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ABSTRACT
This study investigates the impacts of regional informal institutions and local governance arrangements on the revenue growth of both male- and female-run firms in Vietnam. Utilizing institutional theory and the literature on feminism, we argue that male- and female-run firms are responsive to different sets of institutions. Analysing more than 1.1 million observations in 11 years (2006–16), we find that female-run firms benefit from collective action norms and non-finance-related governance forces, while male-run firms perform better under pro-entrepreneurship norms and finance-related governance forces.

KEYWORDS
collective action norms; pro-entrepreneurship norms; local governance; institutional theory; Vietnam

INTRODUCTION
Institutions (rules and norms) are important to entrepreneurship, but especially affect female entrepreneurs (Acs et al., 2011), whose businesses are relatively small and hence vulnerable to local and regional environments (Watson, 2002). However, the extant literature has paid little interest to examining the effects of institutions on female-run firms. Some prior work investigating the topic stops short at matching formal institutions (rules of laws) against the likelihood of women starting up in business (Estrin & Mickiewicz, 2011). These analyses have two salient drawbacks. First, they ignore the roles of informal institutions (norms) and the institutions of governance (the execution of the rules of laws at a local level). These two dimensions of institutions, according to Williamson (2000), significantly shape entrepreneurs’ incentives, behaviours and performance. Second, previous studies simply identify which institutions are (not) beneficial to female entrepreneurship with an assumption that those forces that are conducive to male entrepreneurship are, as a matter of course, not beneficial to female entrepreneurship, and vice versa (Estrin & Mickiewicz, 2011; Powell & Eddleston, 2013).

This study addresses such gaps in the literature by (1) focusing on the roles played by informal institutions and local governance; and (2) examining how female and male entrepreneurs respond to different dimensions of informal institutions and local governance. We subscribe to social feminist theory (Fischer et al., 1993) to suggest that men and women are inherently different by nature. Therefore, the self-perception and reaction to external institutional environments are gendered (Orser et al., 2010). Differential processes in responding to institutional arrangements may explain gendered differences in entrepreneurial performance.

We make use of the unique historical trajectory of Vietnam to identify the existence of collective action norms and pro-entrepreneurship norms. In the Vietnamese context, collective action norms come about through a social structure in which the village was the foundational administrative unit, with villagers working together to provide public goods, communal services and property registers (Dell et al., 2018). Pro-entrepreneurship norms, on the other hand, are generated by a social structure in which pro-Western authorities boost capitalist values and governance systems, encouraging international trading, private businesses and entrepreneurship (Nguyen et al., 2018). These informal institutional forces emerged from a long history and are embedded in the local traditions, values and customs that may exert distinct impacts on local male and female entrepreneurship.
We also assess a miscellany of local governance arrangements to identify their dissimilar effects on the growth performances of both male- and female-run businesses. Specifically, we examine a set of governance arrangements related to implicit money transactions between entrepreneurs and the authorities (which we call finance-related governance forces) and a set of governance arrangements related to procedural regulations and the perceptible supports and services offered by local authorities (called non-finance-related governance). We argue that female entrepreneurs and male entrepreneurs may be responsive to different sets of governance forces.

Using a large and representative data set of more than 1.1 million observations of Vietnamese private firms (mostly small and very small businesses) across 11 years (2006–16), we find some evidence to support the heterogeneity of gendered entrepreneurship in relation to institutions. In particular, we find that female-run firms are better off interacting with collective action norms and non-finance-related governance forces, whereas male-run firms benefit from pro-entrepreneurship norms and finance-related governance forces.

This study makes three important contributions to the regional entrepreneurship literature. It is one of the first studies of female entrepreneurship that goes beyond the conventional formal institutional modelling to examine the importance of informal institutions and the institutions of governance. Second, it thoroughly investigates the effects of institutions on both male and female entrepreneurship to match gender-related issues to the appropriate institutional settings. Third, it proposes a multilayer, multifaceted analytical model of institutions that opens a novel research topic, extending our understanding of the linkages between institutions and gendered entrepreneurship.

HYPOTHESIS DEVELOPMENT

Institutions and gendered entrepreneurship

Institutions shape the context in which entrepreneurs operate, and therefore affect both the opportunities and risks that they face. Williamson (2000) proposes a hierarchy framework in which he places informal institutions – social embeddedness – at the most profound position in the institutional structure. The reason for this is that these unwritten institutional forces are the deepest rooted and regionally sticky (Fritsch & Storey, 2014; Fritsch & Wyrwich, 2014). Formal institutions are located at the second level and are easier to modify relative to informal institutions (Moodysson & Zukauskaite, 2014).

Williamson’s (2000) third level of institutions is governance. At this level, more attention is paid to understanding how the game is played regionally rather than deciphering the rules of the game (Charron et al., 2014). In other words, the institutions of governance are concerned with how the formal institutions are executed and implemented at the local level (Nguyen et al., 2018). This regional institutional dimension is particularly important to entrepreneurship in developing countries. The reason is that small businesses are typically bounded in their local markets, which are strongly shaped by local governance (Fritsch & Wyrwich, 2014; Nguyen, 2019). Meanwhile, the formal institutional frameworks in developing countries are incomplete and underdeveloped; as such, they may not be fully, consistently and efficiently executed across a country’s regions, but are rather more likely to depend on the interpretation and enforcement efficiency of local government (Du & Mickiewicz, 2016; Zhou, 2013). Unfortunately, regional institutions of governance remain largely underexplored in the extant literature. As such, in this study, we take a step further to propose that within a country (i.e., formal institutions are held constant) male and female entrepreneurs respond differently to local informal institutions and regional institutions of governance. Figure 1 summarizes the analytical framework of our study.

Collective action norms and pro-entrepreneurship norms

In the context of this study, informal institutions are captured by a set of historical events specific to Vietnam. In particular, we examine the importance of collective action norms and pro-entrepreneurial norms using the country’s unique historical trajectory over the past 150 years.

Dell et al. (2018) argue that the states in Northeast Asia were heavily influenced by Chinese statecraft (Sinic
states), while the states in Southeast Asia were largely impacted by Hindu–Buddhist statecraft imported from India (Indic states). The key difference between the two lays in the degrees of their collective action norms (Taylor, 1998). Specifically, Sinic states had well-developed tax systems, bureaucracies and legal codes. The village was the foundational administrative unit and villagers had to work together to provide public goods, maintain property registers and pay their village-level taxes to the central states (Cooke, 1994). As such, Sinic states are characterized by strong communal values, which were institutionalized and gradually became the bedrock of the collective action norms of doing business in these states (Dell et al., 2018).

In contrast, Indic states followed a more decentralized patron–client model. Peasants paid tribute to landowning patrons and received protections; patrons, in turn, had their own personalized relations with higher level patrons (Acharya, 2013). Powers were not clearly defined among the administrative layers and the village was not the central unit of administrative organization. Therefore, compared with Sinic states, the norms of doing business in Indic states were more individualistic rather than collective (Banerjee & Iyer, 2005).

Modern Vietnam is, interestingly, a combination of these two societies. Originally established from the North-east state of Dai Viet, which was governed by China for more than 1000 years, in 938, Dai Viet gained independence from China and expanded its territories to the southern parts of modern Vietnam, retaining all its Chinese statecraft characteristics, including the collective action norms (Lei & Chen, 2011). This remained the situation until 1883 when it was colonized by the French. The southern region, however, was historically embedded in Indic (Khmer/Cambodia) institutions (Chandler, 1983). Moreover, the southernmost section of Vietnam was only organized into Dai Viet administrative villages in 1698, a mere 150 years before the French colonization (Dell et al., 2018). Therefore, Dai Viet institutions had little time to erase and replace the Indic institutions that were embedded in the south.

During the Second World War, Vietnam was divided into two states that followed distinct institutional settings. Under the 1954 Geneva Accords, Vietnam was demarcated at the 17th Parallel into two states. North Vietnam followed the socialist blueprint from the outset, whereas South Vietnam was exposed to capitalism during the period 1954–75. During the period of partition, the authorities in North Vietnam spread socialist values and planned the economy by, inter alia, nationalizing enterprises, making illegal private properties/private businesses and discriminating against entrepreneurship. At the same time, in South Vietnam, pro-Western authorities were boosting capitalist values and governance systems, encouraging international trades, private businesses and entrepreneurship (Nguyen et al., 2018). The pro-entrepreneurship norms of doing business that originated from South Vietnam’s exposure to capitalism were retained after the two states reunited, in which respect, Vietnam is similar to East and West Germany (Fritsch & Storey, 2014).

Collective action norms and female-run firms

In this study, we argue that female entrepreneurs are more responsive to collective action norms. This expectation is built on the social capital, shared knowledge, and psychological benefits that female entrepreneurs obtain from collective action norms.

Social networking, defined as ‘the quantity and quality of an individual’s social connections’ (Heikkila et al., 2016, p. 1274), sometimes understood as a community-level construct, is a gendered process (Hanson & Blake, 2009). Also, women exposed to local collective action norms possess higher levels of social capital than women who are not in collective action norms since this type of norms helps facilitate the functioning of quasi-family communities. The social connections embedded in this type of norms provide female entrepreneurs with additional resources that are useful to the entrepreneurial process. For example, Powell and Eddleston (2013) examine a sample of 253 US entrepreneurs and reveal that females obtain more human, social and financial capital when they have strong linkages with families and local communities. Therefore, it is expected that collective action norms characterized by close social connections with local communities provide female entrepreneurs with more resources for expanding their businesses.

Shared knowledge is another mechanism that explains the positive association between collective action norms and female entrepreneurship. We follow Durbin (2011) to posit that knowledge can be created through networking; and women may interact and mingle in some specific ways that men do not (Ibarra, 1993). For example, Ibarra (1992) examines the networking patterns of 34 men and 45 women in a US company and concludes that while men are more likely to form homophilous ties (with other men), women evidence a differentiated network pattern in which they obtained social support from all accessible sources. These empirical evidence points to an expectation that female entrepreneurs, in the presence of active collective action norms, are able to extract knowledge and support from their local communities, and hence boosts their business performance.

Besides external resources, female entrepreneurs may also build higher levels of psychological confidence when supported by active collective action norms. For example, DeMartino and Barbato (2003), in a sample of 2840 US MBA entrepreneurs, document that two-thirds of female entrepreneurs in their sample structure their businesses around their personal life, whereas only 15% of male entrepreneurs do so. In this situation, local communities operating under active collective action norms may provide female entrepreneurs with family-like support and encouragement, helping them to balance domestic and professional tasks (Powell & Eddleston, 2013). These constructive social arrangements help increase female entrepreneurs’ psychological confidence in pursuing their entrepreneurship career pathway,
thereby boosting their intentions to grow, with consequent positive impacts on their business development (Eddleston & Powell, 2008).

In general, in the light of the previous empirical findings, we propose that social capital, shared knowledge and psychological confidence that female entrepreneurs extract from collective action norms may help them obtain more support and resources to improve their business growth. As such, we propose:

**Hypothesis H1**: In Vietnam, local collective action norms are positively associated with female-run businesses’ revenue growth.

### Pro-entrepreneurship norms and male entrepreneurship

In contrast to collective action norms, we propose that pro-entrepreneurship norms are conducive to male-run businesses. Pro-entrepreneurship norms in the context of Vietnam originate from capitalism, which conventionally regards entrepreneurship as a masculine career pathway (Nguyen et al., 2018). Empirically, Gupta et al. (2009), in the contexts of Turkey, the United States and India, show that even with the increase of female entrepreneurs recently, people still believe that entrepreneurship is a masculine career. In the context of Vietnam, Watson et al. (2014) evidently show that male entrepreneurs gain more access to resources associated with government pro-entrepreneurship policies; meanwhile, female entrepreneurs are still constrained due to societal prejudices.

Also, it has been shown that men, in general, demonstrate lower levels of risk aversion and a greater tendency to overconfidence (Benartzi & Thaler, 1995). These masculine characteristics apparently fit well into the environment typified by pro-entrepreneurship norms. Moreover, male entrepreneurial style is stereotypically performance driven, independent and competition based (Powell & Eddleston, 2013). These characteristics are translated into larger firm size, higher revenues, profits and exports in several empirical contexts characterized by active pro-entrepreneurship norms.

Further, male entrepreneurs do not face gender-related personal problems that are experienced by female entrepreneurs. For example, Setiawati and Kartini (2018), in a study of 180 West Java female entrepreneurs, show that their dominant entrepreneurial motivation is family oriented, consisting of having more time with their family and for housework. With the presence of pro-entrepreneurship norms, women are also more inclined to pursue an entrepreneurship career. They are nevertheless expected to maintain their social role as housewives taking care of domestic tasks (Du Rietz & Henrekson, 2000). As such, they are inevitably left behind male entrepreneurs, whose venturing activities are fully endorsed by the pro-entrepreneurship norms.

In sum, we argue that pro-entrepreneurship norms are more beneficial to male than female entrepreneurs in terms of social supports and access to productive resources (e.g., time). As such, we have:

**Hypothesis H2**: In Vietnam, local pro-entrepreneurship norms are positively associated with male-run businesses’ revenue growth.

### Non-finance-related governance and female entrepreneurship

Local governance indicates the public services and quality of local government that substantially reshape local entrepreneurs’ incentives and behaviours (Nguyen & Canh, 2020). In this study, we examine a miscellany of governance forces, which we separate into two dimensions: finance-related governance forces (e.g., corruption) and non-finance-related governance forces (e.g., business register regulations). We argue that female-run businesses are more responsive to non-finance-related governance quality. Meanwhile, male-run businesses are more responsive to finance-related governance quality.

Non-finance-related governance forces, in this study, denote the procedural regulations and perceptible supports and services offered by local authorities to the entrepreneurial sector. These governance arrangements could be the entry costs for new firms (the number of procedures and length of business registration in days), or business supports (provincial services for trade promotion, business partner matchmaking, the provision of industrial zones or clusters and technological services).

These services and supports are beneficial for female-run businesses because their firms are relatively small and resource constrained; also, female entrepreneurs are typically restricted in their access to the economic resources needed for entrepreneurship, including financial capital. This inferiority associated with female-run firms has been confirmed across the world, including China (Wang et al., 2019), Vietnam and Singapore (Gerrard et al., 2003). As such, a strong and inclusive set of procedural regulations and perceptible supports and services could have significant impacts on female-run firms.

Also, since men’s and women’s political attitudes diverge, they may play the institutional game differently. Specifically, women are less interested in political issues and less active in participating in addressing governance problems than men (see Diekman & Schneider, 2010, for a theoretical discussion). This is particularly the case in Southeast Asian countries with Eastern cultural values. For example, Gerrard et al. (2003), in a study of 75 Vietnamese female entrepreneurs, show that they have intense Confucian mindsets, leading to ignorant attitudes towards political issues. Similarly, Wang et al. (2019), using a multiregional sample of 206 Chinese entrepreneurs, demonstrate that Chinese women entrepreneurs have more negative perceptions of the regulative institutional environment than their male counterparts due to their limited political ties and lower legitimacy in economic activities in the country. As such, they conclude that improved foundational procedural regulations and
perceptible supports and services are essential to female start-ups.

In light of the previous findings, it is expected that a set of well-structured regulations with comprehensive public services and supports helps female entrepreneurs obtain resources and improve the performance of their businesses. Therefore, we have:

Hypothesis H3: In Vietnam, improvements in local non-finance-related governance forces are positively associated with female-run businesses’ revenue growth.

Finance-related governance and male entrepreneurship

Whereas non-finance-related governance concerns the official regulations published by local governments, finance-related governance forces incorporate the governance arrangements related to implicit money transactions between entrepreneurs and authorities (such as bribery). These governance forces are concerned with informal policies and the quality of government and include factors such as administration transparency and corruption (Malisky et al., 2015). As such, finance-related governance is related to the process through which officials deliver public services and has to do with their rent-seeking behaviours.

From the theoretical viewpoints, whether these governance forces exert stronger or weaker effects on male-run firms relative to female-run firms remain an open question. On the one hand, male-run firms could reap more benefits than female-run firms from weak finance-related governance (e.g., corruption). The reason is that male entrepreneurs are more likely than females to engage in political issues and participate in wider political networks. Estrin and Mickiewicz (2011), in a study of 55 countries, show that informal social networks for resource acquisition tend to be male dominated. This may enhance the chances that they successfully grab public contracts, leading to higher revenues performance. Moreover, also thanks to their being involved in political networks to a greater extent, they could exploit the weaknesses of local governance (e.g., corruption) to seek economic rents. Evidently, De Jong et al. (2012), in the context of Vietnam, show that bribery allows entrepreneurs to develop and foster a network of informal relationships with public officials, and reap the accompanying benefits. However, they also find that bribery is associated with several disadvantages; and suggest a hill-shaped non-monotonic relationship between bribery and revenues. This line of arguments leads to an expectation that improvements in finance-related governance are negatively associated with male-run firms’ revenue growth.

However, another line of arguments suggests that male-run firms benefit more from improvements of finance-related governance, for the following reasons. First, once again, since male entrepreneurs are more likely than females to engage in political issues and participate in wider political networks, it may put them firmly on the radar of corrupt officials. Meanwhile, male-run firms are typically more active than female-run firms in economic activities such as making high-value and long-term investment projects (e.g., research and development – R&D) (Strohmeyer et al., 2017), and expanding businesses to non-traditional industries (e.g., cleantech) (Anna et al., 2000). This puts their owners into situations that rely heavily on customized public services and requires them to build up strong back-door relationships with their local authorities. As such, male entrepreneurs are expected to be more responsive, in a positive way, to finance-related governance (e.g., bribery) in comparison with their female colleagues.

Meanwhile, there is strong evidence that females uphold a higher ethical standard, are less selfish and are simply less willing to engage in bribery actions. For example, Johnson et al. (2018) show in their experimental studies that it is because of these upright characteristics, women are more likely to obtain crowdfunding. In addition, Lan and Hong (2017), also using experimental methods, demonstrate that males give larger bribes in private contexts than in public, whereas females give smaller bribes in both contexts. At the same time, male entrepreneurs are more focused on winning and outperforming others (performance driven) than females (Lan & Hong, 2017). As such, to achieve this end, male entrepreneurs would be conceivably more likely to both bribe and pay higher bribe values than females.

Following this line of arguments, male entrepreneurs need to expend more resources (finance, capital and time) to play the bribery game, and these unproductive activities may distract them from entrepreneurial tasks, thereby harming their ventures’ performance. As such, we expect male entrepreneurs to be more responsive, in a positive way, to improvements in local finance-related governance forces than females.

Given that there are two contrasted expectations following the two strands of the literature, ultimately, the relative impacts of finance-related governance on male- and female-run firms is an empirical question. Even though we state hypothesis H4 following the literature arguing for the positive impacts of improvements of finance-related governance on male-run firms, we remain open to the possibility that improvements of finance-related governance are negatively associated with male-run firms. Therefore, we have:

Hypothesis H4: In Vietnam, improvements in local finance-related governance forces are positively associated with male-run businesses’ revenue growth.

DATA AND METHODOLOGY

Data

The empirical context of this study is Vietnam, where discrimination against females is still rife (Coxhead et al.,
The country thus fits well into the theoretical settings of this study. To test the proposed hypotheses, we employ the Annual Enterprise Survey data set provided by the Vietnam General Statistics Office (GSO). The survey was first conducted in 2000, and the data set has been updated annually. The data set provides comprehensive information about firms’ financial characteristics, employment, investment, and performance. The scope of the survey comprises both manufacturing and service industries and includes all types of ownership. The panel data obtained from GSO is 17 years, from 2000 to 2016. It is by far the most comprehensive and representative data set of the business community in Vietnam.

The period of analysis in this study is scaled down to 11 years, from 2006 to 2016, to match with the second data set, the Provincial Competitiveness Index (PCI), a joint product of the Vietnam Chamber of Commerce (VCCI) and the US Agency for International Development (USAID). This data set is a panel of provincial governance quality. The quality is scored from 0 to 100: the higher the score, the better the governance quality. The PCI is calculated on a survey of more than 17,000 domestic firms and 1700 foreign firms across provinces in Vietnam. In 2006, it became available for all provinces and has been updated annually.

We combine the firm-level GSO data set with the provincial level PCI data set to create a multilevel panel of 11 years. Our population of interest in this study is private businesses. The data set is unbalanced and requires cleaning before use. As such, we drop all observations that have meaningless accounting reports. We control the outliers by censoring the top and bottom 1% of observations in each variable. The final sample in our study thus includes 1,115,577 observations of domestic private businesses. The number of firms per year varies from 22,387 in 2006 to 218,601 in 2016, in which the number of micro-firms (firms that have fewer than 10 employees), which accounts for 56.8% of the total sample on average, varies from 17,582 in 2006 to 109,555 in 2016.

**Variables and summary statistics**

The dependent variable of interest in this study is firm performance measured by *revenue growth*, which is the percentage change in revenues between two consecutive years. We use firm growth instead of annual revenue values to reduce the effects of unobserved firm-specific characteristics on firm performance (Nguyen et al., 2018).

The independent variables are a set of informal institutions and local governance. We measure collective actions norms (north of Vietnam) and pro-entrepreneurship norms (south of Vietnam) using three dummy variables: *North*, which takes a value of 1 if a firm is located to the north of Vietnam (above the 17th Parallel), and 0 otherwise; *Daiviet*, which takes a value of 1 if a firm is located in the former Daiviet territories identified before 1698, and 0 otherwise; and *Daiviet Pure*, which takes a value of 1 if a firm is located in the former Daiviet territories, excluding firms in Hanoi (the capital and second-largest business hub), and 0 otherwise, excluding firms in Hochiminh (the largest business hub). This third variable is intended to eliminate the effects caused by recent interactions between modern cities, which may weaken the effects of the informal institutions. The number of observations in Daiviet Pure (after excluding the two largest cities) is 401,640, which is 36% of the total sampled observations. It is noteworthy that value 1 in all three variables indicates the existence of collective action norms, while 0 specifies pro-entrepreneurship norms.

We construct local governance variables using a set of nine PCI sub-indices. Using the principal factor analysis technique to analyse the correlation among the indices, we observe that the eigenvalues suggest the existence of two factors. Three indices (land access, transparency and corruption) load on factor 1 (alpha = 0.81) while the other six (time costs, leadership proactivity, business supports, labour training, entry costs and legal institutions) load on factor 2 (alpha = 0.72).

Land, in the context of Vietnam, is regulated as a common property owned by the government and administered by local authorities. Land access, the security of tenure and the ease with which operation permits are granted depend largely on the arbitrary decisions of government officials (Makino & Tsang, 2011). As such, together with corruption and transparency, land access is one of the most crucial governance arrangements that attract bribery activities (Malesky et al., 2015). Therefore, we name this factor *finance-related governance*. The other six indices are more to do with procedural regulations and the perceptible supports and services offered by local authorities and are therefore named *non-finance-related governance*.

Following the extant literature, we include a set of covariates that may influence firm growth. At the firm level, we control for firm size, firm age, investment and industry. These variables represent firm- and industry-specific characteristics that significantly determine firm performance. At the entrepreneur level, we control for owner age and education. These individual-specific factors play an essential role in determining firm performance because they indicate the knowledge and experience associated with the entrepreneurs, which may markedly influence their ability to recognize and evaluate business opportunities (Nguyen, 2018). At the provincial level, we include three variables: provincial consumption per capita and local population density, which control for local market demands; and working population, which controls for local human resource supply. The definition and summary statistics of these variables are presented in Table 1. The pairwise correlation matrix is presented in Appendix B in the supplemental data online.
In general, the summary statistics indicate that the average annual revenue growth rate is approximately 10.5%. Interestingly, female-run firms do not necessarily achieve a lower growth rate compared with male-run firms. Furthermore, there are more female-owned firms in regions endowed with collective action norms, while there are more male-owned firms in regions endowed with pro-entrepreneurship norms.

Table 1. Variable definition and summary statistics.

<table>
<thead>
<tr>
<th>(1) Variable</th>
<th>(2) Definition</th>
<th>(3) Total sample mean</th>
<th>(4) Female</th>
<th>(5) Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue growth North</td>
<td>Percentage of net revenue growth over two consecutive years</td>
<td>0.142</td>
<td>0.148</td>
<td>0.139</td>
</tr>
<tr>
<td>Daiviet</td>
<td>Takes a value of 1 for firms located in the original Daiviet territories, 0 otherwise.</td>
<td>0.575</td>
<td>0.606</td>
<td>0.541</td>
</tr>
<tr>
<td>Daiviet Pure</td>
<td>Takes a value of 1 for firms located in the original Daiviet territories (save for firms in Hanoi), 0 otherwise (save for firms in Hochiminh).</td>
<td>0.282</td>
<td>0.345</td>
<td>0.247</td>
</tr>
<tr>
<td>Finance-related governance</td>
<td>Average of three PCI sub-indices: corruption; transparency; and land access</td>
<td>5.331</td>
<td>5.327</td>
<td>5.339</td>
</tr>
<tr>
<td>Non-finance-related governance</td>
<td>Average of six PCI sub-indices: time costs; proactivity; business supports; labour training; entry cost; and legal institutions</td>
<td>5.924</td>
<td>5.959</td>
<td>5.929</td>
</tr>
<tr>
<td>Owner age</td>
<td>Age of entrepreneurs (years)</td>
<td>42.312</td>
<td>41.725</td>
<td>42.675</td>
</tr>
<tr>
<td>Owner education</td>
<td>Takes a value of 1 for no degrees, 2 junior technical degrees, 3 senior technical degrees, 4 professional vocational degrees, 5 college degrees, 6 bachelors, 7 for masters and 8 for doctoral level</td>
<td>5.634</td>
<td>5.440</td>
<td>5.407</td>
</tr>
<tr>
<td>Firm size</td>
<td>Natural logarithm of the number of employees (reported here as the number of employees)</td>
<td>16.250</td>
<td>15.693</td>
<td>25.895</td>
</tr>
<tr>
<td>Firm age</td>
<td>Years since establishment of the firm</td>
<td>6.123</td>
<td>6.240</td>
<td>6.502</td>
</tr>
<tr>
<td>Investment</td>
<td>Ratio of firm investment values to total capital</td>
<td>0.379</td>
<td>0.361</td>
<td>0.385</td>
</tr>
<tr>
<td>Provincial consumption</td>
<td>Provincial consumption value per capita (million VND)</td>
<td>26.917</td>
<td>27.789</td>
<td>25.586</td>
</tr>
<tr>
<td>Population density</td>
<td>Provincial population density (persons/km²)</td>
<td>2313</td>
<td>2370</td>
<td>2201</td>
</tr>
<tr>
<td>Labour supply</td>
<td>Working population in a province (thousand persons)</td>
<td>3035</td>
<td>3081</td>
<td>2922</td>
</tr>
</tbody>
</table>

| %                        | 100%                           | 27.723%               | 72.277%    |

Note: Number of observations is 1,115,577 firm-years in Vietnam in the period 2006–16. All values are deflated to 2010 prices using the official gross domestic product (GDP) deflator.
**Specification and estimation**

Based on the conventional revenue growth model, we propose the following expanded reduced-form equation:

\[
\text{Revenue growth}_{itg} = \beta_0 + \beta_1 (\text{Firm controls}_{itg}) + \beta_2 (\text{Owner controls}_{itg}) + \beta_3 (\text{Province controls}_{itg}) + \beta_4 (\text{Collective action norms}_{itg}) + \beta_5 (\text{Finance-related governance}_{itg}) + \beta_6 (\text{Non-finance-related governance}_{itg}) + \nu_j + v_t + \nu_i + \mu_i
\]

(1)

where \(i\) denotes an individual firm; \(g\) is the province; and \(t\) is a year. Therefore, \(\text{Revenue growth}_{itg}\) is the revenue growth rate that firm \(i\) in province \(g\) achieves in year \(t\). The term \(\text{Firm controls}_{itg}\) comprises the variables firm age, labour size and investments; \(\text{Owner controls}_{itg}\) includes owner age and education variables; \(\text{Province controls}_{itg}\) has provincial consumption per capita, population density and labour supply; \(\text{Collective action norms}_{itg}\) is a vector of three dummy variables: North, Daiviet and Daiviet Pure, which represent the existence of collective action norms. Finally, \(\text{Finance-related governance}_{itg}\) and \(\text{Non-finance-related governance}_{itg}\) represent the two distinct dimensions of local governance.

In addition, the equation includes an industry-specific component \(\nu_j\), a time-specific component \(v_t\) and time-invariant regional characteristics \(v_q\), which are controlled by their corresponding dummies. Also, we cluster standard errors to the provincial level. The term \(v_i\) represents all the time-invariant, firm-specific factors that may influence firm performance. Finally, \(\mu_i\) is the idiosyncratic error.

Since there are two sets of institutional forces under investigation, that is, regional informal institutions and provincial governance quality, we employ two estimation strategies correspondingly. First, to identify the impacts of collective action norms and pro-entrepreneurship norms on firm revenues, we employ a fixed-effects (FE) technique. FE is feasible in our case because there are several firms moving across north–south regions in the study window. Specifically, there are 7635 firms moving across the regions, in which 4198 firms moved from the north to the south of Vietnam and 3473 moved in the opposite direction. Details of the numbers of moving firms by year are presented in Appendix E in the supplemental data online. Also, it is noteworthy that informal institutions are sticky and stable over time (Fritsch & Mueller, 2007). Therefore, we do not expect endogeneity-related issues stemming from the reverse effects of firm performance to informal institutions. Given these features of the specification, we propose FE as an appropriate estimator. However, in our study period, firms moved across regions either come to Hanoi or Hochiminh only. As such, for the variable Daiviet Pure – where firms in the two cities are excluded, FE technique becomes invalid. We thus employ random effects (RE) for this particular specification.

In terms of local governance, prior studies indicate that firm growth imposes impacts on local governance quality, which would cause a reverse effect (Tran, 2019). Therefore, following Nguyen et al. (2018), we employ four variables as the instruments for local governance quality. The first instrumental variable (IV) is the period a provincial leader holds office. The longer the holding time, the more likely that local governance quality gets either better or worse, depending on the leader’s governance. Therefore, we hold a neutral expectation about the correlation of this IV and the quality of local governance. The second IV is ‘leader switch’ – a dummy that takes a value of 1 if there is a change of provincial top governor in a year, and 0 otherwise. A change in provincial leaders indicates a new governance system and style. Once again, this change could be associated with governance quality improvements or deteriorations. The last two IVs are the ‘third year’ and ‘fifth year’ dummies, which take value of 1 if a leader is in the third/fifth year of her tenure, and 0 otherwise. According to the data, leaders are most likely to be changed every three years. Also, the fifth year is important because it is the last year in the five–year tenure period regulated by the central government. These two time points are related to local governance quality because leaders are more likely to engage in opportunistic behaviours approaching the termination of their appointments, which lead to impaired governance quality. In general, these variables are highly correlated with local governance quality; However, they have little influence on firm growth (see Nguyen et al., 2018, for more details).

Finally, to reduce concerns with endogeneity caused by reverse effects from the control variables, we use one-year lag values of the variables firm size and investments in all specifications.

**RESULTS**

**Main results**

The regression results are presented in Tables 2 and 3. The variance inflation factor (VIF) tests suggest there is no significant multicollinearity in our specifications. In Table 2, the coefficients associated with the North and Daiviet Pure variables in columns (1) and (5) are positive and statistically significant. These findings indicate that collective action norms embedded in Daiviet informal institutions (north of Vietnam) provide support for women and help improve the performance of their business ventures. Since the coefficient associated with Daiviet in column (3) is not statistically significant, hypothesis H1 is supported to some extent.

Meanwhile, the coefficients associated with the North and Daiviet variables in columns (2) and (4) are negative and statistically significant, indicating that male-run firms in the south of Vietnam achieve better growth rates than those in the north. These findings thus imply that pro-entrepreneurship norms established from the period when the region was exposed to capitalism help
male entrepreneurs obtain some competitive advantages. However, the coefficient associated with Daiviet Pure in column (6) is not statistically significant; as such, hypothesis H2 is supported to some extent.

In terms of the economic size of the coefficients, the regression results show that female-run firms located in the north of Vietnam, on average, achieve annual revenues that are 1.97% higher than female-run firms located in the south of Vietnam (column 1, Table 2), ceteris paribus. This gap is, according to the institutional theory, due to the match between male entrepreneurs’ management styles and the pro-entrepreneurship norms in the north.

Table 3 reports the results of local governance. The coefficients associated with finance-related governance in columns (1) and (2) are positive and significant. However, the economic size of the coefficient in the male specification is more than three times greater than the coefficient in the female specification. Even though these coefficients are not directly comparable since they are obtained from two different subsamples, this finding provides some initial evidence that male-run firms are more sensitive to finance-related governance forces than female-run firms. Turning to the non-finance-related governance variable, its coefficients in columns (3) and (4) are positive, but only statistically significant in column (3). The two coefficients are, once again, incomparable. However, they could give us some initial evidence that female entrepreneurs are responsive to non-finance-related governance forces, while male entrepreneurs are not.

To compare the relative importance of the two governance forces, we run two lump-sum specifications for both
related governance forces is statistically significant in both specifications. As such, we conduct a two-tailed t-test of the equality of the coefficients associated with the two variables in each specification. The t-test results indicate that the coefficients are not equal (the difference between the two governance variables is significant at 5% level). Specifically, in column (5) – female-run firms – the result shows that the effect of non-finance-related governance forces is statistically significantly larger than the effect of finance-related governance forces. This finding indicates that female entrepreneurs are more responsive to non-finance-related governance than to finance-related governance. As such, hypothesis H4 is supported. This finding thus echoes the strand of literature arguing for the burden associated with the intensive engagement in political issues and participation in wider political networks of male entrepreneurs. We do not find evidence to support the arguments that male entrepreneurs, thanks to their being involved in political networks to a greater extent, could exploit the weaknesses of local governance (e.g., corruption) to seek economic rents.

In terms of the economic size of the coefficients, the regression results (column 5, Table 3) show that female-run firms are twice more responsive to non-finance-related governance (0.99) than to finance-related governance (0.40). This is due to the smallness and disadvantages associated with female-run firms, making them more reliant on procedural regulations and perceptible supports and services offered by local authorities. Meanwhile, the regression results (column 6, Table 3) show that male-run firms are five times more responsive to finance-related governance than to non-finance-related governance. As such, hypothesis H4 is supported. This finding thus echoes the strand of literature arguing for the burden associated with the intensive engagement in political issues and participation in wider political networks of male entrepreneurs. We do not find evidence to support the arguments that male entrepreneurs, thanks to their being involved in political networks to a greater extent, could exploit the weaknesses of local governance (e.g., corruption) to seek economic rents.

### Table 3. Regression results – local governance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1) Female</th>
<th>(2) Male</th>
<th>(3) Female</th>
<th>(4) Male</th>
<th>(5) Female</th>
<th>(6) Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance-related governance</td>
<td>0.074***</td>
<td>0.251***</td>
<td>0.309***</td>
<td>0.094***</td>
<td>1.148***</td>
<td>0.213***</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.021)</td>
<td>(0.078)</td>
<td>(0.112)</td>
<td>(0.046)</td>
<td>(0.157)</td>
</tr>
<tr>
<td>Non-finance-related</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>governance</td>
<td>β₂</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner age</td>
<td>−0.004***</td>
<td>−0.004***</td>
<td>−0.005***</td>
<td>−0.006***</td>
<td>−0.004***</td>
<td>−0.004***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Owner education</td>
<td>−0.083***</td>
<td>−0.085***</td>
<td>−0.073***</td>
<td>−0.087***</td>
<td>−0.068***</td>
<td>−0.043***</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.002)</td>
<td>(0.005)</td>
<td>(0.003)</td>
<td>(0.006)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Firm size</td>
<td>−0.035***</td>
<td>−0.045***</td>
<td>−0.035***</td>
<td>−0.003</td>
<td>−0.020**</td>
<td>−0.014***</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.006)</td>
<td>(0.013)</td>
<td>(0.007)</td>
<td>(0.008)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Firm age</td>
<td>−0.028***</td>
<td>−0.011***</td>
<td>−0.032***</td>
<td>−0.018***</td>
<td>−0.024***</td>
<td>−0.012***</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Investment</td>
<td>0.329***</td>
<td>0.363***</td>
<td>0.340***</td>
<td>0.411***</td>
<td>0.312***</td>
<td>0.377***</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.012)</td>
<td>(0.029)</td>
<td>(0.019)</td>
<td>(0.018)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>Provincial consumption</td>
<td>0.005***</td>
<td>0.005***</td>
<td>0.018***</td>
<td>0.013***</td>
<td>0.004***</td>
<td>0.004***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.001)</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Population density</td>
<td>−0.246***</td>
<td>−0.315***</td>
<td>−1.113***</td>
<td>−0.892***</td>
<td>−0.352***</td>
<td>−0.491***</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.020)</td>
<td>(0.057)</td>
<td>(0.029)</td>
<td>(0.037)</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Labour supply</td>
<td>−0.311***</td>
<td>−0.214***</td>
<td>−0.706***</td>
<td>−0.494***</td>
<td>0.118***</td>
<td>0.195***</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.013)</td>
<td>(0.048)</td>
<td>(0.025)</td>
<td>(0.035)</td>
<td>(0.022)</td>
</tr>
</tbody>
</table>

Notes: The estimator is the instrumental variables (IV) technique. Hansen J p-value is the over-identification test. Sanderson–Windmeijer (SW) is the tests of weak instruments. All estimations include full sets of two-digit industry dummies, 11-year dummies and 63 provincial dummies. Standard errors and test statistics are clustered to provincial level and are asymptotically robust to heteroskedasticity. Variance inflation factor (VIF) is a test of multicolinearity. *Significant at 10%, **Significant at 5% and ***Significant at 1%.
governance (1.15) than to non-finance-related governance (0.21). This gap could be attributed to the nature of male-run firms. They are typically larger and more profitable than female-run firms. As such, they do not need much of local perceptible supports and services. However, since they face corruption to a greater extent, they are more likely to be responsive to local finance-related governance.

Robustness tests
We also conduct a set of robustness tests as follows: (1) exploring the effects of the nine PCI sub-indices; (2) investigating the new venture subsample; and (3) examining the effects by industries. The results obtained from these exercises are consistent with our key arguments and are reported in Appendix C in the supplemental data online.

DISCUSSION AND CONCLUSIONS

This study investigates the importance of informal institutions and the institutions of governance on male- and female-run businesses. Specifically, it aims to answer the question of whether male and female entrepreneurs are responsive to different sets of institutions. Testing our hypotheses in the context of Vietnam using a large and representative data set of more than 1.1 million firm-year observations in 11 years (2006–16), we find some initial evidence that supports the heterogeneity of gendered entrepreneurship in relation to institutions.

This study makes three important contributions to regional entrepreneurship literature. First, it is one of the first studies on female entrepreneurship that goes beyond the conventional institutional modelling that focuses solely on national institutions. The theoretical framework in this study allows regional informal institutions and local governance institutions to play a role in determining entrepreneurial performance. Prior work has paid substantial research attention to national-level formal institutions, such as government spending and the rules of law (Acs et al., 2011; Estrin & Mickiewicz, 2011). Standing in sharp contrast to this body of literature, we argue that female-run businesses, due to their smallness and feminine characteristics, may be more sensitive to the contextual norms of doing business and the local governance arrangements than to the very broad national constitutional frameworks.

Second, this study is one of the first that thoroughly investigates the effects of different sets of institutions on both male and female entrepreneurship. Gender issues in the entrepreneurship literature have been conventionally investigated under the implicit assumption that the institutional settings that work for males will not work for females, and vice versa. In this study, we do not simply identify the institutions that are (not) beneficial to female entrepreneurship but aim to match entrepreneurs’ gender to the appropriate institutional settings. Our finding that entrepreneurship is a gendered process, not only in terms of management style but also in the way that entrepreneurs respond to external stimuli and environments, opens a novel research direction that highlights the importance of gendered responses to different institutional forms.

Third, this study suggests a multifaceted model of institutions. Previous studies usually employ a lump-sum model to examine the impact of general formal institutions on entrepreneurship. In this study, we suggest that for each level of institutions, there are disparate dimensions that are worth being examined separately.

This study is not without limitations that should be acknowledged but which also provide potential avenues for future research. First, the statistical results obtained in this study are relatively weak and $R^2$ values are quite low. As a consequence, some hypotheses are supported to a very feeble extent. As such, the implications of the results should be taken with substantial carefulness. Second, the data set employed in this study is country specific. One of the main weaknesses of a country-specific research design is that we only observe within-country effects, which is translated into fixed formal institutions (rules of law). Future research should therefore retest the validity of our findings using a multi-country data set with longer survey periods. Also, due to data limitations, we only examine two dimensions of informal institutions, that is, collective action norms and pro-entrepreneurship norms. Future studies might address this issue by examining other dimensions of informal institutions, including institutional voids (Stephan et al., 2015).

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DISCLOSURE STATEMENT

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NOTES

1. Social capital is an attribute at both individual level and community level (Hanson & Blake, 2009; Putnam, 1993).
2. For the full list of governance forces and detailed descriptions, see Appendix A in the supplemental data online.
3. For more information about the sampling survey, see Appendix F in the supplemental data online.
4. Appendix D in the supplemental data online shows the structure of the data.
5. Only the first two eigenvalues are > 1.
6. We also conduct an analysis on each of the nine PCI indices. The results, presented in Appendix A3.1 in the supplemental data online, are consistent with the two-polar framework we propose in this study.
7. Community action norms may be important for the establishment of socialism in the North. However, we do not expect socialism to contribute to entrepreneurship.
8. The estimation in specifications (5) and (6) is RE instead of FE. The reason for this is that, when Hanoi and Hochiminh are excluded, no firms move between the two regions (north and south of Vietnam). This makes FE inappropriate for specifications (5) and (6).
9. We do not expect the Indic decentralized patron-client social model in the South to contribute to entrepreneurship.

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

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