

Hierarchical culture and the social status of independent directors: evidence from China

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Abstract

Purpose – This study examines how corporate hierarchical culture influences the social status of their independent directors.

Design/methodology/approach – We construct a firm-level measure of hierarchical culture using annual reports of Chinese listed firms between 2010 and 2023. We examine how hierarchical culture is associated with the social status of independent directors and explore the mechanisms underlying this relationship. To address potential endogeneity concerns, we conduct a series of robustness checks, including difference-in-differences and instrumental-variable approaches.

Findings – We find that hierarchical culture is associated with lower social status for independent directors. The effect is stronger in state-owned enterprises (SOEs), firms with low R&D intensity, higher relationship spending, and those in the non-growth stage. Mechanism analysis indicates that hierarchical culture undermines independent directors' status by weakening bank-firm relationships and reducing strategic alliance formation. Moreover, a stronger business environment, more diligent board oversight, and greater board diversity mitigate the adverse impact. Further analysis shows that declines in director status reduce firms' cash-flow liquidity and increase agency costs.

Originality/value – This study highlights corporate culture as an important organisational norm shaping the social status of independent directors in an emerging economy. It provides new insights into how internal cultural norms influence director incentives and governance outcomes.

Keywords Hierarchical culture, Independent directors, Social status, Corporate governance

Paper type Research article

1. Introduction

Independent directors play an important role in corporate governance by representing shareholder interests and helping to mitigate agency conflicts (Agrawal and Knoeber, 1996;

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Baysinger and Butler, 1985; Fama, 1980; Fama and Jensen, 1983). Yet the evidence on their effectiveness is mixed. Studies across both developed and developing economies show that independent directors do not always provide effective oversight (Adams *et al.*, 2010; Wintoki *et al.*, 2012). In environments with weak investor protection and limited accountability, independent directors may function more as symbolic figures than substantive monitors (Luan and Tang, 2007; Shan and McIver, 2011). This suggests that broader institutional and organisational contexts play a critical role in shaping the extent of independent director influence.

Independent directors are heterogeneous, and their monitoring effectiveness depends not only on board structures but also on personal attributes such as expertise (Byrd and Mizruchi, 2005; Güner *et al.*, 2008; Wang *et al.*, 2015), social networks (Hwang and Kim, 2009; Westphal and Stern, 2006), political connections (Goldman *et al.*, 2009; Hillman, 2005), and reputation (Sila *et al.*, 2017). Moreover, reputation is found to play an important role in environments where institutional protections and enforcement are limited (Firth *et al.*, 2016). Under such context, social status and reputational capital provide important incentives shaping directors' willingness to challenge management. Because reputation directly underpins independent directors' standing in the director network, understanding how such status is formed is essential for explaining variation in board effectiveness.

Prior research indicates that directors' social status reflects not only their formal board appointments but also the social capital embedded in their professional networks (Calluzzo, 2023; Khoo *et al.*, 2022). Their network ties provide informational advantages that enhance their influence in board deliberations and strengthen their reputational standing (Chen *et al.*, 2016; Hillman and Dalziel, 2003). In parallel, strong legal and regulatory institutions support effective monitoring by clarifying board responsibilities and strengthening enforcement, thereby reinforcing the credibility and standing of independent directors (Porta *et al.*, 1998).

Yet regulatory frameworks and legal protections cannot fully explain differences in governance effectiveness across firms (Osemeke and Osemeke, 2017). A growing body of work highlights the importance of informal institutions, such as prevailing values, social norms, and cultural traditions in shaping how governance mechanisms function in practice (Clifford *et al.*, 2025; Du *et al.*, 2017; Fan *et al.*, 2022; Tian *et al.*, 2025). Apart from these, hierarchical culture is especially salient in many organisational contexts, particularly in emerging economies, but its implications for independent directors and board dynamics remain unexplored.

Hierarchical culture emphasises rank ordering and deference to authority, creating organisational environments where decision rights and influence are unevenly distributed. In such settings, senior members tend to dominate communication, while individuals lacking strong authority within the organisational hierarchy, such as independent directors, may hesitate to challenge prevailing views (Hwang, 1987; Marano *et al.*, 2022). This dynamic constrains openness in board deliberations, weakens internal monitoring, and heightens the risk of groupthink (Du, 2015; Pettigrew, 1992). For independent directors, strong norms of deference limit opportunities to contribute meaningfully to board deliberations or to demonstrate expertise that underpins their professional reputation. As a result, hierarchical culture may restrict the channels through which independent directors build and signal social status in the director network, yet these implications remain largely unexplored.

Hierarchical norms are deeply rooted in Confucian traditions that emphasise seniority, deference, and rank ordering, and these cultural expectations continue to shape organisational practices in China (Jacobs *et al.*, 1995). This paper investigates how hierarchical culture affects the social status of independent directors. Using data from Chinese A-share firms from 2010 to 2023, we find that hierarchical culture significantly diminishes the social status of independent directors. The negative effect is stronger in state-owned enterprises (SOEs), firms with low R&D intensity, high relationship spending, and firms that have moved beyond the growth stage. Mechanism analysis shows that hierarchical norms weaken directors' status by eroding bank-firm relationships and destabilising strategic alliances. Moderating analysis

indicates that stronger business environments, more diligent board oversight, and greater board diversity help mitigate the adverse impact of hierarchical culture. Finally, we show that declines in independent directors' social status translate into economic consequences, including lower operating cash flows and higher agency costs.

This study makes several contributions. First, while prior research emphasises that independent directors' personal characteristics and governance structures shape their status (Byrd and Hickman, 1992; Cotter *et al.*, 1997), less is known about the role of organisational culture in this process. Recent studies highlight that corporate culture plays a critical role in shaping managerial behaviour, information flows, and governance outcomes (Graham *et al.*, 2022; Guiso *et al.*, 2015; Li *et al.*, 2021); yet its implications for director status remain largely unexplored. We complement the literature by showing that hierarchical culture is an important organisational determinant of director status. In strong hierarchical settings, authority is tied to seniority rather than expertise, which constrains independent directors' ability to exercise substantive oversight and diminishes their standing in the professional networks.

Second, drawing on resource dependence theory and transaction cost theory, we identify bank-firm relationships and strategic alliances as two channels linking hierarchical culture to independent directors' social status. Firms rely on external financial resources and interorganisational cooperation to manage uncertainty and sustain competitive advantage. However, hierarchical norms can undermine these relationships by exacerbating information asymmetry, discouraging reciprocal trust, and increasing coordination costs. Our findings show that hierarchical culture constrains both access to financing and alliance formation, and that the erosion of these external ties undermine the social status of independent directors.

Third, using China as the context where seniority-based hierarchical norms remain deeply embedded, we document institutional and board-level factors that mitigate the adverse effects of hierarchical culture. Specifically, a stronger business environment, more diligent board oversight, and greater board diversity attenuate the extent to which hierarchical norms erode independent director status. These findings provide practical insights for emerging markets where entrenched hierarchical expectations complicate the effective functioning of independent directors.

The remainder of the paper is organised as follows. Section 2 develops the theoretical framework and hypotheses. Section 3 describes the data, variable construction, and empirical design. Section 4 presents the results. Section 5 discusses the findings and practical implications.

2. Theories and hypotheses

2.1 Hierarchical culture and the social status of independent directors

Independent directors' social status reflects their perceived competence and influence in the director network and is closely tied to their ability to monitor management and provide valuable external resources. Reputational capital and network positions shape this status (Byrd and Hickman, 1992; Cotter *et al.*, 1997), but organisational environments also determine whether independent directors can exercise effective influence within the board.

Hierarchical culture refers to organisational norms that emphasise age- and seniority-based ranking and deference to higher-status members (Biggadike *et al.*, 2023; Rosenberg, 1994; Tseng, 2010). In China, these norms are reinforced by longstanding traditions that emphasise respect for elders and obedience to senior members, and are deeply internalised through socialisation (Kennedy *et al.*, 2016; Kwan, 2016; Wu *et al.*, 2021). As a result, hierarchical culture is characterised by high power distance, seniority-based status ordering, and concentrated decision authority (Meng *et al.*, 2024; Wang and Lalwani, 2019).

These cultural features have direct implications for the channels through which independent directors create governance value. Their social status is closely tied to their ability to reduce information asymmetry, provide effective advice, and facilitate access to external financing and strategic partners. Hierarchical culture constrains these channels both

internally and externally. Internally, seniority-based authority limits independent directors' participation in board deliberations and reduces their visibility in governance processes, impeding the accumulation of reputational capital. Externally, rigid hierarchical norms can hinder transparent communication with financial institutions and undermine trust in interfirm cooperation, thereby weakening the relational capital that typically strengthens directors' professional standing. Collectively, these dynamics suggest that hierarchical culture can erode the social status of independent directors. Therefore, we posit that:

- H1.* Hierarchical culture is negatively associated with the social status of independent directors.

2.2 The mediating role of firm-bank relationship

Banks assess firms' credit risk, governance quality, and operating discipline when granting or extending loans (Abid *et al.*, 2021; Faleye and Krishnan, 2017). In firms with strong hierarchical cultures, power is concentrated among senior executives and internal communication tends to be rigid. Independent directors may hesitate to challenge authority, increasing the likelihood that emerging risks or negative information are withheld from the board and, therefore, from external financiers (Hollingshead, 1996). When these risks subsequently materialise through distress or covenant breaches, banks reassess the firm's governance quality and question the effectiveness of board oversight. Independent directors are then held responsible for these lapses, which lowers their perceived competence and weakens their status in the director networks.

Hierarchical norms also signal organisational rigidity. When evaluating borrowers, banks assess not only current financial performance but also a firm's capacity to adjust to uncertainty and to discipline managerial behaviour over time. Firms characterised by hierarchical culture tend to respond more slowly to shocks and exhibit weaker adaptability (Keum and See, 2017; Schweisfurth *et al.*, 2023). Banks may interpret these traits as evidence of heightened agency problems and less effective governance. Moreover, prior research shows that banks incorporate directors' monitoring effort into credit assessments and loan pricing (Huang *et al.*, 2018). When governance quality is perceived to be weak, banks tighten lending terms, increase interest spreads, reduce credit availability, or impose closer monitoring. These responses signal diminished confidence in board oversight, which in turn undermines the perceived advisory and monitoring value of independent directors and erodes their professional reputation and social status. Accordingly, we propose the following hypothesis:

- H2.* Hierarchical culture weakens the social status of independent directors by damaging bank-firm relationships.

2.3 The mediating role of strategic alliance

Firms form strategic alliances to access complementary resources and strengthen their competitive position (Chen *et al.*, 2025; Hillman *et al.*, 2009; Ireland *et al.*, 2002). Moreover, strategic alliance formation depends heavily on trust, mutual adjustment, and partners' ability to coordinate actions over time. In firms with strong hierarchical culture, decision-making authority is highly centralised (Aharoni *et al.*, 2011; Lu *et al.*, 1999), which can impede timely responses to changing conditions, reduce coordination efficiency, and undermine alliance cooperation. High power distance may also extend beyond firm boundaries, shaping interfirm interactions in ways that promote unilateral or inflexible managerial behaviour and hinder the development of cooperative and mutually respectful relationships (Schilke *et al.*, 2021).

From a transaction cost perspective, hierarchical culture may increase the costs of negotiation and collaboration with external partners (Cuypers *et al.*, 2021; Shane, 1993). Dominant decision styles and limited reciprocal trust may fail to meet alliance partners' expectations of fairness, leading to erosion of interorganisational trust and a higher risk of

conflict or termination of alliances (Cropanzano and Mitchell, 2005). Independent directors are expected to help firms build and maintain high-quality external networks. When strategic alliances weaken or break down in hierarchical organisational environments, independent directors lose an important channel through which they signal their advisory value and facilitate access to external resources. This erosion of relational capital ultimately diminishes their social status. Accordingly, we propose the following hypothesis:

- H3. Hierarchical culture weakens the social status of independent directors by undermining strategic alliances.

3. Methodology

3.1 Data and sample

Our sample consists of Chinese A-share firms listed on the Shanghai and Shenzhen Stock Exchanges from 2010 to 2023. We exclude firms in the financial industry and those designated as special treatment (ST or *ST) and remove firm-year observations with missing values. All continuous variables are winsorised at the 5th and 95th percentiles to reduce the influence of extreme values. The final sample consists of 43,433 firm-year observations.

We collect information on executives from firms' annual reports using web-scraping techniques and subsequently conduct manual coding to identify hierarchical culture. Data on independent directors' network positions and other firm-level financial variables are obtained from the China Stock Market and Accounting Research (CSMAR) database, which is widely used in China-related empirical research (Du, 2015; Du *et al.*, 2017).

3.2 Measurements

3.2.1 *Independent director social status* (status). Following social network theory, we measure independent directors' social status using their centrality in the director network (Freeman, 1978; Schabus, 2022; Wasserman and Faust, 1994). This measure reflects how well-connected a director is within the network formed by shared board positions. Directors who are more centrally placed in the network have greater access to information and influence and, therefore, enjoy higher social status (Granovetter, 1973, 1985; Harjoto and Wang, 2020).

Following Larcker *et al.* (2013), we employ social network analysis (SNA) to construct annual connection networks for independent directors of Chinese listed firms and to compute the social status (*Status*) of corporate independent directors. The procedure proceeds in three steps. First, we construct the annual connection network of independent directors. A tie between two independent directors is established if they serve concurrently on the board of at least one listed firm in the same year.

Second, we calculate individual-level degree centrality as:

$$\text{Degree Centrality}_a = N_a / (g - 1) \quad (1)$$

Where N_a denotes the number of directly connected individuals that the independent director has in the current social network, g represents the total number of incumbent independent directors of all listed companies in the market in that year. Dividing by $(g - 1)$ removes the influence of variation in network scale across years.

Third, we compute degree centrality at the firm level. For each firm-year, we take the arithmetic mean of the degree centrality values of all independent directors on the board. To improve the readability of regression coefficients, we scale firm-level degree centrality of independent directors by 1,000 and use the resulting value as the proxy for the independent directors' social status (*Status*). A higher value indicates that the firm's independent director group occupies a more central position within the network and thus commands greater discursive power (Afzali and Kettunen, 2022).

3.2.2 *Hierarchical culture* (hierarchy). We measure hierarchical culture using textual analysis based on manually collected data from firms' annual reports. Specifically, we extract the list of independent directors disclosed in the "Directors, Supervisors, and Senior Executives" section and identify the ordering rule used to present directors. In a well-governed setting, independent directors are experts that should be presented in a neutral order with no implied ranking (Ravina and Sapienza, 2010). Therefore, if a firm lists independent directors strictly by age, which signals deference to seniority and an implicit status hierarchy, we classify the firm as exhibiting a hierarchical culture ($Hierarchy = 1$). By contrast, when directors are ordered using neutral criteria, such as alphabetical order in Chinese (*pinyin*), stroke count, tenure, or functional specialisation, the firm is classified as non-hierarchical ($Hierarchy = 0$). As a robustness check, we apply an alternative classification that defines a firm as hierarchical if independent directors are ordered by either age or political background.

3.3 Model specification

We estimate the following model to examine the impact of hierarchical culture on the social status of independent directors:

$$Status_{i,t} = \beta_0 + \beta_1 Hierarchy_{i,t} + \beta_2 X_{i,t} + FirmFE + YearFE + \varepsilon_{i,t} \quad (2)$$

Where i denotes firm and t denotes year, and $\varepsilon_{i,t}$ is the error term. $Status_{i,t}$ is the average of independent directors' social status for each firm. $Hierarchy_{i,t}$ is an indicator equal to 1 if the firm exhibits hierarchical culture and 0 otherwise. We include a set of firm-level control variables that may influence director social status, including firm size (*Size*), leverage (*Lev*), profit growth (*Grossprofit*), financial performance (*Tobinq*), largest shareholder ownership (*Top1*), and firm age (*FirmAge*). We also control for board and executive characteristics, including the proportion of female directors (*Female*), CEO tenure (*Tenure_CEO*), CEO duality (*Dual*), the proportion of independent directors on the board (*Indep_per*), and the average age of independent directors (*Indep_age*). Firm fixed effects and year fixed effects are included to account for unobservable heterogeneity across firms and over time. Variable definitions can be found in the [Appendix](#), and descriptive statistics are shown in [Table 1](#).

4. Results

4.1 Baseline analysis

[Table 2](#) reports the baseline regression results. Column (1) presents the regression results without firm or year fixed effects. The coefficient on *Hierarchy* is negative and statistically significant, indicating a negative association between hierarchical culture and the social status of independent directors. Column (2) introduces firm and year fixed effects while retaining the same specification, and the key results remain unchanged. Column (3) further includes firm- and executive-level control variables. The coefficient on *Hierarchy* remains negative and significant at the 1% level, confirming that firms characterised by hierarchical norms tend to have independent directors with lower status in the director network. These findings support [H1](#), which posits that hierarchical culture diminishes independent directors' social status. By emphasising deference and seniority, hierarchical norms restrict directors' monitoring and advisory roles, lowering their reputation and standing in the board network.

4.2 Robustness

4.2.1 *Alternative variable specifications*. We use several alternative measures of both dependent and independent variables as robustness tests, and the results are reported in [Table 3](#).

First, as the measure of *Status* is constructed using the arithmetic mean of the degree centrality of independent directors, it may be sensitive to outliers or skewed distributions. To address this concern, we replace the mean with the median of the degree centrality of

Table 1. Descriptive statistics

Variables	<i>N</i>	Mean	SD	Min	P25	P50	P75	Max
<i>Status</i>	43,433	1.2997	0.6975	0.0870	0.7688	1.1711	1.7052	5.4598
<i>Hierarchy</i>	43,433	0.3117	0.4632	0.0000	0.0000	0.0000	1.0000	1.0000
Firm-level variables								
<i>Size</i>	43,433	22.2632	1.4912	14.9416	21.2499	21.9988	22.9674	31.4309
<i>Lev</i>	43,433	0.4200	0.2168	0.0071	0.2458	0.4067	0.5764	1.9566
<i>Grossprofit</i>	43,433	0.2878	0.1900	-3.2529	0.1584	0.2563	0.3830	3.7639
<i>Tobinq</i>	43,433	1.8844	0.9304	0.9435	1.2137	1.5657	2.2334	4.4283
<i>Top1</i>	43,433	0.3389	0.1507	0.0029	0.2233	0.3153	0.4371	0.8999
<i>FirmAge</i>	43,433	2.9235	0.3569	0.0000	2.7081	2.9957	3.1781	4.1897
Executive-level variables								
<i>Female</i>	43,433	0.1990	0.1163	0.0000	0.1111	0.1875	0.2692	0.7333
<i>Tenure_CEO</i>	43,433	3.4866	1.0363	0.0000	2.8904	3.6636	4.2485	5.5645
<i>Dual</i>	43,433	0.2979	0.4573	0.0000	0.0000	0.0000	1.0000	1.0000
<i>Indep_per</i>	43,433	0.3741	0.0609	0.0000	0.3333	0.3636	0.4286	0.8000
<i>Indep_age</i>	43,433	3.9998	0.1017	3.4761	3.9318	4.0013	4.0719	4.3631
Mechanism Variables								
<i>Bank</i>	43,304	0.0671	0.2502	0.0000	0.0000	0.0000	0.0000	1.0000
<i>Alliances</i>	23,268	0.3703	0.4499	0.0000	0.0000	0.0000	0.6931	1.9459
Other Variables								
<i>Business</i>	43,410	3.5922	0.2701	2.8000	3.4175	3.6700	3.8233	3.9367
<i>Diligence</i>	36,746	0.0007	0.0029	0.0000	0.0000	0.0000	0.0000	0.0132
<i>Diversity</i>	43,433	0.1648	0.0412	0.0437	0.1352	0.1626	0.1923	0.3549
<i>CashFlow</i>	40,695	6.6097	13.3278	-0.8923	2.0685	3.9610	7.5007	42.1445
<i>Agency</i>	36,407	0.0069	0.5446	-2.2944	-0.3491	-0.0035	0.3520	2.2748

Note(s): Table 1 reports the descriptive statistics for the key variables, Mean and SD denote the sample mean and standard deviation, respectively. See Appendix for the definitions of all variables

independent directors (*Status_M*) when calculating *Status* and re-estimate the model. As reported in Column (1) of Table 3, the coefficient on *Hierarchy* remains negative and statistically significant, indicating that our findings are not driven by extreme observations.

Next, because organisational culture develops gradually and its influence accumulates over time, hierarchical norms are unlikely to immediately change the social status of independent directors. Instead, they may exert a progressive effect by shaping decision environments, directors' engagement, and professional reputation. To capture this longer-term influence, we measure *Status_L* using the three-year average of the lagged dependent variable [1] in Column (2) of Table 3. The coefficient on *Hierarchy* remains negative and statistically significant, indicating a persistent weakening effect of hierarchical culture on independent directors' social status.

Furthermore, our baseline measure identifies hierarchical culture using age-based ordering of directors. However, age does not necessarily correspond to status, and relying solely on age may overlook important aspects of informal power. To address this concern, we construct an alternative measure based on political background. In the Chinese context, political appointments reflect a well-defined hierarchy and often confer formal authority and broader influence on independent directors. Accordingly, we classify a firm as exhibiting hierarchical culture when directors are ordered by either age or political rank (*Hierarchy_pol*) and re-estimate the baseline regression. The coefficient of *Hierarchy_pol* in Column (3) remains negative and statistically significant.

Lastly, because hierarchical culture reflects an organisational climate, its influence should also manifest at the individual director level rather than only in the firm-level average. To capture this effect at the individual level, we use the degree centrality of each independent director (*Status_P*) as the dependent variable in Column (4) of Table 3. The coefficient on

Table 2. Baseline regression

Dependent variable	Status		
	(1)	(2)	(3)
<i>Hierarchy</i>	-0.0921*** (0.0072)	-0.0164*** (0.0053)	-0.0154*** (0.0053)
<i>Size</i>			0.0642*** (0.0068)
<i>Lev</i>			0.1358*** (0.0243)
<i>Grossprofit</i>			-0.0448 (0.0308)
<i>Tobinq</i>			0.0254*** (0.0042)
<i>Top1</i>			-0.2244*** (0.0457)
<i>FirmAge</i>			0.0685* (0.0384)
<i>Female</i>			-0.1650*** (0.0387)
<i>Tenure_CEO</i>			-0.0158*** (0.0027)
<i>Dual</i>			0.0605*** (0.0080)
<i>Indep_per</i>			-0.3755*** (0.0511)
<i>Indep_age</i>			0.2387*** (0.0347)
<i>Constant</i>	1.3284*** (0.0040)	1.3110*** (0.0027)	-1.0797*** (0.2198)
Firm FE	NO	YES	YES
Year FE	NO	YES	YES
R ²	0.0037	0.6420	0.6467
Observations	43,433	43,105	43,105

Note(s): Table 2 presents the OLS regression results on the effect of hierarchical culture on the effect of independent directors' social status. Column (1) reports the estimated regression coefficients without firm and year fixed effects. Column (2) presents the bivariate regression results with firm fixed effects and year fixed effects. Column (3) includes both firm and year fixed effects and additionally controls firm-level and executive-level characteristics. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses. See [Appendix](#) for definitions of all variables

Hierarchy remains negative and statistically significant at the 1% level. Although hierarchical firms may accord independent directors symbolic respect, such as protocol seating arrangements or honorific titles, such gestures do not necessarily translate into substantive influence or access to information. In many cases, independent directors are appointed primarily to satisfy regulatory requirements, while management intentionally restricts their involvement in key decisions. By limiting information flows, hierarchical culture isolates independent directors within the board network and diminishes their social status.

4.2.2 Alternative sample. Independent directorships are a scarce resource, and holding multiple board seats is widely interpreted as a market signal of a director's expertise, influence, and reputation. Prior research shows that directors serving on several boards enjoy stronger reputational capital and are more visible in the director network (Fama, 1980; Fama and Jensen, 1983). Consistent with this view, Fich and Shivdasani (2006) classify directors with three or more board seats in a given year as "busy directors" and document that such directors tend to have stronger market recognition. Moreover, the market exhibits strong demand for

Table 3. Robustness check with alternative variable specification

Dependent variable	<i>Status_M</i> (1)	<i>Status_L</i> (2)	<i>Status</i> (3)	<i>Status_P</i> (4)
<i>Hierarchy</i>	-0.0108* (0.0063)	-0.0080** (0.0040)		-0.0533*** (0.0116)
<i>Hierarchy_pol</i>			-0.0999*** (0.0086)	
<i>Size</i>	0.0688*** (0.0077)	0.0305*** (0.0053)	0.0630*** (0.0067)	0.0032 (0.0076)
<i>Lev</i>	0.1248*** (0.0282)	0.0255 (0.0197)	0.1384*** (0.0242)	0.1402*** (0.0449)
<i>Grossprofit</i>	-0.0716** (0.0342)	-0.0375* (0.0227)	-0.0453 (0.0306)	-0.0632 (0.0455)
<i>Tobinq</i>	0.0224*** (0.0049)	0.0113*** (0.0030)	0.0257*** (0.0042)	0.0030* (0.0017)
<i>Top1</i>	-0.2752*** (0.0533)	-0.1584*** (0.0352)	-0.2208*** (0.0455)	-0.0952* (0.0563)
<i>FirmAge</i>	0.0970** (0.0454)	0.0407 (0.0322)	0.0659* (0.0382)	-0.0404 (0.0287)
<i>Female</i>	-0.2142*** (0.0458)	-0.0834*** (0.0310)	-0.1623*** (0.0386)	-0.1209* (0.0690)
<i>Tenure_CEO</i>	-0.0098*** (0.0032)	0.0100*** (0.0021)	-0.0157*** (0.0027)	-0.0645*** (0.0056)
<i>Dual</i>	0.0526*** (0.0095)	0.0235*** (0.0064)	0.0610*** (0.0080)	0.0977*** (0.0153)
<i>Indep_per</i>	-0.4741*** (0.0591)	-0.2433*** (0.0534)	-0.3856*** (0.0510)	-1.1188*** (0.1070)
<i>Indep_age</i>	0.2568*** (0.0402)	0.0602** (0.0274)	0.2165*** (0.0346)	-0.4365*** (0.0787)
<i>Constant</i>	-1.4526*** (0.2560)	0.2855 (0.1782)	-0.8746*** (0.2198)	6.5534*** (0.3552)
Firm FE	YES	YES	YES	NO
Year FE	YES	YES	YES	YES
Director FE	NO	NO	NO	YES
R ²	0.5490	0.7624	0.6483	0.7404
Observations	43,105	37,583	43,105	157,402

Note(s): Table 3 reports robustness checks on the effect of hierarchical culture on independent directors' social status. Column (1) uses the median degree centrality of all independent directors in the firm's director network as the dependent variable. Column (2) measures independent directors' social status as the three-year lagged average of degree centrality. Column (3) redefines hierarchical culture by treating a firm as hierarchical when independent directors are ordered by age or by political background. Column (4) sets the dependent variable to the degree centrality of each individual independent director in the director network. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

busy directors (Keys and Li, 2005), who typically possess greater visibility and bargaining power and receive higher compensation (Linn and Park, 2005). As a result, these directors are generally considered less susceptible to firm-level hierarchical constraints.

Therefore, we construct a subsample of busy directors as those who hold three or more board seats in the same year and calculate the arithmetic mean of the degree centrality of busy independent directors to capture their social status (*Status_B*). The results are presented in Table 4. In Column (1), we find the coefficient on *Hierarchy* remains negative and significant at the 5% level, indicating that the influence of hierarchical culture is substantive enough to extend to busy directors. We also replace the mean with the median degree centrality

Table 4. Robustness check with alternative sample specification

Dependent variable	Status_B (1)	Status_BM (2)
<i>Hierarchy</i>	-0.0541** (0.0269)	-0.0496* (0.0271)
<i>Size</i>	0.0682** (0.0345)	0.0698** (0.0348)
<i>Lev</i>	0.5008*** (0.1267)	0.4824*** (0.1277)
<i>Grossprofit</i>	0.1850 (0.1631)	0.2159 (0.1648)
<i>Tobinq</i>	0.0042 (0.0215)	0.0000 (0.0217)
<i>Top1</i>	-0.0507 (0.2277)	-0.0797 (0.2297)
<i>FirmAge</i>	0.1128 (0.2251)	0.1252 (0.2261)
<i>Female</i>	-0.3387* (0.1993)	-0.3238 (0.2010)
<i>Tenure_CEO</i>	-0.0947*** (0.0140)	-0.0939*** (0.0141)
<i>Dual</i>	0.1960*** (0.0420)	0.1881*** (0.0422)
<i>Indep_per</i>	-0.9765*** (0.2627)	-1.0200*** (0.2652)
<i>Indep_age</i>	0.1909 (0.1844)	0.2098 (0.1859)
<i>Constant</i>	5.2890*** (1.1859)	5.1413*** (1.1960)
Firm FE	YES	YES
Year FE	YES	YES
R ²	0.6789	0.6733
Observations	29,147	29,147

Note(s): Table 4 examines whether the effect of hierarchical culture persists among busy independent directors. Busy directors are defined as those holding three or more board seats in the same year. Column (1) uses the arithmetic mean of the degree centrality of busy independent directors as the dependent variable. Column (2) replaces the mean with the median degree centrality to address concerns about outliers. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

(*Status_BM*) to mitigate concerns about outliers or skewness, and the results in Column (2) remain consistent with our key findings.

4.2.3 Alternative model specifications. While the baseline specifications include firm and year fixed effects, the results may still be affected by omitted shocks that vary across industries over time. For instance, during periods of rapid industry expansion, such as the growth of the renewable energy sector, firms may recruit younger managers or adjust organisational structures to support scaling. Such industry-wide shifts could alter internal hierarchy and potentially influence cultural dynamics. To address this concern, we augment the model with industry-year fixed effects, which absorb shocks that are both time-varying and industry-specific. The results in Table 5 remain consistent with our baseline findings, indicating that the impacts of hierarchical culture are not driven by unobserved industry-level trends.

4.3 Endogeneity

We conduct several tests to address potential endogeneity concerns, and the results are presented in Table 6.

Table 5. Robustness check with alternative model specification

Dependent variable	Status (1)
<i>Hierarchy</i>	−0.0138*** (0.0053)
<i>Size</i>	0.0623*** (0.0071)
<i>Lev</i>	0.1179*** (0.0253)
<i>Grossprofit</i>	−0.0902*** (0.0337)
<i>Tobinq</i>	0.0251*** (0.0044)
<i>Top1</i>	−0.1872*** (0.0465)
<i>FirmAge</i>	0.0371 (0.0414)
<i>Female</i>	−0.1724*** (0.0391)
<i>Tenure_CEO</i>	−0.0160*** (0.0027)
<i>Dual</i>	0.0632*** (0.0081)
<i>Indep_per</i>	−0.3633*** (0.0513)
<i>Indep_age</i>	0.2229*** (0.0351)
<i>Constant</i>	−0.8777*** (0.2294)
Firm FE	YES
Year FE	YES
Industry* Year FE	YES
R ²	0.6609
Observations	42,962

Note(s): Table 5 reports robustness checks on the effect of hierarchical culture on independent directors' social status. Column (1) includes firm fixed effects and year fixed effects and additionally incorporates industry-by-year high-dimensional fixed effects to account for time-varying shocks at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

4.3.1 Propensity score matching (PSM) analysis. First, because firms with and without hierarchical culture may differ systematically, the baseline estimates could be affected by sample selection bias. To mitigate this concern, we conduct the propensity score matching (PSM) analysis. We match each hierarchical-culture firm to a non-hierarchical firm using 1:1 nearest-neighbour matching based on all control variables used in the baseline regression. After matching, differences in observable firm characteristics become statistically insignificant, indicating satisfactory covariate balance. We then re-estimate the baseline model on the matched sample, as shown in Column (1) of Table 6. The coefficient on *Hierarchy* remains negative and significant, confirming that the main results are not driven by observable firm heterogeneity.

4.3.2 PSM-DID analysis. Second, it is possible that directors with lower status are more likely to tolerate or reinforce hierarchical norms. Therefore, we first conduct the Hausman-Wu test to address potential endogeneity issues (Cornwell *et al.*, 1990). The results in Columns (2) and (3) of Table 6 show no evidence of severe endogeneity. To further address concerns about

Table 6. Endogeneity tests

Dependent variables	Status (1)	Hierarchy (2)	Status (3)	Status (4)	Status (5)	Hierarchy (6)	Status (7)
<i>Hierarchy</i>	-0.0206** (0.0080)		-0.0521 (0.0628)				-0.0591* (0.0329)
<i>Hierarchy_lag</i>		0.0903*** (0.0063)					
<i>Hierarchy_resid</i>			0.0363 (0.0625)				
<i>Treat * Post1</i>				-0.0134** (0.0065)			
<i>Treat * Post2</i>					0.0145** (0.0073)		
<i>Hierarchy_ind</i>						0.9662*** (0.0307)	
<i>Size</i>	0.0748*** (0.0109)	-0.0202*** (0.0066)	0.0574*** (0.0076)	0.0645*** (0.0067)	0.0704*** (0.0072)	-0.0208*** (0.0056)	0.0632*** (0.0058)
<i>Lev</i>	0.1293*** (0.0388)	0.0569** (0.0257)	0.1264*** (0.0267)	0.1369*** (0.0243)	0.1367*** (0.0256)	0.0332 (0.0218)	0.1372*** (0.0226)
<i>Grossprofit</i>	-0.0454 (0.0503)	0.0082 (0.0280)	-0.0490 (0.0337)	-0.0403 (0.0305)	-0.0684** (0.0328)	0.0083 (0.0251)	-0.0450* (0.0259)
<i>Tobinq</i>	0.0267*** (0.0068)	0.0043 (0.0042)	0.0205*** (0.0046)	0.0255*** (0.0042)	0.0300*** (0.0045)	0.0045 (0.0038)	0.0256*** (0.0039)
<i>Top1</i>	-0.2066*** (0.0735)	-0.0237 (0.0421)	-0.2236*** (0.0494)	-0.2283*** (0.0456)	-0.2167*** (0.0477)	-0.0272 (0.0371)	-0.2251*** (0.0384)
<i>FirmAge</i>	0.0895 (0.0622)	0.0158 (0.0405)	-0.1382*** (0.0416)	0.0733* (0.0384)	0.0749* (0.0397)	-0.0406 (0.0318)	0.0664** (0.0330)
<i>Female</i>	-0.2584*** (0.0626)	-0.0213 (0.0425)	0.0546 (0.0475)	-0.1632*** (0.0386)	-0.1855*** (0.0411)	0.0108 (0.0353)	-0.1645*** (0.0365)
<i>Tenure_CEO</i>	-0.0158*** (0.0044)	0.0006 (0.0028)	-0.0193*** (0.0029)	-0.0160*** (0.0027)	-0.0176*** (0.0029)	0.0011 (0.0025)	-0.0158*** (0.0026)

(continued)

Table 6. Continued

Dependent variables	Status (1)	Hierarchy (2)	Status (3)	Status (4)	Status (5)	Hierarchy (6)	Status (7)
<i>Dual</i>	0.0486*** (0.0130)	0.0094 (0.0087)	0.0652*** (0.0088)	0.0602*** (0.0080)	0.0521*** (0.0086)	0.0092 (0.0075)	0.0609*** (0.0078)
<i>Indep_per</i>	-0.3643*** (0.0853)	-0.0364 (0.0576)	-0.3713*** (0.0540)	-0.3729*** (0.0513)	-0.3945*** (0.0572)	-0.0209 (0.0506)	-0.3767*** (0.0524)
<i>Indep_age</i>	0.2957*** (0.0559)	-0.0184 (0.0355)	0.1964*** (0.0379)	0.2340*** (0.0347)	0.2100*** (0.0371)	-0.0571* (0.0307)	0.2362*** (0.0318)
<i>Constant</i>	-1.6144*** (0.3560)	0.8521*** (0.2299)	-0.7039*** (0.2592)	-1.0779*** (0.2195)	-1.0834*** (0.2346)	0.8167*** (0.1963)	-0.3948** (0.1901)
Firm FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
R^2	0.6941	0.2517	0.6525	0.6445	0.6340	0.0403	0.3736
Observations	20,310	36,534	36,534	42,631	35,350	43,105	43,105
Identification							991.015***

Note(s): This table reports a set of endogeneity tests. Column (1) presents the PSM estimation based on the matched sample constructed using all baseline control variables. Columns (2) and (3) report the Hausman–Wu tests. Columns (4) and (5) display results for the PSM-DID approach. Columns (6) and (7) present the instrumental variable results. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

omitted variables and reverse causality, we implement a PSM-DID (difference-in-differences) analysis.

Because hierarchical culture can shift in either direction: emerging in previously non-hierarchical firms or disappearing in firms that once exhibited hierarchical norms, it may produce opposite effects on independent directors' social status. We thus distinguish these two situations when testing the effects of hierarchical culture (Kong *et al.*, 2020).

We first identify firms that experience a shift in hierarchical culture during the sample period. These firms are then split into two treatment categories. In the first category, the treatment group consists of firms that initially have no hierarchical culture (*Hierarchy* = 0) but adopt hierarchical culture in a later year (*Hierarchy* = 1). The control group for this category includes firms that never exhibit hierarchical culture throughout the sample period (*Hierarchy* remains 0). In the second category, the treatment group includes firms that initially exhibit hierarchical culture (*Hierarchy* = 1) but later cease to exhibit hierarchical culture (*Hierarchy* = 0). The corresponding control group consists of firms that retain hierarchical culture in all years (*Hierarchy* remains 1).

For both categories, we assign *Treat* = 1 to treatment firms and *Post* = 1 to observations after the cultural shift. To construct comparable control groups, we conduct propensity score matching within each industry-year and match each treatment observation to a control observation using nearest-neighbour matching without replacement based on all baseline control variables. Using the matched sample, we then estimate a DID model with the interaction term *Treat* × *Post* as the coefficient of interest. As shown in Columns (4) and (5) of Table 6, the emergence of hierarchical culture leads to a significant decrease in independent directors' social status, whereas the disappearance of hierarchical culture results in a significant increase. These findings align with our expectation that adopting hierarchical norms weakens the social status of independent directors, while removing such norms helps restore it.

4.3.3 Instrumental variable (IV) approach. Last, because firms within the same industry face comparable competitive pressures, regulatory expectations, and legitimacy concerns (Tian *et al.*, 2024), they tend to imitate one another's organisational practices, which often produces convergence in cultural norms. Prior research shows that hierarchical norms cluster by industry, for example, they are more common in traditional manufacturing sectors and less common in high-tech or creative industries (Xu *et al.*, 2023). This pattern suggests that a firm's hierarchical culture is shaped, at least in part, by peer practices within the same industry-year. To address potential endogeneity arising from unobserved firm characteristics that may simultaneously influence hierarchical culture and director status, we use the industry-year average value of *Hierarchy* as an instrumental variable.

Columns (6) and (7) of Table 6 report the two-stage least squares (2SLS) estimates. Column (6) presents the first stage, where the coefficient on the industry-year average of *Hierarchy* is positive and statistically significant, indicating that the instrument is strongly correlated with the endogenous regressor [2]. Column (7) reports the second-stage results and shows that hierarchical culture continues to exert a significant negative effect on independent directors' social status, consistent with our baseline findings.

4.4 Cross-sectional analysis

We also examine whether the effect of hierarchical culture differs across various firm characteristics, and the results are presented in Table 7.

4.4.1 Ownership structure. Power distance reflects the extent to which members of an organisation accept unequal distributions of authority. In high power-distance settings, individuals tend to defer to those with formal or informal authority, reinforcing hierarchical order. This dynamic is particularly salient in Chinese state-owned enterprises (SOEs) where senior managers often hold dual identities as corporate executives and administrative officials. Their influence derives not only from organisational position but also from administrative

Table 7. Subsample analysis

Dependent variable	Status							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SOE	Non-SOE	High R&D	Low R&D	High relationship	Low relationship	Growth	Non-growth
<i>Hierarchy</i>	-0.0220** (0.0100)	-0.0085 (0.0061)	-0.0017 (0.0092)	-0.0213*** (0.0065)	-0.0178** (0.0076)	-0.0089 (0.0075)	-0.0021 (0.0105)	-0.0238*** (0.0070)
<i>Size</i>	0.0866*** (0.0133)	0.0541*** (0.0080)	0.0350** (0.0152)	0.0723*** (0.0082)	0.0726*** (0.0103)	0.0550*** (0.0123)	0.0889*** (0.0142)	0.0481*** (0.0095)
<i>Lev</i>	-0.1101** (0.0473)	0.1758*** (0.0295)	0.1444*** (0.0513)	0.1079*** (0.0294)	0.1469*** (0.0337)	0.0797** (0.0405)	0.1180** (0.0520)	0.1182*** (0.0318)
<i>Grossprofit</i>	-0.1430*** (0.0483)	0.0100 (0.0365)	-0.0536 (0.0571)	-0.0560 (0.0400)	0.0183 (0.0391)	-0.1647*** (0.0575)	0.0540 (0.0641)	-0.0734* (0.0396)
<i>Tobinq</i>	0.0008 (0.0094)	0.0287*** (0.0047)	0.0327*** (0.0067)	0.0236*** (0.0056)	0.0304*** (0.0058)	0.0219*** (0.0064)	0.0206*** (0.0078)	0.0122** (0.0061)
<i>Top1</i>	-0.1733** (0.0780)	-0.1092* (0.0605)	-0.0132 (0.1194)	-0.2607*** (0.0533)	-0.0990 (0.0674)	-0.2266*** (0.0741)	-0.1351 (0.0920)	-0.3153*** (0.0607)
<i>FirmAge</i>	-0.0843 (0.0701)	0.0533 (0.0496)	0.0497 (0.0929)	0.0900* (0.0476)	0.0480 (0.0525)	0.3561*** (0.0871)	0.0011 (0.0840)	-0.0521 (0.0664)
<i>Female</i>	-0.3436*** (0.0794)	-0.1418*** (0.0456)	-0.1249* (0.0743)	-0.1806*** (0.0475)	-0.1653*** (0.0570)	-0.1071* (0.0618)	-0.1522* (0.0860)	-0.1637*** (0.0515)
<i>Tenure_CEO</i>	-0.0257*** (0.0044)	-0.0142*** (0.0034)	-0.0053 (0.0054)	-0.0220*** (0.0032)	-0.0086** (0.0039)	-0.0218*** (0.0039)	-0.0177*** (0.0058)	-0.0162*** (0.0034)
<i>Dual</i>	0.0773*** (0.0180)	0.0680*** (0.0091)	0.0658*** (0.0143)	0.0562*** (0.0101)	0.0667*** (0.0112)	0.0575*** (0.0131)	0.0845*** (0.0176)	0.0533*** (0.0107)
<i>Indep_per</i>	-0.4078*** (0.1006)	-0.3077*** (0.0583)	-0.3752*** (0.0902)	-0.3497*** (0.0630)	-0.3507*** (0.0742)	-0.3550*** (0.0778)	-0.5227*** (0.1104)	-0.3740*** (0.0680)
<i>Indep_age</i>	-0.1306* (0.0699)	0.3654*** (0.0405)	0.4759*** (0.0686)	0.1529*** (0.0420)	0.2974*** (0.0497)	0.1046* (0.0548)	0.2604*** (0.0748)	0.2044*** (0.0460)
<i>Constant</i>	0.7328* (0.4360)	-1.5051*** (0.2631)	-1.6138*** (0.4718)	-0.8852*** (0.2713)	-1.5034*** (0.3265)	-1.1713*** (0.4077)	-1.5053*** (0.4761)	-0.1284 (0.3359)
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
R ²	0.6355	0.6500	0.6949	0.6443	0.7048	0.6866	0.7187	0.6513
Observations	13,933	29,110	11,924	30,045	22,410	19,992	12,358	26,098

Note(s): This table reports the heterogeneity analysis. Column (1) restricts the sample to state-owned enterprises, and Column (2) to non-state-owned enterprises. Columns (3) and (4) present the subsample analysis for firms with high and low R&D intensity, respectively. Columns (5) and (6) examine firms with high and low levels of relationship-based expenditures. Columns (7) and (8) report the results for firms in the growth stage and non-growth stage. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

rank, which amplifies hierarchical. In such environments, independent directors with limited seniority face greater difficulties in expressing dissent, accessing information, and exercising oversight, ultimately weakening their standing within the director network.

We examine this by splitting the sample based on ownership structure. Columns (1) and (2) of [Table 7](#) report the results. Column (1) shows that hierarchical culture significantly reduces director status in SOEs, whereas Column (2) shows no corresponding effect in non-SOEs. A plausible explanation is that managerial authority in non-state-owned firms is grounded in market performance and professional competence rather than administrative rank. Under these conditions, independent directors' standing is tied more closely to their expertise and ability to generate value. Consequently, hierarchical norms have reduced capacity to weaken their status in non-SOEs.

4.4.2 R&D intensity. Drawing on resource dependence theory, firms rely on external knowledge and technology to sustain competitiveness ([Hillman et al., 2009](#)). Independent directors serve as important external resources, and their social status reflects the strategic value of the expertise and connections they contribute. In firms with high research and development (R&D) intensity, reliance on external knowledge inputs increases the importance of directors' technical skills and evaluative judgment. Independent directors play a central role in interpreting complex technological information and linking the firm to innovation networks. Consequently, hierarchical norms have limited capacity to diminish their status.

Following prior research, we calculate R&D intensity as the ratio of R&D expenditure to operating revenue and classify firms into high and low R&D groups ([Padgett and Galan, 2010](#)). Columns (3) and (4) of [Table 7](#) report the results. We find that hierarchical culture significantly reduces director status in low R&D firms, as shown in Column (4). This is consistent with the view that firms relying more on internal routines and established authority structures are more susceptible to the constraining effects of hierarchical norms. By contrast, Column (3) shows no significant effect in high R&D firms. When firms depend heavily on external knowledge inputs, independent directors' expertise remains central to decision making, making their social standing less affected by hierarchical culture.

4.4.3 Relationship expense. We further examine whether the effect of hierarchical culture varies with firms' reliance on relationship-based resources. Firms that depend heavily on relational exchanges to manage policy or market uncertainty centralise control of these relationships within senior managerial officers ([Paulraj and Chen, 2007](#)). Hierarchical norms reinforce this concentration by restricting access to key contacts and information. Because independent directors rely on timely and credible information to fulfill their monitoring and advisory roles, limited access to relational resources weakens their ability to contribute and reduces their standing within the governance system.

We measure relational dependence using the ratio of business entertainment expenses to operating revenue and classify firms as above or below the industry median ([Ben et al., 2020](#)). Columns (5) and (6) of [Table 7](#) report the results. In high-expenditure firms, hierarchical culture significantly lowers director status, consistent with the view that concentrated control over information limits directors' capacity to exert monitoring efforts. By contrast, hierarchical culture has no significant effect in low-expenditure firms, where governance decisions rely more on transparent and verifiable information. In these contexts, independent directors can apply their expertise without facing informational barriers, rendering hierarchical norms less consequential for their status.

4.4.4 Firm life cycle. We also examine whether the effect of hierarchical culture varies across different stages of corporate life cycle. Following prior research ([Anthony and Ramesh, 1992](#)), we construct a life-cycle index based on sales growth, retained earnings, capital expenditures, and firm age ([Bens et al., 2002](#)). Within each industry, firms in the top one-third are classified as growth-stage firms, and the remaining firms are classified as non-growth firms ([Hribar and Yehuda, 2015](#)).

Columns (7) and (8) of [Table 7](#) report the results. Column (7) shows no significant association between hierarchical culture and director status among growth-stage firms. One

possible explanation is these firms prioritise expansion and rapid scaling, which heightens their need for external expertise and network resources. Moreover, growth-oriented decisions emphasise economic value and flexibility, and firms tend to rely more on the professional judgement of independent directors and place less weight on seniority-based conventions. As a result, hierarchical norms exert limited influence on director status in this setting.

In contrast, Column (8) indicates a significant negative association between hierarchical culture and director status among firms in mature phases. Firms in more mature phases often focus on preserving market position and extracting cash flows from established operations. In these organisations, managerial authority is more likely to be rooted in tenure and accumulated experience, and strategic preferences shift toward stability rather than innovation. Hierarchical norms may thus be used to maintain internal cohesion by discouraging dissent and constraining open deliberation. This limits independent directors' ability to contribute monitoring and advisory value, which ultimately reduces their influence and social status.

4.5 Mediations

4.5.1 Firm-bank relationship. Resource dependence theory highlights that banks are a critical external source of finance for firms, and stable bank-firm ties depend on transparency, adaptability, and effective governance (Hillman *et al.*, 2009). Our second hypothesis posits that by weakening banks' willingness to maintain close relationships, hierarchical culture diminishes independent directors' social status.

Following prior studies, we measure bank-firm relationships using a dummy variable *Bank*, equal to one when the firm maintains equity ties with a bank and zero otherwise. An equity tie is defined as a bank holding shares in the firm while the firm simultaneously holds shares in the bank (Barth *et al.*, 2022). We then examine the mediating role of *Bank* in the relationship between hierarchical culture and independent director status (Morck and Nakamura, 1999; Weinstein and Yafeh, 1998). Column (1) of Table 8 shows that hierarchical culture is negatively associated with the likelihood of maintaining bank-firm ties. Column (2), which includes both *Hierarchy* and *Bank*, indicates that stronger bank relationships are positively related to independent director status, while the coefficient on *Hierarchy* remains negative and significant. These results support H2. Hierarchical culture lowers the social status of independent directors by weakening bank-firm ties.

4.5.2 Strategic alliance. Our third hypothesis proposes that hierarchical culture lowers independent directors' social status by reducing firms' capacity to form and sustain strategic alliances. Following prior research, we measure *Alliance* as the logarithm of one plus the number of strategic alliances a firm establishes in a given year and report the results in Columns (3) and (4) of Table 8 (Cuypers *et al.*, 2021; Shane, 1993). Column (3) shows that hierarchical culture is associated with fewer alliances, indicating that firms with stronger hierarchical norms participate less in external collaborative activities. Column (4), which includes both *Hierarchy* and *Alliance*, further shows that alliance activity is positively associated with director status, while *Hierarchy* remains negative and statistically significant. These findings support H3: hierarchical culture reduces firms' participation in strategic alliances, which in turn lowers the social status of independent directors.

4.6 Moderations

4.6.1 Business environment. Institutional theory suggests that a well-developed external environment, characterised by stronger legal protections, higher regulatory quality, and greater market transparency can moderate the influence of internal cultural norms (Zucker, 1987). In a firm with strong hierarchical culture, clearer rules, stricter disclosure requirements, and more predictable enforcement reduce managers' ability to centralise authority or restrict information flows. By reducing informational and authority constraints, these conditions enable independent directors to monitor more effectively and contribute more credible professional judgement. Moreover, a more competitive and efficient market environment also

Table 8. Mechanism analysis

Dependent variable	Bank (1)	Status (2)	Alliances (3)	Status (4)
<i>Hierarchy</i>	-0.0095** (0.0043)	-0.0153*** (0.0053)	-0.0126** (0.0061)	-0.0126* (0.0073)
<i>Bank</i>		0.0618*** (0.0067)		
<i>Alliances</i>				0.0269*** (0.0083)
<i>Size</i>	0.0106** (0.0051)	0.0644*** (0.0067)	0.1354*** (0.0064)	0.0637*** (0.0086)
<i>Lev</i>	0.0660*** (0.0200)	0.1300*** (0.0243)	0.1086*** (0.0246)	0.1076*** (0.0300)
<i>Grossprofit</i>	0.0141 (0.0227)	-0.0442 (0.0309)	-0.0205 (0.0307)	-0.0291 (0.0382)
<i>Tobinq</i>	0.0025 (0.0032)	0.0252*** (0.0042)	0.0451*** (0.0044)	0.0248*** (0.0057)
<i>Top1</i>	-0.0614* (0.0334)	-0.2160*** (0.0456)	-0.3207*** (0.0407)	-0.1419** (0.0585)
<i>FirmAge</i>	0.1510*** (0.0300)	0.0588 (0.0384)	0.0936*** (0.0330)	0.0819* (0.0472)
<i>Female</i>	-0.0693** (0.0307)	-0.1608*** (0.0387)	-0.0403 (0.0408)	-0.1182** (0.0497)
<i>Tenure_CEO</i>	-0.0121*** (0.0022)	-0.0151*** (0.0027)	0.0036 (0.0029)	-0.0109*** (0.0036)
<i>Dual</i>	0.0032 (0.0067)	0.0605*** (0.0080)	-0.0168** (0.0084)	0.0635*** (0.0101)
<i>Indep_per</i>	-0.0721 (0.0450)	-0.3822*** (0.0508)	-0.0475 (0.0623)	-0.3495*** (0.0696)
<i>Indep_age</i>	0.0333 (0.0269)	0.2344*** (0.0347)	-0.0517 (0.0347)	0.2376*** (0.0450)
<i>Constant</i>	-0.4211** (0.1708)	-1.0584*** (0.2193)	-2.7198*** (0.2091)	-1.1103*** (0.2794)
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
R ²	0.4826	0.6480	0.3881	0.6166
Observations	42,985	42,985	23,244	23,244

Note(s): Table 8 reports the mechanism analysis for the effect of hierarchical culture on independent directors' social status. Columns (1) and (2) examine the bank–firm relationship mechanism, and Columns (3) and (4) test the strategic alliance mechanism. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

raises the costs of seniority-driven decision making, increasing the premium placed on directors' expertise. Accordingly, improvements in the external business environment should weaken the negative association between hierarchical culture and independent directors' social status.

Following Shahab *et al.* (2025), we use the data from the “Report on the Business Environment Index for China's Provinces” to proxy the quality of the external business environment (*Business*). We examine the moderating effects by adding the interaction term between *Hierarchy* and *Business* to the baseline model, and the results are shown in Column (1) of Table 9. We find that the coefficient on *Hierarchy***Business* is positive and significant, indicating that a better business environment weakens the negative impact of hierarchical culture on independent director status.

4.6.2 Board diligence. In organisations where hierarchical culture is deeply embedded, directors often defer to the authority of the CEO or board chair and may be reluctant to express

Table 9. Moderating analysis

Dependent variable	Status (1)	(2)	(3)
<i>Hierarchy</i>	-0.2160*** (0.0805)	-0.0127** (0.0055)	-0.0753*** (0.0249)
<i>Hierarchy * Business</i>	0.0558** (0.0219)		
<i>Business</i>	0.0436 (0.0348)		
<i>Hierarchy * Diligence</i>		0.1551* (0.0858)	
<i>Diligence</i>		1.3878 (1.0941)	
<i>Hierarchy *Diversity</i>			0.3695** (0.1484)
<i>Diversity</i>			0.0283 (0.1119)
<i>Size</i>	0.0634*** (0.0068)	0.0621*** (0.0080)	0.0643*** (0.0068)
<i>Lev</i>	0.1339*** (0.0243)	0.0802*** (0.0267)	0.1359*** (0.0243)
<i>Grossprofit</i>	-0.0453 (0.0307)	-0.0386 (0.0326)	-0.0442 (0.0308)
<i>Tobinq</i>	0.0252*** (0.0042)	0.0227*** (0.0045)	0.0253*** (0.0042)
<i>Top1</i>	-0.2266*** (0.0457)	-0.1630*** (0.0529)	-0.2229*** (0.0457)
<i>FirmAge</i>	0.0655* (0.0384)	0.1265** (0.0507)	0.0692* (0.0384)
<i>Female</i>	-0.1674*** (0.0387)	-0.1637*** (0.0420)	-0.1687*** (0.0388)
<i>Tenure_CEO</i>	-0.0158*** (0.0027)	-0.0148*** (0.0028)	-0.0156*** (0.0027)
<i>Dual</i>	0.0602*** (0.0080)	0.0598*** (0.0086)	0.0606*** (0.0080)
<i>Indep_per</i>	-0.3749*** (0.0511)	-0.2838*** (0.0524)	-0.3756*** (0.0511)
<i>Indep_age</i>	0.2365*** (0.0347)	0.2261*** (0.0385)	0.2283*** (0.0354)
<i>Constant</i>	-1.1997*** (0.2453)	-1.2647*** (0.2610)	-1.0482*** (0.2202)
Firm FE	YES	YES	YES
Year FE	YES	YES	YES
R ²	0.6465	0.6637	0.6468
Observations	43,082	36,348	43,105

Note(s): Table 9 reports the moderation analysis examining whether the business environment, board diligence, and board age diversity alter the relationship between hierarchical culture and independent directors' social status. Column (1) tests the moderating role of the regional business environment. Column (2) examines the moderating effect of board diligence. Column (3) evaluates the moderating role of board age diversity. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

dissenting views (Kirkbride *et al.*, 1991; Morrison *et al.*, 2011). This dynamic weakens the monitoring role of independent directors and limits their ability to provide meaningful oversight, thereby diminishing their professional value and social standing. Agency theory emphasises that board diligence serves to constrain managerial opportunism by ensuring that monitoring and deliberation take place effectively (Bonazzi and Islam, 2007; Shaikh and

Peters, 2018). When boards are more diligent, diverse professional judgements are more likely to be articulated openly, which helps mitigate the adverse impacts of hierarchical norms. Board diligence also signals to external stakeholders that the firm's decision-making process incorporates debate and internal checks rather than being dominated by authority or seniority.

Following prior research, we proxy board diligence (*Diligence*) using the average proportion of votes cast against management proposals at shareholder meetings (Cao *et al.*, 2025; Iliev *et al.*, 2015). Column (2) of Table 9 presents the results. The interaction term between *Hierarchy* and *Diligence* is positive and statistically significant, indicating that higher levels of board diligence attenuate the negative association between hierarchical culture and independent directors' social status.

4.6.3 Board diversity. According to information and decision-making theory, directors of different ages contribute distinct forms of human capital and experience to board deliberations (Saunders and Miranda, 1998). Older directors offer accumulated industry knowledge and crisis-management experience, while younger directors tend to understand new technologies and emerging market trends. This mix of perspectives shifts board discussions away from seniority-based deference toward information-driven evaluation. When deliberations rely less on hierarchical ordering and more on substantive expertise, independent directors have greater opportunity to contribute meaningfully, strengthening their social status.

We measure board age diversity using the coefficient of variation in directors' ages (Ali *et al.*, 2014). Column (3) of Table 9 reports the moderating effect. The interaction between *Hierarchy* and *Diversity* is positive and statistically significant, indicating that greater age diversity weakens the negative effect of hierarchical culture on independent director status. These results suggest that diverse age composition reduces the influence of seniority norms, allowing independent directors' expertise to play a more prominent role.

4.7 Additional analysis

While existing evidence indicates that hierarchical culture weakens independent director status, it may also generate broader consequences, Table 10 presents evidence on the economic impacts of the hierarchical culture. The findings show that hierarchical culture not only suppresses directors' social status but also impairs firms' cash flow performance and increases agency costs.

4.7.1 Cash flow. Operating cash flow is a core indicator of a firm's financial health and value-creation capacity. However, when hierarchical culture permeates the organisation, it not only lowers the social status of independent directors but may also constrain the firm's cash flow. On the one hand, hierarchical culture creates information barriers, concentrating decision-making authority in a small group of senior executives and limiting the operational risk information disclosed to independent directors. On the other hand, it suppresses independent directors' voice, resulting in rigid decision processes. These information barriers and inefficient decision structures may ultimately erode the profitability of core operations and weaken their ability to generate cash flow. We measure cash flow (*CashFlow*) using the ratio of operating revenue to average cash holding, and Column (1) of Table 10 examines the interaction between hierarchical culture and the social status of independent directors. The interaction term is negative and statistically significant at the one percent level. This indicates that firms with strong hierarchical norms and low-status independent directors exhibit significantly weaker operating cash flow, consistent with impaired firm value and financial performance.

4.7.2 Agency cost. Independent directors play an important role in constraining managerial opportunism. In firms with strong hierarchical culture, authority rooted in seniority suppresses professional judgment and limits dissenting views, which weakens both the social standing and the substantive influence of independent directors. Their monitoring function becomes largely nominal, reducing the board's ability to provide effective oversight. This governance weakness allows managers to extract private benefits and use corporate resources inefficiently,

Table 10. Further analysis

Dependent variables	CashFlow (1)	Agency (2)
<i>Hierarchy * Status</i>	-0.2764*** (0.0824)	0.0062** (0.0029)
<i>Size</i>	-0.2896 (0.2086)	-0.0338*** (0.0067)
<i>Lev</i>	10.3510*** (0.7759)	0.2962*** (0.0236)
<i>Grossprofit</i>	-7.0174*** (0.7538)	0.1538*** (0.0277)
<i>Tobinq</i>	0.1712** (0.0712)	0.0312*** (0.0036)
<i>Top1</i>	-3.9247*** (0.9693)	0.1118*** (0.0397)
<i>FirmAge</i>	3.4920*** (0.7643)	0.0002 (0.0355)
<i>Female</i>	2.0936*** (0.7609)	-0.0195 (0.0339)
<i>Tenure_CEO</i>	0.0366 (0.0667)	0.0178*** (0.0024)
<i>Dual</i>	-0.2604 (0.2978)	0.0083 (0.0074)
<i>Indep_per</i>	-1.7260 (1.5322)	-0.1139** (0.0487)
<i>Indep_age</i>	2.7713** (1.0802)	0.0725** (0.0290)
<i>Constant</i>	-9.0946 (7.5115)	0.1791 (0.2070)
Firm FE	YES	YES
Year FE	YES	YES
R ²	0.4842	0.6842
Observations	40,370	35,967

Note(s): Table 10 examines how the interaction between hierarchical culture and independent directors' social status affects firm outcomes. Column (1) evaluates the impact of the interaction term on firms' cash-flow performance. Column (2) examines the effect of the interaction term on agency costs. ***, **, and * indicate significance at the 1%, 5%, and 10% levels and standard errors are reported in parentheses

increasing agency costs. Following previous research (Luo *et al.*, 2011), agency cost (*Agency*) is measured using excess executive perk consumption. Column (2) of Table 10 shows that the interaction between hierarchical culture and director status is positive and significant at the five percent level, indicating that hierarchical norms intensify agency problems when independent directors occupy weaker positions within the firm.

5. Conclusions and discussion

Using data on Chinese listed firms from 2010 to 2023, we examine whether and how hierarchical norms influence the social status of independent directors. We find that hierarchical culture significantly diminishes independent directors' social status, with stronger effects in SOEs, firms with low R&D intensity, more relationship spending, and firms that are not in the growth stage. Mechanism analysis suggests that weakened bank-firm relationships and reduced capacity to build and maintain strategic alliances are two underlying channels through which hierarchical norms erode independent director status. We also show that a more supportive business environment, greater board diligence, and higher board diversity can

moderate these adverse effects. Finally, we find that hierarchy culture-induced impaired director status is associated with less operating cash flow and higher agency costs.

This research contributes in several ways. First, we highlight the role of hierarchical culture as an organisational norm that shapes independent directors' social status. Prior work largely focuses on personal attributes or formal governance structures as the primary determinants of director status. In contrast, our findings demonstrate that organisational cultural norms also play a meaningful role, providing new evidence on how informal institutions influence board dynamics in emerging economies.

Second, this study extends research on resource dependence and transaction cost theories by identifying bank-firm relationships and strategic alliances as two channels through which hierarchical culture affects social status of independent directors. Existing literature emphasises that firms are embedded in extensive external networks that provide access to critical resources and help mitigate operational risks. We show that hierarchical norms can weaken these networks by reducing information transparency and undermining trust in collaborative relationships.

Third, the moderating analysis shows that the adverse effects of hierarchical culture are weaker when firms operate in better business environments or adopt board structures that enhance accountability and diversity. Prior research emphasises formal legal protections and oversight mechanisms. We extend this work by demonstrating that improvements in the business environment, greater board diligence, and higher board diversity can limit the extent to which hierarchical norms erode the social status of independent directors. These results underscore the importance of institutional development and board design in mitigating governance inefficiencies arising from cultural norms.

While this research documents how hierarchical culture undermines the social status of independent directors and identifies the mechanisms through which this occurs, a promising direction for future research is to examine whether similar dynamics extend to employee level within the firm. Our analysis relies on firm and director level data, which does not allow us to observe how hierarchical norms may affect promotion outcomes, turnover, or perceived status among broader employee groups. Future studies that incorporate human resource records or large-scale employee surveys could offer valuable micro-level evidence and provide a more comprehensive understanding of how hierarchical expectations shape status dynamics throughout the organisation. Additionally, we examine the mediating roles of bank-firm relationships and strategic alliance formation in the mechanism analysis. Future research could adopt a longer observation window to track the frequency of repeated bank-firm cooperation and the duration of strategic alliances, thereby capturing the strength of bank-firm ties and the stability of these alliances more directly.

Appendix

Table A1. Variable definitions

Variables	Definition
<i>Status</i>	Network position of independent directors. We compute the arithmetic mean of the degree centrality scores of all independent directors on the board. To improve the interpretability of regression coefficients, we multiply firm-level degree centrality by 1,000
<i>Hierarchy</i>	A dummy variable for seniority-based Promotion Practices, if independent directors are ranked primarily by "age" as the criterion, it is assigned a value of 1; otherwise, it is assigned a value of 0
<i>Size</i>	Firm size, we measure it by taking the natural logarithm of the total assets
<i>Lev</i>	Debt-to-asset ratio, we calculate it by dividing the total liabilities by the total assets

(continued)

Table A1. Continued

Variables	Definition
<i>Grossprofit</i>	Gross profit margin on sales, we measure it using the formula of (operating revenue - operating cost) divided by operating revenue
<i>Tobinq</i>	Tobin's Q ratio
<i>Top1</i>	Shareholding ratio of the largest shareholder, we measure it by dividing the number of shares held by the largest shareholder by the total number of shares outstanding
<i>Female</i>	Proportion of women in management, we measure it by dividing the number of female managers by the total number of managers
<i>FrmAge</i>	We measure it by $\ln(\text{current year} - \text{company's founding year} + 1)$
<i>Tenure_CEO</i>	CEO tenure, we represent it by taking the natural logarithm of the number of months in the CEO's tenure
<i>Dual</i>	Duality of leadership (where the chairman of the board and the general manager are the same person): assign a value of 1 if they are the same individual, and 0 otherwise
<i>Indep_per</i>	Proportion of independent directors, we calculate it by dividing the number of independent directors by the total number of directors
<i>Indep_age</i>	Average age of independent directors, we represent it by taking the natural logarithm of the mean age of all independent directors in the company

Notes

1. We also use lagged measures of *Status*, and the results remain consistent.
2. The Kleibergen-Paap rk F-statistic is well above the Stock-Yogo 10 percent critical value of 16.38, suggesting that weak-instrument concerns are unlikely (Kleibergen and Paap, 2006).

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