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Foreign ownership and firm performance: Evidence from the South African informal sector

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ABSTRACT

This paper investigates the effect of foreign ownership on firm performance in the South African informal sector. Using the data of 1097 informal businesses sourced from the World Bank Enterprises Survey conducted in four Township provinces in South Africa (Gauteng, KwaZulu-Natal, Eastern Cape and Western Cape) in 2020, the paper aims to address two issues: what is the effect of foreign ownership on performance in the South African informal sector and what factors drive foreign-ownership gap in the South African informal sector if it exists? The empirical analysis uses the multivariable decomposition technique and finds a performance gap between locally and foreign-owned businesses in the South African informal sector. A decomposition of factors shows that differences in endowments can explain the bulk of the gap. Discriminatory/unexplained factors, likely capturing the business culture, also play a significant role. Caution is given when seeking to curb foreign business participation in the informalsector.

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Foreign ownership; informal sector; multivariate decomposition; South Africa

1. Introduction

The important roles of the informal sector in poverty reduction, employment generation, product innovation, and food security are widely acknowledged in the literature (Mhando, 2018; Avenyo, 2021). The report of the International Labour Organization shows that the informal sector accounts for more than 60% of global employment. In Africa, the informal sector is responsible for 85.8% of employment generation (ILO, 2018). Notably, the informal sector in the South African economy generates around 30% of employment as of 2019 (Skinner et al., 2021). These statistics show that the African informal sector is critical to employment generation and important for the optimal performance of African economies. This paper employs primary data collected by the World Bank Enterprises Survey in 2020 on four urban regions in South Africa – Gauteng, KwaZulu-Natal, Western Cape, and Eastern Cape – to examine the ownership and ownership gap effects on the performance of the South African informal sector.

Discussions of the relative performance between foreign-owned and locally-owned businesses often dominate the discourse on the performance of the informal sector in

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South Africa. In response, the South African government is formulating strategic ownership policies that impact foreign nationals' ability to operate businesses in the informal sector (Government of South Africa, 2022). The proposed migrant employment quota system in the draft business licensing bill aims to reduce the number of foreign-owned businesses in the South African informal sector (GTAC, 2020; Carciotto, 2021). Previous attempts have been made, and regional policies such as the Gauteng Township Economic Development Bill attempt to limit the participation of foreign nationals who are not permanent residents from setting up businesses in the informal sector (GTAC, 2020).

Evidence on the impact of foreign ownership and participation on performance is mixed but generally weighs in favour of a positive contribution (Luong et al., 2017; Pasali & Chaudhary, 2020; Genthner & Kis-Katos, 2022; Iwasaki et al., 2022). For instance, the literature shows a positive relationship between innovation and foreign ownership (Luong et al., 2017). The advanced technology usually accompanies foreign investment, giving foreign-owned businesses an edge over locally-owned businesses (Luong et al., 2017; Iwasaki et al., 2022). Moreover, foreign-owned firms tend to have superior management practices, which can result in lower costs and better performance (Iwasaki et al., 2022; Xu et al., 2022).

Furthermore, because foreign owners take the risk of moving investment funds into another country, they tend to be more sensitive to performance and will often monitor top management more closely than locally owned businesses (Han et al., 2022; Iwasaki et al., 2022). This monitoring helps mitigate the risks of information asymmetries and expropriation risks resulting in better firm performance (Han et al., 2022). In addition, foreign investors have other tacit knowledge, which can give them an added advantage over locally-owned businesses (Iwasaki & Mizobata, 2018; Han et al., 2022). Nevertheless, the effect of foreign ownership and participation is subject to the level of foreign involvement (Naidu et al., 2022), firm size (Pasali & Chaudhary, 2020), and institutional environment (Carney et al., 2018, 2019).

The extent to which foreign ownership affects performance in the informal sector is unknown. This paper addresses this gap by making two contributions. Firstly, the paper contributes to the literature on foreign ownership and firm performance by paying attention to foreign ownership in the informal sector. Extant literature examining the foreign ownership-performance nexus has concentrated mainly on the formal sector. The dearth of evidence from the informal sector may be associated with the scarcity of data from the informal sector. This paper uses the World Bank enterprise data, which surveys informal enterprises in 4 South African Provinces. Examining the impact of foreign ownership on firm performance in the South African informal sector at this time contributes to an important and ongoing conversation about the extent to which policy should limit the participation of foreign nationals in the informal sector through the Draft Business Licensing Bill 2022. The paper further extends the literature by decomposing ownership to see if the contribution is premised on the extent of foreign ownership as implied by (Naidu et al., 2022).

Secondly, in addition to investigating whether a performance gap exists between foreign and locally-owned businesses, the paper examines the drivers of the identified performance gap. Extant studies largely examine the effect of foreign ownership on performance without accounting for the factors that drive the performance gap (Pasali & Chaudhary, 2020; Han et al., 2022; Xu et al., 2022). The rest of the paper is structured

as follows. Following the introduction, Section 2 presents the methodology, while Section 3 discusses empirical results. Lastly, Section 4 makes recommendations based on the findings.

2. Brief literature review

Theoretically, this paper relies on three theories of informality: liberalism, institutional school, and dualistic theories. First, the liberalism theory argues that individuals operate in the informal sector to avoid burdensome regulation and rent-seeking in the formal sector (Williams & Chrisman, 2015; De Soto, 1989, 2001; Nwabuzor, 2005). Burdensome regulations and other compliance features of the formal sector make it costly to operate businesses in the former sector. Nevertheless, because of their informality, such firms lack essential resources like credit and have limited property rights resulting in low productivity. [site]. A related view is based on the institutional theory, which argues that informality is driven by institutional failures in the formal sector. These failures result in resource misallocation and inefficiencies pushing firms into the informal sector. In addition, institutional voids and weaknesses, such as the lack of property rights, also increase the likelihood of firms settling in the informal sector.

Similarly, failures in enforcing rules and regulations can drive these firms into the informal sector. The third theory is driven by the dualist theory, which argues that the informal sector is the remnant of development and will shrink as the economy develops. Consequently, production resources are expected to migrate from the informal or backward sector into the formal or modernised sector. Hart (1973) recognised that the informal sector might exist alongside modernisation as a go-to sector for those lacking the skills and opportunities to work in the formal sector.

All three views emphasise the role of the institutional environment in driving the advantages of foreign-owned businesses over locally-owned ones. Carney et al. (2019) show that the advantages of foreign-owned enterprises over domestically-owned enterprises can dissipate in unfavourable institutional environments. For instance, institutional voids may result in the emergence of powerful business groups which can influence access to resources for production (Carney et al., 2018). Powerful groups can capture the state, which results in resistance against entry and operation of foreign (Carney et al., 2018).

One can argue that this is the case for groups such as the Dudula movement and other retailer associations in South Africa, which argue that the over-protection of foreigners in both the formal and informal sectors takes away job opportunities for South Africans (Zulu, 2022; Gastrow, 2023; Sinwell et al., 2023). Such interest groups can influence access to production resources, impacting firm performance. In South Africa, local business owners are expected to have better resource access than foreign business owners. Moreover, many of those in the informal sector are likely to be undocumented [site], further limiting foreign business owners' access to production resources. Consequently, a difference in performance is expected between local and foreign-owned businesses in the informal sector.

Empirical evidence in the South African informal sector is based on several qualitative studies in selected townships. This evidence is insightful and suggests that foreign-owned businesses have business models that could give them an advantage over locally-owned

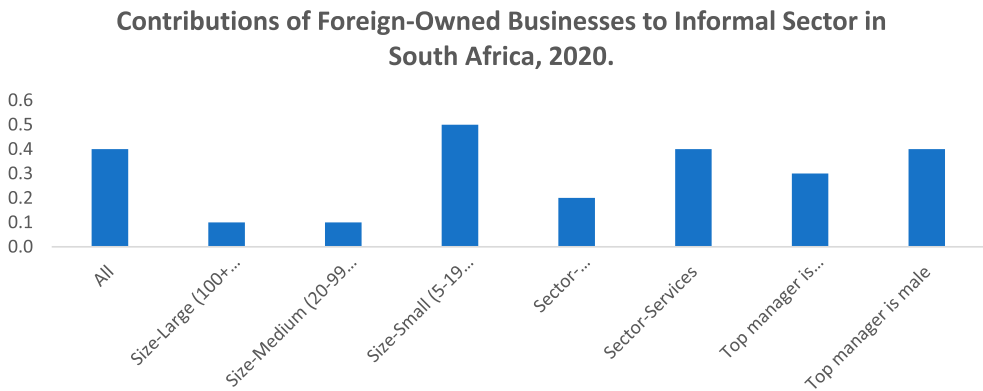


Figure 1. Foreign ownership of Informal Business in South Africa and their manufacturing sub-sections.

businesses. For example, foreign-owned businesses in the informal sector tend to have more variety and larger scale than locally-owned businesses (Mahajan 2014). Furthermore, foreign-owned businesses amass considerable social capital through their networks. These networks are used to form groups that allow them preferential access to supply chains. For example, group buying drives their input costs and product prices down (Mukwarami et al., 2018; Hare & Walwyn, 2019).

Employees outside the family also typify foreign-owned businesses in the informal sector. In contrast, domestically-owned businesses tend to be run as home-based enterprises with very little involvement from members outside the family (Chipunza & Phalatsi, 2019). Consequently, foreign-owned businesses can run longer hours, especially within townships. Additionally, workers in foreign-owned informal businesses tend to be more skilled than workers in locally-owned businesses (Liedeman et al., 2013; Hare & Walwyn, 2019). Moreover, the literature suggests a culture of strict saving among foreign business owners, allowing them to expand their businesses more quickly (Mukwarami et al., 2018). Furthermore, evidence shows that foreign-owned businesses generate 10.3% of innovation relative to 3.8% of innovation contribution by domestic firms (See Fig. 1 and 2; World Bank Enterprises Survey, 2020a).

Overall, the literature supports the hypothesis that foreign ownership and participation in both the formal and informal sectors can significantly and positively impact firm performance. Accessible studies on the informal sector in South Africa are qualitative and localised in a way that they focus on specified townships. While these results are very insightful, they do not give us an idea of the extent of the impact of foreign participation on performance. Such evidence can make a meaningful contribution to the current policy debates on whether to limit foreign participation in the informal sector or not. This paper addresses this gap using World Bank enterprise data.

2.1. Recent legislations impacting the informal sector and business in South Africa

In addition to the draft Licensing Business Bill of 2013, the South African government has recently enacted a number of bills aimed at regulating and safeguarding employment

within the informal sector. This subsection offers a comprehensive overview of three specific bills, namely the Employment Services Amendment Bill, the National Labour Migration Policy, and the National Small Enterprise Amendment Bill.

The Employment Services Amendment Bill which came into effect in 2023 empowers the Empower the Employment and Labour Minister to regulate sector-specific employment equity (EE) targets and to regulate compliance criteria for issuing EE Compliance Certificates in South Africa. Its implications extend to businesses operating across a wide range of sectors, including both locally-owned enterprises, foreign-owned businesses, and the small informal business sector. Foreign-owned enterprises could potentially encounter more stringent regulations and increased administrative burdens when hiring foreign workers because of this bill. Adhering to the new requirements may lead to additional expenditures like registration fees and visa processing expenses, which could potentially hinder the operational efficiency of foreign-owned businesses and drive-up overall costs.

Locally-owned businesses may also confront challenges arising from this bill. The competition for skilled labour may intensify, and regulations pertaining to foreign labour may restrict the pool of skilled workers available to these businesses. The associated costs of compliance and administrative burdens, particularly for small and medium-sized enterprises (SMEs) with limited resources and capacity, can prove to be particularly onerous. Similarly, the National Labour Migration Policy drafted in 2022 aims to strike a balance between the expectations of the South African population regarding job opportunities and the perception that undocumented foreigners worsen and distort access to the labour market. The policy carries substantial implications for businesses operating across various sectors, including foreign-owned enterprises, locally-owned businesses, and the small informal business sector. For foreign-owned businesses, this policy may give rise to challenges concerning workforce diversity and skills deficiencies due to restrictions on the employment of foreign workers.

Specifically, these businesses may face heightened compliance requirements related to the recruitment, employment, and management of foreign workers, thereby resulting in increased administrative burdens and costs. Additionally, the policy curtails labour market flexibility for foreign-owned businesses. Locally-owned businesses may encounter difficulties in acquiring skilled workers, which may prompt a greater reliance on informal employment arrangements. The impact of the policy extends to the competitive dynamics and compliance expenses for locally-owned businesses, consequently adversely affecting small and informal businesses across South Africa.

Lastly, the National Small Enterprise Amendment Bill, 2023 signifies the South African government's endeavour to bolster the growth of small enterprises, foster entrepreneurship, and stimulate job creation. The bill aims to ensure that small enterprises have access to an efficient and affordable justice system. Business-to-business disputes and issues related to late or non-payment of amounts due are widespread challenges faced by small enterprises worldwide. These challenges have significant adverse effects on the growth of small enterprises. The bill has the potential to substantially influence the competitive landscape for foreign-owned businesses, creating opportunities for small enterprises, including locally-owned businesses, to thrive and expand. The increased competition from small enterprises benefiting from the bill's provisions may conceivably impact market share and profitability. Foreign-owned businesses may

contemplate exploring collaborative opportunities with small enterprises to leverage their entrepreneurial spirit and local market expertise. By forming partnerships or joint ventures, foreign-owned businesses can tap into new markets while bolstering the growth of small businesses.

Foreign-owned businesses that engage with small enterprises as suppliers, partners, or customers must ensure compliance with any new regulations or requirements dictated by the bill. It is crucial for them to comprehend and adhere to the provisions of the bill to mitigate any possible legal or operational risks. Locally-owned businesses in South Africa may also encounter various impacts from the bill. Specifically, the bill could enhance access to financial resources, training programmes, and business support services for locally-owned businesses, notably small and medium-sized enterprises (SMEs). This augmented support could aid these businesses in overcoming challenges such as limited access to finance, insufficient skills training, and restricted market access.

Collaborating with small enterprises could enable local businesses to diversify their product offerings, reach new customer segments, and fortify their competitive position in the market. It is of utmost importance for locally-owned enterprises to ensure adherence to new regulations or requirements established by the bill. Acquiring a comprehensive comprehension of the regulatory framework and adapting business operations accordingly is imperative for adeptly manoeuvring through the dynamic business terrain. Furthermore, the bill has the potential to foster initiatives that enhance the capabilities of small informal businesses. By means of training programmes, mentorship schemes, and technical assistance, small business proprietors stand to gain the knowledge and support needed to surmount challenges and capitalise on opportunities for growth and development.

3. Methodology

This subsection presents the study's conceptual framework, data, and empirical model. It comprises the conceptual framework, data, and empirical models adopted in the paper.

3.1. *Measuring performance in the informal sector*

Definitions and measurements of informality can vary in different countries. In the South African context, informal businesses refer to units of production that are not registered for tax or with any licensing authority (StatsSA, 2013). These units may or may not operate with employees and are not covered by formal regulations. For the definition of foreign ownership, the paper adopts the Medina et al. (2017) and World Bank Enterprise Surveys (2020b) definitions, where foreign ownership is defined as when foreign nationals have at least a 10% ownership stake in the business. Measurement of performance matters for evaluating the effectiveness of policies targeted at transforming informal businesses into formal businesses, policy advocacy of informal businesses' owners, and the analysis of national and global employment trends.

The empirical literature adopts several performance measures: sales, innovation, profitability, and efficiency. These measures have unique advantages. While profitability is a reputable short-term performance measure (Bolarinwa et al., 2019; Thompson Bolarinwa & Obembe, 2019), innovation and sales performance are long-term performance indicators (Bolarinwa & Adegboye 2020; Avenyo et al., 2021). Besides, profitability

performance could be doctored to favour shareholders since the managerial rewards and tenure extension primarily rely on shareholders' short-term performance judgment. However, efficiency, innovation, and firm sales are long-term firm performance indicators that can predict long-run firm performance. A long-run focus is especially important for informal firms where there are chances to translate these firms to the formal sector.

The paper adopts two informal business performance indicators: Sales and Innovation. Regarding sales, the literature notes that the size of the market, access to finance, location, corruption, and crime largely predict sales (La Porta & Shleifer, 2008, 2014; Avenyo et al., 2021b). The second measure of performance is innovation. Empirical studies have reported a high correlation between sales and innovation (Ayyagari et al., 2010; Avenyo et al., 2021b). More importantly, it should be noted that drivers of innovations are also responsible for driving sales since the present innovation process tends to affect future sales (Avenyo et al., 2021; Johnston & Marshall, 2020).

3.2. The data

The paper adopts a South African dataset on informal enterprises from the World Bank Enterprises Survey 2020. The dataset covers four provinces in South Africa: Gauteng, KwaZulu-Natal, Eastern Cape, and Western Cape. The sectoral coverage included food, textiles and garments, fabricated metal products called ma motor vehicles, other Manufacturing, Construction, Retail, and other Services. The number of participants per subsector is shown in Table 1.

Of the provinces in the sample, Gauteng is the smallest province but has the largest number of major central business districts in South Africa. Hence, it is a hub of informal businesses. Besides, Gauteng and KwaZulu-Natal provinces are the two biggest provinces with informal sectors in South Africa. In contrast, the Eastern and Western Cape provinces are more extensive but have the fewest informal businesses in South Africa. South Africa has a total population of about 60 million and a robust informal sector that accounts for over 30% of employment in the economy (Statistics South Africa, 2021).

3.3. Empirical model

First, the paper investigates the relationship between foreign ownership and performance in the South African informal township sector. The following simple baseline regression model is specified following existing works (Avenyo et al., 2021; Zeitun & Goaid, 2021;

Table 1. Number of participants by sub-sector.

Subsector	Number of firms
Food	135
textiles and garments	76 46
fabricated metal products	46
motor vehicles	115
other manufacturing	170
construction	121
retail	206
other services	228

Xu et al., 2021, 2022):

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 M_O + \epsilon_i \quad (1)$$

Where Y_i is the Township informal firms' sales and innovation performance indicators, sales are measured by the natural logarithm of Total Sales in 2020. Innovation is defined as product innovation, where it is captured by the introduction of a new product or service. M_O represents the ownership of the informal business and is binary, taking the value of 1 if the informal business is domestically owned and 0 if there is at least 10% foreign ownership (Medina et al., 2017; World Bank Enterprise Survey, 2020b). For robustness, foreign ownership is estimated at four different levels: level one adopts foreign ownership between 10% to 20%, while level 2 adopts foreign ownership levels between 21% and 50%. The third level adopts 51% and 99 and full ownership of 100%. Lastly, the baseline measure of foreign ownership adopts raw foreign ownership that ranges between 10% and 100%, which is the standard measure in the literature.

As noted, the paper adopts the total sales in 2020 and technological products and process (TPP) to capture informal sector Township business performance. Innovation is a binary variable that takes the value of 1 if the business enterprises introduce a new product or service in the 2020 fiscal year and 0 otherwise. Equation (1) is estimated within the Ordinary least square (OLS) for the sales model and within Logit regression for the innovation. X_i is the vector of control variables recognised as drivers of informal business performance in the literature (La Porta & Shleifer, 2008; Robson et al., 2009; Gebreeyesus & Mohnen, 2013; La Porta & Shleifer, 2014; Avenyo et al., 2021). First, the paper includes the natural logarithm of past sales to capture the firm size and to control for inherent simultaneity bias (Avenyo et al., 2021a). Also, the paper controls for the age of the enterprises and their square to account for the experience of very old firms. Recent arguments in the literature have also examined the roles of crime, access to finance and corruption on informal business performance, particularly in Africa (LaPorta & Shleifer, 2014). The paper controls for these factors.

The empirical modelling continues by examining whether the ownership gap and its drivers exist in the South African informal sector. The paper adopts the (non)linear multivariable decomposition response model of Powers et al. (2011). The corresponding model is specified as follows:

$$\Delta Y_{(F-I)} = (X^F - X^I)\beta_F + X^I(\beta_F - \beta_I) + [(X^F - X^I)(\beta_F - \beta_I)] \quad (2)$$

In equation (2), F and I represent foreign-owned and local enterprises. ΔY is the difference in mean Sales for foreign-owned and locally-owned enterprises. $X_i, \dots, X_k$ are the characteristics while $\beta_i, \dots, \beta_k$ are estimated coefficients. The first part of the equation (2), $(X^F - X^I)\beta_F$ captures the differences due to endowments (*i.e.* explained gaps), the second part, $X^I(\beta_F - \beta_I) + [(X^F - X^I)(\beta_F - \beta_I)]$, is the difference due to coefficients (*i.e.* unexplained gaps). In contrast, the third part captures the difference in the interaction between endowments and coefficients $[(X^F - X^I)(\beta_F - \beta_I)]$.

4. Empirical results and discussions

4.1. Descriptive statistics

First, the paper presents the descriptive statistics of the key variables in Table 2 – Sales, Innovation, and cities' characteristics of the informal business in the South African economy. Using the data of 1097 informal Township businesses, Table 2 shows that 401 and 249 are located in Gauteng and KwaZulu-Natal provinces, respectively. Also, the Eastern and Western Cape Provinces have 170 and 277 informal Township businesses adopted in the study. The data also shows that 40% of all these township informal businesses are foreign-owned, with the largest proportion in small-size businesses in 2020. Others spread across manufacturing, services, and exports (See Fig. 1). Conclusively, foreign-owned informal businesses occupy a substantial proportion of the South African informal business ecosystem. Hence, their roles in the informal sector's performance are crucial for optimal South African economic performance.

Table 3 shows a very low level of innovation among informal businesses. The question asked firms to indicate if they had introduced new products or services within three years of 2020. Only 49 firms indicated having made innovations. These innovations are generated from introducing new products or improved processes covering new methods in manufacturing products or services, logistics, and distribution methods for firms that spread across the South African economy's manufacturing, retail, construction, and services sub-sectors. Collectively, Fig. 2 shows that foreign-owned informal businesses contributed about 10.3% of innovation to the South African economy in 2020. Therefore, innovation in foreign-owned businesses is relatively higher than the level generated by domestically-owned informal businesses in 2020 (3.8%). The average revenue is 37,737,905 Rands in the fiscal year. The indigenous-owned businesses, however, report higher sales revenue than the overall average (48,508,247).

Furthermore, the study examines the correlation among the variables. The result is shown in Table 3. Overall, the results show moderate coefficients that agree with a priori expectation among the pairs; hence, the issue of multicollinearity is not expected to show in the results. For instance, the correlation between foreign ownership and innovation (0.033) indicates a positive association between innovative processes and foreign ownership. Similarly, the pairs between firm sales and innovation, foreign ownership and size are 0.073 and 0.078, respectively. On the other hand, the correlation between foreign

Table 2. Summary Statistics of Key Variables.

Regions:			Total
Gauteng			401
Eastern Cape			170
KwaZulu-Natal			249
Western Cape			277
TPP Innovation	Yes	No	Total
Gauteng (1)	3	398	401
Eastern Cape (2)	20	150	170
KwaZulu-Natal (3)	17	232	249
Western Cape (4)	9	268	277
Sales in 2020 (Mean in South Africa Rands)	48,508,247		37,737,905

Source: World Bank Enterprises Survey on South Africa informal sector, 2020.

Table 3. Correlation Matrix of the Variables.

	Own	Skills	Size	Sales	Age	Innovation	Crime	Finance	Location	Racism
Own	1.0000									
Skills	0.0328	1.0000								
Size	0.0729	0.0045	1.0000							
Sales	0.0783	0.0013	0.5952	1.0000						
Age	0.0281	0.0140	0.0767	0.0693	1.0000					
Innovation	0.0330	0.1770	0.0254	0.0231	-0.0376	1.0000				
Crime	-0.0821	-0.2116	-0.0248	-0.0033	-0.0300	0.2131	1.0000			
Finance	-0.1886	-0.1426	-0.0227	-0.0105	-0.0092	0.0717	0.4726	1.0000		
Location	0.3320	0.0325	0.0387	0.0367	0.0142	-0.1114	-0.1331	-0.2369	1.0000	
Racism	0.0010	-0.0242	0.0519	0.0486	0.0103	0.0352	-0.0318	-0.0787	0.0596	1.0000

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2022.

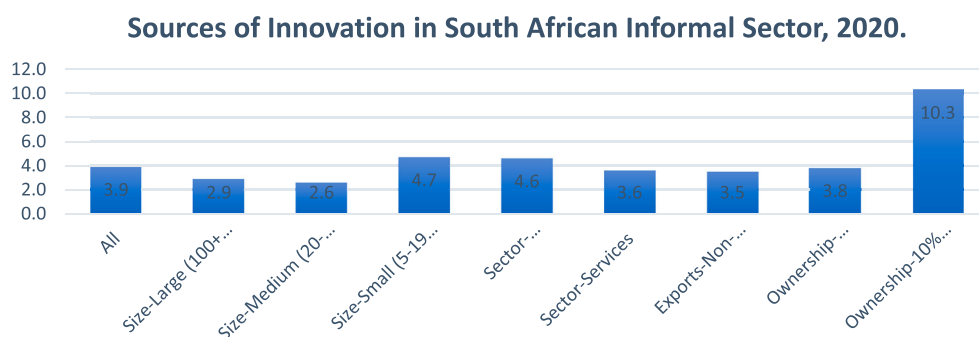


Figure 2. Sources of Innovation in South Africa's Informal Sector.

ownership and crime shows a negative association, indicating a negative effect of the high crime rate on foreign-owned firms in the South African informal sector.

4.2. Results

Next, the paper discusses the econometric results of the relationship. First, the paper examines the baseline model to determine the drivers of South African informal sector performance. Following the analysis of the baseline results, the paper decomposes the aggregate performance model into indigenous and foreign-owned models, first using a linear approach and then a nonlinear approach that accounts for the source of the performance gaps. The results of the baseline performance model, which uses Sales as the dependent variable, are presented in Table 4. Two types of models are estimated. The first model only includes firm-level variables, while the second model incorporates industry-level variables. The estimation is repeated for each level of foreign ownership: foreign ownership between 10% and 20% (Ownership 1), foreign ownership between 21% and 50% (Ownership 2), foreign ownership between 51% and 99% (Ownership 3), and full foreign ownership (Ownership 4). The results show that the performance of informal businesses is driven by innovation, firm size, and type of ownership at the firm level. At the industry level, the significant variables are crime and the skills level. The general structure of the results is similar across the models except for the level 3 models, where the ownership type is insignificant and negative.

The next set of hypotheses examines whether a performance gap exists between locally-owned firms and foreign-owned firms in the South African informal sector, and what factors drive this gap. Two different analyses are undertaken to test these hypotheses. First, the performance models between the locally-owned and foreign-owned firms are decomposed. The hypothesis is validated by checking for differences between explained and unexplained sections of the decomposed models, as well as their statistical significance as presented in Table 6. Secondly, the significant factors in the decomposed models are identified as drivers of the performance gap as shown in Table 5. The results for a linear decomposition, using firm sales as performance, between local and foreign firms are presented in Tables 5 and 6 to test these hypotheses. Overall, the explained and unexplained models in the tables are significant, indicating a significant difference in sales performance between locally-owned and foreign-owned

Table 4. Drivers of Performance in the South African Informal Sector (Dependent Variable: Firm Sales).

	OWN1		OWN2		OWN3		Full OWN	
Ownership	0.4179***(0.1355)	0.3952***(0.1361)	0.5133**(0.2123)	0.4949**(0.2123)	−0.0238(0.2859)	−0.0333(0.2853)	0.4179***(0.1355)	0.3952***(0.1361)
Firm Size	0.9816***(0.0065)	0.9593***(0.0116)	0.9813***(0.0065)	0.9588***(0.0116)	0.9807***(0.0065)	0.9573***(0.0116)	0.9816***(0.0065)	0.9593***(0.0116)
Age	0.0181(0.0314)	0.0041(0.0324)	0.0210(0.0314)	0.0062(0.0325)	0.0250(0.0315)	0.0089(0.0325)	0.0181(0.0314)	0.0041(0.0324)
Innovation	0.5035***(0.0969)	0.4686***(0.0993)	0.5059***(0.0977)	0.4650***(0.1001)	0.5525***(0.0973)	0.5085***(0.0998)	0.5035***(0.0969)	0.4686***(0.0993)
Location		0.0528(0.0440)		0.0501(0.0441)		0.0435(0.0441)		0.0528(0.0440)
Finance		−0.0206(0.0162)		−0.0192(0.0163)		−0.0206(0.0163)		−0.0206(0.0162)
Crime		−0.0677**(0.0276)		−0.0716*** (0.0275)		−0.0728*** (0.0276)		−0.0677** (0.0276)
Racial Des		0.0245(0.0415)		0.0256(0.0416)		0.0263(0.0417)		0.0245(0.0415)
Skills		0.1666*(0.0881)		0.1668** (0.0883)		0.1784** (0.0884)		0.1666* (0.0881)
No of Firms	1,097	1,097	1,097	1,097	1,097	1,097	1,097	1,097
F-Stat(Prob)	99999(0.000)	61245(0.000)	99999(0.000)	61077(0.000)	99999(0.000)	60773(0.000)	99999(0.000)	61245(0.000)
R-Squared	0.9980	0.9980	0.9980	0.9980	0.9980	0.9980	0.9980	0.9980

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2024.

Table 5. Decomposed Model of the Drivers of Performance in the South African Informal Sector (Dependent Variable: Firm Sales).

Locally-Owned Firms				
	OWN1	OWN2	OWN3	Full OWN
Firm Size	0.9581*** (0.0131)	0.9612*** (0.0130)	0.9567*** (0.0131)	0.9581*** (0.0131)
Age	−0.0126 (0.0376)	−0.0092 (0.0374)	−0.0049 (0.0376)	−0.0126 (0.0376)
Innovation	0.5224*** (0.1105)	0.5116*** (0.1088)	0.5356*** (0.1078)	0.05224*** (0.1105)
Location	0.0374 (0.0495)	0.0344 (0.0492)	0.0274 (0.0495)	0.0374 (0.0495)
Finance	−0.0159 (0.0183)	0.0118−0.0158()	−0.0205 (0.0180)	−0.0159 (0.0183)
Crime	−0.0588* (0.0321)	−0.0756** (0.0310)	−0.0773** (0.0312)	−0.0588* (0.0321)
Racism	0.0188 (0.0487)	0.0075 (0.0484)	0.0159 (0.0486)	0.0188 (0.0487)
Skills	0.2015** (0.1008)	0.1729* (0.0995)	0.2050** (0.1000)	0.2015** (0.1008)
No of Firms	870	870	891	870
F-Stat(Prob.)	49447 (0.000)	49447 (0.000)	49461 (0.000)	49447 (0.000)
R-Squared	0.9978	0.9978	0.9978	0.9978
Foreign-Owned Firms				
Firm Size	0.9622*** (0.0249)	0.9446*** (0.0258)	0.9630*** (0.0248)	0.9622*** (0.0249)
Age	0.0718 (0.0618)	0.0710 (0.0619)	0.0614 (0.0589)	0.0718 (0.0618)
Innovation	0.0545** (0.0283)	−0.0022 (0.3231)	0.1109** (0.0352)	0.0545** (0.0283)
Location	−0.3979** (0.1739)	−0.5955** (0.2656)	−0.0334 (0.3271)	−0.3979*** (0.1739)
Finance	−0.0316 (0.0379)	−0.0376 (0.0440)	−0.0017 (0.0430)	−0.0316 (0.0379)
Crime	−0.1228** (0.0514)	−0.0622** (0.0397)	−0.0450*** (0.0172)	−0.1228** (0.0514)
Racism	0.0319 (0.0764)	0.0886 (0.0765)	0.0590 (0.0733)	0.0319 (0.0764)
Skills	0.2726 (0.1842)	0.5128** (0.2047)	0.0991 (0.2230)	0.2726 (0.1842)
No of Firms	227	227	206	227
F-Stat(Prob.)	22143 (0.000)	22421 (0.000)	24421 (0.000)	22143 (0.0000)
R-Squared	0.9987	0.9989	0.9989	0.9988

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2024.

informal businesses in the South African informal sector. Thus, a performance gap exists. Additionally, Table 5 show that firm size, crime, staff skills, location, and innovation are the drivers of the performance gap (firm sales) between locally-owned and foreign-owned informal South African firms. Using innovation as a performance measure, Tables 7 and 8 also validate sales, age, firm size, location, and crime as drivers of the performance gap (innovation).

The results generally show that the effect of firm size is the same across the categories. On the other hand, innovation has a greater impact on the performance of locally owned firms. Another difference is observed in the impact of crime and skills. Crime has a negative and significant effect on the performance of both locally and foreign-owned firms. However, the effect is larger for foreign-owned firms. The skills variable is positive and significant in all the models with locally owned businesses. The variable is only significant for foreign-owned firms when compared to ownership level 3 (foreign ownership of between 21% and 50%).

Finally, the baseline results confirmed a difference in the performance of locally and foreign-owned businesses. In those results, the foreign ownership variable is positive and significant. Furthermore, the linear decomposition suggests that the factors that affect performance impact locally and foreign-owned businesses differently. Innovation, location, crime, and skills have been identified as drivers of this difference. Equation (2) is estimated to decompose the factors and identify the source of these differences. The

Table 6. Decomposed Model of the Drivers of Performance in the South African Informal Sector (Dependent Variable: Firm Sales).

	OWN1	OWN2	OWN3	Full OWN
Summary				
E(Explained)	0.4599*** (0.0634) [65.02]	0.4440*** (0.1226) [55.22]	0.7229*** (0.1493) [89.24]	0.4599*** (0.0634) [65.01]
C(Unexplained)	0.2475*** (0.0776) [34.98]	0.3601*** (0.1305) [44.78]	0.0871 (0.1555) [10.76]	0.2475*** (0.0776) [34.98]
R	0.7075*** (0.0447)	0.8041*** (0.0447)	0.8100*** (0.0435)	0.7074*** (0.0447)
E (Explained)				
Firm Size	0.5981*** (0.0158)	0.7133*** (0.0195)	0.7697*** (0.0198)	0.5981*** (0.0158)
Age	0.0077 (0.0089)	0.0099 (0.0092)	0.0089 (0.0090)	0.0077 (0.0090)
Innovation	−0.0017 (0.0046)	0.0001 (0.0083)	−0.0039 (0.0134)	−0.0017 (0.0046)
Location	−0.1459** (0.0706)	−0.2726** (0.1203)	−0.0215 (0.1550)	−0.1459** (0.0706)
Finance	0.0268 (0.0263)	0.0330 (0.0362)	0.0032 (0.0346)	0.0268 (0.0263)
Crime	−0.0216** (0.0090)	−0.0158 (0.0151)	−0.0118 (0.0150)	−0.0216** (0.0090)
Racism	0.00005 (0.00009)	0.00009 (0.00008)	−0.0001 (0.00002)	0.00005 (0.00009)
Skills	−0.0036 (0.0041)	−0.0242 (0.0482)	−0.0215 (0.0453)	−0.0036 (0.0041)
C (Unexplained)				
	OWN1	OWN2	OWN3	Full OWN
Firm Size	0.0047 (0.4404)	−0.1731 (0.4468)	0.1786 (0.4337)	0.0047 (0.4404)
Age	0.2173 (0.2286)	0.2564 (0.2265)	0.2173 (0.2191)	0.2173 (0.2286)
Innovation	−0.0218 (0.0149)	−0.0269 (0.0185)	−0.0230 (0.0214)	−0.0218 (0.0149)
Location	−0.2025** (0.0927)	−0.3212*** (0.1369)	−0.0354 (0.1675)	−0.2025** (0.0927)
Finance	−0.0280 (0.0553)	−0.0288 (0.0631)	0.0255 (0.0616)	−0.0280 (0.0553)
Crime	0.0485 (0.0429)	−0.0049 (0.0485)	−0.0181 (0.0470)	0.0485 (0.0427)
Racism	0.0109 (0.0449)	0.0437 (0.0451)	0.0247 (0.0438)	0.0109 (0.0449)
Skills	−1.2184 (1.2831)	−3.1697 (6.6948)	−2.8473 (6.2916)	−1.0001 (1.2831)

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2024.

Table 7. Drivers of Performance in the South African Informal Sector (Dependent Variable: Innovation)

	OWN1		OWN2		OWN3		Full OWN	
Sales	0.6718***(0.1611)	0.6701***(0.1797)	0.6760***(0.1627)	0.6711***(0.6711)	0.7395***(0.1660)	0.7396***(0.1820)	0.6718***(0.1611)	0.6701***(0.1797)
Ownership	1.4549***(0.5046)	1.1949***(0.5427)	2.2549****(0.6744)	2.3388****(0.6974)	2.7987****(0.8699)	2.7561****(0.8911)	1.4549****(0.5046)	1.1949****(0.5427)
Firm Size	−0.7261****(0.1649)	−0.5577****(0.1848)	−0.7292****(0.1663)	−0.5537****(0.1858)	−0.7925****(0.1688)	−0.6251****(0.1857)	−0.7261****(0.1649)	0.05576****(0.1848)
Age	−0.5699****(0.2165)	−0.3783*(0.2316)	−0.5691****(0.2162)	−0.3740*(0.2334)	−0.5609****(0.2149)	−0.3624(0.2309)	−0.5699****(0.2165)	−0.3783*(0.2316)
Location		−0.9922****(0.3220)	−0.9974****(0.3065)	−0.9587****(0.3229)	−1.0215****(0.3060)	−1.0148****(0.3219)		−0.9922****(0.3220)
Finance		−0.0219(0.1021)		−0.0156(0.1028)		−0.0445(0.1034)		−0.0219(0.1021)
Crime		0.6399****(0.1415)		0.6740****(0.1410)		0.6756****(0.1404)		0.6399****(0.1415)
Racial Des		0.5096****(0.3090)		0.4893(0.3109)		0.5116*(0.3109)		0.5096*(0.3090)
Skills		2.0364****(0.5109)		2.112****(0.5155)		2.0698****(0.5171)		2.0364****(0.5109)
No of Firms	1,097	1,097	1,097	1,097	1,097	1,097	1,097	1,097
F-Stat (Prob.)	374.79(0.000)	338.12(0.000)	376.23(0.000)	333.89(0.000)	375.29(0.000)	333.54(0.000)	374.79(0.000)	338.12(0.000)

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2024.

differences can be attributed to endowments (population characteristics) or coefficients (effects of the endowments on attitudes). Endowments comprise the explained component of the results, which explain the difference in performance due to the differences in the characteristics between local and foreign businesses or their endowments. The coefficient effects are the unexplained or idiosyncratic component of the differences, which are often interpreted to capture the effect that the different characteristics have on the attitudes, in this case, of foreign and local business owners. The results are shown in three panels in Table 6. Panel A summarises the source of the differences. Panel B shows the decomposition attributable to endowments, while Panel C shows the coefficient or effects component.

The (E_k) estimates indicate a change in the performance gap between local and foreign-owned businesses if local and foreign-owned businesses were equal in the distribution of X_k . The results show that differences in endowments (population characteristics) explain 65% of the performance gap between local and foreign-owned businesses, driven by firm size, location, and crime. A positive (negative) coefficient would indicate a decrease (increase) in the performance gap (Powers et al., 2011). Given the results in Table 6, the performance gap would reduce if locally and foreign-owned firms were to be matched on size. On the other hand, the performance gap would grow if local and foreign-owned firms were to be matched on location and crime.

The C_k estimates indicate a change in the effects of the selected variable x_k or the behavioural response associated with x_k (Yun, 2004). The coefficient effect explains 35% of the performance gap. The location variable wholly explains this effect. The effect is not surprising given the discordant relationships between foreign-owned

Table 8. Decomposed Model of the Drivers of Performance in the South African Informal Sector (Dependent Variable: Innovation)

	Locally-Owned Firms			
	OWN1	OWN2	OWN3	Full OWN
Sales	0.6373***(0.1841)	0.6166***(0.1766)	0.6223***(0.1707)	0.6373***(0.1841)
Firm Size	-0.7621***(0.1903)	-0.7442***(0.1828)	-0.7440***(0.1761)	-0.7621***(0.1903)
Age	-0.5248***(0.2317)	-0.4860***(0.2281)	-0.4812***(0.2250)	-0.5248***(0.2317)
Location	-0.5741*(0.3293)	-0.6450***(0.3259)	-0.6998***(0.3224)	-0.5742*(0.3293)
Finance	0.0304(0.1070)	-0.0699(0.1043)	-0.0967(0.1033)	-0.0304(0.1072)
Crime	-0.6122****(0.1490)	-0.6232****(0.1407)	-0.6405****(0.1388)	-0.6122****(0.1490)
Racism	0.5273*(0.3217)	0.5397*(0.3160)	0.4868(0.3091)	0.5273*(0.3217)
No of Firms	870	886	891	870
F-Stat(Prob.)	289(0.000)	294(0.000)	297(0.000)	289(0.000)
	Foreign-Owned Firms			
	OWN1	OWN2	OWN3	Full OWN
Sales	0.3909***(0.0892)	0.6770***(0.0203)	0.8433***(0.6994)	0.3909***(0.0893)
Firm Size	0.4712(0.5852)	0.3371(0.9621)	-0.4948(1.6322)	0.4712(0.5852)
Age	-0.3199(0.8536)	-2.5456(1.6689)	-1.8281(1.3704)	-0.3199(0.8536)
Location	-5.6611****(1.4925)	-14.8304*(8.7646)	-6.6823****(2.0247)	-5.6611****(1.4925)
Finance	-0.5707*(0.3535)	-1.2922(1.3987)	-0.0207(0.5100)	-0.5707*(0.3535)
Crime	-0.8841*(0.5507)	-1.1823(0.8567)	-1.2544*(0.7500)	-0.8841*(0.5507)
Racism	-1.3602(1.1940)	-8.0230(6.0796)	-1.3532(1.5468)	-1.3602(1.1940)
No of Firms	227	211	206	227
F-Stat(Prob.)	27(0.000)	28(0.0000)	18(0.000)	28(0.0000)

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2024.

Table 9. Decomposed Model of the Drivers of Performance in the South African Informal Sector (Dependent Variable: Innovation).

	OWN1	OWN2	OWN3	Full OWN
Summary				
E	−0.1489**(0.0672)	−0.3251*** (0.0633)	−0.3281*** (0.0907)	−0.1489** (0.0672)
C	0.1313 (0.0726)	0.2994*** (0.0657)	0.2914*** (0.0930)	0.1313* (0.0725)
R	−0.0176* (0.0109)	−0.0257*** (0.0091)	−0.0367*** (0.0090)	−0.0176* (0.0109)
E (Explained)				
Sales	−0.0196 (0.0390)	−0.0051 (0.1268)	−0.1184 (0.1141)	−0.0196 (0.0390)
Firm Size	0.0378 (0.0401)	0.0899 (0.1199)	0.1959 (0.0156)	0.0378 (0.0401)
Age	0.0027 (0.0096)	0.0016 (0.0226)	−0.0010 (0.0156)	0.0027 (0.0096)
Location	−0.1809** (0.0881)	−0.4324*** (0.1339)	−0.3808*** (0.1028)	−0.1809** (0.0881)
Finance	0.0235 (0.0234)	0.0420 (0.0594)	0.0094 (0.0497)	0.0235 (0.0234)
Crime	−0.0123* (0.0069)	−0.0208 (0.0247)	−0.0332*** (0.0093)	−0.0123* (0.0069)
Racism	−0.0001 (0.0001)	−0.0003 (0.0003)	−0.00032 (0.0003)	−0.0001 (0.0001)
C (Unexplained)				
	OWN1	OWN2	OWN3	Full OWN
Sales	5.4859 (13.6390)	1.1920 (4.2220)	8.6153 (12.8100)	5.4858 (13.639)
Firm Size	−7.5217 (18.1380)	−4.5872 (5.0509)	−13.190 (19.209)	−7.5217 (18.1380)
Age	−0.6468 (1.6176)	−0.1678 (0.8456)	−0.1136 (0.9481)	−0.6468 (1.6176)
Location	0.9295** (0.0791)	0.9398** (0.3857)	1.1980* (0.7881)	0.9295** (0.0791)
Finance	0.2071 (0.4753)	0.1332 (0.1608)	0.0331 (0.2276)	0.2071 (0.4753)
Crime	−0.0663 (0.1669)	−0.0722 (0.1480)	−0.1965 (0.2405)	−0.0663 (0.1669)
Racism	0.2983 (0.6946)	0.3081 (0.3601)	0.3405 (0.2435)	0.2983 (0.6946)

Notes: ***, ** and * indicates 1%, 5% and 10%, respectively. The standard error is indicated in parentheses.

Source: Researchers, 2024.

businesses in the townships (Mahajan, 2014; Chipunza & Phalatsi, 2019; Lamb et al., 2019). South Africa has had periodic attacks on foreign-owned businesses due to calls for controlled migration as unemployment has increased (Carciotto, 2021, 2022).

A robustness check is run by using innovation as the performance variable. The results are reported in Tables 7–9. Overall, the results from the innovation models echo the findings of the sales performance models. In the OLS results, the ownership variable indicates that foreign ownership and participation positively affect performance. The results in Table 8 also largely reflect the equivalent results in Table 5. However, firm size is not significant in the foreign-owned models. Location and crime remain robust sources of differences between local and foreign-owned businesses. Results in Table 9 also align with results in Table 6 and show that endowments are the primary source of the performance gap, with endowments explaining nearly 59% and coefficient or behavioural effect contributing 41%. These differences are mainly driven by location and crime. Firm size remains insignificant for differences in innovation.

5. Discussion

The general result confirmed performance gap between local and foreign-owned informal firms in South Africa. This result aligns with much of the literature on the impact of foreign ownership in the formal sector. For instance, Pasali & Chaudhary (2020) show that foreign-owned micro-sized firms outperformed peer domestically owned firms in both employment growth and productivity. Our results show that this performance gap does not seem to be significantly different across the different levels of foreign

participation in the business, different from Naidu et al. (2022)'s observation for listed firms in South Africa.

However, the decomposition results, which show that differences in endowments or population characteristics drive most of the differences, indicate that the endowment effect is higher with more foreign participation. The main driver is the differences in size. The literature shows that locally-owned businesses tend to be smaller than foreign-owned businesses. The larger scale of foreign-owned businesses has been attributed to the higher levels of savings and investment by foreign owners (Mahajan, 2014; Mukwarami et al., 2018). Moreover, their networking gives them preferential access to supply chains, making it easier and cheaper to access goods and services (Mahajan, 2014), which can result in larger market shares.

Location is another key source of differences. Locally-owned informal firms in the townships tend to be home-based relative to foreign-owned firms, usually in rented premises away from home or semi-detached from home (Chipunza & Phalatsi, 2019). As a result, locally-owned businesses are less competitive as they have limited trading hours and scope for expansion. Similarly, the negative sign on crime indicates that the performance gap would increase if local and foreign-owned businesses were to be matched on crime. We cannot find a clear explanation for this result as there is no reason why foreign-owned business performance should benefit from increased crime, particularly given that foreign businesses are often the target of crime during xenophobic attacks. Bhorat & Naidoo (2017) find that the nationality of a business owner is not a predictor of crime incidences. Although the results show that a significant amount of the performance gap can be explained by differences in endowments, at least 35% of the variation is from factors affected by attitude, as captured by the coefficient component. One such aspect of attitude indicated in the literature is the differences in attitude towards social networks between foreign and locally owned businesses. Foreign-owned businesses tend to be more positively inclined towards networks which spill over into their business relationships. The unexplained component could be capturing some of this. Similarly, Xu et al. (2022) find that culture measured by the individualism index tends to strengthen the effect of foreign ownership on performance.

6. Conclusion and recommendations

This paper adopts the World Bank Enterprises Survey data of 1097 informal businesses to examine performance gaps between local and foreign-owned businesses and their drivers in the South African informal sector. The results show a significant role for foreign ownership and participation in firm performance measured by sales and innovation. Other key performance drivers are firm size, innovation, crime, and staff skilfulness. Multivariate decomposition attributes most of the effects to differences in endowments between foreign and locally owned businesses, mainly driven by firm size, location, and crime.

The baseline results show that foreign ownership has a significant positive effect on the South African informal sector. Consequently, curbing the participation of foreign-owned businesses, as proposed in the Draft Licensing Business Bill and others, will likely result in a significant reduction in output in the informal sector. Literature suggests that foreign-owned informal firms have higher employment levels than locally-owned

businesses. Coupled with the results of our study, reducing the participation of foreigners in the informal business will also likely lead to reductions in employment. The government, therefore, needs to be cautious about harmful regulations and policies that can negatively affect foreign-owned companies in the informal sector.

Moreover, contrary to the many efforts to increase access to finance, our results show that scale is the most important driver of the performance gap. While scale can be driven by access to finance, firm savings, networks, and investment seem to be more significant, at least in the performance gap between local and foreign-owned businesses. Financial literacy programmes that encourage savings and reinvestment by local businesses would help to reduce the gap. Developing cooperative-type organisations in the spirit of stokvels could also address the lack of economically beneficial networks. Lastly, the results show that at least 35% of the performance gap can be attributed to discriminatory/unexplained components. In line with the literature, we interpret these as attitude effects. Some of the literature has indicated that such effects could capture the role of business culture. Inculcating an entrepreneurial attitude among locally owned informal sector businesses is important. Therefore, business support needs to be holistic, moving away from the emphasis on the provision of finance.

The present study has some limitations. Firstly, the paper does not cover all provinces in South Africa. It adopts the World Bank data, which only covers four of the nine provinces. A broader coverage might be more representative. In addition, the measure of innovation is limited and does not include market and organisational innovation, owing to the absence of data in the available dataset. Including such measures would be very useful in elucidating the existence and dynamics of the performance gap. Nevertheless, the study is the first to our knowledge that explicitly investigates the existence of a performance gap between local and foreign-owned businesses in the unique South African context. Therefore, despite these limitations, we believe the paper provides valuable insights.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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