	−0.0467***	−0.0516***	0.3829***	0.3737***
	(−8.08)	(−8.94)	(12.92)	(11.28)
State-fixed effects	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes
N. of observations	3835	3830	3835	3830
R-squared	0.3167	0.3082	0.3458	0.3471

This table reports the estimated coefficients of the bank performance regression after controlling for state characteristics. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *Bank clustering* = the number of commercial banks whose total assets are greater than 1 billion dollars in the state. *Political corruption* = measured by the number of public officials' convictions divided by state population (in millions). *State population* = state's total population. For bank clustering and state population to be used in the regressions, we take a natural log after adding one. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

previous table would disappear when controlling for this significant explanatory variable. The second variable of interest is the state level of corruption. If politicians are providing illegal favors for banks or other constituents, or accepting illegal contributions, this could affect both our results and the interpretation thereof. We devise a proxy for the level of political corruption using the information on the number of public officials' convictions from the U.S. Department of Justice Public Integrity Section. We normalize corruption level by the size of the state economy. That is, for each state in every year, *political corruption* is measured by the number of public officials' convictions divided by state population (in millions). The conviction information is extracted from the US Department of Justice Public Integrity Section, and the data on state population is obtained from the U.S. Census Bureau. The third variable we test is state size, measured by *state population*. We then re-estimate our models by adding these variables and interact them with the chair variable.

Results with these state characteristics are reported in Table 10. In Model [I], we find that the number of banks in the state is negatively related to bank ROA. That is, the more banks that operate in the state, the less profitable they are. This likely reflects the greater level of competitive effects. The interaction term between *Chair* and *Bank clustering* is not significant and does not reduce the magnitude of the coefficient on *Chair * Economic Freedom*. This evidence is found when the other two variables are added in the following models. The positive relations of *Chair* and *Economic freedom* to a bank's ROA and the negative interaction effect are not altered by the addition of these variables.

Based on the three test results in Tables 8–10, we conclude that our results hold even after control for endogenity and self-selection.

5.4. Economic freedom, chairing the banking committee, and bank growth

In this sub-section, we explore the effects of economic freedom on bank growth rates as prior literature shows that economic freedom promotes economic growth (e.g., Gwartney et al., 1996; Easton and Walker, 1997). We use the asset growth rate to proxy for bank growth and retest the main models of Table 4. As reported in Table 11, the key coefficients (*chair*, *economic freedom*, and *chair * economic freedom*) show the same signs with statistical significances. The results hold when we decompose the index into three individual measures (the size of government, takings and discriminatory taxation, and regulation). Overall, the *chair*, *economic freedom*, and their interacted effects on bank growth are similar to the ones on bank performance.

5.5. Tests on privately-held banks

Privately-held banks are also affected by economic freedom and connections to powerful politicians. We obtain the data on the privately-held banks from the Federal Financial Institutions Examination Council (FFIEC) by requiring their total assets to be larger than $1 billion. We conduct both univariate and regression analyses and report the results in Table 12.

In Panel A, return on assets is highest for the *Chair* group in low economic freedom areas, consistent with the result in Table 3. This results in a significant chair effect in the states with low economic freedom. We find that the size of the effect on ROA (0.80%) is larger for private banks than for public banks (0.27%) but less statistically significant. This is also confirmed in the regression test. The interacted effects between *chair* and *economic freedom* are significantly negative with greater magnitudes but they are less statistically significant, indicating greater standard errors in estimation. For example, it is −0.0281 in Model [I] compared to −0.0047 in Model [I] of Table 4. Overall, these additional findings suggest that economic freedom and political connections also matter for those banks that are privately held.

6. Analysis of stock performance

6.1. Comparisons of bank stock performance

We have so far shown that bank performance is positively related to measures of home state economic freedom, and that banks tend to perform better when their headquarters are located in the states where a Senator or Representative serves as the chair on the banking committee in Congress. However, the positive effect of having the banking committee chair is significantly greater in less economically free states. In this section, we move our attention to stock return performance. Especially, we are interested in whether investing on the *chair* banks generates a statistically significantly higher return. We also examine whether

Table 11
Economic freedom, chairing the banking committee, and bank growth.

Dependent variable: *Asset growth*	Aggregated index of economic freedom		Economic freedom components		
			Government size (G)	Taxation (T)	Regulation (R)
	[I]	[II]	[III]	[IV]	[V]
Chair	0.2885**	0.0003	0.1062***	0.0870**	0.0805
	(2.46)	(0.04)	(3.41)	(2.05)	(1.61)
Economic freedom	0.0500***				
	(6.72)				
*Chair * Economic freedom*	−0.0443**				
	(−2.56)				
High economic freedom		0.0202***			
		(3.52)			
*Chair * High economic freedom*		−0.0361***			
		(−2.83)			
Economic freedom^G			0.0208***		
			(7.78)		
*Chair * Economic freedom^G*			−0.0189***		
			(−3.70)		
Economic freedom^T				0.0017	
				(0.40)	
*Chair * Economic freedom^T*				−0.0158**	
				(−2.37)	
Economic freedom^R					−0.0044
					(−1.25)
*Chair * Economic freedom^R*					−0.0149*
					(−1.88)
Size	−0.0070***	−0.0071***	−0.0068***	−0.0071***	−0.0071***
	(−5.70)	(−5.76)	(−5.55)	(−5.77)	(−5.80)
Book-to-market	−0.0367***	−0.0408***	−0.0367***	−0.0418***	−0.0441***
	(−4.18)	(−4.64)	(−4.20)	(−4.74)	(−4.95)
Capital ratio	−0.0271**	−0.0313***	−0.0231**	−0.0298***	−0.0283**
	(−2.36)	(−2.71)	(−2.01)	(−2.58)	(−2.44)
Non-performing loans	−1.8365***	−2.0434***	−1.7131***	−2.0428***	−2.0740***
	(−13.69)	(−15.57)	(−12.50)	(−15.52)	(−15.61)
Constant	−0.0902	0.2526***	0.1561***	0.2557***	0.2980***
	(−1.42)	(7.28)	(4.20)	(4.96)	(7.28)
State-fixed effects	Yes	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes	Yes
N. of observations	3418	3418	3418	3418	3418
R-squared	0.1311	0.1226	0.1349	0.1196	0.1198

This table reports the estimated coefficients of the bank performance regression. *Asset growth* = the growth rate of total assets between year $y-1$ and year y. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *High economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher than the median value, and a value of 0 otherwise. *Economic freedom^G* = the state-level index of economic freedom solely based on the size of government. *Economic freedom^T* = the state-level index of economic freedom solely based on takings and discriminatory taxation. *Economic freedom^R* = the state-level index of economic freedom solely based on regulation. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

economic freedom is correlated with bank stock returns. Finally, we expect that both effects can be interacted as we found in the previous tests of operational performance.

More specifically, we analyze stock return performance of portfolios formed after sorting on economic freedom and bank chair. We compute abnormal returns based on the buy-and-hold estimation method (*BHAR*):

$$BHAR = \prod_{m=1}^{12}(1+r_m^i) - \prod_{m=1}^{12}(1+r_m^{matched}), \quad (2)$$

where r_m^i is the monthly return of firm *i*. $r_m^{matched}$ is the mean monthly return of a matched firms' benchmark portfolio that consists of all sample firms that belong to the same size, book-to-market ratio, past 12-month return terciles as firm *i*. In addition, we compute the average of monthly stock returns.

In Table 13 we compare the mean values of BHARs and average monthly returns for the portfolios formed after double-sorting on economic freedom and the bank chairmanship as shown in Table 3. Panel A shows that the chair effect on BHAR is only significant for the firms with low economic freedom. The difference in BHARs is 12.87%, which is significant at the 1% level. In contrast, the abnormal return decreases by 2.51% when banks have a bank committee chair from their state but the state is more economically free.

Similarly, the positive effect of economic freedom on stock returns is observed only for the *not chair* state banks. Banks present underperform the matched group by 0.17% when they are located in low economic freedom areas. They perform better in the states where economic freedom is high and the average BHAR is, as reported, around 1.49%. The difference between the two groups is statistically significant. However, this positive impact from economic freedom completely disappears in the *chair* states. Interestingly, the highest BHAR (11.15%) is found from the chair state banks located in low economic freedom areas, which is consistent with the ROA findings in Table 3.

We repeat the tests using average monthly returns instead of BHARs and get similar patterns. The difference in month returns (0.94%) between *not chair* and *chair* groups is only significant when they are located in the low economic freedom states. The impact of high economic freedom on bank performance is positive and significant without a chair in banking committee. The highest average

Table 12
Tests on privately-held banks.

	Low economic freedom		High economic freedom		High–low [*p*-value]
Panel A: comparison of return on assets					
Not chair	0.0034		0.0074		0.0040*** [0.0000]
Chair	0.0114		0.0046		−0.0068*** [0.0000]
Chair–Not chair [p-value]	0.0080** [0.0421]		−0.0028* [0.0646]		
Dependent variable: *Return on assets*	Aggregated index of economic freedom		Economic freedom components		
	[I]	[II]	Government size (G) [III]	Taxation (T) [IV]	Regulation (R) [V]
Panel B: regression analysis					
Chair	0.1981** (2.05)	0.0134** (2.20)	0.0567*** (2.72)	0.0783* (1.80)	0.0373 (0.65)
Economic freedom	0.0275*** (15.12)				
*Chair * Economic freedom*	−0.0281** (−1.99)				
High economic freedom		0.0092*** (3.34)			
*Chair * High economic freedom*		−0.0174*** (−2.64)			
Economic freedom^G			0.0083*** (10.12)		
*Chair * Economic freedom^G*			−0.0083*** (−2.60)		
Economic freedom^T				0.0161*** (9.95)	
*Chair * Economic freedom^T*				−0.0115* (−1.77)	
Economic freedom^R					0.0203*** (10.23)
*Chair * Economic freedom^R*					−0.0053 (−0.64)
Controlling variables	Yes	Yes	Yes	Yes	Yes
State-fixed effects	Yes	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes	Yes
N. of observations	1493	1493	1493	1493	1493
R-squared	0.2417	0.1316	0.1811	0.1781	0.1808

Panel A reports the mean values of *return on assets* and computes the mean differences between the sub-samples of privately-held banks. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* indicates that the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress. *Not chair* indicates that the bank is located in the state where none of the state's Senators or House Representatives is the chair on the banking committee in Congress. Banks are included in high (low) *economic freedom* group if their *economic freedom* is higher (lower) than the median value, where *economic freedom* = the state-level index of economic freedom. Panel B reports the estimated coefficients of the bank performance regression. *High economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher than the median value, and a value of 0 otherwise. *Economic freedom^G* = the state-level index of economic freedom solely based on the size of government. *Economic freedom^T* = the state-level index of economic freedom solely based on takings and discriminatory taxation. *Economic freedom^R* = the state-level index of economic freedom solely based on regulation. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

ROA is found from the combination of low economic freedom and chair.

6.2. Cross-sectional regression tests of bank stock performance

To confirm the results of the asset pricing model tests using an alternative estimation method we also test firm-level cross-sectional models of buy-and-hold abnormal returns (*BHAR*) as a function of chair, economic freedom and conventional control factors, such as size, return volatility, and past return, as well as capital ratio and non-performing loans adjusted by total assets. The firm-level models are estimated using state- and regulatory-fixed effects as done in other tables, and the results are presented in Table 14. The tests are based on buy-and-hold returns and average monthly returns. The results across the four models are quite consistent and show a significant positive association between chair and future stock returns, in line with the asset pricing test results and in support of the notion that bank chair has a positive and significant effect on local bank stock performance. This effect on future abnormal returns is quite large. For example, from model [II] we see that chair effect for the banks with the 25th percentile of economic freedom would be 0.94% (= 0.1186 − 0.0168 × 6.4998), which is close to the mean value of average monthly return, 0.97% reported in Table 1. However, this chair effect can be negative in states where economic freedom is sufficiently high. More specifically, banks with the 75th percentile of economic freedom experience a 0.13 drop in average monthly return (= 0.1186 − 0.0168 × 7.1365).

7. Robustness tests

This section provides various robustness tests and reports the results in Table 15. In the first three models, we examine whether our results are robust to alternative measures of operating performance and market performance. We use return on equity, the Sharpe Ratio, and credit growth in Models [I], [II], and [III] respectively, and find qualitatively similar results.

Next, we construct the orthogonal measure of the economic freedom index. To ensure that our results can be attributed purely to the level of economic freedom in a state and not to other factors that are correlated with economic freedom, we devise an orthogonal state-level economic freedom index (*Economic*

Table 13
Economic freedom, chairing the banking committee, and bank stock performance.

	Low economic freedom	High economic freedom	High–low [*p*-value]
Panel A: Comparisons of BHAR			
Not chair	−0.0172	0.0149	0.0321*** [0.0048]
Chair	0.1115	−0.0103	−0.1218*** [0.0036]
Chair–Not chair [p-value]	0.1287*** [0.0000]	−0.0251 [0.2713]	
Panel B: Comparisons of average monthly return			
Not chair	0.0084	0.0102	0.0018** [0.0329]
Chair	0.0177	0.0102	−0.0075** [0.0112]
Chair–Not chair [p-value]	0.0094*** [0.0000]	0.00001 [0.4984]	

This table reports the mean values of *BHAR* and *average monthly return* and computes the mean differences between the sub-samples. *BHAR* = the buy-and-hold abnormal return over 12 months, computed as the difference between the firm's buy-and-hold return from January to December of year *y* and the mean buy-and-hold return of the matched group over the same period.

$$BHAR = \prod_{m=1}^{12}(1 + r_m^i) - \prod_{m=1}^{12}(1 + r_m^{matched}),$$

where r_m^i is the monthly return of firm *i*. $r_m^{matched}$ is the mean monthly return of a matched firms' benchmark portfolio that consists of all sample firms that belong to the same size, book-to-market ratio, past 12-month return terciles as firm *i*. *Average monthly return* = the average monthly return from January to December of year *y*. *Chair* indicates that the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress. *Not chair* indicates that the bank is located in the state where none of the state's Senators or House Representatives is the chair on the banking committee in Congress. Banks are included in high (low) *economic freedom* group if their *economic freedom* is higher (lower) than the median value, where *economic freedom* = the state-level index of economic freedom. *** and ** indicate significance at the 1% and 5% level, respectively.

Table 14
Economic freedom, chairing the banking committee, and bank stock performance.

Dependent variable:	*BHAR* [I]	*Average monthly return* [II]	*BHAR* [III]	*Average monthly return* [IV]
Chair	1.6746***	0.1186***	0.1178***	0.0088***
	(3.38)	(3.01)	(3.58)	(3.37)
Economic freedom	−0.0271	−0.0011		
	(−0.81)	(−0.40)		
*Chair * Economic freedom*	−0.2380***	−0.0168***		
	(−3.27)	(−2.90)		
High economic freedom			0.0617***	0.0039**
			(2.65)	(2.10)
*Chair * High economic freedom*			−0.1528***	−0.0110***
			(−2.87)	(−2.59)
Size	0.0029	0.0007*	0.0032	0.0007*
	(0.58)	(1.73)	(0.64)	(1.77)
Volatility	−1.0990*	0.1001**	−0.8238	0.1141**
	(−1.79)	(2.05)	(−1.43)	(2.48)
Past return	0.0814***	0.0091***	0.0789***	0.0089***
	(4.68)	(6.54)	(4.53)	(6.43)
Capital ratio	−0.1167**	−0.0095**	−0.1160**	−0.0095**
	(−2.37)	(−2.44)	(−2.36)	(−2.43)
Non-performing loans	−0.8657	−0.1152**	−0.9160	−0.1196**
	(−1.39)	(−2.32)	(−1.47)	(−2.41)
Constant	0.2255	0.0035	−0.0258	−0.0077
	(0.80)	(0.15)	(−0.18)	(−0.68)
State-fixed effects	Yes	Yes	Yes	Yes
Regulatory-fixed effects	Yes	Yes	Yes	Yes
N. of observations	3820	3820	3820	3820
R-squared	0.0429	0.0446	0.0432	0.0448

This table reports the estimated coefficients of state-fixed effect regression. *BHAR* = the buy-and-hold abnormal return over 12 months, computed as the difference between the firm's buy-and-hold return from January to December of year *y* and the mean buy-and-hold return of the matched group over the same period.

$$BHAR = \prod_{m=1}^{12}(1 + r_m^i) - \prod_{m=1}^{12}(1 + r_m^{matched}),$$

where r_m^i is the monthly return of firm *i*. $r_m^{matched}$ is the mean monthly return of a matched firms' benchmark portfolio that consists of all sample firms that belong to the same size, book-to-market ratio, past 12-month return terciles as firm *i*. *Average monthly return* = the average monthly return from January to December of year *y*. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *High economic freedom* = an indicator that takes a value of 1 if bank's economic freedom is higher than the median value, and a value of 0 otherwise. *Size* = the natural log of one plus total assets. *Volatility* = the standard deviation of daily returns over the year. *Past return* = firm's return from January to December of year $y - 1$. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Table 15
Robustness checks.

Robustness test:	Using ROE as the dependent variable	Using Sharpe ratio as the dependent variable	Using Credit growth as the dependent variable	Using orthogonal measure of economic freedom	Year-fixed effects	Year-fixed effects and clustering by firm	Bank-fixed effects	All fixed effects	No fixed effects
Dependent variable:	*Return on equity*	*Sharpe ratio*	*Credit growth*	*Return on assets*	*Return on assets*	*Return on assets*	*Return on assets*	*Return on assets*	*Return on assets*
	[I]	[II]	[III]	[IV]	[V]	[VI]	[VII]	[VIII]	[IX]
Chair	0.3736**	2.5192***	0.8588*	0.0002	0.0225**	0.0225**	0.0312***	0.0204**	0.0227**
	(2.03)	(4.05)	(1.67)	(0.32)	(2.34)	(1.96)	(2.90)	(2.10)	(2.24)
Economic freedom	0.1200***	0.0723	−0.0364		0.0027***	0.0027**	0.0088***	0.0031***	0.0011***
	(10.25)	(0.16)	(−1.16)		(2.99)	(1.99)	(13.23)	(3.70)	(3.91)
*Chair * Economic freedom*	−0.0526*	−4.4204***	−0.1270*		−0.0034**	−0.0034**	−0.0044***	−0.0030**	−0.0033**
	(−1.95)	(−4.39)	(−1.68)		(−2.38)	(−1.98)	(−2.80)	(−2.07)	(−2.19)
Economic freedom^{Orthogonal}				0.0083***					
				(12.61)					
*Chair * Economic freedom^{Orthogonal}*				−0.0056***					
				(−3.21)					
Size	0.0067***	1.3032***	−0.0529***	0.0006***	0.0005***	0.0005***	−0.0019***	−0.0019***	0.0004***
	(3.57)	(13.75)	(−8.97)	(5.41)	(5.28)	(3.76)	(−8.46)	(−4.50)	(4.44)
Book-to-market	0.0051		−0.0219	−0.0054***	−0.0039***	−0.0039	−0.0052***	−0.0025***	−0.0071***
	(0.36)		(−0.70)	(−6.55)	(−5.18)	(−0.91)	(−6.32)	(−3.27)	(−8.37)
Volatility		62.7130***							
		(5.74)							
Past return		0.2470							
		(0.75)							
Capital ratio	−0.0607***	−0.9650	0.8060***	−0.0040***	−0.0011	−0.0011	−0.0027***	−0.0014	−0.0058***
	(−3.29)	(−1.04)	(3.71)	(−3.75)	(−1.18)	(−0.99)	(−2.58)	(−1.54)	(−5.36)
Non-performing loans	−5.4499***	10.1554	−4.1991***	−0.3456***	−0.2768***	−0.2768***	−0.3061***	−0.2329***	−0.3775***
	(−25.35)	(0.86)	(−6.96)	(−27.74)	(−23.14)	(−7.58)	(−24.39)	(−18.90)	(−30.28)
Constant	−0.8440***	−27.8104***	1.2979***	0.0066**	−0.0090	−0.0090	0.0054	0.0322***	0.0008
	(−8.43)	(−10.42)	(4.55)	(2.11)	(−1.24)	(−0.80)	(0.71)	(3.26)	(0.27)
State-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Regulatory-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Bank-fixed effects	No	No	No	No	No	No	Yes	Yes	No
Year-fixed effects	No	No	No	No	Yes	Yes	No	Yes	No
N. of observations	3834	3822	2449	3830	3835	3835	3835	3835	3835
R-squared	0.2308	0.0849	0.1288	0.3046	0.4587	0.4587	0.4890	0.5957	0.2297

This table reports the estimated coefficients of the bank performance regression. *Return on equity* (*assets*) = the ratio of income before extraordinary items to equity (total assets). *Sharpe ratio* = the ratio of expected excess return to standard deviation. *Credit growth* = the growth rate of bank credit between year $y-1$ and year y. *Return on assets* = the ratio of income before extraordinary items to total assets. *Economic freedom^{Orthogonal}* = the residual values from the state-level regression of economic freedom on bank clustering, political corruption, state population, and state dummies. *Return on assets* = the ratio of income before extraordinary items to total assets. *Chair* = a state-level dummy variable that takes a value of 1 if the bank is located in the state where one of the state's Senators or House Representatives is the chair on the banking committee in Congress, and a value of 0 otherwise. *Economic freedom* = the state-level index of economic freedom. *Bank clustering* = the number of commercial banks whose total assets are greater than 1 billion dollars in the state. *Political corruption* = measured by the number of public officials' convictions divided by state population (in millions). *State population* = state's total population. For bank clustering and state population to be used in the regressions, we take a natural log after adding one. *Size* = the natural log of one plus total assets. *Book-to-market* = the ratio of total assets to the market value of firm. *Capital ratio* = the ratio of total equity to total assets. *Non-performing loans* = the sum of loans 90+ days late and total loans not accruing divided by total assets. *** and ** indicate significance at the 1% and 5% level, respectively.

freedom^{Orthogonal}), which is the residual values from the state-level regression of economic freedom on bank clustering, political corruption, and state population. Basically, we obtain a clean measure of economic freedom after netting out any effects of other potentially important state characteristics on economic freedom. In Model [IV], the orthogonal measure of economic freedom is significantly and positively associated with bank's ROA, consistent with the original results. In addition, the interaction term with the chair variable remains negative. This result suggests that the positive effect of economic freedom on bank performance is not driven or explained by other state characteristics that might be correlated.

Our models include state and regulatory-fixed effects. Petersen (2009) points out that any empirical method can be incorrect and yield different results in many cases. We consider other fixed effects (e.g., bank and year) and combine the effects in many different ways. We confirm that our results hold and report part of the results in Models [V] to [IX].

Finally, we conduct the regression controlling for heteroscedasticity following White (1980) and with clustering at the bank level or state level. For the sake of brevity, we exclude the results of using alternative standard errors and the additional endogeneity and sample selection tests with various fixed effects. In these tests, we find that the results are generally consistent. We also reconstruct the deposit-weighted *Chair* variable after collecting the data on deposits from the FDIC website. We find that the interacted effect is negative but not significant at the conventional level. This additional result indicates that the chair effect is more pronounced for the variable measured by the location of headquarters since most important bank decisions may be taken at the headquarters level. The complete set of robustness test results are available from the authors upon request.

8. Conclusions

This study provides evidence of the importance of state economic freedom on bank performance. First, we find that state economic freedom is highly correlated with bank performance as measured by return on assets. We reconfirm the finding of Gropper et al. (2013) and show that banks generate significantly higher ROAs when their headquarters are located in the states where a U.S. Senator or Representative serves as the chair on the respective banking committee in Congress. When the two effects from state economic freedom and chairmanship are interacted, we find that the positive effect from having the banking committee chair is substantially reduced by higher levels of economic freedom.

We also find that investing in the banks that get a positive chair effect generates a significant, positive return. The average buy-and-hold abnormal return compared to matched group is 11.15% a year for those banks that are located in less economically free states that have their local politician serving as a chair of the Congressional banking committee. However, we fail to find this positive effect on abnormal return from the states where there is a higher level of economic freedom.

Our findings suggest that the value of political connections and influence on local firm performance that has been highlighted by the recent studies in financial economics are strongest and most clearly seen in states that are less economically free. The economic freedom index has declined substantially in many states in recent years, reflecting the increased size of government, more discriminatory taxation, and newly introduced regulations in the wake of the recent credit crisis. Continued reductions in economic freedom will thus make political connections potentially more valuable and

Table A1
Summary of banking committee chairs.

	Year	Congress	Chamber	Committee	State	Party	Average service year in Congress while in chair service	Average age while in chair service
Donald Wayne Riegle, Jr.	1989–1994	101–103	Senate	Banking, Housing, and Urban Affairs	Michigan	Democratic	24.5	53.5
Alfonse Marcello D'Amato	1995–1998	104–105	Senate	Banking, Housing, and Urban Affairs	New York	Republican	15.5	59.5
William Philip Gramm	1990–2000	106	Senate	Banking, Housing, and Urban Affairs	Texas	Republican	20.5	57.5
Paul Spyros Sarbanes	2001–2002	107	Senate	Banking, Housing, and Urban Affairs	Maryland	Democratic	30.5	68.5
Richard Craig Shelby	2003–2006	108–109	Senate	Banking, Housing, and Urban Affairs	Alabama	Republican	25.5	70.5
Christopher John Dodd	2007–2010	110–111	Senate	Banking, Housing, and Urban Affairs	Connecticut	Democratic	33.5	64.5
Henry Barbosa Gonzalez	1989–1994	101–103	House	Banking, Finance, and Urban Affairs	Texas	Democratic	30.5	75.5
James Albert Smith Leach	1995–2000	104–106	House	Banking and Financial Services	Iowa	Republican	20.5	55.5
Michael Garver Oxley	2001–2006	107–109	House	Financial Services	Ohio	Republican	30.5	59.5
Barney Frank	2007–2010	110–111	House	Financial Services	Massachusetts	Democratic	35.5	68.5

This table provides the biographical and political information of chairmen of the banking committees in the U.S. Congress for the period, 1989–2010. We hand-collect the information from *Wikipedia* (http://www.wikipedia.org/) and other sites such as *Biographical Directory of the United States Congress* (http://bioguide.congress.gov/biosearch/biosearch.asp). The *Wikipedia* web addresses of banking committee chairs are as follows.
Donald Wayne Riegle, Jr. (http://en.wikipedia.org/wiki/Donald_W._Riegle,_Jr.).
Alfonse Marcello D'Amato (http://en.wikipedia.org/wiki/Al_D'Amato).
William Philip Gramm (http://en.wikipedia.org/wiki/Phil_Gramm).
Paul Spyros Sarbanes (http://en.wikipedia.org/wiki/Paul_Sarbanes).
Richard Craig Shelby (http://en.wikipedia.org/wiki/Richard_Shelby).
Christopher John Dodd (http://en.wikipedia.org/wiki/Chris_Dodd).
Henry Barbosa Gonzalez (http://en.wikipedia.org/wiki/Henry_B._Gonzalez).
James Albert Smith Leach (http://en.wikipedia.org/wiki/Jim_Leach).
Michael Garver Oxley (http://en.wikipedia.org/wiki/Mike_Oxley).
Barney Frank (http://en.wikipedia.org/wiki/Barney_Frank).

more important to banks and other highly regulated firms. Clearly, the preferred condition is for states to enjoy greater economic freedom which enhances overall state economic growth. Overall, our results suggest that political effects on financial markets that have been reported in a recent stream of research work should be carefully analyzed because the effects are substantially affected by the conditions and characteristics of business environments.

Appendix A

See Table A1.

References

Alexander, R., Mazza, S., Scholz, S., 2009. Lobbying ROI: an empirical analysis under the American Jobs Creation Act of 2004. Journal of Law and Politics 25, 401–457.

Amore, M.D., Bennedsen, M., 2013. The value of local political connections in a low-corruption environment. Journal of Financial Economics 110, 387–402.

Apergis, N., Dincer, O., Payne, J., 2012. Live free or bribe: on the causal dynamics between economic freedom and corruption in U.S. states. European Journal of Political Economy 28, 215–226.

Barth, J., Caprio, G., Levine, R., 2012. Guardians of Finance: Making Regulators Work For Us. MIT Press, Cambridge, Massachusetts.

Bayazitova, D., Shivdasani, A., 2012. Assessing TARP. Review of Financial Studies 25, 377–407.

Belasen, A., Hafer, R., 2012. Well-being and economic freedom: evidence from the states. Intelligence 40, 306–316.

Berger, A.N., Bouwman, C.H.S., 2013. How does capital affect bank performance during financial crises? Journal of Financial Economics 109, 146–176.

Berger, A.N., Roman, R.A., 2015. Did TARP banks get competitive advantages? Journal of Financial and Quantitative Analysis, Forthcoming.

Blau, B.M., Brough, T.J., Thomas, D.W., 2013. Corporate lobbying, political connections, and the bailout of banks. Journal of Banking and Finance 37, 3007–3017.

Bunkanwanicha, P., Wiwattanakantang, Y., 2009. Big business owners in politics. Review of Financial Studies 22, 2133–2168.

Campbell, N., Fayman, A., Heriot, K., 2010. Including U.S. state government regulation in the economic freedom of North America index. The Journal of Private Enterprise 25, 165–186.

Chaney, P., Faccio, M., Parsley, D., 2011. The quality of accounting information in politically connected firms. Journal of Accounting and Economics 51, 58–76.

Cingano, F., Pinotti, P., 2013. Politicians at work: the private returns and social costs of political connections. Journal of the European Economic Association 11, 433–465.

Cooper, M.J., Gulen, H., Ovtchinnikov, A.V., 2010. Corporate political contributions and stock returns. Journal of Finance 65, 687–724.

Cornett, M.M., Li, L., Tehranian, H., 2013. The performance of banks around the receipt and repayment of TARP funds: over-achievers versus under-achievers. Journal of Banking and Finance 37, 730–746.

De Haan, J., Lundstrom, S., Sturm, J.-E., 2006. Market-oriented institutions and policies and economic growth: a critical survey. Journal of Economic Surveys 20, 157–191.

Do, Q.-A., Lee, Y.-T., Nguyen, B.D., Nguyen, K.-T., 2012. Out of sight, out of mind: The value of political connections in social networks. Working Paper, Singapore Management University.

Do, Q.-A., Lee, Y.-T., Nguyen, B.D., 2014. Political connections and firm value: Evidence from the regression discontinuity design of close gubernatorial elections. Working Paper, Singapore Management University.

Duchin, R., Sosyura, D., 2012. The politics of government investment. Journal of Financial Economics 106, 24–48.

Duchin, R., Sosyura, D., 2014. Safer ratios, riskier portfolios: banks' response to government aid. Journal of Financial Economics 113, 1–28.

Easton, S.T., Walker, M.A., 1997. Income, growth, and economic freedom. American Economic Review 87, 328–332.

Faccio, M., 2006. Politically connected firms. American Economic Review 96, 369–386.

Faccio, M., Masulis, R.W., McConnell, J.J., 2006. Political connections and corporate bailouts. Journal of Finance 61, 2597–2635.

Fahlenbrach, R., Stulz, R.M., 2011. Bank CEO incentives and the credit crisis. Journal of Financial Economics 99, 11–26.

Ferguson, T., Voth, H.-J., 2008. Betting on Hitler – the value of political connections in Nazi Germany. Quarterly Journal of Economics 123, 101–137.

Fisman, R., 2001. Estimating the value of political connections. American Economic Review 91, 1095–1102.

Goldman, E., Rocholl, J., So, J., 2009. Do politically connected boards affect firm value? Review of Financial Studies 22, 2331–2360.

Goldman, E., Rocholl, J., So, J., 2013. Politically connected boards of directors and the allocation of procurement contracts. Review of Finance 17, 1617–1648.

Gropper, D., Jahera, J., Park, J., 2013. Does it help to have friends in high places? Bank stock performance and congressional committee chairmanships. Journal of Banking and Finance 37, 1986–1999.

Gwartney, J., Lawson, R., Block, W., 1996. Economic Freedom of the World: 1975–1995. The Fraser Institute, Vancouver.

Hill, M.D., Kelly, W., Lockhart, G.B., Van Ness, R.A., 2013. Determinants and effects of corporate lobbying. Financial Management 42, 931–957.

Johnson, S., Mitton, T., 2003. Cronyism and capital controls: evidence from Malaysia. Journal of Financial Economics 67, 351–382.

Kim, C., Kim, I., Pantzalis, C., Park, J.C., 2013. The implications of corporate political strategies. Working Paper, University of South Florida.

Kroszner, R.S., 2001. The motivations behind banking reform. Regulation 24, 36–41.

Kroszner, R.S., Strahan, P.E., 1999. What drives deregulation? Economics and politics of the relaxation of bank branching restrictions in the United States. Quarterly Journal of Economics 114, 1437–1467.

Laeven, L., Levine, R., 2009. Bank governance, regulation and risk taking. Journal of Financial Economics 93, 259–275.

Lawson, R., Roychoudhury, S., 2008. Economic freedom and equity prices among U. S. states. Credit and Financial Management Review 14 (4), 25–35.

Levine, R., 2004. The corporate governance of banks: a concise discussion of concepts and evidence. Working Paper, World Bank.

Li, L., 2013. TARP funds distribution and bank loan supply. Journal of Banking and Finance 37, 4777–4792.

Niessen, A., Ruenzi, S., 2010. Political connectedness and firm performance: evidence from Germany. German Economic Review 11, 441–464.

Petersen, M.A., 2009. Estimating standard errors in finance panel data sets: comparing approaches. Review of Financial Studies 22, 435–480.

Richter, B., Samphantharak, K., Timmons, J., 2009. Lobbying and taxes. American Journal of Political Science 53, 893–909.

Stansel, D., Torra, J., McMahon, F., 2014. Economic Freedom of North America. Fraser Institute, Vancouver.

White, H., 1980. A heteroskedasticity consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica 48, 817–838.

Yu, F., Yu, X., 2011. Corporate lobbying and fraud detection. Journal of Financial and Quantitative Analysis 46, 1865–1891.