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Attraction versus competition: A tale of two similarity effects in director selection of Chinese firms

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Attraction versus competition: A tale of two similarity effects in director selection of Chinese firms

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Abstract

Extant research has focused primarily on the collaborative side of chair-director similarity in director selection, whereas the potential competitive side remains underexplored. Emphasizing the dual role of directors as both collaborators and competitors, as perceived by chairs, we incorporate both the similarity-attraction logic and the similarity-competition logic in director selection and develop a collaborative-competitive framework to reconcile the tension between them. Based on new director selection data from Chinese listed firms, we find that chair-director similarity in the competitive-oriented political background is negatively related to the likelihood of the director being selected—consistent with the similarity-competition logic, whereas chair-director similarity in the collaborative-oriented technological background is positively related to the likelihood of the director being selected—consistent with the similarity-attraction logic. Furthermore, we reveal how the similarity-derived effects are contingent on within-similarity heterogeneity. Our study advances research on director selection by providing a more fine-grained understanding of chair-director similarity in director selection.

Keywords Chair-director similarity · Director selection · Similarity-attraction · Similarity-competition · Collaborative-competitive framework

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Director selection is a central issue in management (Wei et al., 2018; Withers et al., 2012). A key line of research views director selection as a social process (Khurana & Pick, 2004; Westphal & Zajac, 2013) that "reflect(s) the preferences and biases of those who are charged with new director selection" (Withers et al., 2012: 255). Research in this socialized tradition emphasizes the importance of interpersonal similarity in director selection. Given that similarity enhances interpersonal attraction (Byrne, 1971; Byrne et al., 1966), research shows that firm decision makers prefer to select directors who are similar to them in certain attributes (Westphal & Zajac, 1995; Zhu & Chen, 2015; Zhu & Westphal, 2014).

Following the similarity-attraction logic, the extant research typically focuses on the positive/collaborative side of similarity in director selection while largely overlooking the potential negative/competitive side. Indeed, the similarity-attraction logic is more likely to dominate when individuals perceive one another positively as collaborators, whereby similarity promotes attraction owing to the expectation of similar cognitive mindsets and hence more supportive interactions and better collaborations (e.g., Westphal & Zajac 1995; Zhu & Chen, 2015). However, research suggests that firm decision makers may also face the threat of power contests initiated by other key individuals, including board directors, within the firm (Ocasio, 1994; Ocasio & Kim, 1999). When individuals view one another primarily as potential competitors, their similarity may magnify the "psychological stakes" of the competition and thus lead them to perceive similar others as stronger threats (Kilduff et al., 2010). This similarity-competition logic reveals a negative side of similarity and challenges the commonly recognized similarity-attraction logic.

To obtain a more fine-grained understanding of similarity-derived effects, our study combines the similarity-attraction logic and similarity-competition logic to explore how chair-director similarity influences director selection in Chinese firms. The socialized view is especially relevant to understanding director selection in China, where social relationships (or "*guanxi*") play a prominent role in the business community, including the corporate boardroom (Ma & Khanna, 2016; Van Essen et al., 2012). While the extant research in the Western context usually focuses on CEOs as the key decision makers in director selection (e.g., Westphal & Zajac 1995; Zhu & Chen, 2015), we examine the role of board chairs, who are typically the most powerful decision makers in Chinese firms (Hu et al., 2010; Shen et al., 2016). Indeed, scholars note that in Chinese firms, "board chairs often nominate independent directors in the name of the entire board" (Ma & Khanna, 2016: 1550), which highlights the importance of chairs' social or relational influence on director selection.

Borrowing insights from research on the governance paradox (Shen, 2003; Sundaramurthy & Lewis, 2003), we argue that the relationships between chairs and other directors could be "co-opetitive", with collaboration and competition coexisting. Specifically, board chairs may view other directors not only as collaborators who help navigate firm decision making (Westphal, 1999; Zhu & Chen, 2015) but also as potential competitors who may seek greater personal influence and thus threaten the status order within the boardroom, especially chairs' influence and authority

(Shen & Cannella, 2002b).[1] Accordingly, both similarity-attraction and similarity-competition logic can be used in director selection. Thus, it is important to unfold these two competing logics to reconcile the potential tension between them in director selection.

In this study, we propose a collaborative-competitive framework based on chair-director similarity in functional backgrounds. Background similarity is critical and relevant to both similarity-derived effects because individuals' functional backgrounds not only influence their mindsets and behaviors (Westphal & Zajac, 1995) but also reflect their social status or prestige (Certo, 2003; Chen et al., 2008; Haynes & Hillman, 2010). Moreover, chair-director similarity can exist in various backgrounds that foster distinct mindsets and behavioral tendencies (collaborative versus competitive), thus allowing us to examine the conditions under which similarity-attraction dominates similarity-competition in director selection decisions and vice versa.

Specifically, we focus on chair-director similarity in political background (PB) and technological background (TB) because both backgrounds are important and prevalent in the boardroom (Hillman, 2005; Sun et al., 2016; Wang et al., 2021). We theorize the overall competitive-oriented nature of PB, suggesting that chair-director similarity in PB may foster chairs' competitive perceptions, and the similarity-competition logic is therefore more likely to dominate their selection decisions. In contrast, we theorize the overall collaborative-oriented nature of TB, suggesting that chair-director similarity in TB may foster chairs' collaborative perceptions, and the similarity-attraction logic therefore tends to dominate. Furthermore, we posit that the effects of similarity are relative (rather than absolute), which are subject to within-similarity heterogeneity. Specifically, we explore how the effect of chair-director PB similarity is moderated by within-PB hierarchical heterogeneity (higher- vs. lower-level PB) and how the effect of chair-director TB similarity is moderated by within-TB horizontal heterogeneity (R&D- vs. manufacturing-based TB).

Our study makes several contributions to the director selection literature. First, while socialized research on director selection typically follows the similarity-attraction logic, we introduce and examine the similarity-competition logic. Our co-opetition view of chair-director relationships reveals the largely overlooked competitive threats that chairs may perceive from other directors in addition to the commonly recognized collaborative benefits, thereby offering new insights into the effects of chair-director similarity on director selection. Second, we develop a collaborative-competitive framework to help reconcile the contrasting similarity-derived effects. Additionally, we show that similarity is a relative notion in the sense that the effects of chair-director similarity on director selection could be contingent on within-similarity heterogeneity. Overall, our study advances the understanding of similarity-based director selection by (1) revealing a negative side of similarity, (2) reconciling the contradictory effects of similarity-attraction and similarity-competition, and

[1] In the context of chair-director interactions, the competitive threats perceived by chairs from their directors refer mainly to threats to their personal influence and decision-making authority within the boardrooms rather than threats of job replacement.

(3) exploring the counterbalance between relative similarity and within-similarity heterogeneity.

Theory and hypotheses

Similarity-attraction and similarity-competition: A co-opetition view

Research in the socialized tradition suggests that director selection is a relational process usually dominated by key decision makers whose decisions are shaped by their individual characteristics and personal preferences (Khurana & Pick, 2004; Westphal & Zajac, 2013). In particular, decision makers are inclined to select directors who are similar to them in certain attributes (Zhu & Westphal, 2014). Prior studies show that decision makers' influence is positively related to their similarity to selected directors in terms of demographic factors (Westphal & Zajac, 1995) and personality traits (Zhu & Chen, 2015). These findings are consistent with the social psychological effect of similarity-attraction (Byrne, 1971; Byrne et al., 1966). Assuming that similarity in salient attributes reflects similarity in values and mindsets, this logic suggests that individuals prefer to interact with similar others to obtain better mutual understanding, more effective communication, and more supportive responses. In other words, perceived similarity engenders an enhanced sense of "self-confirmation and self-reassurance" and therefore strengthens interpersonal attraction (Zhu & Chen, 2015: 2078). This line of research emphasizes the positive/collaborative side of similarity in director selection—i.e., decision makers favorably view directors who are similar to them with the expectation of better collaboration and stronger support (Westphal & Zajac, 1995; Zhu & Chen, 2015). Furthermore, they may perceive such collaboration and support as a way to strengthen their personal influence and authority in firm decision making, thus leading them to select similar directors.

However, the similarity-attraction logic may not sufficiently capture the dynamics in interpersonal relationships, which we characterize as co-opetitive. Research suggests that individuals may perceive their colleagues as both collaborators and potential competitors (Menon et al., 2006; Tesser, 1988). For example, colleagues in a team work together to pursue their shared goals, but at the same time, each of them may formally or informally compete for greater personal influence within the team. These co-opetitive relationships can be especially salient in the corporate boardroom, where corporate elites interact in firm strategic decision making (Finkelstein & Mooney, 2003). According to research on the governance paradox, in addition to board directors' collaborative role in helping chairs navigate firm decision making, these directors are also corporate elites who may have personal ambitions to assert their personal influence on board decision making (Shen, 2003; Sundaramurthy & Lewis, 2003). Indeed, scholars note that board members are "typically ambitious individuals with strong needs for power and control" Shen & Cannella 2002a: 719). Research also demonstrates that directors with prestige can potentially threaten the status order within the boardroom or the influence of board chairs (Acharya & Pollock, 2013). This competitive logic also shares similar insights with the power

circulation view that "rather than being directly controlled by the CEO, other members of the dominant coalition have interests independent from the CEO and are potential rivals to his power" (Ocasio, 1994: 288). Overall, therefore, independent directors, given their important role in the corporate boardrooms (i.e., firms' decision making body), are likely to be perceived by chairs as not only collaborators but also potential competitors who may undermine their personal influence or authority within the boardrooms.

In the Chinese context, the potential competitive side of chair-director relationships could be indicated by the roles of chairs and directors. Distinct from the publicly listed firms in Anglo-Saxon countries (e.g., the U.S. and the UK) with dispersed ownership, Chinese listed firms are typically controlled by blockholders with highly concentrated ownership (Jiang & Kim, 2015; Shen et al., 2016). Accordingly, board chairs, who are usually the blockholders' representatives, are the most powerful individuals in board decision making. Additionally, they are typically firm insiders and can exert a strong influence on strategy execution. This is especially the case when board chairs are also CEOs (i.e., chair-CEO duality), which is common in many privately owned (non-state-owned) listed firms in China. Even without chair-CEO duality, CEOs are appointed by chairs and usually regarded as subordinates of the chairs (Shen et al., 2016). Given the significant power of chairs in Chinese listed firms, the Chinese Securities Regulatory Commission (CSRC, 2002) requires that listed companies appoint independent directors (IDs) as at least one-third of their boards, which constitutes a critical governance mechanism to counterbalance chairs' power (Jiang & Kim, 2015; Van Essen et al., 2012). Indeed, the Chinese Corporate Governance Code specifically states that directors have the power to challenge chairs' opinions or decisions and can even initiate calls to dismiss the chairs (CSRC, 2002). Such regulations empower IDs, especially when they confront their chairs. For example, in July 2017, an ID of the Hairun Group successfully called for an annual general shareholder meeting to dismiss the chair (Shanghai Security News July, 2017). In addition to their lawful power supported by the regulatory framework, IDs at Chinese firms are typically social elites who enjoy high prestige outside the appointing firms (Shen et al., 2016). Consequently, they are likely to demand a strong say in board decision making, which could potentially threaten the chairs' influence in the boardroom (Acharya & Pollock, 2013). Thus, although chairs are typically the most important leaders in Chinese firms, their influence in the boardroom is subject to the potential threats posed by IDs, whose high prestige and status in society (i.e., outside the firms) endorse their voices in the boardrooms. Therefore, we argue that board chairs may perceive competitive threats in their relationships with other directors.

In the context of director selection among potential candidates, chairs make these decisions based on whether they foresee any threats from ID candidates. That is, if a chair anticipates any threats in terms of power, influence, or disagreement from an ID candidate based on certain characteristics of the candidate, such anticipated threats may have direct negative impacts on the chair's selection decision. Previous research shows that IDs' adverse opinions increase the probability of their turnovers, which implies that once chairs perceive threats from their IDs, they are likely to dismiss the threatening IDs (Chen et al., 2015; Zheng et al., 2016). Extending this logic

to the context of director selection, if a chair anticipates any threats from a potential ID candidate, he or she is less likely to select this candidate. This represents an easier and less disruptive approach to avoiding any potential threats from IDs than dismissing the threatening IDs after selecting them into the boardrooms.

When chairs perceive directors more as competitors than as collaborators, they may interpret chair-director similarity in a negative way. Kilduff et al. (2010) propose a relational view of competition that interprets rivalry as a psychological phenomenon. In their framework, similarity is a key antecedent of rivalry and can amplify the competitive threats perceived by rivals. Individuals usually have "valued identities" (i.e., the identities they strive for) derived from their salient attributes (Kilduff et al., 2010: 947). For instance, people with government backgrounds may consider being a "political elite" as their valued identity. For board members, their valued identity underlies their status and influence within the firm. When individuals see each other as competitors, their similarity in certain attributes may mean that they have similar valued identities, which magnifies the "psychological stakes" in their competition and thus triggers stronger perceptions of competitive threats (Kilduff et al., 2010: 948). This similarity-competition logic reveals a negative side of similarity and thus contradicts the similarity-attraction logic. To help resolve these contradictory effects—when new directors are perceived as collaborators or competitors by chairs, we propose a collaborative-competitive framework based on chair-director similarity and accordingly develop hypotheses to examine the effects of chair-director similarity in PB and TB.

A collaborative-competitive framework based on individual functional backgrounds

The literature on strategic leadership establishes that the functional backgrounds of key individuals, such as executives and directors, are fundamental drivers of firm decision making (Finkelstein et al., 2009). Prior research suggests that individuals' functional backgrounds reflect or influence their values, mindsets, and behaviors (Westphal & Zajac, 1995). Thus, similarity in functional backgrounds may facilitate preferable interactions and mutual understanding, thereby enhancing interpersonal attraction. In addition, individuals' backgrounds in certain areas may represent their valued identities (Certo, 2003; Finkelstein & Mooney, 2003; Haynes & Hillman, 2010). Hence, similarity in such backgrounds indicates shared valued identities, thereby triggering stronger perceptions of competitive threats (Kilduff et al., 2010). Taken together, background similarity is highly relevant to shaping chairs' dominant perceptions of directors as either collaborators or competitors.

To reconcile these two competing perceptions, we classify individuals' functional backgrounds into two categories: competitive- and collaborative-oriented. In the co-opetition view of interpersonal relationships, competitive and collaborative perceptions are two sides of the same coin—i.e., neither can absolutely exclude the other (Menon et al., 2006; Tesser, 1988). In this sense, we define these two types of individual backgrounds as *relative* categories, in which one particular perception is more likely to dominate the other. Competitive-oriented backgrounds are relatively

more likely to foster competitive perceptions in interpersonal relationships, whereas collaborative-oriented backgrounds are relatively more likely to foster collaborative perceptions.

In director selection, given that chairs may perceive directors as both collaborators and competitors, their overall attitudes toward similar candidates depend on the type of similar background. We posit that the similarity-attraction logic dominates chairs' selection decisions when a chair shares a collaborative-oriented background with a director, whereas the similarity-competition logic dominates when they share a competitive-oriented background. This study focuses on chair-director similarity in PB and TB because these backgrounds have salient competitive- and collaborative-oriented natures, respectively, and both are important and prevalent in corporate boardrooms (Sun et al., 2016; Sundaramurthy et al., 2014).[2] We next theorize how similarity in PB and TB between a chair and a director candidate influences the likelihood of the candidate being selected as a new director.

Chair-director similarity in political background

Individuals with PBs (hereafter "PB individuals") are those who have previous work experience or current positions in governments (Faccio, 2006; Hillman, 2005). PB individuals help firms build or secure connections with the government and thus obtain government-endorsed legitimacy or government-controlled resources (Hillman et al., 2004; Lester et al., 2008). Hence, appointing such individuals to key positions in firms constitutes a significant firm political strategy (Mellahi et al., 2016), especially in countries with a strong government presence, such as China (Sun et al., 2016; Zheng et al., 2015).

We posit that PB chairs may perceive director candidates with PBs as potential competitive threats (more than as collaborative supporters) and are less likely to select such candidates (compared with non-PB candidates). Specifically, PB individuals' competitive mindsets could be fostered by their backgrounds within political regimes characterized by power contests due to coalitional factionalism and hierarchical structures (Haveman et al., 2017; Holburn & Vanden Bergh, 2008; Kozhikode & Li, 2012). Politics is typically a game of power contests in which politicians strive for greater power by opposition to their rivals (Li & Zhou, 2005; Shih, 2008). Such power contests can take place in various forms. First, they can happen among different political coalitions within the regime. In China, for example, research shows that although the political regime is generally unified (i.e., all dominated by the Chinese Communist Party), factionalism is still a salient feature, with multiple coalitions within the party competing for power and resources (Shih, 2008). To illustrate, Sun et al. (2015: 1038) find that "the arrest of the top Communist Party official in Shanghai on 24 September 2006, which signified a sudden crackdown on the

[2] In our sample for data analysis—i.e., Chinese listed manufacturing firms that are privately owned (not state-owned) in 2008–2013 with complete information ($N = 3{,}503$ for 1,180 firms), 28.03% of independent directors (IDs) and 39.51% of board chairs had political backgrounds, and 9.58% of IDs and 21.86% of board chairs had technological backgrounds.

Shanghai-based political clique from the Chinese central government," had a negative valuation effect on firms connected with the Shanghai municipal government, indicating a "punishment" by the new political group that came into power. Individuals from different factions usually oppose each other (Kozhikode & Li, 2012; Sun et al., 2015), thereby highlighting the perceived competitive threat from their interpersonal relationships. In addition, individuals who belong to the same political faction, although they may collaborate to fight against other factions, are not necessarily loyal to one another and often engage in intrafactional competition for influence and higher status within their coalition (Li & Zhou, 2005; Shih, 2008). Second, power contests also derive from the hierarchical structure within a political regime. For instance, there are multiple levels in the Chinese political hierarchy (Haveman et al., 2017). Individuals at the same level must compete with one another for limited promotion opportunities (Li & Zhou, 2005), whereas individuals at lower levels are subject to hierarchical threats from those at higher levels (Magee & Galinsky, 2008). The coalitional factionalism and hierarchical structures within political regimes foster the mindset of power contests among PB individuals, indicating the overall competitive-oriented nature of PB.

Accordingly, board members with PBs may perceive competitive threats from one another, which represents an extension of their political contests to the corporate boardroom. Such a dominant competitive perception also results from the functional role of PB members in the corporate boardroom. Research shows that PB board members often serve as a bridge for a firm to access the government, which means that their value to the firm is usually embedded in political networks but is not directly relevant to board discussion or decision making within the firm (Mellahi et al., 2016; Sun et al., 2016). This feature thus limits the opportunities for PB members to collaborate in board meetings. Instead, the network-based value of PB board members underlies their status and influence within the firm (Zheng et al., 2015). However, if additional PB members are selected, they may provide alternative access to the government for the firm, which may partly replace the value or status of pre-existing PB members, thereby triggering competitive threats.

In director selection, therefore, PB chairs are more likely to perceive competitive threats from director candidates with PBs who, if selected, can reduce the chairs' personal status and influence in the boardroom.[3] When PB chairs need to select new directors among the potential candidates available in the market and relevant to their firms in terms of key characteristics (e.g., industrial background and geographical

[3] In China, some politically connected IDs are retired government officials. Based on the Chinese culture that highly respects seniority, especially in the Chinese political regime, retired officials still enjoy high prestige and status. For example, Li documents that "retired officials continued to enjoy all their former political privileges, such as reading government circulars of the same confidentiality level. Some served as special counselors for their successors" (1998: 394). Moreover, research has shown that a significant portion of PCC or PPCCC members are retired governmental officials (Li et al., 2011: 105), which also indicates their continued political connections or social status. Therefore, if retired officials were selected as IDs, PB chairs would also likely perceive threats to their influence within the boardrooms.

proximity), their PB similarity to a director candidate (i.e., the candidate also has a PB) is negatively associated with the likelihood of making the selection decision.

Hypothesis 1 (H1) Board chairs with political backgrounds (PBs) are less likely to make selection decisions if they have PB similarity with the director candidate (i.e., the candidate also has a PB) compared with candidates who do not have PBs.

Chair-director similarity in technological background

Individuals with TBs (hereafter "TB individuals") are those who have technological expertise or work experience in technology-related functional units, including R&D, manufacturing and engineering (Sundaramurthy et al., 2014). Directors' TBs reflect their potential capability to navigate firms' technology-relevant decision making (Barker & Mueller, 2002). Such directors constitute a type of valuable human capital for firms and thus have a significant presence in corporate boardrooms (Hillman et al., 2000).

We posit that TB chairs are likely to perceive director candidates with TBs (vis-à-vis candidates without TBs) as potential collaborators (more than as competitive threats) and view chair-director TB similarity positively. Specifically, the overall collaborative-oriented nature of TB derives from the potential for mutual inspiration and knowledge spillover among TB individuals. In contrast to the power contests among PB individuals, TB individuals usually strive for technological advancement or development, which is more likely to encourage collaborative mindsets (Barker & Mueller, 2002; Sundaramurthy et al., 2014). Indeed, the technological domain presents many complex issues, which sometimes make collaborative work necessary when independent work is insufficient (Ahuja et al., 2008; Lavie et al., 2010). More importantly, collaboration among TB individuals can be mutually beneficial (Crescenzi et al., 2016) because technology-related discussion or collaboration may enable knowledge spillovers and diffusion among them so that each can learn something useful to enhance his or her expertise and value (Reagans & McEvily, 2003). In business organizations, collaborative work among TB individuals is common. For example, technology experts in R&D departments usually work together to invent new technologies or products, whereas engineers in manufacturing departments need to collaborate for more efficient production (Jansen et al., 2006; Zhou & Wu, 2010). Thus, individuals may develop collaborative mindsets based on their backgrounds and experience in technological domains, suggesting the overall collaborative-oriented nature of TB.

Accordingly, board members with TBs may perceive collaborative benefits from one another, which results in their collaborative propensity in the corporate boardroom. Such a dominant collaborative perception also derives from the functional role of TB members in the corporate boardroom. Research shows that the value of TB individuals to a firm resides in their technology-related expertise or experience, which is embedded in their human capital within firms (Barker & Mueller, 2002; Sundaramurthy et al., 2014). TB directors can fulfill an advisory function by identifying and evaluating opportunities or threats for firms and by providing suggestions

and guidance for strategic decision making in technology-relevant domains. As noted above, given the potential for knowledge spillovers that could enhance the expertise and value of each TB board member (Reagans & McEvily, 2003), their presence within a boardroom, based on their functional role, may create more opportunities and stronger intentions for collaboration. Furthermore, board members with TB have similar mindsets and a common language to facilitate collaboration and mutual understanding (Sundaramurthy et al., 2014; Westphal & Zajac, 1995). Hence, they may acquire different insights from one another that help to stimulate or refine their own insights and deepen their understanding of technology-related issues, thereby enhancing each director's individual influence. Although some TB individuals have stronger or more prestigious expertise than others, the latter cannot always be replaced by the former; rather, these individuals have opportunities to provide complementary expertise or insights for the mutual benefit (Crescenzi et al., 2016; Reagans & McEvily, 2003).

In director selection, therefore, TB chairs may expect collaborative benefits from TB candidates who, if selected, are likely to enhance the chairs' value and further strengthen their influence within the board. When TB chairs need to select new directors among potential candidates available in the market and relevant to their firms in terms of key characteristics (e.g., industrial background and geographical proximity), their TB similarity to a director candidate (i.e., the candidate also has a TB) is positively associated with the likelihood of making the selection decision.

Hypothesis 2 (H2) Board chairs with technological backgrounds (TBs) are more likely to make selection decision if they have TB similarity with the director candidate (i.e., the candidate also has a TB) compared with candidates who do not have TBs.

Heterogeneity within PB and TB similarity

We further deepen our theory on similarity-attraction and similarity-competition effects by exploring the moderating roles of heterogeneity within PB and TB. Indeed, similarity is a relative rather than an absolute concept. Within similarity in general characteristics, there are various forms of heterogeneity, such as vertical and horizontal heterogeneity (Harrison & Klein, 2007), which we argue may moderate similarity-derived effects. Such moderating effects of within-similarity heterogeneity also help demonstrate the similarity-derived effects as the mechanisms underlying the relationships between chair-ID PB/TB similarity and director selection. As we above argue that the similarity-competition logic in PB (similarity-attraction logic in TB) leads to a lower (higher) likelihood of director selection, we further expect that these effects are mitigated by the nuanced PB (TB) difference within the general PB (TB) similarity.

Hierarchical heterogeneity within PB Based on the hierarchical structure of political regimes, we focus on hierarchical or vertical heterogeneity within PB. In particular, we examine the moderating role of *board chairs having higher PB levels than*

directors in the relationship between chair-director PB similarity and director selection. We argue that board chairs' similarity-competition concern caused by chair-director PB similarity is mitigated by chairs having higher PB levels than directors. PB similarity is relative, not absolute—although individuals may have similar government backgrounds, their levels within the political hierarchy could vary (Haveman et al., 2017; Magee & Galinsky, 2008). In addition to the competitive threats derived from PB similarity, PB chairs are likely to perceive threat enhancement (or alleviation) contingent upon their PB level in the political hierarchy relative to those of directors. It is commonly recognized that members at lower levels are disadvantaged relative to higher-level members in a hierarchy (Magee & Galinsky, 2008). Similarly, individuals with lower-level PBs typically have less authority and can access fewer resources in the political regime (Haveman et al., 2017; Hillman, 2005; Lester et al., 2008), which may amplify their perception of the competitive threat from others with higher-level PBs. Conversely, individuals with higher-level PBs usually enjoy greater authority and access to more resources in the government system, which could alleviate their perception of the competitive threats from others with relatively lower-level PBs. In director selection, thus, we predict that chairs with PB levels higher than those of director candidates experience weaker similarity-competition threats from the similarity in PBs.

Hypothesis 3 (H3) The negative relationship between chair-director PB similarity and the likelihood of director selection (i.e., the relationship predicted in H1) is weakened when chairs have higher PB levels than directors.

Horizontal heterogeneity within TB Based on the functional categorization in firms' technology-oriented divisions, we focus on the horizontal heterogeneity within TB. Specifically, we categorize individual TBs into R&D-based and manufacturing-based divisions—the former is characterized by scientific and intellectual inputs into R&D activities and new technology development, whereas the latter is characterized by expertise in commercialization and production processes (Brettel et al., 2011; Song et al., 1997). Although both are generally technology oriented, individuals with experience in R&D-based versus manufacturing-based functions likely have different mindsets and behavioral tendencies (Sundaramurthy et al., 2014; Zhou & Wu, 2010). For example, individuals with R&D-based TBs often emphasize innovation and creativity, whereas their counterparts with manufacturing-based TBs tend to emphasize efficiency and productivity (Brettel et al., 2011; Ketokivi & Ali-Yrkkö, 2009). Although some diversity in TBs may result in synergy that benefits a firm, differences in chair-director TBs may dilute the interpersonal attraction instigated by their similar mindsets and behavioral tendencies. In contrast, the attraction driven by chair-director TB similarity may be enhanced in the absence of this horizontal difference because of the even greater similarity in mindsets and behavioral tendencies. Accordingly, following and extending the similarity-attraction logic in TB, we predict that in director selection, chairs' positive attitudes derived from their TB similarity to director candidates are attenuated by the within-TB horizontal difference.

Hypothesis 4 (H4) The positive relationship between chair-director TB similarity and the likelihood of director selection (i.e., the relationship predicted in H2) is weakened by the chair-director within-TB difference.

Methods

Data and sample

This study examines the selection of independent directors (IDs) of Chinese listed firms. The selection of inside executive directors may be influenced by many factors, such as their status or importance in the firm and negotiations among various internal actors whose interests are represented by the inside directors. In contrast, IDs are appointed from outside the firm; thus, their selection is less affected by such internal factors (Ashraf et al., 2021; Li et al., 2021), which allows us to better tease out the socialized effects of similarity.

We collect individual-level and firm-level data on Chinese listed firms from *China Stock Market and Accounting Research* (CSMAR), a professional database commonly used for Chinese business studies (e.g., Haveman et al., 2017; Ma & Khanna, 2016; Sun et al., 2016). Chinese listed firms are required to release biographical information on their board directors in annual reports. Based on this information, GTA Information Technology—the provider of the CSMAR database—quantifies these directors' background information, including their demographic factors and political and functional experience. The quantitative data were manually coded by well-trained and experienced researchers. We further verify these data and use them to measure the PBs and TBs of chairs and IDs.

Our sample includes Chinese publicly listed firms in manufacturing industries (CSRC three-digit industry codes C01–C99) to ensure that the industry backgrounds of the sampled firms are comparable, consistent with prior research (Sun et al., 2016). Indeed, the technological orientations of manufacturing and nonmanufacturing firms (e.g., financial, agricultural, mining, construction, and retailing firms) are saliently different, which makes their demands for board members with TBs hardly comparable. We collect director selection data from 2008 to 2013. Chinese listed firms were required to use a new version of the Corporate Accounting Codes in 2007. Hence, we collect financial and governance data from 2007 to ensure reporting consistency. We collect director selection data from 2008 to allow for a one-year lag. Moreover, in 2013, the Chinese Communist Party implemented "Rule No. 18," which forbade incumbent government officials and those who had retired in the previous three years to hold directorships (Ren et al., 2020; Wei et al., 2020). This policy change makes it impossible to compare PB director selection before and after 2013. Moreover, research shows that "following Rule No. 18, a large number of politically connected independent directors resigned from corporate boards" (Wei et al., 2020: 3). This fact makes the years after 2013 a less ideal time window to examine PB director selection because it is difficult to distinguish whether the lower likelihood of PB director selection is driven by chairs' similarity-competition logic

or policy restrictions. Therefore, our data on director selection end in 2013 to avoid this policy impact.

We test our hypotheses in a sample of privately owned (i.e., non-state-owned) enterprises (POEs) to mitigate the entangling effects of state ownership. First, state-owned enterprises (SOEs) usually have politically connected individuals as their chairs and IDs, and individuals in both positions are appointed by the controlling government entities (Sun et al., 2016). This institutional factor may conceal the relational influence of board chairs on selecting IDs with PBs. In addition, unlike those of POEs, SOEs' technological strategies are not purely profit driven but may be related to sociopolitical pursuits (Li et al., 2021). In such a situation, their distinct technological orientations may bias chair-ID interactions based on TB similarity. Thus, we conduct the main analyses in a sample of POEs without state-owned equity. Additionally, we perform the analyses in a separate sample of SOEs to demonstrate the differences in PB/TB similarity-based director selection between POEs and SOEs.

Given that our study examines chair-director similarity in terms of PB and TB, we conduct the main analyses at the dyad level (i.e., unit of analysis: chair–new ID dyads). Corresponding to our theory, we limit our sample to chairs with PB or TB in the years when their firms had new ID appointments (hereafter, PB and TB selection samples, respectively). That is, we separately sample PB chairs and TB chairs and then examine how PB chairs select directors from PB versus non-PB candidates and how TB chairs select directors from TB versus non-TB candidates. This requires a research design that matches selecting PB/TB chairs with (1) their actually selected new IDs and (2) other relevant but unselected ID candidates. Our sampling approach excludes non-PB (non-TB) chairs because we need to avoid scenarios of chair-ID non-PB (non-TB) similarity, which are not covered by our theory. However, we include these non-PB/TB chairs to examine their differences in director selection from PB/TB chairs in two supplementary analyses at the firm/chair and ID/individual levels.

To generate the PB and TB selection samples, we first identify the appointments of new IDs. In accordance with prior research (Zhu & Chen, 2015), we define new IDs as those whose names are reported in the appointing firms' board member lists for the first time in a given year. Among the full sample of all manufacturing POEs in our empirical window (3,503 firm-year observations for 1,180 firms), we identify 1,450 new IDs (with full information) selected in 630 appointing firm-year observations, which constitutes a sample of new ID selection. In this sample, we identify 157 PB chairs (and 87 TB chairs) who were serving as chairs in both the year of selection (in which we measure new ID selection decisions) and one year before (in which we measure chair-ID PB or TB similarity). This design ensures that our sampled PB or TB chairs started their tenure at least one year prior to new ID selection (Hwang & Kim, 2009; Ma & Khanna, 2016), thereby consistent with our theory about chairs selecting new IDs. This design also helps mitigate the potential reverse causality that the appointments of chairs are affected by director selection. Next, we identify 346 (177) new IDs selected by these PB (TB) chairs. Accordingly, we construct 346 (177) chair-ID dyads as selected observations in the PB (TB) selection sample.

Although we have complete information on these observations based on actually selected IDs, a common challenge in director selection research is the unavailability of information on potential ID candidates who are ultimately unselected. Borrowing insights from selection research in similar contexts, such as acquisition target selection (e.g., Berchicci et al., 2012; Chakrabarti & Mitchell, 2013) and alliance partner selection (e.g., Reuer & Lahiri 2014), we construct a hypothetical control group of chair-ID dyads by matching the selecting PB/TB chairs with unselected new ID candidates. As suggested by prior selection research, unselected candidates must meet two mutually related conditions. First, they are relevant to the selectors, which means that they share certain essential characteristics with the selected candidates, such as industry background (e.g., Berchicci et al., 2012; Reuer & Lahiri, 2014). Second, they are selection-worthy, meaning that they can potentially provide certain value for the selectors, which is usually indicated by the observation that they are ultimately chosen by other selectors similar to the focal selector (e.g., Chakrabarti & Mitchell 2013; Chen et al., 2018).

In accordance with these insights in the context of director selection, we identify new IDs selected by a "pair firm" as unselected IDs of a focal selecting firm. By a "pair firm," we refer to a firm (that has new ID appointments in our empirical window but is not a focal selecting firm in the PB or TB selection samples) that operates in the same industry and is located in the same province as the selecting firm. If there is more than one other firm in the same industry and same province, we use the firm with the IPO year closest to that of the selecting firm. If there is no pair firm in the same industry and same province, we use a firm in the same industry and the province closest to that of the selecting firm. Our logic is that given the industry similarity and physical proximity between a selecting firm and its pair firm, the new IDs selected by the pair firm are likely to be the candidates who are available, relevant and selection-worthy for the focal selecting firm (but who are ultimately unselected). Our matching approach thus shares essentially the same logic with prior selection research (e.g., Berchicci et al., 2012; Chakrabarti & Mitchell, 2013; Reuer & Lahiri, 2014) because our matched IDs are selected (i.e., are selection-worthy) by a highly relevant pair firm (i.e., relevant to the focal selecting firm in terms of industry and region). Through this process, we identify 376 (212) unselected new IDs for the selecting PB (TB) chairs. Accordingly, we construct 376 (212) chair-ID dyads as the unselected observations in the PB (TB) selection sample. Although we have the same number of pair firms as selecting firms, this does not necessarily mean that we have the same numbers of selected and unselected IDs in the PB and TB selection samples (i.e., a selecting firm may select more or fewer new IDs than its pair firm). Indeed, we note that the pair firms select more new IDs than the selecting firms in both the PB and TB samples.

Finally, we combine the selected and unselected chair-ID dyads as the PB and TB selection samples. In the PB selection sample, we have 722 chair-ID dyads (i.e., 346 selected and 376 unselected new IDs) for 157 PB chairs. In the TB selection sample, we have 389 chair-ID dyads (i.e., 177 selected and 212 unselected new IDs) for 87 TB chairs. As mentioned above, we conduct an additional analysis (based on the same matching approach) in a separate sample of SOEs (PB/TB sample: 220/236 chair-ID dyads).

Although consistent with our theory, the PB/TB selection samples include only PB/TB chairs, which may generate a sample-selection concern and limit the implications for non-PB and non-TB chairs. Therefore, we first use the Heckman two-stage approach to check the sample-selection bias. Furthermore, we conduct two supplementary analyses at the firm level (in the full sample of 1,180 firms) and ID individual level (in the sample of new ID selection, with 1,450 new IDs). These two analyses allow us to compare the ID selection between PB (TB) and non-PB (non-TB) chairs. The firm-level analysis examines the impact of chairs' PBs (TBs) on board configurations in terms of PBs (TBs)—the accumulative consequences of director selection decisions. The ID-level analysis examines how newly selected IDs' PBs (TBs) are determined by selecting chairs' PBs (TBs). Both supplementary analyses present alternative angles to test the similarity-attraction and similarity-competition effects and to help address the selection issue in order to offer more fine-grained multilevel empirical evidence and broader implications for director selection.

Variables and measures

Dependent variable Our dependent variable is new ID selection decision. We indicate this decision by a binary variable that equals "1" if a new ID is selected (i.e., 346 selected IDs matched with 157 PB chairs, and 177 selected IDs matched with 87 TB chairs) and "0" if unselected (i.e., 376 unselected IDs matched with 157 PB chairs and 212 unselected IDs matched with 87 TB chairs).

Independent variables Our independent variables are chair-ID PB similarity and chair-ID TB similarity. To construct these dyad-level variables, we first code individual-level PB and TB for both board chairs and all new IDs. Specifically, individual-level PBs and TBs are coded based on the biographical information disclosed in annual reports. We follow prior research (e.g., Faccio 2006; Hillman, 2005; Sun et al., 2016) in coding PB as "1" for individuals who previously served or currently serve at government agencies, including administrative (e.g., certain ministries or bureaus at different administrative levels) and legislative bodies (i.e., People's Congress of China [PCC] and People's Political Consultative Conference of China [PPCCC]) and "0" otherwise. To obtain clean results, the scope of PB does not cover work experience in publicly sponsored institutions with equivalent governmental or administrative levels, such as leaders of public universities.[4] We code TB as "1" for individuals with a professional title of "engineer" or with work experience in technology-based units and "0" otherwise, again following the approach used in prior studies (e.g., Kor & Misangyi, 2008; Sundaramurthy et al., 2014). In China,

[4] Universities, even public ones supervised by the Chinese Ministry of Education, are not government agencies (neither administrative nor legislative). Therefore, we do not code academic backgrounds in terms of university leadership as PBs, as their power is limited to within the universities (as publicly sponsored institutions), and they do not have political power within the government system. Nevertheless, in practice, many university leaders (and leaders of other publicly sponsored institutions) are also members of the PCC or PPCCC. In these cases, we coded them as PB because of their PCC or PPCCC memberships, not because of their university leadership positions.

the title of engineer is granted to individuals with expertise in certain technological domains, and this process is evaluated and approved by professional authorities. Thus, this title is a valid indicator of an individual's TB. Technology-based units include R&D, manufacturing, and engineering functions in business organizations as well as science-, technology-, and engineering-related departments or laboratories in universities and other research institutions.[5]

Based on individual-level PBs and TBs, we code chair-ID PB (TB) similarity as "1" if both the chair and the new ID in a dyad have a PB (TB) and as "0" if the chair in a dyad has a PB (TB) but the new ID does not. As mentioned above, all the chairs in the PB (TB) sample have PBs (TBs). Thus, the variance in chair-ID PB (TB) similarity derives only from whether a selected/unselected ID has a PB (TB). This approach is consistent with our theorized effects of PB (TB) similarity in the context of PB (TB) chairs making selection decisions among PB versus non-PB (TB versus non-TB) IDs. In addition, this approach excludes the scenarios of chair-ID similarity in a non-PB (non-TB) context, which are not covered in our theory and may bias the effects of chair-ID PB/TB similarity. To address the potential overlap in chairs with both PB and TB, we separately control for chair TB and new ID TB (both as individual-level variables) when examining the main effect of chair-ID PB similarity and vice versa. Additionally, although in China, chairs are typically the most powerful decision makers in ID selection (Ma & Khanna, 2016; Shen et al., 2016), it is difficult to fully exclude CEOs' influence. Thus, in a robustness check, we further include CEO-ID PB (TB) similarity, coded with the same approach as above, to control for CEOs' potential influence.

Moderators We hypothesize the moderating effects of (1) chairs having higher PB levels than directors and (2) chair-director within-TB differences while controlling for their main effects. First, to capture the hierarchical heterogeneity within PB, we divide individual-level PBs into two categories (higher-level vs. lower-level). In China, there are five administrative levels in the political regime: state/central (*Guo*), ministry/province (*Bu*), department/prefecture-level city (*Ju*), division/county (*Chu*), and section/township (*Ke*). There are two ranks of officials at each level, chief and deputy, and thus ten hierarchical ranks in total. We use chief-*Ju* (5th/10) as the threshold and code two dummy variables: higher-level PB ("1" for those whose PB is ranked at or above the chief-*Ju* level and "0" otherwise) and lower-level PB ("1" for those whose PB is ranked below the chief-*Ju* level and "0" otherwise) for chairs and new IDs. Accordingly, we measure chairs having higher PB levels than directors by a binary variable coded as "1" when the selecting chair has a higher-level PB and the (un)selected ID has a lower-level PB in a chair-ID dyad and "0" otherwise. We use deputy-*Bu* (4th/10) as an alternative threshold for robustness checks, and the results are consistent.

[5] Academic backgrounds are common among directors of Chinese listed firms. However, we do not code individuals' academic backgrounds as a single variable because of the high diversity among academic backgrounds in terms of subject area and the nature of expertise. In this study, academic backgrounds in science and technology areas are coded as technological backgrounds.

Second, to capture the horizontal heterogeneity within TB, we divide individual TBs into two categories: R&D-based vs. manufacturing-based. We refine the coding of individual TBs by differentiating technology-oriented experience between R&D-related and manufacturing-related units. Consistent with our theory, R&D-related units refer to those with scientific and intellectual inputs into activities of new technology development, including R&D-related departments of business organizations as well as science- and technology-related departments or laboratories in universities and other research institutions (e.g., Kor & Misangyi 2008; Sundaramurthy et al., 2014). In particular, academic backgrounds in areas related to science and technology typically belong to R&D-based TBs given these individuals' academic research aims to develop new technology or scientific knowledge. In contrast, manufacturing-related units refer to those in commercialization and production processes, such as the manufacturing and engineering departments of companies (e.g., Kor & Misangyi 2008; Tian et al., 2011). Accordingly, we use two additional dummy variables for individual-level TBs: R&D TB (coded as "1" for those who have work experience in R&D-related units and "0" otherwise) and manufacturing TB (coded as "1" for those who have work experience in manufacturing-related units and "0" otherwise). Then, we construct the dyad-level variable chair-ID within-TB difference, coded as "1" if (1) a selecting chair has an R&D TB and the (un)selected ID has a manufacturing TB or (2) a selecting chair has a manufacturing TB and the (un)selected ID has an R&D TB and as "0" otherwise.

Control variables We control for several variables at multiple levels that may influence director selection. First, we include several chair-ID dyad-level controls, including chair-ID age difference and chair-ID gender difference, to control for the effects of chair-ID similarity in key demographic factors (Westphal & Zajac, 1995; Zhu & Chen, 2015). Second, we control for new ID candidates' number of directorships in other listed firms, which reflects their status and networks among corporate elites (He & Huang, 2011). Additionally, we include chair tenure to control for chairs' influence in the boardroom. Moreover, although our analysis concerns the selection of new IDs, we control for the effects of pre-existing IDs (i.e., those who are listed as board members but are not new IDs), including their TB ratio, PB ratio, mean tenure, ratio of females, and average number of directorships. Additionally, consistent with related prior studies (e.g., Sun et al., 2016; Zhu & Chen, 2015), we control for several corporate governance mechanisms, including board size, chair-CEO duality, and ownership concentration (the Herfindahl index among the top 10 largest shareholders), to control for chairs' decision-making power and other possible board and ownership effects. At the firm level, we control for firm size (the logged value of total assets), firm age, profitability (return on assets), and leverage (the debt-to-equity ratio). Furthermore, the selection of PB and TB directors may be influenced by the importance of political and technological resources to the appointing firm. Hence, we include industry-adjusted R&D intensity (firm-level R&D intensity minus industry-level R&D) to control for the importance of technological resources (Siegel & Hambrick, 2005). For the importance of political resources, we use regional marketization levels as a proxy, measured by the marketization index developed by the Chinese National Economic Research Institute (Wang et al., 2016). During China's economic transition, the market mechanism is gradually

replacing government planning in terms of resource allocation, but the process is highly uneven across different provinces (Banalieva et al., 2015). In provinces with higher levels of marketization, fewer resources are controlled and allocated by the government, and political resources may therefore be less important to firms (Haveman et al., 2017; Meyer et al., 2009). Finally, we include year fixed effects to control for unobserved heterogeneity at the year level. We summarize all variables and measures in Appendix A, indicating the different levels at which these variables are measured. Given that a chair/firm is matched with multiple selected and unselected directors, the chair-ID dyad-level and ID/individual-level variables vary both within a firm and between firms, whereas firm-level variables have only between-firm variance (but no within-firm variance).

Data analysis

We use the conditional logistic model ("clogit" in STATA), which estimates the conditional probability that a candidate is selected among a set of alternative candidates (McFadden, 1973). The conditional logistic model is "intended specifically for problems where consumer or firm choices are at least partly based on observable attributes of each alternative" (Wooldridge, 2010: 647). Thus, this method is especially appropriate for matched case/control data (Hosmer & Lemeshow, 2000; Kleinbaum & Klein, 2010) and has been widely used in selection research (e.g., Ashraf et al., 2021; Berchicci et al., 2012; Chen et al., 2018; Li et al., 2019; Li et al., 2020). Further, all variance in the conditional logistic estimation derives from the characteristics of alternative candidates (new IDs in our context), whereas the factors of selectors (chairs/firms in our context) that do not vary across candidates are directly "conditioned out," an approach akin to a fixed-effect specification at the chair/firm level (Greene, 2010). Hence, this approach controls for the unobserved factors of selecting chairs and their firms, which helps to mitigate the endogeneity issue driven by omitted variables (Li et al., 2019). Given that a selecting chair/firm has multiple (un)selected IDs and that the selection pattern among these IDs may be related, we report robust standard errors clustered at the firm level (Li et al., 2020).

Furthermore, we conduct two additional analyses to examine potential endogeneity issues. First, although the conditional logistic model controls for omitted variables of selecting chairs and firms, we further use the impact threshold of a confounding variable (ITCV) approach to check the potential bias caused by omitted variables. Second, as mentioned above, we use the Heckman two-stage approach to examine the potential sample-selection bias derived from our PB/TB chair samples.

Results

Table 1 and 2 present the descriptive statistics and correlations in the dyad-level PB and TB selection samples, respectively. In both tables, the mean values of ID selection (the dependent variable) are lower than .50, which is consistent with the abovementioned fact that there are more unselected IDs than selected IDs in

Table 1 Descriptive statistics and correlations (sample of PB chairs)

	Variable	Mean	S. D.	1	2	3	4	5	6	7	8	9	10	11
1	ID selection	.48	.50	1										
2	Chair-ID PB similarity	.27	.44	.00	1									
3	Chair higher PB level than ID	.68	.47	.01	-.08*	1								
4	Chair-ID age difference	1.30	11.21	-.01	-.22*	.01	1							
5	Chair-ID gender difference	.07	.46	.00	-.11*	.04	.09*	1						
6	ID directorship number	.65	1.05	.02	.05	.03	-.01	-.06	1					
7	Chair tenure	1.24	1.49	.17*	-.02	.17*	.06	.05	-.01	1				
8	Chair TB	.23	.42	.03	-.04	.22*	-.01	.10*	-.03	.00	1			
9	New ID TB	.09	.29	.00	.01	.04	-.13*	-.04	-.02	.00	.11	1		
10	Existing ID mean tenure	2.15	1.74	-.17*	-.02	-.02	.04	-.07*	.00	-.04	-.05	-.04	1	
11	Existing ID female ratio	.12	.23	-.05	.01	-.05	-.02	-.03	.05	-.10*	-.11*	-.05	.13*	1
12	Existing ID PB ratio	.09	.22	-.05	.00	.03	.02	-.02	.05	-.03	.16*	.05	-.05	.15*
13	Existing ID TB ratio	.26	.32	-.09*	.07*	-.11*	-.05	-.05	.07*	-.01	-.09*	-.05	.26*	.08*
14	Existing ID mean directorship	.54	.79	-.10*	.11*	.05	-.04	-.03	.05	.04	.04	.01	-.01	.06
15	Board size	8.95	1.58	.03	.07*	-.01	-.03	-.07*	-.01	.09*	.03	.02	-.05	.08*
16	Chair-CEO duality	.75	.43	.07	.04	.00	-.04	-.10*	.05	-.06	-.19*	-.05	.03	.13*
17	Ownership concentration	.16	.10	.03	.03	.03	.10*	.05	.05	.12*	.06	.02	-.03	-.06
18	Firm size	21.45	1.00	-.03	-.05	.00	.08*	.06	.05	.14*	-.02	.02	.10*	.08*
19	Firm age	13.29	4.78	.01	-.03	-.26*	.10*	.03	-.04	-.13*	-.21*	-.09*	.09*	.04
20	Profitability	.05	.07	-.04	-.03	.25*	.10*	.01	.07*	.17*	.09*	.06	.03	.07*
21	Leverage	1.28	1.52	.01	.01	-.33*	-.09*	.00	-.05	-.09*	-.08*	-.05	-.01	.00
22	R&D intensity	.00	.01	.04	-.04	-.12*	.06	.04	-.05	-.01	-.03	-.03	-.03	-.05
23	Regional marketization	8.82	1.92	-.01	.03	-.04	.03	-.02	.05	-.11	-.13	.03	.18*	.11*

Table 1 (continued)

	Variable	Mean	S. D.	12	13	14	15	16	17	18	19	20	21	22
1	ID selection	.48	.50											
2	Chair-ID PB similarity	.27	.44											
3	Chair higher PB level than ID	.68	.47											
4	Chair-ID age difference	1.30	11.21											
5	Chair-ID gender difference	.07	.46											
6	ID directorship number	.65	1.05											
7	Chair tenure	1.24	1.49											
8	Chair TB	.23	.42											
9	New ID TB	.09	.29											
10	Existing ID mean tenure	2.15	1.74											
11	Existing ID female ratio	.12	.23											
12	Existing ID PB ratio	.09	.22	1										
13	Existing ID TB ratio	.26	.32	.12*	1									
14	Existing ID mean directorship	.54	.79	.02	.21*	1								
15	Board size	8.95	1.58	.03	.04	.05	1							
16	Chair-CEO duality	.75	.43	-.02	.04	.07*	.09*	1						
17	Ownership concentration	.16	.10	-.05	-.03	.02	.02	.05	1					
18	Firm size	21.45	1.00	.04	.13*	.04	.20*	.12*	.24*	1				
19	Firm age	13.29	4.78	-.14*	.06	-.15*	.11*	.02	-.19*	.23*	1			
20	Profitability	.05	.07	.13*	.08*	.06	.10*	-.09*	.20*	.23*	-.09*	1		
21	Leverage	1.28	1.52	-.11*	-.07*	-.08*	.08*	.21*	-.05	.16*	.24*	-.38*	1	
22	R&D intensity	.00	.01	.09*	-.03	-.03	-.03	.02	-.10*	-.07*	-.06	-.01	-.08*	1
23	Regional marketization	8.82	1.92	.11*	.10*	.10*	-.09*	.00	.02	-.13*	-.11*	.05	-.21*	.10*

$N = 722$. * $p < .05$

Table 2 Descriptive statistics and correlations (sample of TB chairs)

	Variable	Mean	S. D.	1	2	3	4	5	6	7	8	9	10	11
1	ID selection	.46	.50	1										
2	Chair-ID TB similarity	.25	.44	.12*	1									
3	Chair-ID TB difference	.08	.27	.06	.50*	1								
4	Chair-ID age difference	.32	1.88	-.03	-.12*	-.06	1							
5	Chair-ID gender difference	.15	.44	-.01	-.11*	-.08	.08	1						
6	ID directorship number	.64	1.04	.06	-.02	-.04	-.05	.06	1					
7	Chair tenure	1.07	.99	.22*	.04	-.06	.05	.03	-.03	1				
8	Chair PB	.41	.49	.08	-.03	.04	.04	.02	-.03	.08	1			
9	New ID PB	.23	.42	-.01	-.08	-.09	-.16*	-.06	.01	.03	-.01	1		
10	Existing ID mean tenure	2.25	1.77	-.15*	-.04	-.06	-.04	-.04	.00	-.08	-.14*	-.06	1	
11	Existing ID female ratio	.12	.22	-.02	.05	.05	.03	.00	-.02	-.12*	-.19*	-.06	.28*	1
12	Existing ID PB ratio	.16	.26	-.12*	-.05	-.02	.06	-.02	-.01	-.09	.01	-.10	.00	-.07
13	Existing ID TB ratio	.21	.27	-.06	-.16*	-.12*	-.07	.00	.05	-.17*	-.03	.07	.20*	.20*
14	Existing ID mean directorship	.48	.75	-.07	-.01	.03	.01	.00	.01	-.08	.11*	-.01	-.09	.12*
15	Board size	9.07	1.44	.06	.00	-.01	-.02	-.04	-.10	.05	-.02	.01	-.06	-.04
16	Chair-CEO duality	.72	.45	.04	.10	-.05	-.03	-.04	.02	-.08	-.26*	-.05	.04	.11*
17	Ownership concentration	.17	.11	.02	-.03	.02	.07	.09	-.02	-.01	.02	.03	-.13*	-.08
18	Firm size	21.53	1.07	.02	-.05	.02	.06	.02	.08	.07	-.12*	-.09	-.01	-.05
19	Firm age	12.51	4.56	-.03	-.04	-.06	-.03	-.05	.02	-.05	-.21*	-.07	.24*	.13*
20	Profitability	.04	.06	.01	.01	.01	.03	.00	-.03	.04	.26*	-.02	-.09	-.07
21	Leverage	1.29	1.41	.01	.01	.00	-.07	.00	.00	.07	-.16*	-.04	.05	.04
22	R&D intensity	.00	.01	-.01	-.12*	-.05	-.02	-.01	-.06	.09	-.15*	-.04	.07	-.09
23	Regional marketization	8.36	1.97	.04	.05	-.02	-.02	.03	.01	-.03	.04	.11	.11*	.04

Table 2 (continued)

	Variable	Mean	S. D.	12	13	14	15	16	17	18	19	20	21	22
1	ID selection	.46	.50											
2	Chair-ID TB similarity	.25	.44											
3	Chair-ID TB difference	.08	.27											
4	Chair-ID age difference	.32	1.88											
5	Chair-ID gender difference	.15	.44											
6	ID directorship number	.64	1.04											
7	Chair tenure	1.07	.99											
8	Chair PB	.41	.49											
9	New ID PB	.23	.42											
10	Existing ID mean tenure	2.25	1.77											
11	Existing ID female ratio	.12	.22											
12	Existing ID PB ratio	.16	.26	1										
13	Existing ID TB ratio	.21	.27	.01	1									
14	Existing ID mean directorship	.48	.75	-.01	.02	1								
15	Board size	9.07	1.44	-.11*	.05	-.07	1							
16	Chair-CEO duality	.72	.45	.02	-.12*	.06	.08	1						
17	Ownership concentration	.17	.11	.04	-.29*	-.06	.02	.14*	1					
18	Firm size	21.53	1.07	.00	-.08	-.03	.20*	.17*	.04	1				
19	Firm age	12.51	4.56	-.05	.08	-.16*	.15*	.00	-.03	.28*	1			
20	Profitability	.04	.06	-.02	-.08	-.01	-.04	-.25*	.03	-.10	-.20*	1		
21	Leverage	1.29	1.41	-.08	-.13*	-.07	.23*	.23*	.10	.38*	.35*	-.45*	1	
22	R&D intensity	.00	.01	.04	-.02	-.02	-.15*	-.07	-.11*	.01	-.12*	.20*	-.14*	1
23	Regional marketization	8.36	1.97	.11*	.05	.07	-.08	-.17*	.00	-.19*	-.14*	.16*	-.22*	-.03

$N = 389$. * $p < .05$

both samples. Moreover, the mean value of chair-ID PB/TB similarity is .27/.25, suggesting that 27%/25% of the IDs (selected or unselected) have PBs/TBs in the corresponding sample. Moreover, the statistics show that it is relatively common for a chair to have a higher PB than the IDs (mean: .68), but it is not common for a chair to have a different TB from the IDs (mean: .08).

Table 3 presents the results of conditional logistic regressions. For chair-ID PB (TB) similarity, Model 1(4) is the baseline model with only control variables. Model 2(5) includes the main effect of chair-ID PB (TB) similarity to test H1 (H2). Model 3(6) is the full model, including chairs having higher PB levels than IDs (chair-ID within-TB difference) as the moderating variable and its interaction with chair-ID PB (TB) similarity to test H3 (H4). We calculate the variance inflation factors (VIFs) in the full models, all of which are less than 3.15, suggesting that multicollinearity is not a serious issue.

Hypothesis 1 states that chair-director PB similarity is negatively related to the director selection decision (i.e., the likelihood that a PB chair selects a candidate as a new director). This hypothesis is supported, as the coefficient of chair-ID PB similarity is negative and significant in Model 2 (b=-.527, SE = .227, p = .020). This result suggests that a PB chair is less likely to select an ID candidate when both the chair and the candidate have a PB. Nevertheless, given the nonlinear nature of the conditional logistic model, the coefficient cannot intuitively indicate the effect size of chair-director PB similarity. Therefore, following Hoetker (2007), we calculate the likelihood of an ID candidate being selected, with all control variables set at their mean values (based on the "display" function of STATA). We find that without PB similarity (i.e., PB chairs selecting non-PB ID candidates), the likelihood of selection is approximately .50, whereas in the case of PB similarity (i.e., PB chairs selecting PB ID candidates), the likelihood of selection becomes .31. Thus, the effect of PB similarity is economically significant in our matched sample. Overall, our finding is consistent with insights about similarity-competition in making new ID selection decisions.

Hypothesis 2 suggests that chair-director TB similarity is positively related to the director selection decision (i.e., the likelihood that a TB chair selects a candidate as a new director). The coefficient of chair-ID TB similarity is positive and significant in Model 5 (b = .929, SE = .437, p = .034), thus supporting Hypothesis 2. This result shows that a TB chair is more likely to select an ID candidate when the chair and the candidate have TB similarity. Again, we examine the effect size of chair-director TB similarity by calculating the likelihood of an ID candidate being selected with all the control variables set at their mean values. We find that when there is no TB similarity (i.e., TB chairs selecting non-TB ID candidates), the likelihood of selection is approximately .50, whereas in the case of TB similarity (i.e., TB chairs selecting TB ID candidates), the likelihood of selection becomes .83, suggesting considerable economic significance of the effect of TB similarity. Overall, our finding is in line with the similarity-attraction logic in new ID selection.

Hypothesis 3 predicts that the negative relationship between chair-director PB similarity and director selection is weakened by chairs having higher PB levels than IDs. The coefficient of the interaction term between chair-director PB similarity and chairs having higher PB levels than IDs is positive and significant in Model

Table 3 Conditional logit regressions of chair-ID PB/TB similarity on ID selection

	Model 1 Control	Model 2 H1	Model 3 H3	Model 4 Control	Model 5 H2	Model 6 H4
Chair-ID PB similarity		-.527*	-1.106**			
		(.227)	(.373)			
Chair-ID TB similarity					.929*	.618
					(.437)	(.604)
Chair-ID PB similarity ×			.945*			
Chair higher PB level than ID			(.465)			
Chair-ID TB similarity×						.903
Chair-ID TB difference						(.872)
Chair higher PB level than ID			.606			
			(.812)			
Chair-ID TB difference						.000
						(.000)
Chair-ID age difference	-.018	-.026*	-.024	-.027	-.022	-.020
	(.012)	(.013)	(.013)	(.018)	(.019)	(.019)
Chair-ID gender	-.156	-.169	-.201	.008	.077	.065
difference	(.272)	(.274)	(.273)	(.380)	(.384)	(.379)
New ID directorship	.014	.021	.013	.089	.120	.145
number	(.084)	(.087)	(.088)	(.174)	(.185)	(.180)
Chair tenure	.873	.890	.834	2.247*	2.449*	2.572*
	(.564)	(.572)	(.582)	(1.034)	(1.155)	(1.249)
Chair PB				.000	.000	.000
				(.000)	(.000)	(.000)
New ID PB				-.254	-.153	-.111
				(.351)	(.336)	(.347)
Chair TB	-2.704	-2.632	-2.729			
	(2.059)	(2.037)	(1.946)			
New ID TB	-.242	-.323	-.233			
	(.304)	(.301)	(.312)			
Existing ID mean tenure	-.144	-.149	-.159	-1.422**	-1.394*	-1.459*
	(.189)	(.191)	(.188)	(.521)	(.575)	(.629)
Existing ID female ratio	-.899	-.945	-1.202	6.937**	6.915*	7.341*
	(1.251)	(1.274)	(1.242)	(2.667)	(2.822)	(3.040)
Existing ID TB ratio	-1.706	-1.888*	-1.760	-8.965**	-8.721**	-9.113*
	(.973)	(.919)	(.903)	(3.060)	(3.284)	(3.633)
Existing ID PB ratio	-.568	-.800	-.669	1.877	2.157	2.217
	(.899)	(.902)	(.877)	(1.488)	(1.457)	(1.521)
Existing ID directorship	-1.303***	-1.304***	-1.371***	-1.727*	-1.743**	-1.796**
	(.297)	(.284)	(.304)	(.682)	(.598)	(.660)
Board size	.245	.247	.264	.720	.894	.974
	(.287)	(.304)	(.295)	(1.068)	(.974)	(1.193)
Chair-CEO duality	.427	.563	.461	2.910	2.991	3.031

Table 3 (continued)

	Model 1 Control	Model 2 H1	Model 3 H3	Model 4 Control	Model 5 H2	Model 6 H4
	(.782)	(.780)	(.829)	(2.998)	(3.513)	(3.747)
Ownership concentration	-8.922	-9.182	-9.975	3.510	4.466	4.559
	(12.03)	(12.10)	(12.07)	(14.78)	(15.44)	(16.38)
Firm size	-.497	-.518	-.561	-8.653	-9.319	-9.685
	(1.352)	(1.332)	(1.350)	(6.740)	(7.321)	(7.955)
Firm age	-.153	-.125	-.176	1.444	1.659	1.654
	(.395)	(.402)	(.393)	(.882)	(.980)	(1.112)
Profitability	-2.552	-3.174	-4.434	5.790	7.519	7.861
	(5.905)	(5.873)	(6.008)	(17.24)	(17.32)	(18.58)
Financial leverage	.198	.137	.269	-.888	-.809	-.877
	(.458)	(.446)	(.478)	(.544)	(.577)	(.618)
R&D intensity	-3.22	-34.61	-4.76	14.83	8.89	11.65
(industry-adjusted)	(21.74)	(24.35)	(24.62)	(86.15)	(75.05)	(8.88)
Regional marketization	.318	.235	.288	6.780	7.033	7.393
	(.862)	(.884)	(.917)	(4.855)	(5.044)	(5.449)
N	722	722	722	389	389	389
McFadden's R^2	.192	.201	.211	.387	.404	.408
Chi^2	58.668***	62.117***	74.774***	48.930***	49.475***	48.215***

$N = 1{,}450$, firm number = 63. Firm-level clustered robust standard errors are in parentheses. All tests are two-tailed. Year and industry dummy variables are included. * $p < .05$, ** $p < .01$, *** $p < .001$

3 ($b = .945$, SE = .465, $p = .042$), which weakens the negative main effect of chair-director PB similarity. Thus, Hypothesis 3 is supported. In addition, we calculate the likelihood of an ID candidate being selected, with all control variables set at their mean values. We find that given chair-ID PB similarity, the likelihood of selection is approximately .672 when the chair has a higher-level PB and the ID candidate has a lower-level PB, which is considerably higher (less negative) than .134, the likelihood of selection otherwise. In summary, our results suggest that although PB chairs may have similarity-competition concerns in selecting new IDs with PBs, these concerns can be alleviated if the chair has a higher PB level than the new ID. Furthermore, this result also helps address an alternative explanation (based on the functional value of PB IDs) for the negative relationship between PB similarity and ID selection. That is, if PB chairs are less likely to select PB IDs because they do not need additional political connections, this negative effect should be enhanced by chairs having higher PB than IDs (rather than being mitigated, as shown by this result) because chairs with higher PB may find IDs with lower PB even less valuable. Overall, this result supports the validity of the similarity-competition logic in PB ID selection but suggests that the functional logic (as a potential alternative explanation) may be less plausible.

Hypothesis 4 posits that the positive relationship between chair-director TB similarity and director selection is weakened by chair-director within-TB difference. The

coefficient of the interaction term between chair-director TB similarity and chair-director within-TB difference is nonsignificant in Model 6 ($b = .903$, SE = .872, $p = .300$), which cannot support Hypothesis 4. This finding suggests that although the similarity-attraction effect generally occurs for TB chairs in selecting similar new IDs with TBs (as shown in Hypothesis 2), this positive main effect is not mitigated by within-TB functional difference (or amplified by more nuanced similarity in R&D-based TB or manufacturing-based TB). While a systematic investigation of this nonfinding is beyond the scope of this study, we suspect that a possible reason is the sacrifice of diversity in the overly specific similarity. We elaborate on this post hoc explanation in the "Discussion" section.

Endogeneity tests

Heckman two-stage analysis Our samples above include only PB and TB chairs in order to examine how their PB and TB similarity to IDs affects the selection decision. However, the PB or TB of chairs (and therefore their PB or TB similarity to IDs) are not purely exogenous but may be affected by certain factors that also influence ID selection decisions. To address this sample-induced endogeneity issue, we perform Heckman two-stage analyses (Sun et al., 2016; Zhang & Qu, 2016) and present the results in Table 4 (Models 1–3/4–6 are for PB/TB samples, Models 1 and 4 are first-stage regressions, Models 2 and 5 test main effects, and Models 3 and 6 are full models). In the first stage, we run two logit models to predict the selection of chairs with a PB or TB in the full dyad-level sample ($N = 2{,}877$). In addition to the control variables listed above, we include the industry mean of chair PB or TB as the exclusion restriction (for the PB or TB sample, respectively). Indeed, the industry mean of PB or TB chairs may affect focal firms' selection of PB chairs or TB chairs (Zhang & Qu, 2016), which is empirically verified (PB: $b = 4.305$, SE = .592, $p = .000$; TB: $b = 6.083$, SE = .597, $p = .000$). However, such industry-level variables are unlikely to directly influence ID selection decisions. We calculate the inverse Mill's ratios (for PB and TB samples separately) based on first-stage regressions and include each in the corresponding second-stage regressions based on the conditional logistic model. The second-stage results are essentially the same as those in the main analysis, suggesting that our findings are not sensitive to potential sample-selection bias.

ITCV tests As noted above, although the conditional logistic model helps control for omitted variables of selecting chairs and firms, the independent variables, chair-ID PB/TB similarity, may not be fully exogenous but may be influenced by certain unobservable factors that also affect ID selection. To examine the potential bias caused by omitted variables, we calculate the ITCV for each of our independent variables, chair-ID similarity in PB and TB, following prior research (Gamache & McNamara, 2019; Lee et al., 2020). The ITCV helps assess how strongly the potential omitted variable has to be correlated with the independent and dependent

Table 4 Conditional logit regressions on ID selection (Heckman two-stage approach)

	Model 1 PB 1st Stage	Model 2 H1	Model 3 H3	Model 4 TB 1st Stage	Model 5 H2	Model 6 H4
Chair-ID PB similarity		-.533*	-1.108**			
		(.227)	(.373)			
Chair-ID TB similarity					.924*	.609
					(.438)	(.606)
Chair-ID PB similarity ×			.944*			
Chair higher PB level than ID			(.466)			
Chair-ID TB similarity×						.911
Chair-ID TB difference						(.865)
Chair higher PB level than ID			.593			
			(.806)			
Chair-ID TB difference						.000
						(.000)
Chair-ID age difference	.015***	-.034	-.029	.004	-.023	-.021
	(.004)	(.020)	(.020)	(.004)	(.018)	(.018)
Chair-ID gender	-.423***	.039	-.054	.105	.039	.019
difference	(.094)	(.534)	(.563)	(.112)	(.451)	(.447)
New ID directorship	-.021	.029	.018	-.054	.138	.167
number	(.039)	(.089)	(.091)	(.048)	(.248)	(.243)
Chair tenure	.120***	.837	.796	-.097*	2.490*	2.624
	(.035)	(.607)	(.629)	(.045)	(1.270)	(1.387)
Chair PB				.158	.000	.000
				(.103)	(.000)	(.000)
New ID PB				.003	-.156	-.114
				(.117)	(.341)	(.351)
Chair TB	.189	-2.769	-2.828			
	(.101)	(2.057)	(1.987)			
New ID TB	.122	-.382	-.274			
	(.142)	(.307)	(.323)			
Existing ID mean tenure	-.055*	-.123	-.141	.089**	-1.439	-1.516
	(.024)	(.194)	(.188)	(.029)	(.747)	(.813)
Existing ID female ratio	.195	-1.055	-1.272	-.034	6.904*	7.337*
	(.183)	(1.279)	(1.267)	(.222)	(2.861)	(3.128)
Existing ID TB ratio	.766**	-2.248*	-2.018	2.581***	-9.491	-1.056
	(.235)	(1.131)	(1.212)	(.244)	(6.433)	(6.869)
Existing ID PB ratio	.311*	-.956	-.773	-.395*	2.243	2.322
	(.140)	(.992)	(.949)	(.177)	(1.582)	(1.656)
Existing ID directorship	.251***	-1.412***	-1.449***	.139*	-1.829	-1.903
	(.058)	(.382)	(.426)	(.070)	(.959)	(1.042)
Board size	.001	.259	.272	.043	.872	.946
	(.028)	(.302)	(.293)	(.033)	(.933)	(1.180)
Chair-CEO duality	-.160	.626	.502	-.327**	3.262	3.359

Table 4 (continued)

	Model 1 PB 1st Stage	Model 2 H1	Model 3 H3	Model 4 TB 1st Stage	Model 5 H2	Model 6 H4
	(.097)	(.769)	(.816)	(.115)	(4.777)	(5.057)
Ownership concentration	-.831*	-8.369	-9.410	1.113*	4.729	4.847
	(.410)	(12.253)	(12.275)	(.464)	(15.381)	(16.462)
Firm size	.026	-.563	-.593	.102*	-9.417	-9.825
	(.042)	(1.328)	(1.345)	(.051)	(7.654)	(8.431)
Firm age	-.025**	-.093	-.154	-.071***	1.696	1.700
	(.009)	(.401)	(.392)	(.012)	(1.090)	(1.240)
Profitability	2.493***	-4.411	-5.284	1.285	7.077	7.349
	(.630)	(6.139)	(6.271)	(.777)	(16.96)	(18.22)
Financial leverage	.081**	.064	.217	.019	-.825	-.897
	(.029)	(.472)	(.502)	(.035)	(.618)	(.662)
R&D intensity	-21.12***	-23.03	-32.55	-2.963	14.04	18.09
(industry-adjusted)	(5.364)	(36.23)	(37.37)	(5.363)	(79.55)	(83.86)
Regional marketization	.048*	.155	.235	-.120***	7.080	7.464
	(.022)	(.890)	(.913)	(.026)	(5.171)	(5.646)
Industry-mean chair PB	4.305***					
(Exclusion restriction#1)	(.592)					
Industry-mean chair TB				6.083***		
(Exclusion restriction#2)				(.597)		
Inverse Mill's ratio		-.698	-.490		-.442	-.537
		(1.555)	(1.648)		(2.864)	(2.975)
N	2877	722	722	2877	389	389
McFadden's R^2	.063	.201	.211	.123	.404	.408
Chi^2	238.988***	62.169***	74.454***	369.301***	5.036***	48.853***

Firm-level clustered robust standard errors are in parentheses. All tests are two-tailed. $^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

variables to invalidate the inference. First, we find that to nullify the effect of chair-ID PB similarity, an omitted variable would have to be correlated with both chair-ID PB similarity and ID selection with a minimal coefficient of .145. This is unlikely because, among all the control variables, none has a higher correlation than this impact threshold with both chair-ID PB similarity and ID selection. Although it is impossible to fully exclude the possibility that an omitted variable has a correlation with the independent and dependent variables higher than all control variables, there seems no apparent theoretical reason to indicate such omitted variables, especially considering the comprehensive control variables at multiple levels in our study. Second, to nullify the effect of chair-ID TB similarity, an omitted variable would have to be correlated with both chair-ID TB similarity and ID selection with a minimal coefficient of .104. Again, this is unlikely because none of the control variables has a higher correlation than this impact threshold with both of these variables. Overall, ITCV tests suggest that omitted variables are not a serious issue.

Supplementary analyses

Alternative explanations based on IDs' functional roles We noted above that PB similarity is negatively related to ID selection, while TB similarity is positively related to ID selection. These results are consistent with our arguments based on the similarity-competition logic in PB and similarity-attraction logic in TB and coherent with the moderating roles of within-similarity heterogeneity. Furthermore, we empirically explore whether these results are driven by alternative explanations based on IDs' functional roles.[6] Specifically, we examine the moderating effects of political resource significance and technological resource significance. That is, if PB chairs tend not to select PB IDs because they do not need political resources, this effect should be weakened by the significance of political resources for the selecting firms. Moreover, if TB chairs tend to select TB IDs because they need more technological resources, this effect should be enhanced by the significance of technological resources for the selecting firms.

As mentioned above (as the controlled variables), we perform a reverse measurement of the significance of political resources by the regional marketization index (Wang et al., 2016). Indeed, in provinces with higher levels of marketization, fewer resources are controlled and allocated by the government, and political resources may therefore be less important to firms (Haveman et al., 2017; Meyer et al., 2009). Moreover, we use industry-adjusted R&D intensity (firm-level R&D intensity minus industry-level R&D intensity) to measure the significance of technological resources (Siegel & Hambrick, 2005). That is, if certain firms consider technological resources to be more important, they are likely to make greater R&D investments than their industry peers.

We present the results in Table 5. We find that the negative effect of chair-ID PB similarity on director selection is not significantly moderated by regional marketization, i.e., the reverse measure of political resource significance ($b = .053$, SE = .121, $p = .660$). Moreover, we find that the positive effect of chair-ID TB similarity on director selection is not significantly moderated by technological resource significance ($b = 23.495$, SE = 295.465, $p = .435$). Therefore, the main effects of PB/TB similarity on ID selection are not moderated by political/technological resource significance, respectively. These findings suggest that functional considerations may not work as the main mechanisms underlying the effects of chair-ID PB/TB similarity on director selection.

Additional analyses in the sample of SOEs As mentioned above, we perform the main analysis in the sample of POEs to avoid the bias derived from government influences on PB and TB director selection. We also perform an analysis in the SOE sample (results in Table 6) to demonstrate the differences between POEs and SOEs. First, we find that chair-ID PB similarity does not significantly influence ID selection decisions (b=-.695,

[6] We sincerely appreciate this constructive suggestion by an anonymous reviewer.

Table 5 Conditional logit regressions on ID selection: the moderating effects of political and technological resource significance

	Model 1 Control	Model 2 H1	Model 3 H3	Model 4 Control	Model 5 H2	Model 6 H4
Chair-ID PB similarity		-.527*	-1.016			
		(.227)	(1.113)			
Chair-ID TB similarity					.929*	.874*
					(.437)	(.429)
					.929*	.874*
Chair-ID PB similarity ×			.053			
Regional marketization			(.121)			
Chair-ID TB similarity×						23.495
Industry-adjusted R&D						(295.465)
R&D intensity	-3.224	-34.613	-34.072	14.837	8.895	15.061
(industry-adjusted)	(21.744)	(24.352)	(24.099)	(86.150)	(75.057)	(58.269)
Regional marketization	.318	.235	.249	6.780	7.033	7.193
	(.862)	(.884)	(.896)	(4.855)	(5.044)	(4.268)
Chair-ID age difference	-.018	-.026*	-.027*	-.027	-.022	-.023
	(.012)	(.013)	(.013)	(.018)	(.019)	(.019)
Chair-ID gender	-.156	-.169	-.167	.008	.077	.090
difference	(.272)	(.274)	(.274)	(.380)	(.384)	(.385)
New ID directorship	.014	.021	.021	.089	.120	.115
Number	(.084)	(.087)	(.087)	(.174)	(.185)	(.183)
Chair tenure	.873	.890	.891	2.247*	2.449*	2.566*
	(.564)	(.572)	(.572)	(1.034)	(1.155)	(1.152)
Chair PB				.000	.000	.000
				(.000)	(.000)	(.000)
New ID PB				-.254	-.153	-.170
				(.351)	(.336)	(.337)
Chair TB	-2.704	-2.632	-2.670			
	(2.059)	(2.037)	(2.050)			
New ID TB	-.242	-.323	-.326			
	(.304)	(.301)	(.300)			
Existing ID mean tenure	-.144	-.149	-.146	-1.422**	-1.394*	-1.454*
	(.189)	(.191)	(.191)	(.521)	(.575)	(.582)
Existing ID female ratio	-.899	-.945	-.963	6.937**	6.915*	7.166**
	(1.251)	(1.274)	(1.262)	(2.667)	(2.822)	(2.712)
Existing ID TB ratio	-1.706	-1.888*	-1.882*	-8.965**	-8.721**	-8.877*
	(.973)	(.919)	(.909)	(3.060)	(3.284)	(3.449)
Existing ID PB ratio	-.568	-.800	-.845	1.877	2.157	2.340
	(.899)	(.902)	(.891)	(1.488)	(1.457)	(1.535)
Existing ID directorship	-1.303***	-1.304***	-1.306***	-1.727*	-1.743**	-1.750**
	(.297)	(.284)	(.284)	(.682)	(.598)	(.597)
Board size	.245	.247	.244	.720	.894	.968

Table 5 (continued)

	Model 1 Control	Model 2 H1	Model 3 H3	Model 4 Control	Model 5 H2	Model 6 H4
	(.287)	(.304)	(.303)	(1.068)	(.974)	(1.014)
Chair-CEO duality	.427	.563	.568	2.910	2.991	3.332
	(.782)	(.780)	(.785)	(2.998)	(3.513)	(3.429)
Ownership concentration	-8.922	-9.182	-9.212	3.510	4.466	3.904
	(12.029)	(12.103)	(12.073)	(14.780)	(15.447)	(14.171)
Firm size	-.497	-.518	-.508	-8.653	-9.319	-9.511
	(1.352)	(1.332)	(1.333)	(6.740)	(7.321)	(6.590)
Firm age	-.153	-.125	-.135	1.444	1.659	1.720
	(.395)	(.402)	(.407)	(.882)	(.980)	(1.051)
Profitability	-2.552	-3.174	-3.273	5.790	7.519	7.350
	(5.905)	(5.873)	(5.886)	(17.248)	(17.327)	(13.604)
Financial leverage	.198	.137	.117	-.888	-.809	-.821
	(.458)	(.446)	(.451)	(.544)	(.577)	(.515)
N	722	722	722	389	389	389
McFadden's R^2	.192	.201	.201	.387	.404	.408

Firm-level clustered robust standard errors are in parentheses. All tests are two-tailed. $^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

SE=.745, p=.351). Furthermore, this effect is not significantly contingent on chairs having higher PB levels than IDs (b=-1.312, SE=1.410, p=.352). These findings suggest that in contrast to POEs, the similarity-competition effect in PB may not happen in director selection in SOEs. The reason may be that SOEs have political connections based on the ownership channel, and the PBs of chairs and IDs (or the levels of their PBs) therefore do not play an important role in ID selection decisions. Second, chair-ID TB similarity does not significantly influence ID selection decisions (b=-.355, SE=.770, p=.645). However, this effect is negatively moderated by chair-ID TB difference (b=-28.001, SE=5.732, p=.000). Again, these findings are different from those for POEs. That is, the similarity-attraction effect in TB may not happen in SOEs' director selection, although chair-ID within-TB difference makes this effect negative and thus decreases the likelihood of director selection. This may be because SOEs' political considerations in decision making bias chair-ID interactions based on TB similarity, although their within-TB difference (R&D-based versus manufacturing-based) still leads to chairs' negative attitudes toward IDs.

Firm-/board-level analysis of board configurations based on chairs' backgrounds Director selection is a key governance decision that accumulatively shapes board configurations. While our main analyses capture insights into similarity-attraction and similarity-competition in selection decisions (based on dyad-level chair-director PB or TB similarity), we further conduct a supplementary analysis at the board/firm level to explore the subsequent implications of director selection decisions for board PB and TB configurations based on chairs' PBs and TBs, respectively. Whereas our main analysis includes only chairs with either a PB or a TB, this analysis provides complementary

Table 6 Conditional logit regressions on ID selection (SOE sample)

	Model 1 Control	Model 2 H1	Model 3 H3	Model 4 Control	Model 5 H2	Model 6 H4
Chair-ID PB similarity		-.695	-.006			
		(.745)	(1.037)			
Chair-ID TB similarity					.355	1.142
					(.770)	(.809)
Chair-ID PB similarity ×			-1.312			
Chair higher PB level than ID			(1.410)			
Chair-ID TB similarity×						-28.001***
Chair-ID TB difference						(5.732)
Chair higher PB level than ID			8.888			
			(4.707)			
Chair-ID TB difference						.000
						(.000)
Chair-ID age difference	-.081**	-.082**	-.091**	.029	.029	.033
	(.025)	(.026)	(.031)	(.022)	(.021)	(.021)
Chair-ID gender	.056	.120	.096	.377	.424	.551
difference	(.661)	(.756)	(.768)	(.663)	(.690)	(.731)
New ID directorship	-.093	-.087	-.084	-.362	-.366	-.526
number	(.459)	(.422)	(.412)	(.334)	(.359)	(.410)
Chair tenure	79.270***	82.395***	72.079***	1.189	1.136	.761
	(3.499)	(2.776)	(2.994)	(.794)	(.811)	(.733)
Chair PB				14.449***	15.131***	1.549*
				(4.302)	(4.560)	(5.102)
New ID PB				-.380	-.438	-.434
				(.454)	(.419)	(.391)
Chair TB	22.48***	23.30***	17.96***			
	(2.936)	(2.528)	(3.766)			
New ID TB	-1.252	-.976	-1.098			
	(1.100)	(1.114)	(1.130)			
Existing ID mean tenure	4.327***	4.543***	3.944***	.939*	.919*	1.060**
	(.324)	(.356)	(.399)	(.419)	(.412)	(.390)
Existing ID female ratio	6.967	7.251*	9.899***	6.689	6.476	8.918*
	(4.517)	(2.985)	(2.665)	(5.021)	(5.075)	(4.487)
Existing ID TB ratio	58.92***	6.72***	55.88***	-5.906	-5.530	-6.526
	(2.089)	(2.157)	(2.351)	(7.743)	(7.562)	(5.871)
Existing ID PB ratio	4.984	2.992	9.824**	9.246	8.897	4.174
	(3.721)	(3.995)	(3.231)	(8.223)	(8.097)	(6.523)
Existing ID directorship	1.133	2.097	-1.651*	-1.068	-.990	-.653
	(1.325)	(1.241)	(.810)	(1.210)	(1.181)	(1.051)
Board size	-35.14***	-37.08***	-31.73***	-1.320	-1.361	-1.559*
	(1.648)	(1.233)	(1.751)	(.705)	(.753)	(.712)
Chair-CEO duality	-34.45***	-35.89***	-16.97***	.000	.000	.000

Table 6 (continued)

	Model 1 Control	Model 2 H1	Model 3 H3	Model 4 Control	Model 5 H2	Model 6 H4
	(5.817)	(4.160)	(2.628)	(.000)	(.000)	(.000)
Ownership concentration	-.783***	-.886***	-1.625***	-.317	-.330	-.309
	(.183)	(.173)	(.335)	(.200)	(.216)	(.212)
Firm size	78.06***	81.10***	9.22***	4.181	4.256	3.528
	(1.882)	(1.969)	(5.378)	(2.508)	(2.607)	(2.437)
Firm age	17.71***	18.85***	2.92***	-3.540	-3.391	-2.930
	(1.163)	(.985)	(2.118)	(2.445)	(2.487)	(1.746)
Profitability	35.97***	37.19***	32.89***	.345	.331	.238
	(1.072)	(1.005)	(1.407)	(.225)	(.226)	(.158)
Financial leverage	-5.834**	-4.968***	-1.07***	2.447	2.412	1.802
	(2.167)	(1.403)	(.852)	(1.606)	(1.591)	(1.212)
R&D intensity	27.62***	28.94***	25.19***	2.569	3.008	.883
(industry-adjusted)	(1.216)	(.971)	(1.328)	(5.672)	(5.734)	(4.748)
Regional marketization	9.385	1.14*	-17.55***	2.363	2.071	2.749
	(7.061)	(4.679)	(4.736)	(5.348)	(5.569)	(4.626)
N	220	220	220	236	236	236
McFadden's R^2	.641	.649	.655	.283	.285	.348

Firm-level clustered robust standard errors are in parentheses. All tests are two-tailed. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

evidence that compares director selection between chairs with and without a PB (TB). We present our research design and key findings in Appendix B.

Individual-/ID-level analysis of new ID backgrounds based on chairs' backgrounds Given that director selection has significant implications for individual directors, we also examine the similarity-competition and similarity-attraction effects at the ID/individual level to explore how new IDs with PBs and TBs are selected by PB chairs and TB chairs, respectively. We present our research design and key findings in Appendix C.

Robustness checks We conduct a series of additional analyses to verify the robustness of our main analysis to alternative approaches. First, we account for the potential influence of CEOs on director selection decisions by adding CEO-ID PB and TB similarity as additional control variables. The results remain consistent. Furthermore, our main analysis includes many control variables at multiple levels, including chair-ID dyad-level variables, chair-related factors, new ID-related factors, existing ID characteristics, board-related factors, firm-level variables, and region-level variables. Although this approach helps control for alternative explanations from different perspectives, we check whether our main findings are sensitive to the inclusion of different control variables. We exclude existing ID characteristics, chair-ID dyad-level control variables, or chair and new ID characteristics, respectively. The results are generally robust, suggesting that our findings are not sensitive to control variables.

Discussion

How does chair-director similarity affect director selection decisions? To obtain a fine-grained answer to this question, we integrate the similarity-attraction logic and similarity-competition logic based on the dual role of directors—as both collaborators and competitors—as perceived by chairs. Subsequently, we develop a collaborative-competitive framework to reconcile the contradictory similarity-derived effects and accordingly examine chair-director similarity in PB and TB to provide insights into similarity-attraction and similarity-competition in director selection. We find that while board chairs' PB similarity to ID candidates is negatively related to the likelihood of selection, their TB similarity to ID candidates is positively related to the likelihood of selection, thereby supporting our arguments. Additionally, we find that the similarity-competition effect in PB is mitigated by chairs having higher PB levels than IDs. However, the similarity-attraction effect in TB is not contingent on the chair-director within-TB functional difference. We discuss the potential reason for and implications of this nonfinding below.

Contributions and implications for theory and practice

Our study makes several contributions to the director selection literature. First, taking a co-opetition view, we emphasize the dual role of directors as both collaborators and competitors from chairs' socialized perspective, thereby revealing both positive and negative effects of chair-director similarity. Prior research suggests that decision makers prefer to select directors who are similar to them (e.g., Westphal & Zajac 1995; Zhu & Chen, 2015), largely following the similarity-attraction logic in director selection (Byrne, 1971; Horton, 2003; Morry, 2006). However, this view downplays the potential competitive side of interpersonal relationships and thus fails to adequately capture the negative side of similarity (Kilduff et al., 2010; Menon et al., 2006). Adopting a co-opetition view, we incorporate the similarity-competition logic, which is highly relevant yet underexplored in prior research on director selection, in addition to the commonly recognized similarity-attraction logic. In doing so, this study advances director selection research by revealing a negative side of chair-director similarity and thus presents a more comprehensive and balanced understanding of the implications of chair-director similarity.

Furthermore, we propose a collaborative-competitive framework as a path to reconcile the tension between similarity-attraction and similarity-competition effects. Focusing on chair-director background similarity, we posit that the similarity-competition logic dominates in the case of similarity in competitive-oriented backgrounds, such as PB, whereas the similarity-attraction logic dominates in the case of collaborative-oriented backgrounds, such as TB. Based on the dyad-level main analyses on director selection decisions and two supplementary analyses at the board/firm and ID/individual levels, our findings provide multilevel evidence for our hypothesized effects of similarity-competition and similarity-attraction under different conditions. Overall,

our study advances director selection research by identifying a specific boundary condition for the widely acknowledged similarity-attraction logic—similarity in overall collaborative-oriented backgrounds—while also demonstrating the existence and applicability of the similarity-competition logic—similarity in overall competitive-oriented backgrounds—in the context of director selection.

Moreover, our theory and findings of hierarchical heterogeneity within PB and horizontal heterogeneity within TB further enhance our understanding of similarity-based director selection. Although extant research has recognized the important implications of similarity for within-boardroom interactions and director selection (e.g., Westphal & Zajac 1995; Zhu & Chen, 2015; Zhu & Westphal, 2014), our study goes a step further by exploring how the similarity-derived effects are counterbalanced by within-similarity heterogeneity. We illustrate that the effects of similarity are relative (rather than absolute) and are subject to more nuanced heterogeneity within the similarity. Our study thus deepens the understanding of similarity-derived mechanisms, particularly similarity-based director selection.

More specifically, we show that the overall negative effect of similarity-competition in PB is mitigated if the chair has a higher PB level than the director candidate. In this regard, our theory and findings establish a boundary condition for the similarity-competition logic—the competitive perception based on PB similarity is contingent on the individuals' relative status in the political hierarchy. Prior research in the socialized tradition shows that firm decision makers may be inclined to appoint their cronies to the board as a way of building their own networks (e.g., Stern & Westphal 2010; Westphal & Stern, 2006, 2007). Our study extends this line of research by suggesting that PB chairs, although their attitudes toward PB directors are negative overall, are relatively more open to appointing directors with a lower-level PB than their own, perhaps their subordinates or cronies within the political regime.

Regarding TB, although the similarity-attraction logic implies that closer similarity within the TB may foster greater attraction than within-TB functional difference, our findings fail to support this prediction (Hypothesis 4). We suspect that the more narrowly defined similarity, although fostering stronger attraction (consistent with the similarity-attraction hypothesis), may reduce the benefits of TB diversity perceived by TB chairs. Thus, the positive effect of greater similarity is counterbalanced by the sacrificed benefits of diversity. Indeed, an inherent tradeoff exists between similarity and diversity—i.e., more specific similarity usually means lower diversity between individuals. Research has recognized several benefits of board diversity. For example, TB diversity may broaden board discussion about technology-related issues and lead to the generation of more innovative ideas (Bernile et al., 2018; Miller & del Carmen Triana, 2009). Moreover, TB diversity facilitates a more comprehensive evaluation of various technological solutions in board meetings (Bernile et al., 2018; Goodstein et al., 1994). Therefore, if chair-ID similarity occurs in an overly specific technology domain (e.g., R&D or manufacturing), even with stronger similarity-attraction benefits, the sacrifice of TB diversity between the chair and ID may offset the positive effect of the greater similarity. This logic helps to explain why the similarity-attraction effect occurs in the general TB but cannot be further enhanced by

more specific similarity in R&D- or manufacturing-based TBs. In summary, our results reveal that the similarity-attraction effect, even in a collaborative-oriented domain such as TB, may be subject to the scope of similarity.

Our study offers practical implications for board chairs, corporate directors (or potential candidates), and shareholders. By revealing the positive and negative effects of similarity and the counterbalance between relative similarity and more nuanced variance, this study can assist board chairs (or other decision makers) in making better director choices based on similarity and socialized relationships within the boardroom. Additionally, this study can enhance directors' understanding of chairs' possible perceptions of and attitudes toward them and thus help directors make more effective decisions on whether to join a specific board or which board to join. Our study also helps shareholders to better understand how the personal preferences and interests of board chairs (or other decision makers) affect their director selection. Such knowledge may be useful in evaluating firms' director selection and board composition when making investment decisions.

Limitations and future research

First, we developed a collaborative-competitive framework to reconcile the tension between two similarity-derived effects. However, this framework is subject to the boundary condition regarding whether a similarity can be categorized into these two relative categories. Additionally, our hypotheses focus only on chair-director similarity in PB and TB. Although both backgrounds are significant and prevalent in the corporate boardroom, they may not fully capture the implications of chair-director similarity. In this sense, our study constitutes a starting point for exploring chair-director co-opetition, and additional future research should further examine the implications of similarity for director selection. Furthermore, our study builds on the literature on governance paradox and the practice of Chinese corporate governance to develop the co-opetitive relationships between board chairs and directors. Nevertheless, limited by data availability, we did not provide direct evidence to demonstrate chairs' collaborative or competitive perceptions from IDs. Therefore, we call for future research to collect more systematic and first-hand evidence to test the co-opetitive relationships between board chairs and directors.

Second, in constructing the matched sample of unselected IDs, we could not access the full set of all potential ID candidates due to data limitations. Indeed, this is an inherent challenge for almost all selection research that requires the construction of a hypothetical group of potential yet unrealized options (e.g., Berchicci et al., 2012; Chakrabarti & Mitchell, 2013; Reuer & Lahiri, 2014). Although our matching approach presents a reasonable approximation of the unselected IDs, in accordance with insights from previous selection research, the effect sizes in our results may not indicate the practical significance in general. Overall, we suggest that future research should provide more evidence for director selection by collecting more comprehensive data on both selectors and selected/unselected candidates.

Finally, we tested the hypotheses in the Chinese context based on director selection data in 2008–2013 to avoid the impact of the "Rule No. 18" in 2013, which may introduce concerns regarding the generalizability of our findings. Moreover, our data do not provide evidence for director selection after 2013. Therefore, we need to exercise caution in interpreting our findings for practical implications in more recent years. While we believe our arguments about director selection based on the collaborative-competitive framework could be generalized to other background types with collaborative- or competitive-oriented natures, more evidence is needed to verify this generalizability. We thus encourage future research to examine chair-director similarity in various domains based on different research contexts, institutional settings, and empirical time windows.

Conclusion

While director selection research typically focuses on the positive side of similarity, we adopt a co-opetition view to reveal both the positive and negative sides of similarity in director selection. Our collaborative-competitive framework provides a path to reconcile the contradictory implications of similarity-attraction and similarity-competition. Finally, our findings suggest that similarity-derived effects are subject to within-similarity heterogeneity. Our study provides novel insights into similarity-derived effects in director selection.

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Declarations

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