Shock Transmission through Shared Directors: Evidence from Bank Enforcement Actions[#]

Leonid Pugachev*
University of Oklahoma
(lpugachev27@ou.edu)

Andrea Schertler**
University of Lüneburg
(schertler@leuphana.de)

December 1, 2017

Abstract

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JEL Codes: G21, G34, M12
Keywords: banker-directors, bank enforcement actions, bank shock spillover, board attendance problems

∗University of Oklahoma, Michael F. Price College of Business, Norman, OK 73019-4005, USA.
∗∗University of Lüneburg, Institute of Finance and Accounting, Universitätsallee 1, 21335 Lüneburg, Germany.

The authors wish to thank Tor-Erik Bakke, Jeffrey Black, Wenbin Cao, Sarah Clayton, Scott Guernsey, Christopher Koch, Gabriele Lattanzio, Dietmar Leisen, Jeanette Ling, William Megginson, Mitchell Peterson, Andreas Pfingsten, and Tracy Wang for their helpful comments. Any remaining mistakes are our own. The study was written while Andrea Schertler was visiting University of Oklahoma (OU). She gratefully acknowledges OU's hospitality and support.

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Abstract

Using a unique dataset of 1478 U.S. bank enforcement actions (EAs) issued between 1998 and 2014, we document that bank corporate governance shocks spill over into the real sector through shared directors. Corporates (non-banks) that share a director with enforced banks experience significantly negative abnormal returns around EA issuance. Their stock prices fall more when director resources are likely constrained and when the shock is more severe. Following enforcement, shared directors participate less on corporate boards. Our results are unlikely to be driven by an impaired credit relationship between bank and corporate, by director reputational damage, or by endogenous director selection. These findings suggest that shared directors could also transmit larger banking sector shocks such as monetary policy changes or regulatory reforms into the real sector.

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Shock Transmission through Shared Directors: Evidence from Bank Enforcement Actions

Research beginning with Kroszner and Strahan (2001) has asked how banker-directors impact corporate performance. While they can enhance the board's financial expertise (Güner, Malmendier, and Tate, 2008) and provide access to finance (Şişli-Ciamarra, 2012), such benefits are not free. Hilscher and Şişli-Ciamarra (2013) show banker-directors reduce shareholder gains around acquisitions, and Güner, Malmendier, and Tate (2008) associate these directors with lower shareholder value. If any party benefits, it is likely to be the creditor (Dittmann, Maug and Schneider, 2010) so for corporate shareholders, the unintended consequences of banker-directors may outweigh the intended ones.

Our paper explores another unintended consequence of banker-director service on corporate boards. We argue that when a director simultaneously serves a bank and a non-financial firm, she can transmit financial sector shocks into the real sector. This "*shared director channel*" operates by tightening the director's resource constraints. Bank shocks impose additional responsibilities on the director. With limited resources to monitor and advise both firms, she may be forced to redistribute attention or effort from corporate to bank board, weakening corporate governance at the non-bank. To the extent that investors value strong governance (Chhaochharia and Grinstein, 2007), such shocks impact firm valuation. Given the frequency and severity of banking sector shocks, we expect spillover effects to be material.

The shocks this paper examines are enforcement actions (EAs) issued by federal regulators to U.S. banks and bank holding companies between 1998 and 2014. Detailed in Section 2, EAs target bank conduct deemed 'unsafe or unsound'. This setting offers several advantages for empirical analysis. First, EAs shock banks in meaningful ways (Curry et al., 1999). Some expose operational deficiencies, forcing managers to alter lending practices (Roman, 2017; Deli et al., 2016; Delis, Staikouras, and Tsoumas, 2017) and liquidity creation (Berger et al., 2016). Others highlight internal control weaknesses by barring current or former employees from future employment at any depository institution. EAs impact a bank's competitors (Jordan, Peek and Rosengren, 2000; Slovin, Sushka, and Polonchek, 1999) and even local communities (Danisewicz et al., 2017) so it is unsurprising that bank shareholders are affected (Brous and Leggett, 1996). Second, EAs offer a rare laboratory to directly observe corporate governance shocks. They signal poor governance at the bank (Nguyen, Hagendorff, and Eshraghi, 2016) but, more

importantly, they expose issues with the bank's governance framework that can require substantial resources to address. Curry et al. (1999) writes that EAs "requiring remedial measures generally remain in effect for approximately two years. However, in the more serious cases, actions can last up to three or four years and during this period are subject to amendments mandating further actions by the institution" (pg. 5). Following enforcement, regulatory scrutiny increases sharply (Danisewicz et al., 2017), providing more work for the directorate and greater incentive for diligence. Thus, EAs shock director responsibilities, specifically. Third, EAs are plausibly exogenous to the stock price performance of our observational units: corporates that share a director with enforced banks. It is very unlikely that corporates connected to banks through shared directors can steer bank behavior enough to warrant regulatory intervention. This exogeneity supports our interpretation that an EA's wealth effect on linked corporates reflects only the shared director channel.

Indeed, these wealth effects are substantial. Within one day of issuance, the average EA in our sample reduces a director-linked corporate's stock price by 18 basis points, or 15.1 percent, annualized. Placebo tests confirm significant stock price declines *only* around EA-issue dates and *only* for director-linked corporates. When investigating EA spillover effects, we identify director resource reallocation as a primary channel through which spillover occurs. Four pieces of evidence support this explanation. First, corporate stock prices fall more when directors are more likely to be resource-constrained. Following prior literature (Ferris, Jagannathan, and Pritchard, 2003; Field, Lowry, and Mkrtchyan, 2013; Elyasiani and Zhang, 2015; Masulis and Mobbs 2011), we consider directors more likely to be resource-constrained if they simultaneously serve on three or more boards. Second, the effect of resource constraints on corporate stock returns is more negative when bank shareholders deem the EA more severe. Third, outside directors receive less cash pay from corporates immediately after their bank employer becomes enforced. Finally, we directly show that immediately after enforcement, banker-directors attend fewer corporate board meetings. These four tests consider only *within-director* variation to mitigate concerns that cross-sectional director differences drive our results.

Prior literature guides our focus on resource reallocation as the channel through which shared directors transmit bank shocks (see Section 4). However, we consider three alternatives that could explain corporate stock price declines around director-linked bank EAs. Distinguishing between these

and resource reallocation is important for the policy implications of our work. The first alternative hypothesis is EA-induced credit constraints between bank and director-linked corporate. Negative corporate returns could reflect the loss of valuable financing if the following three conditions hold: (1) corporates borrow or expect to borrow from director-linked banks; (2) EAs negatively affect recipient banks' abilities to lend to director-linked corporates; and (3) corporates cannot switch lenders costlessly. In Section 5, we argue the confluence of these assumptions is very unlikely for our sample. While data limitations restrict us from directly observing credit relationships, our results on resource reallocation obtain when such a relationship is likely, when it is unlikely, and when the EA does not directly restrict lending. A second competing hypothesis is that EAs could also affect corporate stock prices by providing new information about the linking director's quality. Enforcement may signal that the linking director, who failed to keep her bank out of trouble, is less qualified than corporate shareholders previously thought. If director aptitude is value-relevant, corporate stock prices would fall. We show that corporate stock returns around EAs do not vary by information asymmetry about the director or her likely culpability for EA-related governance deficiencies. We also find that EAs have no lasting impact on a director's future appointments which implies rational shareholder reactions should not reflect a perception of worse director quality. Finally, one could argue that our results exhibit a selection bias: directors serving poorly performing (i.e. enforced) banks also serve poorly performing corporates (i.e. those whose stock prices are falling). This, too, appears unlikely in our sample. In the year a banker-director is appointed, corporates that select banker-directors from enforced banks are indistinguishable across financial and market measures from corporates that select banker-directors serving unenforced banks. Overall, resource reallocation remains the most plausible explanation for EA shock spillover.

To our knowledge, this paper is the first to identify shared directors as a channel through which financial sector shocks spill over into the real sector. Given banks' crucial role in industrialized economies, researchers often study real implications of bank shocks. For example, Jayaratne and Strahan (1996) find that intrastate bank deregulation increased real output and income growth. Garmaise and Moskowitz (2006) show that bank mergers lead to higher crime rates. Ashcraft (2005) documents that bank failures causally reduce local income. Many scholars including Chava and Purnanandam (2011), Puri, Rocholl, and Steffen (2011) and Iyer et al. (2014) study the effects of banking crises on economic

outcomes. However, this literature assumes bank lending is the only channel through which bank events drive real economic outcomes. While much is known about how banks affect the economy as financial intermediaries, there has been little work on how financial sector events can otherwise affect economic outcomes. Our paper highlights the shared director channel as another mechanism through which bank shocks can spill over into the real sector. Our results offer important considerations for investors, lawmakers, and regulators. The Basel III Accords and the Dodd-Frank Act increase banker-directors' roles in promoting bank stability.[1] If corporates and banks compete for limited director resources, increased governance requirements in the financial sector impose costs to director-linked non-banks.

We also add novel evidence about spillover effects of director-linked boards. Finance, accounting, and management research shows that director-linked networks can transmit corporate practices like earnings management (Chiu, Teoh, and Tian, 2013) or option backdating (Bizjack, Lemmon, and Whitby, 2009), policies related to governance (Bouwman, 2011) or disclosure (Cai et al., 2014), and general organizational practices (Shropshire, 2010). Kang (2008) finds substantial reputational penalties for linked directors who serve on firms accused of financial reporting fraud. In contrast, we find no such damage for EA recipient banker-directors. Though our work resembles others in the director-linked firm space, its chief distinction is a specific focus on *bank* corporate governance which is quite different from non-bank governance (Adams and Mehran, 2003; John, De Masi, and Paci, 2016). Our setting is particularly relevant given the debate on whether bank governance deficiencies contributed to the recent financial crisis.[2]

Finally, we contribute to a deep literature on busy directors and a budding one on EAs. To identify busy directors' effect on firm value, researchers must overcome endogeneity in director appointments. Recent literature identifies several exogenous shocks. Using sudden CEO deaths as an exogenous negative shock to director workload, Falato, Kadyrzhanova, and Lel (2014) show that linking directors reallocate resources toward the firm that needs a new CEO while the other firm's value suffers. Hauser (2017) exploits a positive shock to director workload when entire boards of merger targets are

[1] For example, the second objective of the Basel III Committee is "to improve risk management and governance as well as strengthen banks' transparency and disclosures." (Basel III: A global regulatory framework for more resilient banks and banking systems, pg. 5, https://www.bis.org/publ/bcbs189.pdf)

[2] For example, Mehran, Morrison, and Shapiro (2011) and Berger, Imbierowicz, and Rauch (2016) suggest bank corporate governance is to blame while Adams (2012) and Beltratti and Stulz (2012) cast doubt on the notion.

terminated; he shows that director-linked firms benefit in these cases. We corroborate these authors' findings on resource reallocation using another exogenous shock to director workload – bank EAs. While extant research studies borrowers, depositors, competitors, and shareholders around enforcement, no paper we are aware of investigates director-linked non-banks.

We proceed as follows. Section 2 discusses institutional details about EAs. Section 3 describes our data. Section 4 reports our main analysis which tests corporate abnormal returns around director-linked bank EAs and enforced director resource expenditure. Section 5 rules out alternative channels that could explain the results we attribute to director resource reallocation. Section 6 concludes.

2. Enforcement Actions

Four U.S. regulators supervise banks and bank holding companies over our sample period (1998-2014): the Federal Reserve Board (FRB) supervises holding companies and Federal Reserve member state-chartered banks; the Federal Deposit Insurance Corporation (FDIC) supervises Federal Reserve non-member, state-chartered banks; the Office of the Comptroller of the Currency (OCC) supervises nationally chartered banks and, as of July 21, 2011, savings and loan associations; and the Office of Thrift Supervision (OTS) supervised savings and loan associations before its July 21, 2011 dissolution. An institution's primary federal regulator conducts on-site examinations and off-site monitoring. If either reveal bank operations to be 'unsafe or unsound', regulators can issue an EA to address deficiencies. Conversations with bankers suggest that these regulatory interventions carry corporate governance consequences for management and the board.

Different EA types address different issues. We detail the distribution of EAs in our sample in Appendix I. Prior research (e.g. Brous and Leggett, 1996; Nguyen, Hagendorff, and Eshraghi, 2016) as well as our data source, typically consider three types of EAs in our sample severe (Srinivas et al., 2014): Prompt Corrective Action Directives,[3] Cease and Desist Orders, and Formal Agreements. The first requires immediate recapitalization. The latter two require managerial action to remedy unsafe or unsound activities and only differ in that the first are issued with or without the financial institution's consent while the second represents voluntary managerial commitment. Most EAs in our sample are

[3] While this EA type is in our initial sample of EAs issued to publicly held banks, we find no instances in our final sample of banks that share directors with S&P1500 corporates.

Sanctions against Personnel which prohibit named individuals from further employment at any financial institution. Figure 1 portrays the time series distribution of EAs in our sample. The solid (shaded) bar depicts non-severe (severe) EAs. The 2003-2005 spike mostly represents Sanctions against Personnel and the bigger spike around the recent financial crisis reflects an influx of all EA types.

*****Insert Figure 1 around here*****

Each order can be associated with the date on which it is signed by bank management, which we call the issue date. As of this date, the EA is active. Orders not issued by the OTS can also be associated with regulatory announcement dates. The FRB typically announces its EAs within days of issuance while the OCC and FDIC can sometimes take up to two months. Finally, EAs that bank management deems material are announced to the public through SEC form 8-k filings. These filings typically lag but occasionally precede the issue date by several days. For our empirical analysis, we choose the issue date for four reasons. First, this date is used by recent EA literature (e.g. Delis, Staikouras, and Tsoumas, 2017) which enhances our study's comparability. Second, it is the date common to all orders in our sample which allows for the most representative analysis. Third, our data source provides this information which eliminates error-prone hand-collection. Finally, for most observations, this date is the earliest on which investors can learn about the EA. If not all shareholders learn of the order on this date or even if they can anticipate it, our results would only understate the EA's impact.

The EA setting offers several practical advantages. First is the abundance and heterogeneity in EAs. Our initial dataset contains over 2250 orders issued to publicly held banks between 1998 and 2014. After requiring recipient banks to share directors with non-banks in our director data, our final sample comprises 1478 orders issued to 73 publicly held banks that collectively share 520 directors with 519 corporates. Significant variation across time, director, bank, and corporate ensures our results reflect general economic relationships; it also allows for a rich set of fixed effects to address confounding factors. Second, unlike most banking sector shocks, EAs exhibit well defined shock boundaries. Identification is more straightforward since data demarcate exactly which institution experiences which type of shock on which date. Finally, though EAs do affect bank performance, their impact is mild relative to other banking sector shocks discussed in the press and academic literature (for example, Amiti and Weinstein, 2011 or Jermann and Quadrini, 2012). The fact that relatively minor bank shocks affect

director-linked corporates suggests more dramatic ones like sweeping regulatory reform or far-reaching crises have even stronger implications.

3. Data and Sample

We obtain all EAs issued between 1998 and 2014 from SNL Financial. The database includes issue date, type, and recipient key which can be traced to the Federal Reserve's primary identifier, RSSD. Next, we identify publicly held banks and their affiliates from the Federal Reserve Bank of New York's links between RSSD and the Center for Research on Securities Prices' (CRSP) primary key, Permco. Using the National Information Center's relationships data, we match each publicly held institution with its subsidiaries and, in several cases, its parents. Finally, we match EAs with their recipients, and the recipients' publicly traded affiliate, by RSSD.

To identify shared directors, we use S&P 1500 director data, which come from Investor Responsibility Research Center (IRRC) and Riskmetrics. We combine the IRRC legacy director database which covers 1998 to 2006 with Riskmetrics which covers 2007 to 2014. We track directors across the entire sample period using single director identifiers created by Coles, Daniel, and Naveen (2014). To check whether a director held bank and corporate board appointments, we use information from IRRC/Riskmetrics on the year a director started with the firm and check the respective shareholder meeting of that year. We exclude EAs issued before the shareholder meeting date in the year a director is hired to either the bank or corporate board. Finally, we obtain market data from CRSP, accounting data from Compustat North America, and compensation data from ExecuComp.

Table 1 summarizes our data by calendar year. The 1,478 EAs in our sample are distributed across 332 enforced bank-years, 1,817 enforced bank-director-years,[4] 2,135 enforced bank-linked-corporate-years, and 2,752 enforced bank-director-linked-corporate-year combinations. Multivariate regressions in Tables 3, 6, and 8 are estimated over these 2,752 observations.

*****Insert Table 1 around here*****

[4] Though it might seem surprising that each enforced bank-year has, on average, six directors who concurrently serve corporates, manual inspection confirmed this figure to be correct. For example, in 1999, Wells Fargo had 21 directors on its board, 18 of which concurrently served on corporate boards.

4. EA Valuation Spillover through Director Resource Reallocation

This section describes our main empirical tests: event studies on how EAs affect bank and corporate shareholders, multivariate fixed-effect regressions to show the impact of director busyness on corporate returns around director-linked EAs, and a direct test of resource reallocation through observing enforced banker-director's resource expenditure on corporate boards.

4.1 Bank Shareholder Reactions to EAs

Researchers from Brous and Leggett (1996) onward consistently document strong, negative abnormal bank stock returns around EA issuance. We confirm these results for all EAs issued to publicly held banks over our sample period. Multiple EAs issued to a single bank on one day constitute a single event. We estimate expected returns using the Fama and French (1993) 3-factor model:

$$r_{i,d} = \alpha_i + \beta_{MKT,i} * r_{MKT,d} + \beta_{SMB,i} * r_{SMB,d} + \beta_{HML,i} * r_{HML,d} + \epsilon_{i,d} \qquad (1)$$

where $r_{i,d}$ denotes day d stock return for bank i, $r_{MKT,d}$ denotes day d excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day d returns on the size and value factors, respectively. Excess market returns are computed as returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. Data on each factor come from Kenneth French's website. We estimate parameters over a pooled window comprising 63 trading days before and 63 trading days after the 43 trading day period centered on EA issuance. A pooled window helps correct for the possibility that EAs are issued during periods of bank financial uncertainty over which sensitivities to the three factors may be changing. MacKinlay (1997) suggests this method can yield more accurate estimates of the true sensitivity on the event date.[5]

Figure 2 cumulates the mean daily abnormal return for banks from 20 trading days before enforcement to 20 trading days after. Our sample is all 2250 EAs issued to publicly held banks between 1998 and 2014. The figure shows that, on average, bank stock prices dramatically decline between days -2 and 7 where day 0 is the issue date. A prolonged reaction period could reflect limited public access to the EA's release. As discussed in Section 2, information is released about the EA around but not

[5] Untabulated analysis finds very similar but stronger results using a conventional estimation window strictly before issuance and employing the market model instead of the Fama and French 3-factor model.

necessarily on the issue date. Between days -2 and 7, the mean EA reduces bank market value by 86 basis points. Prices do not rebound for at least two weeks after the full effect is realized which suggests the decline is not transitory. Poor bank performance unrelated to the EA is unlikely to drive stock price changes as they appear to deviate randomly around zero both before enforcement and after the EA's effects are fully realized. The negative average return in our study is consistent with prior literature. Its magnitude, lower than in prior work, reflects our inclusion of *all EAs* whereas prior research commonly subsets EA types deemed severe (as defined in Section 2). In our case, the full EA sample is more appropriate since the most common EA type, by far – a Sanction against Personnel– signals significant corporate governance information though extant classification schemes would not consider it severe.[6]

*****Insert Figure 2 around here*****

4.2 Corporate Shareholder Reactions to EAs

Next, we analyze our units of interest – director-linked corporates. For this test and all subsequent analysis, our sample contains 1,478 EAs issued over our sample period to banks that share directors with S&P1500 corporates. Some banks receive multiple EAs on the same day so we retain 1,142 distinct bank-event dates related to 73 banks. At issuance, each bank has, on average 6.7 directors who concurrently serve on corporate boards; thus, we obtain 7,627 bank-director-events. The mean director serves on 1.6 corporate boards for a total of 11,891 bank-director-corporate-event date observations. Our sample includes corporates linked to the same enforced bank via multiple directors so the number of distinct bank-corporate-event date combinations is 10,541. We drop observations with insufficient CRSP data to compute abnormal returns for a final event study sample of 10,419 bank-corporate-events. Multiple directors linking the same bank and corporate on the same day represent one event. Our sample includes no cases of corporates linked to multiple banks that receive EAs on the same day.

We test whether corporate *c* experiences an event on day *d* if it shares at least one director with a bank that receives an EA on that day by checking for abnormal corporate returns around that date. Formally, we hypothesize:

[6] A notable exception is Roman (2017) who does classify these orders as severe. However, she does not explore their impact on bank stockholders but rather bank-borrower stockholders and finds significantly negative returns.

H1: Corporates exhibit negative abnormal stock returns around EAs issued to director-linked banks.

We employ a similar procedure as in Section 4.1 to obtain CAR_C. The subscript 'c' denotes 'corporate' to contrast subsequent analysis of bank stock. The only difference between estimation methodologies in Sections 4.1 and 4.2 is the former's split estimation window. Since EAs should not affect corporates outside the shared director channel which we test, we do not expect corporate sensitivities to the three estimation model factors to change around the event. Thus, a conventional estimation window of 126 trading days before the event is more appropriate.[7]

Table 2 reports results of our corporate event study. Beside CAR_C, we report the test statistic proposed by Kolari and Pynnönen (2010). This test accounts for cross-sectional dependence of abnormal returns, which can inflate test statistics if unaddressed. Return dependence is likely in our sample as a single day may provide several related EAs issued to different banks. For example, on April 13, 2011, the Federal Reserve Board issued orders to ten banking organizations for deficient residential mortgage loan servicing and foreclosure practices.[8] If each recipient shares one director with an S&P1500 corporate, these would appear in our sample as ten separate events since they affect different banks and different corporates but information from the ten orders likely overlaps. Moreover, if one director links a single EA recipient bank to multiple corporates, it generates multiple 'events' that are not independent. This effect is compounded when several directors link an enforced bank to multiple corporates. Kolari and Pynnönen (2010) adapt Boehmer, Musumeci, and Poulsen's (1991) test statistic to correct for cross-sectional dependence in the error terms. We also report the ratio of positive to negative returns assessed for significance via the generalized sign test as a nonparametric alternative more robust to outliers.

*****Insert Table 2 around here*****

The first row of Table 2 presents results of this event study. Over our entire sample, the mean corporate linked to an EA recipient bank experiences a statistically significant 18 basis point stock price decline around the EA. Our results do not appear to be driven by outliers as the generalized sign test also

[7] Statistical inference is unchanged when using a split estimation window for corporate abnormal return estimation or the conventional, pre-event window for bank abnormal return estimation.
[8] https://www.federalreserve.gov/newsevents/pressreleases/enforcement20110413a.htm

detects negative abnormal returns with over 99.9 percent confidence. One concern with any event study is that results reflect a spurious correlation or a negative performance trend that the estimation model could not properly address. To test this possibility, the following five rows of Table 2 report placebo tests. In the second (third) row, we move the event date back (forward) 15 trading days; in the fourth (fifth) row, we move it back (forward) 60 trading days; and in the final row, we randomly assign all event dates in our sample to firms in our sample. The KP statistic rejects significant returns in every placebo test and the generalized sign test does so in all but row (3) for which returns are marginally significant. Because placebo tests should suffer the same misspecification problems as the original event study, rows (2) through (5) suggest our results do not capture a spurious correlation or negative trend.

These findings support H1 and are our first novel contribution: banking sector shocks appear to spill over to non-banks via shared directors. An 18 basis point shock to the mean director-linked corporate implies that between 1998 and 2014, EAs removed over $13.4 billion dollars [mean stock price decline * mean firm market capitalization on event date * number of events = -0.18% * $714.3 million * 10,423] from the stock market *ignoring their larger, direct impact on recipient banks.*

For our broader conclusions, however, the mean EA's impact makes little difference. EAs provides a clean framework to trace the shared director channel. However, they are far from the most severe shocks banks have faced over the last 30 years. Gan (2007) investigates how the Japanese housing price bubble burst of the early 1990s affected the economy through its effect on banks. Kang and Stulz (2000) adopt and augment this setting by showing Basel I negotiations also affected Japanese bank borrowers. Chava and Purnanandam (2011) study a U.S. credit crunch induced by bank exposure to 1998 Russian debt default. Of course, the recent financial crisis has produced ample evidence on real outcomes of bank shocks (e.g. Ivashina and Scharfstein, 2008; Afonso, Kovner, and Schoar, 2011; Berger and Bouwman, 2013). Finally, bank bailouts are rare examples of positive bank shocks; theory and evidence on these events abounds, as well (e.g. Diamond and Rajan, 2002; Dam and Koetter, 2012). These papers and others trace the effects of large and varying bank shocks on the economy through bank lending. Table 2 provides insight that bank shocks can also affect the economy through shared directors.

4.3 Director Busyness and the Cross-Section of CAR_C

We proceed by testing whether corporate announcement returns are stronger when directors are more likely to reallocate monitoring or advising resources from corporate to bank. To capture reallocation likelihood, we follow the literature and proxy for existing resource constraints through director busyness. A director is considered busy if she serves at least three boards – the bank's, corporate's, and at least one more – in the same year. Enforcement more likely exhausts a busy director's monitoring and advising resources available to the corporate because of pre-existing resource constraints. This reasoning informs our second hypothesis:

H2: CAR_C are more negative when the linking director is busy.

The relationship between director busyness and resource reallocation has been studied before. Falato, Kadyrzhanova, and Lel (2014) show that exogenous *negative* shocks to board workload reduce firm value; Hauser (2017) finds that exogenous *positive* shocks to director workload have the opposite effect. Fich and Shivdasani (2006) argue that boards dominated by busy directors exhibit weaker corporate governance while Devos, Prevost, and Puthenpurackal (2009) associate these firms with worse monitoring and therefore lower performance. However, Field, Lowry and Mkrtchyan (2013) challenge the view that director busyness hurts the firm; they argue that busy directors can help younger, start-up firms because such directors are well connected. This reasoning does not apply to our setting because EAs shock director responsibilities without immediately affecting director connections.

To determine the impact of director busyness on CAR_C, we estimate the following panel regression. Each observation is a corporate-director-year in which the director(s) serve both corporate and enforced bank(s) that year:

$$MeanCAR_{C_{c,j,t}} = \alpha + \beta * Busy_{j,t} + \gamma_1 Q1\ bank\ CAR_{j,t} + \gamma_2' Director\ Controls$$

$$+ \gamma_3' Corporate\ Controls + \mu_j + \epsilon_{c,j,t} \quad (2)$$

To construct the dependent variable, market reactions around EAs are aggregated into annual observations because director and firm information are only available annually. Within year *t*, when director *j* who serves on the board of corporate *c* sits on exactly one bank board and that bank receives

exactly one EA, the value of $MeanCAR_{C_{c,j,t}}$ equals CAR_C from Section 4.2. However, if, in year t, director j serves multiple enforced bank boards or the bank(s) she serves receive multiple EAs, $MeanCAR_{C_{c,j,t}}$ equals the equally-weighted average CAR_C around all EAs issued to banks that director j serves that year.[9] When several directors link a bank to the same corporate in a given year, we generate multiple corporate-bank-year observations to preserve director-level heterogeneity. Banker-directors can serve multiple corporate boards in a given year which creates correlation across observations. To address the resulting statistical issues, we cluster standard errors at the director level.

Our variable of interest, $Busy$, equals one for busy directors, and zero otherwise. We control for EA severity by including a dummy variable, *Q1 bank CAR*, equal to one if the bank's 3-day abnormal return (CAR_B) around the EA is in the lowest quartile of our sample, and zero otherwise. When a director is associated with multiple EAs within a year, CAR_B are averaged to compute *Q1 bank CAR*, similar to our dependent variable. We include this variable because EAs deemed worse by bank shareholders are likely to produce worse responses from corporate shareholders, as well.[10] Corporate covariates include one-year adjusted return on assets (operating income over lagged assets), one-year buy-and-hold stock returns, book debt to assets, and the natural logarithm of total assets, each measured at the year-end preceding the EA issue date. We include two dummy variables set to one if the director serves as an insider on corporate or bank board, and zero otherwise. Directors not employed by but affiliated with the firm (grey directors) are grouped with non-affiliated outsiders. Director-fixed effects, μ_j, protect against unobservable, time-invariant director characteristics driving corporate returns. For instance, if the director is untrustworthy, shareholders may be more inclined to believe her negligence caused the EA. Thus, our specification tests EA returns *for the same director* over periods of varying resource constraints. To reduce the impact of outliers, continuous variables are winsorized at the 1 percent tails.

Table 3 reports results. Column (1) tests director busyness controlling only for director-fixed effects. Column (2), the baseline model in equation (2), adds *Q1 Bank CAR* and director and corporate

[9] In unreported analysis, we also sum related CAR_C within a year instead of averaging them. Sums may better reflect the orders' impacts if sequential orders compound negative effects. Our main findings are robust throughout.
[10] Similar to prior research, this method separates severe EAs from less severe ones. Our methodological departure is that rather than inferring EA severity from order type, we let the market decide which orders 'bite'. We believe this approach works more accurately though one weakness is potentially incomplete market reactions. EA types are explored with more detail in Section 5.1 when we investigate lending implications.

controls while column (3) also adds bank covariates. Bank covariates mirror corporate ones except tier 1 capital to assets (for banks) replaces leverage (for corporates). Column (4) adds year-fixed effects to the baseline specification while column (5) substitutes director effects for corporate ones to ensure unobservable *firm-level* heterogeneity does not drive our results. *Busy* remains statistically significant throughout these five specifications. For our baseline model, the average corporate loses 63 basis points more in value around director-linked bank EAs if the director's resources are already likely constrained. These results support H2. In columns (2) and (4), *Q1 Bank CAR* loads significantly negative consistent with more impactful EAs producing worse related corporate shareholder reactions.[11] This result also supports resource reallocation because more impactful EAs would likely reallocate more director resources toward the bank.

*****Insert Table 3 around here*****

Column (6) advances this analysis by separately considering EAs likely to reallocate more director resources. We compare $MeanCAR_C$ for observations subset by the intersection of *Busy* and *Q1 Bank CAR*. The four subsets are as follows: (1) the linking director is busy and her associated EA(s) produce an average CAR_B in the lowest quartile; (2) the linking director is busy and her associated EA(s) do not produce an average CAR_B in the lowest quartile; (3) the linking director is not busy and her associated EA(s) produce an average CAR_B in the lowest quartile; and (4) the linking director is not busy and her associated EA(s) do not produce an average CAR_B in the lowest quartile. Column (6) includes dummies for the first three subsets while the last serves as reference category. We find that observations for which the director is busy and her associated CAR_B are in the lowest quartile produce the most negative $MeanCAR_C$. Busy directors associated with milder CAR_B still produce significantly negative $MeanCAR_C$ though the magnitude declines. In contrast, directors who are not busy are not associated with negative $MeanCAR_C$ whether or not associated CAR_B fall in the lowest quartile. At the bottom of the table, we use an F-test to check whether the coefficients for subsets (1) and (2) differ significantly. The test confirms that the effect of busyness on $MeanCAR_C$ is much stronger when the EAs are met with

[11] Using CAR_B instead of the *Q1 bank CAR* provides similar results: CAR_B loads significantly positive indicating that smaller bank shocks produce smaller corporate shocks. However, we opt for the *Q1 bank CAR* dummy to categorize observations by the intersection of director busyness and bank shock severity in Column (6).

significantly negative bank shareholder reactions. These results offer further support that resource reallocation explains negative corporate returns around director-linked bank EAs.

To ensure no single director, corporate, bank, or year drives our result, we repeat column (2) regressions iteratively excluding each. Panels A, B, C, and D of Figure 3 report that coefficient estimates for busy remain stable despite these exclusions. In Panel D, we also exclude the entire financial crisis period defined as 2007 through 2010 as the final observation in the series. In Panel D, the coefficients for *Busy* change less than 20 percent relative to the baseline specification while for the other panels, the bandwidth is around 10 percent. Interestingly, coefficients are more volatile around the dot-com bubble burst than the recent financial crisis.

*****Insert Figure 3 around here*****

4.4 Director Resource Expenditure on Corporate Boards

This subsection tests whether banker-directors reduce resource expenditure on corporate boards by serving on fewer committees or attending fewer board and committee meetings in enforcement years. Unfortunately, detailed data on how directors expend resources are unavailable though we exploit two proxies at our disposal. First, director compensation data offers insight because directors are paid for board meetings attendance and for committee service or rank (Farrell, Friesen and Hersch, 2008). We focus on within-director compensation changes around EA issuance which is likely to reflect changing participation. Second, SEC filings identify which directors attend fewer than 75% of the board meetings. Recent literature interprets meeting attendance as one measure of director output and commitment to the firm (e.g. Adams and Ferreira, 2008; Min and Chizema, 2015; Cai, Garner, and Walkling, 2009; Masulis, Wang, and Xie, 2012). Using these two proxies, we can test whether banker-directors expend fewer resources on corporate boards in enforcement years than in other years. Formally, we hypothesize:

H3: Banker-directors expend fewer resources on corporate boards after their bank receives an EA.

To test this hypothesis, we estimate the following equation:

$$Y_{c,j,t} = \alpha_1 * EBD_{j,t} + \alpha_2 * NEBD_{j,t} + \delta_1' Director\ Controls + \delta_2' Corporate\ Controls + \mu_j + \lambda_t + \epsilon_{c,j,t} \quad (3)$$

where c, j, and t index the corporate, director, and year, respectively. The dependent variable, Y, is either director cash compensation or an indicator equal to one if the director attended fewer than 75 percent of

board meetings that year and zero, otherwise. Compensation data come from ExecuComp, which we match to IRRC/Riskmetrics by director name, company identifier, and year. Attendance data come from IRRC/Riskmetrics. We use a conditional logit specification (Andersen, 1970; Chamberlain, 1980) on regressions of nonattendence. Our variables of interest are *EBD*, a dummy that equals one when a banker-director serves a bank that receives an EA during the current or previous year, and *NEBD*, a dummy that equals one when a banker-director serve a bank that did not receive an EA in the current or previous year. We measure enforcement over the current and previous years to capture the effects for EAs issued late in the year. The reference category is a director who has not served a bank in the current or previous year. A negative (positive) coefficient on *EBD* in the cash compensation (nonattendance) regressions indicates lower director resource expenditure immediately following enforcement.

In estimating equation (3), we exclude appointment years because compensation and attendance rates of newly appointed directors might be lower due to mid-year appointments. We also exclude inside corporate directors because their board meeting attendance is somewhat mandatory. Director-fixed effects control for all time-constant director characteristics, such as gender or education, which affect board meeting attendance (Adams and Ferreira, 2008). Moreover, Adams and Ferreira (2012) show that banker-directors attend fewer board meetings than other directors so it is important that our estimation comes only from *within director* variation. Year-fixed effects adjust for economy-wide compensation or attendance trends. We control for board size, since larger boards have a higher potential for free-riding problems (Reeb and Upadhyay, 2010) and CEO duality (firms in which the CEO chairs the board) as a proxy for agency problems (Brickley, Coles, and Jarrell, 1997).

Table 4, Panel A reports coefficient estimates from compensation (Columns (1)–(3)) and nonattendance ((Columns (4)–(6)) regressions.[12] Columns (1) and (4) pool bank insiders and outsiders into the *EBD* and *NEBD* dummies. We find that banker-director cash compensation is significantly lower in enforcement years. In Panel B, we show that the coefficients for *EBD* and *NEBD* differ significantly

[12] After the introduction of SOX in 2002, attendance problems steadily declined (Masulis, Wang, and Xie, 2012). Between 1998 and 2002, up to 3 percent of directors attended fewer than 75 percent of meetings; the fraction declined to 1.1 percent between 2003 and 2009, and finally dropped to 0.6 percent between 2010 and 2014. Thus, nonattendance can hardly be measured after 2010 so we investigate attendance problems over 1998–2002 sample, only. Using the full sample period, we still find significantly higher attendance problems for inside banker-directors after enforcement.

from one another in the compensation regression but not in the nonattendance one. One explanation is that the dummy variable measuring nonattendance is too coarse to detect differential attendance patterns. Compensation regressions support H3: banker-directors reallocate resources away from corporate boards after their bank receives an EA.

*****Insert Table 4 around here*****

In Columns (2) and (5), we differentiate between inside and outside banker-directors,[13] because EAs should impact the two types' work burdens differently. Both compensation (Column (2)) and nonattendance regressions (Column (5)) indicate that inside banker-directors expend fewer resources on corporate boards following enforcement. Though negative compensation and nonattendance differentials exist for outside banker-directors, they lack statistical significance.

Finally, in Columns (3) and (6), we differentiate between busy and non-busy outside and inside banker-directors because EAs might impact busy director resources more. The reference category in these regressions is a busy director not serving on any bank board in the current or previous year. We find that busy bank insiders receive significantly lower cash compensation in enforcement years. Attendance regressions reinforce that banker-directors, particularly bank insiders, are more likely to have attendance problems immediately after their bank receives an EA. We find significant differences for busy inside banker-directors between enforced and non-enforced years suggesting resource reallocation is concentrated in busy inside banker-directors.[14]

5 Alternative Explanations

In this section, we prod our results' validity by testing whether arguments other than resource reallocation can explain negative corporate stock price responses to director-linked bank EAs. First, we test whether EA-induced credit frictions between bank and corporate could explain negative abnormal returns. Next, we investigate whether returns could reflect corporate shareholders' revaluation of the linking director's quality. Finally, we explore whether the selection of enforced banker-directors to

[13] Since this analysis is restricted to corporate board outsiders, we can consider director inside/outside status only on the bank board.

[14] It is possible that banks identify corporate governance deficiencies before regulatory intervention. If so, remediation of internal control weaknesses may begin before enforcement though we cannot observe how long it lasts. By testing for resource reallocation in the year of and year following enforcement, our results potentially understate resource reallocation which may start before enforcement. In untabulated analysis, we check for compensation and attendance differentials in the year before, the year of, and the year after enforcement and find similar but weaker results.

worse performing non-banks can drive our results. Director resource reallocation remains the most viable explanation.

5.1 EA-Induced Credit Frictions between Bank and Corporate

The shock spillover we measure could be driven by EAs straining credit relationships between banks and their corporate borrowers. Corporates may hire banker-directors specifically to obtain linked-bank credit at better terms. If the EA shocks a bank's ability to lend, negative corporate stock price reactions could reflect tighter credit constraints, not resource reallocation. If busy directors are those more likely to facilitate bank-to-linked-corporate lending, our results in Tables 3 and 4 would obtain absent resource reallocation. This line of reasoning rests on three assumptions. First, corporates that share directors with a bank must borrow or intend to borrow from that bank. Second, EAs must negatively shock the bank's ability to lend to the corporate. Finally, the credit relationship must come at preferable terms or, at least, switching lenders must be costly to the corporate.

The first assumption is not directly testable because bank credit relationships are confidential. However, recent literature has tested the second. Roman (2017) and Deli et al. (2016) use syndicated loan data to study the effects of enforcement on bank borrowers; both conclude that EAs actually *increase* rather than *decrease* borrower welfare. After enforcement, bank borrowers enjoy lower loan spreads, fewer restrictive covenants, and more generous terms. Thus, the only studies to investigate borrower welfare after enforcement find evidence against the second assumption. Further, it is questionable whether the average EA in our sample directly affects bank lending in any meaningful way. As Appendix I shows, 71 percent of EAs in our sample are Sanctions against Personnel which do not directly impact lending. Only Cease and Desist Orders or Written Agreements, which represent a small fraction of our sample, can influence bank lending directly by mandating higher capitalization, stronger underwriting standards, or more conservative internal loan classifications. Finally, evidence suggests that banker-directors avoid conflicts of interest with corporates that they serve (Booth and Deli, 1999; Kroszner and Strahan, 2001; Byrd and Mizruchi, 2005). Therefore, credit obtained from director-linked banks is unlikely to come at preferential terms and could be costlessly substituted if the linked bank must ration credit. This consideration casts doubt on the third assumption, as well.

To be conservative, we check whether the EA-induced credit frictions can explain our results using event studies on subsets. In Table 5, we replicate event studies from Section 4.2 using subsets of corporates that are more and less likely to be affected by EA-induced credit constraints. A bank relationship is more valuable to firms that have trouble accessing debt markets. In row (1), we retain observations in the lowest quartile of book leverage, expecting a director-linked credit connection to be most important for these companies. However, a counter-argument can be made that these firms have less debt because they need less debt and it is actually the quartile with highest book leverage which would be most impacted by an EA-induced credit constraint. We report this subset event study in row (2). Rows (3) and (4) replicate the analysis using market leverage rather than book leverage to account for stale book values of equity. We also consider geographic proximity between bank and corporate. Sufi (2007) shows that geographic proximity facilitates lending at better terms. If so, corporates geographically farthest from their linked banks are least likely to borrow from these banks. Rows (5) and (6) respectively report event study results on quartiles in which corporates are closest to and farthest from director-linked banks. Finally, since the only EAs in our sample that can explicitly affect lending are Cease and Desist Orders and Written Agreements, rows (7) and (8) report results from event studies which only include these order types and exclude them, respectively.

*****Insert Table 5 around here*****

For each subset except low market leverage in row (3) and Cease and Desists Orders and Written Agreements in row (7), CAR_C are significantly negative. This suggests the credit channel is not a first-order determinant of shock spillover in our sample. While insignificant results from row (7) are consistent with these order types, deemed more severe by prior research, not facilitating a shock spillover, a more plausible explanation rests on reduced statistical power: this subset contains 60 EAs.

Having shown that EAs affect director-linked corporates whether or not they impede credit, we test whether the effect of director busyness on $MeanCAR_C$ also persists. To do so, we re-estimate equation (2), interacting *Busy* with dummies for the subsets in Table 5. Table 6 reports results. For each specification, *Busy* relates negatively and significantly to $MeanCAR_C$ regardless of the subset and in no specification does the credit friction proxy relate to $MeanCAR_C$ when the director is not busy. In Column (1), the effect of director business on $MeanCAR_C$ appears stronger for the credit constrained subset which

is consistent with a shocked lending channel. However, the negative relationship between *Busy* and $MeanCAR_C$ persists in the non-constrained subset in Column (1) and throughout which implies that credit constraints cannot fully explain our results. That Column (1) relationships are not robust for other definitions of credit constraints suggests credit constraints have little explanatory power, overall.

*****Insert Table 6 around here*****

5.2 EA-Induced Shocks to Director Reputation

EAs can also provide new, value-relevant information about the director to bank-linked corporate shareholders. Specifically, if the director failed to keep her bank out of trouble, she may not be as apt as corporate shareholders thought. If so, corporate stock price declines would not reflect a shock spillover but rather value-relevant news about director quality. Two basic dimensions affect the severity of such an information shock: information asymmetry about the director and her culpability.

Short-tenured corporate directors are less likely to have an established reputation with corporate shareholders so the EA may provide a larger information shock about these directors' quality. Director culpability for the EA is difficult to measure, however, recent fraud literature argues that shareholders hold longer tenured directors more accountable for the infraction (Brochet and Srinivasan, 2014; Karpoff, Lee, and Martin, 2008; Srinivasan, 2005). In our setting, a director's bank board tenure could capture her culpability for the internal control weakness that caused the EA. We define a director as short-tenured if she has served less than four years and long-tenured if she served more than seven years at the time of enforcement. Rows (1) and (2) of Table 7 respectively report event study results for subsets of directors with short and long tenures on the corporate board. Rows (3) and (4) do the same with respect to bank board tenure. For all four subsets, corporate stock prices fall significantly which suggests our results obtain regardless of information asymmetry around the director or her possible culpability.

*****Insert Table 7 around here*****

Table 8 reports equation (2) regressions that interact *Busy* with dummies for short- and long-tenure on corporate or bank board. This table shows that the relationship between busyness and $MeanCAR_C$ obtains regardless of director tenure. When the director is not busy, no negative relationship obtains, regardless of tenure on either board. These results suggest information asymmetry and culpability are unlikely to explain EA valuation spillover.

*****Insert Table 8 around here*****

We also test whether EAs reveal news about director quality by studying future outside directorships. If EAs cause shareholders to reappraise the linking director's quality downward and shareholder are generally correct in their assessment, banker-directors should hold fewer board seats after enforcement. Toward that end, we test whether serving on an enforced bank in t, or t-1 reduces the director's board seats in t+2. We follow Harford and Schonlau (2013) in employing an ordered logit model. The dependent variable is the two-year lead number of board seats:

$$SEAT_{j,t+2} = \alpha + \beta_1 * EBD_{j,t} + \beta_2 * NEBD_{j,t} + \gamma_1' Director\ Controls + \gamma_2' Corporate\ Controls + \beta_3 * SEAT_{j,t-1} + I_c + \lambda_t + \epsilon_{j,t+2} \quad (4)$$

EBD, *NEBD*, and the reference category are defined as in Table 4. Our sample is obtained by culling the IRRC/Riskmetrics data to one observation per director-year. For directors on multiple boards in a year, we retain data from the company with the highest ROA.[15] We exclude directors who serve only on financial company boards to maintain a reference category of non-bankers. We cluster standard errors by director.

Panel A of Table 9 reports odds ratios from estimating equation (4). In Column (1), odds ratios above one for enforced and non-enforced banker-directors show that serving on a bank board in the current or previous year yields more board seats in year *t+2*. Difference tests in Panel B show that enforced banker-directors have as many board seats in t+2 as non-enforced banker-directors which implies that enforcement does not affect future outside appointments. Thus, negative corporate stockholder reactions are unlikely to reflect a downward revaluation of banker-director quality.

*****Insert Table 9 around here*****

The test in Column (1) might miss important heterogeneity among banker-directors. As Table 3 shows, differences exist between bank insider and outsider resource expenditure following enforcement. In Column (2) of Table 9, we investigate differences between inside and outside banker-directors while keeping the non-banker reference category as before. Odds ratios above one indicate that all banker-directors, irrespective of whether they serve as insider or outsider on boards of enforced or non-enforced banks, enjoy significantly more board seats than non-bankers. In Column (3), we use director tenure on

[15] Our results obtain when we instead retain the largest company in terms of assets.

bank boards as a proxy for culpability (Karpoff, Lee, and Martin, 2008). We disaggregate directors into those with short tenure (less than four years) and other directors. The latter group may be considered more responsible for the EA. Column (3) shows that banker-directors that have not been recently hired hold more board seats than non-banker-directors. We do not observe a significant difference in future board appointments between enforced and non-enforced banker-directors whose tenure exceeds three years. From this we conclude that director labor markets do not interpret long service on an enforced bank board as news about responsibility for corporate governance deficiencies.

Column (3) yields another interesting observation. Difference tests in Panel B confirm the odds ratio is significantly higher for short-tenured banker-directors with enforcement experience than for non-enforced banker-directors. In other words, enforced banker-directors with short bank tenure receive more board seats than those who do not have enforcement experience. One interpretation is that helping a bank work through a corporate governance deficiency, provided the director is unlikely to be responsible for it, actually bolsters her monitoring and advising capital.

The final source of heterogeneity that we consider is whether directors keep their position on the bank board. This is important since director turnover could reflect corporate board restructuring to replace bad monitors/advisors with good ones (Hermalin and Weisbach, 1988; Weisbach, 1988; and Pearce and Zahra, 1992). Therefore, EAs may only affect future board seats when the directors are dismissed from the bank board. Alternatively, independent directors may leave poorly performing and financially distressed firms to protect their reputations (Fama, 1980; Gilson, 1990; Hambrick and D'Aveni, 1992; Daily and Dalton, 1995). In Column (4), we split banker-directors into those continuing bank service past year *t*, and those who terminate bank service in year *t*. We do not find any difference in future board seats for directors keeping their bank position whether they serve enforced or non-enforced banks. We do find, however, that directors leaving enforced banks have more future board seats than those leaving non-enforced banks, which contrasts the argument that EAs signal negative information about the director. Panel B shows this difference to be statistically significant. Overall, Table 9 suggests that the average banker-director's reputation is unaffected by enforcement and could even benefit if the director is unlikely to be held responsible.

5.3 Director Selection to Enforced Bank and Corporate

Another concern comes from non-random assignment of banker-directors to enforced and non-enforced banks. It could be the case that poorly governed, worse performing banks appoint worse directors. Poorly governed, worse performing corporates might appoint the same directors. If so, corporates that employ enforced banker-directors would exhibit worse returns than corporates that appoint non-enforced banker-directors without resource reallocation. However, our empirical design protects against this explanation driving the shock spillover. Note that this explanation rests on a cross-sectional comparison of firms yet abnormal returns in our event studies are computed as deviations from *within-firm* expected returns. Whether or not the selection story holds, expected returns should only be negative if the EA truly impacts the corporate because the event study methodology makes no cross-sectional comparison. Moreover, if corporates that selected enforced banker-directors perform worse, overall, this performance differential should persist into the placebo tests reported in rows (2) through (6) of Table 2 and it does not.

To further rule out that our results are driven by banker-director selection, we compare characteristics of corporates in the year before they appoint banker-directors. We test for differences between the following two groups: (1) the director's bank employer received an EA in the current or previous year and (2) the director's bank employer does not receive an EA in the current or previous year. Table 10 provides variable means for these two groups and t-statistics on whether they differ significantly. We observe no statistical difference in any firm-level characteristics so we find no reason to suspect the two groups differ systematically. We conclude sample selection is unlikely to drive our conclusions.

*****Insert Table 10 around here*****

6. Discussion and Conclusion

We investigate the effects of bank EAs on linked corporate stock prices. The linking mechanism we focus on is an individual serving on both firms' boards – a shared director. Using EAs issued from 1998 to 2014, we show that director-linked corporates have significantly negative announcement returns around bank EAs. These bank shocks appear to spill over into the nonfinancial sector. The most likely explanation is director resource reallocation. We support this interpretation with four empirical findings.

First, announcement returns are more negative when the shared director's resources are already likely to be constrained (when she serves at least three boards). Second, the effect strengthens as the EA is likely to consume more director resources. Third, banker-directors receive lower cash compensation from corporates in enforcement than in non-enforcement years. Lower pay reflects less responsibility or less frequent board meeting attendance. Fourth, inside banker-directors attend significantly fewer corporate board meetings after enforcement than in other years. We present evidence inconsistent with three alternative explanations for our results: EA-induced credit constraints between bank and director-linked corporate, EA-induced shocks to linking director reputation, and a selection of worse directors to both poorly performing corporates and enforced banks.

Our findings could impact investors, regulators, and lawmakers. Because EAs are mild relative to other banking sector events, we expect more severe shocks that require board attention - monetary policy changes, asset price bubbles, corporate restructurings, etc. – to have even stronger implications for director-linked corporate shareholders. Moreover, our results suggest that stronger governance requirements in the banking sector, such as those accompanying Dodd-Frank and Basel III, might pull shared director resources out of non-banks. While much work remains regarding strength and extent of the shared director channel of bank shock transmission, we believe the costs and benefits of 'bankers on board' are worth reevaluating.

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Appendix 1: Enforcement action types

This appendix describes and counts the types of enforcement actions in our sample. Beside each description is an assessment of whether this order type can directly restrict lending at the bank.

EA Type	No. of observations	Description	Potentially Lending Related?
Cease and Desist Orders	48	Legally binding order directing bank management to take specific measures to remedy 'unsafe or unsound' activities.	Yes
Cease and Desist Orders against a Person	36	Legally binding order directing bank employees to take specific measures to remedy 'unsafe or unsound' activities.	Yes
Formal Agreements	22	Legally binding agreement between bank and regulators to take specific measures to remedy 'unsafe or unsound' activities.	Yes
Fines Levied Against a Person	39	Fines against persons for unsafe or unsound actions, legal violations, and/or compliance failures.	No
Other Fines	67	Fines against bank for unsafe or unsound actions, legal violations, and/or compliance failures.	No
Restitution by a Person	34	Orders requiring individuals to reimburse bank or regulator for wrongdoing.	No
Sanctions against Personnel	1,334	Order prohibiting individuals from future bank employment without prior regulatory approval.	No
Other	15	All orders which do not fit the above categories.	No

Table 1: Time series of enforcement and director data

This table counts, by year, the number of EA issue dates, EAs, recipient banks, EA recipient banker-directors who concurrently serve at least one corporate, corporates linked to enforced banks through at least one shared director, and enforced bank-shared-director-corporate links in our sample.

Year	EA issue dates	EAs	Recipient banks	Enforced banker-directors	Linked corporates	**Enforced bank-director-corporate-years**
1998	26	33	15	119	166	**225**
1999	64	84	23	148	188	**245**
2000	66	72	19	135	150	**198**
2001	74	110	17	134	151	**210**
2002	43	79	19	122	137	**184**
2003	117	153	24	145	166	**232**
2004	62	87	18	103	130	**161**
2005	143	189	22	129	153	**200**
2006	37	48	10	56	77	**89**
2007	60	73	20	87	105	**129**
2008	78	95	23	100	109	**135**
2009	99	113	21	109	123	**155**
2010	63	82	18	94	107	**132**
2011	62	74	23	106	119	**151**
2012	52	66	24	97	108	**134**
2013	52	65	19	84	92	**112**
2014	44	55	17	49	54	**60**
Total	1,142	1,478	332	1,817	2,135	**2,752**

Table 2: CAR_C around EA issuance

This table presents mean cumulative abnormal returns for corporate stocks around the dates that linked banks receive EAs. Linked banks are those that share a common director with the corporate on the EA's issue date. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{c,d} = \alpha_c + \beta_{MKT,c} * r_{MKT,d} + \beta_{SMB,c} * r_{SMB,d} + \beta_{HML,c} * r_{HML,d} + \epsilon_{c,d}$$

where $r_{c,d}$ is day d stock return for corporate c, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day d returns on the size and value factors, respectively. Excess market returns are computed as returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. The model is estimated over 126 days ending 21 days before EA issuance. Estimation model residuals are cumulated over the 3-day period centered on EA issuance to obtain CAR_C. We treat multiple EAs issued to the same bank on the same day as a single event. Row (1) presents results of our event study while rows (2) through (6) report results of placebo event studies. Rows (2) and (3) respectively impose a placebo event 15 trading days before and after the actual event. Rows (4) and (5) do so 60 trading days before and after the event. Row (6) assigns an event date in our sample to an event firm, at random. Our sample period spans 1998 to 2014. We report mean CAR_C, the Kolari and Pynnönen (2010) test statistic (KP), and the ratio of positive to negative CAR_C assessed for significance using the generalized sign test. *** and * denote statistical significance at 1 and 10 percent, respectively.

Row	Sample	No. of obs	CAR_C	KP	+/-
(1)	Event Study Results	10,419	-0.18%	-3.621***	4,920:5,499***
(2)	PLACEBO: 15 days earlier	10,418	0.03%	-0.497	5,056:5,362
(3)	PLACEBO: 15 days later	10,418	0.09%	0.542	5,134:5,284*
(4)	PLACEBO: 60 days earlier	10,419	-0.02%	-0.569	5,073:5,346
(5)	PLACEBO: 60 days later	10,419	-0.04%	-0.514	5,073:5,346
(6)	PLACEBO: Random	9,560	-0.08%	0.619	4,609:4,951

Table 3: Director busyness and the cross-section of CAR_C

This table reports results from the following director fixed-effects regression where the unit of observation is corporate *c* linked to one or more banks through director *j* in year *t*:

$$MeanCAR_{C_{c,j,t}} = \alpha + \beta * Busy_{j,t} + \gamma_1 Q1\ Bank\ CAR_{j,t} + \gamma_2' Director\ Controls + \gamma_3' Corporate\ Controls + \mu_j + \epsilon_{c,j,t}$$

The dependent variable averages 3-day cumulative abnormal corporate returns (CAR_C) for all relevant enforcement actions (EAs) in year *t*. Relevant EAs are those issued to banks linked to corporate *c* through director *j* in year *t*. A bank and corporate are linked if director *j* sits on both companies' boards. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{c,d} = \alpha_c + \beta_{MKT,c} * r_{MKT,d} + \beta_{SMB,c} * r_{SMB,d} + \beta_{HML,c} * r_{HML,d} + \epsilon_{c,d}$$

where $r_{c,d}$ is day *d* stock return for corporate c, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day *d* returns on the size and value factors, respectively. Excess market returns are returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. We estimate parameters over 126 trading days ending 21 days before EA issuance. Estimation model residuals are cumulated over the 3-day period centered on the EA issue date. We treat multiple EAs issued to the same bank on the same day as a single event. $Busy_{j,t}$ is a dummy equal to one if director *j* serves on more than two boards in year *t* and zero, otherwise. *Q1 Bank CAR* equals one when the average of all CAR_B for the director's relevant EAs is in the first quartile, and zero otherwise. *Director Controls* include a dummy variable equal to one if the director is a corporate insider and another variable equal to one if the director is a bank insider. *Corporate Controls* include logged total assets, book debt to total assets, return on assets adjusted for extraordinary items, and annual buy-and-hold returns, each measured at the year-end preceding enforcement. The constant is omitted for brevity. Column (1) includes only $Busy_{j,t}$ and director-fixed effects; Columns (2) through (6) add corporate controls. Column (3) also adds bank controls. *Bank Controls* are logged total assets, tier 1 capital to total assets, annual buy-and-hold returns, and return on assets adjusted for extraordinary items, each measured at the year-end preceding enforcement. Columns (1) through (4) and (6) include director-fixed effects; Column (4) also includes year-fixed effects while Column (5) substitutes director-fixed effects for corporate-fixed effects. Column (6) includes three of four categories resulting from the intersection of *Busy* with *Q1 Bank CAR*. The reference category is a non-busy director whose bank is not in the first quartile of CAR_B. Our sample period spans 1998 to 2014. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively. Standard errors, clustered by director (corporate) in columns (1)-(4) and (6) (column (5)), are reported below coefficient estimates.

	MeanCAR$_C$					
	(1)	(2)	(3)	(4)	(5)	(6)
Busy	-0.0041**	-0.0064***	-0.0054**	-0.0058***	-0.0044***	
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	
Q1 bank CAR		-0.0030**	-0.0024	-0.0031**	-0.0015	
		(0.001)	(0.002)	(0.001)	(0.001)	
Busy=1 & Q1 bank CAR=1						-0.0082***
						(0.002)
Busy=1 & Q1 bank CAR=0						-0.0037*
						(0.002)
Busy=0 & Q1 bank CAR=1						0.0025
						(0.003)
Corporate insider		0.0006	-0.0002	0.0012	0.0011	0.0014
		(0.002)	(0.003)	(0.002)	(0.002)	(0.002)
Bank insider		-0.0059	-0.0099	-0.0045	-0.0003	-0.0042
		(0.006)	(0.008)	(0.006)	(0.002)	(0.007)
Log corporate total assets		-0.0001	-0.0011	-0.0002	0.0002	-0.0002
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Corporate book leverage		0.0031	0.0161**	0.0044	-0.0077	0.0046
		(0.006)	(0.008)	(0.006)	(0.009)	(0.006)
Corporate adjusted ROA		0.0207*	0.0252*	0.0242**	0.0214	0.0240**
		(0.012)	(0.015)	(0.012)	(0.017)	(0.012)
Corporate buy-and-hold returns		0.0012	0.0005	0.0009	0.0001	0.0009
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Log bank total assets			0.0015			
			(0.002)			
Bank tier 1 capital			-0.0052			
			(0.046)			
Bank adjusted ROA			-0.0012			
			(0.002)			
Bank buy-and-hold returns			0.0030			
			(0.067)			
No. of observations	2,752	2,338	1,561	2,338	2,338	2,338
Fixed Effects	Director	Director	Director	Dir. & Yr.	Corporate	Director
F- statistics	5.505	2.580	1.840	1.911	1.904	2.117
Difference test (p-value)						
Busy=1 & Q1 bank CAR=1 vs Busy=1 & Q1 bank CAR=0						0.0017

Table 4: Outside director resource expenditure on corporate boards

Panel A reports coefficient estimates from the following regression model of outside director resource expenditure on corporate boards:

$$Y_{c,j,t} = \alpha_1 * EBD_{j,t} + \alpha_2 * NEBD_{j,t} + \delta_1' Director\ Controls + \delta_2' Corporate\ Controls + \mu_j + \lambda_t + \epsilon_{c,j,t}$$

We proxy for resource expenditure, *Y*, using director cash compensation or board meeting nonattendance. Columns (1) through (3) report director fixed-effects regressions of director cash compensation on enforcement status and a set of controls. Columns (4) through (6) regress director nonattendance on enforcement status and a set of controls using conditional logit regressions with director-fixed effects. Nonattendance is a dummy equal to one if the director attends less than 75 percent of all board meetings, and zero, otherwise. *EBD* equals one if the director *j* serves a bank that received at least one EA in years *t* or *t*-1, and zero otherwise. *NEBD* equals one if the director *j* serves a bank that did not receive an EA in t or t-1. Panel B tests for statistical difference between select coefficient estimates using F- and χ^2-tests for Columns (1)-(3) and (4)-(6), respectively. In Columns (1), (2), (4) and (5), the reference category is a director not serving a bank board in year t and t-1, while in Columns (3) and (6) it is a busy director not serving a bank board in year t and t-1. In Columns (1) and (4), EBD and NEBD measures inside and outside banker-directors jointly, while Columns (2) and (5) disaggregate bank insiders from outsiders. In Columns (3) and (6) we differentiate the effects between busy and non-busy inside and outside banker-directors. *Director Controls* include three dummy variables: Audit (Compensation, Nomination) chair is a dummy equal to one if the director chairs the audit (compensation, nomination) committee, and zero otherwise. *Corporate Controls* include logged total assets, book debt to total assets, return on assets adjusted for extraordinary items, annual buy-and-hold returns, the ratio of total assets less book equity plus market equity to total assets (*Tobin's Q)*, the ratio of total assets less intangible assets to total assets (*Tangibility*), research and development expenses to total assets (*R&D*) (if positive, zero otherwise), and cash flows to total assets (*Cash flow*). CEO duality equals one if the CEO is also the chairman of the board. Board size denotes the number of directors on the board. All corporate controls are measured at year-end of the previous year. The constant is omitted for brevity. Our sample period spans 2006 through 2014 for cash compensation and 1998 through 2002 for director nonattendance. Standard errors reported in parentheses are corrected for heteroscedasticity and clustered at the director level. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively.

Panel A:	Cash compensation			Nonattendance		
	(1)	(2)	(3)	(4)	(5)	(6)
EBD	-3.811***			0.764**		
	(1.331)			(0.376)		
NEBD	-1.090			0.582**		
	(1.530)			(0.285)		
Inside EBD		-7.846***			2.240***	
		(2.399)			(0.630)	
Inside NEBD		-5.347**			1.562***	
		(2.335)			(0.572)	
Outside EBD		-2.849*			0.480	
		(1.457)			(0.440)	
Outside NEBD		-0.236			0.253	
		(1.704)			(0.351)	
Busy inside EBD			-10.534***			2.347***
			(2.759)			(0.594)
Non-busy inside EBD			-3.312			1.305
			(3.336)			(1.128)
Busy inside NEBD			-4.458*			1.275**
			(2.477)			(0.645)
Non-busy inside NEBD			-6.036			1.746**
			(4.047)			(0.687)
Busy outside EBD			-3.309*			0.424
			(1.724)			(0.491)
Non-busy outside EBD			-1.410			0.486
			(2.144)			(0.768)
Busy outside NEBD			-0.568			0.054
			(2.094)			(0.425)
Non-busy outside NEBD			0.887			0.492
			(2.051)			(0.499)
Non-busy corporate director			0.248			-0.153
			(0.519)			(0.151)
Audit chair	5.667***	5.658***	5.659***	-0.122	-0.129	-0.124
	(1.024)	(1.024)	(1.024)	(0.211)	(0.212)	(0.211)
Compensation chair	3.739***	3.733***	3.735***	-0.425*	-0.426*	-0.421*
	(0.922)	(0.922)	(0.922)	(0.220)	(0.220)	(0.220)
Nomination chair	7.080***	7.072***	7.067***	0.153	0.153	0.162
	(0.911)	(0.911)	(0.911)	(0.324)	(0.324)	(0.325)
Corporate CEO duality	-1.925***	-1.928***	-1.931***	-0.134	-0.137	-0.139
	(0.521)	(0.521)	(0.521)	(0.150)	(0.150)	(0.150)
Corporate board size	-0.371**	-0.371**	-0.372**	0.066**	0.066**	0.066**
	(0.186)	(0.186)	(0.186)	(0.027)	(0.027)	(0.027)
Log corporate total assets	9.318***	9.320***	9.320***	-0.379***	-0.380***	-0.377***
	(0.479)	(0.479)	(0.479)	(0.068)	(0.068)	(0.068)
Corporate book leverage	-0.123	-0.127	-0.125	0.220	0.210	0.186
	(3.105)	(3.106)	(3.106)	(0.402)	(0.403)	(0.406)
Corporate adjusted ROA	0.095***	0.095***	0.095***	-0.014**	-0.013**	-0.014**
	(0.033)	(0.033)	(0.033)	(0.006)	(0.006)	(0.006)
Corporate buy-and-hold return	0.158	0.161	0.160	0.155*	0.156*	0.160*
	(0.293)	(0.293)	(0.293)	(0.088)	(0.088)	(0.088)
Corporate Tobin's Q	-1.413***	-1.413***	-1.413***	-0.025	-0.026	-0.027
	(0.300)	(0.300)	(0.300)	(0.053)	(0.054)	(0.054)
Corporate tangibility	0.066***	0.066***	0.066***	0.006	0.006	0.005
	(0.024)	(0.024)	(0.024)	(0.004)	(0.004)	(0.004)
Corporate R&D	18.140	18.166	18.153	-3.789**	-3.822**	-3.785**
	(13.005)	(13.005)	(13.004)	(1.687)	(1.706)	(1.703)
Corporate cash flow	-1.552	-1.550	-1.539	0.254	0.216	0.249
	(2.713)	(2.713)	(2.713)	(0.587)	(0.590)	(0.595)
No. of observations	59,816	59,816	59,816	4,631	4,631	4,631
Fixed Effects	Dir. & Year	Dir. & Year	Dir. & Year	Dir. & Year	Dir. & Year	Dir. & Year
F statistics	187.2	173	145.3			
χ^2 statistics				84.49	90.43	103.7

Table 4: Outside director resources expenditure on corporate boards continued

Panel B:

Difference tests (p-values)	Cash compensation			Nonattendance		
	(1)	(2)	(3)	(4)	(5)	(6)
EBD vs NEBD	0.0741			0.6315		
EBD vs NEBD for insiders		0.2934			0.2151	
EBD vs NEBD for outsiders		0.1315			0.6430	
Inside EBD vs outside EBD		0.0598			0.0177	
Busy vs non-busy inside EBD			0.0624			0.3373
EBD vs NEBD for busy insider			0.0250			0.0299

Table 5: Credit friction subsets and CAR_C

This table presents mean cumulative abnormal returns for corporate stocks around the dates that linked banks receive EAs. Linked banks are those that share a common director with the corporate on the EA's issue date. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{c,d} = \alpha_c + \beta_{MKT,c} * r_{MKT,d} + \beta_{SMB,c} * r_{SMB,d} + \beta_{HML,c} * r_{HML,d} + \epsilon_{c,d}$$

where $r_{c,d}$ is day d stock return for corporate c, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day d returns on the size and value factors, respectively. Excess market returns are computed as returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. The model is estimated over 126 days ending 21 days before EA issuance. Estimation model residuals are cumulated over the 3-day period centered on EA issuance to obtain CAR_C. We treat multiple EAs issued to the same bank on the same day as a single event. Rows (1) and (2) respectively subset events for which the corporate's book leverage in the year preceding EA issuance is in the lowest and highest quartiles in our sample. Rows (3) and (4) do the same with market leverage. Row (5) and (6) respectively subset events for which bank-to-corporate geographic distance is in the lowest and highest quartiles in our sample. Row (7) [8] subsets only EA types which could expressly [cannot expressly] restrict bank lending. Our sample period spans 1998 to 2014. We report mean CAR_C, the Kolari and Pynnönen (2010) test statistic (KP), and the ratio of positive to negative CAR_C assessed for significance using the generalized sign test. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively.

Row	Sample	No. of obs.	CAR	KP	+/-
(1)	Low book leverage	2,275	-0.15%	-2.087**	1,081:1,194
(2)	High book leverage	2,319	-0.28%	-2.672***	1,059:1,260***
(3)	Low market leverage	2,112	-0.10%	-0.56	1,047:1,065
(4)	High market leverage	2,382	-0.42%	-3.583***	1,068:1,314***
(5)	Low distance	2,239	-0.10%	-1.415*	1,060:1,179*
(6)	High distance	2,872	-0.27%	-3.188***	1,299:1,573***
(7)	Potentially lending related	361	0.04%	0.511	1,85:176
(8)	Not lending related	10,061	-0.19%	-3.814***	4,736:5,325***

Table 6: Credit friction subsets and the cross-section of CAR_C

This table reports results from the following director fixed-effects regression where the unit of observation is corporate *c* linked to one or more banks through director *j* in year *t*:

$$MeanCAR_{C_{c,j,t}} = \alpha + \beta' Busy\&SD_{j,t} + \gamma_1 Q1\ Bank\ CAR + \gamma_2' Director\ Controls + \gamma_3' Corporate\ Controls + \mu_j + \epsilon_{c,j,t}$$

The dependent variable averages 3-day cumulative abnormal corporate returns [CAR_C] for all relevant enforcement actions (EAs) in year *t*. Relevant EAs are those issued to banks linked to corporate *c* through director *j* in year *t*. A bank and corporate are linked if director *j* sits on both companies' boards. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{c,d} = \alpha_c + \beta_{MKT,c} * r_{MKT,d} + \beta_{SMB,c} * r_{SMB,d} + \beta_{HML,c} * r_{HML,d} + \epsilon_{c,d}$$

where $r_{c,d}$ is day *d* stock return for corporate c, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day *d* returns on the size and value factors, respectively. Excess market returns are returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. We estimate parameters over 126 trading days ending 21 days before EA issuance. Estimation model residuals are cumulated over the 3-day period centered on the EA issue date. We treat multiple EAs issued to the same bank on the same day as a single event. *Busy&SD* is one of four groups based on the intersection of the *Busy* and a *Subset Dummy* (*SD*) where subsets proxy for likelihood of EA-induced credit constraints. The respective subsets are lowest and highest quartiles of corporate book leverage (Columns (1) and (2)), lowest and highest quartiles of market leverage (Columns (3) and (4)), lowest and highest quartiles of bank-to-corporate headquarter distance (Columns (6) and (7)) and whether the EA can expressly impact bank lending (Column (7)). We report coefficients for the (*Busy*=1 & *SD*=1), (*Busy*=1 & *SD*=0), and (*Busy*=0 & *SD*=1) groups while the (*Busy*=0 & *SD*=0) group serves as reference category. To save space, we only report coefficients for the three groups though we include unreported control variables defined in Table 3. Our sample period spans 1998 to 2014. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively. Standard errors, clustered by director, are reported below coefficient estimates.

	$MeanCAR_C$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Busy=1 & SD=1	-0.0104***	-0.0070**	-0.0070**	-0.0061**	-0.0083***	-0.0049*	-0.0066***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
Busy=1 & SD=0	-0.0062***	-0.0064***	-0.0053**	-0.0059***	-0.0057**	-0.0059**	-0.0063***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Busy=0 & SD=1	-0.0033	-0.0007	0.0008	0.0011	-0.0037	-0.0009	0.0003
	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)	(0.003)
Subset Dummy	Q1 book leverage	Q4 book leverage	Q1 market leverage	Q4 market leverage	Q1 distance	Q4 distance	Lending EA
No. of observations	2,338	2,338	2,338	2,338	2,227	2,227	2,338
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Director	Director	Director	Director	Director	Director	Director
F Statistic	2.586	2.066	2.157	2.078	1.897	1.924	2.091

Table 7: Director information subsets and CAR_C

This table presents mean cumulative abnormal returns for corporate stocks around the dates that linked banks receive EAs. Linked banks are those that share a common director with the corporate on the EA's issue date. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{c,d} = \alpha_c + \beta_{MKT,c} * r_{MKT,d} + \beta_{SMB,c} * r_{SMB,d} + \beta_{HML,c} * r_{HML,d} + \epsilon_{c,d}$$

where $r_{c,d}$ is day d stock return for corporate c, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day d returns on the size and value factors, respectively. Excess market returns are computed as returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. The model is estimated over 126 days ending 21 days before EA issuance. Estimation model residuals are cumulated over the 3-day period centered on EA issuance to obtain CAR_C. We treat multiple EAs issued to the same bank on the same day as a single event. Rows (1) and (2) respectively subset events in which the linking director has served on the corporate board for under four years (Short corporate tenure) and over seven years (Long corporate tenure). Rows (3) and (4) do the same based on bank board tenure. Our sample period spans 1998 to 2014. We report mean CAR_C, the Kolari and Pynnönen (2010) test statistic (KP), and the ratio of positive to negative CAR_C assessed for significance using the generalized sign test. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively.

Row	Sample	No. of obs	CAR_C	KP	+/-
(1)	Short corporate tenure	2,638	-0.25%	-2.279**	1,252:1,386
(2)	Long corporate tenure	5,313	-0.16%	-3.053***	2,493:2,820***
(3)	Short bank tenure	2,537	-0.20%	-1.638*	1,204:1,333
(4)	Long bank tenure	5,214	-0.19%	-3.361***	2,448:2,766***

Table 8: Director information subsets and the cross-section of CAR_C

This table reports results from the following director fixed-effects regression where the unit of observation is corporate, *c*, linked to one or more banks through director *j* in year *t*:

$$MeanCAR_{C_{c,j,t}} = \alpha + \beta' Busy\&SD_{j,t} + \gamma_1 Q1\ Bank\ CAR + \gamma_2' Director\ Controls + \gamma_3' Corporate\ Controls + \mu_j + \epsilon_{c,j,t}$$

The dependent variable averages all 3-day cumulative abnormal corporate returns [CAR_C] around relevant enforcement actions (EAs) over year *t*. Relevant EAs are those issued to banks linked to corporate *c* through director *j* in year *t*. A bank and corporate are linked if director *j* sits on both companies' boards. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{c,d} = \alpha_c + \beta_{MKT,c} * r_{MKT,d} + \beta_{SMB,c} * r_{SMB,d} + \beta_{HML,c} * r_{HML,d} + \epsilon_{c,d}$$

where $r_{c,d}$ is day *d* stock return for corporate c, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day *d* returns on the size and value factors, respectively. Excess market returns are returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. We estimate parameters over 126 trading days ending 21 trading days before EA issuance. Estimation model residuals are cumulated over the 3-day period centered on EA issuance date. We treat multiple EAs issued to the same bank on the same day as a single event. *Busy&SD* is one of four groups based the intersection of the *Busy* and a Subset Dummy (SD) where subsets proxy for likelihood of EA-induced director information. The subsets are directors with short and long tenures on corporate boards (Columns (1) and (2)) and short and long tenures on bank boards (Columns (3) and (4)). Short (long) tenure is defined as serving less than four (more than seven) years. We report coefficients for the (*Busy*=1 & *SD*=1), (*Busy*=1 & *SD*=0), and (*Busy*=0 & *SD*=1) groups while the (*Busy*=0 & *SD*=0) group serves as reference category. To save space, we only report coefficients for the three groups though we include unreported control variables defined in Table 3. Our sample period spans 1998 to 2014. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively. Standard errors, clustered by director, are reported below coefficient estimates.

	$MeanCAR_C$			
	(1)	(2)	(3)	(4)
Busy=1 & SD=1	-0.0044*	-0.0074**	-0.0086***	-0.0053*
	(0.002)	(0.003)	(0.003)	(0.003)
Busy=1 & SD=0	-0.0067***	-0.0058**	-0.0071***	-0.0059**
	(0.002)	(0.003)	(0.002)	(0.003)
Busy=0 & SD=1	0.0017	-0.0002	-0.0047	0.0013
	(0.004)	(0.003)	(0.003)	(0.003)
Subset Dummy	Corporate tenure < 4 years	Corporate tenure > 7 years	Bank tenure < 4 years	Bank tenure > 7 years
No. of observations	2,338	2,337	2,338	2,338
Controls	Yes	Yes	Yes	Yes
Fixed Effects	Director	Director	Director	Director
F Statistic	2.482	2.431	2.259	2.164

Table 9: Future outside directorships

Panel A reports odds ratios from the following ordered logit models where the number of board seats in year *t+2*, *SEAT*, is the dependent variable:

$$SEAT_{j,t+2} = \alpha + \beta_1 * EBD_{j,t} + \beta_2 * NEBD_{j,t} + \gamma_1' Director\ Controls + \gamma_2' Corporate\ Controls + \beta_3 * SEAT_{j,t-1} + I_c + \lambda_t + \epsilon_{j,t+2}$$

EBD equals one if director *j* serves a bank which receives an EA in years *t* or *t-1*, and zero otherwise. *NEBD* equals one if the director *j* serves a bank which does not receive an EA in *t* or *t-1*. The reference category in all specifications is a director not serving a bank board in years *t* and *t-1*. Panel B tests for statistical difference between select coefficient estimates using χ^2 tests. In Column (1) we measure effects of inside and outside banker-directors jointly. In Column (2) we differentiate the two using "*inside*" and "*outside*". Similarly, in Column (3), we distinguish between directors with short-term and not short-term tenures on bank boards. Short tenure is defined as serving less than four years. Finally, in Column (4), we distinguish between directors who continue to serve the bank board after year *t* (variable suffix "*stays*") and those who leave the bank board (variable suffix "*leaves*"). Director Controls include *Age* which is the director's age and *Tenure* which denotes how many years the director has served the corporate. Corporate Controls include logged total assets, book debt to total assets, return on assets adjusted for extraordinary items and industry effects, annual buy-and-hold returns, the ratio of total assets less book equity plus market equity to total assets (*Tobin's Q)*, the ratio of total assets less intangible assets to total assets (*Tangibility*), research and development expenses to total assets (*R&D*) (if positive, zero otherwise), and cash flows to total assets (*Cash flow*). All corporate control variables are measured at the end of year *t-1*. The constant is omitted for brevity. All models include year, λ_t, and industry dummies, I_c. Our sample period spans 1998 to 2014. Standard errors in parentheses are corrected for heteroscedasticity and are clustered at the level of the director. ***, **, and * denote statistical significance at 1, 5, and 10 percent, respectively.

Panel A:	Future outside directorships			
	(1)	(2)	(3)	(4)
EBD	1.425***			
	(0.100)			
NEBD	1.434***			
	(0.113)			
Inside EBD		1.352**		
		(0.166)		
Outside EBD		1.411***		
		(0.115)		
Inside NEBD		1.422**		
		(0.253)		
Outside NEBD		1.405***		
		(0.124)		
Non-short-tenured EBD			1.341***	
			(0.107)	
Non-short-tenured NEBD			1.449***	
			(0.115)	
Short-tenured EBD			2.077***	
			(0.302)	
Short-tenured NEBD			1.157	
			(0.782)	
EBD stays				1.664***
				(0.109)
NEBD stays				1.697***
				(0.124)
EBD leaves				0.354***
				(0.073)
NEBD leaves				0.166***
				(0.043)

Table 9: Future outside directorships
Panel A continued:

	(1)	(2)	(3)	(4)
Age	0.979***	0.979***	0.979***	0.979***
	(0.002)	(0.002)	(0.002)	(0.002)
Tenure	0.970***	0.970***	0.969***	0.970***
	(0.003)	(0.003)	(0.003)	(0.003)
Logged corporate total assets	1.111***	1.111***	1.127***	1.111***
	(0.011)	(0.011)	(0.012)	(0.011)
Corporate leverage	1.048	1.048	1.226**	1.047
	(0.093)	(0.093)	(0.113)	(0.093)
Corporate adjusted ROA	1.003**	1.003**	1.004**	1.003**
	(0.001)	(0.001)	(0.001)	(0.001)
Corporate buy-and-hold returns	1.005	1.005	1.011	1.008
	(0.026)	(0.026)	(0.026)	(0.026)
Corporate Tobin's Q	1.021	1.021	1.014	1.021
	(0.013)	(0.013)	(0.014)	(0.013)
Corporate tangibility	1.000	1.000	1.000	1.000
	(0.001)	(0.001)	(0.001)	(0.001)
Corporate R&D	2.865***	2.862***	2.165*	2.895***
	(0.932)	(0.931)	(0.863)	(0.942)
Corporate cash flow	1.253	1.253	1.191	1.266
	(0.212)	(0.212)	(0.212)	(0.214)
SEATS (t-1)	6.016***	6.018***	5.976***	6.048***
	(0.127)	(0.127)	(0.126)	(0.127)
No. of observations	51,054	51,054	51,054	51,054
Fixed Effects	Ind. & Year	Ind. & Year	Ind. & Year	Ind. & Year
χ^2 Statistic	8911	8913	9069	9057

Panel B:
Difference tests (p-values)

EBD vs NEBD	0.8868			
EBD vs NEBD for insider		0.9440		
EBD vs NEBD for outsider		0.8498		
Inside EBD vs outside EBD		0.6964		
EBD vs NEBD for non-short ten			0.4758	
EBD vs NEBD for short tenured			0.0073	
Non-short vs short-tenured EBD			0.0073	
EBD vs NEBD for stays				0.9616
EBD vs NEBD for leaves				0.0209
Stay vs leave EBD				0.0000

Table 10: Difference between enforced and non-enforced banker-director observations

This table compares mean values for director and corporate variables between two groups of directors. The first group consists of observations in which the banker-director does not serve on an enforced bank. The second group consists of observations in which the linking banker-director serves on an enforced bank in the current or previous year. Variables are measured in the year before the director is appointed to the corporate board. We consider *Age* which is the director's age, logged total assets, book debt to total assets, return on assets adjusted for extraordinary items and industry effects, annual buy-and-hold returns, the ratio of total assets less book equity plus market equity to total assets (*Tobin's Q)*, the ratio of total assets less intangible assets to total assets (*Tangibility*), research and development expenses to total assets (*R&D*) (if positive, zero otherwise), and cash flows to total assets (*Cash flow*). All variables are measured at year-end before the appointment of the banker-director. *Average cash compensation* denotes the average of cash compensation of directors serving on the board before the banker-director is appointed. Our sample period spans 1998 to 2014, except for cash compensation which is 2006 to 2014. A t-test is used to detect statistically significant differences. * denotes statistical significance at 10 percent.

	Enforced banker-directors	Non-enforced banker-directors	Difference test
Corporate CEO duality	0.73	0.78	0.878
Corporate board size	10.63	10.15	-1.546
Log corporate total assets	8.51	8.47	-0.203
Corporate book leverage	0.25	0.26	0.196
Corporate adjusted ROA	7.77	7.11	-0.444
Corporate buy-and-hold returns	0.02	0.08	1.168
Corporate Tobin's Q	1.95	2.01	0.398
Corporate tangibility	81.57	81.96	0.170
Corporate R&D	0.02	0.02	0.551
Corporate cash flow	0.11	0.12	0.434
Average cash compensation	83.16	85.20	0.294

Figure 1: Enforcement actions by year

This figure plots enforcement actions issued by year from 1998 to 2014. The grey portion represents types considered severe – Cease and Desist Orders, Formal Agreements, and Prompt Corrective Actions.

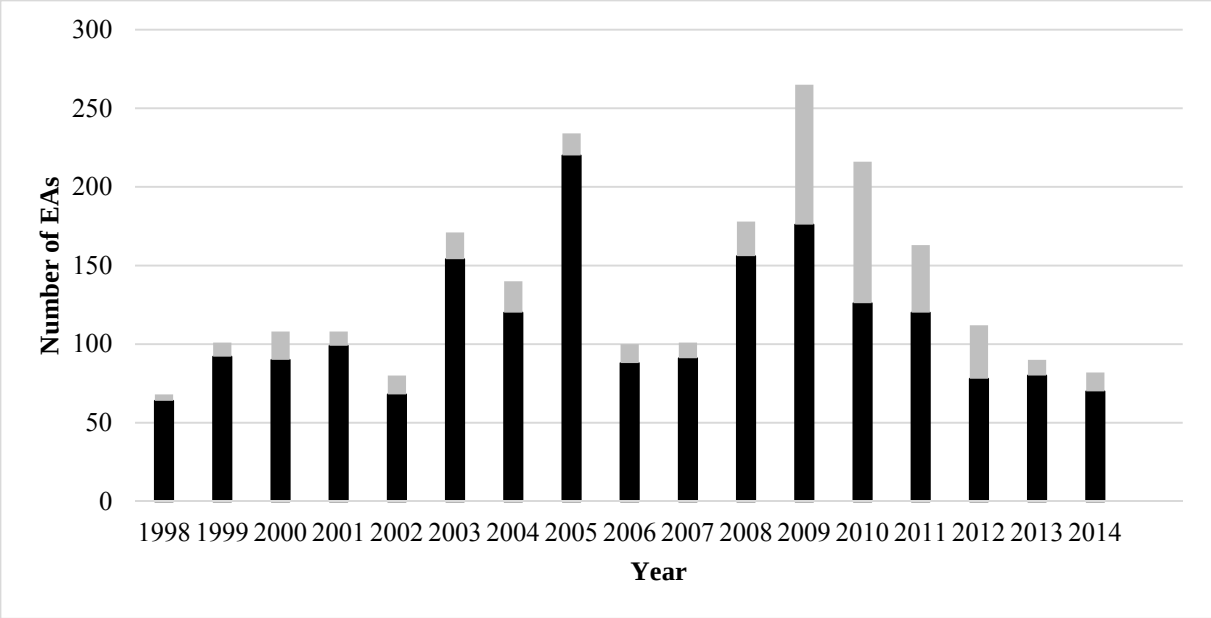

Figure 2: Cumulative abnormal bank returns around enforcement action issuance

This figure presents cumulative mean abnormal returns for bank stocks around banks' receipt of an enforcement action (EA) issued between 1998 and 2014. Abnormal returns are calculated using the Fama and French 3-factor model:

$$r_{i,d} = \alpha_i + \beta_{MKT,i} * r_{MKT,d} + \beta_{SMB,i} * r_{SMB,d} + \beta_{HML,i} * r_{HML,d} + \epsilon_{i,d}$$

where $r_{i,d}$ is day d stock return for bank i, $r_{MKT,d}$ is that day's excess return on the market portfolio and $r_{SMB,d}$ and $r_{HML,d}$ are day d returns on the size and value factors, respectively. Excess market returns are computed as returns on the value-weighted portfolio of all CRSP stocks less the short-term treasury yield. We estimate parameters over a pooled window comprising 63 trading days before and 63 trading days after the event window which we define as 43 trading day period centered on EA issuance. Returns are cumulated from 20 days before the EA is issued to 20 days after. We treat multiple EAs issued to the same bank on the same day as a single event.

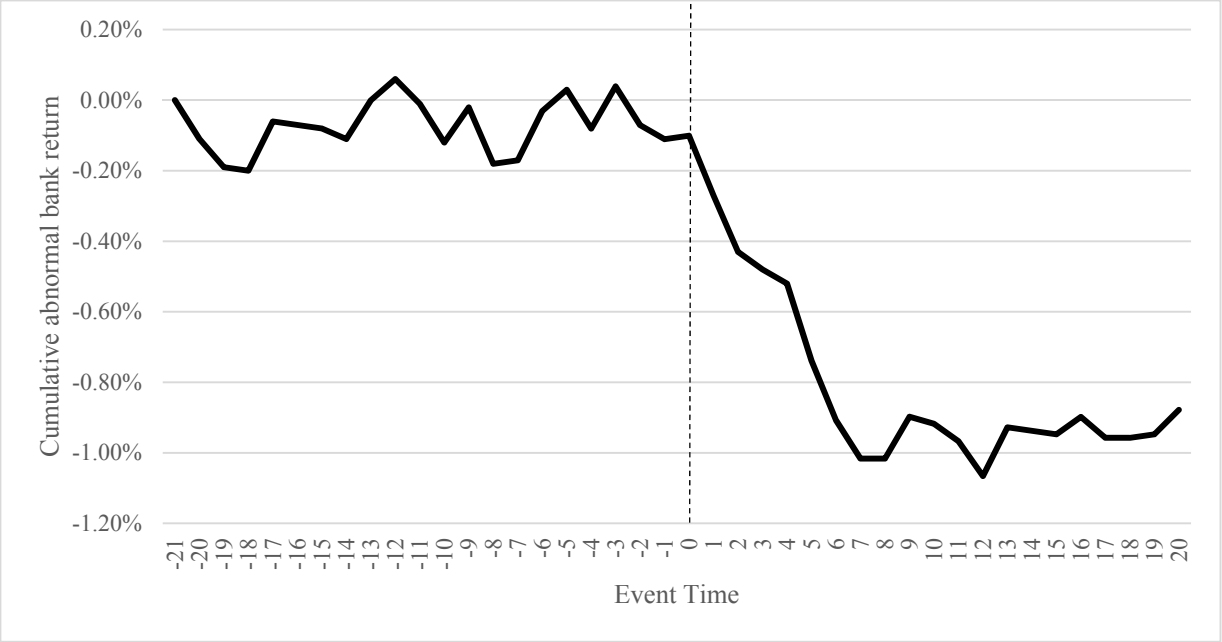

Figure 3
This figure displays Table 3, Column (2) regression coefficients for *Busy* after iteratively removing each director (Panel A), corporate (Panel B), bank (Panel C) and year (Panel D). The final observation in Panel D excludes crisis years (2007-2010).