Do Boards Matter for Financing? Board Members' "Issuance Exposure" and Corporate Financing Decisions

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Abstract
A firm's financing choice is highly sensitive to the financing of its board-connected peers, even those operating in different industries. A one-standard-deviation increase in board excess issuance exposure increases the likelihood of issuing equity relative to debt by 3% and equity issuance volume by 5%, representing a 67% increase from the sample mean. Using second-level board links as an instrument for direct links and tests addressing endogeneity and reflection problems confirm these results. These patterns do not appear to reflect common shocks, such as those affecting linked firms' returns, or investment sentiment. Non-executive directors' connections appear to be more important for influencing a firm's financing.

Keywords: Board Links; Corporate Financing; Equity-Debt Choice; Board Issuance Exposure.

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1 Introduction

How important are boards of directors and connections between them for firms' financing decisions and the choice of equity versus debt? Does board members' issuance experience at other firms matter for the same decisions at the focus firm where they hold concurrent board seats? Despite the pertinency of these questions, our understanding of the role of boards and their connected peers in firms' financing decisions is limited.

Traditional theories of financing choice (e.g., pecking order and trade-off theories) leave no role for the boards and linkages between them in explaining corporate financing patterns (e.g., Miller (1977), Myers (1984), Myers and Majluf (1984)). However, practitioners and empirical academic research emphasize that board members are the key decision-makers in firm's policy on external financing (Gompers and Lerner (2010)). At the same time, vast literature explores and illustrates the salient role of board connections in shaping corporate policies (e.g., Chang and Wu (2021), Fich and Shivdasani (2006), Fracassi and Tate (2012)). While these two aspects of boards' impact on corporate decision-making have been widely studied in isolation, there is no evidence bridging these literatures and explaining and documenting the impact of board connections on firm's financing decisions.

The objective of this paper is to contribute to the existing literature by presenting the first comprehensive causal evidence that emphasizes the role of board directors and interconnections between them in a firm's decision to raise external finance. My results reveal that firm's financing decisions are influenced by the board members' concurrent experience of external issuances by other linked firms where they serve as directors. This relationship entails firms preferring to issue equity over debt to a greater extent if they have a larger exposure to equity financing on other boards. Thus, these findings establish the existence of board peer effects in corporate financing choices, formally defined as the propensity of a firm to alter its financing policy in a way that varies with the exposure of its board members to financing choices in other firms where they hold director seats.

My central hypothesis is built on the premise that having a board connection between two firms may improve information flow and communication between the firms. Board interlocks therefore facilitate transmission of directors' beliefs about future states of the economy and whether the environment and market valuation are more conductive to equity or debt issuance. Consequently, financing practices gleaned and deliberated on other boards get propagated via board-linked peers. To test my main hypothesis, I construct several proxies capturing board's exposure to equity (debt) financing as the fraction of linked board members issuing equity (debt) among those that experience some issuance, net of the expected or "normal" equity (debt) issuance by linked firms. In my baseline tests, I use a linear-in-means peer effects model by regressing

the proxies for board issuance exposure on focus firm's issuance choice or volume. My goal is to estimate the endogenous effects of the interactions between board-linked peers on financing decisions, while controlling for correlated and contextual effects (common peer group's and focus firm's own characteristics, respectively).

My main results provide a consistent picture across different specifications showing that greater exposure of board directors to equity (debt) issuances on their board-linked peers is associated with significantly larger propensity and volume of equity (debt) issuances on the focus firm. Importantly, I demonstrate that both executive and non-executive directors can serve as conduits of information valuable for financing decisions of the focus firm. In fact, some results suggest a somewhat greater importance of directors with non-executive roles on the focus firm in propagating information relevant for external issuances decisions. I explain these findings by non-executive directors on the focus firms likely serving as executive ones on the board-linked peers and hence, having first-hand access to the information valuable for financing decisions and exerting a material influence on its diffusion within the board network. This finding becomes even more pronounced in the subsequent identification tests. To my best knowledge, this is the first evidence that, in certain situations, non-executive directors may also be fulfilling advisory function, which is traditionally considered to be within the responsibility domain of executive directors. Although there is some suggestive evidence that non-executive directors may be lending their advising expertise to the board (Muravyev, Talavera, and Weir (2016)), there is no direct evidence demonstrating whether and how this happens.

The main concern with my empirical design and baseline findings is that it is difficult to establish a causal relationship between interlocked directors and financing policy based on panel data, due to inherent endogeneity and reflection problems. These problems emerge because board connections are formed endogenously and because financing decisions of every peer firm within a board network can be influenced by the characteristics and actions of other linked peers. I address these challenges in several ways. First, I use second-level board links as an exogenous instrument for first-level connections in an IV framework. The literature on the econometrics of peer effects and social interactions shows that using such indirect and non-overlapping peers ('peers of peers') is a sufficient condition for identification of endogenous peer effects and establishing a causal relationship of peer effects on the outcome of interest (Bramoullé, Djebbari, and Fortin (2009)). The results of the IV estimations confirm the baseline results that the exposure of directors to issuance decisions on their linked peers influences the choice and volume of financing on the focus firm. Second, I perform a placebo test using pseudo-board-linked firms, defined as those that do not have a board link to the focus firm, but are from the same size-industry bin as a true linked peer. I show that the results do not hold when board members' issuance exposure proxies are constructed based on these falsified board links, hence ruling out a

concern that the main results are driven by common shocks affecting both a focus firm and firms in the same size-industry bin as their true board-linked peers. Third, I perform another placebo test using departures of board members from one of the firms on the network, which breaks off the board link. I hold the board structure after the link is broken the same as before the director's departure and demonstrate that board issuance exposure constructed based on the pre-broken link board structure matters less or insignificantly during the post-broken link period. Fourth, I demonstrate that the results cannot be attributed to the commonality in the stock returns between the focus firm and its board-linked peers. Finally, I rule out that board links are merely transmitting common investment sentiment that would have impacted financing decisions even in the absence of board connections. Overall, the results of the main and identification tests strongly support the conclusion that board links generate information relevant for financing decisions and propagate it through the board network, thus impacting issuance decisions of firms on the network.

My paper makes three key contributions. First, I contribute to the literature on corporate peer effects by providing the first causal evidence of informational peer effects based on board connections and their role in financing decisions. Existing studies examine how firm's capital structure and security issuance policies are impacted by peers defined by common industry or analyst coverage (e.g., Gomes, Gopalan, Leary, and Marcet (2023), Leary and Roberts (2014)). However, they focus on the externally formed peer groups and hence, on learning and information diffusion via outsiders or by using publicly available information. In contrast, my study is the first to document how financing decisions are impacted by learning and information transmission across inside corporate networks, using information and communication channels that may not be publicly accessible, but are feasible via inside board networks. Second, I contribute to the literature on the role of boards, and board connections in particular, in a firm's decision to issue external finance. There is a large literature exploring the importance of board connections for various corporate policies (e.g., Bouwman (2011), Cai, Dhaliwal, Kim, and Pan (2013), Chang and Wu (2021), Chiu, Teoh, and Tian (2013), Fracassi and Tate (2012)). There is also some evidence on the impact of board characteristics on corporate financing (e.g., Burak Güner, Malmendier, and Tate (2008), Di Giuli and Laux (2022)). However, so far there has been no rigorous attempt to combine these two strands of literature and examine the impact of board-connected peers on financing decisions. Third, to the best of my knowledge, I provide the first direct evidence that non-executive (i.e., independent directors) can also perform advising function, specifically in the situations where their concurrent expertise on other boards provides them with informational advantage relevant for specific policies, such as security issuances.

The remainder of the paper proceeds as follows. Section 2 discusses related literature and formulates

empirical predictions. Section 3 discusses empirical design and data. Section 4 presents the main findings, while Section 4.3 explores identification threats and presents the results of the tests addressing them. Finally, Section 5 concludes and the Internet Appendix includes the results of some robustness and additional tests.

2 Literature and Predicitons

In this section, I briefly review the literature on peer effects and board networks in corporate decision making, with the focus on the role of boards in financing decisions. I also present the key testable prediction.

2.1 Corporate Peer Effects and Financing Decisions

A extensive theoretical and empirical literature shows that peer firms play an important role in corporate decision-making, and financing and related decisions in particular. The definitions of a peer group vary widely across corporate finance research, comprising those based on common industry (Fairhurst and Nam (2019), Leary and Roberts (2014)), product markets (Bustamante and Frésard (2021), Cao, Liang, and Zhan (2019), Foucault and Fresard (2014), Hoberg, Phillips, and Prabhala (2014)), geographical proximity (Dougal, Parsons, and Titman (2015)), competitors (Bernard, Blackburne, and Thornock (2020)), compensation contracts disclosures (Bizjak, Lemmon, and Whitby (2009)), analyst coverage (Gomes, Gopalan, Leary, and Marcet (2023)), and board interlocks (Bouwman (2011), Foroughi, Marcus, Nguyen, and Tehranian (2022)). In what follows, I discuss studies that use these different definitions of peer groups, with an emphasis on those investigating their impact on financing-related decisions.

Most commonly a peer group is based on a shared industry as this definition often subsumes others, such as sharing competitive filed, compensation peers, analysts or even geographical location. For example, in a seminal study, Leary and Roberts (2014) find that firms' leverage as well as debt and equity issuance decisions are strongly influenced by their industry peers. Fairhurst and Nam (2019) expand Leary and Robert's (2014) results by documenting that industry-based peer effects in capital structure decisions are confined to firms operating in a weak external corporate governance environment. Hence, their evidence supports herding behavior and a quiet life hypothesis, and ultimately suggests suboptimal financial policies by such mimicking peers. Interestingly and somewhat inconsistent with the above two studies, Graham and Harvey (2001) document in their survey on corporate finance practices that corporate managers do not find equity policies of other firms in their industry to be a crucial factor for their own equity issuance decisions as only 1.45% of surveyed managers cited it as being important. A related study by Massa, Rehman, and

Vermaelen (2007) finds mimicking behavior in repurchasing decisions by peers competing in the same highly concentrated industries. Similarly, Grennan (2019) documents peer effects in dividend policies by providing evidence that firms make significantly faster and larger changes in their dividend policies in response to such changes by their industry peers.

Other studies define peers as rival firms based on sharing overlapping product markets. For instance, Hoberg, Phillips, and Prabhala (2014) define peers based on common product market space and find that in a changing product market environment, peer firms respond by cutting dividends and repurchases, while increasing cash balances and liquid assets to maintain flexibility under rising competitive threats. Thus, their study provides evidence in support of the financial flexibility hypothesis. Likewise, Foucault and Fresard (2014) define peers based on Hoberg and Phillips' (2011) product markets classification and show that firms learn from an increase in their peers' stock market valuation by increasing their own investment. Bernard, Blackburne, and Thornock (2020) show that rivals sharing similar product markets use each other's public information to make their own investment and product decisions, such as those related to acquisitions and product differentiation. A closely related study by Bustamante and Frésard (2021) documents comparable investment policies across firms that operate in the same product markets.

Several studies explore the effect of peers operating within the same geographical neighbourhood, albeit focusing only on the investment decisions. For instance, Dougal, Parsons, and Titman (2015) find large positive correlation in investment rates of geographically close but otherwise unrelated peers and explain it by endogenous managerial interactions within the local area that potentially enhance the quality of firm's managers. Using network spatial econometrics approach, Grieser, LeSage, and Zekhnini (2022) demonstrate that the geographic neighbours strongly influence corporate investment policies within a local network, and to a smaller degree their financial policies and firm performance. Importantly and in contrast to Dougal, Parsons, and Titman (2015), they show that these peer effects mostly operate within industry boundaries and that it is difficult to separate industry and geography networks.

A few studies use less common definitions of a peer group. For example, Bernard, Blackburne, and Thornock (2020) define peers based on a focal firm's interest in the acquisition of public information about other firms. They find that firms actively utilize public information on such "rival" peers to learn about their investment opportunities and mimic these peers' investment policies to maintain competitiveness. Gomes, Gopalan, Leary, and Marcet (2023) identify peers as firms sharing the same analyst coverage network and find that firms respond to their analyst network peers' capital structure and security issuance policies.

2.2 Board Peer Effects

One of the common aspects of the discussed studies is that their peer group definitions are based on connections, information or factors *outside* of the firm and shaped by public availability, for example, industry classifications, analysts, or public information acquisition by rivals. In contrast, my study explores peer effects transmitted via *insiders* to the firm that may have access to private information and to opinions deliberated in the boards which are not yet public knowledge.

Board-network peer effects have also been widely explored in the literature. There is a large literature exploring the influence of board-connected peers on corporate policies within the board interlock. For example, studies show that board interlocks facilitate transmission of various corporate practices, both good and bad, across firms sharing common directors, such as governance (Barzuza and Curtis (2015), Bouwman (2011), Foroughi, Marcus, Nguyen, and Tehranian (2022)), investment (Song and Wang (2024)), compensation (Bizjak, Lemmon, and Whitby (2009)), disclosure practices (Cai, Dhaliwal, Kim, and Pan (2013)), earnings management and reporting quality (Chiu, Teoh, and Tian (2013), Omer, Shelley, and Tice (2020)), among others. Related stream of literature on board connections shows that they play important roles in shaping corporate policies beyond pure mimicking or strategic herding, by creating benefits and value for the connected peers, for example, in M&A transactions by lowering takeover premiums (Cai and Sevilir (2012)) or reducing borrowing costs (Chuluun, Prevost, and Puthenpurackal (2014)). However, there is no study examining the influence of board-connected peers on financing or closely related policies.

2.3 Directors' Role in Financing Decisions

While there is an abundance of evidence on the impact of board characteristics and interlocks on various policies and practices other than financing, such as investment innovation, M&A, and product market strategies[1], there is surprisingly very limited evidence on the role of boards in financing decisions and in the choice between equity and debt in particular.

Burak Güner, Malmendier, and Tate (2008) provide some evidence on the impact of directors' professional experience, namely of their financial expertise, on corporate financing decisions. Specifically, they show that commercial bankers as directors are associated with an increase in external funding, albeit to firms with good

[1]In addition to the literature noted above on the influence of board interlocks on various non-financing corporate policies, the following studies are among those exploring the impact of board characteristics and experiences on corporate decision-making: Balsmeier, Buchwald, and Stiebale (2014), Campbell, Gallmeyer, Johnson, Rutherford, and Stanley (2011), Gopalan, Gormley, and Kalda (2021)

credit standing but poor investment opportunities. Likewise, investment bankers as directors facilitate an increase in bond issuance but are associated with worse acquisition performance.

Di Giuli and Laux (2022) demonstrate that sharing a director with a media company facilitates firms' financing as these firms increase the issuance of less governance-intensive forms of financing, such as public bonds, and draw less on more monitoring intensive financing, such as bank loans. With respect to equity financing, firms with media-linked directors rely on having fewer blockholders, that is the equity owners who are likely to actively monitor the firm as media attention acts as a substitute governance mechanism. However, they do not find any evidence of a direct link between media-linked directors and equity issuance.

Alves, Couto, and Francisco (2015) is so far the only study that explores the impact of board composition on the choice of financing. They find that higher fraction of independent directors on the board is associated with greater use of external financing, greater preference for external equity, rather than debt, and a more heavy use of long-term, rather than short-term, debt.

2.4 Empirical Prediction

Board of directors possess a rich set of private information useful for financing decisions. This information is also often forward-looking, driven by directors' private assessment of the current market environment and expectations about future returns and securities valuation that may not yet be impounded in market prices. Moreover, while an individual board member's opinion is shaped by their own private information, it is also influenced by their experience with other boards on which they happen to sit. These arguments form the basis for my key hypothesis, along with the presumption that boards decide on whether to issue equity or debt depending on whether future stock returns of their firms are expected to be good or bad. Assuming that a firm aggregates the opinions of the board members and if the assessment is that future market return will be good, the firm goes on to issue debt. If the assessment is that the future returns will be bad, the firm issues equity. Following this line of thinking, if a board is deciding to issue equity, its board member can be considered as having gained "equity experience".

The central empirical prediction that I aim to test is that more board members with prior equity experience, or the "strength" of that equity experience (i.e., how many other equity issuing boards did board members sit on), makes the firm more likely to issue equity relative to their peers.

3 Empirical Design and Data

3.1 Measuring Board Issuance Exposure

At the core of my empirical strategy is the construction of board issuance experience (or exposure) proxies necessary to evaluate whether boards matter for issuance decisions. I start with introducing the notation and terminology. Suppose A is a sample firm of interest and its board members sit on boards of firms B, C, D, and E. I refer to these latter firms as *board-linked firms* or simply *linked firms*. Let $S_A := \{B, C, D, E\}$ denote the entire set of board-linked firms for the sample firm A, and T_A be the subset of S_A comprising of firms that either issue debt or equity, that is T_A excludes non-issuing firms. I define the number of firms in subset T_A as *Total Count*$_A$, and *Equity Count*$_A$ (*Debt Count*$_A$) is the number of linked firms in subset T_A that issued equity (debt) in a given year. I then construct the following two ratios:

$$\textit{Equity Count Ratio}_A = \frac{\text{Equity Count}_A}{\text{Total Count}_A} \quad \text{and} \quad \textit{Debt Count Ratio}_A = \frac{\text{Debt Count}_A}{\text{Total Count}_A}$$

Note that following the above definitions, *Equity Count Ratio*$_A$ + *Debt Count Ratio*$_A = 1$

As issuance activity varies a lot accordingly to size and industry, and over time, I sort board-linked firms into size deciles within each industry I and create $10 \times I$ *size-industry bins*. I require each such bin to contain minimum three firms and call the bins to which linked firms belong *linked bins*. I denote I_X as the size-industry bin for an issuing linked firm X, $X \in T_A$. The fraction of firms in a given linked bin in a given year issuing equity (as opposed to debt) represents the probability that a board member sitting on the board of one of the firms in that bin will experience an equity issuance event for his firm. Aggregating the issuance activity across all linked bins of the issuing linked firms (in subset T_A) represents the fraction of linked board members who are expected to issue equity (conditional on issuing either equity or debt), $p_{A,E}$:

$$\textit{Expected Equity Count Ratio} = p_{A,E} = \frac{\sum_{i \in I_X, X \in T_A} 1_{i,E}}{\sum_{i \in I_X, X \in T_A} (1_{i,E} + 1_{i,D})}$$

where $1_{i,E} = 1$ if firm i issues equity, and zero otherwise, and $1_{i,D} = 1$ if firm i issues debt, and zero otherwise. Specifically, I am counting the number of equity and debt issuances in every relevant bin and summing them in the denominator, while the numerator is the total number of equity issuances summed over all the relevant bins. I define *Expected Debt Count Ratio*, $p_{A,D}$, similarly. Note that I do not include firm A in calculating $p_{A,E}$ and $p_{A,D}$ for firm A. I also count the following as separate cases: (i) if more than one board member sits on a firm in the same size-industry bin, (ii) if one board member sits on multiple boards in different bins,

and (iii) if one board member sits on multiple boards in the same bin.

I then define the main board exposure proxies as:

$$\begin{aligned} \textit{Board Excess Equity Exposure} &= BEE_A = \text{Equity Count Ratio}_A - p_{A,E} \\ \textit{Board Excess Debt Exposure} &= BDE_A = \text{Debt Count Ratio}_A - p_{A,D} \end{aligned}$$

By construction, if $BEE > 0$, then it must follow that $BDE < 0$. This holds because *Equity Count Ratio*$_A$ + *Debt Count Ratio*$_A = 1$ and $p_{A,E} + p_{A,D} = 1$.

The idea behind these board issuance exposure proxies is that, on average, *Equity Count Ratio*, that is the fraction of linked board members issuing equity among those that experience some issuance, will be equal to $p_{A,E}$. However, for some firms, this fraction will be greater than $p_{A,E}$, while for others, it will be less than $p_{A,E}$. A positive difference indicates abnormal or excess equity exposure. Similar logic applies to excess debt exposure. My main tests examine whether firm A is more likely to issue equity (debt) if the board has abnormal equity (debt) exposure.

I also define *Board Excess Net Issuance Exposure* (*netBEE*) using the difference between equity and debt issuance counts for the linked firms to compute *Net Issuance Count Ratio* and the respective difference for the linked bins to compute *Expected Net Issuance Count Ratio* ($p_{A,NI}$):

$$\begin{aligned} \textit{Board Net Issuance Exposure} &= netBEE_A = BEE_A - BDE_A \\ &= \frac{\text{Equity Count - Debt Count}}{\text{Total Count}} - (p_{A,E} - p_{A,D}) \end{aligned}$$

In addition to the definitions based on the frequency of issuance, I construct volume-based board issuance exposure measures by replacing the indicator variables for equity, debt, and net (equity-debt) issuances by the corresponding issue amounts in all definitions. By denoting volume-based measures with a V in front of

the terms involved, I then have:

$$\begin{aligned} \textit{Equity Volume Ratio}_A + \textit{Debt Volume Ratio}_A &= 1 \\ Vp_{A,E} + Vp_{A,D} &= 1 \\ \textit{Board Excess Volume Equity Exposure} = VBEE_A &= \textit{Equity Volume Ratio}_A - Vp_{A,E} \\ \textit{Board Excess Volume Debt Exposure} = VBDE_A &= \textit{Debt Volume Ratio}_A - Vp_{A,D} \end{aligned}$$

Once again, if $VBEE > 0$, then $VBDE < 0$. *Board Excess Net Volume Exposure* (VBNIE) is the difference beween $VBEE$ and $VBDE$. The volume-based issuance exposure measures have an advantage over the frequency-based measures with regard to the question of the strength of the signal (one linked firm versus multiple linked firms issuing equity). As long as at least one of the linked firms is issuing debt, the volume-based measure will produce a higher value for equity exposure when board-linked firms collectively issue more equity.

3.2 Modelling Board-Peer Effects

The board-linked firm effects are a form of social interaction effects. As such, their empirical identification is challenging due to two distinct problems: endogeneity and reflection (De Giorgi, Pellizzari, and Redaelli, 2010). There are at least two reasons for endogeneity. First, it may arise because board links are formed endogenously, with both firms selecting directors and directors self-selecting into firms. Secondly, shared firm characteristics, institutional environment, and other common unobserved shocks may influence the board-linked group as a whole. These are known as correlated and contextual effects. Because of these endogeneity concerns, it is difficult to deduce whether the finding of significant relationship between the outcomes of the focus firm and its board-linked peers is due to true peer effects or due to some commonalities within the peer group. The second problem with the identification is due to simultaneous effects of the actions of peer firms on the focus firm and vice versa, also known as the reflection problem (Manski, 1993). This problem is a form of endogeneity that emerges because the decision of focus firms that compose the peer group could be influenced by the average behavior in a group.

I address these problems in several ways. First, I directly control for correlated and contextual effects in all models. Secondly, I exploit an important feature of interlocked boards, specifically, the existence of partially non-overlapping groups of linked peers. Recent research in econometrics and finance shows that this feature allows to completely solve both the reflection problem and the issues of common peer group shocks

(correlated effects). Reflection problem only exists if each peer within a group has the same set of peers (Bramoullé, Djebbari, and Fortin, 2009)[2]. In this case, the peer actions regressor cannot be recovered from the estimation due to feedback (reflection) effect and no variation among peers within the group. However, board-linked peer groups are firm-specific and result in unique, albeit partially overlapping, sets of peers. For example, if firms A and B share a common director and hence are each other's board-linked peers, but A also has links with firms that are not peers of B and vice versa, then their sets of peers do not perfectly overlap. In this setting, reflection problem can be resolved because actions of firm A's unique peers, which are non-overlapping with firm B's peers, enables an identification of the peer effect for firm A, compared to firm B, which was not subject to the same peer effect (Aghamolla and Thakor, 2022).

Therefore, the specifics of board interlocks as peer groups by construction deal with major endogeneity concerns in estimating peer effects and allow to tease out the endogenous effect that arises due to the influence of board-linked firms' actions regarding the financing. Moreover, the variation in board-linked peer groups enables exploiting the non-overlapping peers-of-peers (second-level or indirect excluded peers) as a natural instrument in an IV estimation to mitigate the remaining endogeneity and common shocks concerns.

Thus, I test the main prediction that a firm is more likely to issue equity (debt) if the board has abnormal equity (debt) exposure by exploiting the advantage of the above definition of a peer group and performing the following linear-in-means peer effects model adopted for financing decisions (Leary and Roberts, 2014):

$$(1) \qquad Issuance_{ikt} = \alpha + \beta Board\ Issuance\ Exposure_{ikt} + \lambda' X_{ikt} + \gamma' \overline{X}_{ikt} + \delta' \mu_j + \psi' v_t + \epsilon_{ikt}$$

where the outcome variable, $Issuance_{ijt}$, denotes issuance activity (equity or debt binary choice variable) or the issuance amount scaled by total assets. The indices i, k, j and t denote the focus firm, its board network, industry, and year, respectively. $Board\ Issuance\ Exposure_{ijt}$ denotes one of the board issuance exposure proxies (either indicator- or volume-based) computed based on all linked firms for a focus firm i. Similarly to other peer effects literature (Bustamante and Frésard, 2021, Leary and Roberts, 2014), I use contemporaneous issuance exposure as it limits the response time of peers. While this approach makes it less likely to identify mimicking behavior, it also makes other financing-relevant changes less likely, thus, alleviating potential confounding effects. Vectors X_{ikt} and $\overline{X}_{ikt}$ represent firm-specific covariates and the average for those of the board-linked firms of a focus firm i, thus controlling for correlated and contextual

[2]See also e.g., De Giorgi, Pellizzari, and Redaelli (2010); Laschever (2013), Rose (2017)

peer effects, respectively. μ_j and v_t represent industry and year fixed effects, respectively. ϵ_{ikt} is the firm-specific error term assumed to be correlated within firms and heteroskedastic. Hence, standard errors in all regressions are heteroskedasticity-robust and clustered at the firm level (Petersen, 2009). $(\alpha, \beta, \lambda', \gamma', \delta', \psi')$ represents the vector of parameters. The coefficients λ', and also δ' and ψ' capture correlated effects, while γ' captures contextual peer effects.

The main interest is in the β coefficient that captures endogenous effects of linked boards. Following this baseline estimation of model (1), my further empirical analyses focus on ruling out that latent common factors or other endogeneity issues are driving the results.

3.3 Data and Sample

I start with all publicly listed U.S. firms from BoardEx North America database. I use Individual Profile datasets from BoardEx to construct board links and to collect director information. Two firms are board-linked if they both share the same director in a given year. Hence, board links are dynamic as they account for directors' turnover. To be considered, the board link needs to last for more than six month in a given year as this will allow time for a linked board member to exert their influence and to transmit their opinion on financing via links to other firms. I keep only director-firm-year observations with at least one board link to another firm and drop observations, where a focus and its linked firm belong to the same size-industry bin.[3]

I then combine this director-firm-year dataset with financial data from Compustat and CRSP. I exclude financial firms and utilities (SIC codes 6000-6999 and 4900-4999) and require firms to have non-negative total assets and sales, as well as non-missing observations on the key analysis variables. My final dataset includes 48,635 firm-year observations from 1990 and 2021, representing 4,769 unique firms and 10,588 board members. On average, a sample firm has 5.6 board links to other firms.

3.4 Variables

I measure total equity issuance, *Equity Issuance*, as sale of common and preferred stock net of purchase of common and preferred stock, divided by the previous year book value of assets. Total debt issuance, *Debt Issuance*, is defined as the long-term debt minus debt redemption, divided by the previous year book value

[3] 71% of initial sample of publicly listed firms in BoardEx during 1990-2021 have at least one board link. 4.3% of linked director-firm-year observations are from the same size-industry bin. Removing them mitigates the concern that our results may be capturing peer effects due to common size and industry, rather than due to board connections.

of assets. Both equity and debt issuance variables are truncated at the bottom 3%. *Net Issuance* is the difference between *Equity Issuance* and *Debt Issuance*. I also define two indicator variables, *Equity Issuance Indicator* and *Debt Issuance Indicator* as equal to one if, respectively, *Equity Issuance* or *Debt Issuance* are positive, and zero otherwise.

I include standard determinants of firm's financing choice and issuance volume to account for exogenous effects in all regressions (Dittmar and Thakor, 2007, Leary and Roberts, 2014). I control for firm size measured by the natural logarithm of total assets, *LN(Assets)*. I control for investment opportunities with *Market-to-Book Assets* defined as the ratio of the sum of the market value of equity and total liabilities over total assets. Profitability is measured by *Operating Income* defined as operating income before depreciation divided by total assets. Tangibility is defined as PP&E divided by total assets. For each of the firm-specific variables, I also compute their averages across board-linked peers and include the peer firm averages of control variables in all regressions to account for contextual effects as in model (1). All continuous control variables are winsorized at the top and bottom 1%. Detailed definitions of variables are in Table A.1 in the Appendix and summary statistics on the analysis variables for the full sample are relegated to the Internet Appendix Table IA.1, due to the popularity of this sample.

4 Empirical Analyses and Findings

4.1 Univariate Analyses

I begin my analyses with a detailed examination of the summary statistics on the new board issuance exposure proxies and their univariate comparisons and tests for differences in means across subsamples of issuers and non-issuers. Panels A, B, and C of Table 1 report the means, standard deviations, and medians of board exposure variables as well as their components for subsamples of equity-, debt- and non-issuers, respectively. Panel A shows that for equity issuing focus firms, on average, 45.8% (26.3%) of their board-linked issuing peers also raised equity (debt) financing, which represents 46% (24.6%) of total financing raised by peers in a given year. Taking into account the expected issuance activity based on linked firms' size and industry bins (expected issuance ratios), *Board Excess Equity Exposure* and *Board Excess Debt Exposure* of equity issuing focus firms is 3.8% and -3.0%, respectively. These univariate findings already suggest that focus firms are more likely to issue equity if their board-linked peers also issued equity, rather than debt, in a given year. Confirming this conjecture, *Board Excess Net Equity Issuance Exposure* of equity issuing focus firms is also

highly positive 6.8%.

TABLE 1 ABOUT HERE

Panels B and C show that for debt issuing and non-issuing focus firms, on average, only 19.8% and 21.9% of their board-linked peers, respectively, raise equity financing in a given year. At the same time, a noticeably greater proportion of board-linked peers of these firms (47.9% and 40.4%, respectively) issue debt in a given year. Contrary to equity issuers in Panel A, *Board Excess Equity Exposure* as well as *Board Excess Net Equity Issuance* of debt issuers are highly negative −3.0% and −7.8%, respectively, while their *Board Excess Debt Exposure* is a positive 4.8%. Abnormal board issuance exposure of non-issuing focus firms is similar to those of debt issuers, with negative values for *Board Excess Equity Exposure* and *Board Excess Net Issuance Exposure* and positive ones for *Board Excess Debt Exposure*.

Panel D shows that all differences in board exposure proxies between the subsamples of equity and debt issuers (columns (1) and (2)), and those between equity and non-issuers are in the expected direction and highly significant (columns (3) and (4)). For example, the differences in *Board Excess Equity Exposure* are 6.8% and 5.2% ($p < 0.000$) between equity and debt issuers and equity and non-issuers, respectively, and they are 14.5% and 11.3% for *Board Excess Net Equity Issuance Exposure* for these two pairs of subsamples, respectively (all significant at better than 1% level). At the same time, the corresponding differences in *Board Excess Debt Exposure* are significantly negative −7.8% and −6.2%. Volume-based abnormal board issuance exposure proxies show similar patterns. For example, the differences in *Board Excess Net Equity Volume Exposure* are significantly positive 11.4% and 7.4% between equity and debt issuers, and between equity and non-issuers, respectively. Overall, these univariate results provide first suggestive evidence that firms are more likely to issue equity, compared to either issuing debt or not issuing, if their board-linked peers chose equity over debt financing, after netting these peers' expected equity issuance.

Next, I compare the board issuance exposure variables between the matched subsamples of equity and debt issuers. To do so, for each focus firm that issues equity in a given year, I select a firm issuing debt in the same year, in the same size-industry bin, and closest in size. I perform matching with replacement, which produces 5,774 equity issuers and an equivalent number of matched debt issuers.[4]

Table 2 reports the means, standard deviations, and medians of board issuance exposure variables for

[4]The results are almost identical if the matching is instead done without replacement. However, it reduces the size of the matched sample almost in half to 2,508 equity issuers and an equivalent number of matched debt issuers.

equity and debt issuers (Panels A and B, respectively) and the tests of the differences in means between matched equity and debt issuers (Panel C). The results are consistent with the univariate tests of difference for the non-matched equity and debt issuers in Table 1, Panel C. For example, the difference in *Board Excess Equity (Volume) Exposure* is 5.5% (5.2%), and that for *Board Excess Net Equity Issuance (Volume) Exposure* is 11.8% (11.3%), all significant at better than 1% level. In contrast, the difference in *Board Excess Debt (Volume) Exposure* between matched equity and debt issuers is a highly significant −6.4% (−6.1%). Thus, these results confirm the previous univariate evidence that firms prefer raising financing through equity (debt) if its board members have seats on other equity (debt) issuing firms.

TABLE 2 ABOUT HERE

4.2 The Main Results

In this section, I present my main results that relate the likelihood and the volume of net equity or net debt issuance to their board members' experience with external financing at other firms, where they share director seats. I first present the results where board issuance exposure measures are constructed based on all common directorships. Next, I decompose the board issuance exposure proxies into those based on interlocked directors who have either an executive or a non-executive role on the focus firm and explore whether the director type drives the findings.

4.2.1 All Directors

Table 3 reports the results where the board issuance exposure measures are based on all directors. At the top of the columns, I note the dependent variable and the estimation method used. For the issuance choice models that use binary dependent variables (columns (1) through (5)), I report results using linear probability models to facilitate interpretation and comparison with other studies. All results remain qualitatively similar when using logit and probit models (unreported to conserve space). Panel A shows the main results on the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Hence, these regressions eliminate inactive periods and focus on modelling the financing choice between equity and debt, conditional on board-linked peers' issuance in a given year and, as such, represent the main specifications in my analyses.[5]

[5]In all regression models, I use industry and year fixed effects for consistency as tobit models with firm fixed effects are not feasible due to incidental parameter problem. Nonetheless, I re-run the main OLS regression

TABLE 3 ABOUT HERE

As expected, all equity- (debt-)based board issuance exposure proxies in regressions where the dependent variable is either the equity issuance choice or volume attract a significantly positive (negative) coefficient. The opposite relationships are observed in the regressions of debt issuance choice or volume on board issuance exposure proxies. For example, a significantly positive (negative) coefficient of 0.101 (-0.101) on *Board Excess Equity Exposure* in column (1) (column (3)) suggests that a one-standard-deviation increase in board members' experience with equity financing on other boards in a given year increases (decreases) the likelihood of a focus firm issuing equity (debt) by 3.0% ($0.101 \times 0.299 \times 100$).[6] The effect of *Board Excess Debt Exposure* on the probability of equity and debt issuance in columns (2) and (4) is the exact opposite of that in columns (1) and (3) because regressions in this panel are restricted to issuance years of focus and board-linked firms. For example, an increase in *Board Excess Debt Exposure* by one standard deviation is associated with about 3.2% ($0.101 \times 0.314 \times 100$) *decrease* in the probability of equity issuance by a focus firm in a given year.

Likewise, looking at the volume-based issuance measures in column (6), a one-standard-deviation increase in *Board Excess Equity Volume Exposure* is associated with a 5.3% increase in the volume of equity issuance ($0.162 \times 0.327 \times 100$), which represents a 67% increase from its sample mean. In the same vein, the results in column (9) show that a one-standard deviation increase in the net issuance volume by board-linked firms in a given year is associated with a 2.1% increase in the net issuance by focus firms ($0.033 \times 0.654 \times 100$), representing a 23.4% change from its sample mean. As can be seen from Table IA.3 in the Internet Appendix, the economic significance of the effect of board issuance exposure proxies is greater than that of any other

models from Table 3 columns (1)-(5) using firm fixed effects in place of industry fixed effects. Table IA.2 in the Internet Appendix shows that the results remain robust to this modification. As expected, there is some attenuation in the magnitudes of the key coefficients and a slight decrease in the statistical significance in the results in Panel A only. As regressions in Panel A use only active issuance periods for focal and board-linked firms, most of the firms in this sample will only have observations for a couple of years, rather than a longer time series that justifies using firm fixed effects. For example, 11% of the original sample firm-year observations for the main regressions in Panel A of Table 3 are for firms that are only present for one year. These singleton observations are dropped when firm fixed effects are included. Further 40% of firm-year observations are for firms that appear in this sample for no more than four years, which are most of the time not even consecutive time periods, rather years with large gaps in between them, hence making the use of firm fixed effects and the interpretation of these results problematic.

[6]Statistics on the analysis variables (e.g., standard deviations and means) used for gauging and interpreting the economic significance of the coefficients are from Table IA.1 in the Internet Appendix that reports full sample summary statistics on all variables. Additionally, Table IA.3 in the Internet Appendix reports the main results, where all coefficient estimates are standardized by dividing each independent variable by its sample standard deviation. As such, all coefficients can be interpreted as showing the change in the dependent variable given a one-standard-deviation change in the independent variable.

characteristic of board-linked firms. Although the coefficient estimates on all characteristics of board-linked peers included in the regressions are statistically significant at 10% level or better, their economic effect ranges between 27% and 83% of that of the key board exposure proxies. This finding suggests that the key channel through which board-linked firms effect financing decisions is director connections and dissemination of opinions on issuance, as opposed to the characteristics of board-linked peers.

The main results in Panel A also hold in less restrictive models, where the requirement of the issuance activity of board-linked firms and within their respective size-industry bins is relaxed (Panel B). The results also hold for the full sample of issuing and non-issuing focus firms, regardless of whether their board-linked peers issue (Panel C). As expected, we see a slight attenuation in the estimated effects compared to the baseline estimates in Panel A due to the inclusion of both active and inactive issuance periods for focus firms and their board-linked peers. Notwithstanding, all key coefficients maintain their sign and remain statistically significant at better than 1% level. Overall, the results of these baseline tests consistently demonstrate that greater exposure of board members to equity (debt) issuance on other firms, where they hold director seats, is, on average, associated with a significantly higher likelihood and volume of net equity (debt) issuance by their focus firms.

4.2.2 Executive Versus Non-Executive Directors

In this section, I explore whether the type of directorship, executive or non-executive, matters for the uncovered positive relationship between the board members' exposure to issuance activity on other firms where they hold board seats and their focus firms' financing decisions. On one hand, it is expected that directors with executive seats on focus firms may be more influential in deciding on the issuance instrument and volume as they have the prime responsibility for advising on such decisions. On the other hand, it is expected that the experience and opinions on financing of non-executive directors will also matter for such key decisions, even if to a lesser extent. The finding to the contrary could suggest that non-executive directors are merely "rubber stamping" the decisions of executive directors and be indicative of the former being not engaged, suggesting board capture.

To test how important the opinions of executive and non-executive directors are for financing decisions, I decompose board excess issuance exposure proxies into those stemming solely from executive and from non-executive directors. Specifically, I only consider board links of directors with either an executive role or a non-executive role on a focus firm when constructing firm-specific issuance count and volume ratios (based on board-linked peers) and their corresponding expected issuance count and volume ratios (based on

size-industry bins of linked firms).

Table 4 presents the results. Panels A and B report the results for board excess issuance exposure of executive and non-executive directors, respectively, using the main specifications that include active issuing periods of focus firms and their board-linked peers. For brevity, I only report the coefficient estimates on main variables of interest and omit those for controls. All key coefficient estimates for both executive- and non-executive-based proxies retain a positive sign and remain significant at better than 1% level, consistent with previous findings when board links of all directors are pooled together.[7] In terms of magnitude, the key coefficients of interest are slightly higher for executive-director based proxies in Panel A, compared with those for non-executive-based-director proxies in Panel B, but in each case they are close to the estimates in the main specification in Table 3 Panel A that uses all directors. The Chow test shows no statistically significant differences in the coefficients on respective board issuance exposure proxies based on executive (Panel A) and non-executive (Panel B) directors. Thus, these findings suggest that board links of both executive and non-executive directors are useful for transmitting their opinions on the choice of a financing instrument and amount and for shaping issuance decisions of their focus firms. They do not suggest that non-executive directors are not engaged in financing decisions and are merely "rubber-stamping" financing choices of the insiders.

TABLE 4 ABOUT HERE

Similarly to Table 3, I report the results for less restrictive models separately for executive directors in Panels C and E, and non-executive directors in Panels D and F. Panels C and D present the results including inactive issuance periods of board-linked firms and their respective size-industry peers, while Panels E and F present results imposing no restriction on the issuance activity in a given year. Interestingly, the magnitudes of the key coefficients on board issuance exposure variables become noticeably smaller for executive-director-based proxies and their statistical significance diminishes or disappears (Panels C and E). In contrast, the coefficient estimates for non-executive-director-based proxies (Panels D and F) retain their statistical and economic significance, and are all close in magnitudes to the results of the corresponding models in Panels B and C of Table 3 based on all directors. This finding may arise because directors who serve as non-executive on focus firms' boards are likely to be executive directors on the boards of their linked peers. Hence, they are

[7]The two exceptions are the coefficients in debt issuance and net issuance regressions (columns (4) and (9)) of Panel A for executive-director-based board exposure proxies, which are, respectively, significant at 10% and insignificant at conventional levels.

bringing their "executive" experience and first-hand opinions on financing decisions to the boards of the firms where they fulfil a non-executive role. Nonetheless, Chow tests of the differences in the coefficients across models with executive- and non-executive-based proxies find no significant differences at the conventional levels. In sum, these results provide evidence that both types of directors are influential for disseminating their experiences and opinions on the issuance decisions in focus firms.

4.3 Tests of Identification

In this section, I implement a series of tests aimed at addressing identification concerns present in the main results. First, I use second-level board connections as an exogenous instrument for the first-level connections. Next, I perform two falsification tests using pseudo board linked firms and examining the effects when the board link disappears, that is after a director's departure. I then rule out the possibility that stock return commonality between focus firms and their board-linked peers could be driving the results. Finally, I check whether the results could be due to investment sentiment, as opposed to directors' experience with issuance on other linked firms.

4.3.1 Second-Level Board Exposure

The first identification test relies on using second-level (indirect) board links as an exogenous instrument for first-level connections and allows identifying the impact of the interaction effects of board-linked firms on the focus firm's financing policy (see e.g., Bramoullé, Djebbari, and Fortin (2009)). This test is possible in our setting because board-linked networks are firm-specific and hence can contain non-overlapping directors. This feature of board networks provides a unique advantage to designing the identification strategy, compared to some other common definitions of peer groups, for example, those based on industry classifications or firm's locations. To implement this test, I re-construct all board issuance exposure proxies using non-overlapping 'peers of peers', that is firms that have direct board links to the board-linked peers of the focus firm, but which are not themselves direct peers of the focus firm. I then instrument each board issuance exposure proxy with its respective set of peers-of-peers variables, specifically, with the board exposure proxies, expected count or volume ratios, and average linked firms' characteristics, all constructed at the second level of board links.

Table 5, Panel A presents the results of instrumental variables (IV) regressions when the second-level board issuance exposure proxies are based on all director links. I use two-stage least squares (2SLS) estimation in models with equity or debt indicator variables (columns (1)-(3)), and instrumental variables tobit (IV-Tobit) estimation in models with volume issuance as dependent variables (columns (4)-(7)). To preserve space, only

second-stage coefficient estimates on the key variables of interest are reported. Tables IA.4 and IA.5 in the Internet Appendix report the full estimation results for 2SLS and IV-Tobit regressions, respectively. The results are fully consistent with those of the main specifications in Table 3, Panel A. First-stage results and the tests of endogeneity and overidentification confirm that the instruments used are relevant and valid.

Likewise, all results continue to hold in Panel B when using board issuance exposure proxies based on second-level non-executive interlocked directors only. In contrast, the results in Panel C based on second-level board issuance exposure proxies constructed for executive directors only are insignificant. Additionally, the first-stage regressions in Panels C of Tables IA.4 and IA.5 in the Internet Appendix show that in this case the instruments used are weak and tests of no endogeneity of the instrumented regressors are not rejected (based on e.g., Durbin and χ^2 endogeneity tests).[8]

Overall, the results of the IV estimations support the main conclusions that directors' issuance experience gained on the boards of other firms where they have seats matters for the choice and amount of financing on the focus firm. These results are primarily driven by directors who act in non-executive roles on the focus firm.

Table 5 About Here

4.3.2 Placebo Test with Pseudo Links

Next, I check whether the results arise because of potential unobserved correlations between board-linked firms. For example, this could happen due to firms in the same board network being exposed to common shocks affecting financing choice of all firms with some sort of connection (and not necessarily via a common board member) to the size-industry of the linked firm. I perform a placebo test in which I replace each true-linked firm-year observation with a randomly selected pseudo-linked firm from the same size-industry bin. I then re-construct all board issuance exposure proxies using this pseudo allocation and expect to find no significant effect when using them. Table 6 presents univariate comparisons of the mean board issuance exposure proxies across focus firms with true- and pseudo-links. Panel A of Table 6 reveals that there is no difference in the board issuance exposure proxies for the entire sample that includes issuing and non-issuing firms (insignificant p-values of the mean difference tests). In contrast, all board issuance exposure proxies are

[8]The results for executive directors could be affected by a notably smaller sample size. For completeness and because of the non-rejection of no endogeneity test for the models based on non-executive directors, Table IA.6 in the Internet Appendix reports non-instrumented OLS and Tobit regression results that directly use second-level board exposure proxies. They are qualitatively similar to the main results in Tables 3 and 4. However, I rely on the IV estimations for overall conclusions and interpretations.

significantly different between equity-issuing focus firms with true board links compared to those with pseudo board links (Panel B). Similarly, for debt-issuing focus firms board excess debt exposures and board excess net issuance exposures are significantly different depending on whether they are constructed using true or pseudo linked firms. These results suggest that board issuance exposure proxies are not merely picking up some commonalities between firms sharing a board network or from the same industry and of similar size.

TABLE 6 ABOUT HERE

Table 7 reports the results of the main regression specifications using pseudo links. All models reveal that focus firms' financing choice and volume are not sensitive to issuance exposure of board members with seats on these placebo linked firms. Not only all coefficient estimates on pseudo-board exposure proxies are statistically insignificant, but the magnitudes of the point estimates are close to zero. Notably, the expected issuance count and volume ratios based on the size-industry bins of true-linked firms are all significant in the expected direction. Based on these results, I conclude that there is no indication that commonalities between focus firms and firms in the size-industry bin of their board linked peers are driving the results.

TABLE 7 ABOUT HERE

4.3.3 Placebo Test with Broken Links

In this section, I perform another falsification test based on broken director links to further address the potential endogeneity of board connections. The idea of this test is to explore whether the uncovered effects are indeed due to sharing board directors who are bringing their issuance experience at the linked firms to the boards of focus firms, rather than due to other commonalities between firms within the same board network. To conduct this test, I start with identifying the first instance when a director link between the focus firm and its board-connected peer gets broken.[9] I impose several further restrictions when constructing a sample for this analysis. First, I only consider the years prior to the 'broken link' year with no director departures and require at least two of such years for a firm to be included in the analysis. Secondly, in the period following the 'broken link', I only include years until another director link gets broken or a new link is formed and require there to be at least two of such clean years with no director departures and appointments. Based on

[9]Note that only director links that ceased to exist are considered for this test, and not merely director departures from the boards of focus firms. If a director departs from the board of the focus firm, but a connection to the same linked firm is formed either through an existing director or an appointment of a new director, such cases are not considered a 'broken link'.

the entire sample, I identify 719 'broken link' events that satisfy the above criteria.

Next, I replicate the board structure and director connections of the focus firm that existed before the broken link year for all the subsequent years that a firm is included in the analysis. Hence, I pretend that the original link remains, while in reality it ceased to exist. I then use this falsified board structure in the post-broken-link period to construct the new pseudo-board issuance exposure proxies, based on the actual issuance activities of these replicated board-linked peers from the pre-broken-link period. I expect board issuance exposure proxies based on the original links to matter less once the links are broken, if the issuing activity can indeed be propagated via board links, rather than entirely explained by some confounding factors.

Table 8 reports the results. Panel A shows that using the main specifications and true-board issuance exposure proxies from the pre-broken-link period, the prior findings are confirmed for this subsample analysis. In contrast, Panel B reveals no effects when the same specifications are performed using the pseudo-board issuance exposure proxies in the post-broken-link period.[10] Table IA.7 in the Internet Appendix presents full regression results for different sets of restrictions imposed on the issuing activity of focus firms and their linked peers and shows qualitatively similar results in all models. Overall, the results of this falsification test suggest that board issuance exposure only matters when the link on which it is based remains active and its importance diminishes and even disappears once the link no longer exists.

Table 8 About Here

4.3.4 The Effects of Board Issuance Exposure in the Subsample of Focal Firms that Have Low Return Commonality with Linked Firms

I further address the potential presence of correlated effects by examining whether the results can be explained by high return correlations between focus firms and their board-linked peers. It is well established in the corporate finance literature that high stock returns are good predictors of equity issuances.[11] Hence, high stock return correlations between focus and linked firms could be driving the financing activity of interlocked firms. To rule out this explanation, I utilize a sample of pseudo-linked firms constructed as explained in Section 4.3.2. I then compute correlations between stock returns of focus firms and their true-linked peers and correlations between returns of focus firms and their pseudo-linked peers and construct a ratio of the latter return correlations to the former:

[10] The only exception is the coefficient estimate on board excess volume debt exposure in the debt issuance regression (column (4)), which is insignificant in Panel A and significant at 5% in Panel B.

[11] See e.g., Pagano, Panetta, and Zingales (1995), and Graham and Harvey (2001).

$$\rho\text{-}Ratio = \frac{\rho_{pseudo\text{-}linked}}{\rho_{true\text{-}linked}} \tag{2}$$

I then construct two subsamples based on true- and pseudo-links, which are restricted to firms for which $\rho - Ratio$ is greater than the sample median, that is they include focus firms that have lower return correlations with true-linked firms compared to that with pseudo-linked firms.[12] I repeat the main specification using these two subsamples, where board issuance exposure proxies are contructed either using true links or pseudo links, but where the stock return commonality is greater for the subsample of focus firms with pseudo links. If return commonality is driving the results, then I expect to find lower significance of the results for the subsample of focus firms with true board links.

Table 9 presents the results. Panel A reveals that all results hold using true board links, even in the presence of low stock correlations between focus firms and their true linked peers. In contrast, Panel B shows that the results remain insignificant when using pseudo board links, even after including only pseudo linked firms with higher return commonality with focus firms. Overall, these results indicate that the results cannot be merely attributed to stock return commonalities.

Table 9 About Here

4.3.5 The Effect of Board Issuance Exposure and Investment Sentiment

Another potential concern is that the results may be due to a common investment sentiment that is either directly or indirectly (through its impact on stock returns) affecting the financing activity of all firms within the same board network. To rule out this alternative explanation, I explore the impact of six common investment sentiment proxies on the relationship between board issuance exposure proxies and financing choices and volume. The six proxies I use are Baker and Wurgler (2006) (BW) sentiment index and its orthogonalized version, CBOE Volatility Index (VIX), market return dispersion (annual standard deviation of monthly returns on a value-weighted stock market index), one-year ahead market return, and equity share in aggregate issuances. Table A1 in the Appendix provides detailed definitions of sentiment proxies.

I then include in the main regressions these investment sentiment indices as well as their interactions with the board issuance exposure proxies. Table 10 presents the results. For brevity, I only report the coefficient

[12]The results are qualitatively similar when re-constructing the subsamples for this analysis based on $\rho - Ratio$ greater than one.

estimates for the key variables of interest. Panels A and B show the results of the OLS models with equity issuance indicator as a dependent variable, while Panels C and D report the results of Tobit regressions with equity issuance and net issuance volumes as dependent variables, respectively. In all models, coefficient estimates on board issuance exposure proxies remain significant at better than 1%[13]. At the same time, the coefficient estimates on investment sentiment indices are also significant in many cases and have the expected sign. In Panels A and B with equity issuance indicator variables, the coefficients on the interaction terms are insignificantly different from zero, while in Panels C and D with issuance volume variables, they are mostly significant and negative, suggesting that investment sentiment somewhat attenuates the impact of board issuance exposure on the issuance volumes. In unreported tests, I also run a horse race between all investment sentiment proxies and board issuance exposures and find that all main results still hold.

Overall, these tests mitigate a concern that the uncovered relationship is due to board issuance exposure proxies picking up shared investment sentiment within the board network.

Table 10 About Here

5 Concluding Remarks

Board connections are recognized as an important channel for information transmission across firms. In this study, I examine whether a firm's likelihood and volume of equity issuance, relative to that of debt, is influenced by the issuance activity of its board-linked peers. I construct proxies for board excess equity and debt exposures that measure director's experience with equity or debt financing on other boards, net of expected issuance by linked firms. Using these proxies, I show that a firm's choice of equity over debt and the issuance volumes are highly sensitive to the financing choices of its board-connected peers. I find that the propensity of a firm to issue equity, rather than debt, increases by about 3% for a one-standard deviation increase in its board excess equity exposure. In terms of the issuance volume, a one-standard-deviation increase in board excess equity volume exposure increases the volume of equity issuance of the focus firm by more than 5%, which is equivalent to about 67% increase in equity issuance, relative to its mean. I address endogeneity and reflection issues by utilizing the second-order non-overlapping board connections ('peers of peers'). I also conduct several identification tests using placebo experiments and rule out that commonality in stock returns or investment sentiment are driving the results.

[13]Except for column (6) in Panel D, where it is significant at 10%.

These findings contribute to our understanding of what influences firm's financing choice, which is arguably one of the key corporate decisions. To the best of my knowledge, this study is the first to show that issuance activities of board-connected peers matter for the same policies on focus firms. Moreover, the analysis broadens our understanding of the roles of executive and non-executive directors in major corporate decisions. I show that non-executive directors can also be instrumental in performing an advising function in the situations when their expertise on other boards warrants so. Overall, the results emphasize the importance of relevant professional connections and experience formed through boards in corporate decision-making.

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Table 1
Summary Statistics on Board Issuance Exposure

	Panel A: Equity Issuers N=7,598			*Panel B: Debt Issuers N=9,334*			*Panel C: Non-Issuers N=31,861*			*Panel D: Differences*	
										Equity−Debt Issuers	*Equity−Non-Issuers*
	mean	sd	p50	mean	sd	p50	mean	sd	p50	Diff. in means	
Equity Count Ratio	0.444	0.458	0.333	0.198	0.355	0.000	0.219	0.377	0.000	0.246^{a}	0.225^{a}
Expected Equity Count Ratio	0.406	0.361	0.429	0.228	0.289	0.100	0.233	0.303	0.000	0.179^{a}	0.173^{a}
Equity Volume Ratio	0.460	0.473	0.212	0.210	0.376	0.000	0.229	0.395	0.000	0.251^{a}	0.231^{a}
Expected Equity Volume Ratio	0.469	0.417	0.521	0.270	0.349	0.049	0.269	0.358	0.000	0.199^{a}	0.199^{a}
Debt Count Ratio	0.263	0.396	0.000	0.479	0.466	0.500	0.404	0.461	0.000	-0.217^{b}	-0.141^{b}
Expected Debt Count Ratio	0.293	0.310	0.200	0.432	0.391	0.444	0.373	0.384	0.262	-0.139^{b}	-0.080^{b}
Debt Volume Ratio	0.246	0.402	0.000	0.467	0.474	0.364	0.394	0.467	0.000	-0.221^{b}	-0.147^{b}
Expected Debt Volume Ratio	0.231	0.320	0.072	0.389	0.404	0.286	0.336	0.393	0.108	-0.159^{b}	-0.105^{b}
Net Equity Issuance Count Ratio	0.181	0.724	0.000	-0.282	0.684	0.000	-0.186	0.688	0.000	0.463^{a}	0.366^{a}
Expected Net Equity Issuance Count Ratio	0.113	0.493	0.000	-0.204	0.498	0.000	-0.140	0.489	0.000	0.317^{a}	0.253^{a}
Net Equity Volume Ratio	0.214	0.750	0.000	-0.258	0.717	0.000	-0.165	0.716	0.000	0.472^{a}	0.379^{a}
Expected Net Equity Volume Ratio	0.238	0.585	0.041	-0.120	0.587	0.000	-0.067	0.571	0.000	0.358^{a}	0.305^{a}
Board Excess Equity Exposure	0.038	0.307	0.000	-0.030	0.298	0.000	-0.014	0.297	0.000	0.068^{a}	0.052^{a}
Board Excess Equity Volume Exposure	-0.008	0.324	0.000	-0.060	0.331	0.000	-0.040	0.325	0.000	0.052^{a}	0.032^{a}
Board Excess Debt Exposure	-0.030	0.312	0.000	0.048	0.313	0.000	0.032	0.313	0.000	-0.078^{b}	-0.062^{b}
Board Excess Debt Volume Exposure	0.016	0.328	0.000	0.078	0.343	0.000	0.058	0.339	0.000	-0.062^{b}	-0.042^{b}
Board Excess Net Issuance Exposure	0.068	0.328	0.000	-0.078	0.597	0.000	-0.046	0.595	0.000	0.145^{a}	0.113^{a}
Board Excess Net Volume Exposure	-0.024	0.156	0.000	-0.138	0.665	0.000	-0.098	0.651	0.000	0.114^{a}	0.074^{a}

This table presents firm-level summary statistics. Panels A, B, and C report statistics for the subsamples of equity, debt and non-issuers, respectively. Panel D presents the differences in means between equity and debt issuers, and between equity and non-issuers. All variables are constructed using Compustat, CRSP, and BoardEx North America databases over 1990-2021 period, excluding financial firms and utilities. All variables are winsorized at the top and bottom 1%. The variables are defined in Table A.1 in the Appendix. ^{a} indicates that the mean difference is significantly greater than zero at 1% significance level. ^{b} indicates that the mean difference is significantly smaller than zero at 1% significance level.

Table 2
Board Issuance Exposure for a Matched Sample of Equity and Debt Issuers - Summary Statistics and Tests of Differences

	Panel A: Equity Issuers			*Panel B: Debt Issuers*			*Panel C: Mean Differences*	
	mean	sd	p50	mean	sd	p50	Equity-Debt Issuers	t-stat
Equity Count Ratio	0.468	0.455	0.500	0.315	0.430	0.000	0.153	18.59^a
Expected Equity Count Ratio	0.425	0.358	0.479	0.327	0.356	0.167	0.098	14.85^a
Equity Volume Ratio	0.486	0.472	0.469	0.321	0.444	0.000	0.165	19.33^a
Expected Equity Volume Ratio	0.491	0.414	0.599	0.377	0.410	0.134	0.114	14.78^a
Debt Count Ratio	0.263	0.390	0.000	0.330	0.436	0.000	-0.067	-8.65^b
Expected Debt Count Ratio	0.300	0.306	0.214	0.302	0.343	0.176	-0.002	-0.45
Debt Volume Ratio	0.245	0.398	0.000	0.324	0.446	0.000	-0.079	-9.96^b
Expected Debt Volume Ratio	0.234	0.318	0.079	0.252	0.349	0.054	-0.018	-2.78^b
Net Equity Issuance Count Ratio	0.205	0.723	0.000	-0.015	0.722	0.000	0.220	16.35^a
Expected Net Equity Issuance Count Ratio	0.126	0.495	0.000	0.024	0.506	0.000	0.102	10.89^a
Net Equity Volume Ratio	0.240	0.751	0.000	-0.003	0.750	0.000	0.243	17.40^a
Expected Net Equity Volume Ratio	0.256	0.588	0.197	0.126	0.589	0.000	0.130	11.93^a
Board Excess Equity Exposure	0.043	0.305	0.000	-0.012	0.300	0.000	0.055	9.69^a
Board Excess Equity Volume Exposure	-0.005	0.323	0.000	-0.057	0.322	0.000	0.052	8.58^a
Board Excess Debt Exposure	-0.037	0.309	0.000	0.027	0.315	0.000	-0.064	-11.00^b
Board Excess Debt Volume Exposure	0.011	0.326	0.000	0.072	0.333	0.000	-0.061	-9.95^b
Board Excess Net Issuance Exposure	0.079	0.609	0.000	-0.039	0.603	0.000	0.118	10.50^a
Board Excess Net Volume Issuance Exposure	-0.016	0.644	0.000	-0.129	0.643	0.000	0.113	9.39^a

This table reports statistics, such as mean, standard deviation and median for a subsample of equity issuers (Panel A) and a matched subsample of debt issuers (Panel B). Matching is done based on the issuance activity in the same year, same size-industry bin, and closest in size. Panel C reports the differences in means between the equity issuers and the matched debt issuers and the t-statistics from the two-sample test for equality of mean across these two groups of firms. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. The sample for this analysis includes 5,774 equity issuers and an equivalent number of matched non-issuers. ^{a} indicates that the mean difference is significantly greater than zero at 1% significance level. ^{b} indicates that the mean difference is significantly smaller than zero at 1% significance level.

Table 3
Issuance Decisions and Board Issuance Exposure

	Dependent Variable =								
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)					Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Focal and Board-Linked Firms' Issuance Years									
Board Excess Equity Exposure	0.101***		-0.101***						
	(0.012)		(0.012)						
Board Excess Debt Exposure		-0.101***		0.101***					
		(0.012)		(0.012)					
Board Excess Net Issuance Exposure					0.051***				
					(0.006)				
Board Excess Equity Volume Exposure						0.162***			
						(0.021)			
Board Excess Debt Volume Exposure							0.035***		
							(0.007)		
Board Excess Net Volume Issuance Exposure								0.081***	0.033***
								(0.010)	(0.006)
Expected Equity Count Ratio	0.147***		-0.147***						
	(0.019)		(0.019)						
Expected Debt Count Ratio		-0.147***		0.147***					
		(0.019)		(0.019)					
Expected Net Issuance Count Ratio					0.073***				
					(0.009)				
Expected Equity Volume Ratio						0.222***			
						(0.030)			
Expected Debt Volume Ratio							0.04***		
							(0.009)		
Expected Net Volume Issuance Ratio								0.111***	0.038***
								(0.015)	(0.009)

(*continued on next page*)

Table 3 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LN(Assets)	-0.091***	-0.091***	0.091***	0.091***	-0.091***	-0.16***	0.033***	-0.16***	-0.059***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.006)	(0.002)	(0.006)	(0.003)
Market-to-Book Assets	0.025***	0.025***	-0.025***	-0.025***	0.025***	0.044***	-0.019***	0.044***	0.032***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.001)	(0.003)	(0.002)
Operating Income	-0.096***	-0.096***	0.096***	0.096***	-0.096***	-0.206***	0.123***	-0.206***	-0.251***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.030)	(0.014)	(0.030)	(0.020)
PPE	-0.217***	-0.217***	0.217***	0.217***	-0.217***	-0.782***	0.03**	-0.782***	-0.303***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.054)	(0.015)	(0.054)	(0.029)
LN(Assets)linked-firms	0.016***	0.016***	-0.016***	-0.016***	0.016***	0.02**	-0.012***	0.02**	0.016***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.008)	(0.003)	(0.008)	(0.005)
Market-to-Book Assetslinked-firms	0.005*	0.005*	-0.005*	-0.005*	0.005*	0.013***	-0.004**	0.013***	0.011***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.002)	(0.004)	(0.003)
Operating Incomelinked-firms	-0.11***	-0.11***	0.11***	0.11***	-0.11***	-0.212***	0.081***	-0.212***	-0.173***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.046)	(0.019)	(0.046)	(0.031)
PPElinked-firms	-0.058*	-0.058*	0.058*	0.058*	-0.058*	-0.086	0.038**	-0.086	-0.063*
	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)	(0.060)	(0.018)	(0.060)	(0.034)
Constant	0.859***	1.005***	0.141***	-0.005	0.932***	0.362***	-0.146***	0.473***	0.387***
	(0.034)	(0.029)	(0.034)	(0.029)	(0.030)	(0.136)	(0.035)	(0.134)	(0.069)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	11,425	11,425	11,425	11,425	11,425	11,425	11,425	11,425	11,425
Adjusted R^2/Pseudo R^2	0.412	0.412	0.412	0.412	0.412	0.275	0.389	0.275	0.203

(*continued on next page*)

Table 3 (*continued*)

	Dependent Variable =								
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel B: Focal Firms' Issuance Years									
Board Excess Equity Exposure	0.061***		-0.028***						
	(0.008)		(0.008)						
Board Excess Debt Exposure		-0.044***		0.03***					
		(0.008)		(0.008)					
Board Excess Net Issuance Exposure					0.03***				
					(0.004)				
Board Excess Equity Volume Exposure						0.138***			
						(0.021)			
Board Excess Debt Volume Exposure							0.019***		
							(0.007)		
Board Excess Net Volume Issuance Exposure								0.077***	0.017***
								(0.011)	(0.004)
Expected Equity Count Ratio	0.084***		-0.015**						
	(0.010)		(0.008)						
Expected Debt Count Ratio		0.004		0.029***					
		(0.007)		(0.008)					
Expected Net Issuance Count Ratio					0.036***				
					(0.006)				
Expected Equity Volume Ratio						0.174***			
						(0.019)			
Expected Debt Volume Ratio							0.012*		
							(0.007)		
Expected Net Volume Issuance Ratio								0.119***	0.022***
								(0.014)	(0.005)

(*continued on next page*)

Table 3 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LN(Assets)	-0.042***	-0.04***	0.048***	0.047***	-0.04***	-0.13***	0.04***	-0.126***	-0.025***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.002)	(0.005)	(0.002)
Market-to-Book Assets	0.042***	0.042***	-0.007***	-0.007***	0.042***	0.079***	-0.014***	0.079***	0.036***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
Operating Income	-0.261***	-0.268***	0.064***	0.066***	-0.266***	-0.463***	0.304***	-0.468***	-0.312***
	(0.018)	(0.018)	(0.011)	(0.011)	(0.018)	(0.027)	(0.021)	(0.027)	(0.011)
PPE	-0.08***	-0.087***	0.078***	0.08***	-0.085***	-0.541***	0.022	-0.551***	-0.146***
	(0.018)	(0.018)	(0.021)	(0.021)	(0.018)	(0.046)	(0.014)	(0.046)	(0.014)
LN(Assets)linked-firms	0.006**	0.003	-0.001	-0.003	0.006**	0.012**	-0.005**	0.017***	0.006***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.006)	(0.002)	(0.006)	(0.002)
Market-to-Book Assetslinked-firms	0.006***	0.009***	-0.006***	-0.006***	0.008***	0.015***	-0.01***	0.016***	0.009***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.004)	(0.002)	(0.004)	(0.001)
Operating Incomelinked-firms	-0.089***	-0.124***	0.062***	0.069***	-0.11***	-0.227***	0.092***	-0.249***	-0.126***
	(0.021)	(0.021)	(0.015)	(0.016)	(0.021)	(0.041)	(0.022)	(0.040)	(0.015)
PPElinked-firms	-0.051**	-0.058***	0.088***	0.086***	-0.05**	-0.178***	0.065***	-0.166***	-0.045***
	(0.020)	(0.021)	(0.021)	(0.021)	(0.020)	(0.047)	(0.016)	(0.047)	(0.015)
Constant	0.39***	0.422***	-0.101***	-0.098***	0.397***	-0.070	-0.417***	-0.068	0.191***
	(0.018)	(0.018)	(0.017)	(0.017)	(0.018)	(0.110)	(0.032)	(0.110)	(0.032)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740
Adjusted R^2/Pseudo R^2	0.251	0.248	0.152	0.152	0.249	0.214	0.219	0.214	0.257

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Table 3 (*continued*)

	Dependent Variable =								
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)					Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel C: Full Sample									
Board Excess Equity Exposure	0.045***		-0.02***						
	(0.006)		(0.006)						
Board Excess Debt Exposure		-0.028***		0.021***					
		(0.005)		(0.006)					
Board Excess Net Issuance Exposure					0.02***				
					(0.003)				
Board Excess Equity Volume Exposure						0.153***			
						(0.019)			
Board Excess Debt Volume Exposure							0.021***		
							(0.006)		
Board Excess Net Volume Issuance Exposure								0.082***	0.012***
								(0.010)	(0.002)
Expected Equity Count Ratio	0.068***		-0.004						
	(0.007)		(0.006)						
Expected Debt Count Ratio		0.005		0.017***					
		(0.004)		(0.006)					
Expected Net Issuance Count Ratio					0.025***				
					(0.004)				
Expected Equity Volume Ratio						0.207***			
						(0.019)			
Expected Debt Volume Ratio							0.011*		
							(0.006)		
Expected Net Volume Issuance Ratio								0.132***	0.014***
								(0.013)	(0.003)

(*continued on next page*)

Table 3 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
LN(Assets)	-0.028***	-0.027***	0.034***	0.033***	-0.027***	-0.134***	0.036***	-0.129***	-0.018	***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.005)	(0.002)	(0.005)	(0.001)	
Market-to-Book Assets	0.039***	0.04***	-0.008***	-0.008***	0.04***	0.089***	-0.009***	0.089***	0.033	***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)	
Operating Income	-0.315***	-0.321***	-0.032***	-0.031***	-0.32***	-0.611***	-0.022*	-0.619***	-0.287	***
	(0.017)	(0.017)	(0.010)	(0.010)	(0.017)	(0.026)	(0.013)	(0.026)	(0.007)	
PPE	-0.042***	-0.046***	0.126***	0.127***	-0.046***	-0.487***	0.091***	-0.498***	-0.089	***
	(0.012)	(0.012)	(0.016)	(0.016)	(0.012)	(0.042)	(0.012)	(0.042)	(0.008)	
LN(Assets)linked-firms	0.004***	0.002	-0.009***	-0.01***	0.005***	0.014**	-0.012***	0.019***	0.006	***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.002)	(0.005)	(0.001)	
Market-to-Book Assetslinked-firms	0.007***	0.009***	-0.004***	-0.004***	0.008***	0.018***	-0.004***	0.02***	0.008	***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.004)	(0.002)	(0.003)	(0.001)	
Operating Incomelinked-firms	-0.095***	-0.125***	0.059***	0.061***	-0.115***	-0.288***	0.075***	-0.318***	-0.114	***
	(0.016)	(0.016)	(0.013)	(0.013)	(0.016)	(0.039)	(0.017)	(0.039)	(0.010)	
PPElinked-firms	-0.03**	-0.034***	0.031**	0.029*	-0.029**	-0.17***	0.03**	-0.161***	-0.024	**
	(0.013)	(0.013)	(0.015)	(0.015)	(0.013)	(0.044)	(0.014)	(0.044)	(0.009)	
Constant	0.238***	0.262***	0.015	0.018	0.245***	-0.472***	-0.453***	-0.471***	0.11	***
	(0.012)	(0.012)	(0.013)	(0.013)	(0.012)	(0.102)	(0.028)	(0.102)	(0.019)	
Fixed Industry Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Fixed Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Observations	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635	
Adjusted R^2/Pseudo R^2	0.228	0.225	0.055	0.055	0.226	0.224	0.0660	0.223	0.344	

This table shows the results of the regressions of board issuance exposure proxies on issuance variables. Regressions in columns (1)-(4) are OLS and use equity and debt issuance indicator variables. Regressions in columns (5)-(9) are Tobit and use equity and debt volume variables. Panel A shows the results for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Panel B presents the results for the sample restricted to issuing focus firms and no other restrictions. Panel C shows the results for the full sample of issuing and non-issuing firms. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. All models include industry and year fixed effects. Standard errors are corrected for heteroscedasticity and clustering at the firm level and presented in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 4
Issuance Decisions and Board Issuance Exposure: The Role Of Executive and Non-Executive Directors

	Dependent Variable =								
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)					Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Focal and Board-Linked Firms' Issuance Years - Executive Directors									
Board Excess Equity Exposure	0.134***		-0.134***						
	(0.039)		(0.039)						
Board Excess Debt Exposure		-0.13***		0.134***					
		(0.039)		(0.039)					
Board Excess Net Issuance Exposure					0.067***				
					(0.019)				
Board Excess Equity Volume Exposure						0.199***			
						(0.072)			
Board Excess Debt Volume Exposure							0.04*		
							(0.021)		
Board Excess Net Volume Issuance Exposure								0.099***	0.025
								(0.036)	(0.019)
Expected Equity Count Ratio	0.196***		-0.196***						
	(0.061)		(0.061)						
Expected Debt Count Ratio		-0.2***		0.196***					
		(0.061)		(0.061)					
Expected Net Issuance Count Ratio					0.098***				
					(0.030)				
Expected Equity Volume Ratio						0.304***			
						(0.106)			
Expected Debt Volume Ratio							0.083***		
							(0.030)		
Expected Net Volume Issuance Ratio								0.152***	0.052
								(0.053)	(0.028)
Observations	931	931	931	931	931	931	931	931	931
Adjusted R^2/Pseudo RR^2	0.423	0.423	0.423	0.423	0.423	0.341	0.553	0.341	0.257

(*continued on next page*)

Table 4 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel B: Focal and Board-Linked Firms' Issuance Years - Non-Executive Directors									
Board Excess Equity Exposure	0.096***		-0.096***						
	(0.012)		(0.012)						
Board Excess Debt Exposure		-0.1***		0.096***					
		(0.012)		(0.012)					
Board Excess Net Issuance Exposure					0.048***				
					(0.006)				
Board Excess Equity Volume Exposure						0.209***			
						(0.030)			
Board Excess Debt Volume Exposure							0.038***		
							(0.010)		
Board Excess Net Volume Issuance Exposure								0.105***	0.035
								(0.015)	(0.009)
Expected Equity Count Ratio	0.14***		-0.14***						
	(0.019)		(0.019)						
Expected Debt Count Ratio		-0.14***		0.14***					
		(0.019)		(0.019)					
Expected Net Issuance Count Ratio					0.07***				
					(0.009)				
Expected Equity Volume Ratio						0.222***			
						(0.030)			
Expected Debt Volume Ratio							0.04***		
							(0.009)		
Expected Net Volume Issuance Ratio								0.111***	0.038
								(0.015)	(0.009)
Observations	11,049	11,049	11,049	11,049	11,049	11,049	11,049	11,049	11,049
Adjusted R^2/Pseudo RR^2	0.416	0.416	0.416	0.416	0.416	0.277	0.395	0.277	0.204

(*continued on next page*)

Table 4 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel C: Focal Firms' Issuance Years - Executive Directors									
Board Excess Equity Exposure	0.033		-0.041*						
	(0.021)		(0.024)						
Board Excess Debt Exposure		-0.04**		0.039*					
		(0.018)		(0.022)					
Board Excess Net Issuance Exposure					0.02*				
					(0.010)				
Board Excess Equity Volume Exposure						0.086			
						(0.058)			
Board Excess Debt Volume Exposure							0.005		
							(0.017)		
Board Excess Net Volume Issuance Exposure								0.06**	0.007
								(0.029)	(0.009)
Expected Equity Count Ratio	0.004		0.005						
	(0.020)		(0.016)						
Expected Debt Count Ratio		-0.014		0.038**					
		(0.011)		(0.017)					
Expected Net Issuance Count Ratio					0.015				
					(0.012)				
Expected Equity Volume Ratio						-0.015			
						(0.038)			
Expected Debt Volume Ratio							0.021*		
							(0.012)		
Expected Net Volume Issuance Ratio								0.044	-0.005
								(0.034)	(0.011)
Observations	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740
Adjusted R^2/Pseudo RR^2	0.247	0.247	0.151	0.152	0.247	0.211	0.219	0.211	0.256

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Table 4 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel D: Focal Firms' Issuance Years - Non-Executive Directors									
Board Excess Equity Exposure	0.061***		-0.027***						
	(0.008)		(0.008)						
Board Excess Debt Exposure		-0.04***		0.027***					
		(0.008)		(0.008)					
Board Excess Net Issuance Exposure					0.029***				
					(0.004)				
Board Excess Equity Volume Exposure						0.135***			
						(0.021)			
Board Excess Debt Volume Exposure							0.019***		
							(0.007)		
Board Excess Net Volume Issuance Exposure								0.074***	0.017
								(0.011)	(0.004)
Expected Equity Count Ratio	0.087***		-0.015**						
	(0.010)		(0.008)						
Expected Debt Count Ratio		0.007		0.027***					
		(0.006)		(0.008)					
Expected Net Issuance Count Ratio					0.036***				
					(0.006)				
Expected Equity Volume Ratio						0.182***			
						(0.019)			
Expected Debt Volume Ratio							0.010		
							(0.007)		
Expected Net Volume Issuance Ratio								0.122***	0.023
								(0.014)	(0.005)
Observations	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740
Adjusted R^2/Pseudo RR^2	0.251	0.248	0.152	0.152	0.249	0.214	0.219	0.214	0.257

(*continued on next page*)

Table 4 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel E: Full Sample - Executive Directors									
Board Excess Equity Exposure	0.026*		-0.016						
	(0.014)		(0.017)						
Board Excess Debt Exposure		-0.02**		0.020					
		(0.011)		(0.016)					
Board Excess Net Issuance Exposure					0.014**				
					(0.007)				
Board Excess Equity Volume Exposure						0.121**			
						(0.054)			
Board Excess Debt Volume Exposure							0.012		
							(0.015)		
Board Excess Net Volume Issuance Exposure								0.079***	0.004
								(0.028)	(0.006)
Expected Equity Count Ratio	0.009		0.012						
	(0.015)		(0.014)						
Expected Debt Count Ratio		-0.009		0.012					
		(0.007)		(0.012)					
Expected Net Issuance Count Ratio					0.013*				
					(0.007)				
Expected Equity Volume Ratio						0.011			
						(0.037)			
Expected Debt Volume Ratio							0.011		
							(0.010)		
Expected Net Volume Issuance Ratio								0.068**	-0.003
								(0.032)	(0.007)
Observations	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635
Adjusted R^2/Pseudo RR^2	0.225	0.225	0.055	0.055	0.225	0.221	0.0656	0.221	0.342
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(*continued on next page*)

Table 4 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel F: Full Sample - Non-Executive Directors									
Board Excess Equity Exposure	0.044***		-0.02***						
	(0.006)		(0.006)						
Board Excess Debt Exposure		-0.03***		0.019***					
		(0.005)		(0.006)					
Board Excess Net Issuance Exposure					0.019***				
					(0.003)				
Board Excess Equity Volume Exposure						0.144***			
						(0.020)			
Board Excess Debt Volume Exposure							0.022***		
							(0.006)		
Board Excess Net Volume Issuance Exposure								0.077***	0.011
								(0.010)	(0.002)
Expected Equity Count Ratio	0.07***		-0.004						
	(0.007)		(0.006)						
Expected Debt Count Ratio		0.006		0.017***					
		(0.004)		(0.006)					
Expected Net Issuance Count Ratio					0.026***				
					(0.004)				
Expected Equity Volume Ratio						0.212***			
						(0.018)			
Expected Debt Volume Ratio							0.01*		
							(0.006)		
Expected Net Volume Issuance Ratio								0.135***	0.015
								(0.013)	(0.003)
Observations	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635
Adjusted R^2/Pseudo RR^2	0.228	0.225	0.055	0.055	0.226	0.224	0.0660	0.223	0.344

This table shows the results of the regressions of board issuance exposure proxies on issuance variables, where the former are constructed separately using either executive directors (Panels A, C, E) or non-executive directors (Panels B, D, F). Regressions in columns (1)-(4) are OLS and use equity and debt issuance indicator variables. Regressions in columns (5)-(9) are Tobit and use equity and debt volume variables. Panels A and B show the results for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Panels C and D present the results for the sample restricted to issuing focus firms and no other restrictions. Panels E and F show the results for the full sample of issuing and non-issuing firms. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. All models include industry and year fixed effects. Standard errors are corrected for heteroscedasticity and clustering at the firm level and presented in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 5
Issuance Decisions and Board Issuance Exposure: Second-Level Board Exposure

	Dependent Variable =					
	Equity Issuance Indicator	Debt Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	2SLS - 2nd Stage		IV-Tobit - 2nd Stage			
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All Directors						
Board Excess Equity Exposure	1.115***					
	(0.285)					
Board Excess Debt Exposure		1.106***				
		(0.281)				
Board Excess Equity Volume Exposure			2.372***			
			(0.796)			
Board Excess Debt Volume Exposure				0.561**		
				(0.280)		
Board Excess Net Volume Issuance Exposure					1.171***	0.806*
					(0.395)	(0.413)
Observations	6,191	6,191	6,191	6,191	6,191	6,191
IV F-stat	5.096	5.222				
Durbin p-value (endogeneity test)	0.000	0.000				
Sargan p-value (overidentification test)	0.906	0.916				
Chi2 (endogeneity test)			13.40	5.171	13.16	5.949
Chi2 p-value (endogeneity test)			0.000	0.023	0.000	0.015
	(1)	(2)	(4)	(5)	(6)	(7)
Panel B: Non-Executive Directors						
Board Excess Equity Exposure	1.245***					
	(0.343)					
Board Excess Debt Exposure		1.313***				
		(0.368)				
Board Excess Equity Volume Exposure			2.200***			
			(0.648)			
Board Excess Debt Volume Exposure				0.415**		
				(0.177)		
Board Excess Net Volume Issuance Exposure					1.034***	0.474***
					(0.310)	(0.169)

(*continued on next page*)

Table 5 (*continued*)

Observations	5,951	5,951	5,951	5,951	5,951	5,951
IV F-stat	3.953	3.627				
Durbin p-value (endogeneity test)	0.000	0.000				
Sargan p-value (overidentification test)	0.967	0.928				
Chi2 (endogeneity test)			19.27	6.337	17.22	10.11
Chi2 p-value (endogeneity test)			0.000	0.012	0.000	0.001
	(1)	(2)	(4)	(5)	(6)	(7)
Panel C: Executive Directors						
Board Excess Equity Exposure	-1.458					
	(1.465)					
Board Excess Debt Exposure		0.172				
		(1.372)				
Board Excess Equity Volume Exposure			0.642			
			(2.790)			
Board Excess Debt Volume Exposure				0.390		
				(0.764)		
Board Excess Net Volume Issuance Exposure					1.436	0.806
					(1.558)	(0.867)
Observations	625	625	625	625	625	625
IV F-stat	0.722	0.537				
Durbin p-value (endogeneity test)	0.228	0.945				
Sargan p-value (overidentification test)	0.211	0.0729				
Chi2 (endogeneity test)			0.046	0.142	0.990	0.956
Chi2 p-value (endogeneity test)			0.831	0.706	0.320	0.328

This table shows the results of the second stage regressions of instrumented board issuance exposure proxies on issuance variables. Second-level board links are used to construct the instruments. Panel A is based on the board issuance exposure proxies which are constructed based on the links of all directors, while Panels B and C are based on those of executive and non-executive directors, respectively. Regressions in columns (1)-(2) are the second stages of two-stage least square regressions, which use issuance indicator variables, and those in columns (3)-(6) are second stages of IV-Tobit regressions and use equity and debt volume variables. The results are for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. All models include industry and year fixed effects. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 6
Actual vs Placebo

	Panel A: All Firms, N=48,773			*Panel B: Equity Issuers, N=7,595*			*Panel C: Debt Issuers, N=9,331*		
	Mean (pseudo)	Diff (true-pseudo)	P-value (Diff)	Mean (pseudo)	Diff (true-pseudo)	P-value (Diff)	Mean (pseudo)	Diff (true-pseudo)	P-value (Diff)
Board Excess Equity Exposure	-0.01	0.00	0.26	-0.02	0.06	0.00	-0.01	-0.02	0.19
Board Excess Equity Volume Exposure	-0.04	0.00	0.57	-0.06	0.05	0.00	-0.04	-0.02	0.23
Board Excess Debt Exposure	0.03	0.00	0.32	0.03	-0.06	0.00	0.02	0.02	0.00
Board Excess Debt Volume Exposure	0.06	0.00	0.62	0.07	-0.05	0.00	0.05	0.02	0.00
Board Excess Net Issuance Exposure	-0.04	0.00	0.28	-0.05	0.12	0.00	-0.03	-0.04	0.00
Board Excess Net Volume Issuance Exposure	-0.10	0.00	0.59	-0.12	0.10	0.00	-0.09	-0.04	0.00

This table presents the means of board issuance exposure proxies for sample firms using pseudo-board linked firms. The latter are constructed by randomly selecting a firm other than the true linked firm from the same size-industry bin. The table also shows the differences between the means when true and pseudo board linked firms are used and the p-value for the two-sample test of differences in means. Panel A presents these statistics for all firms, Panel B - for equity issuers, and Panel C - for debt issuers. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021.

Table 7
Issuance Decisions and Board Issuance Exposure - Placebo Test with Pseudo Links

	Dependent Variable =								
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)					Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Board Excess Equity Exposure	0.003		-0.003						
	(0.012)		(0.012)						
Board Excess Debt Exposure		-0.002		0.002					
		(0.012)		(0.012)					
Board Excess Net Issuance Exposure					0.006				
					(0.006)				
Board Excess Equity Volume Exposure						0.014			
						(0.023)			
Board Excess Debt Volume Exposure							0.011		
							(0.007)		
Board Excess Net Volume Issuance Exposure								0.014	0.006
								(0.012)	(0.007)
Expected Equity Count Ratio	0.067***		-0.067***						
	(0.014)		(0.014)						
Expected Debt Count Ratio		-0.043***		0.043***					
		(0.013)		(0.013)					
Expected Net Issuance Count Ratio					0.055***				
					(0.009)				
Expected Equity Volume Ratio						0.097***			
						(0.022)			
Expected Debt Volume Ratio							0.007		
							(0.007)		
Expected Net Volume Issuance Ratio								0.085***	0.024***
								(0.016)	(0.009)
Observations	11,420	11,420	11,420	11,420	11,420	11,420	11,420	11,420	11,420
Adjusted R2/Pseudo R2	0.407	0.406	0.407	0.406	0.408	0.272	0.385	0.273	0.202

This table shows the results of the regressions of pseudo board issuance exposure proxies on issuance variables. Pseudo eposure proxies are based on false board linked firms and constructed by randomly selecting a firm other than the true linked firm from the same size-industry bin. Regressions in columns (1)-(4) are OLS and use equity and debt issuance indicator variables. Regressions in columns (5)-(9) are Tobit and use equity and debt volume variables. The results are for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. All models include industry and year fixed effects. Standard errors are corrected for heteroscedasticity and clustering at the firm level and presented in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 8
Issuance Decisions and Board Issuance Exposure - Placebo Test with Pseudo Links

	Dependent Variable =					
	Equity Issuance Indicator		Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)		Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Subsample Regressions - Pre-Broken-Link Period						
Board Excess Equity Exposure	0.088**					
	(0.037)					
Board Net Excess Issuance Exposure		0.044**				
		(0.018)				
Board Excess Equity Volume Exposure			0.205***			
			(0.060)			
Board Excess Debt Volume Exposure				0.024		
				(0.018)		
Board Excess Net Volume Issuance Exposure					0.103***	0.044**
					(0.030)	(0.017)
Expected Equity Count Ratio	0.124**					
	(0.053)					
Expected Net Issuance Count Ratio		0.062**				
		(0.026)				
Expected Equity Volume Ratio			0.295***		0.103***	
			(0.083)		(0.030)	
Expected Debt Volume Ratio				0.077***		
				(0.024)		
Expected Net Volume Issuance Ratio						0.066***
						(0.023)
Observations	1,144	1,144	1,144	1,144	1,144	1,144
Adjusted R^2/Pseudo R^2	0.375	0.375	0.280	0.561	0.280	0.243

(*continued on next page*)

Table 8 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)
Panel B: Subsample Regressions - Post-Broken-Link Period						
Board Excess Equity Exposure	0.022					
	(0.055)					
Board Net Excess Issuance Exposure		0.024				
		(0.028)				
Board Excess Equity Volume Exposure			0.060			
			(0.098)			
Board Excess Debt Volume Exposure				0.068**		
				(0.027)		
Board Excess Net Volume Issuance Exposure					0.030	0.012
					(0.049)	(0.023)
Expected Equity Count Ratio	-0.095					
	(0.081)					
Expected Net Issuance Count Ratio		0.006				
		(0.041)				
Expected Equity Volume Ratio			-0.219*		-0.219*	
			(0.115)		(0.115)	
Expected Debt Volume Ratio				0.023		
				(0.030)		
Expected Net Volume Issuance Ratio						-0.020
						(0.032)
Observations	428	428	435	435	435	435
Adjusted R^2/Pseudo R^2	0.386	0.384	0.383	0.716	0.383	0.394

This table shows the results of the regressions of for a subsample of focus firms with broken director links. Panel A presents results before the common director link got broken. Panel B presents the results for the post-broken-link period, while keeping the structure of the board link as in the pre-period (pseudo-linked structure). Regressions in columns (1)-(2) are OLS and use equity and debt issuance indicator variables. Regressions in columns (3)-(6) are Tobit and use equity and debt volume variables. The results are for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. All models include the same controls as in the main Table 3 and industry and year fixed effects. Standard errors are corrected for heteroscedasticity and clustering at the firm level and presented in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 9
Issuance Decisions and Board Issuance Exposure: Subsample of Sample Firms with Low Return Correlations with Linked Firms

	Dependent Variable =					
	Equity Issuance Indicator		Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)		Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Using True Linked Firms (True Board Issuance Exposure)						
Board Excess Equity Exposure	0.096***					
	(0.017)					
Board Excess Net Issuance Exposure		0.048***				
		(0.009)				
Board Excess Equity Volume Exposure			0.124***			
			(0.030)			
Board Excess Debt Volume Exposure				0.031***		
				(0.009)		
Board Excess Net Volume Issuance Exposure					0.062***	0.02**
					(0.015)	(0.009)
Expected Equity Count Ratio	0.12***					
	(0.025)					
Expected Debt Count Ratio						
Expected Net Issuance Count Ratio		0.060***				
		(0.013)				
Expected Equity Volume Ratio			0.157***			
			(0.043)			
Expected Debt Volume Ratio				0.037***		
				(0.013)		
Expected Net Volume Issuance Ratio					0.079***	0.022*
					(0.022)	(0.012)
Observations	5,440	5,440	5,440	5,440	5,440	5,440
Adjusted R^2/Pseudo R^2	0.429	0.429	0.294	0.467	0.294	0.220

(*continued on next page*)

Table 9 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)
Panel B: Using Pseudo Linked Firms (Pseudo Board Issuance Exposure)						
Board Excess Equity Exposure	-0.009					
	(0.017)					
Board Excess Net Issuance Exposure		-0.000				
		(0.009)				
Board Excess Equity Volume Exposure			0.044			
			(0.032)			
Board Excess Debt Volume Exposure				0.007		
				(0.010)		
Board Excess Net Volume Issuance Exposure					0.025	0.012
					(0.016)	(0.009)
Expected Equity Count Ratio	0.057***					
	(0.020)					
Expected Debt Count Ratio						
Expected Net Issuance Count Ratio		0.049***				
		(0.013)				
Expected Equity Volume Ratio			0.108***			
			(0.032)			
Expected Debt Volume Ratio				0.005		
				(0.010)		
Expected Net Volume Issuance Ratio					0.073***	0.024*
					(0.023)	(0.013)
Observations	5,440	5,440	5,440	5,440	5,440	5,440
Adjusted R^2/Pseudo R^2	0.426	0.426	0.293	0.463	0.292	0.220

This table shows the results of the regressions of board issuance exposure proxies on issuance variables on the subsample of focus firms with greater correlations of stock returns to the pseudo-linked, rather than true linked firms. Panel A presents the results when board issuance exposure proxies are constructed using true linked firms and Panel B using pseudo linked firms. Regressions in columns (1)-(2) are OLS and use equity and debt issuance indicator variables. Regressions in columns (3)-(6) are Tobit and use equity and debt volume variables. The results are for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. All models include the same controls as in the main Table 3 and industry and year fixed effects. Standard errors are corrected for heteroscedasticity and clustering at the firm level and presented in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 10
Issuance Decisions: the Effect of Board Issuance Exposure and Investment Sentiment

	Investment Sentiment Proxy =					
	BW Index	BW Index Orthog.	VIX Index	Market Dispersion	One-year Ahead Mkt. Return	Equity Share in Aggregate Issuances
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Dependent Variable = Equity Issuance Indicator (OLS)						
Board Excess Equity Exposure	0.118***	0.12***	0.134***	0.134***	0.116***	0.096***
	(0.012)	(0.013)	(0.038)	(0.028)	(0.014)	(0.031)
Sentiment_Index	0.011*	0.012*	-0.001*	0.051	-0.010	-0.025
	(0.006)	(0.007)	(0.001)	(0.171)	(0.021)	(0.091)
Board Excess Equity	-0.022	-0.024	-0.001	-0.338	0.052	0.176
Exposure×Sentiment_Index	(0.017)	(0.019)	(0.002)	(0.510)	(0.064)	(0.251)
Expected Equity Count Ratio	0.213***	0.214***	0.213***	0.214***	0.216***	0.214***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.018)
Observations	11,425	11,425	11,408	10,840	10,340	11,425
Adjusted R^2	0.403	0.403	0.403	0.402	0.399	0.403
	(1)	(2)	(3)	(4)	(5)	(6)
Panel B: Dependent Variable = Equity Issuance Indicator (OLS)						
Board Excess Net Issuance Exposure	0.059***	0.06***	0.067***	0.067***	0.058***	0.048***
	(0.006)	(0.006)	(0.019)	(0.014)	(0.007)	(0.016)
Sentiment_Index	0.011*	0.012*	-0.001*	0.051	-0.010	-0.025
	(0.006)	(0.007)	(0.001)	(0.171)	(0.021)	(0.091)
Board Excess Net Issuance	-0.011	-0.012	-0.000	-0.169	0.026	0.088
Exposure×Sentiment_Index	(0.008)	(0.009)	(0.001)	(0.255)	(0.032)	(0.126)
Expected Net Issuance Count Ratio	0.107***	0.107***	0.107***	0.107***	0.108***	0.107***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Observations	11,425	11,425	11,408	10,840	10,340	11,425
Adjusted R^2	0.403	0.403	0.403	0.402	0.399	0.403

(*continued on next page*)

Table 10 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Dependent Variable = Equity Issuance (Tobit)						
Board Excess Equity	0.186***	0.19***	0.289***	0.273***	0.183***	0.155***
Volume Exposure	(0.021)	(0.022)	(0.067)	(0.049)	(0.024)	(0.053)
Sentiment_Index	0.060***	0.06***	0.002	0.651	-0.113**	1.036***
	(0.012)	(0.013)	(0.001)	(0.446)	(0.045)	(0.178)
Board Excess Equity Volume	-0.051*	-0.056*	-0.005*	-2.152*	0.115	0.235
Exposure × Sentiment_Index	(0.030)	(0.034)	(0.003)	(1.108)	(0.113)	(0.432)
Expected Equity Volume Ratio	0.33***	0.332***	0.337***	0.339***	0.326***	0.335***
	(0.029)	(0.029)	(0.029)	(0.030)	(0.030)	(0.029)
Observations	11,425	11,425	11,408	10,840	10,340	11,425
Pseudo R^2	0.265	0.265	0.264	0.268	0.270	0.265
	(1)	(2)	(3)	(4)	(5)	(6)
Panel D: Dependent Variable = Net Issuance (Tobit)						
Board Excess Net Volume	0.037***	0.038***	0.068***	0.066***	0.04***	0.029*
Issuance Exposure	(0.006)	(0.007)	(0.020)	(0.014)	(0.007)	(0.016)
Sentiment_Index	0.033***	0.032***	0.001*	0.55**	-0.043*	0.85***
	(0.007)	(0.008)	(0.001)	(0.265)	(0.026)	(0.108)
Board Excess Net Volume Issuance	-0.009	-0.011	-0.002*	-0.712**	-0.005	0.080
Exposure×Sentiment_Index	(0.009)	(0.010)	(0.001)	(0.327)	(0.034)	(0.131)
Expected Net Volume Issuance Ratio	0.063***	0.064***	0.065***	0.068***	0.066***	0.065***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Observations	11,425	11,425	11,408	10,840	10,340	11,425
Pseudo R^2	0.190	0.189	0.189	0.195	0.199	0.192

This table shows the results of the regressions of board issuance exposure proxies on issuance variables, an investment sentiment index and the interaction between them. Each column presents the results using one of the six different sentiment proxies. Only the coefficient estimates on the key variables of interest are reported. All models include the same set of variables as in the main Table 3 and industry and year fixed effects. Panels A and B present the results of the OLS regressions using equity issuance indicator as the dependent variable and board issuance exposure based on board excess equity exposure and board excess net issuance exposure, respectively. Panels C and D present the results of Tobit regressions using equity issuance and net issuance volume variables, respectively. The results are for the sample restricted to issuing focus firms, which share board directors with other issuing firms operating in size-industry bins with some sort of issuance in a given year. Variable definitions are in Table A.1 in the Appendix. The sample period is 1990 to 2021. Standard errors are corrected for heteroscedasticity and clustering at the firm level and presented in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table A.1 Variable Definitions

Variable	Definition
Equity and Debt Issuance	
Equity Issuance	Total equity issuance defined as sale of common and preferred stock (sstk) net of purchase of common and preferred stock (prstkc) divided by the previous year book value of assets (at). It is truncated at the bottom 3%.
Debt Issuance	Total debt issuance defined as the long-term debt (dltis) minus debt redemption (dltr) divided by the previous year book value of assets (at). It is truncated at the bottom 3%.
Net Issuance	*Equity Issuance - Debt Issuance*
Equity Issuance Indicator	An indicator variable equal to one if Equity Issuance > 0 and zero otherwise.
Debt Issuance Indicator	An indicator variable equal to one if Debt Issuance > 0 and zero otherwise.
Board Linked Peer Firms' Issuance	
Expected Equity Count Ratio	The probability that a board member sitting on one of the firms' board in linked firm's bin will experience an equity issuance event for his firm, defined as the fraction of firms in a given bin (in a given year) issuing equity (as opposed to debt).
Expected Debt Count Ratio	The probability that a board member sitting on one of the firms' board in linked firm's bin will experience a debt issuance event for his firm, defined as the fraction of firms in a given bin (in a given year) issuing debt (as opposed to equity).
Expected Equity Volume Ratio	The sum of Equity Issuance divided by the total of Equity Issuance and Debt Issuance of all firms in a given bin (in a given year)
Expected Debt Volume Ratio	The sum of Debt Issuance divided by the total of Equity Issuance and Debt Issuance of all firms in a given bin (in a given year)
Expected Net Issuance Count Ratio	Defined the same as Expected Equity Volume Ratio, but based on Net Issuance Indicator variable (=Equity Issuance Indicator-Debt Issuance Indicator).
Expected Net Volume Issuance Ratio	Defined the same as Expected Equity Volume Ratio, but based on Net Issuance variable.

(*continued on next page*)

Table A.1 (*continued*)

Variable	Definition
Board Issuance Exposure	
Equity Count Ratio	The fraction of linked board members issuing equity among those that experience some issuance.
Equity Volume Ratio	The sum of Equity Issuance divided by the total of Equity Issuance and Debt Issuance of all linked firms.
Debt Count Ratio	The fraction of linked board members issuing debt among those that experience some issuance.
Debt Volume Ratio	The sum of Debt Issuance divided by the total of Equity Issuance and Debt Issuance of all linked firms.
Net Issuance Count Ratio	Defined the same as Equity Count Ratio, but based on Net Issuance Indicator variable (=Equity Issuance Indicator-Debt Issuance Indicator).
Net Volume Issuance Ratio	Defined the same as Equity Volume Ratio, but based on Net Issuance variable.
Board Excess Equity Exposure	Abnormal Equity Exposure defined as Equity Count Ratio - Expected Equity Count Ratio
Board Excess Equity Volume Exposure	Abnormal Volume Equity Exposure defined as Volume Equity Count Ratio - Expected Equity Volume Ratio
Board Excess Debt Exposure	Abnormal Debt Exposure defined as Debt Count Ratio - Expected Debt Count Ratio
Board Excess Volume Debt Exposure	Abnormal Volume Debt Exposure defined as Volume Debt Count Ratio - Expected Debt Volume Ratio
Board Net Excess Issuance Exposure	*Net Issuance Count Ratio - Expected Net Volume Issuance Ratio*
Board Excess Net Volume Issuance Exposure	*Net Volume Issuance Count Ratio - Expected Net Volume Issuance Ratio*
Firm Characteristics	
LN(Assets)	Natural logarithm of book value of total assets (at).
Market-to-Book Assets	The sum of market value of equity (abs(prc) × shrout) and total liabilities (lt) divided by the total assets (at)
Operating Income	Operating income before depreciation (oibdp) divided by total assets (at).
PPE	PP&E (ppent) divided by total assets (at).

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Table A.1 (*continued*)

Variable	Definition
Firm Characteristics of Board-Linked Peers	
$LN(Assets)^{linked\text{-}firms}$	Natural logarithm of book value of total assets (at).
$Market\text{-}to\text{-}Book\ Assets^{linked\text{-}firms}$	The sum of market value of equity (abs(prc) × shrout) and total liabilities (lt) divided by the total assets (at)
$Operating\ Income^{linked\text{-}firms}$	Operating income before depreciation (oibdp) divided by total assets (at).
$PPE^{linked\text{-}firms}$	PP&E (ppent) divided by total assets (at).
Investment Sentiment Proxies	
BW Index	Sentiment index in Baker and Wurgler (2006) (SENT); updated version of Eq. (2) in that paper; based on first principal component of FIVE (standardized) sentiment proxies.
BW Index Orthog.	Sentiment index in Baker and Wurgler (2006) ($\widehat{\text{SENT}}$); updated version of Eq. (3) in that paper; based on first principal component of FIVE (standardized) sentiment proxies where each of the proxies has first been orthogonalized with respect to a set of six macroeconomic indicators.
VIX	CBOE (VIX) Volatility Index
Market Return Dispersion	Stock return volatility on all common shares present in CRSP database over the previous 12 months, annualized.
One-Year-Ahead Market Return	Value-weighted lead market return, compounded monthly over 2 months.
Equity Share in Aggregate Issuances	The share of equity issues in total new equity and debt issues in the U.S. Collected from the relevant supplements to the Federal Reserve Bulletins. Equity issuances = item (8); Bond issuances = item (3) (bonds sold in the United States).

This table introduces the analysis variables. The first column shows their names, while the second gives calculation details. The second column also shows the CRSP/Compustat mnemonics of the data items used to calculate the variables, where appropriate.

Internet Appendix

Do Boards Matter for Financing? Board Members' "Issuance Exposure" and Corporate Financing Decisions

Table IA.1
Summary Statistics on Issuance and Control Variables: Full Sample

Variables	Mean	SD	P1	P25	p50	p90	P99
Board Issuance Exposure of Focus Firms							
Board Excess Equity Exposure	-0.009	0.299	-0.875	-0.091	0.000	0.313	1.000
Board Excess Equity Volume Exposure	-0.039	0.327	-0.973	-0.061	0.000	0.220	1.000
Board Excess Debt Exposure	0.025	0.314	-1.000	0.000	0.000	0.386	1.000
Board Excess Debt Volume Exposure	0.055	0.339	-1.000	0.000	0.000	0.526	1.000
Board Excess Net Equity Issuance Exposure	-0.034	0.600	-1.750	-0.222	0.000	0.625	2.000
Board Excess Net Equity Volume Exposure	-0.094	0.654	-1.946	-0.169	0.000	0.441	2.000
Firm-Level Issuance and Control Variables of Focus Firms							
Equity Issuance Indicator	0.156	0.362	0.000	0.000	0.000	1.000	1.000
Debt Issuance Indicator	0.191	0.393	0.000	0.000	0.000	1.000	1.000
Equity Issuance	0.077	0.302	0.000	0.000	0.000	0.106	2.001
Debt Issuance	0.032	0.099	0.000	0.000	0.000	0.095	0.55
Net Issuance	0.046	0.325	-0.55	0.000	0.000	0.106	2.001
Assets (MLN$)	3,304	7,446	15	163	614	8,404	39,714
LN(Assets)	6.474	1.879	2.712	5.093	6.420	9.036	10.589
Market-to-Book Assets	2.223	2.026	0.64	1.197	1.633	4.023	9.912
Operating Income	0.072	0.213	-0.777	0.049	0.114	0.232	0.404
PPE	0.242	0.216	0.006	0.076	0.171	0.58	0.886

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Table IA.1 ***(continued)***

Variables	Mean	SD	P1	P25	p50	p90	P99
Average Issuance and Control Variables of Board-Linked Peers							
Equity Issuance Indicator$^{linked\text{-}firms}$	0.144	0.267	0.000	0.000	0.000	0.500	1.000
Debt Issuance Indicator$^{linked\text{-}firms}$	0.198	0.28	0.000	0.000	0.000	0.500	1.000
Equity Issuance$^{linked\text{-}firms}$	0.070	0.219	0.000	0.000	0.000	0.196	1.099
Debt Issuance$^{linked\text{-}firms}$	0.032	0.071	0.000	0.000	0.000	0.09	0.341
Net Issuance$^{linked\text{-}firms}$	0.038	0.235	-0.332	-0.027	0.000	0.176	1.099
Assets$^{linked\text{-}firms}$ (MLN$)	2,467	4,462	21	295	909	6,195	23,770
LN(Assets)$^{linked\text{-}firms}$	6.752	1.556	3.065	5.688	6.813	8.732	10.076
Market-to-Book Assets$^{linked\text{-}firms}$	2.226	1.528	0.773	1.412	1.849	3.639	7.713
Operating Income$^{linked\text{-}firms}$	0.078	0.161	-0.539	0.052	0.115	0.197	0.315
PPE$^{linked\text{-}firms}$	0.241	0.167	0.015	0.118	0.207	0.459	0.804

Table IA.2
Issuance Indicator Baseline OLS Regression Results with Firm-Fixed Effects

	Dependent Variable =				
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator
	Linear Probabiity (OLS)				
	(1)	(2)	(3)	(4)	(5)
Panel A: Focal and Board-Linked Firms' Issuance Years					
Board Excess Equity Exposure	0.024*		-0.024*		
	(0.013)		(0.013)		
Board Excess Debt Exposure		-0.024*		0.024*	
		(0.013)		(0.013)	
Board Excess Net Issuance Exposure					0.012*
					(0.007)
Expected Equity Count Ratio	0.028		-0.028		
	(0.021)		(0.021)		
Expected Debt Count Ratio		-0.028		0.028	
		(0.021)		(0.021)	
Expected Net Issuance Count Ratio					0.014
					(0.010)
LN(Assets)	-0.116***	-0.116***	0.116***	0.116***	-0.116***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Market-to-Book Assets	0.018***	0.018***	-0.018***	-0.018***	0.018***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Operating Income	0.119***	0.119***	-0.119***	-0.119***	0.119***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
PPE	-0.472***	-0.472***	0.472***	0.472***	-0.472***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
LN(Assets)$^{linked\text{-}firms}$	0.000	0.000	-0.000	-0.000	0.000
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Market-to-Book Assets$^{linked\text{-}firms}$	-0.002	-0.002	0.002	0.002	-0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Operating Income$^{linked\text{-}firms}$	-0.014	-0.014	0.014	0.014	-0.014
	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)

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Table IA.2 *(continued)*

	(1)	(2)	(3)	(4)	(5)
PPE$^{linked\text{-}firms}$	-0.018	-0.018	0.018	0.018	-0.018
	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)
Constant	1.255***	1.283***	-0.255***	-0.283***	1.269***
	(0.069)	(0.065)	(0.069)	(0.065)	(0.066)
Fixed Firm Effects	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES
Observations	10,221	10,221	10,221	10,221	10,221
Adjusted R^2/Pseudo R^2	0.535	0.535	0.535	0.535	0.535
Panel B: Focal Firms' Issuance Years					
Board Excess Equity Exposure	0.029***		-0.017**		
	(0.009)		(0.008)		
Board Excess Debt Exposure		-0.021***		0.023***	
		(0.008)		(0.008)	
Board Excess Net Issuance Exposure					0.014***
					(0.004)
Expected Equity Count Ratio	0.035***		-0.002		
	(0.010)		(0.008)		
Expected Debt Count Ratio		0.005		0.032***	
		(0.007)		(0.008)	
Expected Net Issuance Count Ratio					0.011*
					(0.006)
LN(Assets)	-0.044***	-0.043***	0.074***	0.074***	-0.043***
	(0.006)	(0.006)	(0.005)	(0.005)	(0.006)
Market-to-Book Assets	0.038***	0.038***	-0.006***	-0.006***	0.038***
	(0.003)	(0.003)	(0.001)	(0.001)	(0.003)
Operating Income	0.050**	0.050**	-0.031**	-0.032**	0.051**
	(0.023)	(0.023)	(0.014)	(0.014)	(0.023)
PPE	-0.346***	-0.349***	0.105**	0.106**	-0.348***
	(0.042)	(0.042)	(0.045)	(0.044)	(0.042)
LN(Assets)$^{linked\text{-}firms}$	-0.003	-0.005	0.002	0.000	-0.004
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Market-to-Book Assets$^{linked\text{-}firms}$	0.001	0.002	-0.004**	-0.004**	0.002
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)
Operating Income$^{linked\text{-}firms}$	-0.003	-0.012	0.040**	0.041**	-0.009
	(0.025)	(0.025)	(0.019)	(0.019)	(0.025)

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Table IA.2 *(continued)*

	(1)	(2)	(3)	(4)	(5)
PPE$^{linked\text{-}firms}$	-0.014	-0.016	0.030	0.026	-0.014
	(0.026)	(0.026)	(0.029)	(0.029)	(0.026)
Constant	0.523***	0.538***	-0.282***	-0.282***	0.532***
	(0.042)	(0.042)	(0.039)	(0.039)	(0.042)
Fixed Firm Effects	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES
Observations	26,994	26,994	26,994	26,994	26,994
Adjusted R^2/Pseudo R^2	0.357	0.357	0.245	0.246	0.357
Panel C: Full Sample					
Board Excess Equity Exposure	0.023***		-0.014**		
	(0.005)		(0.006)		
Board Excess Debt Exposure		-0.014***		0.017***	
		(0.005)		(0.006)	
Board Excess Net Issuance Exposure					0.009***
					(0.003)
Expected Equity Count Ratio	0.028***		0.000		
	(0.006)		(0.007)		
Expected Debt Count Ratio		0.007*		0.016***	
		(0.004)		(0.006)	
Expected Net Issuance Count Ratio					0.006
					(0.004)
Expected Equity Volume Ratio					
Expected Debt Volume Ratio					
Expected Net Volume Issuance Ratio					
LN(Assets)	-0.040***	-0.040***	0.085***	0.085***	-0.040***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Market-to-Book Assets	0.039***	0.039***	-0.006***	-0.006***	0.039***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)
Operating Income	0.008	0.008	-0.139***	-0.139***	0.008
	(0.019)	(0.019)	(0.015)	(0.015)	(0.019)
PPE	-0.276***	-0.278***	0.105***	0.105***	-0.277***
	(0.027)	(0.027)	(0.033)	(0.032)	(0.027)

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Table IA.2 *(continued)*

	(1)	(2)	(3)	(4)	(5)
LN(Assets)$^{linked\text{-}firms}$	-0.001	-0.002	-0.005*	-0.006**	-0.001
	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)
Market-to-Book Assets$^{linked\text{-}firms}$	0.001	0.002	-0.002	-0.002	0.002
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)
Operating Income$^{linked\text{-}firms}$	0.004	-0.004	0.043***	0.044***	-0.002
	(0.017)	(0.017)	(0.016)	(0.016)	(0.017)
PPE$^{linked\text{-}firms}$	0.006	0.004	0.003	0.002	0.006
	(0.016)	(0.016)	(0.020)	(0.020)	(0.016)
Constant	0.385***	0.396***	-0.331***	-0.330***	0.393***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Fixed Firm Effects	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES
Observations	48,107	48,107	48,107	48,107	48,107
Adjusted R^2/Pseudo R^2	0.334	0.334	0.103	0.103	0.334

Table IA.3

Issuance Decisions and Board Issuance Exposure: Standardized Coefficients for Baseline Results

	Dependent Variable =								
	Equity Issuance Indicator		Debt Issuance Indicator		Equity Issuance Indicator	Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)						Tobit		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Focal and Board-Linked Firms' Issuance Years									
Board Excess Equity Exposure	0.030***		-0.030***						
	(0.004)		(0.004)						
Board Excess Debt Exposure		-0.032***		0.032***					
		(0.004)		(0.004)					
Board Excess Net Issuance Exposure					0.030***				
					(0.004)				
Board Excess Equity Volume Exposure						0.031***			
						(0.004)			
Board Excess Debt Volume Exposure							-0.032***	0.032***	
							(0.004)	(0.004)	
Board Excess Net Volume Issuance Exposure									0.031***
									(0.004)
Expected Equity Count Ratio	0.047***		-0.047***						
	(0.006)		(0.006)						
Expected Debt Count Ratio		-0.055***		0.055***					
		(0.007)		(0.007)					

(continued on next page)

Table IA.3 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Expected Net Issuance Count Ratio						0.047***			
						(0.006)			
Expected Equity Volume Ratio							-0.048***	0.048***	
							(0.006)	(0.006)	
Expected Debt Volume Ratio					0.037***				
					(0.005)				
Expected Net Volume Issuance Ratio									0.037***
									(0.005)
LN(Assets)	-0.171***	-0.171***	0.171***	0.171***	-0.171***	-0.172***	-0.172***	0.172***	-0.172***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Market-to-Book Assets	0.050***	0.050***	-0.050***	-0.050***	0.050***	0.050***	0.050***	-0.050***	0.050***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Operating Income	-0.020***	-0.020***	0.020***	0.020***	-0.020***	-0.020***	-0.020***	0.020***	-0.020***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
PPE	-0.047***	-0.047***	0.047***	0.047***	-0.047***	-0.047***	-0.047***	0.047***	-0.047***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
LN(Assets)$^{linked\text{-}firms}$	0.025***	0.025***	-0.025***	-0.025***	0.025***	0.023***	0.023***	-0.023***	0.023***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Market-to-Book Assets$^{linked\text{-}firms}$	0.008*	0.008*	-0.008*	-0.008*	0.008*	0.008*	0.008*	-0.008*	0.008*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Operating Income$^{linked\text{-}firms}$	-0.018***	-0.018***	0.018***	0.018***	-0.018***	-0.018***	-0.018***	0.018***	-0.018***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
PPE$^{linked\text{-}firms}$	-0.010*	-0.010*	0.010*	0.010*	-0.010*	-0.010*	-0.010*	0.010*	-0.010*
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)

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Table IA.3 ***(continued)***

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.859***	1.005***	0.141***	-0.005	0.932***	0.878***	1.003***	-0.003	0.941***
	(0.034)	(0.029)	(0.034)	(0.029)	(0.030)	(0.033)	(0.029)	(0.029)	(0.030)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	11,425	11,425	11,425	11,425	11,425	11,425	11,425	11,425	11,425
Adjusted R^2/Pseudo R^2	0.412	0.412	0.412	0.412	0.412	0.412	0.412	0.412	0.412
Panel B: Focal Firms' Issuance Years									
Board Excess Equity Exposure	0.018***		-0.008***						
	(0.002)		(0.002)						
Board Excess Debt Exposure		-0.014***		0.009***					
		(0.002)		(0.002)					
Board Excess Net Issuance Exposure					0.018***				
					(0.002)				
Board Excess Equity Volume Exposure						0.018***			
						(0.003)			
Board Excess Debt Volume Exposure							-0.011***	0.010***	
							(0.002)	(0.002)	
Board Excess Net Volume Issuance Exposure									0.017***
									(0.003)
Expected Equity Count Ratio	0.027***		-0.005**						
	(0.003)		(0.002)						
Expected Debt Count Ratio		0.002		0.011***					
		(0.002)		(0.003)					

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Table IA.3 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Expected Net Issuance Count Ratio						0.029***			
						(0.003)			
Expected Equity Volume Ratio							-0.002	0.011***	
							(0.002)	(0.003)	
Expected Debt Volume Ratio					0.018***				
					(0.003)				
Expected Net Volume Issuance Ratio									0.022***
									(0.003)
LN(Assets)	-0.079***	-0.076***	0.090***	0.088***	-0.075***	-0.079***	-0.075***	0.088***	-0.075***
	(0.004)	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)
Market-to-Book Assets	0.085***	0.086***	-0.013***	-0.013***	0.085***	0.085***	0.086***	-0.013***	0.085***
	(0.005)	(0.005)	(0.002)	(0.002)	(0.005)	(0.005)	(0.005)	(0.002)	(0.005)
Operating Income	-0.056***	-0.057***	0.014***	0.014***	-0.057***	-0.056***	-0.057***	0.014***	-0.057***
	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)	(0.002)	(0.004)
PPE	-0.017***	-0.019***	0.017***	0.017***	-0.018***	-0.017***	-0.019***	0.017***	-0.018***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
LN(Assets)$^{linked\text{-}firms}$	0.009**	0.004	-0.002	-0.004	0.010**	0.009**	0.004	-0.004	0.010***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Market-to-Book Assets$^{linked\text{-}firms}$	0.010***	0.014***	-0.009***	-0.010***	0.012***	0.010***	0.015***	-0.010***	0.012***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
Operating Income$^{linked\text{-}firms}$	-0.014***	-0.020***	0.010***	0.011***	-0.018***	-0.014***	-0.020***	0.011***	-0.017***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
PPE$^{linked\text{-}firms}$	-0.008**	-0.010***	0.015***	0.014***	-0.008**	-0.008**	-0.010***	0.014***	-0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)

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Table IA.3 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.390***	0.422***	-0.101***	-0.098***	0.397***	0.392***	0.421***	-0.099***	0.396***
	(0.018)	(0.018)	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)	(0.017)	(0.018)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740	27,740
Adjusted R^2/Pseudo R^2	0.251	0.248	0.152	0.152	0.249	0.251	0.248	0.152	0.249
Panel C: Full Sample									
Board Excess Equity Exposure	0.014***		-0.006***						
	(0.002)		(0.002)						
Board Excess Debt Exposure		-0.009***		0.007***					
		(0.002)		(0.002)					
Board Excess Net Issuance Exposure					-0.007***				
					(0.002)				
Board Excess Equity Volume Exposure						0.013***			
						(0.002)			
Board Excess Debt Volume Exposure							-0.007***	0.008***	
							(0.002)	(0.002)	
Board Excess Net Volume Issuance Exposure									0.011***
									(0.002)
Expected Equity Count Ratio	0.022***		-0.001						
	(0.002)		(0.002)						
Expected Debt Count Ratio		0.002		0.006***					
		(0.001)		(0.002)					

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Table IA.3 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Expected Net Issuance Count Ratio						0.022***			
						(0.002)			
Expected Equity Volume Ratio							0.000	0.006***	
							(0.002)	(0.002)	
Expected Debt Volume Ratio					-0.007***				
					(0.002)				
Expected Net Volume Issuance Ratio									0.015***
									(0.002)
LN(Assets)	-0.054***	-0.051***	0.064***	0.063***	0.064***	-0.054***	-0.051***	0.063***	-0.051***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Market-to-Book Assets	0.080***	0.081***	-0.016***	-0.016***	-0.015***	0.080***	0.081***	-0.016***	0.080***
	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(0.002)	(0.004)
Operating Income	-0.067***	-0.069***	-0.007***	-0.007***	-0.007***	-0.067***	-0.069***	-0.007***	-0.068***
	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(0.002)	(0.004)
PPE	-0.009***	-0.010***	0.027***	0.027***	0.027***	-0.009***	-0.010***	0.027***	-0.010***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
LN(Assets)$^{linked\text{-}firms}$	0.007***	0.003	-0.013***	-0.015***	-0.015***	0.007**	0.003	-0.015***	0.007***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Market-to-Book Assets$^{linked\text{-}firms}$	0.010***	0.014***	-0.006***	-0.006***	-0.005***	0.010***	0.014***	-0.006***	0.012***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)

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Table IA.3 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Operating Income$^{linked\text{-}firms}$	-0.015***	-0.020***	0.009***	0.010***	0.009***	-0.016***	-0.020***	0.010***	-0.018***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)
PPE$^{linked\text{-}firms}$	-0.005**	-0.006***	0.005**	0.005*	0.005*	-0.005**	-0.006***	0.005*	-0.005**
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	0.238***	0.262***	0.015	0.018	0.022	0.241***	0.262***	0.017	0.245***
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)	(0.013)	(0.012)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635	48,635
Adjusted R^2/Pseudo R^2	0.228	0.225	0.055	0.055	0.055	0.227	0.225	0.055	0.226

Table IA.4

Second-Level Board Exposure: Full 2SLS Regression Results

	Dependent Variable =					
	Board Excess Equity Exposure	Equity Issuance Indicator	Board Excess Debt Exposure	Debt Issuance Indicator	Board Excess Net Issuance Exposure	Equity Issuance Indicator
	2SLS					
Stage	First	Second	First	Second	First	Second
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All Directors						
Board Excess Equity Exposure$^{2nd\text{-}level\text{-}links}$	0.042***					
	(0.011)					
Board Excess Debt Exposure$^{2nd\text{-}level\text{-}links}$			0.042***			
			(0.011)			
Board Excess Net Issuance Exposure$^{2nd\text{-}level\text{-}links}$					0.042***	
					(0.011)	
Expected Equity Count Ratio$^{2nd\text{-}level\text{-}links}$	0.024					
	(0.017)					
Expected Debt Count Ratio$^{2nd\text{-}level\text{-}links}$			0.019			
			(0.017)			
Expected Net Issuance Count Ratio$^{2nd\text{-}level\text{-}links}$					0.018	
					(0.018)	
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.001		0.001		-0.003	
	(0.004)		(0.004)		(0.008)	
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.003		-0.003		0.005	
	(0.002)		(0.002)		(0.005)	

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Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.049*		0.049*		-0.099*	
	(0.026)		(0.026)		(0.053)	
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.034		0.035		-0.069	
	(0.031)		(0.031)		(0.062)	
Board Excess Equity Exposure		1.097***				
		(0.287)				
Board Excess Debt Exposure				1.106***		
				(0.281)		
Board Excess Net Issuance Exposure						0.552***
						(0.141)
Expected Equity Count Ratio	-0.472***	0.603***				
	(0.018)	(0.137)				
Expected Debt Count Ratio			-0.472***	0.606***		
			(0.018)	(0.134)		
Expected Net Issuance Count Ratio					-0.472***	0.303***
					(0.018)	(0.067)
LN(Assets)	-0.005*	-0.093***	0.005*	0.093***	-0.010*	-0.093***
	(0.003)	(0.005)	(0.003)	(0.005)	(0.006)	(0.005)
Market-to-Book Assets	0.004***	0.017***	-0.004***	-0.017***	0.009***	0.017***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Operating Income	0.000	-0.098***	-0.000	0.098***	0.000	-0.098***
	(0.018)	(0.029)	(0.018)	(0.029)	(0.037)	(0.029)
PPE	0.038	-0.226***	-0.038	0.226***	0.076	-0.226***
	(0.026)	(0.043)	(0.026)	(0.042)	(0.053)	(0.042)
LN(Assets)$^{linked\text{-}firms}$	-0.042***	0.064***	0.042***	-0.063***	-0.084***	0.063***
	(0.005)	(0.015)	(0.005)	(0.014)	(0.010)	(0.014)

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Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Market-to-Book Assets$^{linked\text{-}firms}$	0.029***	-0.022**	-0.029***	0.021**	0.058***	-0.021**
	(0.003)	(0.010)	(0.003)	(0.009)	(0.005)	(0.009)
Operating Income$^{linked\text{-}firms}$	-0.173***	0.051	0.173***	-0.049	-0.346***	0.049
	(0.031)	(0.073)	(0.031)	(0.072)	(0.062)	(0.073)
PPE$^{linked\text{-}firms}$	-0.155***	0.056	0.154***	-0.054	-0.310***	0.054
	(0.038)	(0.077)	(0.038)	(0.076)	(0.075)	(0.076)
Constant	0.571***	0.270	-0.121	0.118	0.694***	0.580***
	(0.083)	(0.208)	(0.081)	(0.128)	(0.162)	(0.158)
Observations	6,191	6,191	6,191	6,191	6,191	6,191
R-squared	0.160	0.0614	0.150	0.0686	0.160	0.0699
IV F-stat		5.096	0.160	5.222		5.187
Durbin p-value (endogeneity test)		0.000		0.000		0.000
Wu-Hausman p-value (endogeneity test)		0.000		0.000		0.000
Sargan p-value (overidentification test)		0.906		0.916		0.901
Basmann p-value (overidentification test)		0.908		0.918		0.903
Panel B: Non-Executive Directors						
Board Excess Equity Exposure$^{2nd\text{-}level\text{-}links}$	0.034***					
	(0.011)					
Board Excess Debt Exposure$^{2nd\text{-}level\text{-}links}$			0.033***			
			(0.011)			
Board Excess Net Issuance Exposure$^{2nd\text{-}level\text{-}links}$					0.035***	
					(0.011)	
Expected Equity Count Ratio$^{2nd\text{-}level\text{-}links}$	0.021					
	(0.017)					

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Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Expected Debt Count Ratio$^{2nd\text{-}level\text{-}links}$			0.015			
			(0.017)			
Expected Net Issuance Count Ratio$^{2nd\text{-}level\text{-}links}$					0.022	
					(0.018)	
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.001		0.004		-0.004	
	(0.004)		(0.004)		(0.009)	
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.004		-0.003		0.006	
	(0.002)		(0.002)		(0.005)	
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.043		0.032		-0.080	
	(0.027)		(0.027)		(0.053)	
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.028		0.021		-0.051	
	(0.032)		(0.032)		(0.064)	
Board Excess Equity Exposure		1.245***				
		(0.343)				
Board Excess Debt Exposure				1.313***		
				(0.368)		
Board Excess Net Issuance Exposure						0.630***
						(0.172)
Expected Equity Count Ratio	-0.409***	0.592***				
	(0.018)	(0.141)				
Expected Debt Count Ratio			-0.381***	0.568***		
			(0.017)	(0.142)		
Expected Net Issuance Count Ratio					-0.439***	0.319***
					(0.018)	(0.076)

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Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
LN(Assets)	-0.006*	-0.092***	0.006**	0.090***	-0.012**	-0.092***
	(0.003)	(0.006)	(0.003)	(0.006)	(0.006)	(0.006)
Market-to-Book Assets	0.005***	0.015***	-0.004***	-0.016***	0.009***	0.016***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Operating Income	0.006	-0.097***	-0.013	0.110***	0.017	-0.101***
	(0.019)	(0.031)	(0.019)	(0.032)	(0.037)	(0.031)
PPE	0.044	-0.239***	-0.046*	0.244***	0.085	-0.237***
	(0.027)	(0.047)	(0.027)	(0.049)	(0.053)	(0.047)
LN(Assets)$^{linked\text{-}firms}$	-0.034***	0.059***	0.034***	-0.060***	-0.075***	0.064***
	(0.005)	(0.015)	(0.005)	(0.016)	(0.010)	(0.016)
Market-to-Book Assets$^{linked\text{-}firms}$	0.026***	-0.021**	-0.026***	0.022**	0.053***	-0.022**
	(0.003)	(0.010)	(0.003)	(0.011)	(0.005)	(0.010)
Operating Income$^{linked\text{-}firms}$	-0.158***	0.061	0.134***	-0.035	-0.309***	0.058
	(0.031)	(0.079)	(0.031)	(0.076)	(0.063)	(0.078)
PPE$^{linked\text{-}firms}$	-0.178***	0.092	0.178***	-0.112	-0.372***	0.106
	(0.037)	(0.090)	(0.039)	(0.096)	(0.074)	(0.092)
Constant	0.476***	0.344	-0.128	0.111	0.608***	0.612***
	(0.086)	(0.218)	(0.084)	(0.147)	(0.168)	(0.173)
Observations	5,951	5,951	5,951	5,951	6,191	5,951
R-squared	0.135	-	0.141	-	0.150	-
IV F-stat		3.953		3.627		4.007
Durbin p-value (endogeneity test)		0.000		0.000		0.000
Wu-Hausman p-value (endogeneity test)		0.000		0.000		0.000
Sargan p-value (overidentification test)		0.967		0.928		0.976
Basmann p-value (overidentification test)		0.968		0.930		0.977

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Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Executive Directors						
Board Excess Equity Exposure$^{2nd\text{-}level\text{-}links}$	-0.020					
	(0.016)					
Board Excess Debt Exposure$^{2nd\text{-}level\text{-}links}$			-0.018			
			(0.016)			
Board Excess Net Issuance Exposure$^{2nd\text{-}level\text{-}links}$					-0.018	
					(0.016)	
Expected Equity Count Ratio$^{2nd\text{-}level\text{-}links}$	0.000					
	(0.023)					
Expected Debt Count Ratio$^{2nd\text{-}level\text{-}links}$			-0.001			
			(0.024)			
Expected Net Issuance Count Ratio$^{2nd\text{-}level\text{-}links}$					0.003	
					(0.024)	
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.002		0.002		0.000	
	(0.007)		(0.007)		(0.014)	
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.001		-0.002		0.002	
	(0.004)		(0.004)		(0.007)	
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.051		-0.028		0.078	
	(0.046)		(0.049)		(0.093)	
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.052		0.053		-0.108	
	(0.048)		(0.052)		(0.098)	

(continued on next page)

Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Board Excess Equity Exposure		-1.458				
		(1.465)				
Board Excess Debt Exposure				0.172		
				(1.372)		
Board Excess Net Issuance Exposure						-0.318
						(0.709)
Expected Equity Count Ratio	0.008	0.113				
	(0.030)	(0.092)				
Expected Debt Count Ratio			-0.083***	0.056		
			(0.026)	(0.129)		
Expected Net Issuance Count Ratio					-0.121***	0.046
					(0.044)	(0.104)
LN(Assets)	-0.000	-0.093***	0.000	0.090***	0.001	-0.090***
	(0.004)	(0.013)	(0.005)	(0.011)	(0.009)	(0.012)
Market-to-Book Assets	-0.001	0.029***	0.002	-0.030***	-0.004	0.029***
	(0.002)	(0.008)	(0.003)	(0.007)	(0.005)	(0.007)
Operating Income	0.032	-0.144	-0.026	0.196**	0.057	-0.173**
	(0.028)	(0.097)	(0.031)	(0.083)	(0.057)	(0.087)
PPE	-0.022	-0.096	-0.004	0.047	-0.008	-0.057
	(0.036)	(0.117)	(0.040)	(0.097)	(0.074)	(0.101)
LN(Assets)$^{linked\text{-}firms}$	0.005	0.029	-0.003	-0.020	0.003	0.023
	(0.007)	(0.021)	(0.008)	(0.018)	(0.015)	(0.018)
Market-to-Book Assets$^{linked\text{-}firms}$	0.002	0.005	-0.002	-0.004	0.003	0.004
	(0.004)	(0.013)	(0.005)	(0.012)	(0.009)	(0.012)
Operating Income$^{linked\text{-}firms}$	-0.046	-0.407***	0.058	0.389***	-0.140	-0.408**
	(0.053)	(0.158)	(0.057)	(0.149)	(0.109)	(0.160)

(continued on next page)

Table IA.4 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
$PPE^{linked\text{-}firms}$	-0.134**	-0.428*	0.110*	0.198	-0.235**	-0.304
	(0.057)	(0.258)	(0.061)	(0.219)	(0.115)	(0.230)
Constant	0.110	0.684**	-0.104	0.450	0.192	0.605**
	(0.099)	(0.308)	(0.106)	(0.275)	(0.198)	(0.286)
Observations	625	625	625	625	625	625
R-squared	0.112	0.328	0.110	0.480	0.113	0.446
IV F-stat		0.722		0.537		0.608
Durbin p-value (endogeneity test)		0.228		0.945		0.589
Wu-Hausman p-value (endogeneity test)		0.255		0.948		0.610
Sargan p-value (overidentification test)		0.211		0.073		0.108
Basmann p-value (overidentification test)		0.270		0.106		0.151

Table IA.5

Second-Level Board Exposure: Full Tobit Regression Results

	Dependent Variable =							
	Vbee	Equity Issuance	Vbde	Debt Issuance	Vbede	Equity Issuance	Vbede	Net Issuance
	IV-Tobit							
Stage	First	Second	First	Second	First	Second	First	Second
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All Directors								
Board Excess Equity Volume Exposure[2nd-level-links]	0.040***							
	(0.014)							
Board Excess Debt Volume Exposure[2nd-level-links]			0.040**					
			(0.018)					
Board Excess Net Volume Issuance Exposure[2nd-level-links]					0.041***		0.030	
					(0.014)		(0.019)	
Expected Equity Volume Ratio[2nd-level-links]	0.034**							
	(0.014)							
Expected Debt Volume Ratio[2nd-level-links]			0.029*					
			(0.015)					
Expected Net Volume Issuance Ratio[2nd-level-links]					0.031**		0.02	
					(0.014)		(0.016)	
LN(Assets)[2nd-level-linked-firms]	0.005		-0.002		0.009		0.012*	
	(0.004)		(0.004)		(0.007)		(0.007)	
Market-to-Book Assets[2nd-level-linked-firms]	0.003		0.000		0.007		0.008	
	(0.003)		(0.003)		(0.005)		(0.006)	

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Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.061***		0.073***		-0.123***		-0.142***	
	(0.020)		(0.024)		(0.041)		(0.044)	
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.047*		0.065**		-0.096*		-0.112**	
	(0.027)		(0.029)		(0.055)		(0.053)	
Board Excess Equity Volume Exposure		2.372***						
		(0.796)						
Board Excess Debt Volume Exposure				0.561**				
				(0.280)				
Board Excess Net Volume Issuance Exposure						1.171***		0.806*
						(0.395)		(0.413)
Expected Equity Volume Ratio	-0.548***	1.455***						
	(0.019)	(0.434)						
Expected Debt Volume Ratio			-0.549***	0.338**				
			(0.019)	(0.153)				
Expected Net Volume Issuance Ratio					-0.548***	0.720***	-0.547***	0.467**
					(0.019)	(0.215)	(0.019)	(0.224)
LN(Assets)	-0.002	-0.174***	0.002	0.037***	-0.004	-0.174***	-0.004	-0.062***
	(0.004)	(0.012)	(0.004)	(0.004)	(0.007)	(0.012)	(0.007)	(0.008)
Market-to-Book Assets	0.004**	0.035***	-0.004**	-0.012***	0.007**	0.035***	0.007**	0.025***
	(0.002)	(0.007)	(0.002)	(0.004)	(0.004)	(0.007)	(0.004)	(0.006)
Operating Income	-0.001	-0.176***	0.001	0.105***	-0.002	-0.176***	-0.002	-0.231***
	(0.021)	(0.063)	(0.021)	(0.041)	(0.041)	(0.062)	(0.042)	(0.051)
PPE	0.040	-0.950***	-0.041	0.033	0.081	-0.949***	0.081	-0.366***
	(0.029)	(0.120)	(0.029)	(0.031)	(0.058)	(0.120)	(0.058)	(0.074)

(continued on next page)

Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LN(Assets)$^{linked\text{-}firms}$	-0.040***	0.100***	0.039***	-0.042***	-0.079***	0.099***	-0.081***	0.080**
	(0.006)	(0.036)	(0.006)	(0.012)	(0.012)	(0.036)	(0.012)	(0.034)
Market-to-Book Assets$^{linked\text{-}firms}$	0.031***	-0.062**	-0.032***	0.010	0.062***	-0.061**	0.062***	-0.042
	(0.004)	(0.029)	(0.004)	(0.010)	(0.009)	(0.029)	(0.009)	(0.029)
Operating Income$^{linked\text{-}firms}$	-0.230***	0.308	0.229***	-0.047	-0.461***	0.301	-0.460***	0.177
	(0.038)	(0.238)	(0.038)	(0.082)	(0.075)	(0.236)	(0.076)	(0.234)
PPE$^{linked\text{-}firms}$	-0.129***	0.282	0.125**	-0.009	-0.257***	0.277	-0.255***	0.178
	(0.049)	(0.199)	(0.049)	(0.058)	(0.098)	(0.197)	(0.098)	(0.158)
Constant	-0.483	-0.483	0.012	-0.181***	0.462***	0.251	0.452***	0.149
	(0.508)	(0.508)	(0.080)	(0.059)	(0.158)	(0.361)	(0.159)	(0.249)
Observations	6,191	6,191	6,191	6,191	6,191	6,191	6,191	6,191
R-squared	0.2032		0.2034		0.1939		0.1939	
Chi2 (endogeneity test)	13.40	13.40	5.171	5.171	13.16	13.16	5.949	5.949
Chi2 p-value (endogeneity test)	0.000	0.000	0.023	0.023	0.000	0.000	0.015	0.015
Panel B: Non-Executive Directors								
Board Excess Equity Volume Exposure$^{2nd\text{-}level\text{-}links}$	0.047***							
	(0.012)							
Board Excess Debt Volume Exposure$^{2nd\text{-}level\text{-}links}$			0.047***					
			(0.012)					
Board Excess Net Volume Issuance Exposure$^{2nd\text{-}level\text{-}links}$					0.048***		0.048***	
					(0.012)		(0.012)	
Expected Equity Volume Ratio$^{2nd\text{-}level\text{-}links}$	0.039**							
	(0.016)							

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Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Expected Debt Volume Ratio$^{2nd\text{-}level\text{-}links}$			0.024					
			(0.016)					
Expected Net Volume Issuance Ratio$^{2nd\text{-}level\text{-}links}$						0.034**		0.034**
						(0.016)		(0.016)
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.001					-0.002		-0.002
	(0.005)					(0.009)		(0.009)
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.000					-0.001		-0.001
	(0.003)					(0.005)		(0.005)
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.038					-0.069		-0.069
	(0.029)					(0.057)		(0.057)
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.021					-0.038		-0.038
	(0.034)					(0.069)		(0.069)
Board Excess Equity Volume Exposure		2.200***						
		(0.648)						
Board Excess Debt Volume Exposure					0.415**			
					(0.177)			
Board Excess Net Volume Issuance Exposure							1.034***	0.474***
							(0.310)	(0.169)
Expected Equity Volume Ratio	-0.497***	1.455***						
	(0.015)	(0.434)						
Expected Debt Volume Ratio			-0.477***	0.222***				
			(0.016)	(0.085)				
Expected Net Volume Issuance Ratio						-0.525***	0.620***	-0.525***	0.276***
						(0.016)	(0.163)	(0.016)	(0.089)
LN(Assets)							-		-
	-0.003	-0.174***	0.004	0.037***	-0.007	0.174***	-0.007	0.064***
	(0.003)	(0.012)	(0.003)	(0.004)	(0.007)	(0.012)	(0.007)	(0.006)

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Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Market-to-Book Assets	0.004**	0.035***	-0.004**	-0.012***	0.008**	0.035***	0.008**	0.028***
	(0.002)	(0.007)	(0.002)	(0.004)	(0.003)	(0.007)	(0.003)	(0.003)
Operating Income						-		-
	0.007	-0.176***	-0.016	0.105***	0.019	0.176***	0.019	0.235***
	(0.020)	(0.063)	(0.020)	(0.041)	(0.04)	(0.062)	(0.04)	(0.034)
PPE						-		-
	0.041	-0.950***	-0.042	0.033	0.078	0.949***	0.078	0.335***
	(0.029)	(0.120)	(0.029)	(0.031)	(0.058)	(0.120)	(0.058)	(0.051)
LN(Assets)$^{linked\text{-}firms}$	-0.031***	0.100***	0.030***	-0.042***	-0.069	0.099***	-0.069	0.053***
	(0.005)	(0.036)	(0.005)	(0.012)	(0.011)	(0.036)	(0.011)	(0.015)
Market-to-Book Assets$^{linked\text{-}firms}$	0.029***	-0.062**	-0.029***	0.010	0.06***	-0.061**	0.06***	-0.018
	(0.003)	(0.029)	(0.003)	(0.010)	(0.006)	(0.029)	(0.006)	(0.011)
Operating Income$^{linked\text{-}firms}$	-0.215***	0.308	0.193***	-0.047	-0.42***	0.301	-0.42***	-0.037
	(0.034)	(0.238)	(0.034)	(0.082)	(0.067)	(0.236)	(0.067)	(0.095)
PPE$^{linked\text{-}firms}$					-		-	
	-0.146***	0.282	0.158***	-0.009	0.314***	0.277	0.314***	0.070
	(0.042)	(0.199)	(0.042)	(0.058)	(0.083)	(0.197)	(0.083)	(0.090)
Constant	0.402***	-0.483	0.012	-0.181***	0.404**	0.251	0.404**	0.382**
	(0.092)	(0.508)	(0.080)	(0.059)	(0.181)	(0.361)	(0.181)	(0.164)
Observations	5,951	5,951	5,951	5,951	5,951	5,951	5,951	5,951
R-squared	0.1893		0.179		0.1939		0.1939	
Chi2 (endogeneity test)		19.27		6.337		17.22		10.11
Chi2 p-value (endogeneity test)		0.000		0.012		0.000		0.001

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Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel C: Executive Directors								
Board Excess Equity Volume Exposure$^{2nd\text{-}level\text{-}links}$	-0.013							
	(0.015)							
Board Excess Debt Volume Exposure$^{2nd\text{-}level\text{-}links}$			-0.014					
			(0.016)					
Board Excess Net Volume Issuance Exposure$^{2nd\text{-}level\text{-}links}$						-0.013		-0.013
						(0.015)		(0.015)
Expected Equity Volume Ratio$^{2nd\text{-}level\text{-}links}$	0.003							
	(0.02)							
Expected Debt Volume Ratio$^{2nd\text{-}level\text{-}links}$			0.000					
			(0.022)					
Expected Net Volume Issuance Ratio$^{2nd\text{-}level\text{-}links}$					0.001		0.001	
					(0.021)		(0.021)	
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.000		0.002		0.000		0.000	
	(0.007)		(0.007)		(0.013)		(0.013)	
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.000		-0.003		0.005		0.005	
	(0.004)		(0.004)		(0.007)		(0.007)	
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.053		-0.031		0.080		0.080	
	(0.045)		(0.049)		(0.091)		(0.091)	
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.072		0.072		-0.147		-0.147	
	(0.047)		(0.052)		(0.096)		(0.096)	
Board Excess Equity Volume Exposure		0.642						
		(2.790)						

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Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Board Excess Debt Volume Exposure				0.390					
				(0.764)					
Board Excess Net Volume Issuance Exposure						1.436		0.806	
							(1.558)		(0.867)
Expected Equity Volume Ratio	-0.089***	0.221							
	(0.027)	(0.282)							
Expected Debt Volume Ratio			-0.083***		0.037				
			(0.026)		(0.073)				
Expected Net Volume Issuance Ratio						-0.191***	0.436	-0.191***	0.161
						(0.038)	(0.323)	(0.038)	(0.180)
LN(Assets)	-0.003	-0.163***	0.004	0.023***	-0.006	-0.154***	-0.006	-0.044***	
	(0.004)	(0.029)	(0.005)	(0.008)	(0.009)	(0.031)	(0.009)	(0.017)	
Market-to-Book Assets	-0.002	0.061***	0.002	-0.020***	-0.004	0.065***	-0.004	0.044***	
	(0.002)	(0.013)	(0.003)	(0.006)	(0.005)	(0.015)	(0.005)	(0.010)	
Operating Income	0.041	-0.376**	-0.037	0.295***	0.075	-0.455**	0.075	-0.489***	
	(0.028)	(0.188)	(0.03)	(0.073)	(0.056)	(0.205)	(0.056)	(0.123)	
PPE	-0.028	-0.891***	0.010	-0.055	-0.032	-0.852***	-0.032	-0.306**	
	(0.036)	(0.282)	(0.039)	(0.062)	(0.072)	(0.291)	(0.072)	(0.142)	
LN(Assets)$^{linked\text{-}firms}$	0.009	-0.026	-0.011	-0.017	0.015	-0.039	0.015	-0.010	
	(0.007)	(0.048)	(0.008)	(0.013)	(0.015)	(0.050)	(0.015)	(0.028)	
Market-to-Book Assets$^{linked\text{-}firms}$	0.002	0.018	-0.002	-0.003	0.004	0.014	0.004	0.010	
	(0.004)	(0.024)	(0.005)	(0.009)	(0.009)	(0.027)	(0.009)	(0.016)	
Operating Income$^{linked\text{-}firms}$	-0.062	-0.068	0.048	0.130	-0.144	0.082	-0.144	0.111	
	(0.052)	(0.310)	(0.057)	(0.108)	(0.106)	(0.368)	(0.106)	(0.219)	

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Table IA.5 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$PPE^{linked\text{-}firms}$	-0.124**	0.027	0.107*	0.055	-0.223**	0.315	-0.223**	0.189
	(0.055)	(0.506)	(0.061)	(0.134)	(0.112)	(0.540)	(0.112)	(0.303)
Constant	0.081	-4.442	-0.085	0.127	0.194	-4.696	0.194	0.162
	(0.097)	(221.963)	(0.105)	(0.157)	(0.195)	(221.744)	(0.195)	(0.380)
Observations	625	625	625	625	625	625	625	625
R-squared	0.1259		0.1022		0.1342		0.1342	
Chi2 (endogeneity test)		0.0456		0.142		0.990		0.956
Chi2 p-value (endogeneity test)		0.831		0.706		0.320		0.328

Table IA.6

Second-Level Board Exposure: OLS Regression Results

	Dependent Variable =					
	Equity Issuance Indicator		Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)		Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All Directors						
Board Excess Equity Exposure$^{2nd\text{-}level\text{-}links}$	0.041***					
	(0.013)					
Board Excess Net Issuance Exposure$^{2nd\text{-}level\text{-}links}$		0.021***				
		(0.006)				
Board Excess Equity Volume Exposure$^{2nd\text{-}level\text{-}links}$			0.081***			
			(0.026)			
Board Excess Debt Volume Exposure$^{2nd\text{-}level\text{-}links}$				0.020**		
				(0.008)		
Board Excess Net Volume Issuance Exposure$^{2nd\text{-}level\text{-}links}$					0.040***	0.020***
					(0.013)	(0.007)
Expected Equity Count Ratio$^{2nd\text{-}level\text{-}links}$	0.067***					
	(0.020)					
Expected Debt Count Ratio$^{2nd\text{-}level\text{-}links}$						
		0.033***				
Expected Net Issuance Count Ratio$^{2nd\text{-}level\text{-}links}$		(0.010)				

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Table IA.6 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Expected Equity Volume Ratio$^{2nd\text{-}level\text{-}links}$			0.092**			
			(0.036)			
Expected Debt Volume Ratio$^{2nd\text{-}level\text{-}links}$				0.027**		
				(0.011)		
Expected Net Volume Issuance Ratio$^{2nd\text{-}level\text{-}links}$					0.046**	0.012
					(0.018)	(0.010)
LN(Assets)	-0.094***	-0.094***	-0.181***	0.032***	-0.181***	-0.063***
	(0.004)	(0.004)	(0.007)	(0.002)	(0.007)	(0.004)
Market-to-Book Assets	0.027***	0.027***	0.048***	-0.018***	0.048***	0.034***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
Operating Income	-0.142***	-0.142***	-0.232***	0.126***	-0.232***	-0.274***
	(0.033)	(0.033)	(0.039)	(0.016)	(0.039)	(0.025)
PPE	-0.256***	-0.256***	-0.920***	0.032*	-0.920***	-0.312***
	(0.034)	(0.034)	(0.070)	(0.017)	(0.070)	(0.035)
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.006	0.006	0.017*	-0.009***	0.017*	0.016***
	(0.005)	(0.005)	(0.009)	(0.003)	(0.009)	(0.005)
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.004*	0.004*	0.017***	-0.001	0.017***	0.012***
	(0.003)	(0.003)	(0.005)	(0.002)	(0.005)	(0.003)
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.114***	-0.114***	-0.240***	0.089***	-0.240***	-0.182***
	(0.031)	(0.031)	(0.056)	(0.021)	(0.056)	(0.036)
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.031	-0.031	-0.081	0.048**	-0.081	-0.090**
	(0.034)	(0.034)	(0.071)	(0.020)	(0.071)	(0.040)
Constant	0.977***	1.011***	0.551**	-0.172***	0.597**	0.474***
	(0.044)	(0.040)	(0.244)	(0.051)	(0.243)	(0.103)

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Table IA.6 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Observations	7,601	7,601	7,601	7,601	7,601	7,601
Adjusted R^2/Pseudo R^2	0.418	0.418	0.289	0.404	0.289	0.207
Panel B: Non-Executive Directors						
Board Excess Equity Exposure$^{2nd\text{-}level\text{-}links}$	0.043***					
	(0.013)					
Board Excess Net Issuance Exposure$^{2nd\text{-}level\text{-}links}$		0.021***				
		(0.006)				
Board Excess Equity Volume Exposure$^{2nd\text{-}level\text{-}links}$			0.086***			
			(0.026)			
Board Excess Debt Volume Exposure$^{2nd\text{-}level\text{-}links}$				0.020***		
				(0.008)		
Board Excess Net Volume Issuance Exposure$^{2nd\text{-}level\text{-}links}$					0.043***	0.021***
					(0.013)	(0.007)
Expected Equity Count Ratio$^{2nd\text{-}level\text{-}links}$	0.062***					
	(0.020)					
Expected Debt Count Ratio$^{2nd\text{-}level\text{-}links}$		0.031***				
Expected Net Issuance Count Ratio$^{2nd\text{-}level\text{-}links}$		(0.010)				
Expected Equity Volume Ratio$^{2nd\text{-}level\text{-}links}$			0.098***			
			(0.037)			
Expected Debt Volume Ratio$^{2nd\text{-}level\text{-}links}$				0.024**		
				(0.011)		
Expected Net Volume Issuance Ratio$^{2nd\text{-}level\text{-}links}$					0.049***	0.016
					(0.018)	(0.010)

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Table IA.6 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
LN(Assets)	-0.094***	-0.094***	-0.183***	0.032***	-0.183***	-0.064***
	(0.004)	(0.004)	(0.007)	(0.002)	(0.007)	(0.004)
Market-to-Book Assets	0.027***	0.027***	0.047***	-0.018***	0.047***	0.033***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
Operating Income	-0.138***	-0.138***	-0.222***	0.124***	-0.222***	-0.267***
	(0.034)	(0.034)	(0.040)	(0.016)	(0.040)	(0.026)
PPE	-0.258***	-0.258***	-0.918***	0.035**	-0.918***	-0.312***
	(0.035)	(0.035)	(0.071)	(0.018)	(0.071)	(0.035)
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.005	0.005	0.017*	-0.009***	0.017*	0.017***
	(0.005)	(0.005)	(0.009)	(0.003)	(0.009)	(0.005)
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.004	0.004	0.016***	-0.001	0.016***	0.012***
	(0.003)	(0.003)	(0.005)	(0.002)	(0.005)	(0.003)
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.113***	-0.113***	-0.235***	0.086***	-0.235***	-0.177***
	(0.031)	(0.031)	(0.057)	(0.021)	(0.057)	(0.036)
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.032	-0.032	-0.071	0.049**	-0.071	-0.084**
	(0.035)	(0.035)	(0.073)	(0.021)	(0.073)	(0.041)
Constant	0.995***	1.026***	0.613**	-0.202***	0.663***	0.498***
	(0.045)	(0.041)	(0.251)	(0.054)	(0.249)	(0.109)
Observations	7,271	7,271	7,271	7,271	7,271	7,271
Adjusted R^2/Pseudo R^2	0.423	0.423	0.293	0.415	0.293	0.209

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Table IA.6 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Executive Directors						
Board Excess Equity Exposure$^{2nd\text{-}level\text{-}links}$	0.095**					
	(0.043)					
Board Excess Net Issuance Exposure$^{2nd\text{-}level\text{-}links}$		0.048**				
		(0.021)				
Board Excess Equity Volume Exposure$^{2nd\text{-}level\text{-}links}$			0.088			
			(0.088)			
Board Excess Debt Volume Exposure$^{2nd\text{-}level\text{-}links}$				0.046*		
				(0.025)		
Board Excess Net Volume Issuance Exposure$^{2nd\text{-}level\text{-}links}$					0.044	0.011
					(0.044)	(0.024)
Expected Equity Count Ratio$^{2nd\text{-}level\text{-}links}$	0.063					
	(0.062)					
Expected Debt Count Ratio$^{2nd\text{-}level\text{-}links}$						
Expected Net Issuance Count Ratio$^{2nd\text{-}level\text{-}links}$		0.031				
		(0.031)				
Expected Equity Volume Ratio$^{2nd\text{-}level\text{-}links}$			-0.029			
			(0.121)			
Expected Debt Volume Ratio$^{2nd\text{-}level\text{-}links}$				0.031		
				(0.033)		
Expected Net Volume Issuance Ratio$^{2nd\text{-}level\text{-}links}$					-0.014	-0.026
					(0.061)	(0.033)
LN(Assets)	-0.083***	-0.083***	-0.169***	0.019***	-0.169***	-0.051***
	(0.010)	(0.010)	(0.024)	(0.006)	(0.024)	(0.012)

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Table IA.6 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Market-to-Book Assets	0.035***	0.035***	0.061***	-0.026***	0.061***	0.042***
	(0.007)	(0.007)	(0.012)	(0.006)	(0.012)	(0.008)
Operating Income	-0.252***	-0.252***	-0.336**	0.276***	-0.336**	-0.379***
	(0.081)	(0.081)	(0.139)	(0.060)	(0.139)	(0.087)
PPE	-0.125	-0.125	-0.905***	-0.039	-0.905***	-0.279**
	(0.082)	(0.082)	(0.252)	(0.055)	(0.252)	(0.113)
LN(Assets)$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.018	0.018	0.030	-0.017*	0.030	0.018
	(0.017)	(0.017)	(0.034)	(0.009)	(0.034)	(0.018)
Market-to-Book Assets$^{2nd\text{-}level\text{-}linked\text{-}firms}$	0.009	0.009	0.031*	-0.002	0.031*	0.014
	(0.012)	(0.012)	(0.018)	(0.006)	(0.018)	(0.011)
Operating Income$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.232*	-0.232*	-0.440*	0.130*	-0.440*	-0.235*
	(0.123)	(0.123)	(0.226)	(0.073)	(0.226)	(0.134)
PPE$^{2nd\text{-}level\text{-}linked\text{-}firms}$	-0.132	-0.132	-0.203	0.101	-0.203	-0.161
	(0.122)	(0.122)	(0.282)	(0.070)	(0.282)	(0.144)
Constant	0.783***	0.814***	-5.247	0.156	-5.261	0.147
	(0.127)	(0.118)	(275.991)	(0.123)	(275.991)	(0.269)
Observations	716	716	718	718	718	718
Adjusted R^2/Pseudo R^2	0.427	0.427	0.334	0.627	0.334	0.237

Table IA.7

Placebo Test with Pseudo Links: Full Regression Results

	Dependent Variable =					
	Equity Issuance Indicator		Equity Issuance	Debt Issuance	Equity Issuance	Net Issuance
	Linear Probabiity (OLS)		Tobit			
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Focal and Board-Linked Firms' Issuance Years - Subsample Regressions - Pre-Broken-Link Period						
Board Excess Equity Exposure	0.088**					
	(0.037)					
Board Excess Net Issuance Exposure		0.040**				
		(0.017)				
Board Excess Equity Volume Exposure			0.205***			
			(0.060)			
Board Excess Debt Volume Exposure				0.024		
				(0.018)		
Board Excess Net Volume Issuance Exposure					0.103***	0.044**
					(0.030)	(0.017)
Expected Equity Count Ratio	0.124**					
	(0.053)					
Expected Net Issuance Count Ratio		0.065***				
		(0.022)				
Expected Equity Volume Ratio			0.295***		0.295***	
			(0.083)		(0.083)	
Expected Debt Volume Ratio				0.077***		
				(0.024)		

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Table IA.7 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Expected Net Volume Issuance Ratio						0.066***
						(0.023)
LN(Assets)	-0.073***	-0.074***	-0.133***	0.030***	-0.133***	-0.051***
	(0.011)	(0.011)	(0.020)	(0.006)	(0.020)	(0.011)
Market-to-Book Assets				-		
	0.087***	0.087***	0.150***	0.053***	0.150***	0.105***
	(0.010)	(0.010)	(0.014)	(0.006)	(0.014)	(0.009)
Operating Income	-0.367***	-0.361***	-0.907***	0.287***	-0.907***	-0.764***
	(0.110)	(0.110)	(0.149)	(0.060)	(0.149)	(0.092)
PPE	-0.241***	-0.239***	-0.696***	0.119***	-0.696***	-0.312***
	(0.086)	(0.086)	(0.155)	(0.038)	(0.155)	(0.076)
LN(Assets)$^{linked\text{-}firms}$	0.002	0.004	0.006	-0.005	0.006	0.003
	(0.012)	(0.012)	(0.022)	(0.007)	(0.022)	(0.012)
Market-to-Book Assets$^{linked\text{-}firms}$	-0.010*	-0.010*	-0.015	0.004	-0.015	-0.006
	(0.006)	(0.006)	(0.012)	(0.004)	(0.012)	(0.007)
Operating Income$^{linked\text{-}firms}$	0.060	0.067	0.132	-0.131**	0.132	0.112
	(0.109)	(0.108)	(0.189)	(0.064)	(0.189)	(0.113)
PPE$^{linked\text{-}firms}$	-0.048	-0.050	-0.012	-0.007	-0.012	0.011
	(0.105)	(0.104)	(0.170)	(0.050)	(0.170)	(0.094)
Constant	0.711***	0.763***	0.214	-0.114*	0.214	0.320**
	(0.100)	(0.092)	(0.274)	(0.064)	(0.274)	(0.129)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES
Observations	1,144	1,144	1,144	1,144	1,144	1,144
Adjusted R^2/Pseudo R^2	0.375	0.375	0.280	0.561	0.280	0.243

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Table IA.7 *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel B: Focal and Board-Linked Firms' Issuance Years - Subsample Regressions - Post-Broken-Link Period						
Board Excess Equity Exposure	0.022					
	(0.055)					
Board Excess Net Issuance Exposure		0.015				
		(0.027)				
Board Excess Equity Volume Exposure			0.060			
			(0.098)			
Board Excess Debt Volume Exposure				0.068**		
				(0.027)		
Board Excess Net Volume Issuance Exposure					0.030	0.012
					(0.049)	(0.023)
Expected Equity Count Ratio	-0.095					
	(0.081)					
Expected Net Issuance Count Ratio		-0.032				
		(0.038)				
Expected Equity Volume Ratio			-0.219*		-0.219*	
			(0.115)		(0.115)	
Expected Debt Volume Ratio				0.023		
				(0.030)		
Expected Net Volume Issuance Ratio						-0.020
						(0.032)
LN(Assets)	-0.076***	-0.079***	-0.140***	0.024***	-0.140***	-0.038***
	(0.016)	(0.016)	(0.031)	(0.008)	(0.031)	(0.013)
Market-to-Book Assets	0.066***	0.063***	0.079***	-0.026**	0.079***	0.049***
	(0.012)	(0.013)	(0.022)	(0.010)	(0.022)	(0.013)
Operating Income	-0.281**	-0.272**	-0.638***	0.262***	-0.638***	-0.735***
	(0.128)	(0.127)	(0.207)	(0.090)	(0.207)	(0.116)

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Table IA.7 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
PPE	-0.170	-0.169	-0.572**	0.040	-0.572**	-0.176*
	(0.110)	(0.110)	(0.233)	(0.055)	(0.233)	(0.092)
LN(Assets)$^{linked\text{-}firms}$	0.006	0.008	-0.017	0.006	-0.017	-0.012
	(0.018)	(0.018)	(0.029)	(0.009)	(0.029)	(0.014)
Market-to-Book Assets$^{linked\text{-}firms}$	-0.005	-0.006	-0.006	0.007	-0.006	-0.008
	(0.008)	(0.008)	(0.015)	(0.006)	(0.015)	(0.008)
Operating Income$^{linked\text{-}firms}$	-0.044	-0.040	0.063	0.030	0.063	0.068
	(0.145)	(0.148)	(0.258)	(0.093)	(0.258)	(0.134)
PPE$^{linked\text{-}firms}$	-0.133	-0.137	-0.055	-0.087	-0.055	0.125
	(0.119)	(0.119)	(0.231)	(0.064)	(0.231)	(0.104)
Constant	0.764***	0.743***	0.489	-0.170*	0.489	0.324**
	(0.138)	(0.136)	(0.359)	(0.090)	(0.359)	(0.150)
Fixed Industry Effects	YES	YES	YES	YES	YES	YES
Fixed Year Effects	YES	YES	YES	YES	YES	YES
Observations	428	428	435	435	435	435
Adjusted R^2/Pseudo R^2	0.386	0.385	0.383	0.716	0.383	0.394