RESEARCH ARTICLE

WILEY

The 'play' of institutions and firm investment: Evidence from a transition economy

Jun Du[1] | Bach Nguyen[2,3] (iD)

[1]Aston Business School, Aston University, Birmingham, UK

[2]University of Economics Ho Chi Minh City, Ho Chi Minh City, Vietnam

[3]University of Exeter Business School, Exeter, UK

Correspondence
Bach Nguyen, University of Economics Ho Chi Minh City, 59C Nguyen Dinh Chieu, District 3, Ho Chi Minh City, Vietnam.
Email: bachnd@ueh.edu.vn

Abstract

According to recent literature in new institutional economics and entrepreneurship, institutions, including formal and informal ones (i.e., the rules) are important. However, in a homogeneous national institutional environment, it is unclear whether and how the execution of institutions (how the rules are implemented) matters. The purpose of this research is to assess the mechanisms that local governments can use to encourage entrepreneurial investment, which determines the future growth potential of small businesses. We find that (i) improving local institutional quality in general boosts entrepreneurial investment; and (ii) more financially constrained firms are more sensitive to informal local governance, while less financially constrained firms are more sensitive to local formal institutions, using a large-scale small and medium-sized enterprise (SME) dataset from Vietnam from 2006 to 2019.

KEYWORDS
financing constraints, firm investment, formal local governance, informal local governance, institutions execution, Vietnam

1 | INTRODUCTION

One of the reason that we create institutions is to reduce uncertainty (Sever, 2020; Tawiah & Gyapong, 2021). The perception of uncertainty is undoubtedly the key to the process of entrepreneurs' decision-making. The recent literature, embedded in the new institutional economics (Williamson, 2000) and entrepreneurship empathetically demonstrates the importance of institutions for entrepreneurial activities and their outcomes (Ayob & Saiyed, 2020; Bradley et al., 2021; Nguyen, 2021; Yu et al., 2020), but the main body of this research still seldom discusses the issues around uncertainty (Asutay & Mohd Sidek, 2020).

To date, there are fascinating theories and overwhelming empirical support for the importance of formal institutions (e.g. and property right protection) (Acemoglu & Johnson, 2005; La Porta et al., 1998) and informal institutions (e.g., norms and relationship) (Webb et al., 2020)—influence the self-employment intention of entrepreneurs, the establishment of nascent startups, and their growth aspirations (see Bylund and McCaffrey (2017) for a review). What remains poorly understood is if and how the governance of national institutions (Williamson, 2000) explains the variations of entrepreneurship within a homogenous national institutional setting (Du & Mickiewicz, 2016; Nguyen et al., 2018). Moreover, the homogeneity and stability of the national institutional configuration do not guarantee those at the subnational level of institutions of governance. This is especially true in post-communist economies, where the institutional framework remains weak, enabling local authorities considerable latitude to execute policies and

formal laws (Eddleston et al., 2020; Efobi et al., 2021; Ha & Frömmel, 2021).

As such, while the rules of the game indicate the upper institutional structural frameworks, the play of the game represents how these upper structures are practically implemented at the ground level (Pur & Moore, 2010). Despite increasing evidence to demonstrate the power of the 'play' of the game, we still do not know evidently the mechanisms of its effects. Indeed, even though the literature demonstrates the importance of institutions, the question of why that is the case remains unclear (Bradley et al., 2021). This study fills the gap by establishing a novel framework and providing new evidence through firm investment mechanisms.

We focus on firm investment for important reasons. Most existing studies only focus on either specific entrepreneurial activity at the early stages of entrepreneurship (e.g., the transition from nascent entrepreneur to startups) (Chowdhury & Audretsch, 2020), or ultimate entrepreneurial outcomes (typically, profitability or sales growth) (Fuentelsaz et al., 2020). There is little research on how institutions influence the *process* between startups' survival and sustained growth (Nguyen, 2020). Given there are only a small proportion of firms that actually achieve sustained growth from the population of startups (Gupta et al., 2018), we really need to understand the mechanisms through which institutional factors help or hinder entrepreneurs from investing in their future growth after their initial commitments. Following Cumming and Groh (2018), we argue that not just the first critical step to becoming an entrepreneur certainly matters, but every single additional investment matters as well to ensure the realisation of the full potential of the initial investment. This study focuses on one of the most critical strategic decisions an entrepreneur has to make to stay in the game, that is, making investment decisions.

Moreover, it is also important to understand how entrepreneurs allocate their resources in the post-entry stage and the influencing role of institutions in that process, which may be different from that in startup decisions (Singh & Bala Subrahmanya, 2020). In the post-entry stage, entrepreneurs have formed expectations about which institutional factors facilitate or hamper the business operation and, therefore, would make decisions about resource allocation based on these expectations (Croce et al., 2020; McDonald & Eisenhardt, 2020). Good institutions should not just encourage entrepreneurs to make the initial investment but also promote their continuous investments. Our objective is to examine which aspects of local governance play a positive role.

Further, we postulate that an improvement in institutions of governance does not benefit all firms in the

same way but exhibits a distributional effect among firms of different degrees of financial constraints. The increasing evidence suggests that financial constraints are particularly relevant to young and small firms (Machokoto, 2020; Mukherjee & Proebsting, 2021). This pattern is particularly pertinent to less financially developed regions and weaker institutional environments where transaction costs are high, such as in emerging economies and regions (Mukherjee & Proebsting, 2021). In this saying, financing is likely to be more binding for small businesses in developing economies. Meanwhile, financing conditions will affect business plans and operation strategies, consequently the survival and the potential for growth (Du et al., 2015; Nguyen et al., 2020). For this reason, each firm, depending on its level of financial constraints, may obtain dissimilar benefits from different forces of external institutions, including local governance arrangements.

Our empirical analysis draws upon two data sources, including the Annual Enterprise Survey census data of Vietnam's small and medium-sized enterprises (SMEs) from 2006 to 2019 and the Provincial Competitiveness Index (PCI), which has not only rich firm information but also some rarely available information on firms' financing conditions and the need for external finance (Nguyen et al., 2020; Tran, 2019). More importantly, the regions identified in the linked regional data show large variations in the institutional conditions, which provides excellent testability of our hypotheses.

Our models are designed to capture both formal and informal institutions of governance. Formal governance forces include law enforcement, market-access regulations, and local economic regulations. These governance arrangements are relatively explicit and quantifiable (Boudreaux & Nikolaev, 2019). In contrast, informal governance forces include governance arrangements relating to (informal) standards of policy execution and governance quality, including transparency, leadership, and control for corruption (Webb et al., 2020). Formal governance pertains to official regulations published by local governments based on their understanding and self-implementation of central laws; whereas, informal governance refers to the process in which government authorities and servants provide public services, focusing more on their behaviours and the quality of services (Bradley et al., 2021; Williamson, 2000). Although difficult to be formalised in the form of regulations, these informal factors could remarkably affect entrepreneurs' investment incentive.

Our conceptual framework and the assisting evidence contribute to the literature in two ways. First, the theoretical framework proposed in this study

extends the classical institutional models in notable ways, through which the nature of institutions could be better understood. First, moving away from the country comparison approach, we conceptualise and provide evidence that local institutional governance arrangements play essential roles in determining firm investment. This is particularly more important to SMEs since they are young and small and typically bound by local markets shaped by local governance forces (Du & Mickiewicz, 2016; Nguyen, 2021). We relax the assumption regularly made in the cross-country studies that institutions have a homogeneous effect on entrepreneurs across regions within a country (Soroka et al., 2020). Also, by incorporating the factor of financial constraints and highlighting its importance in moderating the association between firm investment and sub-national government quality, we show a mechanism that links local financial development and institutional development.

Second, we identify a distributional effect on investment decisions of local governance forces, contingent on firm financial constraints; this effect also depends on the type of institutions of governance. Specifically, more financially constrained firms benefit from improved formal governance, while less financially constrained firms are better off from the improvements in informal governance. An intuitive explanation is that cash-rich businesses (less likely financially constrained) are active to conduct economic activities (Ferrando & Ruggieri, 2018; Guariglia & Yang, 2016), and thus are more likely to be on the radar screen of local authorities. Since they are the target of corruptive officials, improvements in local informal governance will exempt them from rent-seeking, unproductive activities (e.g., entertaining politicians) (Du et al., 2015; Tran, 2019), and will provide them with more incentives and resources (e.g., time, and effort) to make investments. Meanwhile, improvements in formal governance forces, such as law enforcement, regulations about access to local markets, and visible support and services from local governments, are more important for SMEs with poor cash flow because these regulations are necessary for them to do basic business transactions and operations (Estrin et al., 2013; Webb et al., 2020).

The subsequent section provides a summary of relevant literature and develops hypotheses. Then, in Section 3, we introduce the setting of the research, which is Vietnam. Section 4 presents the data in use and the measurements of variables. In Section 5, we build empirical specifications and present estimation techniques. Section 6 summarises the findings and robustness testing. Finally, Section 7 concludes the study by discussing the findings.

2 | CONCEPTUAL FRAMEWORK AND HYPOTHESES

2.1 | Institutions, uncertainty, transaction cost and entrepreneurship

Entrepreneurship, by its nature, requires the entrepreneurs to interact, intensively and repeatedly, with society. As such, institutions profoundly affect the entrepreneurial process (Tran, 2019) through the institutional frameworks that set the 'the rules of the game'. These frameworks include both formal institutions (constitutional configurations and laws) and informal ones (the norms, customs, and values that regulate society). Together, they create the order and structure that are a jumping-off point for action. In other words, they can be viewed the foundations that engender collaboration (Chiles et al., 2007; Foss & Garzarelli, 2007). In our context, the starting point for entrepreneurs is the market structure, from which they orient and coordinate their behaviour to best meet their aims—creating values for stakeholders (Lamine et al., 2021).

At operational level, the 'rules of the game' may not be evenly applied. This is described by Williamson (2000) as the 'play of the game', a term that acknowledges that the rules are not necessarily executed on a level field. Even though national institutions are mostly the same and fairly stable, there can be wide variations in entrepreneurial activities and performance. Williamson (2000) explains these as deriving from the institutions of governance. His framework for institutional analysis puts social embeddedness on the first level and formal institutions on the second. The social institutions of governance are on the third level, and they refer to how the institutional factors are played out. The playing field consists of the functioning legal system that defines and enforces contract law, the formal regulations that govern market access, and the explicit and formal (business support) policies. However, even though it may appear that every player of the game is following the same rules, this is not always the case. How the rules are applied can make a significant impact on local firms' operations. In systems where the formal rules are ambiguous or lack transparency, there may be scope for inconsistent interpretation. In addition, when the formal rules are inadequately enforced, entrepreneurs are more likely to perceive uncertainty in their operating environments (Di Vita, 2021; Nguyen et al., 2020).

The existing finance literature offers little insight into how individual investors make investment decisions in the context of within-country institutional variations. Although it is acknowledged that uncertainty affects the entrepreneurial decision-making, finance

theorists contend that better institutions give entrepreneurs more certainty and are thus perceived to reduce investment risk (Bradley et al., 2021). This has empirical support from the finding that favourable socio-political and entrepreneurial environments encourage the inception and development of venture capital investment (Rodríguez-Pose & Zhang, 2020). While the entrepreneurship literature recognises that institutions profoundly affect entrepreneurship, it is largely unclear how this happens, that is, there is scant research on the 'institutional conditions that facilitate or hinder entrepreneurial engagement' (Bylund & McCaffrey, 2017).

In this study, we address this literature gap by exploring two layers (i.e., formal and informal) of the institutions of governance and examining how they bear on firm investment.

2.2 | Local formal institutions of governance and firm investment

2.2.1 | Enforcement of law

Formal institutional conditions matter to entrepreneurial activities because they drive property rights and contract enforcement (Acemoglu & Johnson, 2005). Entrepreneurs need to be assured that there is a low risk of property expropriation by the government, and also that their contracts will be enforced. These two assurances are essential to the process by which entrepreneurs create wealth, and they are consequently fundamental to a market economy. A country's legal framework is usually homogeneously specified at national level and considered stable over time, but the local implementation of its laws and regulations may differ considerably (Nguyen, 2021). This impacts on entrepreneurs because while the scrupulous and consistent implementation of the formal institutions promotes resource-seeking intentions, value-adding behaviours, and productive interactions between an economy's agents (Baumol & Strom, 2007; Henrekson, 2007), weak property rights discourage firms from making new investment projects even though bank loans may be available (McMillan & Woodruff, 2002). Uncertainty about (the enforcement of) property rights will deter small businesses from making investments, even if the need for investment is strongly indicated (Cull & Xu, 2005). As such, there is clear evidence that property rights protection enforcement is a significant predictor of firm investment decisions.

Contract enforcement, too, is found to have strong impact on small business investment. Contract regulations affect venture capital activities, thereby influencing the establishment and growth of young and small businesses (Li & Zahra, 2012). Scepticism about the reliability and effectiveness of the legal institutions discourages the development of the financial market and dampens entrepreneurship (Li et al., 2014).

In short, even though the national laws and regulations may be complete, they require effective and inclusive local governance arrangements if they are to be executed properly (Moodysson & Zukauskaite, 2014). The quality of the enforcement of laws plays a crucial role in determining local firm investment incentives.

2.2.2 | Market-access regulations

Market-access regulations govern the openness of lands, business licences, and other production permits within the local environment. They are a key dimension of formal local governance (Tran et al., 2009). Being able to access land, having confidence in the security of one's tenure of that land, and being able to smoothly obtain the relevant operating permits are crucial to SME activities (Efobi et al., 2019; Makino & Tsang, 2011). In the post-entry stage, market-access regulations determine the potential risks and uncertainties of doing business. Regulations govern the risk of land expropriation, the costs and losses incurred by land disputes, and the accessibility of the markets for key production materials. Substantial operating costs might arise from unpredictable land price changes, changes to how land-use certificates are issued, or related to the purchase of other production licences such as expansion or construction permits. These unpredictable changes may be due to unstable governance, policy alterations, or a lack of transparency in governance (Malesky et al., 2015).

Market access matters because there is strong evidence that it is highly associated with entrepreneurship. For example, Pincus (2009) proposes in the context of Vietnam that the right to access land is regarded as a rare resource, to the extent that it is one of the most critical factors in the entrepreneur's intention to open a new business. Institutional bias towards the state sector, especially in developing countries, means that private companies can only get land and corresponding permits at the local government's discretion (Nguyen & Nguyen, 2019). These resources are all essential to small businesses, and so it is expected that the openness of local regulations concerned with land, land-use rights, and operation permits will significantly enhance local SME investments.

2.2.3 | Local economic environment

The local economic environment is a term that describes production resources (e.g., information and human capital)

and their availability, abundance, quality, and price. Entrepreneurs obtain and internalise these resources, add value to them, and thus make profits. In the context of entrepreneurship, young and small firms incur high transaction costs for their production resources because of their smallness and newness (Nguyen et al., 2018). Thus, the local economic environment is key to attracting businesses and ensuring they survive and thrive. Local governance is critical to alleviating informational asymmetries by shaping the supply and demand of resources to benefit the local entrepreneurship sector (Baumol & Strom, 2007).

For example, human resources are highly dependent on local governance (Glaeser et al., 2004). Past research suggests that regulations have high bearing on both the demand and supply of human resources. In terms of demand, Stel et al. (2007) suggest that rigid wage-setting and overly-strict labour market regulations have negative effects on the rate of nascent entrepreneurship and young businesses establishments. This is because the higher costs of hiring and firing reduce labour demand and entrepreneurial intentions. Empirical support for this has been found in both an industrialised economy (Davidsson & Henrekson, 2002; Nguyen, 2013) and one that is emerging (Vietnam: (Davidsson & Henrekson, 2002; Nguyen, 2013)).

As for the supply side, regulations that increase the quality and number of labour usually lead to the establishment of new ventures (Efobi et al., 2021). In this study, we recognise the importance of labour availability to firm investment decisions (Collins et al., 2011) by taking into account the governance arrangements that facilitate the supply of human resources. We expect that local governance arrangements that enhance the quality and quantity of local labour and skill provisions will facilitate local SME investments.

In a similar way, local governments that support business activities will lower transaction costs by creating industrial zones, organising trade fairs, and other events for local firms to find business partners. Meyer and Nguyen (2005) use levels of agglomeration as a proxy for a reduction in transaction costs to argue for the higher foreign direct investment (FDI) evident in specific regions of Vietnam and China. Also, Kreivi et al. (2012) propose that trade fairs yield important information needed by SMEs wishing to internationalise. Thus, a set of conducive local governance arrangements could facilitate business cooperation, reduce transaction costs, and consequently promote small business investments.

Taken together, we formulate the following hypothesis:

Hypothesis H1a. In a region, improvements in the local formal institutions of governance of: (a) law enforcement, (b) market-access regulations, and (c) economic regulations are positively associated with local small business investments.

2.3 | Local informal institutions of governance and firm investment

2.3.1 | Corruption reduction

The established and widely-accepted theoretical frameworks (North, 1990; Williamson, 2000) hold that the social embeddedness is at the root of the behavioural process, and that it amounts to informal institutions. Ahlstrom and Bruton (2006) argue that when the formal institutions are weak or inchoate, informal 'codes of conduct' can supplement or replace them, especially in transition economies such as China (Rodríguez-Pose & Zhang, 2020), Russia (Ahistrom & Bruton, 2002), and Vietnam (Nguyen, 2021).

In this study, 'informal governance' indicates both governance quality and the informal norms that influence how local governments execute policy (Helmke & Levitsky, 2004). We posit that the informal governance forces are implicitly regulated or guided by local norms rather than by the formal regulations of local governments. Informal governance includes the quality of governance and the unofficial (unwritten and thus opaque) policies of local government that influence the rewarding structures of entrepreneurship, and thus local firm investment decisions.

One of the most important informal governance forces is the degree to which local officials are free from corruption. Corruption is directly linked to property rights protection and enforcement of laws (Tawiah et al., 2021); these, as noted above, determine the expected and actual transaction costs of entrepreneurs' investment projects. Corruption is recognised to introduce substantial uncertainty into business development, dampening venture rate and company growth. Estrin et al. (2013) show new ventures suffer more from corruption than those that are well-established. Moreover, Hunt and Laszlo (2012) reveal that business innovation is significantly enhanced when corruption reduces. It has been noted that improving the efficiency of legal enforcement (i.e., governance quality) is key to reducing corruption engagement (Nguyen et al., 2018). Overall, we expect to see a positive relationship between measures designed to reduce corruption in local officials, and local firm investment.

2.3.2 | Local government quality

A second local informal institution consists of informal governance arrangements, such as bureaucratic compliance,

administration transparency, and leadership proactivity. These are important forces that may influence local small business investments (Su & Bui, 2017) and we now look at each in turn.

Compliance with government rules has a direct effect on how much it costs to go through government inspections (Rodríguez-Pose & Zhang, 2020). Administration transparency is concerned with whether access to public information (e.g., planning and legal papers) is distributed fairly, and whether new policies are disclosed to all businesses at the same time, and then applied predictably and consistently (Nguyen, 2019a, 2019b). Empirically, Du and Mickiewicz (2016) show evidence of a lack of transparency in subsidy-giving to firms by China's different regional governments. Having to comply with layers of bureaucracy or navigate poor administration transparency requires entrepreneurs to spend time and energy on getting access to information. As observed by Bian (2018), entrepreneurs in economies with weak formal institutions tend to invest heavily in making political networks, which may help them to avoid risks such as expropriation or provide them with more resources. As such, costly bureaucratic compliance low transparency inevitably induce unproductive activity and higher transaction costs, hence the resources available for investment.

Local leadership proactivity is another dimension of local informal governance (Nguyen et al., 2018). Leadership proactivity is how creative and flexible local governments are when they come up with and executing policies to help small businesses in their area. These informal arrangements are embedded in local norms and codes of conduct and, as might be expected, they show a high degree of variation across regions (Tran, 2019). Local leadership proactivity includes the attitude of local authorities towards the private business sector, whether the local authority flexibly interprets the institutional frameworks that helps facilitate a conducive environment for local private firms, how the province reacts to a lack of clarity in national institutional framework, and their proactivity and innovativeness.

Research has found that improving the quality of governance has positive effects on firm performance. Van Long and Tan (2018) propose that transparency is the most important aspect of governance for attracting foreign direct investment (FDI). Nguyen and Van Dijk (2012) argue that perceived improvements in local government policies are conducive to economic performance by boosting firm investments and profitability, while Helmke and Levitsky (2004) stress that informal governance forces, including transparency and corruption practices, influence firm growth even

more strongly than the formal governance forces. The following hypothesis summarises our arguments:

> **Hypothesis H1b.** In a region, improvements in local informal institutions of governance in terms of (e) corruption control and (f) government quality are positively associated with local small business investments.

2.4 | Distributional effects of governance quality on financially-constrained firms

Financially-constrained businesses may find it difficult to make optimal investments because they lack internally and externally generated funds (Carreira & Silva, 2010). Young and small firms are more prone than their large and old counterparts to being financially-constrained (Machokoto, 2020; Nguyen & Canh, 2020) particularly when it comes to the financing of new investment projects. Financing constraints are thus an additional barrier to start-ups. Institutional quality is relevant here because it alters entrepreneurs' perceptions of an investment's transaction costs. The financing condition of a firm is therefore often an unobservable form of firm heterogeneity that plays a vital role in the relationship between institutions and investment.

More specifically, firms experiencing differing degrees of financial constraints may benefit unevenly from improved local governance. Firms with fewer financial constraints (e.g., they are cash rich) are better able to finance their large-scale and long-term projects. They are theorised to be more active in economic activities than their more financially-constrained counterparts (Nguyen et al., 2020) whose limited internal finance puts binding constraints on firm operations and the decision-making processes related to, inter alia, investment. There is preliminary evidence that businesses that are less financially constrained are keen on pursuing higher value-added projects, such as new product R&D (Guariglia & Liu, 2014), employment growth (Kao & Chen, 2020), and fixed asset expansion (Araujo et al., 2020). Firms that have substantial cash flow may attract more external financing because cash flow reduces agency costs and demonstrates commitment to the project (Miglani et al., 2015).

However, being less financially constrained in a weak institutional environments also has drawbacks. It is harder for larger and more successful businesses to fly under the radar. They are thus more prone to suffer from expropriation and corruption. As Puffer et al. (2010) exemplify using the Russia case, entrepreneurs and their property are often the subjects of corporate takeovers that

are more akin to corporate raids. They find that large and successful businesses can be subject to illegal searches, during which information can be seized and documents falsified, enabling the business to be commandeered. Even in an environment that is less actively business-hostile, corrupt politicians and administrators are more likely to seek contact with firms that are liquid (Du & Mickiewicz, 2016; Nguyen, 2019a, 2019b).

This is consistent with the literature showing that the negative effects of corruption are more detrimental to high-growth and large organisations than to they are to subsistence entrepreneurs (Chowdhury & Audretsch, 2020). Thus, the entrepreneurs of less financially-constrained firms must give sizeable time and effort to unproductive activities such as wooing local authorities (Du et al., 2015). As such, we expect that as the local informal governance environment improves (i.e., there is less corruption, more transparency, and more proactive leadership) the cash-rich firm burdens of building and maintaining informal (i.e., back-door) relationships with local government will reduce, leaving their entrepreneurs with more resources (e.g., capital and time) for investing in and managing new projects.

Another difficulty for less financially constrained businesses is that they are more inclined to pursue investment initiatives that are not in accordance with current formal restrictions, such as non-conventional R&D investments, the construction of large factories, and applying for operating licences in novel industries. These situations offer local administrators the scope for arbitrarily deciding which projects are to be approved and which are not. Decisions may vary across projects that are not dissimilar (Nguyen et al., 2018). Non-transparent governance may also present in favourable treatment (e.g., back-door information passing) being accorded to specific firms (Zhou, 2013). Such informal governance arrangements incentivise entrepreneurs to participate in rent-seeking activities so that they can obtain the resources they need. Strong institutional environments make these unproductive activities less necessary or even redundant.

We therefore suggest that when informal governance arrangements improve, the less financially-constrained firms will likely benefit more than their financially-constrained counterparts, who have little to offer corrupt officials. Furthermore, cash-poor firms must typically concentrate on building up their resources and capabilities, relying largely upon their private networks rather than political connections (Nguyen et al., 2020). They, and their relatively small investment products, are thus less sensitive to corruption, administration transparency, and leadership proactivity (Guizani, 2021). In this, they differ from the less financially-constrained firms to whose operations and development the local formal government

arrangements are fundamental. For example, better enforcement of law is perceived by entrepreneurs to reduce uncertainty, encouraging them to make more investments (Estrin et al., 2013; Su & Bui, 2017). A conducive set of market access and economic regulations provides small firms with the productive resources (land and human resources) necessary for expanding their businesses. Formal governance arrangements also help reduce regional transaction costs by encouraging local authorities to provide matchmaking services such as trade fairs, and tangible/perceptible support and services (Nguyen et al., 2018).

Cash-poor firms are usually small, young, and in a degree of financial difficulty (Kao & Chen, 2020), making them unlikely to be able to undertake the large-scale and long-term investment projects that require tailored considerations and specific approvals from local authorities. We therefore suggest that what cash-hungry firms need is a formal and well-organised institutional infrastructure, with functional legal enforcement, open access to local market regulations, and supportive economic regulations. Cash-rich firms, on the other hand, are focused on how to get the most value out of their available capital, while still holding onto the necessary resources for navigating the local red tape (Araujo et al., 2020). For this reason, we expect them to be more sensitive than their financially-constrained counterparts to the informal local governance arrangements. The following hypotheses summarise these arguments:

> **Hypothesis H2a.** Less financially-constrained firms make more investments when local informal governance forces (corruption and governance quality) improve.

> **Hypothesis H2b.** More financially-constrained firms make more investments when local formal governance forces (law enforcement, market-access regulations, and economic regulations) improve.

3 | BACKGROUND: FINANCIAL CONSTRAINTS AND LOCAL INSTITUTIONS IN VIETNAM

Vietnam is an economy where a post-socialist political ideology is giving way to an ongoing economic transition. As such, it is an excellent scenario in which to investigate the links between government and private company investment. Its old socialist-oriented market economy is transforming into a multisectoral one, but the state sector continues to play a dominant role in controlling economic

growth with the ultimate goal of advancing socialism (Audretsch & Fiedler, 2021). Vietnam's socialist ideology means that its financial systems are intrinsically biased against the private sector, which in turn means that its private SMEs experience a significant lack of access to external finance (Nguyen & Canh, 2020). This country-specific factor compounds the informational asymmetries that are typical of the emerging economies, with detrimental effects on its domestic SMEs. The resulting financial constraints may delay firm investment and hamper firm growth (Tran, 2019) and indeed, the literature confirms that small private businesses in the country suffer from serious financial constraints (Nguyen & Canh, 2020; Tran & Santarelli, 2014).

That being said, Vietnam's private sector (98% of which are young and small businesses) has made an astonishingly large contribution to the country's economic growth over the past few decades (Audretsch & Fiedler, 2021). Given this paradox, it is surprising we know so little about the mechanism that is encouraging Vietnam's entrepreneurs to transcend their difficulties, finance their investments, and make so impressive a contribution to the economy.

Like many of the emerging economies, Vietnam is characterised by weak institutions and poor governance quality. These have direct bearing on the country's SMEs (Efobi et al., 2021). Furthermore, Vietnam's history of partition and reunification has caused the quality of its regional governance to follow one of two patterns (Truong & Schuler, 2021). North Vietnam never experienced capitalism post-partition, whereas South Vietnam only returned to socialism after the country's reunification in 1975. Hence, there are significant differences in the regions' local informal governance institutions (Dell et al., 2018). Moreover, these informal institutions have proven to be sticky enough to survive a reunification that occurred over 40 years ago, as well as the creation of a single formal institutional framework (Nguyen, 2021).

The *Doimoi* (economic renovation) has made the differences in the quality of local governments even more noticeable. Specifically, *Doimoi* has extensively decentralised Vietnam's government (Le et al., 2019), with fiscal strategizing being devolved to the local governments. Currently, local governments are relatively autonomous in setting arrangements for revenue, expenditure, and regulatory choices. This has produced enormous variability in the quality of governance between areas (Schmitz et al., 2015). This variation in governance, together with the financially-constrained entrepreneurial nature of Vietnam's economy, makes the country an excellent context to test our research questions.

4 | DATA AND VARIABLES

4.1 | Data

The Vietnam General Statistics Office's Annual Survey on Enterprises was used as the basis for this study's empirical research. It is a longitudinal survey from 2000 to 2019 that includes firm-level data of all industry sectors. However, we focus on the years from 2006 to 2019 in order to connect with another dataset, the Provincial Competitiveness Index (PCI). This data were collected by the Vietnam Chamber of Commerce (VCCI) and the US Agency for International Development (USAID). The PCI is available since 2006. The PCI has a set of provincial governance indices constructed from nine dimensions. Each sub-index measures a local governance force, including both formal and informal ones. Table 1 contains definitions and summary statistics for the indices.

We follow the standard data cleaning procedure, by excluding all firm-observations with meaningless accounting reports. Outliers are censored at 1% of continuous variable observations, at both sides of extreme values. Only private SMEs are included in this study; large firms are not the focus here since they are more responsive to national institutions instead of local governance, given their cross-region operations (Nguyen et al., 2018). The final sample consists of 2,378,322 firm-year observations.

4.2 | Variables

4.2.1 | Dependent variable

Firm investment is the main dependent variable, which is the ratio of total investments firm i makes in year t to its total capital in the same period. As working capital is now widely considered as a complementary source for fixed assets investment when firms lack financial resources (Ding et al., 2013), we incorporate this line of literature to fully capture the intrinsic mechanisms in which entrepreneurs make investment decisions. As such, the dependent variable in this study consists of four types of investment: (1) factory and building construction, (2) the acquisition of machinery and other fixed productive assets, (3) spending on upgrading technological assets, and (4) increased investment for working capital.

4.2.2 | Independent variables

Conventionally, financial constraints could be classified as internal constraints and external constraints

TABLE 1 Governance index definition and summary statistics.

Variable	Definition	Mean	*SD*	Min	Max
Legal enforcement	Measure the effectiveness of local legal enforcement, whether firms regard provincial legal institutions as an effective vehicle for dispute resolution, or as an avenue for lodging appeals against corrupt official behaviour. The indicator ranges from 1 to 10, *the higher the score*, *the better the enforcement*.	5.150	1.130	1.996	7.990
Entry costs	Measure the differences in entry costs for new firms across provinces (for example, length of business registration in days). The indicator ranges from 1 to 10, *the higher the score*, *the lower the entry costs*.	7.821	0.834	4.960	9.598
Land access	Combine two dimensions of the land problems confronting entrepreneurs: how easy it is to access land and the security of tenure once land is acquired. The indicator ranges from 1 to 10, *the higher the score*, *the better the access*.	5.617	1.368	1.937	8.840
Bureaucratic compliance	Measure how much time firms waste on bureaucratic compliance, as well as how often and for how long firms must shut their operations down for inspections by local regulatory agencies. The indicator ranges from 1 to 10, *the higher the score*, *the lower the bureaucratic compliance*.	6.309	0.919	2.640	8.930
Business supports	Measure provincial services for trade promotion, provision of regulatory information to firms, business partner matchmaking, provision of industrial zones or industrial clusters, and technological services for firms. The indicator ranges from 1 to 10, *the higher the score*, *the better the supports*.	6.328	1.316	1.400	9.620
Labour training	Measure the efforts of provincial authorities to promote vocational training and skills development for local industries and to assist in the placement of local labours. The indicator is two-digit value, ranging from 1 to 10, *the higher the score*, *the better the training services*.	6.340	1.072	1.840	9.600
Corruption	Measures how much firms pay in informal charges, how much of an obstacle those extra fees pose for their business operations, whether payment of those extra fees results in expected results or 'services', and whether provincial officials use compliance with local regulations to extract rents. The indicator ranges from 1 to 10, *the higher the score*, *the lower the corruption*.	5.830	0.948	3.340	8.943
Transparency	Measure whether firms have access to the proper planning and legal documents necessary to run their businesses, whether those documents are equitably available, new policies and laws are communicated to firms and predictably implemented. The indicator ranges from 1 to 10, *the higher the score*, *the more transparent*.	6.030	1.178	2.142	8.850
Leadership proactivity	Measure the creativity and cleverness of local authorities in implementing central policy, designing their own initiatives for private sector development, and working within sometimes unclear national regulatory frameworks to assist and interpret in favour of local private firms. The indicator ranges from 1 to 10, *the higher the score*, *the more leadership proactivity*.	4.980	1.321	1.387	9.390

Note: For all indices, higher scores indicate better governance quality. The panel encompasses all 63 provinces and municipal cities in Vietnam in the period 2006–2019, obtained from the Provincial Competitiveness Index (PCI) dataset (http://eng.pcivietnam.org/).

(Guariglia, 2008). Internal constraints relating to the availability of cash to support normal operations and investments. Firms that generate insufficient cash to fund their investment projects are more internally financially constrained. For these businesses, they are very sensitive to cash flow: more internally generated cash flow strongly induces higher investment rate (Bond & Van Reenen, 2007). For this reason, the positive association between cash flow and investment rate could represent the degrees of internally financial constraints. *Cash flow is* the ratio of total cash flow generated by firm i in year t to its total capital. The inclusion of a cash flow variable in a reduced form investment equation is theoretically appropriate to account for financial constraints when investment opportunities are properly controlled (Guariglia & Yang, 2016). The variables controlling for investment opportunities will be discussed in detail in the control variable section.

Meanwhile, external financial constraints indicate the capability of firms in gaining access to external finance. Following the literature, we use the *SA index*[1] (Hadlock & Pierce, 2010), a combination of firm age and firm size as a proxy for a reduction of informational asymmetries between small businesses and external lenders. Larger and older firms with performance track records and accumulated social capital have a greater chance to obtain sufficient external loans, thereby being less financially constrained (Bond & Meghir, 1994; Ding et al., 2016).

To assess the importance of local governance, this study employs several indices in the PCI dataset. Table 1 shows the statistics of the nine governance indices from 2006 to 2019. Since many indices depict similar information concerning one governance force, we compare the statistical patterns of the indices which are highly correlated with an attempt to combine them into a single measure to reduce redundant information and alleviate multicollinearity.[2] Also, to take into account the initial endowment of local characteristics as well as socio-economic development levels, we employ the percentage change of an indicator in two consecutive years instead of simply using the level of performance.

In terms of formal local governance, Land access and Entry cost indices indicate the openness of local governments for entrepreneurs to gain access to local markets, which are combined as *Market-access regulations* variable. To measure the internal consistency of the two items, we use Cronbach alpha, a coefficient of reliability of how closely related a set of items are as a group. In this case, Cronbach alpha is 0.68, slightly lower than the norm of 0.70 in the literature. As the coefficient is a function of the number of test items and the average inter-correlation among the items; the more items included,

the higher the alpha value. Considering that we only operationalise two items to construct a variable, a slightly lower than the conventional norm is justifiable.[3]

Then, the Business assistance and Labour training indices are combined to form the *Economic regulations* index, a measure of local economic conditions (Cronbach alpha 0.79). Business assistance evaluates the efficacy of support and aids provided to local business community by local governments, including, for example, creating industrial zones, making match-making events and trade fairs. Meanwhile, training for labour evaluates the investments of local governments in developing the quality of labour supply for local business community. Together, the two components of governance generate a set of relevant local economic laws under which businesses compete.

The final component of formal institutions is *Law enforcement*, which is directly measured by the Legal institutions score. This variable represents the efficacy of local legal enforcement, indicating whether or not a business views legal institutions provided by local governments as an applicable means of conflict settlement or as a platform for appealing corrupt official conduct. The preceding three variables pertain to the quality of formal local governance.

Concerning the *quality of local informal governance*, we quantify local government quality using three indices: Bureaucratic compliance, On a single scale, administration transparency and leadership proactivity (Cronbach alpha 0.77). Bureaucratic compliance shows the average time that businesses spend on unproductive interactions with public servants, as well as how frequently they must stop operating for local regulatory agency inspections. Meanwhile, transparency measures whether new policies and legislation are disclosed to businesses and applied in a predictable manner. Leadership proactivity reflects local governments' resourcefulness in carrying out central policy, forming their own initiatives, and dealing with ambiguous regulations to support businesses. They reflect local government systems' (informal) attitudes, behaviours, and levels of legitimacy.

We also measure corruption as a characteristic of local informal institutions using the Corruption index. This index shows how much informal fees (bribes) businesses are requested to pay to access services. Moreover, it measures how much these additional costs add burdens on their operations; and whether paying these extra fees leads to the expected results or 'services'.

In general, we end up with three measures of formal governance arrangements, which are market-access regulations, economic regulations, and law enforcement; and two measures of informal governance arrangements, which are government quality and corruption control.

4.2.3 | Control variables

To properly identify internal financial constraints, it is necessary to control for business opportunities when estimating the impact of financial constraints on investment. Typically, investment opportunities are proxied by marginal Q (Bond & Van Reenen, 2007). For small businesses, some authors use firm age and size as valid proxies (Ayyagari et al., 2010; Rahaman, 2011); some others interact year with industry dummies to control for socio-economic changes at the industry level (Guariglia et al., 2011).

To account for investment opportunities, we employ several covariates suggested in the extant literature: (1) *Sales growth* defined as the percentage changes in net revenues in two consecutive years; (2) *Firm Age* is measured as the number of years since firm i being established in year t; and (3) *Firm size* is measured by taking log of the number of fulltime employees of i in year t. While sales growth accounts for the time-variant periodical opportunities, which may change significantly every year, firm size and age control for general trends of opportunities firms gain as they accumulate more and more resources. Table 2 provides definitions and summary data for the variables. The pairwise correlation is shown in Table A2 (Appendix).

5 | METHODS

We use the following equation to estimate the effect of internal financial constraints on firm investment:

$$\left(I_{igt} / K_{igt} \right) = \beta_0 + \beta_1 \left(A_{igt} \right) + \beta_2 \left(S_{igt-1} \right) + \beta_3 \left(G_{igt-1} \right)$$
$$+ \beta_4 \left(CF_{igt-1} / K_{igt-1} \right) + \beta_5 \left(\text{Governance}_{gt} \right)$$
$$+ \beta_6 \left[\text{Governance}_{gt} \times \left(CF_{igt-1} / K_{igt-1} \right) \right] + \mu_{igt}, \quad (1)$$

$$\mu_{igt} = v_i + v_j + v_t + v_g + e_{igt}.$$

The subscript *igt* represents individual effects. Specifically, i indicates a small business, g a province, and t a year. Thus, $\left(I_{igt} / K_{igt} \right)$ is the ratio of investment to total capital an individual firm i in province g makes in year t. $\left(A_{igt} \right)$ represents firm age, $\left(S_{igt-1} \right)$ firm size, $\left(G_{igt-1} \right)$ sale growth, and $\left(CF_{igt-1} / K_{igt-1} \right)$ cash flow to total capital ratio. To account for potential endogeneity, the variables cash flow company size, sales growth are lagged one period.

The subscript g indicates regional effects. The governance variable: $\left(\text{Governance}_{gt} \right)$ is a column vector of five individual governance forces of province g in year t. The interaction terms $\text{Governance}_{gt} \times \left(CF_{igt-1} / K_{igt-1} \right)$ represents the distributional effects of local governance. The model also controls for time-specific v_t and industry-specific v_j by corresponding dummies.

To estimate the effect of external investment, we replace the term $\left(CF_{igt-1} / K_{igt-1} \right)$ by $\left(SA_{igt-1} \right)$ in which SA is the SA index calculated using Hadlock and Pierce (2010) formula $SA = -0.737 Size + 0.043 Size^2 - 0.040 Age$.

Finally, the residual in Equation (1) comprises two terms: v_g is the regional residuals, and e_{igt} is the individual residuals. One potential econometric issue in our estimation is unobserved heterogeneity caused by the fact that firms in our sample located in the same provinces, which share many similar characteristics, not just governance settings. To address this issue, we employ a multilevel technique for estimation. Specifically, individual firms are placed on the first level of the data's hierarchical structure, while provinces are placed on the second level (Estrin et al., 2013). The specification tests show that multilevel is a justifiable approach in our empirical settings.

6 | RESULTS

6.1 | Main results

Table 3 presents the regression results of the direct effects on firm investment of local governance quality. Table 4 presents the distributional effects on firm investment of local governance by degrees of internal financial constraints. Table 5 does so for external financial constraints. The random effect parameters sigma v_g sigma e and in all specifications indicate that there is significant heterogeneity across provinces, and that the use of the multilevel estimator is appropriate.

The coefficients linked with each of the five governance factors in Table 3 are positive and significant. This clearly demonstrates formal and informal aspects of local government quality can increase company investment incentives. Hypotheses H1a and H2b are therefore completely supported. Turning to the moderation effects of internal financing constraints, Table 4 displays the regression results. Intriguingly, the coefficients on the interaction terms of (1) law enforcement, (2) market-access laws, (3) economic regulations, and the cash flow variable are positive and statistically significant. These results initially suggest that when financial constraints increase (cash flow increases in the regression equation controlled for investment opportunities), the effects of formal governance will accordingly strengthen. This finding equivalently indicates that improved formal governance quality makes more financially constrained firms better off (in terms of making investments).

TABLE 2 Definitions and summary statistics of variables.

Variable	Definition	Mean	*SD*	Min	Max
Investment	Total investment values that firm i makes in year t divided by total capital stock.	0.414	0.865	0.000	6.518
Cash flow	Cash flow generated by firm i in year t divided by total capital stock.	1.358	2.358	−0.026	15.120
SA index	A proxy of firm external financing constraints; the SA index is constructed following Hadlock and Pierce (2010) as $SA = -0.737 Size + 0.043 Size^2 - 0.040 Age$	−3.616	0.616	−4.638	2.529
Sales revenue growth	The percentage change of sales revenue in two consecutive years.	0.218	1.889	−12.752	12.752
Age	Number of years since establishment.	5.931	5.705	1	68
Size	Natural log of the number of employees that firm i hires in year t (reported here the number of employees).	21.063	54.816	1	299
Law enforcement	A dimension of formal governance; it measures the quality of the local contracting governance and the risks of expropriation. *Law enforcement* variable is the percentage change of the legal enforcement indicator in two consecutive years.	−0.053	0.290	−0.888	0.993
Market-access regulations	A dimension of formal governance: it measures the quality of the local markets' openness. *Market-access regulations* variable is a standardised combination of the percentage change in Land access and Entry costs indicators in two consecutive years.	0.000	0.790	−1.986	2.206
Economic regulations	A dimension of formal governance: it measures the quality of local economic environments. *Economic regulations* variable is a standardised combination of the percentage change of Labour training and Business supports indicators in two consecutive years.	0.000	0.904	−3.910	2.771
Corruption	A dimension of informal governance; it measures the freedom from corruption of local officials. *Corruption* variable is the percentage change of Corruption indicator in two consecutive years.	0.015	0.137	−0.730	0.567
Government quality	A dimension of informal governance; it measures the quality of unofficial polices. *Government quality* variable is a standardised combination of the percentage change of Bureaucratic compliance, Transparency, and Leadership proactivity indicators in two consecutive years.	0.000	0.765	−2.421	2.196

Note: The summary statistics are reported for 2,378,322 firm-year observations. Firm-specific variables are obtained from the Annual Enterprises Survey of the Vietnam General Statistics Office. Governance variables are generated from the Provincial Competitiveness Index (PCI) dataset. The study period is 2006–2019. All values are deflated to 2010 price.

Meanwhile, the coefficients on the interaction terms of (1) corruption, (2) government quality and cash flow variables are consistently negative and statistically significant. This could be interpreted that when internal financial constraints increase (cash flow increases in the regression equation controlled for investment opportunities), the effects of informal governance become *less* critical to firm investment decisions. Put differently, *less* internally financially constrained firms are encouraged to invest by the improvements of local *informal* governance.

This finding is consistent with previous studies showing that less financially constrained firms, thanks to their abundance in cash, are more likely to engage in economic activities, many of which are novel and non-standardised (Guariglia & Yang, 2016). At this time, attitudes of local authorities towards these new economic activities determine investment incentives of local firms (Nguyen, 2019a, 2019b).

Turning to the effect of external financial constraints, Table 5 presents the regression results. It is noteworthy

TABLE 3 Regression results of local governance effects on firm investments.

	(1)	(2)	(3)	(4)	(5)
Law enforcement	0.028***				
	(0.004)				
Market-access regulations		0.017***			
		(0.002)			
Economic regulations			0.006***		
			(0.001)		
Corruption				0.145***	
				(0.007)	
Government quality					0.005**
					(0.002)
Cash flow	0.013***	0.013***	0.020***	0.013***	0.025***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Firm age	−0.002***	−0.002***	−0.001***	−0.002***	−0.006***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	−0.123***	−0.123***	−0.115***	−0.123***	−0.135***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Sale growth	0.016***	0.016***	0.019***	0.016***	0.043***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Industry control	Yes	Yes	Yes	Yes	Yes
Year control	Yes	Yes	Yes	Yes	Yes
No. of provinces	63	63	63	63	63
Constant	0.746***	0.751***	0.741***	0.745***	0.670***
	(0.013)	(0.013)	(0.016)	(0.013)	(0.022)
Sigma v_g	0.040***	0.042***	0.047***	0.048***	0.044***
Sigma e	0.201***	0.201***	0.198***	0.211***	0.211***
Observations	2,378,322	2,378,322	2,378,322	2,378,322	2,378,322

Note: The dependent variable is firm investment as a ratio of total capital stock. All specifications are estimated using multilevel modelling with firms set at level 1 and provinces set at level 2. The figures reported in parentheses are asymptotic standard errors. Standard errors and test statistics are asymptotically robust to heteroskedasticity and are clustered using firm ID. The variables Cash flow, Firm size and Sale growth are lagged one period to control for endogeneity.

**Indicates significance at the 5% level;

***Indicates significance at the 1% level.

that SA is a measure of external financial constraints; the higher the value, the more constrained a firm is. We replace cash flow with SA in all specifications. Also, since SA is a function of firm age and firm age, to reduce the multicollinearity-related issue, we exclude the two firm-characteristic out of the models. The coefficients on interaction terms of (1) law enforcement, (2) market-access regulations, (3) economic regulations and the cash flow variable are positive and statistically significant. This indicates that more externally financially constrained firms (having a higher SA index) are more sensitive to local formal institutions. The reasons, as being put in the

theorising section that these firms are less active in economic activities; they are more likely to engage in standardised public services and need access to local markets and perceptible supports offered by local authorities (Guariglia & Yang, 2016). These fundamental regulations are essential for them to engage in fundamental transactions and operation activities.

Regarding the moderating effect of the SA index on informal local governance, the coefficients on the interaction terms of (1) corruption, (2) government quality and cash flow variables are negative and statistically significant. These results reveal that more externally financially

TABLE 4 Regression results of the moderating effects of (internal) financing constraints.

	(1)	(2)	(3)	(4)	(5)
Cash flow	0.002***	0.013***	0.023***	0.002***	0.020***
	(0.000)	(0.001)	(0.006)	(0.000)	(0.001)
Law enforcement	0.051***				
	(0.005)				
Law enforcement × Cash flow	0.007***				
	(0.001)				
Market-access regulations		0.011***			
		(0.002)			
Market-access regulations × Cash flow		0.001**			
		(0.001)			
Economic regulations			0.075**		
			(0.034)		
Economic regulations × Cash flow			0.008***		
			(0.002)		
Corruption				0.214***	
				(0.010)	
Corruption × Cash flow				−0.012***	
				(0.002)	
Government quality					0.015***
					(0.002)
Government quality × Cash flow					−0.001*
					(0.001)
Firm age	−0.001***	−0.003***	−0.014***	−0.001***	−0.001***
	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)
Firm size	−0.113***	−0.113***	−0.113***	−0.113***	−0.115***
	(0.001)	(0.001)	(0.008)	(0.001)	(0.001)
Sale growth	0.013***	0.013***	0.075***	0.013***	0.019***
	(0.001)	(0.001)	(0.009)	(0.001)	(0.001)
Industry control	Yes	Yes	Yes	Yes	Yes
Year control	Yes	Yes	Yes	Yes	Yes
Constant	0.771***	0.708***	0.945***	0.760***	0.734***
	(0.016)	(0.025)	(0.205)	(0.016)	(0.016)
Sigma v_g	0.048***	0.049***	0.048***	0.048***	0.048***
Sigma e	0.201***	0.201***	0.201***	0.211***	0.200***
Observations	2,378,322	2,378,322	2,378,322	2,378,322	2,378,322

Note: The dependent variable is firm investment as a ratio of total capital stock. All specifications are estimated using multilevel modelling with firms set at level 1 and provinces set at level 2. The figures reported in parentheses are asymptotic standard errors. Standard errors and test statistics are asymptotically robust to heteroskedasticity and are clustered using firm ID. The variables Cash flow, Firm size and Sale growth are lagged one period to control for endogeneity.

*Indicates significance at the 10% level;
**Indicates significance at the 5% level;
***Indicates significance at the 1% level.

constrained firms (having a higher SA index) are less sensitive to local informal institutions. Put differently, *less* externally financially constrained firms are more

sensitive to local *informal* institutions when making investment decisions. This result is consistent with the findings obtained from internal financing constraints in

TABLE 5 Regression results of the moderating effects of (external) financing constraints.

	(1)	(2)	(3)	(4)	(5)
SA index	−0.183***	−0.153***	−0.334***	−0.174***	−0.194***
	(0.013)	(0.009)	(0.024)	(0.011)	(0.010)
Law enforcement	0.021***				
	(0.003)				
Law enforcement × SA index	0.165***				
	(0.031)				
Market-access regulations		0.024***			
		(0.002)			
Market-access regulations × SA index		0.084***			
		(0.008)			
Economic regulations			0.005***		
			(0.002)		
Economic regulations × SA index			0.128***		
			(0.014)		
Corruption				0.014	
				(0.010)	
Corruption × SA index				−0.268***	
				(0.071)	
Government quality					0.041***
					(0.003)
Government quality × SA index					−0.056***
					(0.018)
Sales growth	0.018***	0.019***	0.024***	0.019***	0.019***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Industry control	Yes	Yes	Yes	Yes	Yes
Year control	Yes	Yes	Yes	Yes	Yes
Constant	0.291***	0.228***	0.260***	0.234***	0.252***
	(0.017)	(0.013)	(0.013)	(0.013)	(0.013)
Sigma v_g	0.045***	0.043***	0.044***	0.044***	0.045***
Sigma e	0.163***	0.163***	0.163***	0.163***	0.165***
Observations	2,378,322	2,378,322	2,378,322	2,378,322	2,378,322

Note: The dependent variable is firm investment as a ratio of total capital stock. All specifications are estimated using multilevel modelling with firms set at level 1 and provinces set at level 2. SA index is a proxy of external financing constraints, calculated following Hadlock and Pierce (2010) as SA = −0.737Size + 0.043Size² − 0.040Age. The figures reported in parentheses are asymptotic standard errors. Standard errors and test statistics are asymptotically robust to heteroskedasticity and are clustered using firm ID. The variables Cash flow, Firm size and Sale growth are lagged one period to control for endogeneity.
***Indicates significance at the 1% level.

Table 4, confirming our theorising that businesses that are less financially constrained conduct operations that sometimes fall outside or on the 'grey' side of the existing formal regulations. In dealing with these large-scale and/or non-conventional investment activities, they are consequently more responsive to the attitudes of local governance systems. Our findings thus support a strand of literature arguing that formal governance

structures are essential for setting up the establishment of the private business community; it is informal governance quality, including corruption controls, that allow the private sector to grow and develop to its full capacity (Chowdhury & Audretsch, 2020; Du & Mickiewicz, 2016). In general, the results using both internal and external measures of financial constraints indicate that Hypothesis H2a is fully supported.
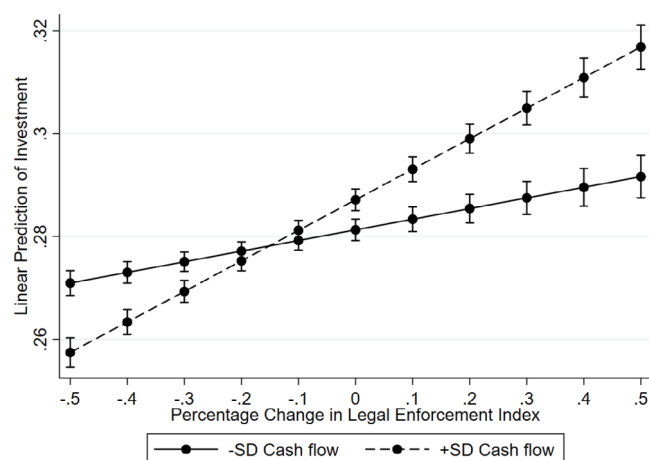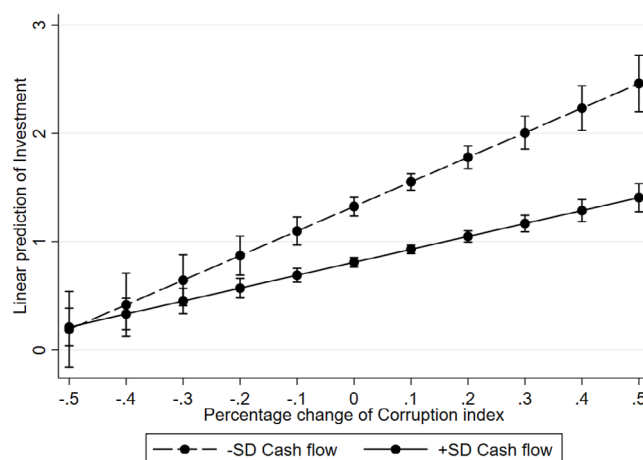
FIGURE 1 Marginal effects of legal enforcement (internal financing constraints). The figure is drawn from the specification presented in column 1, Table 4. −*SD* Cash flow indicates one standard deviation below the mean of cash flow variable. +*SD* Cash flow indicates one standard deviation above the mean of cash flow variable. Higher value of cash flow indicates higher level of internal financing constraints, given that business opportunities have been controlled. [Colour figure can be viewed at wileyonlinelibrary.com]

FIGURE 2 Marginal effects of corruption (internal financing constraints). The figure is drawn from the specification presented in column 4, Table 4. −*SD* Cash flow indicates one standard deviation below the mean of cash flow variable. +*SD* Cash flow indicates one standard deviation above the mean of cash flow variable. Higher value of cash flow indicates higher level of internal financing constraints, given that business opportunities have been controlled. [Colour figure can be viewed at wileyonlinelibrary.com]

Meanwhile, Hypothesis H2b is partially supported by external financing constraints only.

To illustrate the moderating effects of financial constraints intuitively, we provide the marginal graphs, which are presented in Figures 1 and 2. In these two graphs, we present the results of internal financial constraints; the marginal graphs of external financial constraints are similar and are available upon request. For formal governance, we take the legal enforcement variable as an example; for informal governance, we use corruption. The marginal graphs of other governance variables are similar as such are skipped for the sake of saving space. In Figure 1, it could be seen that the slope of the solid line, which illustrates the relationship between less financially constrained firms (one standard deviation of cash flow below the mean value in the regression equation controlling or investment opportunities) is gentler than the slope of the dashed line, illustrating the relationship between more financially constrained firms (one standard deviation of cash flow above the mean value in the regression equation controlling or investment opportunities). This indicates that financially constrained firms is influenced local legal enforcement quality to a greater extent than less financially constrained firms.

investment decisions of more financially constrained firms are more sensitive to local legal enforcement quality. Meanwhile, Figure 2 illustrates that enterprises with less financial constraints (the dashed line) are more

sensitive to local corruption control than firms with greater financial constraints (the solid line).

In general, the findings obtained from the marginal graphs illustrate our key findings that more financially constrained firms are in need of well-structured formal governance while less financially constrained firms are better-off from conducive informal governance.

6.2 | Financial crisis 2008

Our sample period includes the 2008 financial crisis. The crisis imposed a remarkable influence on SMEs′ access to external finance at the time (Nguyen et al., 2020). As such, it would be interesting to explore the split-sample in two periods, that is, before 2008 and after 2008. Table A3 (Appendix) presents the regression results for internal financial constraints, and Table A4 (Appendix) shows the results of external financial constraints. In Table A3 (Appendix), it could be seen that legal enforcement was the most important governance force that affects firm investment decisions before 2008. The reason could be that Vietnam was going through a major legal reform in the first few years of the 2000s (Van Long & Tan, 2018). In such a changing institutional environment, firms are thus more sensitive to legal enforcement quality. After 2008, we could see that corruption became the most important governance force that influences firm investment decisions.

In terms of the moderating effect of internal financial constraints (cash flow), the pattern found in the full sample was replicated here: more constrained firms are more sensitive to formal forces while less constrained firms are more responsive to informal forces of local governance.

Turning to external financing constraints, Table A4 (Appendix) show a very similar pattern. Before 2008, economic regulations were most important for constrained firms to make their investment decisions. After 2008, corruption control became the essential governance force. The consistent significance of corruption control in both specifications of internal and external constraints indicates that corruption remains the critical barrier that discourages firms from making investments (Nguyen & van Dijk, 2012).

Finally, in terms of the moderating effect of the SA index, it could be seen that after 2008, the moderating effects on formal governance became more significant compared to those before 2008. This indicates that the crisis exerted a negative effect on financially constrained firms, leading to a situation in which they rely more on government support to help facilitate their investments (Brautzsch et al., 2015). However, regarding the moderating effects on informal governance, less financially constrained firms are always responsive to informal forces throughout the whole period.

7 | DISCUSSION AND CONCLUSION

In this study, we demonstrate that the 'play' (i.e., the execution) of the national institutions at the local level adequately explains the differences in entrepreneurial activity, and one of the prominent manifestations is its impact on small business investment. To demonstrate this, we incorporate the theories of uncertainty and transaction costs in examining investment decision-making in the context of institutions of governance. Strongly supported empirically, we show that given the homogeneous national laws and general constitutional configurations, local governance forces play important roles in shaping investment incentives. The play of the game represents how the upper institutional structures are practically implemented at the ground level, and the quality of the institutions of governance determines how entrepreneurs allocate resources in the post-entry stage. This means that there is clearly room for local governments to improve to encourage (or otherwise to depress) entrepreneurs' intention of continuing investing, and to consequently determine their future growth path.

Consistent with the view that formal institutions and informal institutions may complement each other where formal institutions are weak (Ghecham, 2010; Steer & Sen, 2010), we show that although the improvements in both formal and informal governance arrangements lead to more investment, they have varied effects on firms of different financial conditions. Specifically, formal governance, such as law enforcement, market-access regulations, and economic regulations, are more relevant to the investment decisions of financially constrained firms. Meanwhile, informal governance, such as corruption control and local government quality have a stronger impact on less financially constrained firms. By highlighting the fact that local governance is multidimensional (Nguyen et al., 2018; Ye, 2009), we provide richer insight into the nature of the institutional structure. Our findings highlight that in addition to how the institutional framework is configured, how local governments deliver policies will also affect entrepreneurship. This is in support of La Porta et al. (1999) that large governments do not necessarily restrain entrepreneurial activities because government size only measures the 'input' of institutions; it is the *quality* of exercising policies and regulations that influence the activeness of entrepreneurs. As such, we argue that merely the absence of corruption is not sufficient to facilitate entrepreneurship (Rothstein & Teorell, 2008); it is the whole governance structure, including formal and informal forces that matters.

Moreover, for the first time, we provide evidence to demonstrate explicitly the distributional effects of local governance on firm investment. Not all firms benefit from governance quality improvements in the same way. The degrees of financial constraints determine which local governance forces are more relevant to firm investment. More financially constrained firms are usually young, small, and try to earn their livelihood by making small, continued investments (Carreira & Silva, 2010). Hence, fundamental formal infrastructure that facilitates their daily operations, such as effective law enforcement and inclusive market regulations, would allow them to have a chance to invest. In contrast, less financially constrained firms, however, are usually old, large, and more economically active, thereby more likely investing in high value-added and long-term projects (Guariglia et al., 2011). For this reason, they are more sensitive to the quality of informal governance.

Our findings send important messages to policymakers. Changes to institutions at a higher level take time (Williamson, 2000), while local governance arrangements are subjected to alter in the short terms. Also, it is important for policymakers to understand that stimulating startups is not the end of the endeavour, but continuously encouraging SMEs to make additional investment

matters more to ensure the realisation of the full potential of entrepreneurs' initial investment. These messages from our analysis are clear, that there is much room for local governments to promote firm investment by improving specific types of institutional quality tailoring to the financial conditions of local small businesses. More specifically, less financially constrained SMEs need a playing-field which is transparent, non-corrupt, and pro-active. These governance forces are embedded in local informal 'codes of conduct' and norms of transactions. SMEs with more financial constraints require institutional assistance such as law enforcement, market access laws, and economic regulations. This study's findings imply that there is no universal strategy for improving economic performance across areas within a nation; it is the endowed economic and institutional characteristics that determine the most appropriate governance structure for each region.

Finally, this study has some significant limitations that one might wish to contribute to future research. Despite the fact that a large and representative dataset was used, this is a country-specific study. Therefore, it is essential for generalisability to build upon the findings of this research to test them further using other datasets. Moreover, the study period is restricted by the availability of the Provincial Competitiveness Index dataset (available from 2016 only). Thus, it is of significant contributions to undertake a similar analysis on a longer time-frame with the expansion in the number of countries.

ACKNOWLEDGEMENTS

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID
Bach Nguyen https://orcid.org/0000-0003-1527-7443

ENDNOTES
[1] SA = -0.737Size $+ 0.043$Size$^2 - 0.040$Age.

[2] Correlation matrix between pairs of PCI indicators are presented in Table A1 (Appendix).

[3] It has been well documented by Cho and Kim (2015) and Bonett and Wright (2015) that a unidimensional test does not necessarily have a higher alpha than the multidimensional test. Therefore, a stricter way to look at alpha is that it cannot be simply used as a measure of a test of internal consistency.

REFERENCES

Acemoglu, D., & Johnson, S. (2005). Unbundling Institutions. *Journal of Political Economy*, *113*, 949–995.

Ahistrom, D., & Bruton, G. D. (2002). An institutional perspective on the role of culture in shaping strategic actions by technology-focused entrepreneurial firms in China. *Entrepreneurship: Theory & Practice*, *26*, 53–68.

Ahlstrom, D., & Bruton, G. D. (2006). Venture capital in emerging economies: Networks and institutional change. *Entrepreneurship: Theory and Practice*, *30*, 299–320.

Araujo, L., Guimaraes, B., & Rodrigues, D. (2020). Financial constraints and collateral crises. *Review of Economic Dynamics*, *38*, 238–250.

Asutay, M., & Mohd Sidek, N. Z. (2020). Political economy of Islamic banking growth: Does political regime and institutions, governance and political risks matter? *International Journal of Finance & Economics*, *26*, 4226–4261.

Audretsch, D. B., & Fiedler, A. (2021). The Vietnamese entrepreneurship paradox: How can entrepreneurs thrive without political and economic freedom? *The Journal of Technology Transfer*, *47*, 1179–1197.

Ayob, A. H., & Saiyed, A. A. (2020). Islam, institutions and entrepreneurship: Evidence from Muslim populations across nations. *International Journal of Islamic and Middle Eastern Finance and Management*, *13*, 635–653.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2010). Formal versus informal finance: Evidence from China. *Review of Financial Studies*, *23*, 3048–3097.

Baumol, J. W., & Strom, J. R. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal*, *1*, 233–237.

Bian, Y. (2018). The prevalence and the increasing significance of guanxi. *China Quarterly*, *2018*, 597–621.

Bond, S., & Meghir, C. (1994). Financial constraints and company investment. *Fiscal Studies*, *15*, 1–18.

Bond, S., & Van Reenen, J. (2007). Microeconometric models of investment and employment. In J. H. James & E. L. Edward (Eds.), *Handbook of econometrics* (pp. 4417–4498). Elsevier.

Bonett, D. G., & Wright, T. A. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organizational Behavior*, *36*, 3–15.

Boudreaux, C. J., & Nikolaev, B. (2019). Capital is not enough: Opportunity entrepreneurship and formal institutions. *Small Business Economics*, *53*, 709–738.

Bradley, S. W., Kim, P. H., Klein, P. G., McMullen, J. S., & Wennberg, K. (2021). Policy for innovative entrepreneurship: Institutions, interventions, and societal challenges. *Strategic Entrepreneurship Journal*, *15*, 167–184.

Brautzsch, H.-U., Günther, J., Loose, B., Ludwig, U., & Nulsch, N. (2015). Can R&D subsidies counteract the economic crisis? – Macroeconomic effects in Germany. *Research Policy*, *44*, 623–633.

Bylund, P. L., & McCaffrey, M. (2017). A theory of entrepreneurship and institutional uncertainty. *Journal of Business Venturing*, *32*, 461–475.

Carreira, C., & Silva, F. (2010). No deep pockets: Some stylized empirical results on firms' financial constraints. *Journal of Economic Surveys*, *24*, 731–753.

Chiles, T. H., Bluedorn, A. C., & Gupta, V. K. (2007). Beyond creative destruction and entrepreneurial discovery: A radical Austrian approach to entrepreneurship. *Organization Studies Organization Studies*, *28*, 467–493.

Cho, E., & Kim, S. (2015). Cronbach's coefficient alpha: Well known but poorly understood. *Organizational Research Methods*, 18, 207–230.

Chowdhury, F., & Audretsch, D. B. (2020). Do corruption and regulations matter for home country nascent international entrepreneurship? *The Journal of Technology Transfer*, 46, 720–759.

Collins, N., Nankervis, A., Sitalaksmi, S., & Warner, M. (2011). Labour-management relationships in transitional economies: Convergence or divergence in Vietnam and Indonesia? *Asia Pacific Business Review*, 17, 361–377.

Croce, A., Ughetto, E., & Cowling, M. (2020). Investment motivations and UK business Angels' appetite for risk taking: The moderating role of experience. *British Journal of Management*, 31, 728–751.

Cull, R., & Xu, L. C. (2005). Institutions, ownership, and finance: The determinants of profit reinvestment among Chinese firms. *Journal of Financial Economics*, 77, 117–146.

Cumming, D., & Groh, A. P. (2018). Entrepreneurial finance: Unifying themes and future directions. *Journal of Corporate Finance*, 50, 538–555.

Davidsson, P., & Henrekson, M. (2002). Determinants of the prevalence of start-ups and high-growth firms. *Small Business Economics*, 19, 81–104.

Dell, M., Lane, N., & Querubin, P. (2018). The historical state, local collective action, and economic development in Vietnam. *Econometrica*, 86, 2083–2122.

Di Vita, G. (2021). The economic impact of legislative complexity and corruption: A cross-country analysis. *International Journal of Finance & Economics*.

Ding, S., Guariglia, A., & Harris, R. (2016). The determinants of productivity in Chinese large and medium-sized industrial firms, 1998–2007. *Journal of Productivity Analysis*, 45, 131–155.

Ding, S., Guariglia, A., & Knight, J. (2013). Investment and financing constraints in China: Does working capital management make a difference? *Journal of Banking and Finance*, 37, 1490–1507.

Du, J., & Mickiewicz, T. (2016). Subsidies, rent seeking and performance: Being young, small or private in China. *Journal of Business Venturing*, 31, 22–38.

Du, J., Guariglia, A., & Newman, A. (2015). Do social capital building strategies influence the financing behavior of Chinese private small and medium-sized enterprises? *Entrepreneurship: Theory & Practice*, 39, 601–631.

Eddleston, K. A., Banalieva, E. R., & Verbeke, A. (2020). The bribery paradox in transition economies and the enactment of 'new normal' business environments. *Journal of Management Studies*, 57, 597–625.

Efobi, U. R., Beecroft, I., & Atata, S. N. (2019). Female access and rights to land, and rural non-farm entrepreneurship in four African countries. *African Development Review/Revue Africaine de Developpement*, 31, 179–189.

Efobi, U., Vo, X. V., & Orkoh, E. (2021). *Are there wages from "sin"?* Working conditions spillover from paying bribe in Vietnam.

Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations? *Journal of Business Venturing*, 28, 564–580.

Ferrando, A., & Ruggieri, A. (2018). Financial constraints and productivity: Evidence from euro area companies. *International Journal of Finance & Economics*, 23, 257–282.

Foss, N. J., & Garzarelli, G. (2007). Institutions as knowledge capital: Ludwig M. Lachmann's interpretative institutionalism. *Cambridge Journal of Economics Cambridge Journal of Economics*, 31, 789–804.

Fuentelsaz, L., González, C., & Maícas, J. P. (2020). High-growth aspiration entrepreneurship and exit: The contingent role of market-supporting institutions. *Small Business Economics*, 57, 473–492.

Ghecham, M. A. (2010). How the interaction between formal and informal institutional constraints determines the investment growth of firms in Egypt. *Journal of African Business*, 11, 163–181.

Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2004). Do institutions cause growth? *Journal of Economic Growth*, 9, 271–303.

Guariglia, A. (2008). Internal financial constraints, external financial constraints, and investment choice: Evidence from a panel of UK firms. *Journal of Banking & Finance*, 32, 1795–1809.

Guariglia, A., & Liu, P. (2014). To what extent do financing constraints affect Chinese firms' innovation activities? *International Review of Financial Analysis*, 36, 223–240.

Guariglia, A., & Yang, J. (2016). A balancing act: Managing financial constraints and agency costs to minimize investment inefficiency in the Chinese market. *Journal of Corporate Finance*, 36, 111–130.

Guariglia, A., Liu, X., & Song, L. (2011). Internal finance and growth: Microeconometric evidence on Chinese firms. *Journal of Development Economics*, 96, 79–94.

Guizani, M. (2021). Macroeconomic conditions and investment–cash flow sensitivity: Evidence from Saudi Arabia. *International Journal of Finance & Economics*, 26, 4277–4294.

Gupta, J., Barzotto, M., & Khorasgani, A. (2018). Does size matter in predicting SMEs failure? *International Journal of Finance & Economics*, 23, 571–605.

Ha, P. V., & Frömmel, M. (2021). Corruption, business environment, and firm growth in Vietnam. *International Journal of Finance & Economics*, 1.

Hadlock, C. J., & Pierce, J. R. (2010). New evidence on measuring financial constraints: Moving beyond the KZ index. *The Review of Financial Studies*, 23, 1909–1940.

Helmke, G., & Levitsky, S. (2004). Informal institutions and comparative politics: A research agenda. *Perspectives on Politics*, 2, 725–740.

Henrekson, M. (2007). Entrepreneurship and institutions. *Comparative Labor Law and Policy Journal*, 28, 717–742.

Hunt, J., & Laszlo, S. (2012). Is Bribery really regressive? Bribery's costs, benefits, and mechanisms. *World Development*, 40, 355–372.

Kao, C.-L., & Chen, M.-Y. (2020). Employee downsizing, financial constraints, and production efficiency of firms. *International Review of Economics and Finance*, 68, 59–73.

Kreivi, M., Wang, L., Muhos, M., & Kess, P. (2012). Trade fairs and networking – SMEs internationalizing in China. 美中公共管理/Journal of US-China Public Administration, 9, 516–533.

La Porta, R., Florencio, L.-d.-S., Shleifer, A., & Vishny, R. (1999). The quality of government. *Journal of Law, Economics, & Organization*, 15, 222–248.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106, 1113–1155.

Lamine, W., Anderson, A., Jack, S. L., & Fayolle, A. (2021). Entrepreneurial space and the freedom for entrepreneurship: Institutional settings, policy, and action in the space industry. *Strategic Entrepreneurship Journal*, 15, 309–340.

Le, M.-D., Pieri, F., & Zaninotto, E. (2019). From central planning towards a market economy: The role of ownership and competition in Vietnamese firms' productivity. *Journal of Comparative Economics*, *47*, 693–716.

Li, Y., & Zahra, S. A. (2012). Formal institutions, culture, and venture capital activity: A cross-country analysis. *Journal of Business Venturing*, *27*, 95–111.

Li, Y., Vertinsky, I. B., & Li, J. (2014). National distances, international experience, and venture capital investment performance. *Journal of Business Venturing*, *29*, 471–489.

Machokoto, M. (2020). Do financial constraints really matter? A case of understudied African firms. *International Journal of Finance & Economics*, *26*, 4670–4705.

Makino, S., & Tsang, E. W. K. (2011). Historical ties and foreign direct investment: An exploratory study. *Journal of International Business Studies*, *42*, 545–557.

Malesky, E., McCulloch, N., & Nhat, N. D. (2015). The impact of governance and transparency on firm investment in Vietnam. *The Economics of Transition*, *23*, 677–715.

McDonald, R. M., & Eisenhardt, K. M. (2020). Parallel play: Start-ups, nascent markets, and effective business-model design. *Administrative Science Quarterly*, *65*, 483–523.

McMillan, J., & Woodruff, C. (2002). The central role of entrepreneurs in transition economies. *Journal of Economic Perspectives*, *16*, 153–170.

Meyer, K. E., & Nguyen, H. V. (2005). Foreign investment strategies and sub-national institutions in emerging markets: Evidence from Vietnam. *Journal of Management Studies*, *42*, 63–93.

Miglani, S., Ahmed, K., & Henry, D. (2015). Voluntary corporate governance structure and financial distress: Evidence from Australia. *Journal of Contemporary Accounting & Economics*, *11*, 18–30.

Moodysson, J., & Zukauskaite, E. (2014). Institutional conditions and innovation systems: On the impact of regional policy on firms in different sectors. *Regional Studies*, *48*, 127–138.

Mukherjee, R., & Proebsting, C. (2021). Acquirers and financial constraints: Theory and evidence from emerging markets. *Journal of International Money and Finance*, *117*, 102440.

Nguyen, B. (2019a). Entrepreneurial reinvestment: Local governance, ownership, and financing matter – Evidence from Vietnam. *Journal of Small Business Management*, *57*, 323–349.

Nguyen, B. (2019b). Is corruption control good for all businesses? The role of cash in the bribery game. *International Review of Entrepreneurship*, *17*, 385–406.

Nguyen, B. (2020). Small business investment: The importance of financing strategies and social networks. *International Journal of Finance & Economics*, *27*, 2849–2872.

Nguyen, B. (2021). Regional informal institutions, local governance and gendered entrepreneurship. *Regional Studies*, *55*, 1169–1181.

Nguyen, B., & Canh, N. P. (2020). Formal and informal financing decisions of small businesses. *Small Business Economics*, *57*, 1545–1567.

Nguyen, B., Le, C., & Vo, X. V. (2020). The paradox of investment timing in small business: Why do firms invest when it is too late? *Journal of Small Business Management*, 1–43.

Nguyen, B., Mickiewicz, T., & Du, J. (2018). Local governance and business performance in Vietnam: The transaction costs perspective. *Regional Studies*, *52*, 542–557.

Nguyen, C. V. (2013). The impact of minimum wages on employment of low-wage workers: Evidence from Vietnam. *The Economics of Transition*, *21*, 583–615.

Nguyen, P. T., & Nguyen, M. K. (2019). Resource misallocation of SMEs in Vietnamese manufacturing sector. *Journal of Small Business & Enterprise Development*, *26*, 290–303.

Nguyen, T. T., & van Dijk, M. A. (2012). Corruption, growth, and governance: Private vs. state-owned firms in Vietnam. *Journal of Banking and Finance*, *36*, 2935–2948.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.

Pincus, J. (2009). Vietnam: Sustaining growth in difficult times. *ASEAN Economic Bulletin*, *26*, 11–24.

Puffer, S. M., McCarthy, D. J., & Boisot, M. (2010). Entrepreneurship in Russia and China: The impact of formal institutional voids. *Entrepreneurship Theory and Practice*, *34*, 441–467.

Pur, K. A., & Moore, M. (2010). Ambiguous institutions: Traditional governance and local democracy in rural South India. *Journal of Development Studies*, *46*, 603–623.

Rahaman, M. M. (2011). Access to financing and firm growth. *Journal of Banking and Finance*, *35*, 709–723.

Rodríguez-Pose, A., & Zhang, M. (2020). The cost of weak institutions for innovation in China. *Technological Forecasting and Social Change*, *153*, 119937.

Rothstein, B., & Teorell, J. (2008). What is quality of government? A theory of impartial government institutions. *Governance*, *21*, 165–190.

Schmitz, H., Tuan, D. A., Hang, P. T. T., & McCulloch, N. (2015). Drivers of economic reform in Vietnam's provinces. *Development Policy Review*, *33*, 175–193.

Sever, C. (2020). Financial crises and institutional quality. *International Journal of Finance & Economics*, *27*, 1510–1525.

Singh, S., & Bala Subrahmanya, M. H. (2020). The financial requirements of tech startups over its lifecycle in Bangalore: An analysis of why and how do they differ? *International Journal of Finance & Economics*, *27*, 4123–4141.

Soroka, A., Bristow, G., Naim, M., & Purvis, L. (2020). Measuring regional business resilience. *Regional Studies*, *54*, 838–850.

Steer, L., & Sen, K. (2010). Formal and informal institutions in a transition economy: The case of Vietnam. *World Development*, *38*, 1603–1615.

Stel, A., Storey, D., & Thurik, A. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics*, *28*, 171–186.

Su, T. D., & Bui, T. M. H. (2017). Government size, public governance and private investment: The case of Vietnamese provinces. *Economic Systems*, *41*, 651–666.

Tawiah, V., & Gyapong, E. (2021). International financial reporting standards, domestic debt finance and institutional quality: Evidence from developing countries. *International Journal of Finance & Economics*.

Tawiah, V., Zakari, A., & Xede, J. (2021). Who benefits from corruption; the private individual or the public purse? *International Journal of Finance & Economics*.

Tran, H. T. (2019). Institutional quality and market selection in the transition to market economy. *Journal of Business Venturing*, *34*, 1–27.

Tran, H. T., & Santarelli, E. (2014). Capital constraints and the performance of entrepreneurial firms in Vietnam. *Industrial and Corporate Change*, *23*, 827–864.

Tran, T. B., Grafton, R. Q., & Kompas, T. (2009). Institutions matter: The case of Vietnam. *The Journal of Socio-Economics*, *38*, 1–12.

Truong, M., & Schuler, P. (2021). The salience of the northern and southern identity in Vietnam. *Asian Politics & Policy*, *13*, 18–36.

Van Long, T., & Tan, P. Q. (2018). Transparency policy dilemma under the impact of international integration: A case of Vietnam. *Asian Journal of Law & Economics*, *9*, N.PAG.

Webb, J. W., Khoury, T. A., & Hitt, M. A. (2020). The influence of formal and informal institutional voids on entrepreneurship. *Entrepreneurship Theory and Practice*, *44*, 504–526.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature*, *38*, 595–613.

Ye, L. (2009). Regional government and governance in China and the United States. *Public Administration Review*, *69*, 116–121.

Yu, H., Nahm, A. Y., & Song, Z. (2020). Turnover of local government core officials, political connections and the investment and financing of private-sector enterprises. *International Journal of Finance & Economics*, *27*, 3490–3509.

Zhou, W. (2013). Political connections and entrepreneurial investment: Evidence from China's transition economy. *Journal of Business Venturing*, *28*, 299–315.

APPENDIX

TABLE A1 Pairwise correlations of governance indicators.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Legal enforcement									
Entry costs	0.076								
Land access	0.360	0.247							
Time costs	0.638	0.226	0.448						
Business support	0.189	−0.384	−0.254	0.103					
Labour training	0.176	−0.176	−0.177	0.205	0.634				
Corruption	0.279	0.247	0.634	0.305	−0.370	−0.448			
Transparency	0.117	0.011	0.636	0.195	0.159	0.084	0.331		
Proactivity	0.489	0.133	0.589	0.584	0.048	0.115	0.468	0.358	

Note: All coefficients are significant at 1% level.

TABLE A2 Pairwise correlations of variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Investment											
Cash flow	0.040										
SA index	0.103	0.110									
Sale growth	−0.053	0.139	−0.026								
Firm age	−0.118	0.040	−0.617	−0.045							
Firm size	−0.089	0.059	0.154	0.033	0.285						
Law enforcement	0.032	−0.064	−0.255	−0.025	0.110	−0.023					
Market regulations	0.048	0.072	−0.033	−0.035	0.084	0.032	0.276				
Econ. regulations	0.006	−0.155	−0.299	0.002	0.020	−0.072	0.202	−0.347			
Corruption	0.030	0.165	0.150	0.023	−0.046	0.066	0.279	0.558	−0.453		
Gov. quality	0.049	0.070	−0.203	−0.013	0.073	0.023	0.542	0.563	0.172	0.481	

Note: All coefficients are significant at 5% level.

TABLE A3 2008 Financial crisis split sample (internal constraints).

	(1) Before 2008	(2)	(3)	(4)	(5)	(6) After 2008	(7)	(8)	(9)	(10)
Law enforcement	0.062***					0.032***				
	(0.009)					(0.005)				
Law enforcement × Cash flow	0.004**					0.019***				
	(0.002)					(0.002)				
Market-access regulations		−0.081					0.011***			
		(0.049)					(0.003)			
Market-access regulations × Cash flow		0.002*					0.005***			
		(0.001)					(0.001)			
Economic regulations			−0.078					−0.002		
			(0.053)					(0.002)		
Economic regulations × Cash flow			0.002*					−0.000		
			(0.001)					(0.000)		
Corruption				0.017					0.224***	
				(0.250)					(0.011)	
Corruption × Cash flow				−0.024***					−0.012***	
				(0.005)					(0.002)	
Government quality					0.115					0.031***
					(0.150)					(0.002)
Government quality × Cash flow					−0.005***					−0.001*
					(0.002)					(0.001)
Cash flow	0.000	−0.002	0.003***	0.002***	0.001	0.027***	0.022***	0.001***	0.002***	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)
Firm age	−0.002***	−0.002***	0.000	0.000	0.000	−0.002***	−0.003***	−0.001***	−0.001***	−0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	−0.154***	−0.068***	−0.158***	−0.158***	−0.158***	−0.115***	−0.119***	−0.106***	−0.106***	−0.059***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Sale growth	0.048***	0.035***	0.039***	0.036***	0.036***	0.012***	0.010***	0.013***	0.013***	0.001
	(0.002)	(0.005)	(0.003)	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Industry control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(Continues)

TABLE A3 (Continued)

	(1) Before 2008	(2)	(3)	(4)	(5)	(6) After 2008	(7)	(8)	(9)	(10)
Constant	0.751***	0.338***	0.861***	0.795***	0.921***	0.680***	0.514***	0.639***	0.699***	0.656***
	(0.027)	(0.103)	(0.025)	(0.021)	(0.051)	(0.022)	(0.036)	(0.018)	(0.016)	(0.017)
Sigma v_g	0.056***	0.056***	0.052***	0.056***	0.056***	0.066***	0.066***	0.066***	0.066***	0.067***
Sigma e	0.228***	0.228***	0.224***	0.228***	0.228***	0.210***	0.210***	0.210***	0.209***	0.210***
Observations	350,354	350,354	350,354	350,354	350,354	2,027,968	2,027,968	2,027,968	2,027,968	2,027,968

Note: The dependent variable is firm investment as a ratio of total capital stock. All specifications are estimated using multilevel modelling with firms set at level 1 and provinces set at level 2. The figures reported in parentheses are asymptotic standard errors. Standard errors and test statistics are asymptotically robust to heteroskedasticity and are clustered using firm ID. The variables Cash flow, Firm size and Sale growth are lagged one period to control for endogeneity.

*Indicates significance at the 10% level;
**Indicates significance at the 5% level;
***Indicates significance at the 1% level.

TABLE A4 2008 Financial crisis split sample (external constraints).

	(1) Before 2008	(2)	(3)	(4)	(5)	(6) After 2008	(7)	(8)	(9)	(10)
SA index	−0.570***	−0.170***	−0.559***	−0.549***	−1.086***	−0.227***	−0.105***	−0.191***	−0.185***	−0.221***
	(0.035)	(0.015)	(0.032)	(0.045)	(0.212)	(0.013)	(0.012)	(0.011)	(0.014)	(0.013)
Law enforcement	0.025***					0.005				
	(0.007)					(0.008)				
Law enforcement × SA index	0.102					0.234***				
	(0.119)					(0.046)				
Market-access regulations		0.030***					0.004**			
		(0.006)					(0.002)			
Market-access regulations × SA index		0.082***					0.134***			
		(0.028)					(0.009)			
Economic regulations			0.085***					0.024***		
			(0.006)					(0.003)		
Economic regulations × SA index			0.031					0.141***		
			(0.033)					(0.021)		
Corruption				−0.366					0.047***	
				(0.260)					(0.012)	
Corruption × SA index				−1.344**					−0.390***	
				(0.535)					(0.077)	
Government quality					−0.023					−0.006
					(0.057)					(0.004)
Government quality × SA index					−0.224**					−0.129***
					(0.101)					(0.024)
Sale growth	0.050***	0.048***	0.050***	0.028***	0.056***	0.017***	0.009***	0.189***	0.009***	0.009***
	(0.002)	(0.002)	(0.002)	(0.003)	(0.004)	(0.001)	(0.001)	(0.017)	(0.001)	(0.001)
Industry control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(Continues)

TABLE A4 (Continued)

	(1) Before 2008	(2)	(3)	(4)	(5)	(6) After 2008	(7)	(8)	(9)	(10)
Constant	0.159***	0.163***	0.166***	0.221***	0.122	0.188***	0.190***	0.105***	0.196***	0.189***
	(0.015)	(0.016)	(0.015)	(0.026)	(0.113)	(0.017)	(0.017)	(0.014)	(0.017)	(0.017)
Sigma v_g	0.060***	0.061***	0.063***	0.060***	0.060***	0.088***	0.088***	0.088***	0.088***	0.088***
Sigma e	0.133***	0.135***	0.135***	0.135***	0.135***	0.199***	0.199***	0.196***	0.199***	0.198***
Observations	350,354	350,354	350,354	350,354	350,354	2,027,968	2,027,968	2,027,968	2,027,968	2,027,968

Note: The dependent variable is firm investment as a ratio of total capital stock. All specifications are estimated using multilevel modelling with firms set at level 1 and provinces set at level 2. SA index is a proxy of external financing constraints, calculated following Hadlock and Pierce (2010) as SA $= -0.737Size + 0.043Size^2 - 0.040Age$. The figures reported in parentheses are asymptotic standard errors. Standard errors and test statistics are asymptotically robust to heteroskedasticity and are clustered using firm ID. The variables Cash flow, Firm size and Sale growth are lagged one period to control for endogeneity.

*Indicates significance at the 10% level;

**Indicates significance at the 5% level;

***Indicates significance at the 1% level.