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# Subnational home market bias in Vietnam: Evidence from enterprise-level data

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## 1 | INTRODUCTION AND BACKGROUND

Small and medium-sized enterprises (SMEs) are the backbone of Vietnam's economy. They account for 45% of gross domestic product, 97.6% of enterprises and 51% of total employment in 2014 (Malesky, 2016). Globally, SMEs contribute 50% of output and comprise 60–70% of employment and have been the main contributors to the industrialisation and growth of some countries such as Germany (International Trade Centre, 2015). Because of their relative contributions to output and employment, SMEs have the potential to be growth engines if the multitude of internal and external operational challenges they face are resolved through policies that allow SMEs to "connect, compete and change" (International Trade Centre, 2015). Recognising this potential, on 12 June, 2017, Vietnam's National Assembly passed the Law on Support for Small- and Medium-sized Enterprises (KPMG, 2017).<sup>1</sup> The new law builds on two previous plans to develop and increase the competitiveness of the country's SMEs.<sup>2</sup> The new law provides a wide range of general support, from credit access (Article 8) to human resource development

<sup>1</sup>English version of the law (National Assembly Law No. 04/2017/QH14) is available at <http://vbpl.vn/tw/Pages/vb-pqen-toanvan.aspx?ItemID=11095>. Throughout the paper, SMEs' broad definition which includes microenterprises is used.

<sup>2</sup>Decree No. 56/2009/NĐ-CP dated 30 June, 2009 approved the first comprehensive approach to aid the development of SMEs in Vietnam while Decision No. 1231/QĐ-TTg dated 7 September, 2012 approved Vietnam's 2011–15 Small and Medium Enterprises Development Plan.

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(Article 15). The new law also provides specific support for household enterprises and innovative SME start-ups (Articles 16–20). Most important for our purposes are support for SME market expansion through product distribution chains (Article 13) and SME participation in value chains (Article 19). For example, the law provides exemptions or reductions in enterprise income tax for organisations investing in or operating product distribution chains involving at least 80% SMEs supplying made-in-Vietnam products (Article 13). The law also provides in-depth training in production technology or help with product development to qualified SMEs (Article 19). Enhancing SME competitiveness sets the stage for them to be a major contributor to Vietnam's growth in the coming decades.

Opportunities for foreign and domestic market expansion are options available to Vietnam's SMEs. Available data show that the country's SMEs are not only domestic-market oriented, and their activities are highly localised. As described in detail below, among enterprises in the survey data we use, 27–29% of the sales of their most important product are to entities in their home communes, and 81–84% of sales are to entities in their home provinces. Understanding why SME sales are highly localised is important as over reliance on a single market exposes SMEs to idiosyncratic risks associated with this one locale. Market diversification not only minimises market demand risks but also makes possible the sourcing of lower cost inputs. However, market diversification is not costless as it entails additional resource commitments from SMEs. For SMEs to take advantage of opportunities in foreign markets, there is a need to understand why they have much difficulty in selling beyond their home markets in the first place. Is this due to size and other enterprise characteristics? Or is the home (market) bias due to the quality of governance prevailing not only in SMEs' home market (i.e., home province), but also in other potential markets (i.e., other provinces) in Vietnam? This last point is crucial as the new law on supporting SMEs gives provincial administrators responsibilities to carry out certain provisions of the law (Articles 11, 18 and 25). For example, subject to local government finance conditions, provincial officials are tasked to develop industrial clusters or processing zones for SMEs in their jurisdictions, or to provide rental support for SMEs in industrial parks through subsidies to industrial park investors (Article 11). Complementary policies across Vietnam's provinces are critical if product distribution chains and value chains are to span the whole country.

If SME sales are highly localised, does this mean that Vietnam's domestic market is highly fragmented?<sup>3</sup> If so, this by itself has implications on the conduct of macroeconomic policy and development of policies to minimise the observed income disparity across regions. Latest data (2016) show wide variation in monthly current per capita income ranging from a little over VND5.1 million (about US\$230 at the mean rate of VND22,380/US\$ in 2016) in Ho Chi Minh City to VND1.2 million (about US\$54) in Dien Bien province (General Statistics Office of Vietnam, 2018). Poverty rates are highest in the northern midlands and mountain areas with the provinces of Dien Bien and Lai Chau having the highest poverty rates at 26.1 and 27.9%, respectively. Provinces in the southeast have the lowest poverty rates with Ho Chi Minh City and Binh Duong province achieving zero poverty rate since 2013 and 2014, respectively (General Statistics Office of Vietnam, 2018).

This paper contributes to the home bias (trade) literature where administrative or political borders limit trade across borders. First documented by McCallum (1995) wherein 44% of Canada's exports are within province shipments, 23% are shipments to other Canadian provinces, and the balance are shipments to the United States (24%) and the rest of the world in 1988. Conditional on trade partners' distance to each other and economic size, McCallum finds that trade among Canadian provinces is

<sup>3</sup> Available data show variation in the cost of living across the country's regions. For example, for tradeable items such as food, prices in the Central Highlands (Mekong River Delta) are 5.41 (5.17) % higher (lower) than food prices in the Red River Delta in 2015. Garments and footwear prices are 8.73% higher in the Midlands and Northern Mountain areas than in the Red River Delta (General Statistics Office of Vietnam, 2018).



17–29 times the trade between Canadian provinces and US states. That is, there is home bias or national borders matter (border effect). A widely accepted explanation is that national political borders proxy for tariffs and non-tariff barriers, as well as other trading costs such as customs clearance and exchange rate conversions. Home bias is also observed using subnational (province or state) data. For example, Wolf (2000) documents that intrastate exports range from 20% (Delaware) to more than 60% for California, Florida, Texas and Washington. Various specifications of the trade gravity equation show that intrastate (within state) shipments in the United States are three to four times the size of interstate (between states) shipments, and adjacent US states trade 2.6 times more with each other.

Since McCallum's (1995) and Wolf's (2000) pioneering work, factors such as hub-and-spoke arrangement between manufacturers and wholesalers, networks, agglomeration economies, policy or governance variation across regions, and differences in the characteristics of goods being traded are found to explain the size of the home bias or border effect. We provide a detailed review of the literature in the next section, but a recent contribution by Coughlin and Novy (2018) is worth highlighting in this introductory section as we build on their research. Interestingly, Coughlin and Novy (2018) find heterogeneity in the size of the border effects for US states: border effects are stronger (weaker) for smaller (larger) states. The authors refer to this as spatial attenuation effect. One observes spatial attenuation effect because spatial aggregation leads to changes in the relative size of trade costs associated with internal (within border) trade and trade across borders. As spatial units become large, internal trade costs increase relative to trade costs associated with crossing the border, this results in larger cross-border trade. This implies that the estimated home bias or border effect reflects a combination of two spatial frictions: first, frictions of a general form due to spatial aggregation (a statistical artefact), and second, frictions specifically due to state borders (fundamentals). Moreover, Coughlin and Novy (2018) conclude that the border effect heterogeneity they observe at the state level might also be due to frictions at the micro level of firms and households, and a way to advance our understanding of border effects is to study the phenomena at this level of detail.

We take Coughlin and Novy's (2018) challenge to use firm-level data to understand the nature of subnational home bias. The availability of shipment data across various markets at the enterprise level in the 'Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam' makes this possible. To our knowledge, this paper is the first to use enterprise-level data to investigate home bias. One advantage of using enterprise level over aggregate (e.g., state or province level) data is that we can test the notion if home bias is due to SME market entry strategies shaped by SME attributes and/or governance quality prevailing in various potential markets. We consider the governance quality of SMEs' home province, neighbouring provinces and non-neighbouring provinces. This is motivated by a recent contribution from Miranda and Wagner (2018) who find that having neighbours with weak institutions reduces a country's exports. It is important to shed light on the possible reasons for home bias because if this is principally due to variations in local area governance quality (rather than enterprise attributes), then there is strong incentive for policymakers to provide conducive environments for access into their markets. If subnational policies have spatial spillover effects, then policy coordination among subnational policymakers is necessary.

In the next section, an overview of relevant literature is provided. Section 3 describes the data and empirical methodology in detail. We analyse the empirical results in Section 4. Section 5 contains a discussion of the implications of our findings and concluding remarks.

## 2 | RELATED LITERATURE

Building on Wolf's (2000) research, Hillberry and Hummels (2003) provide one possible explanation for the observed subnational home bias. They suggest that US manufacturers use a network of wholesalers to distribute their output over long distances (across state lines), and wholesalers distribute

these to retailers over short distances (within each state). Accounting for this hub-and-spoke distribution arrangement among producers, wholesalers and retailers lowers estimated subnational home bias by a third.<sup>4</sup> In a subsequent study, Hillberry and Hummels (2008) decompose bilateral commodity trade flows within and between US zip codes into their various components. For the most part, they find that the effects of spatial frictions are largest over very short distances, and they reduce trade flows principally through a reduction in the number of unique shipments and not through a reduction in the average value of shipments. They observe that "most (US) establishments ship only to geographically proximate customers, rather than shipping to many customers in quantities that decrease in distance" (Hillberry & Hummels, 2008, p. 548). Due to unavailability of data, the authors did not explore the characteristics of establishments impacted most by geographic trade frictions. Because making goods available in several markets entails (additional) set-up costs, what establishment type only ships to customers very close to it, or will not ship to markets that are not nearby? We can provide answers to questions like these using enterprise-level data.

Augmenting state-to-state trade data with state-foreign country trade data, Coughlin and Novy (2013) estimate a larger state border effect than the international border effect. The authors attribute this finding to the local concentration of economic activities (agglomeration economies) rather than barriers to crossing state lines.

Using commodity flow data between and within French départements, Combes, Lafourcade, and Mayer (2005) find that the home bias effect is overestimated by 50–60% when network effects are omitted. The study highlights the role of social networks (i.e., migrant networks) and business networks (i.e., business group membership) in reducing information costs, thereby increasing trade flows. The authors find that intraregional trade is 5.7–8 times more than interregional trade when network effects are considered, and networks increase trade by three to four times.<sup>5</sup> The importance of networks is also evident in research using Japanese data.

Administratively, Japan has 47 prefectures. Wrona (2018) divides Japan into two equal-sized east and west prefecture blocks and finds a "border" effect in the absence of a border using commodity flow data within and between Japan's 47 prefectures. Assignment into these prefectural blocks is not due to past historical borders or past civil wars (which might affect current trade flows), yet prefectures belonging to the same prefectural block (east or west) trade more with each other. Specifically, trade between east and west Japan is 23.1–51.3% lower than within prefectural-block trade. Wrona attributes the "border" effect to Japan's current dual (east and west) business and social networks traceable to how economic activities agglomerated into an east (Tokyo) and west (Osaka) pattern after the Second World War, and to prefectures' cultural proximity based on "historical dialect data ... an outcome of an evolutionary process shaped by past interactions" (Wrona, 2018, p. 1235). The number of headquarter-plant links and migration flows proxy for business and social networks, respectively. Cultural proximity and thus networks not only contribute to larger prefectural-block trade, Wrona (2018) also finds that their effects are stronger within each prefectural block.

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<sup>4</sup>Excluding shipments from wholesalers shows a much lower magnitude of subnational home bias. Hillberry and Hummels's (2003) estimates imply a 1.55 ratio between predicted and actual within-state trade compared with a 4.39 ratio using Wolf's (2000) estimates. In other words, there is subnational home bias, but not as large as originally thought.

<sup>5</sup>A branch of the literature suggests that home bias is a mere statistical artefact (omitted variable bias). Using trade flow data among Spanish provinces, Garmendia et al. (2012) find that once networks are included in trade gravity equations, the home bias effect is present only when data are measured in quantity rather than values. Their results are consistent with Millimet and Osang's (2007, p. 95) findings using US commodity flow data that "subnational border effect disappears in the majority of specifications that include lagged shipments and internal migration...".

Through their long-lasting effects on institutions and preferences, historical events (such as civil wars) can affect current economic outcomes such as trade flows. Although the north–south "border" is long gone, states on opposing sides during the US Civil War trade less with each other even after 150 years (Felbermayr & Gröschl, 2014). Although the authors are unable to determine whether the observed north–south "border" effect is due to trade costs (e.g., networks formed differently in the north and south after the Civil War) or persistent preferences for local goods, the "border" effect does not disappear even after controlling for myriad factors including network, institution, endowment and demographic differences across pairs of states. The paper's key insight is that "historical events have shaped cultural determinants of trade which still matter today" (Felbermayr & Gröschl, 2014, p. 384).

Besides trade flows, some studies use tax (e.g., Xing & Li, 2011) and price (e.g., Noton, 2015) data to study home bias. Xing and Li (2011) study intra-province trade in China using VAT invoice statistics. VAT invoices contain the locations of both sellers and buyers, and transactions between two parties located in the same province are intra-province trade. Data for the 2003–04 period show a 59–62% share for intra-province trade. Using various empirical specifications rooted in the trade gravity equation, Xing and Li find that intra-province trade is four to five times as large as inter-province trade.

Studies using aggregate trade flow data for the most part are unable to disentangle the role of trade costs vis-à-vis consumer preferences as sources of home bias because trade flow data capture the net effects of supply and demand factors. Using yearly data for automobiles (e.g., list prices in five European countries, car characteristics, brand and other characteristics) in 1970–99, Noton (2015) finds that more than half of European carmakers' market shares are due to consumer preferences for European cars (home bias effect).<sup>6</sup> For example, the (mean) market share of French-branded cars in France is 69.9%, but without home bias, the estimated market share is only 31%. Noton's (2015) findings suggest that lowering trade costs might have little effect on relative market shares of domestic and foreign-branded cars.

As described in the introductory section, Coughlin and Novy (2018) hypothesise that frictions at the firm level might be one of the reasons for the heterogeneity in the border effects they observe using US state-level data. This is the framework underlying our empirical approach. Heterogeneity in both SME and market characteristics might affect whether and how much SMEs sell in various markets. Because selling in each market entails additional costs, in the next section, we detail enterprise and market characteristics that could offset or add to these costs.

### 3 | DATA AND EMPIRICAL METHODOLOGY

#### 3.1 | Data

We use data from the 2011, 2013 and 2015 versions of the 'Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam' made available by United Nations University World Institute for Development Research (UNU-WIDER). The survey covers only non-state manufacturing enterprises in Hanoi (including ex-Ha Tay), Hai Phong, Phu Tho, Nghe An, Quang Nam, Khanh Hoa, Lam

<sup>6</sup>Noton (2015) identifies different factors behind home bias. This includes ""nationalism", network quality (cheaper spare parts or repair service), brand loyalty..." Noton (2015, p. 125). In contrast, Evans (2007) finds that home bias is due mostly to location factors rather than foreignness of goods sold. Evans arrives at this conclusion by comparing the sales of domestically produced goods, imports originating from the United States, and sales of foreign affiliates of US multinational enterprises (MNEs) in each market. For the most part, sales of domestically produced goods are higher than imports from the United States (border effect due to both location and foreignness) and sales of foreign affiliates of US MNEs are larger than imports from the United States (border effect due to location factors only). The estimated home bias coefficients in both cases are quite similar indicating that foreignness as a source of home bias is not important.

Dong, Ho Chi Minh City and Long An. To ensure representation by ownership type across the nine areas, stratified sampling is used. The survey asks the sales structure of the most important product (in terms of value) sold by the SMEs. SMEs identify the percentage of sales to customers located in the same commune as the SME, in other communes within the home district, in other districts within the home province, in neighbouring provinces, in non-neighbouring provinces and in foreign locations (direct exports). Based on sales of their most important product, available data show that SMEs are not only domestic-market oriented, their activities are highly localised. The mean percentage of sales in SMEs' home commune, other communes in the home district and other districts in the home province are 25–30% each for the three survey years. The mean share of sales to neighbouring or non-neighbouring provinces is about 7–8% each. Moreover, 72–73% do not sell to neighbouring provinces, while 78–81% do not sell to non-neighbouring provinces.<sup>7</sup> These suggest much difficulty in reaching markets beyond one's home province.

### 3.2 | Econometric methodology

Because our main variable of interest is the percentage or proportion of sales across various markets, the fractional multinomial logit (FMLOGIT) model is used. The FMLOGIT model accounts for the bounded nature of the dependent variables which comprise the proportion of SME sales in their home communes, other communes in their home districts, other districts in their home provinces, neighbouring provinces, non-neighbouring provinces and exports.<sup>8</sup> In essence, we ask what enterprise characteristics matter in the proportion of SME  $i$  sales to any of the identified  $m$  markets at time  $t$ . The model is then augmented with area or market characteristics. Since data for commune and district characteristics are not available, for this section of the paper, we aggregate sales inside the SMEs' home province and compare these to sales in neighbouring and non-neighbouring provinces (exports are excluded since very few SMEs export).<sup>9</sup> Using FMLOGIT, the predicted proportion of sales in each market  $m$ ,  $\hat{s}_m$ , depends on explanatory variables in matrix  $\mathbf{x}$  (defined below) as follows:

$$\begin{aligned} \hat{s}_1 &= \frac{1}{1 + \sum_{m=2}^M \exp(\mathbf{x}\beta_m)} \\ \hat{s}_2 &= \frac{\exp(\mathbf{x}\beta_2)}{1 + \sum_{m=2}^M \exp(\mathbf{x}\beta_m)}, \\ &\vdots \\ \hat{s}_M &= \frac{\exp(\mathbf{x}\beta_M)}{1 + \sum_{m=2}^M \exp(\mathbf{x}\beta_m)} \end{aligned}$$

where  $m = 1, \dots, M$ , with  $m = 1$  (home commune) as reference or base market. That is, we normalise  $\beta_1 = \mathbf{0}$ . Buis (2010) shows that FMLOGIT maximises a quasi-log likelihood function with actual ( $s_m$ ) and predicted ( $\hat{s}_m$ ) proportions as follows:

$$\ln(L_{it}) = s_{1it} \ln(\hat{s}_{1it}) + s_{2it} \ln(\hat{s}_{2it}) + \dots + s_{Mit} \ln(\hat{s}_{Mit}).$$

<sup>7</sup>Details are provided in Table S1 available at the journal's website.

<sup>8</sup>Vietnam has 58 provinces each governed by a Provincial People's Committee. Can Tho, Hanoi, Ho Chi Minh City, Hai Phong and Da Nang are municipalities and are administratively equivalent to provinces. For brevity, we refer to these municipalities as provinces. Below the provincial authorities are district and commune authorities. Nationwide there are more than 700 districts and close to 12,000 communes (General Statistics Office of Vietnam, 2018). See Do et al. (2017) for an overview of the structure of Vietnam's government.

<sup>9</sup>We focus on non-exporters and refer readers to the rich literature studying the exporting decisions of Vietnamese SMEs. An early contribution is Kokko and Sjöholm (2005). Recently, Co et al. (2018) extend this literature by introducing SMEs' subcontracting decisions. A related literature is the productivity enhancing effect of exporting (see e.g., Newman et al., 2017).

Because of normalisation and the FMLOGIT being a non-linear model, the estimated coefficients are not easily interpretable. Thus, we provide (average) marginal effects invariant to the chosen reference market when analysing the results below.

### 3.2.1 | SME characteristics

The effects of spatial frictions are heterogeneous across various SME characteristics. The SME literature has identified size<sup>10</sup> and age to be important determinants of SME sales growth (e.g., Ayyagari, Demircuc-Kunt, & Maksimovic, 2014). These two factors are similarly relevant when studying the distribution of sales across markets. This is because selling in various markets entails additional costs. Larger enterprises have more resources to pay for these additional costs, while older enterprises have more experience in handling challenges when selling in unfamiliar or less familiar markets. Thus, the proportion of sales outside of SMEs' home markets is expected to be positively correlated with enterprise size and age. The literature reviewed in Section 2 informs the inclusion of other factors in the econometric models estimated.

Combes et al. (2005) and Wrona (2018) emphasise the important role of networks in explaining home bias. We control for two types of networks: the number of memberships in business associations (*business network size*) and the number of people with which owners/managers have regular contact (*social network size*). The latter includes regular contact with business people, bank officials, government officials and politicians. Participation in networks is potentially advantageous as they might provide leads for market expansion beyond one's home market. We hypothesise that the proportion of sales outside of SMEs' home markets is positively associated with the number of business association memberships and the size of owners' or managers' social network.

Incomplete information on the demand side might limit sales outside enterprises' home market (Combes et al., 2005). To alleviate this informational problem, SMEs might secure internationally recognised quality certifications, such as ISO 9000, which signal commitment to quality production to customers who otherwise have limited or no information about the enterprise.<sup>11</sup> An enterprise's reputation is more likely to be known by customers in its home market, so having an internationally recognised quality certification could potentially expand an SME's market reach beyond its home market. *Certifications* is set equal to 1, for enterprises holding at least one of these certifications. Based on Combes et al. (2005), we hypothesise that informational barriers are lowest inside one's home commune, followed by one's home district and province, and informational barriers are highest between non-neighbouring provinces. Thus, we expect a larger proportion of sales outside of one's home market for SMEs with internationally recognised quality certifications.

Home bias could also be due to agglomeration economies (e.g., to reap benefits from proximity to customers or suppliers). As described by Coughlin and Novy (2013), localisation could be due to producers locating close to customers, or producers agglomerating close to input suppliers. Available data allow us to investigate these issues indirectly using each enterprise's overall production structure<sup>12</sup> (percentage of production used for final consumption, *final consumption share*) and the distance

<sup>10</sup>We use the number of full-time employees for size. To keep SMEs with zero full-time employees, we use  $1 + \text{number of full-time employees}$  when taking the natural log.

<sup>11</sup>Certifications require enterprises to "adopt and document extensive quality assurance management systems that require nontrivial investments" in resources and time, and third-party audits are required (Potoski & Prakash, 2009, p. 222).

<sup>12</sup>The structure of production for each market (e.g., home commune) is not available in the data set.

of the enterprise's most important supplier (*distance from suppliers*). Agglomeration forces are working in SMEs' home markets if the proportion of sales in home markets is positively (negatively) correlated with final consumption share (distance from suppliers).

Small- and medium-sized enterprise access to paved roads is important too. Latest data (2016) show that 77% of freight was moved by road transportation, less than one% was transported by rail, and about 17% was transported using inland waterways (General Statistics Office of Vietnam, 2018). We only consider access to road networks because of our emphasis on domestic market sales. Moreover, because of rail's unreliability relative to other modes of transport, shippers avoid its use (Banomyong, Thai, & Yuen, 2015) while shipments originating in the Mekong Delta or Red River Delta are transported via inland waterways before their sea voyage to foreign markets. The proportion of SME sales outside of home markets is expected to be higher when an SME has access to paved roads. However, Banomyong et al. (2015) indicate that the service quality of the trucking industry in Vietnam is still low and access to efficient logistics service providers is limited.<sup>13</sup> Both might limit the usefulness of paved road access.

Three sets of qualitative indicators are included. First, two period indicators (*SY15* and *SY13* are set to 1 for 2015 and 2013, respectively, 0 otherwise) control for time-specific shocks that affect all enterprises in the same way. Survey year 2011 is the base period. Second, two indicators define ownership type with household establishments as base. *Ownership1* is set equal to 1 for sole proprietorships, partnerships and collectives/cooperatives; 0 otherwise. *Ownership2* is set equal to 1 for limited liability and joint stock companies without state capital; 0 otherwise. Among the three ownership types, a larger proportion of sales in home markets is expected for household establishments. Third, three indicators classify SMEs by their sector. *Sector1* includes SMEs producing electronic machinery, motor vehicles and other transport equipment. *Sector2* includes SMEs producing textiles, leather and wood. *Sector3* includes SMEs producing paper, petroleum, chemicals and other items for industrial use. The base sector includes food, apparel and publishing and printing (i.e., consumer items).

### 3.2.2 | Area or market characteristics

Felbermayr and Gröschl (2014) emphasise the role of history in explaining home bias. In their view, history shape cultural determinants of trade flows. Vietnam's history, from the early years of Chinese political and cultural influence, French colonisation, American influence in the south, the Vietnam War, north and south reunification in 1975, experience with a centrally planned economy and economic reforms (*doi moi*), might have contributed to regional cultural differences, and these differences might have shaped management practices (Zhu, 2003) and consumer preferences. These regional differences are evident in some surveys. For example, a survey conducted by Benzing, Chu, and Callanan (2005) shows regional differences in three areas: entrepreneurial motivation for starting a business, perceived factors contributing to business success and problems facing entrepreneurs. The authors find that northern (Hanoi) entrepreneurs start businesses to earn more income while southern (Ho Chi Minh City) entrepreneurs start businesses to have greater independence. Among perceived factors contributing to success, northern entrepreneurs attribute more importance to community and political involvement than southern entrepreneurs. Southern entrepreneurs rank competition as a significant problem, while northern entrepreneurs identify government regulations and lack of business acumen (e.g., lack of management and marketing expertise) as significant problems. Lack of business experience limits northern businesses' ability to bring their products beyond the local market (Benzing et al., 2005). These suggest that home bias can originate from the supply side.

<sup>13</sup>According to the World Bank's (2018) logistics performance index, the quality of Vietnam's trade and transport-related infrastructure improved very slightly from 2.6 to 2.7 (where 1 is low quality and 5 is high quality) between 2010 and 2016, while the competence and quality of the country's logistics services remained at 2.9.



On the demand side, preferences for local products may explain home bias (e.g., preference for Hanoi brand beer in the north and Saigon brand beer in the south). People in the north also have a more collectivist attitude than people in the south due to a much longer experience with a centrally planned economy (Nguyen, Jung, Lantz, & Loeb, 2003). Collectivists tend to account for others' perceptions of their actions more than individualists, so consumers in the north might prefer home goods more than consumers in the south. Collectivist–individualist differences may shape consumption patterns across regions as well.

We introduce a north dummy to account for the role of history in explaining current economic patterns. We define  $north = 1$ , when an SME is based in Hanoi, Hai Phong, Phu Tho or Nghe An and  $north = 0$ , when an SME is based in Quang Nam, Khanh Hoa, Lam Dong, Ho Chi Minh City or Long An. This variable accounts for differences in business culture between the north and other areas (see, e.g., Cung, Pham, Bui, & Dapice, 2004). We hypothesise that SMEs in the north are more insular as commercial activities in the country have predominantly been in the south, the seat of government being in the north for most of the country's history,<sup>14</sup> and pro-entrepreneurial attitudes are more prevalent in southern provinces (Nguyen, Mickiewicz, & Du, 2017). Moreover, due to their more collectivist nature, northern consumers might prefer to buy more from local (home) sellers.

Inspired by the trade gravity literature, we also control for an area's potential market size using total income. Following Evans (2003) and Helliwell and Verdier (2001), each province  $j$ 's distance-weighted neighbour and non-neighbour potential market sizes are as follows:

$$A_{jn} = \sum_{n \in \text{neighbours}} \frac{Income_n}{Distance_{jn}},$$

$$A_{jn'} = \sum_{n' \in \text{non-neighbours}} \frac{Income_{n'}}{Distance_{jn'}}.$$

We hypothesise that the fraction of SMEs sales to each market is positively associated with the potential size of the market.<sup>15</sup>

We take advantage of variations in provinces' governance quality. According to Vu, Zoukri, and Deffains (2014), the economic reforms (*doi moi*) that started in the late 1980s brought forth decentralised policymaking wherein provincial governments engaged in policy experimentation in areas where central government rules were non-existent or inappropriate. One consequence of decentralisation is inter-jurisdictional competition for resources among provincial governments. A new round of decentralisation has occurred since 2005 when the second State Budget Law came in force in 2004. This law delineates how provinces and the central government share tax revenues (Vu, 2016).<sup>16</sup> Vu (2016) concludes that this round of decentralisation has led to competition among the provinces and competition 'has become so fierce that each province only cares about the economic activities within its territory ... the administrative boundaries between provinces have virtually become their economic borders' Vu (2016, p. 197). Although

<sup>14</sup>Most of Champa (central part) became part of Vietnam in 1,471, Saigon (Ho Chi Minh City) became part of Vietnam in 1,700, and the country's current border took shape more or less in 1,840 (Osborne et al. 2018).

<sup>15</sup>The trade gravity literature uses gross output as proxy for market size. We are unable to find provinces' gross output for our period of analysis, so we use total income from the General Statistics Office of Vietnam (2018). For weights, we use pairwise (as the crow flies) distances (in km.) between the capital cities of provinces obtained from [distancecalculator.net](http://distancecalculator.net).

<sup>16</sup>Provinces in Vietnam do not charge sales taxes, so variation in sales taxes cannot explain variation in SME sales across markets.

provincial authorities do not consider the effects of their policies on activities outside of their jurisdictions, these do potentially affect economic activities outside provinces' jurisdictions.

Do variations in Vietnamese provinces' governance quality affect the distribution of SMEs' sales across various markets? We use three components of Vietnam's Provincial Competitiveness Index (PCI) to account for variations in governance quality: transparency, corruption and proactivity (Malesky, 2016).<sup>17</sup> The indices are based on surveys of domestic businesses' perceptions of the quality of governance across Vietnam's provinces.<sup>18</sup> Transparency includes accessibility to information, predictability of implementation of central government laws at the provincial level and other elements. If personal relationships with local officials play a role in information access, then businesses might divert resources to build relationships with local officials instead of using these to grow their businesses. Lack of transparency breeds opportunities for corruption, and informal payments to corrupt local officials divert resources away from one's business too. Businesses tend to thrive in areas where local officials are proactively solving problems businesses face. Policymakers in these areas are innovative; thus, opportunities in these areas are abundant.<sup>19</sup> We hypothesise that the proportion of SME sales is lower in areas with low governance quality (i.e., areas with less transparent rules, where corruption is prevalent, and where officials are not innovative).

The quality of neighbouring provinces' institutions might matter too. For example, Miranda and Wagner (2018) find that having neighbours with weak institutions reduces a country's exports of contract-intensive goods. We build on this idea and introduce the governance quality of each province's neighbours (provinces they share a border with) and non-neighbours. In other words, besides home province governance quality, do the governance quality of provinces' neighbours and non-neighbours matter too?<sup>20</sup> Following Miranda and Wagner (2018), we use total income as weights for neighbours' and non-neighbours' governance quality.

## 4 | ANALYSIS OF RESULTS

To mitigate problems associated with entry and exit, only enterprises observed in the three survey years are included in the estimations. Table 1 contains summary statistics for our estimation sample

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<sup>17</sup>Nguyen et al. (2017) use these same indices to study SME revenue growth.

<sup>18</sup>Since 2013, the PCI has 10 sub-indices ranging from 1 to 10 with high values indicating good governance. We should note that the composition of the sub-indices changed slightly in 2013, but this did not change the nature of what aspects of governance these indices are measuring (Malesky, 2016).

<sup>19</sup>Based on interviews, Schmitz et al. (2015) conclude that economic reforms at the subnational level required a combination of proactive provincial officials and an organised private sector, and SMEs mostly have little influence in reforms.

<sup>20</sup>Take product and goods quality. Responsibilities for product and goods quality examinations are assigned to central government agencies, such as the Ministry of Science and Technology, and provincial product and goods examination agencies. The latter are responsible for examining product and goods quality in their jurisdictions (Article 45 of the Law on Product and Goods Quality, National Assembly Law No. 05/2007/QH12). The Ministry of Science of Technology is the lead agency for the unified control of product and goods quality nationwide. Other ministries (in coordination with the lead agency) are responsible for quality in their respective domains (e.g., Ministry of Health for food, pharmaceuticals, and other related items). Subject to decentralisation rules, People's Committees at all levels are also responsible for the control of product and goods quality in their jurisdictions (Articles 68–70 of the Law on Product and Goods Quality). Although provincial product and goods quality agencies are required to follow regulations set by the central government agencies, heterogeneity in governance quality across the provinces might lead to variations in quality control rules and examination outcomes. English version of the Law on Product and Goods Quality is available at <http://vbpl.vn/tw/Pages/vbpqen-toan.aspx?dv=13&ItemID=3036>.

**TABLE 1** Summary statistics

Variables	Mean	SD	Min.	Max.
Enterprise characteristics				
Proportion of sales in:				
Home commune	0.28	0.32	0	1
Other communes in home district	0.29	0.26	0	1
Other districts in home province	0.25	0.28	0	1
Neighbouring provinces	0.08	0.17	0	1
Non-neighbouring provinces	0.08	0.20	0	1
Exports	0.02	0.11	0	1
Number of employees	12.37	24.06	0	300
Enterprise age	14.25	7.98	0	58
Business network size	0.11	0.41	0	6
Social network size	8.91	2.63	4	16
Has certification	0.05	0.23	0	1
Final consumption sales (in %)	41.23	39.83	0	100
Distance from suppliers (in km)	45.06	230.93	0.1	7,000
Has access to paved roads	0.81	0.39	0	1
Home province characteristics				
Northern province	0.57	0.50	0	1
Real income (billion dong)	92,600	88,200	9,740	293,000
Transparency	6.05	0.45	5.12	6.89
Corruption	5.69	0.85	4.31	7.75
Proactivity	3.84	0.91	2.32	6.61
Neighbouring provinces characteristics				
Real income <sup>a</sup> (billion dong)	2,850	2,260	341	9,590
Transparency <sup>b</sup>	5.99	0.32	5.25	6.72
Corruption <sup>b</sup>	5.91	0.75	4.43	7.23
Proactivity <sup>b</sup>	4.82	0.75	2.72	6.20
Non-neighbouring provinces characteristics				
Real income <sup>a</sup> (billion dong)	3,070	1,270	1,540	6,860
Transparency <sup>b</sup>	6.00	0.16	5.76	6.25
Corruption <sup>b</sup>	5.99	0.65	5.02	6.68
Proactivity <sup>b</sup>	4.69	0.30	4.30	5.19

Notes: Balanced panel sample. Number of enterprises = 1,630 and number of observations = 4,890.

<sup>a</sup>Distance-weighted real income.

<sup>b</sup>Income-weighted index.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER, Central Institute for Economic Management (CIEM), & The Institute of Labour Science and Social Affairs (ILSSA), various years)

with mean home province sales over 80% and 8% each for sales in neighbouring and non-neighbouring provinces. On average, SMEs have 12 full-time employees. The mean enterprise age is 14 years. The number of memberships in business associations ranges from 0 to 6 with a mean of 0.11, while

**TABLE 2** Pairwise correlations: enterprise characteristics

	(1)	(2)	(3)	(4)	(5)	(6)
Log. number of employees (1)	1.000					
Enterprise age (2)	-0.197	1.000				
Business network size (3)	0.252	0.004	1.000			
Social network size (4)	0.352	-0.076	0.148	1.000		
Final consumption share (5)	-0.350	0.062	-0.085	-0.129	1.000	
Log. distance from suppliers (6)	0.360	-0.113	0.125	0.182	-0.160	1.000

Notes: Balanced panel sample. Number of enterprises = 1,630 and number of observations = 4,890.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER et al., various years)

the size of social networks ranges from 4 to 16 with a mean of 9. Only 5% have internationally recognised quality certifications. SME production for final consumption averages 41%, the mean distance to suppliers is 45 km, 81% have access to paved roads, and 57% of the SMEs are in northern provinces. For the nine SME home provinces, the mean real (total) income is VND92.6 trillion (about US\$4.5 billion at the mean exchange rate of VND20640/US\$ for our period of analysis), while the distance-weighted mean incomes are VND2.85 trillion (about US\$133 million) and VND3.07 trillion (US\$149 million) for neighbouring and non-neighbouring provinces, respectively. The mean transparency and corruption indices for the nine home provinces are comparable to neighbouring and non-neighbouring provinces' mean income-weighted indices. The nine home provinces' mean proactivity index is lowest, and this is mostly due to some northern provinces' (e.g., Hanoi and Hai Phong) low index values.

Pairwise correlations among SME characteristics and area characteristics appear in Tables 2 and 3 (trimmed sample described below), respectively. The highest pairwise correlations among the SME characteristics are between the natural log of the number of full-time employees and three other enterprise characteristics (e.g., 0.36 with the natural log of distance from suppliers; Table 2). The correlation of the natural log of income between a pair of markets (e.g., home and neighbour) is positive (Table 3). The three governance indicators exhibit variegated pattern. Home and neighbouring provinces' transparency indices are positively correlated (0.54), but the correlation is practically zero between home and non-neighbouring provinces' transparency indices. All pairwise correlation indices for corruption are highly positive (at least 0.69). Home provinces' proactivity indices are not correlated with neighbouring provinces' (-0.08) and negatively correlated with non-neighbouring provinces' proactivity indices (-0.16).

We first establish which of the enterprise characteristics matter in determining the share of sales in each market. Since the FMLOGIT model is non-linear and the coefficient estimates for the enterprise characteristics in each market are relative to those in the base market (home commune), we provide (average) marginal effects throughout.<sup>21</sup> To account for the panel nature of the data set, the standard errors of the FMLOGIT model are clustered using enterprise identification. The model has explanatory power according to the Wald chi-square statistic in Table 4. From the marginal effects at the 5% level of significance, we make several observations. First, the share of sales outside of SMEs' home district is positively correlated with employment. A one% increase in SME employment increases the share of sales in other districts within the province by about 7 percentage points (column (3)), and the share of sales to other provinces increases by 2–3 percentage points (columns (4) and (5)), all else equal. Second, older SMEs either have larger shares of sales in their home communes, non-neighbouring

<sup>21</sup>Coefficient estimates for all models are available from the authors on request.

**TABLE 3** Pairwise correlations: area characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log. real income (1)	1.000											
Transparency (2)	0.465	1.000										
Corruption (3)	-0.460	-0.118	1.000									
Proactivity (4)	-0.356	0.273	0.335	1.000								
Log. real income of neighbours <sup>a</sup> (5)	0.583	0.559	-0.197	0.104	1.000							
Transparency of neighbours <sup>b</sup> (6)	0.147	0.542	-0.009	0.511	0.369	1.000						
Corruption of neighbours <sup>b</sup> (7)	0.045	0.064	0.689	-0.016	-0.041	-0.117	1.000					
Proactivity of neighbours <sup>b</sup> (8)	0.423	0.280	0.169	-0.081	-0.045	0.221	0.553	1.000				
Log. real income of non-neighbours <sup>a</sup> (9)	0.238	0.380	-0.691	-0.045	0.492	0.322	-0.621	-0.318	1.000			
Transparency of non-neighbours <sup>b</sup> (10)	0.057	-0.069	-0.791	-0.159	0.029	0.081	-0.860	-0.410	0.715	1.000		
Corruption of non-neighbours <sup>b</sup> (11)	-0.266	-0.385	0.718	-0.139	-0.320	-0.549	0.758	0.167	-0.798	-0.819	1.000	
Proactivity of non-neighbours <sup>b</sup> (12)	-0.205	-0.441	0.398	-0.163	-0.225	-0.574	0.317	0.136	-0.644	-0.406	0.659	1.000

Notes: Balanced panel sample. Number of enterprises = 1,557 and number of observations = 4,671.

<sup>a</sup>Distance-weighted real income.

<sup>b</sup>Income-weighted index.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER et al., various years)

provinces or foreign markets, but the marginal effects are small. Third, the share of sales in other provinces is positively correlated with the number of memberships in business associations, with each additional membership increasing the share of sales in neighbouring provinces by 1.3 percentage points and in non-neighbouring provinces by 2.6 percentage points. Practically, these are economically large effects considering that the mean share of sales in these markets is about 8% (Table 1).

Fourth, there is no evidence that the size of SMEs' social network and having an internationally recognised quality certification are correlated with the share of sales in various markets except for export sales. On average, the share of sales to foreign markets is 3 percentage points higher for SMEs with internationally recognised quality certifications. Fifth, the larger an SME's production is for final consumption, the larger the share of sales in their home communes and home districts, and the smaller the share of sales in other markets. Sixth, not surprising, the farther away the source of SMEs' inputs, the larger the share of sales in other provinces, *ceteris paribus*. Lastly, there is no evidence that access to paved roads is associated with the share of sales in various markets, except exports (but with a negative sign). This is perhaps not surprising as a large percentage of the SMEs have access to paved roads. Moreover, road quality and availability of logistics services might be more relevant than mere access to paved roads.<sup>22</sup> As previously mentioned, access to efficient logistics services in Vietnam is still limited (Banomyong et al., 2015).

Because area characteristics at the commune and district levels are not available, only sales at home, neighbouring and non-neighbouring provinces are considered subsequently. SMEs that export are excluded to focus on domestic sales. Table 5 contains the marginal effects with just the SME characteristics for this trimmed sample. For the most part, the results are qualitatively similar to those in Table 4. To recap our findings related to enterprise characteristics: we find that the proportion of sales outside an SME's home province is positively associated with SME size, age, business network size and distance from its most important supplier, while the proportion of sales outside the home market is negatively associated with the share of SME production for final consumption. Not surprising, compared to household enterprises, enterprises with legal forms included in *Ownership2* (i.e., corporations) sell proportionally less in their home provinces and proportionally more in other provinces. Compared to SMEs in the base sector (food, apparel and publishing and printing), SMEs in other manufacturing sectors sell proportionally less in their home provinces and proportionally more in other provinces. We find no evidence that the proportion of SME sales in these markets is associated with the size of their social network, ownership of internationally recognised quality certifications and access to paved roads.

Our findings are consistent with Coughlin and Novy's (2018) hypothesis that home bias can be due to frictions at the enterprise level, in particular, SME market entry strategies due to their characteristics (e.g., size and age). Combes et al. (2005) and Wrona (2018) highlight the role of networks in cross-border trade flows among subnational units in France and Japan, respectively. We confirm the importance of business networks (but not social networks) in explaining inter-provincial trade in Vietnam. Our results are also consistent with the agglomeration economies' explanations to home bias (Coughlin & Novy, 2013). Home bias might be due to proximity to customers (i.e., a higher

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<sup>22</sup>In fact, available data show a large variation in the percentage of surveyed enterprises responding that road quality is good or very good, from 80% (Danang) to 11% (Dak Nong) with Da Nang (Dak Nong) having 90% (66%) of provincially managed roads asphalted in 2010 (Malesky and Dau, 2010). By 2016, responses that road quality is good or very good range from 80% (Danang) to 24% (Cao Bang), despite both provinces having close to 100% of provincial roads asphalted (Malesky, 2016). We are unable to use road quality perception in place of access to paved roads as data are not available for all 3 years of our study period.

**TABLE 4** Fractional multinomial logit regression: average marginal effects of enterprise characteristics

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Home commune	Other communes in home district	Other districts in home province	Neighbouring provinces	Non-neighbouring provinces	Exports
SY13	-0.0069 (0.008)	0.0018 (0.008)	0.0191** (0.008)	-0.0016 (0.005)	-0.0100* (0.006)	-0.0023 (0.002)
SY15	-0.0172** (0.009)	0.0162* (0.009)	0.0102 (0.009)	0.0013 (0.006)	-0.0162*** (0.006)	0.0057* (0.003)
Ownership1	-0.0503*** (0.016)	0.0080 (0.014)	0.0205 (0.016)	0.0076 (0.009)	-0.0065 (0.011)	0.0207*** (0.006)
Ownership2	-0.0617*** (0.013)	-0.0142 (0.012)	0.0207 (0.015)	0.0150 (0.009)	0.0193* (0.011)	0.0209*** (0.004)
Sector1	-0.1222*** (0.023)	-0.0360 (0.024)	0.0816*** (0.023)	0.0498*** (0.014)	0.0334** (0.014)	-0.0066 (0.005)
Sector2	-0.0808*** (0.013)	-0.0432*** (0.013)	0.0319** (0.013)	0.0298*** (0.008)	0.0384*** (0.010)	0.0238*** (0.007)
Sector3	-0.0896*** (0.010)	-0.0070 (0.009)	0.0513*** (0.010)	0.0288*** (0.006)	0.0219*** (0.007)	-0.0054 (0.004)
Employment (log)	-0.1127*** (0.008)	-0.202*** (0.006)	0.0693*** (0.006)	0.0230*** (0.003)	0.0314*** (0.004)	0.0092*** (0.002)
Age	0.0015*** (0.001)	-0.0012** (0.001)	-0.0025*** (0.001)	0.0006 (0.000)	0.0011*** (0.000)	0.0005*** (0.000)
Business network size	-0.0523*** (0.013)	0.0079 (0.011)	0.0046 (0.009)	0.0128*** (0.004)	0.0259*** (0.005)	0.0012 (0.002)
Social network size	-0.0017 (0.002)	0.0011 (0.001)	0.0026* (0.002)	0.0001 (0.001)	-0.0010 (0.001)	-0.0011* (0.001)

(Continues)

TABLE 4 (Continued)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Home commune	Other communes in home district	Other districts in home province	Neighbouring provinces	Non-neighbouring provinces	Exports
Has certification	0.0273 (0.024)	-0.0141 (0.018)	-0.0339** (0.016)	0.0003 (0.008)	-0.0110 (0.010)	0.0314*** (0.006)
Final consumption share	0.1604*** (0.010)	0.0633*** (0.011)	-0.0688*** (0.012)	-0.0665*** (0.009)	-0.0683*** (0.011)	-0.0201** (0.008)
Dist. from suppliers (log)	-0.0230*** (0.003)	0.0063*** (0.003)	-0.0017 (0.003)	0.0063*** (0.002)	0.0083*** (0.002)	0.0038*** (0.001)
Has paved road access	-0.0018 (0.011)	0.0196* (0.011)	0.0172 (0.012)	-0.0041 (0.007)	-0.0106 (0.010)	-0.0203** (0.010)
Log pseudolikelihood	-6,499.45					
Wald chi-sq.	2,007.63***					
No. of establishments	1,630					
No. of observations	4,890					

Notes: Numbers in parentheses are standard errors estimated using the delta method.

\*\*\*, \*\*, \* statistically significant at the 1, 5, 10% level.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER et al., various years)

**TABLE 5** Fractional multinomial logit regression: average marginal effects of enterprise characteristics

Variables	(1)	(2)	(3)
	Home province	Neighbouring provinces	Non-neighbouring provinces
SY13	0.0141*	-0.0031	-0.0110*
	(0.007)	(0.005)	(0.006)
SY15	0.0125	0.0017	-0.0142**
	(0.008)	(0.006)	(0.006)
Ownership1	-0.0106	0.0143	-0.0037
	(0.013)	(0.009)	(0.010)
Ownership2	-0.0376**	0.0120	0.0256**
	(0.015)	(0.009)	(0.011)
Sector1	-0.0684***	0.0411***	0.0273*
	(0.023)	(0.014)	(0.015)
Sector2	-0.0891***	0.0350***	0.0541***
	(0.014)	(0.009)	(0.011)
Sector3	-0.0525***	0.0279***	0.0246***
	(0.010)	(0.006)	(0.008)
Employment (log)	-0.0570***	0.0236***	0.0333***
	(0.006)	(0.004)	(0.005)
Age	-0.0018***	0.0006	0.0012***
	(0.001)	(0.000)	(0.000)
Business network size	-0.0370***	0.0107**	0.0263***
	(0.009)	(0.005)	(0.006)
Social network size	0.0021	-0.0003	-0.0018
	(0.002)	(0.001)	(0.001)
Has certification	0.0085	0.0035	-0.0121
	(0.015)	(0.009)	(0.011)
Final consumption share	0.1557***	-0.0749***	-0.0807***
	(0.013)	(0.009)	(0.011)
Dist. from suppliers (log)	-0.0148***	0.0066***	0.0083***
	(0.003)	(0.002)	(0.002)
Has paved road access	0.0202	-0.0056	-0.0147
	(0.013)	(0.007)	(0.010)
Log pseudolikelihood	-2,200.78		
Wald chi-sq.	896.75***		
No. of establishments	1,557		
No. of observations	4,671		

Note: See notes in Table 4.

proportion of sales in the home province when the production structure is for final consumption) and proximity to suppliers (i.e., a higher proportion of sales in the home province the closer the main input supplier).

The above results are quite robust when enterprise characteristics are augmented with area or market characteristics<sup>23</sup> which includes a qualitative indicator to capture either cultural differences in the conduct of business between SMEs located in northern and other (central and southern) provinces, or preference differences among consumers in these areas; total income; and governance quality. Recall that three indices capturing various aspects of governance are used. The Wald chi-square statistics in Table 6 indicate the model has explanatory power in each of the three specifications, while the joint coefficient tests for the area or market characteristics (Wald chi-square statistics) suggest that at least one of these additional factors explains the proportion of SME sales across markets.<sup>24</sup>

Columns (1) to (3) of Table 6 contain the marginal effects when transparency indices are used. At the 5% level of significance, the results show that the proportion of sales in the home province (neighbouring provinces) is higher (lower) among SMEs in the north, controlling for all other factors. The share of home province sales is 5.4 percentage points higher (column (1)), while the share of sales to neighbouring provinces is 2.6 percentage points lower (column (2)) for northern SMEs. These are consistent with our expectations that SMEs in the north are more insular and thus will sell proportionally less outside of their home markets. This is also consistent with the notion that northern consumers prefer home goods more. The proportion of sales in home markets (neighbouring markets) is negatively (positively) associated with home province income and neighbouring provinces' distance-weighted income. According to microeconomic theory, consumer preferences are income dependent. Our results suggest that when home province income is high, home consumers have the resources to purchase items from sellers outside of their locale (instead of buying more from sellers based in the home province as expected). Likewise, when neighbouring provinces' distance-weighted income is high, home province SMEs can sell more to these provinces as consumers in these neighbouring provinces also have the resources to purchase more items from home province SMEs.

The proportion of home province sales is negatively associated with home and neighbouring provinces' transparency indices (column (1)), but the proportion of sales in neighbouring provinces is positively associated with home and neighbouring provinces' transparency indices (column (2)). Together, these imply that when home provinces' business rules and policies are transparent, SMEs have time and resources to grow their businesses beyond their home markets instead of devoting resources to accessing information or building relationships with local provincial officials. Thus, they can sell proportionally more to customers in neighbouring provinces. A one-point increase (improvement) in home provinces' transparency index translates to close to a 3 percentage point increase in the share of sales to neighbouring provinces (column (2)), *ceteris paribus*. This is an economically large effect as the mean share of sales to neighbouring markets is 8% (Table 1). Moreover, when neighbouring provinces' transparency index increases, SMEs appear to sell proportionally less in their home markets. This is because improvements in governance quality suggest lower costs in accessing less familiar neighbouring markets. A one-point increase in neighbouring provinces' income-weighted transparency index translates to a 13.7 percentage point drop in the share of sales in the home market. An increase in non-neighbouring provinces' transparency index implies proportionally smaller home market sales, but proportionally larger sales in neighbouring and non-neighbouring provinces. These results make sense, but we caution that the estimated marginal effects are surprisingly large for this specification.

<sup>23</sup>For this reason, only the marginal effects of the area or market characteristics are included in subsequent tables to conserve space. Complete results are provided in the Appendix S1 available at the journal's website.

<sup>24</sup>Marginal effects for all regressors are in Tables S2–S4 available at the journal's website.

**TABLE 6** Fractional multinomial logit regression: average marginal effects of area characteristics

Variables	Governance index: transparency			Governance index: corruption			Governance index: proactivity		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
North									
Home province	0.0536*** (0.019)	-0.0260** (0.013)	-0.0276* (0.017)	-0.0290* (0.017)	0.0095 (0.012)	0.0196 (0.014)	0.0144 (0.017)	-0.0120 (0.011)	-0.0024 (0.014)
Neighbouring provinces		0.0203*** (0.007)	0.0171*** (0.006)	-0.0385*** (0.009)	0.0241*** (0.006)	0.0144* (0.008)	-0.0112 (0.010)	0.0022 (0.007)	0.0091 (0.009)
Non-neighbouring provinces			0.0227 (0.015)	-0.0727*** (0.014)	0.0516*** (0.010)	0.0211* (0.011)	-0.0294*** (0.008)	0.0231*** (0.005)	0.0062 (0.007)
Home real income (log)		0.0185*** (0.006)	0.0263*** (0.008)	-0.0063 (0.010)	-0.0062 (0.006)	0.0126 (0.008)	-0.0116 (0.012)	-0.0010 (0.008)	0.0126 (0.009)
Home governance index		0.1073*** (0.029)	0.0295 (0.025)	-0.0499*** (0.018)	0.0242* (0.012)	0.0257* (0.015)	-0.0642*** (0.012)	0.0480*** (0.009)	0.0162 (0.010)
Neighbours' real income <sup>a</sup> (log)		0.0230 (0.036)	-0.0288 (0.033)	-0.0333 (0.037)	0.0568** (0.025)	-0.0235 (0.033)	-0.0270 (0.038)	0.0417* (0.025)	-0.0147 (0.032)
Neighbours' governance index <sup>b</sup>		0.7269*** (0.146)	0.4970*** (0.125)	-0.4982*** (0.092)	0.3264*** (0.064)	0.1718** (0.076)	-0.4914*** (0.076)	0.3380*** (0.052)	0.1534** (0.063)
Log pseudolikelihood		-2,143.08		-2,158.34			-2,154.79		
Wald chi-sq. (area charac.)		1,106.67***		1,067.60***			1,090.84***		
No. of establishments		104.31***		47.00***			71.57***		
No. of observations		1,557		1,557			1,557		
		4,671		4,671			4,671		

Notes: Estimations include three sets of qualitative indicators for survey year, ownership type, and industry, and all enterprise characteristics. Numbers in parentheses are standard errors estimated using the delta method.

<sup>a</sup>Distance-weighted real income.

<sup>b</sup>Income-weighted index.

\*\*\*, \*\*, \* statistically significant at the 1, 5, 10% level.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER et al., various years)

Among the three governance indicators, the corruption indices have the highest pairwise correlations, while the proactivity indices have the lowest pairwise correlations across Vietnam's provinces (see Table 3). Qualitatively, the results using the corruption indices (columns (4) to (6) of Table 6) are comparable to those using the transparency indices with two important differences. First, the north dummy variable is no longer statistically significant in this specification. Second, neighbours' distance-weighted income is also statistically insignificant in this specification. From Table 3, we see that the pairwise correlations among the income variables and transparency indices are consistently positive throughout. That is, high-income areas tend to have better governance. But, the opposite is true for income and the corruption indices. Home and non-neighbouring provinces with high income tend to have bad governance. The robustness checks below will show that the loss in statistical significance observed here is due to collinearity among the income variables and the corruption indices.

As in the previous specification, the share of sales in home provinces is negatively associated with home provinces' corruption index (column (4)). However, this leads to proportionally larger sales in both neighbouring and non-neighbouring provinces (columns (5) and (6)). Together, the results imply that as home provinces' corruption index increases (i.e., home governance quality improves), SMEs could expand and sell beyond their home markets because less SME resources are devoted to informal payments. The share of sales to neighbouring and non-neighbouring provinces increases by 5.2 and 2.1 percentage points, respectively, for a one-point increase in home provinces' corruption index. This complements each area's respective improvements in income-weighted governance quality with marginal effects of 0.024 (neighbouring provinces) and 0.172 (non-neighbouring provinces).

Finally, as in the two previous specifications, SMEs in provinces with officials proactively solving business problems and having positive attitudes towards the private sector sell proportionally a smaller share at home (column (7) of Table 6) and proportionally a larger share to neighbouring provinces (column (8)) with marginal effects of  $-0.029$  and  $0.023$ , respectively. Likewise, these complement each area's governance quality, with a one-point increase in neighbouring (non-neighbouring) provinces' income-weighted proactivity index contributing to a 4.8 (15.3) percentage point increase in the share of sales to neighbouring (non-neighbouring) provinces. As in the specification using the corruption indices, there is no evidence that SMEs in northern provinces sell proportionally more in their home markets, and the income variables are statistically insignificant.

Our results are consistent with Miranda and Wagner's (2018) finding that neighbours' institutions matter in trade flows. Thus, there is incentive for policymakers in Vietnam's provinces to coordinate policies for private sector development. *Ceteris paribus*, good governance at home encourages home enterprises to venture out while neighbours' good governance has a 'pull' effect on these SMEs.

#### 4.1 | Robustness of results

We conduct a number of robustness checks starting with the sequential addition of area characteristics to ensure that our results are not sensitive to multicollinearity concerns. Select marginal effects for the three specifications are summarised in Table 7.<sup>25</sup> Our findings pertaining to enterprises' characteristics are quite robust to the sequential addition of the characteristics of home provinces, neighbouring provinces and non-neighbouring provinces. At the 5% level of significance, results indicate that when statistically significant, the north province indicator suggests smaller (larger) proportion of sales in home provinces (neighbouring and non-neighbouring provinces) in two of the three specifications. This is opposite of our a priori expectations that SMEs in the north might be less entrepreneurial and are expected to venture less outside of their home markets because of the region's longer experience

<sup>25</sup>Marginal effects for all regressors are in Tables S5–S7 available at the journal's website.

**TABLE 7** Fractional multinomial logit regression: average marginal effects of area characteristics only

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Home provinces	Neighbouring provinces	Non-neighbouring provinces	Home provinces	Neighbouring provinces	Non-neighbouring provinces	Home provinces	Neighbouring provinces	Non-neighbouring provinces
Specification 1, governance index: transparency									
North	-0.0089 (0.011)	0.0076 (0.006)	0.0013 (0.008)	-0.0195* (0.012)	0.0212*** (0.007)	-0.0017 (0.009)	0.0091 (0.015)	-0.0105 (0.010)	0.0014 (0.011)
Home real income (log)	-0.0364*** (0.005)	0.0145*** (0.003)	0.0220*** (0.004)						
Home transparency index	0.0079 (0.013)	-0.0024 (0.009)	-0.0055 (0.010)						
Neighbours' real income <sup>a</sup> (log)				-0.0443*** (0.006)	0.0183*** (0.004)	0.0260*** (0.005)			
Neighbours' transparency index <sup>b</sup>				0.0315* (0.019)	0.0078 (0.012)	-0.0393*** (0.015)			
Non-neighbours' real income <sup>a</sup> (log)							-0.0347 (0.023)	0.0333** (0.016)	0.0014 (0.019)
Non-neighbours' transparency index <sup>b</sup>							-0.1030 (0.084)	0.0992* (0.054)	0.0038 (0.064)
Log pseudolikelihood	-2,174.93			-2,177.64			-2,198.71		
Wald chi-sq.	1,002.75***			988.32***			900.25***		
Specification 2, governance index: corruption									
North	-0.0522*** (0.013)	0.0342*** (0.008)	0.0180* (0.011)	-0.0495*** (0.012)	0.0243*** (0.007)	0.0252*** (0.009)	0.0397*** (0.012)	-0.0214** (0.008)	-0.0183* (0.010)

(Continues)

TABLE 7 (Continued)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Home provinces	Neighbouring provinces	Non-neighbouring provinces	Home provinces	Neighbouring provinces	Non-neighbouring provinces	Home provinces	Neighbouring provinces	Non-neighbouring provinces
Home real income (log)	-0.0465*** (0.005)	0.0215*** (0.003)	0.0251*** (0.005)						
Home corruption index	-0.0509*** (0.012)	0.0327*** (0.008)	0.0182* (0.010)						
Neighbours' real income <sup>a</sup> (log)				-0.0392*** (0.006)	0.0171*** (0.004)	0.0220*** (0.005)			
Neighbours' corruption index <sup>b</sup>				-0.0389*** (0.012)	0.0158* (0.008)	0.0230** (0.011)			
Non-neighbours' real income <sup>a</sup> (log)							-0.0500** (0.023)	0.0395** (0.017)	0.0106 (0.019)
Non-neighbours' corrup- tion index <sup>b</sup>							-0.3661*** (0.071)	0.2059*** (0.047)	0.1602*** (0.056)
Log pseudolikelihood	-2,170.68			-2,176.53			-2,192.43		
Wald chi-sq.	1,011.69***			987.9***			967.53***		
Specification 3, governance index: proactivity									
North	-0.0302** (0.013)	0.0221*** (0.008)	0.0081 (0.011)	-0.0441*** (0.011)	0.0235*** (0.007)	0.0207** (0.009)	0.0461*** (0.011)	-0.0206*** (0.008)	-0.0254*** (0.010)
Home real income (log)	-0.0398*** (0.005)	0.0176*** (0.003)	0.0222*** (0.004)						

(Continues)

TABLE 7 (Continued)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Home provinces	Neighbouring provinces	Non-neighbouring provinces	Home provinces	Neighbouring provinces	Non-neighbouring provinces	Home provinces	Neighbouring provinces	Non-neighbouring provinces
Home proactivity index	-0.0133* (0.007)	0.0102** (0.005)	0.0031 (0.006)						
Neighbours' real income <sup>a</sup> (log)				-0.0425*** (0.006)	0.0185*** (0.004)	0.0240*** (0.005)			
Neighbours' proactivity index <sup>b</sup>				-0.0269*** (0.007)	0.0145*** (0.004)	0.0124** (0.006)			
Non-neighbours' real income <sup>a</sup> (log)							-0.0409* (0.023)	0.0337** (0.016)	0.0072 (0.019)
Non-neighbours' proactivity index <sup>b</sup>							-0.2869*** (0.042)	0.1390*** (0.026)	0.1479*** (0.034)
Log pseudolikelihood	-2,173.78			-2,174.27			-2,187.33		
Wald chi-sq.	988.64***			991.02***			1,006.28***		

Notes: Number of enterprises = 1,557 and number of observations = 4,671. Estimations include all enterprises characteristics. Numbers in parentheses are standard errors. Standard errors are estimated using the delta method.

<sup>a</sup>Distance-weighted real income.

<sup>b</sup>Income-weighted index.

\*\*\*, \*\*, \* statistically significant at the 1, 5, 10% level.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER et al., various years)

with central planning, and the region being the seat of government for most of the country's history; or, with the idea that northern consumers have a more collectivist nature, and prefer home goods more. The mixed results could imply that enough time has lapsed such that the anti-entrepreneurial effects or collectivist attitudes arising from a centrally planned economy in the north have dissipated. Thus, conclusions pertaining to differences in the conduct of business or consumer preferences between the north and other areas (central and south) must remain tentative. The proportion of home market sales is negatively associated with both income and governance quality throughout Vietnam, while the proportion of sales outside of SMEs' home market is positively associated with income and governance quality. These conclusions are quite robust across all specifications considered thus far.

To take full advantage of the benefits emanating from the new Law on Support for Small- and Medium-sized Enterprises, household enterprises must convert to other legal forms such as sole proprietorships or joint stock companies (Article 16).<sup>26</sup> On average, the proportion of home province sales for household enterprises is 0.90 compared to 0.73 for non-household enterprises. To account for the possibility that household enterprises face special challenges or different factors drive their sales strategy across markets, we run separate regressions for household and non-household enterprises. We only include SMEs that did not change household/non-household status in the three survey years. The marginal effects for area or market characteristics are reported in Table 8.<sup>27</sup> The marginal effects for these two groups are qualitatively similar so there is no evidence that different factors drive household enterprises' sales across various markets. Moreover, the results are similar to those described previously. Therefore, the new SME law's push for households to convert to other legal forms is not expected to undermine household enterprises' sales strategy, but might contribute to expansion of sales beyond their home markets.<sup>28</sup>

## 5 | DISCUSSION AND CONCLUDING REMARKS

We confirm Coughlin and Novy's (2018) idea that frictions at the micro level might explain home bias. At the enterprise level, we find that a larger proportion of sales in home markets for smaller and younger enterprises. Membership in business networks allows SMEs to increase the proportion of sales outside of their home markets. Unfortunately, the data set we use does not provide details on what the business associations are for (i.e., purpose), so we cannot be definite as to the exact reason, but membership clearly has benefits on SMEs' ability to sell beyond their home markets. These benefits can be direct (e.g., the association provides sales leads) or indirect (e.g., the association communicate new government policies). Given the conclusion of Schmitz, Tuan, Hang, and McCulloch's (2015) conclusion that SMEs have little influence in policy reforms at the provincial level, business associations can strengthen their advocacy work for SMEs and provide SMEs with the necessary experience to advocate for themselves. Business associations can also work together (rather than compete for members) to highlight the advantages they provide to SMEs.

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<sup>26</sup>The two earlier decrees on SMEs (footnote 2) did not address the transformation of household enterprises into other legal forms.

<sup>27</sup>Marginal effects for all regressors are in Tables S8–S10 available at the journal's website.

<sup>28</sup>Two additional robustness checks are conducted: first, we consider all SMEs in the latest survey year (2015) instead of SMEs appearing in all three survey years to address concerns related to survival bias. Second, the mean of neighbours' and non-neighbours' governance indices is used instead of the income-weighted governance indices since the latter might be dominated by provinces with large income. Both confirm our main findings. Details are provided in the Appendix S1 accompanying the paper.

**TABLE 8** Fractional multinomial logit regression: average marginal effects of area characteristics by legal status governance indicators: transparency, corruption, and proactivity

Variables	(1)	(2)	(3)	(1)	(2)	(3)
	Non-household enterprises			Household enterprises		
	Home province	Neighbouring provinces	Non-neighbouring provinces	Home province	Neighbouring provinces	Non-neighbouring provinces
Specification 1, governance index: transparency						
North	0.0091 (0.047)	0.0062 (0.027)	-0.0152 (0.040)	0.0484** (0.024)	-0.0405** (0.019)	-0.0079 (0.018)
Home real income (log)	0.0025 (0.021)	0.0204** (0.010)	-0.0230 (0.020)	-0.0432*** (0.008)	0.0203*** (0.005)	0.0228*** (0.006)
Home transparency index	-0.0901** (0.041)	0.0479* (0.024)	0.0422 (0.037)	-0.0235 (0.020)	0.0180 (0.013)	0.0054 (0.018)
Neighbours' real income <sup>a</sup> (log)	-0.0725*** (0.027)	0.0159 (0.013)	0.0565** (0.026)	-0.0463*** (0.012)	0.0260*** (0.008)	0.0203** (0.009)
Neighbours' transparency index <sup>b</sup>	-0.0983 (0.065)	0.1237*** (0.038)	-0.0254 (0.057)	-0.2135*** (0.038)	0.1331*** (0.027)	0.0804** (0.034)
Non-neighbours' real income <sup>a</sup> (log)	0.0693 (0.090)	0.0792** (0.039)	-0.1485* (0.089)	0.0103 (0.042)	-0.0047 (0.027)	-0.0057 (0.035)
Non-neighbours' transparency index <sup>b</sup>	-0.9967*** (0.328)	0.6353*** (0.215)	0.3615 (0.290)	-1.3258*** (0.198)	0.8365*** (0.144)	0.4892*** (0.172)
Log pseudolikelihood	-921.21					
Wald chi-sq.	266.28***					
Wald chi-sq. (area charac.)	41.35***					

(Continues)

TABLE 8 (Continued)

Variables	Non-household enterprises			Household enterprises		
	(1)	(2)	(3)	(1)	(2)	(3)
	Home province	Neighbouring provinces	Non-neighbouring provinces	Home province	Neighbouring provinces	Non-neighbouring provinces
Specification 2, governance index: corruption						
North	-0.0331 (0.043)	0.0093 (0.025)	0.0238 (0.037)	-0.0430** (0.019)	0.0125 (0.013)	0.0305** (0.015)
Home real income (log)	0.0000 (0.023)	0.0293** (0.013)	-0.0293 (0.021)	-0.0364*** (0.010)	0.0189*** (0.006)	0.0176** (0.008)
Home corruption index	-0.0567* (0.029)	0.0499** (0.024)	0.0068 (0.023)	-0.0668*** (0.019)	0.0514*** (0.011)	0.0154 (0.017)
Neighbours' real income <sup>a</sup> (log)	-0.0453 (0.029)	-0.0018 (0.015)	0.0471* (0.026)	-0.0027 (0.011)	-0.0049 (0.006)	0.0075 (0.008)
Neighbours' corruption index <sup>b</sup>	-0.0546 (0.041)	0.0022 (0.028)	0.0524 (0.037)	-0.0480** (0.019)	0.0314** (0.015)	0.0166 (0.015)
Non-neighbours' real income <sup>a</sup> (log)	0.0036 (0.093)	0.1325** (0.053)	-0.1361 (0.085)	-0.0172 (0.047)	0.0249 (0.030)	-0.0077 (0.040)
Non-neighbours' corruption index <sup>b</sup>	-0.4626** (0.211)	0.2687* (0.149)	0.1938 (0.173)	-0.3908*** (0.111)	0.3106*** (0.077)	0.0803 (0.091)
Log pseudolikelihood	-923.01					
Wald chi-sq.	254.05***					
Wald chi-sq. (area charac.)	30.85***					
Specification 3, governance index: proactivity						
North	0.0038 (0.043)	0.0040 (0.025)	-0.0078 (0.038)	-0.0057 (0.018)	-0.0163 (0.012)	0.0220 (0.014)

(Continues)

TABLE 8 (Continued)

Variables	Non-household enterprises			Household enterprises		
	(1)	(2)	(3)	(1)	(2)	(3)
	Non-neighbouring provinces			Neighbouring provinces		
Home province						
Home real income (log)	0.0091 (0.025)	0.0171 (0.015)	-0.0262 (0.022)	-0.0016 (0.011)	-0.0076 (0.008)	0.0092 (0.008)
Home proactivity index	-0.0286* (0.016)	0.0415*** (0.011)	-0.0129 (0.015)	-0.0342*** (0.009)	0.0202*** (0.006)	0.0141* (0.008)
Neighbours' real income <sup>a</sup> (log)	-0.0366 (0.031)	-0.0121 (0.017)	0.0488* (0.028)	-0.0170 (0.013)	0.0069 (0.009)	0.0101 (0.008)
Neighbours' proactivity index <sup>b</sup>	-0.0509* (0.030)	0.0536*** (0.018)	-0.0027 (0.025)	-0.0801*** (0.014)	0.0533*** (0.011)	0.0269*** (0.011)
Non-neighbours' real income <sup>a</sup> (log)	-0.0265 (0.092)	0.1443*** (0.048)	-0.1178 (0.084)	0.0177 (0.043)	-0.0071 (0.030)	-0.0106 (0.033)
Non-neighbours' proactivity index <sup>b</sup>	-0.3987** (0.173)	0.3539*** (0.110)	0.0447 (0.147)	-0.5129*** (0.090)	0.3583*** (0.068)	0.1546*** (0.069)
Log pseudolikelihood	-921.6			-1,049.8		
Wald chi-sq.	273.12***			993.53***		
Wald chi-sq. (area charac.)	42.09***			94.63***		

Notes: Number of non-household enterprises = 418 and number of observations = 1,254. Number of household enterprises = 1,050 and number of observations = 3,150. Estimations include three sets of qualitative indicators for survey year, ownership type (excluded in the household enterprises sample), and industry. Numbers in parentheses are standard errors estimated using the delta method.

<sup>a</sup>Distance-weighted real income.

<sup>b</sup>Income-weighted index.

\*\*\*, \*\*, \* statistically significant at the 1, 5, 10% level.

Source of data: 2011, 2013 and 2015 Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam (UNU-WIDER et al., various years)

We also find evidence consistent with the agglomeration economies explanations found in the home bias literature. When SMEs' production structure is primarily for final consumption, then SMEs' sales are proportionally more in their home markets. Likewise, the farther the inputs are sourced, the larger the proportion of sales outside of the home market. Input sourcing and sales are complementary activities. To increase SME participation in production value chains and product distribution chains, the new Law on Support for Small- and Medium-sized Enterprises directs provincial officials to provide rental support at industrial parks to local SMEs (Article 11). Although beneficial, our results suggest that operating inside industrial parks is but one of many alternatives of reaching customers beyond one's home province.<sup>29</sup>

Besides home province governance quality, neighbours' governance quality matters too. The proportion of SME sales to neighbouring provinces is positively associated with these areas' governance quality. Interestingly, controlling for neighbouring provinces' governance quality, the proportion of home market sales decrease as the quality of home province governance improves. This is a surprising result but could be explained as follows: good home province governance frees SME resources (that would have otherwise been used for information gathering or informal payments) for use in entering unfamiliar or less familiar markets. When inter-provincial barriers to trade are eased (e.g., through improvement of governance in both home and neighbouring provinces), SMEs benefit from market diversification because exposure to one market's potential weakness is alleviated, and as their markets expand, SMEs experience economies to scale. Consumers benefit too as more competition brings prices down for some items. Prices converge as localised markets become more integrated. Price convergence is a pre-condition to income convergence. Thus, there is an incentive for subnational policy-makers to coordinate policies to bring about a more integrated market inside Vietnam.<sup>30</sup>

Due to its coverage, a limitation of the survey data used in this paper is that it is not helpful in understanding SME activities in Vietnam's less developed or frontier regions (e.g., Cao Bang province). Although the new Law on Support for Small- and Medium-sized Enterprises gives priority to eligible SMEs owned by women or who employ more women (Article 5), no provision is made to eligible SMEs located in remote and thus less developed areas. This is a crucial missing piece in the new SME law.

A possible extension to this paper is to investigate how integrated SMEs in other northern provinces are to businesses in the two growth hubs in the north (Hanoi and Hai Phong) in terms of output markets, input markets (labour and raw materials), capital equipment sources and technical knowledge. To achieve internal market integration, and in the long-term, income convergence across its regions, in the 2007–15 period, Vietnam spent an annual average of US\$1.1 billion (0.72% of GDP) building and improving its road network (Global Infrastructure Hub, 2018). Yet Cung et al. (2004) document that despite improvements in infrastructure (e.g., roads north of Hanoi leading to China), historically far fewer jobs are created in provinces around Hanoi and Hai Phong compared to provinces around Ho Chi Minh City. As mentioned previously, provinces in the northern midlands and mountain areas are still among the poorest in Vietnam despite investments in infrastructure. Perhaps closer cooperation among policy-makers and businesses in these areas with entities in Hanoi and Hai Phong might generate more

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<sup>29</sup> Among SMEs in the survey data used, less than 5% operate out of industrial parks or zones. This is not surprising as these parks or zones have been primarily developed to house enterprises with foreign equity that mainly export. We are unable to directly study the relationship between SME sales across various markets and whether SMEs operate out of industrial parks or zones as not operating in a park or zone is lumped together with operating in other types of parks or zones (e.g., high-tech parks or zones) in the surveys.

<sup>30</sup> The new Law on Support for Small- and Medium-Sized Enterprises delegates coordination responsibilities to two ministries. The Ministry of Planning and Investment will "act as a coordinator and identify objectives, beneficiaries and focus of support for formulating and implementing of plans, programs and projects to support small- and medium-sized enterprises nationwide" (Article 22), while the Ministry of Finance will coordinate the allocation of capital to support SMEs (Article 23). Our results highlight the need for coordination among subnational policymakers to achieve the new law's objectives.



economic opportunities for SMEs in these areas.<sup>31</sup> A similar investigation can be conducted for provinces in the central region (with Da Nang as growth hub) and southern region (with Ho Chi Minh City as growth hub).<sup>32</sup> Logically, the next step is to determine how integrated these three growth hubs are to each other, and what could be done to develop or strengthen links across these hubs.<sup>33</sup>

A branch of the literature has shown theoretically that frictions in the goods markets do not only contribute to home bias in goods consumption but also to home bias in financial (equity) investments (e.g., Coeurdacier, 2009). Thus, the observation that goods sales are highly localised might also be indicative of the need to work for a more integrated capital market in Vietnam.

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## CONFLICT OF INTEREST

None.

## DATA AVAILABILITY STATEMENT

Data from the 2011, 2013, and 2015 versions of the ‘Survey of Small and Medium Scale Manufacturing Enterprises (SMEs) in Viet Nam’ support the findings of this study and are available from United Nations University World Institute for Development Research (UNU-WIDER). Restrictions apply to the availability of these data. Data are made available by UNU-WIDER by completing the data access form here: <https://www.wider.unu.edu/database/viet-nam-sme-database>.

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## REFERENCES

- Ayyagari, M., Demircuc-Kunt, A., & Maksimovic, V. (2014). Who creates jobs in developing countries? *Small Business Economics*, 43, 75–99. <https://doi.org/10.1007/s11187-014-9549-5>
- Banomyong, R., Thai, V. V., & Yuen, K. F. (2015). Assessing the national logistics of Vietnam. *The Asian Journal of Shipping and Logistics*, 31, 21–58.
- Benzing, C., Chu, M. H., & Callanan, G. (2005). A regional comparison of the motivation and problems of Vietnamese entrepreneurs. *Journal of Developmental Entrepreneurship*, 10, 3–27. <https://doi.org/10.1142/S1084946705000033>

<sup>31</sup>Indeed, at the end of 2018, Hanoi’s Department of Industry and Trade Development signed a cooperation agreement with 36 provinces to enhance two-way trade among the provinces (Hanoi Promotion Agency, 2018).

<sup>32</sup>To date, Ho Chi Minh City has a Commerce Development Cooperation Agreement with 20 southern provinces covering issues such as food safety chain development, distribution coordination and market stabilisation (Decree 20/2017/NQ-HDND dated 7 December, 2017).

<sup>33</sup>Business associations have primarily been active in boosting internal trade across the northern, central and southern regions of Vietnam (Huynh, 2018).

- Buis, M. (2010). *Relationship between the likelihood functions used in fmlogit and mlogit*. Retrieved from <http://maartenbuis.nl/software/likelihoodFmlogit.pdf>
- Co, C. Y., Nguyen, K. T., Nguyen, T. N., & Tran, Q. N. (2018). The exporting and subcontracting decisions of Vietnam's small and medium-sized enterprises. *International Review of Economics and Finance*, 58, 449–466. <https://doi.org/10.1016/j.iref.2018.05.004>
- Coeurdacier, N. (2009). Do trade costs in goods market lead to home bias in equities? *Journal of International Economics*, 77, 86–100. <https://doi.org/10.1016/j.jinteco.2008.10.005>
- Combes, P.-P., Lafourcade, M., & Mayer, T. (2005). The trade-creating effects of business and social networks: Evidence from France. *Journal of International Economics*, 66, 1–29. <https://doi.org/10.1016/j.jinteco.2004.07.003>
- Coughlin, C. C., & Novy, D. (2013). Is the international border effect larger than the domestic border effect? Evidence from US trade. *Cesifo Economic Studies*, 59, 249–276. <https://doi.org/10.1093/cesifo/ifs002>
- Coughlin, C. C., & Novy, D. (2018). *Estimating border effects: The impact of spatial aggregation* (Working Paper Series 2016-006C). St. Louis, MO: Federal Reserve Bank. Retrieved from <https://doi.org/10.20955/wp.2016.006>
- Cung, N. D., Pham, P. A., Bui, V., & Dapice, D. (2004). *History or policy: Why don't northern provinces grow faster?* Hanoi, Vietnam: Central Institute for Economic Management and United Nations Development Programme.
- Do, Q.-A., Nguyen, K.-T., & Tran, A. N. (2017). One mandarin benefits the whole clan: Hometown favoritism in an authoritarian regime. *American Economic Journal: Applied Economics*, 9, 1–29. <https://doi.org/10.1257/app.20130472>
- Evans, C. L. (2003). The economic significance of national border effects. *American Economic Review*, 93, 1291–1312. <https://doi.org/10.1257/000282803769206304>
- Evans, C. L. (2007). National border effects: Location, not nationality, matters. *Review of International Economics*, 15, 347–369. <https://doi.org/10.1111/j.1467-9396.2007.00665.x>
- Felbermayr, G., & Gröschl, J. (2014). Within U.S. trade and the long shadow of the American secession. *Economic Inquiry*, 52, 382–404. <https://doi.org/10.1111/j.1465-7295.2012.00510.x>
- Garmendia, A., Llano, C., Minondo, A., & Requena, F. (2012). Networks and the disappearance of the intranational home bias. *Economics Letters*, 116, 178–182. <https://doi.org/10.1016/j.econlet.2012.02.021>
- General Statistics Office of Vietnam (2018). *Statistical yearbook of Viet Nam*. Retrieved from General Statistics Office website: [https://www.gso.gov.vn/Default\\_en.aspx?tab=766](https://www.gso.gov.vn/Default_en.aspx?tab=766)
- Global Infrastructure Hub (2018). *Global infrastructure outlook: Forecasting infrastructure needs and gaps*. Retrieved from <https://outlook.github.org/>
- Hanoi Promotion Agency, Hanoi People's Committee (2018). *Đẩy mạnh kết nối cung cầu với các địa phương (in Vietnamese)*. Retrieved from <http://hpa.hanoi.gov.vn/trang-chu/banner-trang-chu/hoi-cho-dac-san-vung-mien-vietnam/hoi-cho-dac-san-vung-mien-viet-nam-va-trien-lam-moi-lang-mot-san-pham-ovop-2018/C3%B0ay-manh-ket-noi-cung-cau-voi-cac-phuong-a10682>
- Helliwell, J. F., & Verdier, G. (2001). Measuring internal trade distances: A new method applied to estimate provincial border effects in Canada. *Canadian Journal of Economics*, 34, 1024–1041. <https://doi.org/10.1111/0008-4085.00111>
- Hillberry, R., & Hummels, D. (2003). Intranational home bias: Some explanations. *The Review of Economics and Statistics*, 85, 1089–1092. <https://doi.org/10.1162/003465303772815970>
- Hillberry, R., & Hummels, D. (2008). Trade response to geographic frictions: A decomposition using micro-data. *European Economic Review*, 52, 527–550.
- Huynh, K. (2018). *Hiệp hội doanh nghiệp 3 miền tham gia kết nối giao lưu tại Cần Thơ (in Vietnamese)*. Retrieved from <http://enternews.vn/hiiep-hoi-doanh-nghiep-3-mien-tham-gia-ket-noi-giao-luu-tai-can-tho-132966.html>
- International Trade Centre (2015). *SME competitiveness outlook: Connect, compete and change for inclusive growth*. Geneva, Switzerland: International Trade Centre.
- Kokko, A., & Sjöholm, F. (2005). The internationalization of Vietnamese small and medium-sized enterprises. *Asian Economic Papers*, 4, 152–177. <https://doi.org/10.1162/asep.2005.4.1.152>
- KPMG (2017). *National assembly passes law on supporting small- and medium-sized enterprises*. Tax Alert (June). Retrieved from KPMG website: <https://home.kpmg.com/content/dam/kpmg/xx/pdf/2017/06/tnf-vietnam-jun21-2017.pdf>
- Malesky, E. (2016). *The Vietnam provincial competitiveness index: Measuring economic governance for private sector development, 2015 final report*. Hanoi: Vietnam Chamber of Commerce and Industry and United States Agency for International Development.
- Malesky, E., & Dau, A. T. (2010). *The Vietnam provincial competitiveness index: Measuring economic governance for private sector development, 2010 final report*. Hanoi: Vietnam Chamber of Commerce and Industry and United States Agency for International Development.

- McCallum, J. (1995). National borders matter: Canada–U.S. regional trade patterns. *American Economic Review*, 85, 615–623.
- Millimet, D. L., & Osang, T. (2007). Do state borders matter for U.S. intranational trade? The role of history and internal migration. *Canadian Journal of Economics*, 40, 93–126. <https://doi.org/10.1111/j.1365-2966.2007.00401.x>
- Miranda, R., & Wagner, R. (2018). *Bad neighbors: Bordering institutions as comparative (dis)advantage*. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2631248](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2631248)
- Newman, C., Rand, J., Tarp, F., & Nguyen, T. T. A. (2017). Exporting and productivity: Learning from Vietnam. *Journal of African Economies*, 26, 67–92. <https://doi.org/10.1093/jae/ejw021>
- Nguyen, B., Mickiewicz, T., & Du, J. (2017). Local governance and business performance in Vietnam: The transactions costs perspective. *Regional Studies*, 52, 542–557.
- Nguyen, T. T. M., Jung, K., Lantz, G., & Loeb, S. G. (2003). An exploratory investigation into impulse buying behavior in a transitional economy: A study of urban consumers in Vietnam. *Journal of International Marketing*, 11, 13–35. <https://doi.org/10.1509/jimk.11.2.13.20162>
- Noton, C. (2015). On the size of home bias. *Applied Economics*, 47, 123–128. <https://doi.org/10.1080/00036846.2014.964832>
- Osborne, M. E., Buttinger, J., Jamieson, N. L., Hickey, G. C., Duiker, W. J., & Turley, W. S. (2018). Vietnam. *Encyclopædia Britannica Online*. Retrieved from <http://www.britannica.com/place/Vietnam>
- Potoski, M., & Prakash, A. (2009). Information asymmetries as trade barriers: ISO 9000 increases international commerce. *Journal of Policy Analysis and Management*, 28, 221–238. <https://doi.org/10.1002/pam.20424>
- Schmitz, H., Tuan, D. A., Hang, P. T. T., & McCulloch, N. (2015). Drivers of economic reform in Vietnam's provinces. *Development Policy Review*, 33, 175–193. <https://doi.org/10.1111/dpr.12097>
- UNU-WIDER, Central Institute for Economic Management (CIEM), & The Institute of Labour Science and Social Affairs (ILSSA) (various years). *Survey of small and medium scale manufacturing enterprises (SMEs) in Viet Nam, 2011, 2013, and 2015*. Helsinki: UNU-WIDER.
- Vu, T. T. A. (2016). Vietnam: Decentralization amidst fragmentation. *Journal of Southeast Asian Economies*, 33, 188–208.
- Vu, T. T., Zouikri, M., & Deffains, B. (2014). The interrelationship between formal and informal decentralization and its impact on subcentral governance performance: The case of Vietnam. *Cesifo Economic Studies*, 60, 613–652. <https://doi.org/10.1093/cesifo/ifu003>
- Wolf, H. C. (2000). Intranational home bias in trade. *The Review of Economics and Statistics*, 82, 555–563. <https://doi.org/10.1162/003465300559046>
- World Bank (2018). *World development indicators databank*. Retrieved from World Bank website: <http://data.worldbank.org/data-catalog/world-development-indicators>
- Wrona, J. (2018). Border effects without borders: What divides Japan's internal trade? *International Economic Review*, 59, 1209–1262. <https://doi.org/10.1111/iere.12302>
- Xing, W., & Li, S. (2011). Home bias, border effect and internal market integration in China: Evidence from inter-provincial value-added tax statistics. *Review of Development Economics*, 15, 491–503. <https://doi.org/10.1111/j.1467-9361.2011.00622.x>
- Zhu, Y. (2003). Culture and management in Vietnam. In M. Warner (Ed.), *Culture and management in Asia* (pp. 249–263). London, UK and New York, NY: Routledge.

## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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