Journal of Corporate Finance 96 (2026) 102913

Contents lists available at ScienceDirect

Journal of Corporate Finance

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

Strategic flexibility: How rent-seeking behavior enables firms to adapt to uncertainty

Kyriacos Kyriacou, Siming Liu, Bryan Mase *

Department of Economics, Finance and Accounting, Brunel University of London, UK

ARTICLE INFO

Editor: E Lyandres

JEL classification:
G30
G34
L1
C23
D22
D73

Keywords:
Strategic flexibility
Relationship spending
Rent-seeking behavior
Political connections
Over-embeddedness
Path dependence

ABSTRACT

An important aspect of the conduct of business in China is the need to develop relationships and make facilitation payments in the form of entertainment and gift giving. We use three different methods to extract firms' relationship spending from their reported entertainment and travel costs, and evaluate whether this spending enhances their ability to respond and adapt to changes in the business environment – their strategic flexibility. We employ a real options approach that identifies strategic flexibility as the firm's ability to take advantage of increased uncertainty, measured as its value gain associated with increased asset volatility. We document that relationship spending is positively associated with strategic flexibility in a way that is both significant and economically meaningful, consistent with rent-seeking behavior under institutional voids. This relation is both independent of, and supplemented by, firms' political connections, and is unaffected by the important anti-corruption campaigns implemented in 2013. The relation is nonlinear, strategic flexibility declining at very high levels of spending, implying firms become over-embedded in their relationships consistent with path dependence theory. Our findings are supported by detailed robustness testing, including quasi-exogenous variation, an instrumental variable approach, a decomposition of political connectedness and the estimation of alternative specifications. Thus, we identify a new source of firms' strategic flexibility and, relatedly, an important benefit that firms derive from the associated spending. This might explain why such spending is resilient, persisting despite ongoing attempts by the government to restrict it.

1. Introduction

We investigate how relationship spending influences firms' strategic flexibility, which refers to the ease and speed with which firms adjust to shifts in their business environment. A substantial body of research has explored strategic flexibility, focusing on how firms respond to market changes, competitive actions, or various environmental factors affecting their operations (Sanchez, 1995; Brozovic, 2018). While it can be viewed simply as the ability to handle change (Wright and Snell, 1998), the literature suggests that strategic flexibility is multidimensional, where firms are both reactive (responding to changes in the environment) and proactive (developing the ability to shape their environment). Although much of the early research identifies a firm's strategic flexibility as being derived from its structure, processes or resources, increasing focus considers alternative factors, including entrepreneurial intent (Nadkarni and Narayanan, 2007), flexible decision-making (Dreyer and Gronhaug, 2004; Nadkarni and Herrmann, 2010) and CEO personality traits (Aabo et al., 2024). We extend this approach to consider whether firms use the relationship spending associated with their rent-

* Corresponding author: Department of Economics, Finance and Accounting, Brunel University of London, Uxbridge UB8 3PH, UK.
E-mail address: bryan.mase@brunel.ac.uk (B. Mase).

https://doi.org/10.1016/j.jcorpfin.2025.102913
Received 3 March 2025; Received in revised form 6 October 2025; Accepted 20 October 2025
Available online 22 October 2025

seeking behavior to enhance their strategic flexibility.

Rent-seeking behavior, broadly defined as the attempt to gain or capture benefits through the unproductive use of resources (Tullock, 1967), encompasses a range of practices that includes political lobbying and contributions, bribery and corruption. Firms' ability or likelihood to engage in rent-seeking is affected significantly by the formal and informal institutional environment in which they operate, where weak institutions (or institutional voids) are perceived as making it more likely that firms will engage in rent-seeking (Shleifer and Vishny, 1993; Ades and Di Tella, 1999). In this context, institutions include the protection of property rights, contract enforceability and the degree of regulatory oversight. In the presence of weak or ineffective institutions, rent-seeking behavior can be beneficial to firms by enabling them to 'grease the wheels' and overcome restrictive bureaucratic processes (Dreher and Gassebner, 2013).

Rent-seeking behavior, in the form of political lobbying and the development of political connections, has been shown to be beneficial for firms (Faccio, 2006; Faccio, 2010), enabling them to reduce taxes (Faccio, 2006), gain improved access to finance (Allen et al., 2005; Claessens et al., 2008; Fan et al., 2008), earn government contracts (Schoenherr, 2019) or renegotiate contracts more favourably (Brogaard et al., 2021). These connections are particularly important in countries that lack the market-supporting institutions and strong legal system that would provide firms with a level playing field (Cull et al., 2015; Liu et al., 2013; Haveman et al., 2017; Pan and Tian, 2020; Ulusemre and Fang, 2022).

In China, firms with political connections gain substantial benefits, ranging from a reduction in financial constraints (Cull et al., 2015), access to government subsidies (Wang, 2015; Hu et al., 2020a), the purchase of government assets at discounted prices (Chen and Kung, 2019), a reduction in tax rates (Lei, 2021), a reduction in their need to comply with regulations (Fisman and Wang, 2015), mitigation of policy uncertainty (Liu et al., 2021), and being more likely to win court cases (Zhang, 2023). These connections are reported to be of substantial value to firms, their loss being associated with a loss of economic benefits (Li and Cheng, 2020) and significant share price falls (Cheng, 2018; Hu et al., 2020a). This rent-seeking behavior is characterised as a system of 'stable and mutually beneficial exchanges of government promotional privileges for bribes and kickbacks' (Rock and Bonnett, 2004). Local governments offer special deals and ongoing support for firms that in turn allows them to extract rents and private benefits (Bai et al., 2020).

Whereas the evidence of the benefit of political connections is strong, the evidence relating to corrupt practices is more mixed. Meon and Weill (2010) argue that corruption is beneficial to firms operating in countries where institutions are ineffective, consistent with evidence that corruption is not detrimental to economic growth in such regimes (Aidt et al., 2008). Similarly, corruption could be beneficial to firms by enabling them to overcome government regulations (Dreher and Gassebner, 2013; Mendoza et al., 2015), leading to improved firm performance (Williams et al., 2016). Using a measure of corruption derived from firms' internal inefficiency, corruption appears to be positively related to firm profitability (Ferris et al., 2021). However, there is some evidence that corruption can be more harmful than beneficial (Nur-tegin and Jakee, 2020), it reduces firm innovation (Ellis et al., 2020; Huang and Yuan, 2021), results in firms suffering from higher costs of equity capital (Banerjee et al., 2022) and leads to a reduction in firm value (Zeng et al., 2016). Finally, evidence suggests poorly performing firms compensate by relying on bribery (Xu et al., 2019).

Our study extends the literature on strategic flexibility by linking it with firms' rent-seeking behavior and the relationship spending of Chinese firms. Whereas the existing research uses relationship spending as a measure of corrupt spending to identify corrupt firms, or the extent of corruption in firms (Cai et al., 2011; Xu et al., 2019; Hu, 2021), our study proposes that firms' relationship spending is consistent with rent-seeking behavior, used by firms in the absence of strong institutions to 'grease the wheels' (Dreher and Gassebner, 2013) and in turn enables them to more easily and rapidly respond and adapt to changes in the business environment. The payments that underpin this spending enhance firms' strategic flexibility by enabling firms to gain a competitive advantage in a difficult market environment (Cai et al., 2017), where firms can face dysfunctional competition, defined as the 'competitive behavior of firms in a market that is perceived as opportunistic, unfair, or even unlawful' (Li and Li, 2009, p.268). This heightened competitiveness in China has been reported recently by Leahy and Ko (2025), who state that "Chinese President Xi Jinping and other leading officials have attacked what they call neijuan, or 'involution', meaning excessive price competition". In such an environment, being strategically flexible and capable of adapting and adjusting to changing market conditions would provide firms with an important competitive edge. The benefits obtained from relationship spending are consistent with such a competitive advantage (Ulusemre and Fang, 2022), providing firms the ability to attract new loans and financing (Chen et al., 2013; Ding et al., 2023), overcome local government restrictions (Fock and Woo, 1998; Fan, 2002), gain new approvals or permits (Bai et al., 2020), benefit from government subsidies (Li and Cheng, 2020), secure new business contracts (Millington et al., 2005) or cultivate improved supplier performance (Poppo et al., 2016). The entrepreneurship literature also identifies this spending as being important in China, enabling firms to take advantage of new business opportunities (Li et al., 2008; Li and Zhang, 2007; Li and Zhou, 2010; Li et al., 2014).

Our analysis applies a real options methodology that estimates firms' strategic flexibility by the responsiveness of a firm's excess returns to uncertainty, where uncertainty is measured by the volatility of the firm's assets (Grullon et al., 2012; Lee et al., 2018; Aabo et al., 2024). We make use of the requirement that, since 2010, firms listed on the Shanghai and Shenzhen stock markets must routinely report their Entertainment and Travel Costs (ETC). These reported costs have been used as a proxy for the business entertainment expenses incurred by Chinese firms (Gul et al., 2011; Cai et al., 2011; Hu et al., 2020b) and enable us to derive measures of relationship spending. The spending associated with rent-seeking behavior is particularly important in China for several reasons. First, the Chinese government retains significant control of the economy and the allocation of resources, which increases the potential rents available and encourages rent-seeking behavior (Pan and Tian, 2020), and which in turn is accentuated by the relatively low remuneration of government officials. Second, this spending is regarded as being fundamental in creating and maintaining trust between parties, providing the basis for an ongoing business relationship (Dolfsma et al., 2009). Third, China suffers from the lack of well-developed formal regulatory and legal institutions on which firms can rely to enforce contracts and to maintain a level-playing field in their

dealings with other firms and the government (Park and Luo, 2001; Hallward-Driemeier and Pritchett, 2015; Bai et al., 2020), and therefore firms need to make payments to overcome such deficiencies (Puffer et al., 2010). However, because this spending, as disclosed by firms' ETC, can be regarded as a combination of legitimate, tax deductible business expenses (Bu and Roy, 2015) and other expenses relating to perks and board expenses that are unrelated to relationship spending, we extract an excess over and above the expected or normal level of spending given firm-specific variations in characteristics such as firm size and executive compensation. Given the difficulty in determining a normal level of spending, we use three alternative approaches to measure relationship spending previously documented in the literature (Xu et al., 2019; Zeng et al., 2016; Fang et al., 2023), which we denote as firms' relationship spending. Our results are qualitatively the same for all three measures.

We show that, while relationship spending is costly to firms because it can reduce their excess returns, it yields a significant improvement in firms' return performance at a time when firms are subject to uncertainty in the form of increased asset volatility. This improvement in return performance is significant and economically meaningful. Our baseline result, employing the within-group measure of variation (Liu and Winegar, 2025), shows that a one standard deviation increase in volatility would be associated with an annualised excess return of 3.8 % if a firm were to increase its relationship spending from the equivalent of the 25th to the 75th percentile of firms. Put another way, this would be the approximate annualised % difference in excess return between a moderately low and a moderately high spending firm, when volatility increases by one standard deviation. These results are consistent with the benefits associated with rent-seeking behavior under institutional voids, supporting the proposition that firms that rely more heavily on relationship spending exhibit substantially enhanced strategic flexibility, identifying an important advantage that Chinese firms derive from this spending.

Given the importance of political connections in an environment with weak institutions, it could be argued that the strategic flexibility we identify is associated with firms' political connections, rather than it being explicitly related to our measures of relationship spending. We address this by distinguishing between politically connected and unconnected firms. We show that being politically connected is costly for firms, consistent with some existing evidence of the adverse consequences of political connections, which can reduce investment sensitivity to investment opportunities (Chen et al., 2011), lead to a reduction in accounting quality (Chen et al., 2020), result in expropriation via related party transactions (Wang, 2015), allow politicians to exert an influence on the firm (Cao et al., 2018) and extract rents and favors (Bai et al., 2020). Our results, however, confirm our central proposition, that there is a strong positive association between relationship spending and strategic flexibility, demonstrating that this spending is beneficial to all firms. In addition, we identify an additional impact enjoyed by politically connected firms. Politically connected firms experience a 2.1 % excess return relative to non-politically connected firms for a one standard deviation increase in volatility and their relationship spending rises from the 25th to the 75th percentile. In our context, merely being politically connected is detrimental to firms, and does not enhance their strategic flexibility. However, it is the combination of a political connection together with elevated relationship spending that increases firms' strategic flexibility. Political connections are, therefore, beneficial only if firms undertake corresponding relationship spending.

In China, the growing appreciation of the potential adverse consequences of rent-seeking behavior relating to political connections and excessive spending on entertainment and travel has encouraged the government to implement a succession of campaigns to restrict these expenses and connections (Xue et al., 2016; Pan and Tian, 2020). In addition to requiring firms to report their entertainment and travel spending, during 2013 the government implemented two important campaigns. One aimed to further curb firms' spending on entertainment, travel and gift giving due to its perceived association with bribery and corruption (Dunfee and Warren, 2001; Xu et al., 2019; Hu, 2021), and a second campaign required former politicians to resign their independent director positions in listed firms to prevent those firms relying on the support of these direct political ties (Fu and Sun, 2023). The loss of politically connected independent directors could negatively impact firms by restricting their ability to gain government subsidies (Hu et al., 2020a), increasing their labor costs (Wei et al., 2020) and reducing firm profitability (Fan, 2021). Given the possibility that these campaigns have impacted the relevance of our relationship spending measure, we isolate the post-crackdown period. Analysing the post-2013 period only, we confirm our principal finding of a significant, positive relation between relationship spending and strategic flexibility. Despite the anti-corruption campaigns, this spending by firms continues to be important in enabling them to adapt and compete effectively in an intensely competitive environment (Ulusemre and Fang, 2022; Leahy and Ko, 2025).

Our final analysis considers whether there is a diminishing benefit to firms' relationship spending. This follows because there is reliable evidence that firms can become over-embedded in the relationships and alliances that they maintain (Uzzi, 1997; Semrau and Werner, 2014). Over-embeddedness results in firms being less likely to investigate and undertake new business opportunities (Jiang et al., 2019; Horak et al., 2020), and therefore they will be less able to adapt and respond to a changing business environment. Our results are also supportive of path dependence theory (Sydow et al., 2009), where self-reinforcing processes make it difficult to deviate, resulting in a lack of flexibility. We find that strategic flexibility diminishes among the firms with the highest levels of relationship spending, equivalent to them being in the top one or two deciles of relationship spending firms.

We employ an extensive set of robustness checks to confirm the validity of our findings. First, we disaggregate our political connection dummy into four separate components; state-owned enterprises, politically connected CEO/Chair, politically connected senior management, and politically connected independent directors to distinguish between ownership and operational level connections. Second, we consider the potential for an omitted variable bias, and construct two plausible exogenous sources of variation, local political turnover and anti-corruption enforcement intensity. Third, we conduct an instrumental variable analysis to support our findings, using as instrument the geographical distance between a firm's headquarter city and the provincial capital. Finally, we estimate several alternative specifications that consider the impact of growth and strategic options, and different performance measures. These tests confirm our finding that firms appear to engage in rent-seeking behavior, consistent with the 'grease the wheel' hypothesis.

Our study contributes to the literature in several ways. First, we measure relationship spending (rather than the business

entertainment expenses reported in Hu et al. (2020b) and Giannetti et al. (2021)), to identify a significant impact associated with this spending. We find a positive association between firms' relationship spending and their strategic flexibility, identifying a new mechanism by which firms can achieve flexibility, while also demonstrating an important benefit associated with rent-seeking behavior. In the absence of uncertainty, proxied by asset volatility, this spending is costly to firms. This cost, together with the associated benefit gained during periods of uncertainty, might help to explain the apparent lack of consistency in some of the existing literature that considers the value effects of rent-seeking behavior by firms (Ferris et al., 2021; Banerjee et al., 2022).

Second, we contribute to the literature on political connectedness by showing that firms' political connections alone do not deliver enhanced strategic flexibility. In contrast to the literature on the benefits to firms of being politically connected (Faccio, 2006; Acemoglu et al., 2016; Haveman et al., 2017; Schoenherr, 2019), here political connections add value to a firm's strategic flexibility only when those connections are supplemented by relationship spending. This finding enriches the existing studies that identify valuation effects associated with political connections (Cheng, 2018; Li and Cheng, 2020; Hu et al., 2020a; Ding et al., 2023), implying that the source of these effects may be more subtle and indirect.

Third, we contribute to the investigation of the efficacy of anti-corruption programmes by isolating the period after the implementation of the 2013 crackdowns. The existing literature suggests that the campaigns had significant effects on firms (Xue et al., 2016; Xu, 2018; Ding et al., 2023), that it encouraged politically connected firms to suppress negative information (Cao et al., 2018), and appeared to demonstrate the significant negative externalities associated with corruption due to a business entertainment expenses effect (Giannetti et al., 2021). Our findings instead show the impact of relationship spending on firms' strategic flexibility remains consistent following the crackdowns, suggesting that the benefits derived from rent-seeking behavior explains its persistence, despite the government's efforts to restrict it.

Finally, we demonstrate a nonlinearity in the relation between relationship spending and strategic flexibility, contributing to the literature on the propensity for firms to become over-embedded in the relationships and alliances that they maintain (Uzzi, 1997; Bai et al., 2020), or become path dependent and unable to deviate from pre-existing commitments (Sydow et al., 2009). Our results imply that firms maintaining very high levels of spending might also begin to develop overly close relationships that work to restrict their ability to adapt to change, so that such spending loses its effectiveness.

Our paper proceeds as follows. In Section 2 we describe the data sample and the variables used, including an explanation of the alternative measures used to extract relationship spending that are incorporated in the subsequent analysis. Section 3 presents our research design and principal empirical findings, while Section 4 presents the additional robustness tests conducted to confirm the validity of our results. Section 5 concludes.

2. Data and variables

Our sample period begins in 2010, the year Chinese listed firms were first required to disclose ETC spending. Financial data is collected from the China Stock Market and Accounting Research (CSMAR) database. The sample includes all A-share companies listed on the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE) with available ETC information. We collect details of notes from annual financial statements for A-share firms (excluding those in the financial sector) over the period 2010–2020. Following prior research (e.g., Cai et al., 2011; Zeng et al., 2016), we manually extract six expense categories from management and selling expenses that relate to ETC: business entertainment, travel, overseas training, meetings, board meetings, and company vehicles. The total of these categories serves as our ETC measure. Management and selling expenses are combined due to the ability of firms to reallocate costs between them (Choi et al., 2024). Additionally, we collect monthly stock returns and risk-free returns to calculate excess returns, along with daily return data to estimate monthly asset volatility using iterative procedures. We then match the annual ETC data with monthly return and volatility data to construct our firm-month sample. Finally, we drop firm-month observations with missing values, giving a final sample of 255,150 firm-month observations relating to 3205 listed companies.

2.1. Dependent variable

Our dependent variable measures firm value. Our primary specification follows Grullon et al. (2012), Lee et al. (2018) and Aabo et al. (2024), where the dependent variable is the excess monthly stock return ($r_{i,y,m} - r_{f,y,m}$). $r_{i,y,m}$ is the stock return in month m of year y for firm i and $r_{f,y,m}$ is the risk-free rate of return in the corresponding month.

2.2. Independent variables

2.2.1. Relationship spending

Chinese firms' reporting of their business entertainment expenses (ETC) became mandatory in 2010. ETC is partially tax deductible, up to an equivalent of 0.5 % of sales, and can be substantial, Sun (2016) reporting that a sample of firms on the Shanghai Stock Exchange disclosed average ETC of approximately 10 % of profits. The details of ETC are hand-collected from the notes of the annual financial statements of Chinese A-share companies (excluding financial services) for the period 2010–2020.

The need for firms to make facilitation payments and spend on entertainment, gift giving and other business-related expenses are expected to vary with the characteristics of the firms, such as firm size. While some studies have used firms' business entertainment expenses as measured by firms' reported ETC spending to investigate rent-seeking behavior (Hu et al., 2020b; Giannetti et al., 2021), we identify relationship spending as the additional spending incurred by firms in excess of the normal or expected level of spending.

This is obtained by regressing the costs reported under ETC on the variables that determine an expected level of ETC. The residuals from the regression provide our measure of relationship spending. As there is a lack of consensus about the explicit determinants of an expected level of spending, and therefore of which firm-characteristic variables to include, we use three alternative sets of controls to estimate three different measures of relationship spending, following Xu et al. (2019), Zeng et al. (2016) and Fang et al. (2023), and denoted as the Xu, Zeng and Fang measures, respectively.

The Xu measure regresses ETC on; sales - log of sales revenue; executive pay -the pay of the top three executives; size – the log of total assets; marketing intensity – marketing expenses scales by sales; capital intensity – total assets scaled by sales.

The Zeng measure regresses ETC scaled by sales on; executive pay – the pay of the top three executives, scaled by sales revenue; ownership concentration - the percentage of shares held by the ten largest shareholders; board size - number of directors on the board; accounts payable scaled by sales; accounts receivable scaled by sales; Size - the log of total assets.

The Fang measure regresses ETC scaled by sales on; size – the log of total assets; business in other regions – number of additional regions where the firm generates revenues; per capita GDP – the log of the per capita GDP of the firm's province.

As residuals, these measures have zero mean and therefore cannot be used for the test of over-embeddedness that we conduct below, where we use the squared term. For that estimation, we apply the Stochastic Frontier Analysis (SFA) methodology, commonly used for analysing efficiency in production and cost functions, initially developed by Aigner et al. (1977) and Meeusen and van Den Broeck (1977). The SFA model, as explained by Schmidt and Sickles (1984), incorporates a stochastic frontier that represents the minimum achievable cost given the firms' characteristics, with inefficiencies captured by a composite error term. In applying this method, we conceptualize relationship spending as an inefficiency. SFA generates a cost frontier, which is the minimum spending achievable given the respective determinants for the Xu, Zeng and Fang measures. The distance from the frontier reflects the firm's additional spending on facilitation payments, entertainment and gift giving, which we denote SFA_Xu, SFA_Zeng and SFA_Fang. Firms operating on the frontier are regarded as being efficient with zero relationship spending, while firms' spending increases as their distance from the frontier increases.

2.2.2. Volatility

Firm asset volatility is estimated using the approach in Aabo et al. (2024), based on the Merton (1974) distance-to-default model. This approach takes equity as a call option on the firm's assets (since equity holders are residual claimants), with the exercise price being the face value of the debt, and is commonly used in the literature on KMV (Kealhofer Merton Vasicek) distance-to-default measurement (Vassalou and Xing, 2004; Bharath and Shumway, 2008). The method involves simultaneously solving two equations; one that links the equity value to the firm's asset value and another that connects the volatility of the firm's equity to its asset volatility.

To calculate the firm's asset volatility, we use an iterative procedure. We use daily data from the past 12 months to obtain an estimate of the volatility of equity, which is then used as an initial value for the estimation of asset volatility. Using the Black-Scholes formula, and for each trading day of the past 12 months, we compute the firm's asset value using the market value of equity on that day. We then compute the standard deviation of those asset values, which is used for the next iteration. This procedure is repeated until the asset volatilities from two consecutive iterations converge. The converged value of the firm's asset volatility is used to back out the firm's asset value from the Black-Scholes formula.

This procedure is repeated monthly, resulting in the estimation of monthly values of asset volatility. The risk-free rate is the one-year risk free rate observed at the end of the month. The change in asset volatility ($\Delta Volatility$) is the monthly change in the firm's asset volatility.

Our robustness tests include an alternative measure of volatility, which is the monthly change in the standard deviation of daily stock returns for year y and month m (ΔVolatility_std), see Lee et al. (2018). An additional test replaces volatility with a measure of real option intensity, which is based on an aggregate of the proxies for investment opportunities (AIO), (Grullon et al., 2012; Lee et al., 2018). This measure of real option intensity is obtained by standardizing firm age, firm size, R&D intensity and future sales growth by subtracting the mean value and dividing by the standard deviation (AIO), given that young, small, R&D intensive and future sales growth firms have been shown to have more real options (Grullon et al., 2012).

2.2.3. Control variables

The control variables include a set of firm characteristics – market factor loading, size, book-to-market ratio, leverage, past return, R&D, capital expenditures, dividend pay-out ratio and volume.

Market factor loading is the estimated coefficient (beta) on daily market premiums for each month derived from the market model:

$$r_{i,y,m,d} - r_{f,y,m,d} = \alpha + F\left(r_{market,y,m} - r_{f,y,m}\right) + \varepsilon_{i,y,m}$$

where $F_{i,y,m}$ represents the market factor loading estimated on the daily information in month m. $r_{i,y,m,d}$ is firm i's return on day d in month m and year y, $r_{f,y,m,d}$ is the daily risk-free interest rate, and $r_{market,y,m}$ is the daily return on the value-weighted market portfolio.

We also include the natural log of market value of the firm (Size); the ratio of book-value to market-value of equity (BTM); the ratio of total debt to total assets (Leverage); the 6-month lagged return from month m-6 to m-1 (Past6m_Ret); the natural log of one plus research and development expenses (R&D); the ratio of capital expenditures to sales (CAPEX); the ratio of common and preferred dividends to net income (Dividend); the natural log of trading volume in month m (Volume).

2.3. Summary statistics

Table 1 presents the summary statistics for our independent and control variables, together with the respective correlations. As expected, the correlations between our three alternative measures of relationship spending (Xu, Fang and Zeng) are large, demonstrating these are consistent, related measures.

2.4. Economic magnitudes

Estimating the economic magnitudes is an important aspect of the evaluation of the impact of firms' elevated relationship spending on their strategic flexibility. To do this, we measure the sensitivity of firm value to changing volatility associated with an increase in this spending. Applying this to the baseline regression model below, this would be: $\beta_3 \times SD\ of\ \Delta Volatility \times (P75 - P25)\ of\ Xu$. The result gives the % monthly excess return for a one standard deviation increase in volatility if the firm were to increase their relationship spending, moving from the 25th to 75th percentile of spenders, estimated using the Xu measure.[1] However, Liu and Winegar (2025) show that using the SD of ΔVolatility obtained for the complete sample (from Table 1) exaggerates the potential economic magnitude, and instead propose that the within-group SD of ΔVolatility be used. This is obtained by regressing ΔVolatility on all fixed effects (firm-, year-, and province-fixed effects), and then estimating the standard deviation of the residuals (the within-group SD). The relevant within-group SD of ΔVolatility is reported at the bottom of the respective tables, and it is this SD that we use to derive the economic magnitudes reported below.

3. Results

All estimations are conducted using ordinary least squares (OLS) regressions with fixed effects in a panel data setup. All continuous variables are winsorized at the 1 and 99 % levels to mitigate the potential influence of outliers. We report the coefficient values and their associated t-stats in parentheses. N represents the number of firm-month observations. Our baseline estimations and the subsequent analysis are conducted with all three measures of relationship spending, but for brevity we include only the Xu measure in our robustness checks as the results are qualitatively the same for the Zeng and Fang measures.

3.1. Strategic flexibility and relationship spending

The results for our preliminary model, that examines firms' strategic flexibility and the benefit of relationship spending on firms' returns, are presented in Table 2. We estimate the following regression:

$$r_{i,y,m,d} - r_{f,y,m,d} = \alpha + \beta_1 \Delta Volatility_{i,y,m} + \beta_2 Xu_{i,y,m} + \beta_3 FirmControls + \theta_{i,y,k} + \varepsilon_{i,y,m}$$

where the dependent variable is defined as the excess stock return in month m of year y for firm i (relative to the risk-free rate of return in the same month). The key explanatory variables are $\Delta Volatility$ and Xu (alternatively Zeng and Fang). We control for firm characteristics or control variables ($FirmControls$). $\theta_{i,y,k}$ controls for firm (i)-, year(y)- and province (k)-fixed effects, where province represents the province where the firm is headquartered.

The coefficient on $\Delta Volatility$ (β_1) measures a firm's strategic flexibility, or specifically its ability to respond positively to, or take advantage of, heightened volatility (following Grullon et al., 2012 and Aabo et al., 2024).

The coefficient on $Xu_{i,y,m}$ (Zeng and Fang) measures the cost (or benefit) to the firm of its relationship spending. This considers the extent to which this spending is costly to the firm, which would be the case if β_2 were shown to be negative. Our robustness tests below include specifications where we replace the excess stock return with alternative measures of firm performance.

We first consider the coefficient on $\Delta Volatility$ (β_1). This is consistently and significantly negative, showing that firm returns on average respond negatively to increased volatility, a result that implies an overall lack of strategic flexibility that is consistent with the baseline findings reported in Aabo et al. (2024). Next, we consider the coefficient on Xu (or Zeng and Fang), where a negative coefficient would imply that relationship spending is costly to firms, by reducing their excess returns. Columns 1, 3 and 5 confirm that the coefficients are negative (Xu is −0.115, t-value = −2.084; Zeng is −0.068, t-value = −1.311; Fang is −0.304, t-value = −6.219) but are not consistently significant. Thus, there is some, but inconclusive, support for the argument that this spending is costly to firms, which is consistent with the range of results from previous studies on firms' rent-seeking behavior (Banerjee et al., 2022; Ferris et al., 2021). It is consistent with the argument that spending that provides a firm with strategic flexibility is likely to come with an efficiency cost during stable periods (Claussen et al., 2015; Nadkarni and Narayanan, 2007).

We then estimate the following, which is our baseline regression:

[1] The choice of P25 to P75 is somewhat arbitrary. It represents a plausible shift between a moderately low and a moderately high spender, and is approximately equivalent to one standard deviation.

Table 1
Descriptive statistics and correlation matrix.

	Mean	p25	Median	p75	SD
excess_ret	0.000	−0.076	−0.006	0.070	0.151
ΔVolatility	0.000	−0.001	0.000	0.001	0.006
ETC	0.013	0.003	0.008	0.017	0.013
Xu	0.000	−0.005	−0.001	0.004	0.009
Zeng	0.000	−0.006	−0.003	0.003	0.011
Fang	0.000	−0.007	−0.002	0.004	0.011
Market Factor Loading	1.192	0.822	1.177	1.531	0.548
BTM	0.391	0.213	0.343	0.523	0.227
Size	15.564	14.904	15.462	16.114	0.842
Leverage	0.311	0.022	0.161	0.441	0.397
Past6m_Ret	0.009	−0.188	−0.013	0.184	0.272
R&D	14.646	15.989	17.428	18.425	6.809
CAPEX	0.065	0.000	0.025	0.098	0.089
Dividend	0.157	0.000	0.000	0.281	0.216
Volume	11.956	11.222	11.942	12.679	0.987

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) excess_ret	1.000														
(2) ΔVolatility	−0.015	1.000													
(3) ETC	−0.002	0.000	1.000												
(4) Xu	0.002	−0.003	0.008	1.000											
(5) Zeng	0.003	−0.004	0.018	0.793	1.000										
(6) Fang	−0.003	−0.003	0.020	0.834	0.843	1.000									
(7) Market Factor Loading	−0.123	0.012	−0.004	0.012	−0.013	0.005	1.000								
(8) BTM	−0.095	−0.014	−0.011	−0.039	−0.104	−0.033	−0.047	1.000							
(9) Size	0.064	0.009	−0.011	0.029	0.052	0.063	−0.047	−0.105	1.000						
(10) Leverage	−0.009	0.005	−0.007	0.017	−0.096	−0.081	−0.015	0.037	−0.058	1.000					
(11) Past6m_Ret	−0.039	0.095	0.003	0.001	0.004	−0.009	−0.002	−0.258	0.164	−0.029	1.000				
(12) R&D	0.010	−0.007	−0.014	0.088	0.072	0.071	0.059	−0.014	0.155	−0.025	0.002	1.000			
(13) CAPEX	0.003	−0.004	0.020	0.045	0.087	0.122	0.041	−0.138	−0.087	−0.156	0.012	0.170	1.000		
(14) Dividend	0.007	−0.004	−0.004	0.007	0.082	0.039	0.035	−0.080	−0.080	−0.200	0.011	0.192	0.345	1.000	
(15) Volume	0.130	0.058	−0.012	0.038	−0.020	0.027	0.086	0.012	0.429	0.100	0.208	0.060	−0.074	−0.132	1.000

Table 2
Strategic flexibility and relationship spending.

	excess_ret	excess_ret	excess_ret	excess_ret	excess_ret	excess_ret
ΔVolatility	−0.655***	−0.682***	−0.652***	−0.681***	−0.655***	−0.683***
	(−13.908)	(−14.507)	(−14.010)	(−14.571)	(−14.009)	(−14.589)
Xu	−0.115***	−0.122**				
	(−2.084)	(−2.229)				
ΔVolatility x Xu		70.098***				
		(10.414)				
Zeng			−0.068	−0.079		
			(−1.311)	(−1.534)		
ΔVolatility x Zeng				60.748***		
				(11.188)		
Fang					−0.304***	−0.314***
					(−6.219)	(−6.413)
ΔVolatility x Fang						59.501***
						(10.748)
Market Load Factor	−0.039***	−0.039***	−0.039***	−0.038***	−0.039***	−0.039***
	(−74.316)	(−74.182)	(−74.605)	(−74.471)	(−74.626)	(−74.488)
BTM	−0.079***	−0.080***	−0.079***	−0.080***	−0.079***	−0.079***
	(−33.011)	(−33.037)	(−33.264)	(−33.293)	(−33.079)	(−33.108)
Size	0.019***	0.019***	0.019***	0.019***	0.020***	0.019***
	(24.190)	(24.071)	(24.240)	(24.132)	(24.434)	(24.352)
Leverage	−0.006***	−0.006***	−0.006***	−0.006***	−0.006***	−0.006***
	(−5.318)	(−5.258)	(−5.454)	(−5.385)	(−5.569)	(−5.504)
Past6m_ret	−0.104***	−0.104***	−0.104***	−0.104***	−0.104***	−0.104***
	(−92.086)	(−92.127)	(−92.547)	(−92.633)	(−92.668)	(−92.732)
R&D	−0.000***	−0.000***	−0.000***	−0.000***	−0.000***	−0.000***
	(−3.855)	(−3.836)	(−3.956)	(−3.939)	(−3.914)	(−3.898)
CAPEX	0.001	0.001	0.001	0.000	0.004	0.004
	(0.116)	(0.124)	(0.100)	(0.083)	(0.671)	(0.667)
Dividend	0.015***	0.015***	0.015***	0.015***	0.014***	0.015***
	(7.317)	(7.363)	(7.391)	(7.427)	(7.242)	(7.284)
Volume	0.050***	0.050***	0.050***	0.050***	0.050***	0.050***
	(116.394)	(116.495)	(117.101)	(117.273)	(117.158)	(117.264)
Constant	−0.820***	−0.819***	−0.819***	−0.818***	−0.822***	−0.821***
	(−60.627)	(−60.573)	(−60.871)	(−60.856)	(−61.064)	(−61.045)
Observations	252,961	252,961	255,150	255,150	255,150	255,150
R-squared	0.119	0.119	0.119	0.119	0.119	0.119
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Province FE	YES	YES	YES	YES	YES	YES
	Sample SD			Within-group SD		
ΔVolatility	0.0055			0.0050		

Notes: t-stats are reported in parentheses. Sample SD is the standard deviation of the sample for the variable of interest. Within-group SD is the standard deviation within fixed-effect groups for the variable of interest. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

$$r_{i,y,m,d} - r_{f,y,m,d} = \alpha + \beta_1 \Delta Volatility_{i,y,m} + \beta_2 Xu_{i,y,m} + \beta_3 \left(\Delta Volatility_{i,y,m} \times Xu_{i,y,m} \right) + \beta_4 FirmControls + \theta_{i,y,k} + \varepsilon_{i,y,m}$$

where the variables are as above, except for the addition of the interaction term, $\Delta Volatility_{i,y,m} \times Xu_{i,y,m}$. The sign and magnitude of this interaction coefficient measure the extent to which elevated relationship spending impacts firms' strategic flexibility, and has been applied in related contexts by Lee et al. (2018) and Aabo et al. (2024), although the former use a two-stage procedure.

Columns 2, 4 and 6 report the estimation with the interaction term. The coefficients are similar and consistently positive (e.g., the coefficient for Xu is 70.098, t–value = 10.414), supporting our proposition that, irrespective of the measure used to estimate the firm's relationship spending, the firm's strategic flexibility is strongly and positively associated with this spending.

The calculation of the economic magnitudes (in terms of an annualised excess return) is the coefficient x the within-group standard deviation of ΔVolatility x Xu (P75-P25) x 12. This shows that a one standard deviation increase in firm volatility is associated with an excess return of 3.8 %, 3.3 % and 3.9 % if a firm's relationship spending increases from the 25th percentile to the 75th percentile, as measured by Xu, Zeng and Fang, respectively. The difference in return performance between moderately low and moderately high spending firms is significant and substantial when firms are subject to increased uncertainty and a changing business environment, as measured by the firm's asset volatility. This supports our proposition that firms' relationship spending significantly enhances their strategic flexibility, providing a justification for this spending despite its apparent cost to the firm.

Table 3
Strategic flexibility and political connections.

	excess_ret	excess_ret	excess_ret	excess_ret	excess_ret	excess_ret
ΔVolatility	−0.605***	−0.599***	−0.620***	−0.610***	−0.614***	−0.605***
	(−10.718)	(−10.604)	(−11.019)	(−10.831)	(−10.908)	(−10.750)
PC x ΔVolatility	−0.246**	−0.238**	−0.195*	−0.155	−0.220**	−0.196**
	(−2.460)	(−2.379)	(−1.954)	(−1.546)	(−2.206)	(−1.968)
Xu	−0.121**	−0.072				
	(−2.200)	(−1.102)				
ΔVolatility x Xu	68.771***	60.415***				
	(10.187)	(8.118)				
PC x Xu		−0.153				
		(−1.397)				
PC x ΔVolatility x Xu		46.771***				
		(2.649)				
Zeng			−0.079	0.010		
			(−1.524)	(0.156)		
ΔVolatility x Zeng			59.481***	49.993***		
			(10.884)	(8.415)		
PC x Zeng				−0.260***		
				(−2.724)		
PC x ΔVolatility x Zeng				60.960***		
				(4.028)		
Fang					−0.311***	−0.318***
					(−6.359)	(−5.474)
ΔVolatility x Fang					58.290***	49.232***
					(10.482)	(8.080)
PC x Fang						0.021
						(0.221)
PC x ΔVolatility x Fang						54.262***
						(3.642)
Market Load Factor	−0.039***	−0.039***	−0.038***	−0.038***	−0.038***	−0.038***
	(−74.163)	(−74.148)	(−74.450)	(−74.405)	(−74.469)	(−74.434)
BTM	−0.079***	−0.079***	−0.079***	−0.079***	−0.079***	−0.079***
	(−32.907)	(−32.919)	(−33.160)	(−33.190)	(−32.986)	(−32.978)
Size	0.019***	0.019***	0.019***	0.019***	0.019***	0.019***
	(24.080)	(24.095)	(24.145)	(24.206)	(24.361)	(24.359)
Leverage	−0.006***	−0.006***	−0.006***	−0.006***	−0.006***	−0.006***
	(−5.197)	(−5.195)	(−5.325)	(−5.325)	(−5.446)	(−5.425)
Past6m_ret	−0.104***	−0.104***	−0.104***	−0.104***	−0.104***	−0.104***
	(−92.130)	(−92.146)	(−92.636)	(−92.676)	(−92.734)	(−92.750)
R&D	−0.000***	−0.000***	−0.000***	−0.000***	−0.000***	−0.000***
	(−3.868)	(−3.829)	(−3.969)	(−3.957)	(−3.926)	(−3.927)
CAPEX	−0.001	−0.002	−0.002	−0.003	0.002	0.002
	(−0.264)	(−0.310)	(−0.302)	(−0.510)	(0.298)	(0.328)
Dividend	0.014***	0.014***	0.014***	0.014***	0.014***	0.014***
	(7.139)	(7.145)	(7.200)	(7.157)	(7.075)	(7.075)
Volume	0.050***	0.050***	0.050***	0.050***	0.050***	0.050***
	(116.524)	(116.536)	(117.297)	(117.349)	(117.290)	(117.315)
PC	−0.004**	−0.004**	−0.004**	−0.004**	−0.004*	−0.004*
	(−2.023)	(−1.967)	(−2.015)	(−2.067)	(−1.860)	(−1.895)
Constant	−0.818***	−0.818***	−0.817***	−0.818***	−0.820***	−0.820***
	(−60.379)	(−60.397)	(−60.667)	(−60.734)	(−60.859)	(−60.852)
Observations	252,961	252,961	255,150	255,150	255,150	255,150
R-squared	0.119	0.119	0.119	0.119	0.119	0.120
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Province FE	YES	YES	YES	YES	YES	YES
	Sample SD			Within-group SD		
PC x ΔVolatility	0.0049			0.0041		

Notes: t-stats are reported in parentheses. Sample SD is the standard deviation of the sample for the variable of interest. Within-group SD is the standard deviation within fixed-effect groups for the variable of interest. See Appendix A for variable definitions.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Table 4
Strategic flexibility and anti-corruption (2014–2020).

	excess_ret	excess_ret	excess_ret
ΔVolatility	−1.149***	−1.108***	−1.146***
	(−20.117)	(−19.475)	(−20.163)
Xu	−0.125*		
	(−1.728)		
ΔVolatility x Xu	65.422***		
	(7.958)		
Zeng		−0.086	
		(−1.272)	
ΔVolatility x Zeng		54.037***	
		(7.604)	
Fang			−0.297***
			(−4.613)
ΔVolatility x Fang			56.490***
			(8.111)
Market Load Factor	−0.036***	−0.036***	−0.036***
	(−61.911)	(−62.250)	(−62.237)
BTM	−0.065***	−0.065***	−0.065***
	(−20.137)	(−20.401)	(−20.287)
Size	0.036***	0.036***	0.036***
	(32.416)	(32.529)	(32.594)
Leverage	−0.005***	−0.005***	−0.005***
	(−3.348)	(−3.359)	(−3.415)
Past6m_ret	−0.110***	−0.110***	−0.111***
	(−83.845)	(−84.365)	(−84.454)
R&D	−0.000**	−0.000**	−0.000**
	(−2.271)	(−2.239)	(−2.168)
CAPEX	−0.012*	−0.012*	−0.009
	(−1.768)	(−1.866)	(−1.372)
Dividend	0.010***	0.010***	0.009***
	(3.991)	(4.059)	(3.986)
Volume	0.047***	0.047***	0.047***
	(92.810)	(93.724)	(93.735)
Constant	−1.058***	−1.057***	−1.058***
	(−56.779)	(−57.128)	(−57.202)
Observations	188,057	190,165	190,165
R-squared	0.124	0.124	0.125
Firm FE	YES	YES	YES
Year FE	YES	YES	YES
Province FE	YES	YES	YES

Notes: t-stats are reported in parentheses. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

3.2. Strategic flexibility and political connections

The results reported in Table 3 consider the additional impact of political connectedness. The use of political connections represents an additional channel which firms might use to enable them to adjust to a changing business environment. We estimate the following:

$$r_{i,y,m,d} - r_{f,y,m,d} = \alpha + \beta_1 \Delta Volatility_{i,y,m} + \beta_2 Xu_{i,y,m} + \beta_3 \left(\Delta Volatility_{i,y,m} \times Xu_{i,y,m} \right) + \beta_4 PC_{i,y,m} + \beta_5 \left(PC_{i,y,m} \times \Delta Volatility_{i,y,m} \right)$$

$$+ \beta_6 \left(PC_{i,y,m} \times Xu_{i,y} \right) + \beta_7 \left(PC_{i,y,m} \times \Delta Volatility_{i,y,m} \times Xu_{i,y,m} \right)$$

This is a similar estimation to the baseline analysis, but here we include a dummy that equals one if the company is politically connected (PC), defined as either being state owned or having a politically connected Chair or CEO.

The interaction coefficient β_3 on $\Delta Volatility_{i,y,m} \times Xu_{i,y,m}$measures the benefit of elevated relationship spending on firms' strategic flexibility, the coefficient β_5 on $PC_{i,y,m} \times \Delta Volatility_{i,y,m}$ identifies the benefit of being politically connected, while the interaction coefficient β_7 on $PC_{i,y,m} \times \Delta Volatility_{i,y,m} \times Xu_{i,y,m}$ addresses the question of whether relationship spending enhances a politically connected firm's strategic flexibility, i.e. it measures the additional flexibility that PC firms generate from their spending.

Our results in columns 2, 4 and 6 confirm our baseline results, showing that relationship spending has a significant impact on strategic flexibility. For example, in column 2, the coefficient on the interaction term ΔVolatility x Xu remains positive and significant (the coefficient is 60.415, t–value = 8.118). The addition of the PC dummy coefficient (β_5) shows that political connectedness does not, of itself, deliver enhanced flexibility. The coefficient is consistently negative, and is −0.238 (t-value = −2.379) for the Xu measure,

Table 5
Strategic flexibility and over-embededdness.

	excess_ret	excess_ret	excess_ret
ΔVolatility	−2.677*****, *	−2.515***	−1.123***
	(−4.142)	(−5.328)	(−6.291)
SFA_Xu	−0.171***		
	(−5.206)		
ΔVolatility x SFA_Xu	113.372***		
	(3.137)		
ΔVolatility x SFA_Xu _sq	−1397.472***		
	(−2.887)		
SFA_zeng		−0.149***	
		(−5.020)	
ΔVolatility x SFA_zeng		115.694***	
		(4.121)	
ΔVolatility x SFA_zeng _sq		−1515.055***	
		(−3.947)	
SFA_fang			−0.123***
			(−4.492)
ΔVolatility x SFA_fang			58.623***
			(3.334)
ΔVolatility x SFA_fang _sq			−1100.514***
			(−3.189)
Market Load Factor	−0.033***	−0.033***	−0.033***
	(−64.707)	(−65.024)	(−64.998)
BTM	−0.071***	−0.070***	−0.071***
	(−53.630)	(−54.006)	(−54.219)
Size	−0.002***	−0.002***	−0.002***
	(−5.514)	(−5.864)	(−6.340)
Leverage	−0.009***	−0.009***	−0.010***
	(−13.365)	(−13.810)	(−13.965)
Past6m_ret	−0.081***	−0.081***	−0.081***
	(−73.018)	(−73.340)	(−73.347)
R&D	−0.000***	−0.000***	−0.000***
	(−3.646)	(−3.828)	(−3.860)
CAPEX	−0.010***	−0.010***	−0.009***
	(−3.068)	(−3.047)	(−2.788)
Dividend Payout	0.012***	0.013***	0.012***
	(9.132)	(9.287)	(9.211)
Volume	0.028***	0.028***	0.028***
	(86.086)	(86.617)	(86.543)
Constant	−0.223***	−0.222***	−0.221***
	(−39.552)	(−39.658)	(−39.387)
Observations	252,961	255,150	255,150
R-squared	0.084	0.084	0.084
Firm FE	YES	YES	YES
Year FE	YES	YES	YES
Province FE	YES	YES	YES

Notes: t-stats are reported in parentheses. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

indicating that politically connected firms are less flexible, on average. This is consistent with PC firms in China incurring negative impacts associated with their connections, which could be due to reduced investment efficiency (Chen et al., 2011), expropriation via related party transactions (Wang, 2015) or political interference (Cao et al., 2018).

However, the coefficient on the interaction term PC x ΔVolatility x Xu is significantly positive (46.771, t–value = 2.649), implying that there is significant additional flexibility generated by the relationship spending of PC firms, relative to that of non-PC firms. In terms of economic magnitude, this coefficient shows that a PC firm experiences a 2.1 % excess return relative to a non-PC firm for a one standard deviation increase in volatility and their relationship spending rises from the 25th to the 75th percentile. The results for the two alternative measures of relationship spending, Zeng and Fang, are qualitatively similar (coefficients of 60.960, t-value = 4.028, and 54.262, t-value = 3.642, respectively).

Our results confirm that all firms' strategic flexibility is positively associated with their relationship spending. However, this association is enhanced significantly for PC firms. All firms benefit from their relationship spending, but PC firms gain to a greater extent. It is notable that the benefit to being politically connected arises only in conjunction with elevated spending. There is no enhancement to a firm's strategic flexibility simply due to it being a PC firm, a result that is consistent with firms appearing to engage in rent-seeking behavior. While this finding reiterates the importance of this spending for Chinese firms, it confirms an important insight in the literature that being politically connected is effective and beneficial to firms only where they reciprocate (Bai et al., 2020; Lei, 2021)

and that they need to devote resources beyond an expected or normal level to gain this advantage (Ulusemre and Fang, 2022).

3.3. Strategic flexibility and anti-corruption

Table 4 presents the results for our baseline model, estimated over the post-2013 period that follows the implementation of the Chinese government's 2013 anti-corruption campaigns. The campaigns focused explicitly on restricting firms' travel and entertainment expenses and curtailing the appointment of former politicians as firms' independent directors. These anti-corruption campaigns were notable for their enhanced degree of enforcement and inspection regime when compared to previous campaigns (Xue et al., 2016; Cao et al., 2018). While the former campaign might be expected to restrict relationship spending (Xue et al., 2016; Griffin et al., 2022), the effect of the latter campaign is less clear because it might induce additional expenditure as firms attempt to offset the loss of their political connections (Fu and Sun, 2023; Ding et al., 2023). The overall impact, therefore, remains an empirical issue. We find that the estimated interaction coefficients ΔVolatility x Xu (Zeng and Fang) are qualitatively unchanged, with associated t-values above 7. The observed positive relation between relationship spending and strategic flexibility persists, with the Xu coefficient on the interaction term giving an annualised excess return of 3.4 % for a one standard deviation increase in volatility together with a shift from P25 to P75 in relationship spending. The absence of an anti-corruption effect confirms the continuing relevance of relationship spending for firms' strategic flexibility. It also implies that, in an intensely competitive market (Leahy and Ko, 2025), the benefit to firms of continuing to make these payments to gain a competitive advantage appears to outweigh potentially increased enforcement risks.

3.4. Strategic flexibility and over-embeddedness

There is a longstanding view that the development and maintenance of strong ties and connections between firms is positive for firms. The development of links with other firms is regarded as being particularly important for firms' ability to exploit knowledge and innovate (Grant and Baden-Fuller, 2004; Ritter and Gemünden, 2004). However, excessively strong connections can lead to an over-embeddedness, manifested by a diminishing return. Uzzi (1997, p.35) states that the 'positive effects rise up to a threshold,' and that after a certain point, firms become 'vulnerable to exogenous shocks,' because they can become 'insulated from information that exists beyond their network'. Relatedly, the theory of path dependence extends this embeddedness argument, stressing the importance of previous choices and decisions in influencing subsequent decision making. Path dependency identifies self-reinforcing processes and commitments that lead to a state of irreversibility or inflexibility, from which it is difficult to deviate (Sydow et al., 2009). Alternatively, the theory of bounded rationality (Simon, 1955) proposes that, when faced with complexity, decision making can rely on the use of heuristics and that, rather than optimizing, a solution is reached that is satisfactory (Kahneman and Tversky, 1979). In this context, the development of strong connections could increase the degree of complexity involved in making decisions, resulting in a satisficing decision that may not be optimal, encouraging the firm to maintain the status quo rather than adjusting and adapting. Similarly, the entrepreneurship literature identifies a danger of over-embeddedness when connections become strong (Semrau and Werner, 2014). These strong connections hamper resource acquisition and firm performance because they prevent firms from pursuing different business opportunities (Jiang et al., 2019), while they are 'associated with complacency or reliance on extant informal relationships, rather than efforts at innovation to explore other, potentially more lucrative opportunities' (Horak et al., 2020, p.528). Firms that spend excessively on relationship spending might exhibit a similar propensity to rely on their spending, discouraging them from innovating and as a result becoming vulnerable to changing business conditions (Park and Luo, 2001). Finally, the development of strong political connections might prevent firms from adjusting to changing conditions because politicians are motivated by the desire for 'full employment and political stability', so they will discourage firms from shedding labour (Haveman et al., 2017, p.73), they will encourage firms to over-invest (Wu et al., 2012) or exert influence over firms (Cao et al., 2018), they will seek to expropriate from them (Wang, 2015) or expect favors in return (Bai et al., 2020; Lei, 2021).

We therefore propose that firms that maintain very high levels of relationship spending will generate a diminishing return from this spending as they become embedded in their connections and commitments, becoming less able or willing to adapt in response to a changing business environment. We evaluate this by including the squared term of SFA_Xu (Zeng and Fang) in our model.

$$r_{i,y,m,d} - r_{f,y,m,d} = \alpha + \beta_1 \Delta Volatility_{i,y,m} + \beta_2 SFA\_Xu_i + \beta_3 \left(\Delta Volatility_{i,y,m} \times SFA\_Xu_i \right) + \beta_4 \left(\Delta Volatility_{i,y,m} \times \left(SFA\_Xu_i \right)^2 \right)$$

$$+ \beta_5 FirmControls + \theta_{i,y,k} + \varepsilon_{i,y,m}$$

Xu_SFA is the Xu measure of relationship spending estimated using stochastic frontier analysis (SFA), as described in the Independent Variables section. The coefficient on the interaction term with squared relationship spending $\beta_4 \left(\Delta Volatility_{i,y,m} \times \left(SFA\_Xu_i \right)^2 \right)$ addresses the diminishing return.

The results are presented in Table 5. The respective coefficients for the three different measures are −1397 (t-value = −2.887), −1515 (t-value = −3.947) and − 1100 (t-value = −3.189). These results support the proposition that, at elevated levels of relationship spending, firms suffer from an over-embeddedness that acts to restrict their ability to adapt and respond to a changing business environment. We calculate the respective turning points and compare these to the distribution of SFA_Xu, SFA_Zeng and SFA_Fang. In each case the turning point lies between the 75th and 90th percentile of firms in terms of their relationship spending. This reduction in firms' ability to change is consistent with the theory of path dependence and organizational lock-in associated with self-reinforcing dynamics (Sydow et al., 2009).

4. Robustness tests

In this section, we confirm the validity of our results by including several robustness tests. First, we incorporate additional granularity in our political connections analysis by decomposing PC into ownership, executive and non-executive constituents to provide a more robust channel analysis. Second, we address issues relating to potential omitted variable bias and endogeneity. Finally, we consider the impact of growth or strategic options and estimate specifications that incorporate alternative measures of performance.

4.1. Disaggregated political connections

Our political-connections (PC) indicator variable used in the analysis above incorporates both state ownership and the political connectedness of the CEO or Chair. State ownership and political connectedness could operate differently since state-owned enterprises have an automatic and longstanding connection to government, whereas political connectedness is more transient (Pan and Tian, 2020). To discriminate between these potentially different interactions, we disaggregate our PC variable indicator into four separate channels: (1) SOE status, (2) politically connected CEO/Chair, (3) politically connected senior management, and (4) politically connected independent directors. We then interact each channel with our strategic flexibility term (ΔVolatility × Xu), while including the lower–order terms and the full set of controls and fixed effects presented in Table 3. Table 6 reports the results. For brevity, we display the triple-interaction coefficients (the remaining interaction terms and controls are qualitatively the same as those reported in Table 3).

The triple interactions are positive and statistically significant for SOE (45.739; $t = 2.586$), PC_CEO/Chair (53.076; $t = 2.089$), and PC_Smgt (47.545; $t = 2.464$), indicating that these forms of political embeddedness amplify the flexibility channel; relative to unconnected firms, state ownership and firms with executive/upper–management political connections derive increased flexibility from their relationship spending. By contrast, the interaction term for politically connected independent directors is insignificant (14.318; $t = 0.060$), suggesting that these non-executive board connections do not generate additional flexibility in our setting.

Importantly, our main results remain positive and significant across all specifications: ΔVolatility × Xu ≈ 58–60 with $t \geq 4.88$.

Table 6
Disaggregation of PC.

Variables	(1)	(2)	(3)	(4)
	excess_ret	excess_ret	excess_ret	excess_ret
ΔVolatility	−0.587***	−0.630***	−0.630***	−0.629***
	(−10.435)	(−9.740)	(−9.735)	(−9.718)
Xu	−0.075	−0.042	−0.044	−0.041
	(−1.154)	(−0.457)	(−0.479)	(−0.453)
ΔVolatility x Xu	60.423***	58.094***	58.147***	58.302***
	(8.123)	(4.876)	(4.882)	(4.897)
SOE	−0.005***			
	(−2.067)			
SOE x ΔVolatility x Xu	45.739***			
	(2.586)			
PC_CEOChair		0.002		
		(0.390)		
PC_CEOChair x ΔVolatility x Xu		53.076**		
		(2.089)		
PC_Smgt			−0.002	
			(−0.359)	
PC_Smgt x ΔVolatility x Xu			47.545**	
			(2.464)	
PC_Ind				−0.000
				(−0.016)
PC_Ind x ΔVolatility x Xu				14.318
				(0.060)
Constant	−0.818***	−0.944***	−0.944***	−0.944***
	(−60.378)	(−33.592)	(−33.582)	(−33.594)
Observations	252,961	252,961	252,961	252,961
R-squared	0.119	0.124	0.124	0.124
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Province FE	YES	YES	YES	YES

Notes: t-stats are reported in parentheses. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

Taken together, the disaggregation clarifies the mechanism but does not change our baseline result. The strategic flexibility effect is enhanced when firms possess operational or ownership-level political ties (SOE, CEO/Chair, senior management), whereas politically connected independent directors do not statistically affect the channel. Notably, our results reinforce the importance of the relationship spending mechanism identified above, since although independent directors might provide valuable connections for firms (Cheng, 2018; Li and Cheng, 2020), they will have less impact on the discretionary spending captured by firms' reported ETC.

4.2. Quasi-exogenous variation

Our main result shows that firms with elevated relationship spending benefit from enhanced strategic flexibility. However, one concern is that unobserved, time-varying local shocks or concurrent variations in policy enforcement could simultaneously influence firms' rent-seeking behavior and their returns during volatile periods. To control for the possibility of an omitted variability bias, we introduce two plausible exogenous sources of variation as potential moderators of our baseline flexibility effect, local political turnover and anti-corruption enforcement intensity.

Turnover of municipal Party secretaries, or mayors, is widely employed as an exogenous political shock at the firm level (Pan and Tian, 2020). It resets and disrupts informal ties and policy priorities and heightens local uncertainty (Jiang et al., 2021), yet is not chosen by firms (An et al., 2016; Choi et al., 2021; Chen et al., 2018). To construct our political turnover variable, we manually collect city-level turnover events (mayor/party-secretary changes) for the cities hosting listed firms from authoritative portals (e.g., People.com, Xinhuanet.com, Baidu News).

Separately, the government's anti-corruption campaign may generate exogenous variation in local enforcement intensity, which could impact firms' rent-seeking behavior and their returns (Pan and Tian, 2020; Zhang, 2023). Following previous studies (Butler et al., 2009; Yang et al., 2022; Dong and Torgler, 2013), we measure anti-corruption intensity by the number of corruption convictions scaled by population at the provincial level, which proxies for effective enforcement. The number of corruption-related convictions is collected from the Procuratorial Yearbook of China (Supreme People's Procuratorate). We standardise (per hundred thousand population) the convictions for embezzlement, bribery, and misappropriation at the provincial level, and merge by province and fiscal year. Both series are then merged to the firm-month panel.

Table 7
Quasi-exogenous variation - political turnover and anti-corruption enforcement intensity.

Variables	(1)	(2)
	excess_ret	excess_ret
ΔVolatility	−0.557***	−0.659***
	(−9.000)	(−13.670)
Xu	−0.146***	−0.158***
	(−2.395)	(−2.782)
ΔVolatility x Xu	81.310***	70.296***
	(8.961)	(10.154)
Pol_turn	0.000	
	(0.317)	
Pol_turn x ΔVolatility	−0.973***	
	(−9.040)	
Pol_turn x Xu	−0.013	
	(−0.207)	
Pol_turn x ΔVolatility x Xu	−32.044**	
	(−2.264)	
Enforce		0.0005
		(1.138)
Enforce x ΔVolatility		−0.094**
		(−2.305)
Enforce x Xu		0.169***
		(3.390)
Enforce x ΔVolatility x Xu		−3.112
		(−0.404)
Constant	−0.814***	−0.813***
	(−58.561)	(−58.459)
Observations	239,494	239,494
R-squared	0.119	0.119
Controls	YES	YES
Firm FE	YES	YES
Industry FE	YES	YES
Year FE	YES	YES
Province FE	YES	YES

Notes: t-stats are reported in parentheses. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

Empirically, we expand the baseline firm-month model by interacting, in turn, (a) the city-year political-turnover (Pol_turn) indicator and (b) the provincial anti-corruption enforcement intensity (Enforce) with our strategic-flexibility term (ΔVolatility × Xu), while also including the respective lower-order terms:

$$r_{i,y,m,d} - r_{f,y,m,d} = \alpha + \beta_1 \Delta Volatility_{i,y,m} + \beta_2 Xu_{i,y,m} + \beta_3 \left(\Delta Volatility_{i,y,m} \times Xu_{i,y,m} \right) + \beta_4 Moderator \times \Delta Volatility_{i,y,m}$$

$$+ \beta_5 Moderator \times Xu_{i,y,m} + \beta_6 \left(Moderator \times \Delta Volatility_{i,y,m} \times Xu_{i,y,m} \right) + \beta_7 FirmControls + \theta_{i,y,k} + \varepsilon_{i,y,m}$$

The triple-interaction coefficient (β_6), identifies whether these shocks or variations change the baseline flexibility effect. Ex ante, political turnover can disrupt firms' relational ties, and stronger enforcement can discourage firms' rent-seeking behavior. Both mechanisms predict non-positive β_6. Consistent with this prediction, Table 7 shows that Pol_turn × ΔVolatility × Xu is negative and significant at the 5 % level, indicating that the positive association between strategic flexibility and relationship spending is reduced during periods of political turnover. This finding is consistent with the path dependency theory applied to the loss of political connections (Jiang et al., 2021). They argue that political path dependence enables firms to sever relationships with departing politicians, but developing new relationships with their successors is more difficult.

By contrast, the coefficient on Enforce × ΔVolatility × Xu is statistically insignificant, suggesting that the positive benefit of relationship spending on firms' strategic flexibility is unaffected by anti-corruption enforcement activity. These robustness tests imply that political turnover disrupts rent-seeking behavior, but that enforcement activity does not, further supporting the view that the rent-seeking behavior we identify is consistent with the grease the wheel hypothesis. Importantly, across these quasi-exogenous tests, the baseline flexibility coefficient, (β_3) on ΔVolatility × Xu, remains positive and significant, confirming that our central result holds.[2]

4.3. Instrumental variable approach

To further confirm the robustness of our results, we apply an instrumental variables analysis to mitigate for potential endogeneity in relationship spending. We estimate a two-stage least squares (2SLS) specification that instruments our rent-seeking proxy with the geographical distance between a firm's headquarter city and the provincial capital. We choose the geographical distance because previous studies suggest that geographical proximity to regulatory agencies increases opportunities for interaction, facilitating network formation and rent-seeking (Tullock, 1967; Tian and Feng, 2022; Tang et al., 2024; Zhang et al., 2025). Firms located closer politically and geographically to the ruling party experience differential stock-return dynamics (Kim et al., 2012), obtain information through informal channels and influence administrative decisions (El Ghoul et al., 2013; Lu et al., 2024), and have more involvement with government (Duchin et al., 2020).

Table 8 presents the IV-approach results. Consistent with the mechanism discussed above, the first stage shows a negative and statistically significant coefficient on Distance - specifically, firms closer to the provincial capital exhibit higher relationship spending. The under-identification test (Kleibergen–Paap rk LM) rejects the null that the instruments are irrelevant ($p = 0.000$). Weak-identification diagnostics indicate adequate relevance, the Kleibergen–Paap rk Wald F-statistic exceeds the 10 % maximal IV size Stock–Yogo critical value, confirming that the instruments are sufficiently strong. In the second stage, the coefficient on ΔVolatility × Xu_IV remains positive and statistically significant, which is in line with our interpretation that relationship spending causally enhances firms' ability to benefit from uncertainty. The economic magnitude of the coefficient, in terms of an annualised excess return, is 3.02 % [44.068 x sd. ΔVolatility x Xu_IV(P75-P25) x 12], which is comparable to our main finding. Overall, the distance-based IV evidence strengthens the causal identification of relationship spending on the strategic flexibility effect, while preserving its sign and economic significance.

4.4. Growth options and operational flexibility

Table 9 presents the results for several robustness checks. Again, for brevity, we do not report the control variables and we include only the results for the Xu measure of relationship spending, the results for the Zeng and Fang measures being qualitatively similar.

Grullon et al. (2012) find that the volatility-return relation is much stronger in industries that have plenty of growth and strategic options (high-tech, pharmaceutical, and biotechnology industries) and high levels of operating flexibility (natural resources industries). These industries may inherently have more opportunities to adapt to uncertainties, which would impact the firms' strategic flexibility. Hence, we exclude these industries, see columns 1–3, to check that our results are unrelated to the impact of such industry-wide features on firms' strategic flexibility. Column 1 reports our baseline estimation excluding natural resource industries, while column 2 excludes the high growth option industries (high-tech, pharmaceutical, and biotechnology). Column 3 excludes both the natural resource and high growth option industries. All the interaction term coefficients (ΔVolatility x Xu) remain positive and significant, confirming that our results are robust to the removal of these industries. In contrast to Aabo et al. (2024), the exclusion of

[2] The results are unchanged if we exclude political turnover years or employ lagged enforcement intensity.

Table 8
Instrumental variables approach.

Variables	(1)	(2)
	First Stage	Second Stage
	Xu	excess_ret
Distance	−0.021***	
	(25.19)	
ΔVolatility		−0.530***
		(−10.943)
Xu_IV		−0.384
		(−0.724)
ΔVolatility x Xu_IV		44.068***
		(6.211)
Constant	0.055***	−0.218***
	(13.90)	(−37.983)
Observations	239,508	239,508
R-squared	0.023	0.083
Controls	YES	YES
Firm FE	YES	YES
Year FE	YES	YES
Province FE	YES	YES
Underidentification (Kleibergen-Paap rk LM statistic)		51.512
(*p*-value)		(0.000)
Kleibergen-paap rk F-statistic		27.642
	Sample SD	Within-group SD
ΔVolatility	0.0055	0.0050

Note: Robust z-statistics in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1. See Appendix A for variable definitions.

Table 9
Strategic flexibility and growth options (excluding high-growth / flexible industry / low leverage firms).

	Remove industries with high operational flexibilities	Remove industries with high growth options	Remove industries with high operational flexibilities and high growth options	Remove bottom tercile of leverage
ΔVolatility	−0.702*****	−0.688***	−0.725***	−0.727***
	(−13.014)	(−12.304)	(−10.528)	(−12.604)
Xu	−0.109*	−0.309***	−0.368***	−0.122
	(−1.783)	(−4.078)	(−3.943)	(−1.638)
ΔVolatility x Xu	70.344***	69.814***	70.459***	80.936***
	(9.416)	(7.604)	(6.190)	(9.102)
Constant	−0.836***	−0.812***	−0.807***	−0.813***
	(−52.236)	(−49.822)	(−39.014)	(−46.481)
Observations	190,987	175,306	113,332	174,636
R-squared	0.122	0.121	0.126	0.121
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Province FE	YES	YES	YES	YES

Notes: t-stats are reported in parentheses. See Appendix A for variable definitions.
*** p < 0.01.
** p < 0.05.
* p < 0.1.

operationally flexible and growth industries does not appear to diminish our finding of the magnitude of the strategic flexibility impact.

The final column of Table 9 presents the results for a sample that excludes firms that are in the bottom tercile of leverage. Our analysis is underpinned by the expectation that a positive relation between excess returns and volatility is driven by firms' strategic flexibility (Grullon et al., 2012). However, the leverage hypothesis suggests that more levered firms will be more volatile, and have higher valuations, due to the option-like nature of equity. This could induce a positive relation between volatility and excess returns that is unrelated to our variable of interest, relationship spending. We check this by dropping firms with low leverage (measured by the ratio of total debt to total assets) and retaining the more highly levered firms, where the leverage hypothesis is most likely to hold. The coefficient for ΔVolatility is almost unchanged compared to the baseline estimation results reported in Table 2. Further, the coefficient for the interaction term (ΔVolatility x Xu) remains positive and significant (80.936, t-value = 9.102), implying that leverage is unlikely to explain our results.

Table 10
Strategic flexibility and relationship spending - alternative measures of return.

Dependent Variable	ROA	Op_CF	EVA
ΔVolatility	0.075*****	0.026*	−0.022***
	(6.326)	(1.733)	(−5.768)
Xu	−0.257***	−0.127***	−0.041***
	(−18.632)	(−7.194)	(−9.050)
ΔVolatility x Xu	8.930***	18.383***	3.312***
	(5.276)	(8.642)	(6.120)
Constant	−0.432***	−0.021***	−0.086***
	(−127.116)	(−4.746)	(−77.724)
Observations	252,961	252,961	252,961
R-squared	0.625	0.326	0.441
Controls	YES	YES	YES
Firm FE	YES	YES	YES
Year FE	YES	YES	YES
Province FE	YES	YES	YES

Notes: t-stats are reported in parentheses. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

4.5. Alternative specifications

Table 10 presents the results for specifications with alternative dependent variables. We replace the excess return used in our baseline results with alternative measures of firm performance, the return on assets (ROA), the operating cash flow (CF) and the economic value added (EVA). The return on assets (ROA) is the net income scaled by total assets; the operating cash flow (CF) is the operating cash flows scaled by total assets; the economic value added (EVA) is the firm's residual wealth calculated by deducting the firm's cost of capital from its operating profit. Despite these return measures capturing different aspects of the firm's operating performance, the coefficient for the interaction term (ΔVolatility x Xu) is consistently positive and significant, reinforcing our finding that relationship spending delivers a consistent enhancement to firms' strategic flexibility. It is notable that the coefficient for Xu is consistently negative and significant for all three performance measures, confirming that this spending is detrimental to firms' operating performance, and represents a significant cost to firms. Again, this finding of a negative direct impact, alongside a positive

Table 11
Strategic flexibility and relationship spending - alternative specifications.

	excess_ret	excess_ret
Xu	−0.120***	−0.060
	(−2.239)	(−1.098)
ΔVolatility_std	0.871***	
	(34.028)	
ΔVolatility x Xu	40.320***	
	(39.986)	
AIO		−0.001**
		(−2.385)
AIO x Xu		0.110**
		(1.970)
Constant	−0.809***	−0.841***
	(−60.650)	(−61.656)
Observations	282,158	284,742
R-squared	0.131	0.108
Controls	YES	YES
Firm FE	YES	YES
Year FE	YES	YES
Province FE	YES	YES
	Sample SD	Within-group SD
ΔVolatility_std	0.039	0.030
AIO	1.53	1.38

Notes: t-stats are reported in parentheses. Sample SD is the standard deviation of the sample for the variable of interest. Within-group SD is the standard deviation within fixed-effect groups for the variable of interest. See Appendix A for variable definitions.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

impact when interacted with volatility, may help explain the previously inconclusive results of studies that examine firms' rent-seeking behavior (Xu et al., 2019; Ferris et al., 2021; Banerjee et al., 2022). Spending that is consistent with rent-seeking behavior reduces firm performance but delivers enhanced performance during periods of uncertainty.

The final robustness check considers an alternative measure of volatility, and a measure of real option intensity. We replace the asset volatility (ΔVolatility) with the standard deviation of stock returns (ΔVolatility_std), and an aggregate measure of investment opportunities (AIO) that represents a firm's real option intensity. The results are presented in Table 11. While ΔVolatility is our preferred measure of volatility since it represents the underlying asset volatility of the firm, it is notable that this is not a determinant of our findings, which remain qualitatively unchanged if instead we include the standard deviation of stock returns, the coefficient on the interaction term (ΔVolatility_std x Xu) remaining positive and significant. The economic magnitude in terms of an annualised excess return (calculated as above) is; a one standard deviation increase in firm Volatility_std is associated with an excess return of 3.9 % if a firm's relationship spending increases from the 25th percentile to the 75th percentile, as measured by Xu. This is comparable to the economic magnitudes associated with asset volatility. The corresponding economic magnitude for the real option intensity, aggregate investment opportunities (AIO), measured by the interaction term (AIO x Xu) is 2.4 %.

Again, it is a feature of our results that it is relationship spending that drives firms' strategic flexibility. Whereas Grullon et al. (2012) demonstrate that flexibility, in the form of sensitivity of firm value to volatility, is largely determined by investment opportunities, our results indicate that just possessing real options does not provide firms with flexibility. It is the combination of real options with relationship spending that generates a positive impact on strategic flexibility. This is consistent with the spending being associated with rent-seeking behavior and is undertaken by firms to overcome restrictions and obstacles (Dreher and Gassebner, 2013; Bai et al., 2020).

5. Conclusion

Firms in China continue to spend heavily on their connections and relationships when conducting business. While some of this spending is regarded as routine and a requirement of doing business (Bu and Roy, 2015), some of this spending is consistent with rent-seeking behavior, enabling firms to extract favors and attain contracts and privileges that provide them with a distinct competitive advantage (Dreher and Gassebner, 2013; Bai et al., 2020; Ulusemre and Fang, 2022). Applying three alternative methods to extract this relationship spending from firms' reported entertainment and travel costs (Xu et al., 2019; Zeng et al., 2016; Fang et al., 2023), we show that firms with elevated levels of relationship spending gain an explicit, and economically significant, benefit in terms of enhanced strategic flexibility.

The existing strategy literature relating to strategic flexibility focuses on firms enhancing their ability to adapt and respond to changing business conditions through the development of specific strategies and processes or the deployment of flexible resources (Sanchez, 1995; Brozovic, 2018). The finance literature has identified strategic flexibility as being enhanced by firm characteristics that provide them with growth options or operational flexibility (Grullon et al., 2012), or as being determined by CEO personality traits (Aabo et al., 2024). We complement this literature by identifying relationship spending as an additional, and economically meaningful, mechanism through which firms can enhance their strategic flexibility. It is notable that, in the absence of volatility, this rent-seeking behavior is costly to firms. It is beneficial only when interacted with volatility, implying that the benefits of rent-seeking behavior are specifically associated with volatility, helping firms to adjust to change rather than simply enabling firms to be more lucrative and profitable. Elevated relationship spending enables firms to exploit new opportunities, rather than restrict competition. This would be consistent with it enabling firms to gain contracts, favors and privileges (Millington et al., 2005; Poppo et al., 2016; Li and Cheng, 2020; Bai et al., 2020) that they would otherwise be unable to achieve, or which would take longer to achieve without such payments, consistent with the notion of greasing the wheel (Dreher and Gassebner, 2013).

Previous research has identified considerable benefits to firms of being politically connected (Cull et al., 2015; Wang, 2015; Chen and Kung, 2019; Lei, 2021), together with the need to make associated facilitation payments (Bai et al., 2020; Lei, 2021). Our results show that simply being politically connected is not beneficial to firms, possibly because of the negative consequences associated with political connectedness (Chen et al., 2011; Wang, 2015; Cao et al., 2018). We find that political connections generate a positive impact on firms' strategic flexibility only when the firms also expend resources, consistent with rent-seeking behavior under institutional voids (Dreher and Gassebner, 2013; Bai et al., 2020; Lei, 2021). Our findings are also consistent with path dependency theory, underscored by our robustness test which identifies the disruptive effect of political turnover (Jiang et al., 2021).

We isolate the post-2013 period because of the anti-corruption campaigns that were implemented by the Chinese government during 2013. These campaigns focused explicitly on relationship spending and political connections, and attempted to restrict both (Xue et al., 2016; Fu and Sun, 2023). Our results remain consistent during this period. We also identify an over-embeddedness in terms of a diminishing return to relationship spending. Consistent with path dependence theory, this result suggests very high spending creates overly strong connections and commitments, which prevent the firm from making changes and adjustments and hinder its strategic flexibility (Jiang et al., 2019; Horak et al., 2020).

Finally, some studies attribute elevated relationship spending to be a defensive strategy (Xu et al., 2019), employed by firms principally as a mechanism to overcome a deficiency, or on which they rely when they are under-performing. Our findings suggest that it is not used in this way, instead it is used more proactively by firms, as a means of overcoming bureaucratic obstacles, gaining approvals or permits and enforcing contracts (Dreher and Gassebner, 2013; Ulusemre and Fang, 2022). It is almost a requirement of firms in a market that is characterised by intense competition (Li and Li, 2009; Cai et al., 2017; Leahy and Ko, 2025) and the presence of institutional voids. This is supported by our finding of the continued effectiveness of such spending in enhancing firms' strategic flexibility during the period after the 2013 anti-corruption campaigns, and the absence of an anti-corruption enforcement effect. It is

this aspect of rent-seeking behavior that we identify in this paper, and the positive benefit it generates for firms might explain why the associated spending persists, despite continuing government attempts to restrict it.

CRediT authorship contribution statement

Kyriacos Kyriacou: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Siming Liu:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Bryan Mase:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Acknowledgements

We are very grateful for the editor (Evgeny Lyandres) and referee comments, which have significantly improved the paper.

Appendix A. Variable definitions

Variables	Definition
Dependent Variable:	
$r_{i,y,m} - r_{f,y,m}$	Excess monthly stock return. $r_{i,y,m}$ is stock return in month m of year y for firm i and $r_{f,y,m}$ is the risk-free rate of return in the same month.
Key Independent Variables:	
Xu	Measure of relationship spending obtained from the residuals of the following regression: $ETC_{i,t} = \alpha_0 + \alpha_1 LnSales_{i,t} + \alpha_2 LnAssets_{i,t} + \alpha_3 MktExp_{i,t} + \alpha_4 CapIntensity_{i,t} + \alpha_5 ExecPay_{i,t} + \varepsilon_{i,t}$ where $LnSales_{i,t}$ is log of total sales, $LnAssets_{i,t}$ is log of total assets, $MktExp_{i,t}$ is marketing expenses scales by sales, $CapIntensity_{i,t}$ is total assets scaled by sales, $ExecPay_{i,t}$ is the pay of the top three executives scaled by sales
Zeng	Alternative measure of relationship spending obtained from the residuals of the following regression: $ETC_{i,t} = \alpha + \beta_1 ExecPay_{i,t} + \beta_2 OwnCon_{i,t} + \beta_3 Bsize_{i,t} + \beta_4 AccPay_{i,t} + \beta_5 AccRcv_{i,t} + \beta_6 LnAssets_{i,t} + \varepsilon_{i,t}$ where $ExecPay_{i,t}$ is the pay of the top three executives scaled by sales, $OwnCon_{i,t}$ the percentage of shares held by the ten largest shareholders, $Bsize_{i,t}$ is number of directors on the board, $AccPay_{i,t}$ is accounts payable scaled by sales, $AccRcv_{i,t}$ is accounts receivable scaled by sales, and $LnAssets_{i,t}$ is the log of total assets
Fang	Alternative measure of relationship spending obtained from the residuals of the following regression: $ETC_{i,t} = \alpha + \beta_1 LnAssets_{i,t} + \beta_2 BusinessinotherRegions_{i,t} + \beta_3 PerCapGDP_{i,t} + \varepsilon_{i,t}$ where $LnAssets_{i,t}$ is the log of total assets, $BusinessinotherRegions_{i,t}$ is number of additional regions where the firm generates revenues, and $PerCapGDP_{i,t}$ is the log of the per capita GDP of the firm's province.
$\Delta Volatility$	Change in the firm's asset volatility, which is defined as the difference between the firm's asset volatility (σ_A) for the current month and that of the previous month. σ_A is calculated using distance-to-default model proposed by Merton (1974). This method uses an iterative procedure that involves simultaneously solving two equations: one that links the equity value to the firm's asset value and another that connects the volatility of the firm's equity to its asset volatility.
SFA_Xu	It is measured as the distance from the frontier, derived by applying the Stochastic Frontier Analysis (SFA) methodology. The frontier represents the minimum relationship spending achievable, based on the respective determinants outlined in equation below: $ETC_{i,t} = \alpha_0 + \alpha_1 LnSales_{i,t} + \alpha_2 LnAssets_{i,t} + \alpha_3 MktExp_{i,t} + \alpha_4 CapIntensity_{i,t} + \alpha_5 ExecPay_{i,t} + v_{i,t} + \mu_i$ The distance from the frontier $[\widehat{\mu}_i - \min(\widehat{\mu}_i)]$ reflects the firm's additional spending on facilitation payments, which we denote SFA_Xu. Firms operating on the frontier are regarded as being efficient with zero relationship spending, while firms' spending increases as their distance from the frontier increases.
SFA_Zeng	It is measured as the distance from the frontier, derived by applying the Stochastic Frontier Analysis (SFA) methodology. The frontier represents the minimum relationship spending achievable, based on the respective determinants outlined in equation below: $ETC_{i,t} = \alpha + \beta_1 ExecPay_{i,t} + \beta_2 OwnCon_{i,t} + \beta_3 Bsize_{i,t} + \beta_4 AccPay_{i,t} + \beta_5 AccRcv_{i,t} + \beta_6 LnAssets_{i,t} + v_{i,t} + \mu_i$ The distance from the frontier $[\widehat{\mu}_i - \min(\widehat{\mu}_i)]$ reflects the firm's additional spending on facilitation payments, which we denote SFA_Zeng. Firms operating on the frontier are regarded as being efficient with zero relationship spending, while firms' spending increases as their distance from the frontier increases.
SFA_Fang	It is measured as the distance from the frontier, derived by applying the Stochastic Frontier Analysis (SFA) methodology. The frontier represents the minimum relationship spending achievable, based on the respective determinants outlined in equation below: $ETC_{i,t} = \alpha + \beta_1 LnAssets_{i,t} + \beta_2 BusinessinotherRegions_{i,t} + \beta_3 PerCapGDP_{i,t} + v_{i,t} + \mu_i$ The distance from the frontier $[\widehat{\mu}_i - \min(\widehat{\mu}_i)]$ reflects the firm's additional spending on facilitation payments, which we denote SFA_Fang. Firms operating on the frontier are regarded as being efficient with zero relationship spending, while firms' spending increases as their distance from the frontier increases.
Control Variables:	
Market Factor Loading	It is the estimated coefficient (beta) on daily market premiums for each month in the following market model. $r_{i,y,m,d} - r_{f,y,m,d} = \alpha + F(r_{market,y,m} - r_{f,y,m}) + \varepsilon_{i,y,m}$ where $F_{i,y,m}$ represents the market factor loading estimated on the daily information in month m. $r_{i,y,m,d}$ is firm i's return on day d in month m and year y, $r_{f,y,m,d}$ is the daily risk-free interest rate, and $r_{market,y,m}$ is the daily return on the value-weighted market portfolio.

(*continued on next page*)

(*continued*)

Variables	Definition
BTM	Book value of assets divided by market value of assets
Size	The natural log of market value of the firm
Leverage	Total debt over book value of assets
Past6m_Ret	6-month lagged return from month m-6 to m-1
R&D	The natural log of one plus research and development expenses
CAPEX	Ratio of capital expenditures to sales
Dividend Payout	Ratio of common and preferred dividends to net income
Volume	The natural log of trading volume in month m
Other Variables:	
PC	Equals one if the firm is politically connected (PC), defined as either being state owned or having a politically connected Chair or CEO, zero otherwise
PC_CEO/Chair	Equals one if CEO/Chair of the firm has a political identity, zero otherwise
PC_Smgt	Equals one if senior management of the firm has a political identity, zero otherwise
PC_Ind	Equals one if independent directors of the firm have a political identity, zero otherwise
Pol_turn	Equals one if there is a change in the mayor or city secretary of the firm's headquarters location, and 0 otherwise.
Enforce	Measure of anti-corruption enforcement intensity, which uses a standardised measure of convicted cases per 100,000 population within the province
Distance	Log value of geographical distance between a firm's headquarter city and the provincial capital.
ROA	Net income scaled by total assets
Op_CF	Operating cash flows scaled by total assets
EVA	Economic Value Added (EVA) scaled by assets. EVA is measured as operating profit minus the cost of capital.
Volatility_std	The standard deviation of daily stock returns for year y and month m.
AIO	Aggregate measure of for investment opportunities including proxies of firm age, firm size, R&D intensity and future sales growth. We measure aggregate proxies of investment opportunities by standardizing firm age, firm size, R&D intensity and future sales growth - subtracting the mean value and dividing by the standard deviation.

Data availability

Data will be made available on request.

References

Aabo, T., Pantzalis, C., Park, J., Trigeorgis, L., Wulff, J., 2024. CEO personality traits, strategic flexibility, and firm dynamics. Finance 84, 102524.

Acemoglu, D., Johnson, S., Kermani, A., Kwak, J., Mitton, T., 2016. The value of connections in turbulent times: evidence from the United States. J. Financ. Econ. 121 (2), 368–391.

Ades, A., Di Tella, R., 1999. Rents, competition, and corruption. Am. Econ. Rev. 89 (4), 982–993.

Aidt, T., Dutta, J., Sena, V., 2008. Governance regimes, corruption and growth: theory and evidence. J. Comp. Econ. 36 (2), 195–220.

Aigner, D., Lovell, C., Schmidt, P., 1977. Formulation and estimation of stochastic frontier production function models. J. Econ. 6 (1), 21–37.

Allen, F., Qian, J., Qian, M.J., 2005. Law, finance, and economic growth in China. J. Financ. Econ. 77, 57–116.

An, H., Chen, Y., Luo, D., Zhang, T., 2016. Political uncertainty and corporate investment: evidence from China. Finance 36, 174–189.

Bai, C., Hsieh, C., Song, Z., 2020. Special Deals With Chinese Characteristics, 34. National Bureau of Economic Research (NBER) Macroeconomics Annual, pp. 341–379.

Banerjee, R., Gupta, K., Krishnamurti, C., 2022. Does corrupt practice increase the implied cost of equity? Finance 73, 102191.

Bharath, S., Shumway, T., 2008. Forecasting default with the Merton distance to default model. Rev. Financ. Stud. 21 (3), 1339–1369.

Brogaard, J., Denes, M., Duchin, R., 2021. Political influence and the renegotiation of government contracts. Rev. Financ. Stud. 34 (6), 3095–3137.

Brozovic, D., 2018. Strategic flexibility: a review of the literature. Int. J. Manag. Rev. 20, 3–31.

Bu, N., Roy, J., 2015. Guanxi practice and quality: a comparative analysis of Chinese managers' business-to-business and business-to-government ties. Manag. Organiz. Rev. 11 (2), 263–287.

Butler, A.W., Fauver, L., Mortal, S., 2009. Corruption, political connections, and municipal finance. Rev. Financ. Stud. 22 (7), 2873–2905.

Cai, H., Fang, H., Xu, L., 2011. Eat, drink, firms, government: An investigation of corruption from the entertainment and travel costs of Chinese firms. J. Law Econ. 54 (1), 55–78.

Cai, L., Chen, B., Chen, J., Bruton, G., 2017. Dysfunctional competition and innovation strategy of new ventures as they mature. J. Bus. Res. 78, 111–118.

Cao, X., Wang, Y., Zhou, S., 2018. Anti-corruption campaigns and corporate information release in China. Finance 49, 186–203.

Chen, T., Kung, J., 2019. Busting the "princelings": the campaign against corruption in China's primary land market. Q. J. Econ. 134 (1), 185–226.

Chen, S., Sun, Z., Tang, S., Wu, D., 2011. Government intervention and investment efficiency: evidence from China. Finance 17, 259–271.

Chen, Y., Liu, M., Su, J., 2013. Greasing the wheels of bank lending: evidence from private firms in China. J. Bank. Financ. 37 (7), 2533–2545.

Chen, Y., Chen, D., Wang, W., Zheng, D., 2018. Political uncertainty and firms' information environment: evidence from China. J. Account. Public Policy 37 (1), 39–64.

Chen, Y., Che, L., Zheng, D., You, H., 2020. Corruption culture and accounting quality. J. Account. Public Policy 39, 106698.

Cheng, L., 2018. Estimating the value of political connections in China: evidence from sudden deaths of politically connected independent directors. J. Comp. Econ. 40, 495–514.

Choi, S.J., Liu, H., Yin, J., Qi, Y., Lee, J.Y., 2021. The effect of political turnover on firms' strategic change in the emerging economies: the moderating role of political connections and financial resources. J. Bus. Res. 137, 255–266.

Choi, H., Gan, H., Suh, S., 2024. Managerial overconfidence and classification shifting. J. Account. Public Policy 43.

Claessens, S., Feijen, E., Laeven, L., 2008. Political connections and preferential access to finance: the role of campaign contributions. J. Financ. Econ. 88, 554–580.

Claussen, J., Kretschmer, T., Stieglitz, N., 2015. Vertical scope, turbulence, and the benefits of commitment and flexibility. Manag. Scie. 61 (4), 915–929.

Cull, R., Li, W., Sun, B., Xu, L., 2015. Government connections and financial constraints: evidence from a large representative sample of Chinese firms. Finance 32, 271–294.
Ding, H., Hu, Y., Kim, K., Xie, M., 2023. Relationship-based debt financing of Chinese private sector firms: the role of social connections to banks versus political connections. Finance 78, 102335.
Dolfsma, W., van der Eijk, R., Jolink, A., 2009. On a source of social capital: gift exchange. J. Bus. Ethics 89, 315–329.
Dong, B., Torgler, B., 2013. Causes of corruption: evidence from China. China Econ. Rev. 26, 152–169.
Dreher, A., Gassebner, M., 2013. Greasing the wheels? The impact of regulations and corruption on firm entry. Public Choice 155, 413–432.
Dreyer, B., Gronhaug, K., 2004. Uncertainty, flexibility, and sustained competitive advantage. J. Bus. Res. 57, 484–494.
Duchin, R., Gao, Z., Shu, H., 2020. The role of government in firm outcomes. Rev. Financ. Stud. 33, 5555–5593.
Dunfee, T.W., Warren, D.E., 2001. Is guanxi ethical? A normative analysis of doing business in China. J. Bus. Ethics 32, 191–204.
El Ghoul, S., Guedhami, O., Ni, Y., Pittman, J., Saadi, S., 2013. Does information asymmetry matter to equity pricing? Evidence from firms' geographic location. Contemp. Account. Res. 30 (1), 140–181.
Ellis, J., Smith, J., White, R., 2020. Corruption and corporate innovation. J. Financ. Quant. Anal. 55 (7), 2124–2149.
Faccio, M., 2006. Politically connected firms. Am. Econ. Rev. 96 (1), 369–386.
Faccio, M., 2010. Differences between politically connected and nonconnected firms: a cross-country analysis. Financ. Manag. 905–927.
Fan, Y., 2002. Questioning guanxi: definition, classification, and implications. Int. Bus. Rev. 11 (5), 543–561.
Fan, J., 2021. The effect of regulating political connections: evidence from China's board of directors ban. J. Comp. Econ. 49, 553–578.
Fan, J., Rui, M., Zhao, M., 2008. Public governance and corporate finance: evidence from corruption cases. J. Comp. Econ. 36, 343–364.
Fang, L., Lerner, J., Wu, C., Zhang, Q., 2023. Anticorruption, government subsidies, and innovation: evidence from China. Manag. Sci. 69 (8), 4363–4388.
Ferris, S., Hanousek, J., Tresl, J., 2021. Corporate profitability and the global persistence of corruption. Finance 66, 101855.
Fisman, R., Wang, Y., 2015. The mortality cost of political connections. Rev. Econ. Stud. 82 (4), 1346–1382.
Fock, H., Woo, K., 1998. The China market: strategic implications of guanxi. Bus. Strateg. Rev. 9 (3), 33–43.
Fu, J., Sun, P., 2023. Closing the revolving door: what if board political connections are permanently broken? J. Manag. 1–37.
Giannetti, M., Liao, G., You, J., Yu, X., 2021. The externalities of corruption: evidence from entrepreneurial firms in China. Rev. Finance 629–667.
Grant, R., Baden-Fuller, C., 2004. A knowledge accessing theory of strategic alliances. J. Manag. Stud. 41 (1), 61–84.
Griffin, J., Liu, C., Shu, T., 2022. Is the Chinese anticorruption campaign authentic? Evidence from corporate investigations. Manag. Sci. 68 (10), 7248–7273.
Grullon, G., Lyandres, E., Zhdanov, A., 2012. Real options, volatility, and stock returns. J. Financ. 67 (4), 1499–1537.
Gul, F., Cheng, L., Leung, T., 2011. Perks and the informativeness of stock prices in the Chinese market. Finance 17 (5), 1410–1429.
Hallward-Driemeier, M., Pritchett, L., 2015. How business is done in the developing world: deals versus rules. J. Econ. Perspect. 29 (3), 121–140.
Haveman, H., Jia, N., Shi, J., Wang, Y., 2017. The dynamics of political embeddedness in China. Adm. Sci. Q. 62 (1), 67–104.
Horak, S., Afiouni, F., Bian, Y., Ledeneva, A., Muratbekova-Touron, M., Fey, C., 2020. Informal networks: dark sides, bright sides, and unexplored dimensions. Manag. Organ. Rev. 16 (3), 511–542.
Hu, J., 2021. Do facilitation payments affect earnings management? Evidence from China. Finance 68, 101936.
Hu, R., Karim, K., Lin, K., Tan, J., 2020a. Do investors want politically connected independent directors? Evidence from their forced resignations in China. Finance 61, 101421.
Hu, J.H., Li, X., Duncan, K., Xu, J., 2020b. Corporate relationship spending and stock price crash risk: evidence from China's anti-corruption campaign. J. Bank. Financ. 113, 105758.
Huang, Q., Yuan, T., 2021. Does political corruption impede firm innovation? Evidence from the United States. J. Financ. Quant. Anal. 56 (1), 213–248.
Jiang, X., Liu, C., Fey, Wang, G., 2019. Entrepreneurial orientation, network resource acquisition, and firm performance: a network approach. J. Bus. Res. 87, 46–57.
Jiang, H., Jia, N., Bai, T., Bruton, G., 2021. Cleaning house before hosting new guests: a political path dependence model of political connection adaptation in the aftermath of AntiCorruption shocks. Strat. Manag. J. 42, 1793–1821.
Kahneman, D., Tversky, A., 1979. Prospect theory: An analysis of decision under risk. Econometrica 47 (2), 263–291.
Kim, C.F., Pantzalis, C., Park, J.C., 2012. Political geography and stock returns: the value and risk implications of proximity to political power. J. Financ. Econ. 106 (1), 196–228.
Leahy, J., Ko, H., 2025. China criticises manufacturers over price war as deflation fears mount, financial times. https://on.ft.com/3Iv4mOU.
Lee, J., Park, J., Folta, T., 2018. CEO career horizon, corporate governance, and real options: the role of economic short-termism. Strat. Manag. J. 39 (10), 2703–2725.
Lei, Y., 2021. Quid pro quo? Government-firm relationships in China. J. Public Econ. 199, 104427.
Li, Z., Cheng, L., 2020. What do private firms do after losing political capital? Evidence from China. Finance 60, 101551.
Li, H., Zhang, Y., 2007. The role of managers' political networking and functional experience in new venture performance: evidence from China's transition economy. Strat. Manag. J. 28 (8), 791–804.
Li, J., Zhou, K., 2010. How foreign firms achieve competitive advantage in the Chinese emerging economy: managerial ties and market orientation. J. Bus. Res. 63, 856–862.
Li, H., Li, J., 2009. Top management team conflict and entrepreneurial strategy making in China. Asia Pac J Manag 26, 263–283.
Li, J., Poppo, L., Zhou, K., 2008. Do managerial ties in China always produce value? Competition, uncertainty, and domestic vs. foreign firms. Strat. Manag. J. 29 (4), 383–400.
Li, Y., Chen, H., Liu, Y., Peng, M., 2014. Managerial ties, organizational learning and opportunity capture: a social capital perspective. Asia Pac. J. Manag. 31, 271–291.
Liu, J., Winegar, A., 2025. Economic magnitudes within reason. Finance 91, 102707.
Liu, Q., Tang, J., Tian, G., 2013. Does political capital create value in the IPO market? Evidence from China. Finance 23, 395–414.
Liu, G., Hu, M., Cheng, C., 2021. The information transfer effects of political connections on mitigating policy uncertainty: evidence from China. Finance 67, 101916.
Lu, S., Sun, Y., Tian, H., Zhao, Y., 2024. Geographical proximity to government and corporate litigation behavior: evidence from China. China Econ. Rev. 85, 102170.
Meeusen, W., van Den Broeck, J., 1977. Efficiency estimation from cobb-Douglas production functions with composed error. Int. Econ. Rev. 435–444.
Mendoza, R., Lim, R., Lopez, A., 2015. Grease or sand in the wheels of commerce? Firm level evidence on corruption and SMES. J. Int. Dev. 27 (4), 415–439.
Meon, P.-G., Weill, L., 2010. Is corruption an efficient grease? World Dev. 38 (3), 244–259.
Merton, R., 1974. On the pricing of corporate debt: the risk structure of interest rates. J. Financ. 29 (2), 449–470.
Millington, A., Eberhardt, M., Wilkinson, B., 2005. Gift giving, guanxi and illicit payments in buyer–supplier relations in China: analysing the experience of UK companies. J. Bus. Ethics 57 (3), 255–268.
Nadkarni, S., Herrmann, P., 2010. CEO personality, strategic flexibility and firm performance: the case of the Indian business process outsourcing industry. Acad. Manage. J. 53, 1050–1073.
Nadkarni, S., Narayanan, V., 2007. Strategic schemas, strategic flexibility and firm performance: the moderating role of industry clock speed. Strat. Manag. J. 28, 243–270.
Nur-tegin, K., Jakee, K., 2020. Does corruption grease or sand the wheels of development? New results based on disaggregated data. Q. Rev. Econ. Finance 75, 19–30.
Pan, X., Tian, G., 2020. Political connections and corporate investments: evidence from the recent anti-corruption campaign in China. J. Bank. Financ. 119, 1–15.
Park, S., Luo, Y., 2001. Guanxi and organizational dynamics: organizational networking in Chinese firms. Strat. Manag. J. 22 (5), 455–477.
Poppo, L., Zhou, K., Li, J., 2016. When can you trust "trust"? Calculative trust, relational trust, and supplier performance. Strat. Manag. J. 37 (4), 724–741.
Puffer, S., McCarthy, D., Boisot, M., 2010. Entrepreneurship in Russia and China: the impact of formal institutional voids. Enterp. Theory Pract. 34 (3), 441–467.
Ritter, T., Gemünden, H.G., 2004. The impact of a company's business strategy on its technological competence, network competence and innovation success. J. Bus. Res. 57 (5), 548–556.

Rock, M., Bonnett, H., 2004. The comparative politics of corruption: accounting for the east Asian paradox in empirical studies of corruption, Growth and Investment. World Dev. 32 (6), 999–1017.
Sanchez, R., 1995. Strategic flexibility in product competition. Strateg. Manag. J. 16, 135–159.
Schmidt, P., Sickles, R., 1984. Production frontiers and panel data. J. Bus. Econ. Stat. 2 (4), 367–374.
Schoenherr, D., 2019. Political connections and allocative distortions. J. Financ. 74 (2), 543–586.
Semrau, T., Werner, A., 2014. How exactly do network relationships pay off? The effects of network size and relationship quality on access to start–up resources. Entrep. Theory Pract. 38 (3), 501–525.
Shleifer, A., Vishny, W., 1993. Corruption. Q. J. Econ. 21 (3), 137–162.
Simon, H.A., 1955. A behavioral model of rational choice. Q. J. Econ. 69 (1), 99–118.
Sun, F., 2016. How to manage client entertainment in China. Bus. Horiz. 59 (4), 401–410.
Sydow, J., Schreyögg, G., Koch, J., 2009. Organizational path dependence: opening the black box. Acad. Manage. Rev. 34 (4), 689–709.
Tang, C., Tan, L., Liu, X., 2024. Regulatory distance and corporate environmental performance: from the perspective of rent-seeking distance. J. Environ. Manage. 365, 121580.
Tian, Y., Feng, C., 2022. The internal-structural effects of different types of environmental regulations on China's green total-factor productivity. Energy Econ. 113, 106246.
Tullock, G., 1967. The welfare costs of tariffs, monopolies, and theft. Western Econ. J. 5, 224–232.
Ulusemre, T., Fang, X., 2022. How do expatriate managers draw the boundaries of moral free space in the case of Guanxi? J. Bus. Ethics 176, 311–324.
Uzzi, B., 1997. Social structure and competition in interfirm networks: the paradox of embeddedness. Adm. Sci. Q. 42 (1), 35–67.
Vassalou, M., Xing, Y., 2004. Default risk in equity returns. J. Financ. 59 (2), 831–868.
Wang, L., 2015. Protection or expropriation: politically connected independent directors in China. J. Bank. Financ. 55, 92–106.
Wei, C., Hu, S., Chen, F., 2020. Do political connection disruptions increase labor costs in a government-dominated market? Evidence from publicly listed companies in China. Finance 62, 101554.
Williams, C., Martinez-Perez, A., Kedir, A., 2016. Does bribery have a negative impact on firm performance? A firm-level analysis across 132 developing countries. Int. J. Entrep. Behav. Res. 22 (3), 398–415.
Wright, P., Snell, S., 1998. Toward a unifying framework for exploring fit and flexibility in strategic human resource management. Acad. Manage. Rev. 23, 756–772.
Wu, W., Wu, C., Zhou, C., Wu, J., 2012. Political connections, tax benefits and firm performance: evidence from China. J. Account. Public Policy 31, 277–300.
Xu, Y., 2018. Anticorruption regulation and firm value: Evidence from a shock of mandated resignation of directors in China. J. Bank. Financ. 92, 67–80.
Xu, D., Zhou, K., Du, F., 2019. Deviant versus aspirational risk taking: the effects of performance feedback on bribery expenditure and R&D intensity. Acad. Manage. J. 62, 1226–1251.
Xue, S., Wang, Q., Zhao, Z., 2016. Anti-corruption policy and firms' three public consumptions. China Account. Finance Rev. 18, 1–32.
Yang, H., Zhang, Q., Zhao, X., Wang, Z., 2022. Does political corruption affect mergers and acquisitions decisions? Evidence from China. Int. Rev. Econ. Finance 78, 248–266.
Zeng, Y., Lee, E., Zhang, J., 2016. Value relevance of alleged corporate bribery expenditures implied by accounting information. J. Account. Public Policy 35 (6), 592–608.
Zhang, P., 2023. Anti-corruption campaign, political connections, and court bias: evidence from Chinese corporate lawsuits. J. Public Econ. 222, 104861.
Zhang, R., Ni, K., Tan, L., 2025. Geographic proximity to local governments and corporate energy efficiency: evidence from Chinese industrial enterprises. Front. Environ. Econ. 3, 1486650.