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Entrepreneurial Reinvestment: Local Governance, Ownership, and Financing Matter—Evidence from Vietnam

by Bach Nguyen

This study investigates the relative importance of local governance and external financing on small firms' reinvestments. Using a set of more than 300,000 Vietnamese firm-level observations from 2006 to 2015, this study finds that local governance quality is positively associated with small firms' reinvestments. However, regarding external funds, only informal finance is positively associated with reinvestments while government loans and bank loans serve as substitutes to reinvestments. Also, this study suggests that there is significant heterogeneity among ownership sectors and between micro-enterprises and small firms in the way they value the relative importance of local governance arrangements and financing sources.

Introduction

Reinvestment is an important management task for small businesses (Zhou 2017). An owner–manager of a small firm, in deciding how much profit to keep in the business and how much profit to withdraw from it, is influenced by several factors. The neo-classical theory suggests that the decision of reinvestment is a process of learning (Jovanovic 1982). Specifically, entrepreneurs enter an industry with no certainty about their ability to manage a new firm start-up. They only discover their true ability through their post-entry performance once the businesses are established. As such, reinvestment/divestment of a venture is a process of adjustment, where the owner–manager rescales the venture's size to match his or her true managerial competence (Audretsch and Thurik 2003).

However, more recent studies on the strategic decisions of entrepreneurs reveal that entrepreneurs are not autonomous agents seeking to maximize economic opportunities, but are rather embedded within a social web of norms and practices that constrain and shape their managerial choices (Raynard and Greenwood 2002). This gives rise to research on the institutional settings of entrepreneurial activities. Examinations of formal institutions (laws and regulations) are particularly evident in the extant literature, for example, property rights (Acemoglu and Johnson 2005) and constitutional configurations (Carbonara, Santarelli, and Tran 2016). In this study, we argue that formal institutions are an essential but insufficient measure of the institutional settings that influence firm behaviors, especially small firms whose activities are strongly influenced by the surrounding environment. We propose that local governance quality, which is the third level of Williamson's (2000) four-level

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institutional framework, is more relevant.[1] It is noteworthy that most firms in developing countries are small and medium-sized enterprises (SMEs) (Beck, Demirgüç-Kunt, and Maksimovic 2005). Because of their age and size liabilities, the operations of these firms are typically bounded in local markets that are strongly shaped by the governance quality of their local authorities. We adopt the viewpoints of Nguyen, Mickiewicz, and Du (2018), and Du and Mickiewicz (2016) to propose that if one wishes to understand entrepreneurial activities, it is more appropriate to analyze the "play of the game" (the execution of regulations) rather than the "rules of the game" (the formal rules of law). In this study, we therefore focus on examining the impact of a set of local governance arrangements on firm reinvestment decisions rather than on the more general institutional configurations.

Besides the institutional settings, availability of external finance is also an essential determinant of reinvestment decisions (Johnson, McMillan, and Woodruff 2002). Entrepreneurs need to decide whether to substitute their profit reinvestments by external finance, or to reinvest their profits and use external credit as a source of complementary financing for other investment projects. This issue has been in debate for a long time since empirical studies have mixed findings. For example, though Johnson, McMillan, and Woofruff (2002) suggest that access to bank loans has no influence on the reinvestments of small businesses in Eastern European countries, McMillan and Woodruff (2002) find that there is a positive association between the two variables in four developing countries: Russia, China, Poland, and Vietnam.

In this study, we broaden this strand of literature by examining the importance of a set of external financing sources, including government loans, bank loans, and informal finance (relationship-based borrowing). We argue that these financing sources come with vastly differing requirements as to their levels of commitment and repayment conditions (Du and Girma 2012). As a result, they may influence reinvestment decisions via different mechanisms.

In short, we examine the relative importance of a set of local governance settings, and a set of external financing sources, on small businesses' reinvestment decisions. Moreover, we supplement our general analysis with a more nuanced investigation that separates firms into the ownership categories of state-owned, foreign-owned, and private firms. Each ownership sector, due to its specific competitive advantages or disadvantages, may respond differently to local governance arrangements and external funding environments (O'Toole, Morgenroth, and Ha 2016). In addition, we provide a comparative analysis for small and medium-sized enterprises (SMEs) and micro-firms (with fewer than 10 employees). Literature suggests that micro-firms may be very different from SMEs in terms of their operational philosophies, objectives, and management styles (Baumann and Kritikos 2016; Jaouen and Lasch 2015). As such, their sensitivity to local governance arrangements and external financing sources may follow another unexplored path.

To test the influence of local governance and external finance on small businesses' reinvestments, we employ a panel of 312,845 firm-year observations in Vietnam, in conjunction with a set of province-level governance quality data from 2006 to 2015. To reduce estimation biases and endogeneity-related issues, we include a set of multi-level control variables, and use the general method of moment (GMM) approach to estimate regression coefficients.

The findings in this study make several important contributions to the extant literature. First, we show that local governance quality is an important determinant of entrepreneurial reinvestments. There are nine different dimensions of local governance examined in this study that range from corruption, administration transparency, leadership proactivity,

[1]In Williamson's four levels of institutional framework—informal institutions are at the highest level and include customs, traditions, and religious norms (Williamson, 2000). These are the deepest rooted and slowest to change. The second level is formal institutions; they are the "rules of the game" and constitute explicit regulations, laws, and constitutional frameworks. The third level of institution is governance, which shapes the way that individuals interact, or the "play of the game"; and the last level is resource allocation, which includes occupational choices such as entrepreneurship.

and law enforcement, to other factors such as authority supports for the local private sector, the ease of access to land for doing business, etc.[2]

Second, we show that entrepreneurs consider government loans and bank loans to be substitutes for their profit reinvestments. In other words, entrepreneurs will reduce their reinvestment rates when they gain sufficient access to arms-length-based external funds (i.e., bank loans and government loans). This is probably because insecure property rights and poor governance quality compel entrepreneurs to divert their earned profits to more secure opportunities elsewhere. Only informal finance (relationship-based borrowing) is associated with higher reinvestment rates. The receipt of informal funds may impose implicit obligations on entrepreneurs, requiring higher entrepreneurial commitment to their ventures since they do not want to ruin their relationships by defaulting. Thus, implicit obligations lead to higher reinvestment rates.

Another notable contribution of this study concerns our detailed investigations into ownership sectors and micro-firms. We examine how each type of firm responds to local governance arrangements and external finance opportunities and find that there are remarkably dissimilar patterns. We show that in certain cases local governance improvements may even exert a (temporarily) adverse effect on reinvestments.

By examining the relative importance of governance and external finance on small businesses' reinvestments, the findings in this study provide several insightful implications for policymakers in developing countries.

Related Literature and Hypothesis Development

The Effect of Governance Quality on Firm Reinvestment

Local governance is an unexplored institutional factor (Nguyen, Mickiewicz, and Du 2018). In general, institutions are humanly devised constraints that shape human behaviors and decisions (North 1990, 1990). They include explicit rules (e.g., laws, regulations, contracts) and implicit customs, values, and beliefs that either prohibit or encourage certain activities. As such, institutions define the choice set of economic actors and thereby determine the transaction costs and feasibility of engaging in economic activity, including reinvestment decisions (Zhou 2014).[3]

Du and Mickiewicz (2016) investigate the contemporary Chinese entrepreneurial sector,[4] and propose that "while a strong institutional environment implies the same treatment for all economic actors, a weak one does not, […therefore] to understand the impact of a weak institutional environment, one needs to analyse the institutional patterns at a sub-national level." Nguyen, Mickiewicz, and Du (2018) expand this proposition by examining the role of local governance quality and confirming its positive effects on local firm performance in Vietnam. When local authorities have room to interpret and execute central laws arbitrarily, which is particularly the case in the weak institutional settings found in developing countries, institutional arrangements are domestically heterogeneous among regions (Malesky 2015). It can therefore be expected that it is local governance rather than the very broad general institutional configurations that will directly influence local firm activities, including reinvestment

[2] Appendix 1 shows all nine governance variables examined in this study. Four of them are investigated in the main text in accordance with the model proposed by Nguyen et al. (2018); the other five are analyzed in the extension section.

[3] Institutional factors under the extant entrepreneurship literature are expanded far beyond Acemoglu and Johnson (2005) two-group model of property rights (including the risk of expropriation by the government, and the ease and reliability of contract enforcement) employed by JMW and CX. Empirical studies now also utilize Scott's (1995) three-pillar framework of regulatory, cognitive, and normative institutional arrangements (see Stenholm, Acs, and Wuebker, 2013), as well as Williamson's (2000) four levels of institutions (adapted from North (1990) two-level framework) that identify informal institutions, formal institutions, governance, and resource allocation (see Estrin, Korosteleva, and Mickiewicz 2013).

[4] According to Du and Mickiewicz (2016), the entrepreneurial sector consists of young, private, and small companies.

decisions. Moreover, the subjects of interest in this study are small businesses and micro-firms whose operations are bounded mainly in the local markets that are regulated more by local governance arrangements than by central constitutions (Nguyen, Mickiewicz, and Du 2018).

Our principal argument, in accordance with the institutional theory, is that a favorable local governance environment is associated with more entrepreneurial reinvestments. However, since local governance is multi-dimensional, it is important to investigate in detail the nature of each governance force and its potential effects.

Initially proposed by Nguyen, Mickiewicz, and Du (2018), the four essential pillars of local governance arrangements are local administration transparency, controls for public service corruption, entrepreneurial-proactive leadership, and effective law enforcement. Transparency typically concerns the even distribution of resources (e.g., information, capital) to economic actors (e.g., small businesses) that are not dissimilar (Du and Mickiewicz 2016). Corruption is the abuse or misuse of public authority by government officials and politicians to serve their private interests by taking advantage of social benefits (Jain 2001). Meanwhile, leadership proactivity concerns local authorities' creativity and cleverness in implementing central policy, assisting local private firms by working within sometimes unclear national regulatory frameworks and interpreting them in the firms' favor (Malesky 2015). Finally, law enforcement is the effectiveness and reliability of the local courts in solving disputes.

Our general proposition is that an improvement in any of the abovementioned governance forces is associated with a reduction in local business transaction and production costs. Moreover, provinces that have a higher quality governance system can improve their local entrepreneurs' institutional trust (i.e., trust in governments) (Efendic, Mickiewicz, and Rebmann 2015). These favorable effects are directly linked to profitability and the feasibility of engaging in economic activities (North 1990, 1990; Williamson 2000), both of which may be expected to facilitate higher entrepreneurial reinvestment rates.

The following hypothesis summarizes our key arguments:

H1: Improvements in local governance quality (regarding corruption controls, administration transparency, leadership proactivity, and law enforcement) are positively associated with entrepreneurial reinvestments.

In the robustness checking section, we further examine the importance of other governance forces that were not investigated in the model of Nguyen, Mickiewicz, and Du (2018).

The Effect of External Finance on Firm Reinvestment

Besides governance quality, we also investigate the impact of external finance on reinvestment. Examining the relative importance of institutional arrangements and access to external finance is essential to an understanding of the dynamics of entrepreneurial investments along the economic transition of developing countries. In previous studies, external finance usually takes the sole form of bank loans (Ayyagari, Demirgüç-Kunt, and Maksimovic 2010) and there are two strands of association between bank loans and reinvestment. The first strand suggests a positive relationship for the following reasons: first, small businesses may require lump-sum investments to grow, which necessitates access to both internal and external funds (Cull and Xu 2005); and second, small businesses must use internal funds to demonstrate their commitment and to reduce agency costs when asking for bank loans (Brau 2002). From this perspective, reinvestment rate is positively associated with bank loans.

However, the second strand finds that reinvestment may be negatively associated with bank loans for the following reasons. First, the pecking-order hypothesis might not hold in developing countries where the financial system is centralized and interest rates are artificially fixed (Anwar and Nguyen 2011). In these circumstances, entrepreneurs may find it beneficial to make investments using loans instead of internally generated funds. Second, insecure banking systems and unstable institutions may compel entrepreneurs to increase their financial leverage and divert their wealth to more secure properties. In these cases, we expect to see a negative relationship between profit reinvestment and bank loans.

Given that the banking systems in developing countries are underbuilt, banks are keen to make lending decisions based on relationship-based principles (Reynolds 2011). This allows some firms with well-established political networks to obtain bank loans at lower

than the market price (i.e., the interest rate applied to firms with no back-door relationships) (Nguyen, Le, and Freeman 2006). More importantly, weak institutional environments may discourage entrepreneurs from using their private wealth to make investments. Therefore, we expect that entrepreneurs may treat bank loans as a substitute financing source for profit reinvestments.

Using bank loans as the measure of external finance is appropriate but insufficient if we wish to manifest the full picture of external finance in developing countries so we also investigate two other crucial external funds, namely loans from the government and informal finance.

Government loans are different from other external financing sources in several respects. Such loans do not follow market-based principles in terms of the required collateral, the value of the loans, the interest rates, and turnover time; instead, these conditions are imposed quite arbitrarily and are loosely monitored (Girma, Gong, and Görg 2009; Nguyen and Dijk 2012). Further, in weak institutional environments, governments are able to subsidize firms in a non-transparent way, such as by an uneven distribution of loans among companies that are not dissimilar (Haley 2013). Du and Mickiewicz (2016) argue that government loans in opaque institutional environments impose a negative effect on firm performance, primarily because accessing them requires entrepreneurs to build political connections. This compels firms to allocate efforts to unproductive activities. Further, firms that successfully obtain government loans may find that this financing source is easily manipulated in the sense that the funds come unencumbered by firm commitments or heavy pressure to make the repayments. Thus, firms can use the funds to invest in riskier projects or non-core businesses. Given these benefits, entrepreneurs may consider government loans to be a good substitute for their profit reinvestments, suggesting a negative relationship between government loans and reinvestment rate.

Informal finance is defined as small, unsecured, short-term loans from family/friends or other relationship-based credit providers, whose services cannot substitute the formal financial system because of their limited monitoring and enforcement mechanisms (Beck, Demirgüç-Kunt, and Maksimovic 2008). Thus, informal finance is an important but usually overlooked subject in the picture of external finance (Ayyagari, Demirgüç-Kunt, and Maksimovic 2010). The literature has recognized the role of the informal financial system in developing countries but conventional wisdom has it that informal finance, with its key function being to serve low-end borrowers (small businesses and micro-firms), is complementary to the formal financial system (Beck, Lu, and Yang 2014).

It is noteworthy that relationships play an essential role in this type of borrowing. Unlike arms-length-based credit arrangements, entrepreneurs using informal finance are subject to implicit obligations. They understand that if they fail to make the repayments, the relationship may be ruined and they may lose a cheap financing source (Lee and Persson 2016). As such, their commitment may be even stronger than if the obligation came from an arms-length transaction. Moreover, strong commitments may also come from their perception of personal responsibility. Specifically, entrepreneurs tend to treat relationship-based borrowing with the same respect they accord to their personal private wealth (Bertrand and Schoar 2006). By this line of argument, the correlation between relationships and commitments may lead to a positive association between informal finance and profit reinvestment.

We summarize the abovementioned arguments in the following hypotheses:

H2a: Bank loans and government loans are negatively associated with entrepreneurial reinvestments.

H2b: Informal finance is positively associated with entrepreneurial reinvestments.

The Role of Ownership

In this section, we deliberately examine the relative importance of local governance and external finance in three different ownership sectors: state-owned, foreign-owned, and private SMEs. Specifically, state-owned enterprises (SOEs) may be less sensitive to local governance arrangements because they can more easily establish a strong political connection with local authorities (Du and Mickiewicz 2016). Meanwhile, foreign-owned enterprises (FOEs) are also largely exempted from the bureaucracy and harassment of corruption; they

may even enjoy privileges derived from preferential policies that favor foreign investments (Anwar and Nguyen 2010). In contrast, small private firms, which are inferior in terms of managerial skills, financial capital, and the degree of networking with local authorities, operate in the glare of the local governance quality, and an improvement in the quality of the environment will be reflected in these firms' reinvestment decisions.

The following hypotheses summarize the expected association between firm reinvestment and local governance quality among the three ownership sectors:

H3a: Reinvestment rate of state-owned firms is not associated with local governance quality.

H3b: Reinvestment rate of foreign-owned firms is not associated with local governance quality.

H3c: Reinvestment rate of domestic private firms is positively associated with local governance quality.

Also, the three ownership sectors can be expected to have different combinations of external financing sources. Specifically, in developing countries with incomplete institutional settings, state-owned firms are likely to abuse government loans and commercial loans from state-owned banks to make (over-)investments while using internal funds for other purposes, e.g., to pay abnormal compensations for the management board, or to purchase business-irrelevant properties (O'Toole et al. 2016). In this way, SOEs' reinvestment rate is expected to be negatively associated with government loans and bank loans. Regarding private firms, we expect their reinvestment decisions to follow the general hypotheses H2a and H2b, i.e., they are keen to substitute profit reinvestments by bank loans and government loans, but regard informal loans as a complementary financing source. For foreign-owned firms, we hold a neutral expectation on their financing decisions, the reason being that FOEs follow a distinct financing strategy that involves access to financing sources in both the home and host countries (Anwar and Nguyen 2010).

The following hypotheses summarize the expected association between firm reinvestment and external financing sources by ownership sector:

H4a: Reinvestment rate of state-owned firms is negatively associated with government loans and bank loans.

H4b: Reinvestment rate of domestic private firms is positively associated with informal loans, but negatively associated with government loans and bank loans.

In general, hypotheses concerning the relative importance of local governance and external finance by ownership sectors (H3 and H4) could be summarized as shown in Table 1.

Vietnam as a Context

The empirical setting of this study is Vietnam. Vietnam is an interesting context for the study of entrepreneurship due to its post-socialist political ideology and ongoing economic transition (Minh and Hjortsø 2015). Because of the socialist ideology, the financial system in Vietnam is biased against the private sector; therefore, a lack of formal financing is a significant problem for the entrepreneurial sector (Leung 2009). This country-specific factor, together with the asymmetric information and agency costs typical of developing economies, strongly restricts domestic SMEs from obtaining sufficient bank loans (Anwar and Nguyen 2011).

Despite these difficulties, the private sector (with 95 percent young and small businesses) has contributed considerably to the economic growth of Vietnam over the last few decades (Nguyen and Dijk 2012; Nguyen, Le, and Bryant 2013; Tran and Santarelli 2014). As at 2015, the sector accounts for 91 percent total registered capital, 65 percent national revenue, 97 percent total registered businesses, and 64 percent total labor force in the economy.[5] Unfortunately, these exemplary contributions are not accompanied by a corresponding transition in the national banking system. The extant literature suggests that young and small firms in Vietnam remain severely financially constrained (Anwar and Nguyen 2011; Tran and Santarelli 2014).

[5]Source: https://www.gso.gov.vn/Default_en.aspx?tabid=515

Table 1
The Expected Association Between Reinvestment and Local Governance/External Finance

	Private firms	SOEs	FOEs
Local governance quality	+	Insignificant	Insignificant
Government loans	–	–	NA[a]
Bank loans	–	–	±
Informal finance	+	NA[b]	±

[a]Government loans are available to domestic firms only.
[b]State-owned firms are not allowed to use privately-raised credit.

In addition to the weak financial system, weak institutions and poor governance quality are directly relevant to Vietnamese SMEs (Nguyen and Dijk 2012).[6] Local authorities in Vietnam enjoy an extraordinary degree of soft power, defined as the freedom to impose their will on the interpretation and execution of central policies (Minh and Hjortsø 2015). Moreover, the quality of local governance across parts of Vietnam varies significantly due to the extensive decentralization program during the *Doimoi* (economic renovation) process (Lan Phi and Anwar 2011). The foundation of this program was the promulgation of the 1996 State Budget Law (revised in 1998), which grants local government sufficient autonomy in their fiscal strategies. As such, local authorities are increasingly independent of central government in their revenue and expenditure decisions. This means they have substantial freedom to determine their own local governance and regulatory arrangements (Lan Phi and Anwar 2011).

Given the weak banking system and the diversified, poor-quality, local governance arrangements, entrepreneurs in Vietnam lack motivation for reinvesting their earned profits in new projects, or for seeking improvements in productivity (Nguyen et al. 2016). These micro-level decisions eventually result in a slow-down of the GDP growth rate for the entire economy. Since the entrepreneurship sector in Vietnam is very young, it may be susceptible to the incentivization structures shaped by the local financial systems and local governance arrangements (Cooke and Lin 2012). As such, Vietnam is a relevant and interesting context to examine the impact of local governance and external financing on entrepreneurial reinvestment.

Data and Specification

Data Sources and Observations

In this study, we employ two datasets to test the proposed hypotheses. The first is the Enterprise Annual Survey (EAS) of the Vietnam General Statistics Office (GSO). It is a 16-year panel from 2000 to 2015, including several aspects of firm-level information for the manufacturing and service sectors. However, the study period in this paper is reduced to 10 years, from 2006 to 2015, to match the availability of the second dataset, the Provincial Competitiveness Index (PCI).[7] This dataset was first available for a sample of regions in 2005 and then for all of 63 Vietnamese provinces from 2006. PCI is a product of the collaboration between the Vietnam Chamber of Commerce (VCCI) and the U.S Agency for International Development (USAID). Specifically, PCI is

[6]According to Williamson (2014), the institutions of governance is the third level of the new institutional economics theory. This level emphasizes the governance of contractual relations—so the play of the game, rather than the rules of the game (formal and informal institutions).

[7]PCI is based on a rigorous survey of the perceptions of more than 10,000 domestic firms and 1,600 foreign-invested enterprises about local economic governance and the business environment across Vietnam. From 2013, there is an additional sub-index, Policy Bias. For details of the items measured in each indicator, the methodology used, and data collection information please visit www.eng.pcivietnam.org.

an overall provincial governance index, a weighted average of nine sub-indices that each measures a dimension of local governance quality. The definition and summary statistics of the indices are presented in Appendix 1.

The data provided by Vietnam GSO have been widely employed in previous studies. The most popular dataset is the Vietnam Household Living Standard Survey (VHLSS) (Fukase 2014). In comparison to the VHLSS, the EAS dataset employed in this study is largely unexplored. One of the advantages of GSO data is that they are comprehensive and representative. Specifically, the sample size is large and involves different types of observations. However, because the surveys are modified annually, it is difficult to match between years. Moreover, the available data are usually impure and require substantial cleaning before conducting rigorous analysis. To clean the data, we dropped all firms with negative assets and negative or zero employees, and did the same for firms whose fixed assets are greater than their total assets. The outliers are controlled by censoring the top and bottom 1 percent of observations in each variable. This study then selects only small and medium-sized companies, according to the Vietnam Enterprises Law, as the target observations.[8] The final sample in regression constitutes 312,845 firm-year observations. Also, in the extension section, we examine the same model, but with regard to micro-firms.

Variables and Summary Statistics

The dependent variable in this study is firm reinvestment. However, unlike previous studies (Cull and Xu 2005; Johnson, McMillan, and Woofruff 2002) that estimate reinvestment rate using CEOs' subjective assessments of the percentage of reinvested profits, our reinvestment variable is slightly different and arguably better captures entrepreneurs' commitment than does the conventional measure.

Specifically, our reinvestment variable is constituted of two components. The first is the value of reinvested profits reported in company financial statements. This measurement is free from CEOs' subjective assessments. In addition, the EAS requires entrepreneurs to report, as well as the profit reinvestments, their additional self-financed capital newly invested in their businesses.[9] This private wealth could be entrepreneur's dividends from other businesses or their savings. As such, the *Reinvestment* variable is measured by the sum of firm-reinvested profits and (if any) the value of additional private wealth that entrepreneurs decided to invest in their businesses, normalized by total capital.[10] From the theoretical perspective, this reinvestment variable could better measure the commitments of entrepreneurs to their ventures. Unless entrepreneurs trust in governments, they will not reinvest profits and certainly will not use their additional private wealth to make investments (Estrin, Korosteleva, and Mickiewicz 2013).

Following Nguyen, Mickiewicz, and Du (2018), we investigate local governance quality using four variables: corruption, transparency, leadership proactivity, and law enforcement. *Corruption* variable is the value of Informal charge index, which is a measure of how much firms pay in informal charges (bribes), how much of an obstacle those extra fees pose for their business operations, whether payment of those extra fees garners the expected results or "services," and whether local officials use compliance with local regulations to extract rents. *Transparency* variable is the value of Transparency index, a measure of whether firms have access to the proper planning and legal documents necessary to run their businesses, whether those documents are equitably available, whether new policies and laws are

[8]According to the Vietnam Enterprise Law, there are four types of firms in terms of sizes. Microenterprises are firms operating with fewer than 10 employees. Small enterprises are firms having 10 to 200 employees and total registered capital of less than 20 billion VND (approximately 1 million USD). Medium enterprises are firms having 200–300 employees and total registered capital less than 100 billion VND (approximately 5 million USD). Large enterprises are firms operating with more than 300 employees and 100 billion VND registered capital. Capital is the first criterion in categorization.

[9] Entrepreneurs' private wealth investment is excluded from any informal borrowing from family, friends, relationship-borrowing, and other semi-formal credit providers.

[10]In the survey, entrepreneurs only report the sum of profit reinvestment and additional equity investment. Therefore, we cannot calculate the net profit reinvestments. However, this does not affect the arguments of the study.

communicated to firms and predictably implemented, and the business utility of the provincial webpage.

To measure the proactivity of local leadership, we construct *Proactivity* variable, which is the value of the Leadership proactivity index—a measure of 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 favor of local private firms. Finally, *Law enforcement* variable is a proxy of local effectiveness in executing regulations, using the value of Legal institutions index. It is a measure of the private sector's confidence in provincial legal institutions; whether firms regard provincial legal institutions as an efficient vehicle for dispute resolution, or as an avenue for lodging appeals against corrupt official behavior.[11]

We examine firm access to external finance using three dummy variables: *Government loan* takes value 1 if the firm receives loans from local or central governments, and 0 otherwise; *Bank loan* takes value 1 if the firm receives loans from commercial banks (whether they be state-owned, foreign-owned or private), and 0 otherwise; *Informal finance* takes value 1 if firm receives loans from family, friends, or other relationship-based credit providers, and 0 otherwise.

The effects on reinvestment of the three financing sources in relation to the four local governance variables are tested with an appropriate control for a set of other influential factors. At the entrepreneur-individual level, we include entrepreneurs' age, gender, and education variables (Nguyen, Mickiewicz, and Du 2018); at the firm level, we take into account firm age, firm labor size, and firm ownership characteristics (Zhou 2017). At the regional level, we control for population density, labor supply, average consumption power, and the distance from a province to the closest municipality (business and political centers). Definition and summary statistics of variables are described in Table 2. The pairwise correlation matrix of variables is reported in Appendix 2.

On average, small firms in Vietnam reinvest a value equivalent to 15 percent of total capital per year over the study period (2000–2015). This number reflects the fast growth of the entrepreneurial sector in Vietnam during the past few decades. Some firms even invest more than 100 percent of total capital, indicating the significance of entrepreneurs' self-finance. It is noteworthy that local governance indices vary remarkably, for example, from as low as 1.39 points to as high as 9.39 points in the leadership proactivity index. This variation indicates that local governance quality differs significantly among country's regions. Appendix 3 shows the detailed fluctuation of the four governance variables (as well as the other five PCI governance indices) by year. From the mean statistics of the three external financing sources, we see that only 1 percent of small businesses gain access to government loans, 31 percent use bank loans, and 17 percent use informal financing sources. Taken together, these statistics indicate that less than half of the total small businesses in Vietnam obtain access to external finance, which is relatively low compared to developed countries (Ayyagari, Demirgüç-Kunt, and Maksimovic 2010).

Empirical Specification and Estimation

To formally test the relative importance of local governance and external finance on reinvestment decisions, following Johnson, McMillan, and Woofruff (2002) and Cull and Xu (2005), we propose the following reduced-form equation:

$$\begin{aligned} Reinvestmentigt = {} & \beta_0 + \beta_1 (Firm\ controls_{igt}) \\ & + \beta_2 (Owner\ controls_{igt}) + \beta_3 (Province\ controls_{gt}) \\ & + \beta_4 (Governance\ indicators_{gt}) \\ & + \beta_5 (External\ finance_{igt}) + v_j + v_t + v_i + \mu_{it} \end{aligned} \quad (1)$$

where i denotes an individual firm, g is the province, and t a year. As such, $(Reinvestment_{igt})$ is the reinvestment rate of a small enterprise i in province g in year t. The term $(Firm\ controls_{igt})$ is a column vector of variables that includes firm age, firm size, and firm ownership dummies. The term $(Owner\ controls_{igt})$ is a column that includes owner age variable, owner gender, and owner education dummies. $(Province\ controls_{gt})$ constitutes province consumption value per capita, population density, the number of labor over population, and the distance from a province to the closest municipality. Turning to the Governance variable, $(Governance\ indicators_{gt})$ represents the four

[11] Details of the PCI methodology are available at https://eng.pcivietnam.org/phuong-phap-c9.html.

Table 2
Variable Definition and Summary Statistics

Variable	Definition	Mean	Std.	Min	Max
Reinvestment	The ratio of profit reinvestment and additional entrepreneurs' self-finance to total capital.	0.15	0.23	0	1.03
Transparency	Value of the transparency index. The indicator ranges from 1 to 10; the higher the score, the more transparent.	5.83	1.21	2.14	8.85
Corruption	Value of the informal charge index. The indicator ranges from 1 to 10; the higher the score, the *lower* the corruption.	6.01	1.00	4.13	8.94
Proactivity	Value of the Leadership proactivity index. The indicator ranges from 1 to 10; the higher the score, the more proactive the local leadership.	4.70	1.39	1.39	9.39
Law enforcement	Value of the Legal institution index. The indicator ranges from 1 to 10; the higher the score, the more effective the law enforcement.	4.78	1.09	2.00	7.91
Government loans	Take value 1 if a firm uses government loans, 0 otherwise.	0.01	0.08	0	1
Bank loans	Take value 1 if a firm uses commercial bank loans, 0 otherwise.	0.31	0.46	0	1
Informal finance	Take value 1 if a firm uses informal finance (relationship-based borrowing), 0 otherwise.	0.19	0.39	0	1
Firm size	Natural log of the number of employees (reported the number of employees).	34.12	41.08	10	300

Table 2
Continued

Variable	Definition	Mean	Std.	Min	Max
Firm age	Years of operation since establishment.	6.88	5.79	1	68
State-owned	Take value 1 for state-owned firms, 0 otherwise.	0.07	0.26	0	1
Private	Take value 1 for private firms, 0 otherwise.	0.90	0.31	0	1
Foreign-owned	Take value 1 for foreign-owned firms, 0 otherwise.	0.03	0.17	0	1
Owner gender	Code 1 male, code 0 female.	0.77	0.42	0	1
Owner age	Age of the business owners.	44.49	9.75	26	70
Owner education	Take value 1 for doctoral level, 2 for masters, 3 bachelors, 4 college degrees, 5 professional vocational degrees, 6 senior technical degrees, 7 junior technical degrees, and 8 no degrees.	5.57	1.77	1	8
Distance	Distance from a province to the closest economic center, in km.	90.16	123.21	1	499
Density	The ratio of population over area, by province per year, in person per km^2.	1,539	1276	39	3,888
Consumption	The average consumption of a province in a year depreciated to the 2010 value, in million VND per capita.	31.06	21.58	1.11	89.12
Labor	The number of working population over total population by province per year.	0.56	0.04	0.45	0.79

Notes: The number of observations is 312,845 firm-year in Vietnam in the period 2006–2015. The provincial level variables are obtained from the Provincial Competitiveness Index (PCI) dataset. The firm-level variables are obtained from the Annual Enterprise Survey dataset of Vietnam General Statistics Office (GSO).

dimensions of local governance: corruption; transparency; leadership proactivity; and law enforcement. Finally, $(External\ finance_{igt})$ is a column vector of three external funding sources: government loans; bank loans; and informal finance. The reinvestment function also includes an industry-specific component v_j, and a time-specific component v_t, which are controlled by corresponding dummies. The term v_i represents all time-invariant, firm-level fixed effects that may influence reinvestment rate. Finally, μ_{it} is the idiosyncratic error.

We are interested in the coefficients β_4 and β_5 because they indicate the relative importance of local governance and external finance. Since governance quality is determined endogenously, perhaps influenced by the level of entrepreneurship (Carbonara, Santarelli, and Tran 2016), our model may encounter potential endogeneity issues. Specifically, regions that enjoy a pro-entrepreneurial culture may have a stronger reinvestment rate, and vice versa. This is particularly the case in Vietnam since although North Vietnam has followed a pure communist blueprint from the very beginning, South Vietnam was a capitalist economy until 1975 (Dana 1994). Even though the two states have been unified for more than three decades, institutional theory holds that the local informal institutions (that is the norms and practices of doing business) remain sticky in each particular region. Specifically, South Vietnamese entrepreneurs, who were once exposed to capitalism, are likely to adhere to arms-length principles and performance-based orientations, and are less risk-averse (Dana 1994). Meanwhile, entrepreneurs in North Vietnam appear to be more conservative and favor relationship-based principles (Nguyen, Mickiewicz, and Du 2018). Consequently, these differences in entrepreneurial values and beliefs may influence the governance quality of the local authorities.

More importantly, when a region is characterized by a high-level entrepreneurial capital, it is more likely to develop institutions that favor entrepreneurship (Carbonara, Santarelli, and Tran 2016). In the context of Vietnam, Nguyen, Mickiewicz, and Du (2013) show that the performance of the local entrepreneurial store exerts a non-trivial effect on sub-national institutions, including the quality of local governments. This follows on from previous studies that aim to unbundle institutions (Acemoglu and Johnson 2005) by employing a set of instrumental variables (IVs) to exploit the exogenous variation of institutional variables, in an attempt to establish a causal effect from institutions to entrepreneurial activities (see Carbonara, Santarelli, and Tran [2016] for a summary).

In this study, we address the endogeneity issue using the system general method of moment (SGMM) estimator proposed by Blundell and Bond (1998). We have employed this method because of the lack of valid and reliable exogenous variables to instrument the endogenous variables in the context of Vietnam. We use the lagged values of the endogenous variables as their IVs. The lagged values of an endogenous variable are not directly related to the error term of the current equation. However, we expect that the lagged values of the endogenous variables are correlated with their current values to serve as valid and relevant IVs. Technically, the method uses moment conditions that state that the regressors are orthogonal to the errors, and the SGMM estimations are consistent if the coefficients meet these moments. Moreover, to correct any possible finite sample bias by omitting informative moment conditions, the method further employs differences as valid instruments for level equations.

Specifically, in the difference equation, our specification tests suggest the use of (level) endogenous variables lagged from 2 to 3 years as instruments to eliminate the correlation between endogenous variables and the error terms. In the level equation, we use the difference of exogenous variables, lagged from 1 to 3 periods, as instruments. The validity of SGMM hinges on two specification tests: a second-order autocorrelation test of AR(2) in the transformed equations to examine whether the level equations are serially correlated at the order 1; and the Hansen (J) test of the over-identifying restrictions of the specification. Following suggestions from the literature, we treat all governance variables, external financing variables, and firm size, as endogenous variables in all specifications.

Empirical Results

Table 3 presents the regression results. The autocorrelation and over-identification tests indicate no severe specification problems with the model settings. Columns 1 and 2 include local governance variables and external financing variables separately. Column 3 includes all independent variables, and columns 4 to 6 show

Table 3
Regression Results on Baseline Specification and Ownership Sectors

	(1)	(2)	(3)	(4)	(5)	(6)
	Total sample	**Total sample**	**Total sample**	**State-owned**	**Foreign-owned**	**Private**
Transparency	0.00427***		0.00394***	0.000547	0.00966	0.00377***
	(0.000865)		(0.00127)	(0.00226)	(0.00651)	(0.00141)
Corruption	0.00171**		0.00211*	0.000179	0.00289	0.00187
	(0.000718)		(0.00109)	(0.00223)	(0.00534)	(0.00124)
Proactivity	0.000423		0.00455***	−0.00252*	−0.00695*	0.00631***
	(0.000422)		(0.00102)	(0.00130)	(0.00390)	(0.00114)
Law enforcement	0.00364***		0.00269***	0.00501***	0.0102	0.00185
	(0.000626)		(0.000982)	(0.00192)	(0.00655)	(0.00121)
Government loans		−0.359***	−0.353***	−0.115***	−3.187	−0.133
		(0.0915)	(0.0986)	(0.0320)	(2.307)	(0.249)
Bank loans		−0.440***	−0.497***	−0.0856***	−0.128	−0.516***
		(0.0287)	(0.0325)	(0.0301)	(0.0818)	(0.0345)
Informal finance		0.275***	0.350***	−0.00920	−0.257*	0.377***
		(0.0311)	(0.0362)	(0.0327)	(0.137)	(0.0383)
Firm size	−0.0368***	−0.0538***	−0.0488***	−0.0150	−0.0925***	−0.0497***
	(0.00145)	(0.00484)	(0.00538)	(0.0153)	(0.0175)	(0.00587)
Firm age	−0.00724***	−0.00673***	−0.00678***	−0.00178***	−0.0101***	−0.00852***
	(0.000130)	(0.000197)	(0.000211)	(0.000266)	(0.00119)	(0.000256)
Owner gender	0.00294***	0.00461***	0.00518***	−0.00888*	−0.00306	0.00483***
	(0.00105)	(0.00138)	(0.00148)	(0.00510)	(0.00902)	(0.00156)
Owner age	−0.00137***	−0.00142***	−0.00142***	−0.00116***	−0.000954***	−0.00116***
	(5.28e−05)	(7.05e−05)	(7.57e−05)	(0.000241)	(0.000316)	(8.20e−05)
Distance	−4.89e−05***	4.78e−06	3.95e−05***	−2.06e−05	5.38e−05	6.21e−05***

Table 3
Continued

	(1)	(2)	(3)	(4)	(5)	(6)
	Total sample	**Total sample**	**Total sample**	**State-owned**	**Foreign-owned**	**Private**
	(5.07e–06)	(1.05e–05)	(1.32e–05)	(1.93e–05)	(6.85e–05)	(1.49e–05)
Density	–1.51e–05***	–2.11e–05***	–1.92e–05***	–1.52e–05***	–2.75e–05***	–1.92e–05***
	(8.41e–07)	(1.09e–06)	(1.17e–06)	(3.15e–06)	(6.99e–06)	(1.27e–06)
Consumption	0.000171**	–0.000285**	–0.000659***	0.000582***	–0.000971	–0.000562***
	(6.88e–05)	(0.000113)	(0.000145)	(0.000226)	(0.000718)	(0.000160)
Labor	0.0103	0.0346	0.00317	0.121**	–0.336**	0.0554*
	(0.0180)	(0.0252)	(0.0270)	(0.0589)	(0.150)	(0.0315)
AR2 (*p*-value)	0.21	0.66	0.70	0.56	0.77	0.94
Hansen(J) (*p*-value)	0.06	0.08	0.19	0.17	0.35	0.41
Observations	312,845	312,845	312,845	16,938	13,293	282,614

Notes: The dependent variable in all specifications is reinvestment rate. All estimations include a full set of 2-digit industry dummies, 10-year dummies, 3 ownership dummies (except for specifications 4, 5, and 6), and 8 dummies for owner education. Standard errors and test statistics are asymptotically robust to heteroskedasticity. The estimator is SGMM (*xabond2* in Stata). Endogenous variables include the 4 governance variables, 3 external financing variables, and firm size variable. The instruments for difference equation are lagged 2- to 3-year level variables. The instruments for the level equation are the difference of variables 1- to 2-year lagged. AR(2) is autocorrelation test under the null that there is no autocorrelation in the transformed equations. Hansen (J) is over-identification test for the validity of the instruments, under the null that the instruments are valid and there are no misspecifications.

the results for state-owned, foreign-owned and private firms, respectively.

In general, local governance variables are positively associated with reinvestment rate. Leadership proactivity has the strongest effect: firms will reinvest a value equivalent to 0.46 percent of total capital for each point of proactivity improvement. Transparency comes second with 0.39 percent increase in reinvestment rate for each transparency improvement point. Law enforcement and corruption are statistically significant but have slightly smaller economic effects (–0.27 percent and 0.21 percent, respectively). These findings indicate that local governance quality is an essential determinant of reinvestment decisions. As such, hypothesis H1 is fully supported.

Regarding external funding, the coefficients associated with the three financing sources are all statistically significant. Interestingly, firms that use government loans and bank loans reinvest remarkably less than firms that do not use these financing sources (by 50 percent and 35 percent, respectively). This finding shows that entrepreneurs treat formal loans as a source of finance supplemental to profit reinvestments. On the other hand, we find that firms that use informal finance reinvest 35 percent higher than firms that do not. This positive association between reinvestment rate and informal loans indicates that entrepreneurs are more committed to their investments when they use relationship-based borrowings. Therefore, hypotheses H2a and H2b are fully supported.

Regarding the role of ownership, we find that state-owned and foreign-owned firms react negatively to an increase in leadership proactivity. For each proactivity improvement, these firms reduce their reinvestment rates by 0.25 percent and 0.7 percent, respectively. This finding indicates that state-owned and foreign-owned firms may lose their competitive advantages when local authorities proactively assist local private sector development. Moreover, except for leadership proactivity, no other governance factors appear to be statistically meaningful to foreign-owned firms, though state-owned firms are only sensitive to one other factor—law enforcement. This finding shows that the irritations that hamper private firms, such as corruption and an opaque governance system, seem to exert no significant influence on non-private firm reinvestment decisions. We thus conclude that non-private ownership could serve as a shield to protect firms from local bureaucracy and corrupt harassment (Zhou 2017).

It is also noteworthy that law enforcement is positively associated with state-owned firm reinvestments but it is statistically meaningless to private firms. This finding is consistent with Nguyen, Mickiewicz, and Du (2018), who assert that under Vietnam's opaque legal system and administrative centralization, the incentives for adjudicators may emphasize punishment instead of the enforcement of justice. This bias of the legal system may bring benefits to state-owned firms since they can rely on a legal system that has been specifically designed for them, though private firms may become increasingly ignorant of the legal systems and distrust the ineffective law enforcements.

Finally, we find that informal finance has an adverse effect on foreign firm reinvestments, though being positively associated with domestic private firm reinvestments. This finding indicates that foreign entrepreneurs treat informal loans as supplementary to profit reinvestments. One explanation for this could be that foreign entrepreneurs employ arms-length principles (instead of relationship-based principles) and this exempts them from the implicit commitments generally expected from receiving informal loans. This finding may suggest a difference in the micro-borrowing customs between Vietnamese and foreign entrepreneurs.

Robustness Check and Extension

Robustness Testing

Other Governance Forces. In the base specification, following Nguyen, Mickiewicz, and Du (2018), we examine four out of nine governance indices in the PCI dataset. However, the other governance dimensions (namely entry costs, land access, time costs, business support, and labor training[12]) may also have a meaningful impact on local SMEs' reinvestment decisions. *Entry costs* are a measure of the financial and time costs of establishing a new firm (for example, length of business registration in days). *Land access* is a measure of how easy it is to gain access to land for doing business, and the

[12] Refer to Appendix 1 for the list of local governance forces.

security of tenure once the land is acquired. *Time costs* measure how much time firms waste on bureaucratic compliance, as well as how often and for how long firms must shut down their operations for inspections by local regulatory agencies. *Business suppo* indicates services for trade promotion, the provision of regulatory information to firms, business partner matchmaking, industrial zones, and industrial clusters. Finally, *labor training* is an item quantifying the efforts of local authorities to promote vocational training and skills development, and to assist in the placement of local labor.

Because these variables are highly correlated, we run a regression for each separately.[13] Tables 4 and 5 present the results. It is noteworthy that the coefficient associated with the Labor training variable is negative in the lump-sum specification (column 10). Nonetheless, it is positive in its individual specification (column 8), indicating the presence of multicollinearity. As Labor training is highly correlated with Business support (correlation coefficient $\sigma = 0.63$.), Land access ($\sigma = 0.46$), and Corruption ($\sigma = 0.43$), in addition to the fact that the VIF test of the lump-sum model is 3.14, higher than the VIF of the individual model, which is 2.08, the result of the individual specification appears more reliable. In general, this robustness check is consistent with the key findings. It indicates that local governance quality is strongly associated with reinvestment decisions.[14]

Continuous External Finance Variables. In the baseline specification, following Johnson, McMillan, and Woofruff (2002) and Cull and Xu (2005), we test the effects of external finance using dummy variables. However, a more interesting question to ask is how do firms change their reinvestment rate when they obtain additional external funds? As such, instead of using dummy variables, we rerun the regressions using continuous external financing variables. Each variable is the value of its corresponding financing source, normalized by total capital. Table 6 shows the regression results. Columns 1–3 include each variable separately, columns 4 and 5 are the lump-sum specifications. In general, the performance of the three external financing variables is consistent with the corresponding dummies in the baseline specification. Specifically, firms reduce their reinvestment rate by 2.75 percent when they obtain 1 percent additional government loans, the corresponding reduction in value for bank loans is 1.12 percent. However, for 1 percent increase in informal finance, firms increase their reinvestment rate by almost 3 percent.

Extension

In this section, we further extend the context of this study to micro-firms—that is, firms with fewer than 10 employees. Micro-firms constitute the majority of the registered business population in Vietnam (60 percent according to GSO data). The reinvestment decisions made by micro-firms may play a different role to the reinvestment decisions made by SMEs (Hiemstra, van der Kooy, and Frese 2006). Micro-firms are very small businesses, operated by family members, with the primary purpose of earning a living (Jaouen and Lasch 2015). Because micro-firms are first-time investors, they often avoid risky investments and are more sensitive to local governance arrangements (Antonio, Rafael, and Juan 2014). As such, it is interesting to explore the relative importance of local governance and external finance on their reinvestment decisions. Table 7 presents the regression results. Column 1 is the baseline specification; columns 2 to 4 are for different ownership sectors.

Some interesting findings are revealed from these regression results. First, an improvement in corruption controls (less corruptive harassment) exerts a negative effect on private micro-firms' reinvestment rate. This counterintuitive finding is however consistent with Gjalt, Tu, and Hans (2012) who, also in the context of Vietnam, find a U-shaped relationship between bribery controls and firm performance. They argue that corruption helps to lubricate the bureaucratic administration system and allows firms to obtain information and resources quickly. Without bribery rewards, officials will reduce their input efforts to serve private firms. This adverse effect is felt more strongly by micro-firms because of their inferiority in the network of political connections. However, the negative impact of corruption controls

[13]Appendix 4 shows the correlation matrix of 9 local governance variables.

[14]This conclusion remains robust when we add the three external financing variables into the regression equation.

Table 4
Regression Results on All Governance Indices (1)

	(1)	(2)	(3)	(4)	(5)
Transparency	0.00561***				
	(0.000747)				
Corruption		0.00354***			
		(0.000654)			
Proactivity			0.00212***		
			(0.000338)		
Law enforcement				0.00447***	
				(0.000587)	
Entry costs					0.00161**
					(0.000816)
Firm size	−0.0275***	−0.0272***	−0.0291***	−0.0272***	−0.0274***
	(0.00264)	(0.00264)	(0.00264)	(0.00264)	(0.00264)
Firm age	−0.00772***	−0.00774***	−0.00768***	−0.00774***	−0.00773***
	(0.000148)	(0.000148)	(0.000148)	(0.000148)	(0.000148)
Owner gender	0.00291***	0.00275***	0.00284***	0.00277***	0.00258**
	(0.00105)	(0.00105)	(0.00105)	(0.00105)	(0.00105)
Owner age	−0.00147***	−0.00147***	−0.00146***	−0.00148***	−0.00147***
	(5.45e−05)	(5.45e−05)	(5.45e−05)	(5.46e−05)	(5.45e−05)
Distance	−5.11e−05***	−5.64e−05***	−5.42e−05***	−5.61e−05***	−5.81e−05***
	(5.13e−06)	(5.11e−06)	(5.07e−06)	(5.09e−06)	(5.11e−06)
Density	−1.76e−05***	−1.69e−05***	−1.66e−05***	−1.59e−05***	−1.69e−05***
	(8.36e−07)	(8.41e−07)	(8.42e−07)	(8.35e−07)	(8.78e−07)
Consumption	0.000369***	0.000351***	0.000337***	0.000260***	0.000366***
	(6.76e−05)	(6.85e−05)	(6.84e−05)	(6.88e−05)	(6.91e−05)
Labor	0.0192	−0.00574	−0.00333	0.00795	0.0145
	(0.0170)	(0.0177)	(0.0175)	(0.0171)	(0.0170)
AR2 (*p*-value)	0.32	0.31	0.30	0.31	0.68
Hansen(J) (*p*-value)	0.04	0.05	0.11	0.03	0.22
Observations	312,845	312,845	312,845	312,845	312,845

Notes: The dependent variable in all specifications is reinvestment rate. All estimations include a full set of 2-digit industry dummies, 10-year dummies, 3 ownership dummies (except for specifications 4, 5, and 6), and 8 dummies for owner education. Standard errors and test statistics are asymptotically robust to heteroskedasticity. The estimator is SGMM (*xabond2* in Stata). Endogenous variables include the 4 governance variables, 3 external financing variables, and firm size variable. The instruments for difference equation are lagged 2- to 3-year level variables. The instruments for the level equation are the difference of variables 1- to 2-year lagged. AR(2) is autocorrelation test under the null that there is no autocorrelation in the transformed equations. Hansen (J) is over-identification test for the validity of the instruments, under the null that the instruments are valid and there are no misspecifications.

Table 5
Regression Results on All Governance Indices (2)

	(6)	(7)	(8)	(9)	(10)
Transparency					0.00292***
					(0.000896)
Corruption					0.00389***
					(0.000826)
Proactivity					−0.000680
					(0.000490)
Law enforcement					0.00238*** (0.000642)
Entry costs					0.00108
					(0.000842)
Land access	0.00336***				0.00189***
	(0.000474)				(0.000649)
Time costs		0.00123**			−0.000610
		(0.000543)			(0.000635)
Business supports			0.00595*** (0.000500)		0.00678*** (0.000558)
Labor training				0.00256***	−0.00188**
				(0.000697)	(0.000784)
Firm size	−0.0279***	−0.0275***	−0.0285***	−0.0270***	−0.0296***
	(0.00264)	(0.00264)	(0.00264)	(0.00264)	(0.00264)
Firm age	−0.00771***	−0.00773***	−0.00770***	−0.00774***	−0.00766***
	(0.000148)	(0.000148)	(0.000147)	(0.000148)	(0.000148)
Owner gender	0.00279***	0.00262**	0.00278***	0.00269**	0.00321***
	(0.00105)	(0.00105)	(0.00105)	(0.00105)	(0.00105)
Owner age	−0.00147***	−0.00147***	−0.00145***	−0.00147***	−0.00146***
	(5.45e−05)	(5.45e−05)	(5.45e−05)	(5.46e−05)	(5.45e−05)
Distance	−6.53e−05***	−5.68e−05***	−4.91e−05***	−5.10e−05***	−5.27e−05***
	(5.31e−06)	(5.10e−06)	(5.09e−06)	(5.37e−06)	(5.63e−06)
Density	−1.69e−05***	−1.71e−05***	−2.06e−05***	−1.76e−05***	−2.00e−05***
	(8.39e−07)	(8.42e−07)	(9.03e−07)	(8.34e−07)	(9.49e−07)
Consumption	0.000366***	0.000380***	0.000310***	0.000390***	0.000197***
	(6.79e−05)	(6.79e−05)	(6.69e−05)	(6.76e−05)	(6.99e−05)
Labor	−0.0154	0.0125	0.0504***	0.0257	0.0142
	(0.0179)	(0.0172)	(0.0173)	(0.0172)	(0.0184)
AR2 (*p*-value)	0.32	0.31	0.35	0.32	0.33

Table 5
Continued

	(6)	(7)	(8)	(9)	(10)
Hansen(J) (*p*-value)	0.03	0.04	0.03	0.03	0.10
Observations	312,845	312,845	312,845	312,845	312,845

Notes: The dependent variable in all specifications is reinvestment rate. All estimations include a full set of 2-digit industry dummies, 10-year dummies, 3 ownership dummies (except for specifications 4, 5, and 6), and 8 dummies for owner education. Standard errors and test statistics are asymptotically robust to heteroskedasticity. The estimator is SGMM (*xabond2* in Stata). Endogenous variables include the 4 governance variables, 3 external financing variables, and firm size variable. The instruments for difference equation are lagged 2- to 3-year level variables. The instruments for the level equation are the difference of variables 1- to 2-year lagged. AR(2) is autocorrelation test under the null that there is no autocorrelation in the transformed equations. Hansen (J) is over-identification test for the validity of the instruments, under the null that the instruments are valid and there are no misspecifications.

gradually reduces as more effective policies are executed. We also run a regression with a squared term of the corruption variable; the regression result confirms the U-shaped effect.

Further, though foreign-owned micro-firms are not sensitive to local governance, state-owned micro-firms react negatively to administration transparency. A possible explanation is that a transparent governance system may reduce state-owned firm privileges (e.g., being the first to know information), and will therefore downgrade their competitive advantages, leading to a lower investment rate.

Discussion and Conclusion

This study extends the works of Johnson, McMillan, and Woofruff (2002) and Cull and Xu (2005) concerning the relative importance of institutions and access to external finance on small firms' reinvestment decisions in the context of a developing country. By extending the research question to the context of small businesses, we make three significant contributions to the entrepreneurship literature. First, we find that not only property rights but also local governance arrangements can influence small firm reinvestment decisions. We argue that it is the local governance environment, rather than the broad general institutional configurations, that is more critical to small businesses.

Second, this study shows that external financing sources exert different impacts on firms' reinvestment rate. A source of financing may, depending on its accompanied commitments, substitute or complement profit reinvestments.

Third, this study takes a close look at the role of ownership in reinvestment decisions, and reveals heterogeneity among state-owned, foreign-owned, and private firms. Each ownership sector, influenced by their competitive advantages, behaves differently in their responses to local governance arrangements and external financing opportunities.

Also, this study provides a comparative analysis between SMEs and micro-firms. It shows that micro-firms may respond differently to local governance and external finance that will SMEs. Though governance quality improvements always bring about a positive effect for SMEs' reinvestments, some governance forces exert a negative influence on micro-firms' reinvestments. This adverse effect, moreover, is conditional on firm ownership characteristics.

Besides the contributions to the literature, our study also provides several insightful implications for policymakers. In line with Nguyen, Mickiewicz, and Du (2018), we suggest that authorities should pay more attention to local governance arrangements—the "play of the game" —since this level of institution is easily modified and improved in the short and medium-terms. It is more difficult to adjust the higher levels of institutions and it takes a longer time to do so (Williamson 2000). In addition, since our findings reveal that entrepreneurs tend to substitute profit reinvestments by formal finance, we believe that property rights in Vietnam remain insufficiently reliable and secure. Unless authorities improve entrepreneurs' trust in the government, entrepreneurs will not

Table 6
Regression Results on Continuous External Financing Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Transparency					0.00533***	0.00404***
					(0.00134)	(0.00128)
Corruption					0.00141	0.000443
					(0.00104)	(0.00116)
Proactivity					0.00408***	0.00218***
					(0.000805)	(0.000797)
Law enforcement					0.00560***	0.00383***
					(0.000966)	(0.000918)
Entry costs						0.00292**
						(0.00121)
Land access						0.00660***
						(0.00101)
Time costs						−0.00322***
						(0.000945)
Business supports						0.00285***
						(0.000871)
Labor training						0.00391***
						(0.00120)
Government loans over capital	−2.747***			−3.730***	−3.703***	−3.600***
	(0.758)			(0.983)	(1.004)	(0.947)
Bank loans over capital		−1.117***		−1.042***	−0.943***	−0.708***
		(0.122)		(0.156)	(0.167)	(0.152)
Informal finance over capital			2.998***	2.685***	3.203***	2.864***
			(0.345)	(0.320)	(0.338)	(0.315)

Table 6.
(Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
Firm size	−0.0270***	−0.0226***	−0.0216***	−0.0175***	−0.0177***	−0.0207***
	(0.00266)	(0.00315)	(0.00362)	(0.00386)	(0.00405)	(0.00375)
Firm age	−0.00766***	−0.00869***	−0.00685***	−0.00771***	−0.00745***	−0.00730***
	(0.000149)	(0.000198)	(0.000191)	(0.000236)	(0.000247)	(0.000231)
Owner gender	0.00288***	0.00306***	0.000462	0.00152	0.00222	0.00249*
	(0.00106)	(0.00116)	(0.00135)	(0.00139)	(0.00144)	(0.00135)
Owner age	−0.00147***	−0.00158***	−0.00142***	−0.00153***	−0.00153***	−0.00150***
	(5.49e−05)	(6.10e−05)	(6.82e−05)	(7.17e−05)	(7.49e−05)	(7.07e−05)
Distance	−5.39e−05***	−4.51e−05***	5.00e−06	1.58e−05	4.21e−05***	2.32e−05**
	(5.26e−06)	(5.77e−06)	(9.73e−06)	(9.87e−06)	(1.12e−05)	(1.05e−05)
Density	−1.76e−05***	−2.79e−05***	−2.05e−06	−1.40e−05***	−7.25e−06***	−9.06e−06***
	(8.45e−07)	(1.47e−06)	(2.05e−06)	(2.43e−06)	(2.74e−06)	(2.50e−06)
Consumption	0.000391***	0.000171**	0.000285***	9.18e−05	−0.000204*	−0.000124
	(6.80e−05)	(7.79e−05)	(8.63e−05)	(9.38e−05)	(0.000104)	(9.70e−05)
Labor	0.0140	0.00790	0.142***	0.119***	0.0906***	0.0836***
	(0.0172)	(0.0192)	(0.0257)	(0.0261)	(0.0268)	(0.0252)
AR2 (*p*-value)	0.70	0.56	0.37	0.41	0.42	0.44
Hansen(J) (*p*-value)	0.20	0.12	0.09	0.06	0.05	0.09
Observations	312,845	312,845	312,845	312,845	312,845	312,845

Notes: The dependent variable in all specifications is reinvestment rate. All estimations include a full set of 2-digit industry dummies, 10-year dummies, 3 ownership dummies (except for specifications 4, 5, and 6), and 8 dummies for owner education. Standard errors and test statistics are asymptotically robust to heteroskedasticity. The estimator is SGMM (*xabond2* in Stata). Endogenous variables include the 4 governance variables, 3 external financing variables, and firm size variable. The instruments for difference equation are lagged 2- to 3-year level variables. The instruments for the level equation are the difference of variables 1- to 2-year lagged. AR(2) is autocorrelation test under the null that there is no autocorrelation in the transformed equations. Hansen (J) is over-identification test for the validity of the instruments, under the null that the instruments are valid and there are no misspecifications.

Table 7
Regression Results on Micro-Firms

	(1)	(2)	(3)	(4)
	Total sample	***State-owned***	***Foreign-owned***	***Private***
Transparency	0.0136***	−0.0395***	0.0282	0.0145***
	(0.00282)	(0.0100)	(0.0883)	(0.00282)
Corruption	−0.0280***	0.000744	−0.0141	−0.0287***
	(0.00229)	(0.00796)	(0.0325)	(0.00230)
Proactivity	0.0178***	0.00259	−0.0412	0.0145***
	(0.00220)	(0.00606)	(0.0393)	(0.00213)
Law enforcement	0.00615***	−0.000509	0.0479	0.00431*
	(0.00231)	(0.00638)	(0.0550)	(0.00224)
Government loans	0.448**	−0.121	4.785	0.148
	(0.202)	(0.108)	(14.07)	(0.272)
Bank loans	−0.846***	−0.0204	−0.391	−0.769***
	(0.0657)	(0.0955)	(0.284)	(0.0636)
Informal finance	0.712***	0.111	0.339	0.614***
	(0.0707)	(0.0911)	(0.349)	(0.0676)
Firm size	−0.425***	−0.355**	−0.274	−0.424***
	(0.0126)	(0.143)	(0.184)	(0.0122)
Firm age	−0.0159***	−0.00338***	−0.0225**	−0.0169***
	(0.000355)	(0.00110)	(0.00936)	(0.000340)
Owner gender	0.000224	0.00251	−0.0252	−0.000822
	(0.00224)	(0.0162)	(0.0479)	(0.00215)
Owner age	−0.000531***	0.00173**	−0.00337	−0.000527***
	(0.000130)	(0.000740)	(0.00210)	(0.000126)
Distance	−0.000151***	−0.000136	−0.000148	−0.000186***
	(3.30e−05)	(9.13e−05)	(0.000369)	(3.28e−05)
Density	−1.72e−05***	−2.16e−06	−4.56e−05	−1.90e−05***
	(2.28e−06)	(1.99e−05)	(4.83e−05)	(2.26e−06)
Consumption	−0.00285***	0.00372***	0.00303	−0.00276***
	(0.000219)	(0.00134)	(0.00852)	(0.000205)
Labor	−0.0682	0.265	1.377	−0.160**
	(0.0809)	(0.238)	(2.387)	(0.0796)
AR2 (*p*-value)	0.12	0.77	0.89	0.91
Hansen(J) (*p*-value)	0.04	0.23	0.02	0.12
Observations	395,870	7,362	2,424	386,084

Notes: The dependent variable in all specifications is reinvestment rate. All estimations include a full set of 2-digit industry dummies, 10-year dummies, 3 ownership dummies (except for specifications 4, 5, and 6), and 8 dummies for owner education. Standard errors and test statistics are asymptotically robust to heteroskedasticity. The estimator is SGMM (*xabond2* in Stata). Endogenous variables include the 4 governance variables, 3 external financing variables, and firm size variable. The instruments for difference equation are lagged 2- to 3-year level variables. The instruments for the level equation are the difference of variables 1- to 2-year lagged. AR(2) is autocorrelation test under the null that there is no autocorrelation in the transformed equations. Hansen (J) is over-identification test for the validity of the instruments, under the null that the instruments are valid and there are no misspecifications.

actively increase their reinvestment rate. Finally, this study poses a caveat for governments in emerging countries, as we show that there is significant heterogeneity among ownership sectors, as well as between SMEs and micro-firms. As such, it should be noted that there is no policy that favors all economic players.

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Appendix 1
Governance Index Definition and Summary Statistics

Variable	Definition	Mean	S.D.	Min.	Max.
Legal institutions	Measures the confidence in provincial legal institutions; whether firms regard the provincial legal institutions as an effective vehicle for dispute resolution, or as an avenue for lodging appeals against corrupt official behaviors. The indicator is two-digit value, ranging from 1 to 10; the higher the score, the better the legal enforcements.	4.78	1.09	2.00	7.91
Entry costs	Measures the differences in entry costs for new firms across provinces (for example, length of business registration in days, etc.). The indicator is two-digit value, ranging from 1 to 10; the higher the score, the lower the entry costs.	5.16	1.49	1.94	8.84
Land access	Combines two dimensions of the land problems confronting entrepreneurs: how easy it is to access land and the security of tenure once a land is acquired. The variable is two-digit value, ranging from 1 to 10; the higher the score, the better the access.	5.67	1.44	2.14	8.56
Time costs	Measures how much time firms waste on bureaucratic compliance, as well as how often and for how long firms must shut down their operations for inspections by local regulatory agencies. The indicator is two-digit value, ranging from 1 to 10; the higher the score, the better the access.	5.96	0.81	2.64	8.93
Business supports	Measures 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 is two-digit value, ranging from 1 to 10; the higher the score, the better the support.	5.84	1.06	4.13	8.94
Labor training	Measures the efforts by provincial authorities to promote vocational training and skills development for local industries, and to assist in the placement of local labor. The indicator is two-digit value, ranging from 1 to 10; the higher the score, the better the training.	4.54	1.25	1.39	9.39
Informal Charge (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 garner the expected results or "services," and whether provincial officials use compliance with local regulations to extract rents. The indicator is two-digit value, ranging from 1 to 10; the higher the score, the lower the charges (corruption).	6.01	1.00	4.13	8.94
Transparency	Measures whether firms have access to the proper planning and legal documents necessary to run their businesses, whether those documents are equitably available, and whether new policies and laws are communicated to firms and predictably implemented. The indicator is two-digit value, ranging from 1 to 10; the higher the score, the more transparent.	5.83	1.21	2.14	8.85
Leadership proactivity	Measures the creativity and cleverness of provinces 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 favor of local private firms. The indicator is two-digit value, ranging from 1 to 10; the higher the score, the more proactive.	4.70	1.39	1.39	9.39

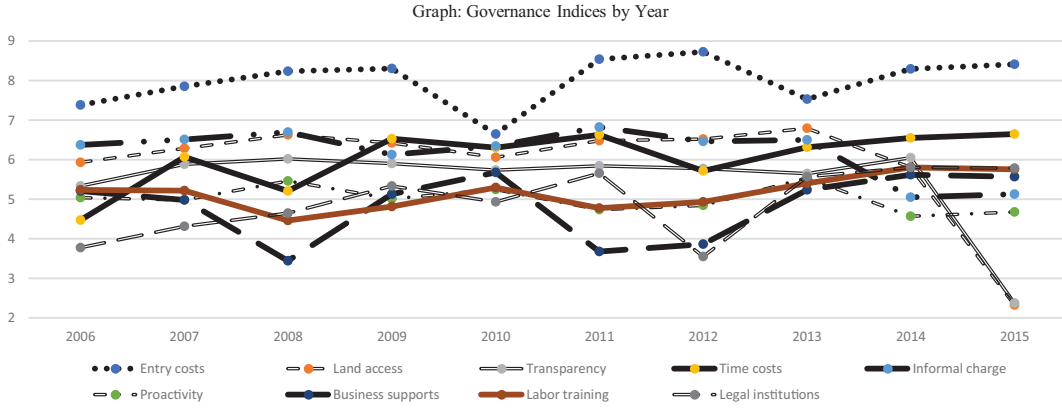
Note: The study panel encompasses all 63 provinces and municipal cities in Vietnam in the period 2006–2015, obtained from the Provincial Competitiveness Index (PCI) dataset.

Appendix 2
Table: Pairwise Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Reinvestment (1)															
Transparency (2)	0.09														
Corruption (3)	0.00	0.41													
Proactivity (4)	0.02	0.22	0.45												
Law enforcement (5)	−0.02	−0.08	0.16	0.18											
Government loans (6)	0.02	0.01	0.02	0.01	−0.04										
Bank loans (7)	−0.05	−0.12	−0.01	−0.02	−0.24	0.07									
Informal finance (8)	0.00[a]	0.06	0.01	−0.05	−0.33	0.09	0.59								
Firm size (9)	−0.30	0.14	0.14	0.09	−0.06	0.03	0.08	0.09							
Firm age (10)	−0.14	−0.04	−0.02	0.03	0.05	0.03	−0.09	−0.10	0.03						
Owner gender (11)	0.00	−0.04	−0.02	−0.02	−0.01	0.02	0.02	0.01	0.03	−0.03					
Owner age (12)	−0.09	−0.06	0.04	0.06	0.01	0.02	−0.06	−0.09	0.04	0.39	0.01				
Distance (13)	−0.05	−0.34	0.08	0.04	−0.02	0.02	−0.14	−0.21	0.04	0.11	0.02	0.17			
Density (14)	0.00	0.00	−0.34	−0.27	−0.04	−0.05	0.04	0.11	−0.20	−0.07	−0.04	−0.14	−0.68		
Consumption (15)	−0.05	−0.25	−0.43	−0.36	0.08	−0.06	0.01	−0.02	−0.30	−0.01	−0.03	−0.10	−0.53	0.81	
Labor (16)	−0.03	0.01	0.36	0.25	0.10	0.01	−0.03	−0.14	0.07	0.08	0.04	0.12	0.35	−0.59	−0.52

Note: All correlation coefficients are significant a 1 percent, except for those with [a]mark are significant at 5 percent.

Appendix 3



Appendix 4
Pairwise Correlation Matrix of All PCI Governance Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Entry costs (1)								
Land access (2)	0.24							
Transparency (3)	0.00[b]	0.52						
Time costs (4)	0.16	0.25	0.02					
Informal charge (5)	0.26	0.66	0.34	0.30				
Leadership proactivity (6)	0.08	0.45	0.29	0.38	0.47			
Business supports (7)	−0.42	−0.45	0.12	−0.04	−0.40	−0.06		
Labor training (8)	−0.23	−0.46	−0.05	−0.03	−0.43	−0.03	0.63	
Legal institutions (9)	0.05	0.10	−0.05	0.49	0.16	0.21	0.14	0.07

Note: All correlation coefficients are significant at 1 percent, except for those with [b]mark that are not significant at 10 percent.