

THE VIABILITY OF INFORMAL MICRO-ENTERPRISE IN SOUTH AFRICA *

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This paper analyzes entrepreneurs in South Africa's informal sector. The aim is to determine the extent to which African informal retail trade spawns viable enterprises. To assess the prospects for South Africa's informal retail sector, questionnaires were obtained from owners of small-scale establishments in random sample taken throughout the country in 2007. Owner salary and sales data provide a lens to understand viability. Regression analysis tests hypotheses identified as crucial to higher income and sales, including access to capital, size, male/female ownership, business training, and the proximity shopping centers. Also tested is the influence of urbanization externalities on sales and owner income. Access to capital and positive urban externalities have a strong influence on the ability to generate a sustainable livelihood for informal entrepreneurs. After controlling for startup capital, it appears that women entrepreneurs face distinct difficulties in generating a viable income through informal retail trade.

Keywords: informal sector; entrepreneurship; regional development; Africa

*Presented at the Conference on "Entrepreneurship in Africa," Whitman School of Management, Syracuse University, Syracuse, New York, April 1-3, 2010.

1. Introduction

South Africa's extensive micro-enterprise sector offers a diverse and vibrant setting for analyzing entrepreneurial development. The South African government, like many others in Africa since the 1990s, has encouraged private sector, small business development. No doubt, micro-enterprise thrives in a range of endeavors and has the potential to spread income and generate employment. Yet most small-scale business activity has taken place in the untaxed, unregulated informal economy. Even with Sub Saharan Africa's (SSA's) most modern and industrialized economic base, South Africa's formal business sector cannot absorb the rising number of entrants into the labor market every year. Unable to find work in the formal economy, many South Africans (both male and female) turn to informal enterprise, often in similar lines of business (Morris, Jones and Nel, 1997). While some informal businesses represent an erratic, transitory means for survival among Africa's poorest citizens, others may actively pursue available opportunities to generate a sustainable livelihood. Whether opportunity- or necessity-driven, hundreds of thousands of South Africans generate their primary income through small-scale enterprise.

This paper focuses on micro-enterprise activity in retail trade, the most pervasive entrepreneurial activity in the informal sector of Africa. Overall, 70 percent of South African micro-businesses are concentrated in the retail sector (Ligthelm, 2006). A large volume of South African retail sales channeled through informal retailers (Ligthelm, 2004). Indeed the retail businesses are found in rural and urban areas, throughout formal and informal settlements, and in all provinces.

The aim of this paper is to investigate the characteristics of a viable informal business. One of the original objectives in the developmental approach to small business

promotion for developing countries has been the creation of "... economically viable enterprises which can stand on their own feet without perpetual subsidy and can make a positive contribution to the growth of real income and therefore to better living standards" (Staley and Morse, 1965, p. 318; see also Cook, 2001). Even so, this subject has received less attention than other aspects of entrepreneurial behavior in Africa, such as the motives for entrepreneurial start-up (Gray et al. 2006). Chu et al. (2007) analyzed the motivation for business ownership (and success characteristics) in Kenya and Ghana. Not surprisingly, the authors found that income and jobs were primary reasons for entrepreneurial activity. (See Naudé and Havenga (2007) for a summary of the broader literature on African entrepreneurial activity and small business research.)

The focus here is on the ability of micro-enterprise owners to reach a minimal standard of living. Micro-enterprise encompasses those businesses with an owner, some family members, and one or two employees. In Africa, it is often involves women owners, especially in the informal sector (Valodia, 2001). It is an open question in entrepreneurial research on micro-enterprise as to whether these businesses have the capacity to support viable livelihoods. What internal and external characteristics of these micro-enterprises are likely to generate adequate income through informal activity? Unfortunately, a viable or a sustainable livelihood is not well defined in the literature. In this paper, we propose a straightforward income standard for assessing informal business: the minimum wage in the formal sector set by the government.

There are several types of retail establishments investigated in this study. In South Africa, informal *spaza* shops originating primarily in black homes are an especially prevalent type of retail operation. Typically, these businesses operate in a section of an occupied home or in another structure on a stand zoned or used for residential purposes

and where people permanently live. Many *spaza* shops are run as family endeavors, with relatives involved in the retail activities, primarily selling food, beverages, and various consumer goods. Micro-retailers operating separately from residences are often called *tuck* shops. Around taxi stands and public transit stations, *tuck* shops and kiosks are common. These informal retailers play a key role in poor communities, facilitating trade by breaking bulk, stocking an inventory, providing the product in an accessible location, and adding other value to the goods they sell by reducing the transaction costs for customers. Another common micro-enterprise found in South Africa's poor areas is the *sheeben*--informal taverns, mostly located in black informal settlements, or townships—the best-known being Soweto, outside of Johannesburg. In a previous study of informal retail, Morris, Jones, and Nel (1997) found that the South African *shebeens* were “entrepreneurially motivated and opportunity driven.” Considerable informal retail activity can also be found around taxi ranks and train stations. As elsewhere in Africa, hawkers, individuals without a permanent structure, are a common feature of retail trade as well.

The ubiquitous *spaza* shops, *shebeens*, and other micro-enterprises in South Africa would appear to face problems identified researchers in other countries, especially the copycat mentality of entrepreneurs, where people set themselves up in the same business selling identical products and often in the same locality. This is a phenomenon found in other developing countries (Chan, 2008) and is especially true for street hawkers.

Offsetting this negative effect of retail concentration are the positive shopping externalities, or spillover effects, found in urban areas. Proximity to major population centers could affect micro-enterprise viability in South Africa, as throughout the

developing world. It is known that entrepreneurial start-up rates vary significantly between urban and rural areas. This can be explained in part by variations in access to finance (Cook, 2001; Naudé et al. 2008). Clearly, initial capital should be a driver of current owner income and sales. A volume of literature on developing country entrepreneurial activity suggests that female owners would be restricted in access to capital and other competitive advantages. Business training and education could also determine the success of entrepreneurial activity in terms of generating income. The presence of nearby shopping mall, a growing phenomenon in South Africa, could have a negative effect on micro-enterprise income. The empirical analysis of owner income and sales is possible new evidence on South African retail businesses has data obtained. Survey questionnaires were administered directly to more than 700 owners of informal retail establishments—*spaza* shops, *shebeens*, and hawkers—in different regions of the country during 2007. Of these surveys, 449-476 were completed adequately with the full information needed to analyze owners' viability and estimate the independent variables in the regressions. The sample covered urban and rural areas, along with formal and informal settlements.

By probing entrepreneurial income determinants, this paper presents new evidence on the role of informal micro-enterprise in African economic development. The next section provides background on South African informal enterprise, including a discussion of the pertinent issues regarding the country's entrepreneurial development. The paper then turns to hypotheses potentially offering an explanation of the vitality of informal retail businesses across South Africa, as measured by sales and owners' income. A discussion of the 2007 survey and hypotheses about viability sets the stage for the regression analysis that follows. A results section interprets the findings about

entrepreneurial owners' income and sales. The paper concludes with a summary and points to avenues for future research on entrepreneurs in Africa.

2. The Viability of Informal Entrepreneurial Activities

Prompted both by economic necessity and business opportunity, informal entrepreneurs are an enduring facet of the African business landscape. Following common practice, this paper defines the informal sector as encompassing non-registered and non-taxed economic activities. Effectively, informal businesses would be those self-employed individuals without value-added tax (VAT) numbers. In South Africa, as elsewhere in Africa, small-scale entrepreneurship is virtually synonymous with self-employment.

Some estimates of the informal sector's share of total South African employment are reported to be in the 17-19 percent range (National Labor & Economic Development Institute, 2004). While this is less than the informal economy's share found in many SSA countries (e.g., 72 percent in Kenya and 58 percent in Zambia), it is still large. It may not be accurate. Indeed, South Africa's informal employment as a proportion of non-agricultural employment reaches as high as 72 percent, with 47 percent of informal enterprise workers in the trade sector according to Devey, Skinner and Valodia (2006). Statistics South Africa (the official government data agency) estimated that 2.7 million people work in non-tax -registered businesses.

While the informal sector encompasses a diverse range of activities, the largest concentration in South Africa are in retail—including hawkers, *spaza* shops, and *shebeens*. Accurate records of these businesses are not available from official sources, but no doubt there are hundreds of thousands. Ligthelm (2006) estimated that South Africa's hawkers have 261,000 outlets and an estimated total employment of 415,000. *Spaza*

shops have 127,600 outlets and total employment of 320,000. *Shebeens* have 127,600 outlets and total employment of 320.

Even as the South African government attempts to steer economic growth and development toward the formal sector, informal economic activities persist in the retail sector. Martins and Ligthelm (2004) estimated that 37.7 percent of retail sales (not including transport equipment, household fuel, and power) were channeled through informal outlets. In 2003, this informal portion of retail trade was estimated to be 142.5 billion South African rand (approximately \$20 billion). One reason that informal businesses dominate trade and commerce in South Africa is the legacy of isolated and underserved areas like the informal townships outside major cities; that is, the lack of formal retail in the townships and homelands under apartheid led to entrepreneurial opportunities in the informal sector.

Given the size and persistence of informal retail trade, it is important to understand its ability to sustain a basic standard of living for the entrepreneur. Previous research suggests that the economic performance of informal activities in South Africa varies greatly. It is possible, nevertheless, to delineate two central categories of informal business: survivalist and entrepreneurial (Rogerson, 1997). On the one hand, survivalist businesses generate minimal income while owners wait for formal sector job opportunities. On the other hand, a select group builds lasting businesses, making capital improvement for example, and has the potential to flourish.

The survivalist, subsistence view of the developing world's informal sector has long been asserted in the economic development literature. In one of the best-known, often cited articles on urban-rural migration in developing countries, Todaro (1969) postulated that the informal sector served as a waiting place for migrants wishing to enter the formal

economy. His model assumed (without empirical evidence) that the formal sector offered better wages and conditions and that recently arrived urban migrants lived at subsistence. This led some economists to view informal sector activities as disguised unemployment (Sethuraman, 1981). In general, this early work on informal sector activity was theoretical, as development economists attempted to explain logically why cities in the developing world were growing rapidly. Whether migrants to the urban areas are survivalists waiting to secure formal sector employment is an empirical issue. The anti-entrepreneurial perspective of informal activity found in the theoretical economic development literature was not backed by empirical research in Africa. Early research in Kenya, for example, found a potential *preference* for informal sector participation among urban dwellers (Hart, 1973).

Beyond rural migrants, informal sector entrants could potentially live close to subsistence for years, limited in their ability to generate income by low capitalization and skills. Survival in the informal sector is a fact of life in Africa, given a lack of formal sector employment creation. In South Africa, the limits on formal employment have led to an informal sector that has long been seen as survivalist (Rogerson, 1997). Little capital is invested by the owners in these businesses, and income generated falls below a minimum income standard. As the owner is consuming any surplus revenue, opportunities for expansion into a viable business are severely limited.

The survivalist view of developing countries' informal economic activities was fundamentally challenged by De Soto (1986). Importantly, this work represents a paradigmatic shift in thinking about informal work insisting that the unregulated, untaxed sector is often the only avenue for small-scale private sector activity in many developing economies because entrepreneurs are limited by the high "costs of formality." These

barriers include difficult, prolonged, and costly regulations. Moreover, De Soto contends that these micro-enterprises remain small and largely underground because they lack legal protection. This deters firm growth and capital investment.

Consistent with De Soto, a segment of informal activities would appear to go beyond survival in South Africa. While many of these businesses remain small, with only a few employees, they nevertheless provide a standard of living above the subsistence level. Moreover, some informal activities become growth enterprises as they respond to local opportunities (Rogerson, 1997). In South Africa, for example, *shebeens* have been able to expand their businesses to form restaurants; *spaza* owners become wholesale dealers for beverage companies (Woodward and Teel, 1999).

In the next section, we turn to an examination of the viability of the informal entrepreneurial endeavors, whether survivalist or opportunity-driven. Viability is measured relative to formal sector living standards. We disclose the extent this informal retail ownership yield at least a formal sector minimum wage, based on survey data in urban and rural areas of South Africa. We then analyze the determinants of owner's income (along with sales) according to key economic, financial, and demographic characteristics.

3. Data and Hypotheses

3.1. *South Africa Retail Survey*

In 2007 the Bureau of Market Research at the University of South Africa conducted a major survey of small retail businesses across South Africa, providing the basis for the empirical analysis of informal entrepreneurial viability presented in this paper. The survey collected data on critical measures of micro-enterprise and encompassed the major types of informal micro-enterprise discussed earlier were surveyed—hawkers, *spaza*

shops, and *shebeens*—along with micro-enterprises in the retail sector near taxi stands and train stations. Questionnaires were administered directly to the owners across the country's nine provinces. Overall, 764 completed surveys were obtained from owners of informal retail establishments. Of the returned surveys, 449 had data for owner's income as a dependent variable (and 476 for sales as the dependent variable) along with the independent variables tested in the regression model as explained later in this section.

The surveys covered the major metropolitan centers, second tier cities, and rural areas. The major urban areas are Cape Town and the surrounding Cape Peninsula, Port Elizabeth, Durban, and the metropolitan areas of Johannesburg and Pretoria in Gauteng province. Second tier cities include the provincial capitals of Kimberly (Northern Cape), Bloemfontein (Free State), and Nelspruit (Mpumalanga) and the large town of Paarl in the Western Cape. The rural areas surveyed were in the Free State, KwaZulu-Natal, Mpumalanga, and Limpopo provinces.

In the survey, personal interviews followed a pre-structured questionnaire by interviewers trained in sampling procedures by the University of South Africa, Bureau of Market Research. Specifically, each interviewer was responsible for gathering information on businesses in assigned areas. Selection was based on a sample in the demarcated areas. Interviewers were allowed to select not more than one business per type per street or area (e.g. taxi rank or train station). This prevented the selection of a large number or similar businesses in the same street or area. If the owner of the retail outlet paid value added tax, the business was not considered informal and was not included in the sample.

3.2. Explaining Owner's Income and Sales

The survey formed the basis for regression analysis on two variables believed to reflect micro-enterprise viability: owner's income (entrepreneurial return) and sales (turnover). In the 2007 field research, 485 questionnaires returned with information on owner's salary, ranging from R20 to R13,000 per month (where R stands for South African rand). The mean monthly income for *Owner's Salary* is R1,079 (US \$153), while the median is R600 (US \$85), using an average 2007 exchange rate of R7.02/US dollar. The standard deviation is R 1,319. As it turns out, the average salary is close to the R1,067 (US \$151) urban minimum wage for South Africans (working more than 27 hours per month in 2007) and above the R866 rand (US \$122) minimum wage set for rural areas. Apparently, this income is widely distributed around the minimum wage for South Africa. The regression analysis will control for the extent to which types of business (*spaza* shops versus hawkers, for example) earn more or less. For additional insight, the sales of the businesses are also analyzed. *Sales* average R5,164 rand (US \$732) per month.

The reason for the wide variation in income has in part to do with the type of business and location (urban or rural). *Spaza* shops average monthly income is R1,064—about the urban minimum wage—whereas *shebeens* average income is R 1,571. Using the median income, urban *spaza* shops and *shebeens* are both approximately R1,000. The equivalent rural owner's income is just R500. In both cases, the median falls below the minimum wage. As will be seen, the regressions developed in this paper to explain income will control for type of business and location.

Given these basic facts about income and sales, it can be seen how micro-enterprise in the retail sector is situated in the poor markets of South Africa. While South Africa is the continent's most developed economy, three quarters of the population survive on less than \$3,000 a year (Hammond et al., 2007). Across the developing world, small retailers serve the "base of pyramid," that is, the four billion consumers making less than \$3,000 a year (Hammond et al., 2007), but many business owners subsist at that level as well. Much of the literature on reaching the poor markets of Africa and the developing world focuses on how large, multinational enterprise can target and reach this large base of poverty-stricken consumers (London, 2008). Informal retail owners not only serve this base of the pyramid, many apparently subsist as part of it.

Next, we turn to the entrepreneurial development literature and advance hypotheses to account for differences in owner's income and sales. The independent variables formed from these hypotheses are startup capital, owner status as unemployed at startup, employees in the enterprise, business training, male versus female ownership, length of time in business, the presence of a nearby shopping center/mall, urban versus rural locations, and type of business. Table 1 displays the basic descriptive statistics for the variables.

Table 1. Descriptive Statistics

Variable	N	Mean	Median	Standard Deviation	min	max
<i>Sales</i>	513	5164.483	3000	8239.128	144	80000
<i>Owner's Salary</i>	485	1079.031	600	1318.775	20	13000
<i>Startup Capital</i>	715	2573.208	1000	5398.62	10	80000
<i>Owner Unemployed</i>	755	0.584106	1	0.4932022	0	1
<i>Employees</i>	764	2.017016	2	1.312696	1	12
<i>Business Training</i>	764	0.1125654	0	0.3162679	0	1
<i>Owner Male</i>	763	0.5478375	1	0.4980328	0	1
<i>Established Business</i>	763	0.3853211	0	0.4869903	0	1
<i>Shopping Center</i>	764	0.2277487	0	0.4196543	0	1
<i>Urban Formal Residential</i>	764	0.5327225	1	0.4992549	0	1
<i>Urban Informal Residential</i>	764	0.0968586	0	0.2959589	0	1
<i>Taxi Train Stand</i>	764	0.1204188	0	0.3256639	0	1
<i>Shebeen</i>	764	0.1910995	0	0.3934248	0	1
<i>Hawker</i>	764	0.1753927	0	0.3805518	0	1
<i>Minimal Education</i>	764	0.2172775	0	0.4126631	0	1

3.2.1. *Startup Capital*. Owners with higher start-up capital will have higher income and sales.

The startup capital, however small, is a fundamental financial variable that should help explain the ultimate success of the micro-enterprise in Africa. Typically, access to finance is typically a major impediment for South African entrepreneurs without a track-record or without any form of guarantee. Orford et al. (2004) asserted that financial support to entrepreneurs needs to be improved by providing more finance, along more "holistic financial support" which includes deepening entrepreneurs' understanding of entrepreneurship. Ligthelm (2005) found that savings are the basis for most capital in the informal retail sector of South Africa. Typically, there is a small initial investment. While access to formal finance is important for start-up success in South

Africa (Naudé, 2008), there is some evidence that retail banks in South Africa have been moving out of the black residential areas as they consolidate their activities in response to greater levels of competition in the commercial centers of the economy. Notably, it appears that “survivalist operators” have limited access to the commercial finance system (Valodia, 2001). South African retail banks in South Africa have been leaving black residential areas and consolidating activities in established commercial areas. As a result survivalist businesses have little access to commercial finance.

In another developing country context, Chan (2008) found that a lack of capital investment restrains entrepreneurial growth and leads to a failure to generate higher income. This clear-cut hypothesis is tested in South Africa, with start-up capital expected to exert a strong, positive effect on income and sales in South Africa. In the survey, 715 respondents reported start-up capital, with a mean of R 2,573.

3.2.2. *Owner Unemployed.* Businesses whose owners were unemployed before start-up have lower income and sales.

While access to start-up capital is an external factor that should affect income, a primary internal firm characteristic of success is employment status of the owner at the time of the opening. As suggested earlier, the establishment of an informal business is likely to be an effort to escape unemployment rather than the exploitation of a dynamic or prosperous business opportunity (Ligthelm, 2006).

Unemployment runs persistently high in South Africa. Maas and Herrington (2007) estimated that two-thirds of the South African population between 18 and 35 years are unemployed. It can take up to two years to find employment and then it often results family and social networks.

It is more likely that the previously unemployed will show lower income, especially in the crowded micro-retail space of Africa. In Tanzania, Kristiansen et al. (2005) found

that the unemployed tend to crowd into businesses with perceived ability to sustain previous business starters. The unemployed possess limited information on business alternatives, which together with a lack of competence and capital impedes a shift into markets with higher entry barriers and profitability. This limited information theory accounts for the perception that small businesses in Africa agglomerate in businesses with low profitability. They argue imitative businesses dominate over innovative entrepreneurship, which can easily imply low and diminishing margins in business and shared poverty in society.

Thus, the regression analysis will estimate the extent to which the owner's unemployment status at start-up lowers income. In an earlier survey in South Africa, Ligthelm (2005) found 52 percent of spaza owners were unemployed when they started their own business. Of the 755 respondents in the 2007 survey, 58 percent reported being unemployed when they set up their retail venture. The variable *Unemployed* is assigned one if the owner was jobless at startup and zero otherwise.

3.2.3. *Employees.* Businesses with more than two employees have more income and sales.

Since the businesses in the sample are micro-enterprises, they have few employees. In general, African economies are comprised of small businesses such as the informal retailers studied here. Summarizing research on small African micro-enterprise, McDade and Spring (2005) stated that only two percent of African businesses have 10 or more workers. Most are micro-enterprises with one to three employees.

It is likely that at start-up, few ventures to have any employees. For example, in South Africa, von Broembsen, Wood, and Herrington (2005) discovered that 96 percent of the start-up firms in the Global Entrepreneurship Monitor database have no employees,

while 3.5 percent have between 1 and 5 employees, 0.4 percent have between 6 and 19 employees, and none have 20 or more employees. In the South African informal economy, the study alleges “survivalist” businesses are not likely to hire many additional employees.

In this study, retail businesses do apparently have some ability to create jobs beyond the entrepreneurs alone. Of the 764 respondents reporting employment, the maximum was 12, with an average of two. *Employees* (the number in logs) is tested against owner’s income and sales to determine whether larger businesses are more viable, all else the same. The variable also acts as a control for firm size in the regressions on income and sales.

3.2.4. *Business Training.* Owners reporting having obtained business education will have higher income and sales.

Business training education would be another likely determinant of micro-enterprise income and sales. As found in African “cottage industries,” training not just reflects acquired knowledge and skills, but demonstrates a desire to learn and to seek information (Kristiansen et al. 2005). In South Africa, Orford et al. (2004) point to entrepreneurship teaching as means to bolster the individual capabilities and skills needed to start a business. The study also finds that higher levels of education correlate with firm survival rates.

In a study of South African retail, Strydom (2005) revealed that just 18.8 percent of those surveyed had formal business training. The paper argued that inadequate financial management skills is a major constraint in South Africa, even though businesses following fundamental financial and accounting practices have a far lower chance of encountering cash flow problems. In a similar vein, Maas and Herrington (2007) argued

that South African education and training efforts should cultivate an entrepreneurial outlook and provide entrepreneurs with to launch and operate businesses successfully.

In this study, only 11 percent of the 764 respondents reported having business training. *Business Training* enters the models as a dummy variable (one equals training and zero for no training).

3.2.5. *Male Owner.* Males have higher income and sales than female owners.

Gender is another key characteristic of the owner's income and sales. Many small-scale informal retailers are women (McDade and Spring, 2005). In South Africa, Valodia (2001) noted a predominance of women workers in informal and flexible work. This is in part a legacy of South Africa's apartheid history, in which many South African women work in domestic employment rather than the retail trade and microenterprise activities analyzed in this study. The research shows that women make up 57 percent of those in the informal economy, but 70 percent of women in domestic and elementary occupations. Yet in South Africa, despite the political activism, women face gender disparities across all socio-economic and political indicators of development. Maas and Herrington (2006) found barriers facing women entrepreneurs and a general lack of support, which they argue is the result of negative prevailing socio-cultural attitudes, gender discrimination, and personal difficulties. Barriers include lack of start-up funds and banks/financial institutions that criticize women's business plans without giving direction and guidance.

In a study of women street traders in South Africa, Lund (1999) emphasized that women in South Africa have high levels of unemployment, especially in rural areas. Women are far more likely to have never been employed, or to have been employed only as domestic workers. The author also points out that there is a bias against women in access to skills training and apprenticeships. Women have a narrower range of choices

than men about what work they can do and they get lower pay. The paper alleges that women in the workforce are typically in the poorer, survivalist end of the economy.

Low startup capital is often a special constraint on female entrepreneurs, even in the developed world (Verheul and Thurik, 2001). One study found that the critical barrier for women in survivalist enterprises is a lack of finance (Valodia, 2001), while other studies show South African women have especially limited access to capital (Verhoef, 2001). However, Verhoef (2001) found that the *stokvel*—a rotating savings and credit association in the country—can possibly mitigate this deterrent to women’s success. These collective funds are designed to encourage common interests and give women access to credit, which is typically used to start informal micro-enterprise such as shebeens, laundry and sewing services, small grocery shops, dairy shops. Note that black women comprise most of the informal financial organizations and rely on them for subsistence and for access to credit (Verhoef, 2001).

Even so, women often support families with low, often erratic income in the informal sector. The extent to which female ownership is a constraint on income (holding start-up capital, training, and other influences constant) is tested as *Male*, a dummy variable (coded as one for male; zero for female). Males account for 55 percent of the owners across 763 responses in the 2007 survey.

3.2.6. *Established Business*. This variable controls for businesses that have been in operation for at least five years, where it is likely they have more income and sales.

A possible firm characteristic that could explain income and sales is age. Strydom’s (2005) study of small retail establishments in a South African region found that 80 percent of all South African small businesses fail within the first five years of existence. Ligthelm (2005) estimated a 40 percent survival rate over five years. Generally, the

literature suggests that the prognosis of small business survival in South Africa is particularly poor (von Broembsen, Wood, and Herrington, 2005).

Therefore, *Established Business* enters the model a way to test the survivor (as opposed to survivalist) affect on owner's income. It enters the model as a dummy variable (where one represents businesses in operation for five years or more and zero otherwise). Of 763 observations in the informal sector sample, 39 percent were in business for at least five years.

3.2.7. *Shopping Centers.* Business located near shopping centers or malls have lower income and sales.

Shopping centers, supermarkets, and malls would appear to exert a potentially negative influence on informal micro-enterprise retail income and sales. Kalhan (2007) examined the impact of shopping centers and malls on small shops and hawkers in Mumbai, India. Following the opening of nearby malls, it was reported that 71 percent of the respondents experienced falling sales, while only 18 percent of the shops/hawkers were the sales unaffected.

South Africa has strong supermarket chains—Shoprite, Pick n Pay, and Spar—located throughout the country. Moreover, malls are becoming the main competitor for shoppers that once frequented small retailers, even in informal areas. For example, in Soweto the Maponya Mall has more than 150 stores and employs 1,800 people (Tshabalala, 2007). Shopping malls opening in Soweto were apparently attracted sales from the township residents, according to research by the University of South Africa's Bureau of Market Research (Hazelhurst, 2008). A BMR survey revealed that 90 percent of Soweto residents bought from local retailers, purchasing nearly half of their household needs from the newly established shopping centers. Residents make 10.4 percent of

consumer purchases from Soweto's home-based business and 7.2 percent from street vendors in the township. Beyond the informal urban areas, D'Haese and Van Huylbroeck (2005) conducted a study of supermarkets impact on South Africa's Transkei area. Among the pertinent conclusions for this study, the authors found that in poor rural communities the majority of households bought their main food items from supermarkets rather than from local shops and farmers.

Clearly, these established formal businesses compete with informal retailers through economies of scale, variety, and other competitive advantages such as centralized procurement, consolidated distribution, and better inventory management.

Supermarkets and malls also benefit from shifting consumer preferences. Reardon et al. (2003) stressed that with urbanization and the entry of women into the workforce, there is an increased opportunity cost of women's time. Increasing refrigerator ownership means shifting from daily shopping in traditional retail shops to less frequent shopping. Supermarket sales were reported to be 55 percent in South Africa, compared with five percent in Nigeria (Reardon et al., 2003).

In the regressions on income and sales for informal retailers, the presence of a nearby supermarket/mall (*Shopping Center*) was entered as one; and zero otherwise. Out of the 764 responses in the South African sample used in this study, 23 percent reported proximity to shopping centers/malls.

3.2.8. *Minimal Education.* Low educational attainment, without secondary school or higher levels of education, should adversely influence income and sales.

The owner's educational attainment should influence the success of entrepreneurial startup rates (Orford et al., 2004) and ultimate success. It is expected that education bolsters the individual capabilities and skills. Conversely, illiterate, innumerate, and/or poorly educated individuals are unlikely to have the ability to nurture success in retail

businesses. In the empirical analysis, the variable *Minimal Education* assigns a value of one (zero otherwise) to owners without secondary education or higher. This comprises 21 percent of the 764 respondents.

3.2.9. *Urban Formal Residential and Urban Informal Residential.* Businesses in formal and informal urban areas have higher income and turnover than rural areas.

Informal businesses are likely to face different prospects in urban and rural areas. South Africa's urban areas are likely to proffer more viable options, as was the case in other developing countries (Yamada, 1996). Notably, urban areas entrepreneurs can take advantage of considerably higher demand density and the positive externalities of a larger population base. Lured by the prospect of better economic opportunities, millions of rural Africans migrated to cities hoping to find employment. South Africa is one of the continent's most urbanized countries, with more than 59 percent of the population living in urban areas in 2005, projected to reach 64 percent by 2015 (World Bank, 2009). The country's urban development is partly determined by the country's unique history during the apartheid era from 1948-1994, which limited black residency in urban areas, while creating satellite townships--predominantly black suburbs, such as Soweto, outside Johannesburg, and Cape Flats, outside Cape Town. The end of apartheid restrictions on urban residency after 1994, coupled with the harsh poverty in the rural areas formerly reserved for blacks under apartheid (the "homelands"), prompted urban area population to surge. The informal (unregulated) black suburbs or townships that sprang up around the "white" cities under apartheid continue to attract rural migrants. Compared with the overall rate of informal employment in South Africa, migrants to urban areas are more likely to work in the informal sector (Cornwell and Inder, 2004). Rural migrants to the

cities and townships often first finding work as street hawkers as informal trade is the only economic opportunity available.

While urban areas have had significant post-apartheid development challenges, with unemployment rates reaching over 30 percent, conditions in rural South Africa remained even worse (May, 1998), where the rural average jobless rate soars well over 40 percent. May (1998) classified two-thirds rural population as poor based on caloric intake and income level. He concluded that over 70 percent of rural South African households lived in conditions characterized as inadequate or intolerable with respect to shelter, energy, water and sanitation.

A major constraint facing entrepreneurs in smaller areas is access to finance. Coetzee (1998) found that the majority of households in a survey for rural South Africa do not access credit (or are unable to access credit services), while most households are engaged in savings activities. The majority of the people surveyed made use of savings facilities rather than credit. Rural small entrepreneurs have only limited access to formal loan facilities. With most financial services only offered in larger towns rural dwellers have to travel and incur a range of costs to access these services.

Blackburn and Ram (2006) also address small business ownership challenges in rural areas. Maas and Herrington (2007) found that the majority of total early stage entrepreneurial activity activities are in urban areas.

In the regressions, the positive influence of urban areas on income and sales is tested with two dummy variables: *Urban Formal Residential* and *Urban Informal Residential*. The former are the established urban areas, while the latter are the townships and other informal settlements. Both should have a positive effect compared with rural areas.

3.2.10. *Taxi/Train Stand, Shebeen, and Hawker.* The type of business should influence income with taxi stands and train stations, with *shebeens* and *spaza* shops exhibiting higher income and sales compared with hawkers.

As discussed earlier, different types business should serve as control variables in the model. Compared with *spaza* shops, *shebeens* may or may not generate higher income and sales, all else the same, yet hawkers would have lower income and sales than both these types of businesses. At the same time, the micro-enterprise that serve taxi stands and train stations in South Africa (in this case primarily kiosks may benefit from demand density and greater turnover relative to other locations.

4. Regression Results

Table 2 presents estimates for the determinants of owner's income in seven specifications. The analysis uses ordinary least squares regression (OLS) with corrected standard errors for heteroscedasticity. With cross sectional data such as those tested in these regressions, it is well known that heteroscedasticity may be present and the regular OLS estimator may be inefficient. Accordingly, the results presented in this paper use heteroscedasticity-consistent standard errors. Compared with simple OLS, this technique will produce lower t-scores and diminish the probability of statistically significant coefficients. Note that although the method corrects for heteroscedasticity, it does not change the coefficient values. If heteroscedasticity is present, then the technique corrects for it; on the other hand, if it is not present, there is no error. Thus, heteroscedasticity-consistent standard errors are considered more robust and reliable compared with those generated through simple OLS.

The model performed well overall. Across different specifications, the estimates are robust. The complete specification shown in column 7 performed better than alternatives, with an R^2 of 0.41. In turn, we will direct our discussion toward these

estimates. Note that all independent variable estimates exhibit the expected signs. Many are statistically significant at the five percent level or below.

Table 2. Regression for Owner's Income (log)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Startup Capital (log)</i>	0.312*** (0.034)	0.313*** (0.034)	0.297*** (0.036)	0.298*** (0.037)	0.294*** (0.036)	0.295*** (0.036)	0.278*** (0.037)
<i>Owner Unemployed</i>	-0.165 (0.086)	-0.167 (0.087)	-0.179* (0.085)	-0.179* (0.085)	-0.148 (0.085)	-0.150 (0.086)	-0.161 (0.085)
<i>Employees (log)</i>	0.472*** (0.089)	0.474*** (0.089)	0.463*** (0.090)	0.463*** (0.089)	0.450*** (0.088)	0.452*** (0.088)	0.413*** (0.088)
<i>Business Training</i>	0.192 (0.182)	0.194 (0.182)	0.194 (0.181)	0.195 (0.182)	0.190 (0.175)	0.192 (0.175)	0.173 (0.171)
<i>Male Owner</i>	0.257** (0.078)	0.256** (0.078)	0.257*** (0.078)	0.257*** (0.078)	0.260*** (0.078)	0.260*** (0.078)	0.268*** (0.077)
<i>Established Business</i>	0.150 (0.081)	0.150 (0.081)	0.154 (0.080)	0.154 (0.080)	0.125 (0.081)	0.124 (0.082)	0.120 (0.081)
<i>Shopping Center</i>	-0.011 (0.097)	-0.012 (0.097)	-0.083 (0.099)	-0.083 (0.099)	-0.017 (0.095)	-0.018 (0.096)	-0.104 (0.099)
<i>Minimal Education</i>		0.022 (0.090)		0.003 (0.091)		0.022 (0.090)	-0.016 (0.091)
<i>Urban Formal Residential</i>			0.281** (0.086)	0.281** (0.086)			0.315*** (0.087)
<i>Urban Informal Residential</i>			0.305 (0.194)	0.305 (0.197)			0.331 (0.191)
<i>Taxi Stand/Train Station</i>			0.241 (0.127)	0.241 (0.126)			0.509** (0.161)
<i>Shebeen</i>					0.167 (0.119)	0.166 (0.119)	0.160 (0.119)
<i>Hawker</i>					-0.169 (0.109)	-0.170 (0.109)	-0.362** (0.139)
<i>Constant</i>	4.075*** (0.250)	4.064*** (0.253)	4.003*** (0.260)	4.002*** (0.265)	4.213*** (0.263)	4.203*** (0.265)	4.152*** (0.265)
R-squared	0.384	0.383	0.394	0.393	0.390	0.389	0.408

N	449	449	449	449	449	449	449
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Note: Standard errors are in parentheses. * p<0.05; **p<0.01; *** p<0.001

Among the noteworthy findings, we see that *Startup Capital* is statistically significant. Since it is measured in logs (like the dependent variable *Owner's Income*), it can be interpreted as an elasticity. Looking at specification 7, we see that a one percent increase in startup finance would yield a 0.27 percent increase in owner's income, all else held constant.

Male Owner also holds up well under different specifications, exhibiting the correct sign and always statistically significant. The coefficient can be interpreted as a premium for male ownership, all else held constant. In this case, the male advantage raises owner's income by 27 percent. Apparently, an urban formal residential location can boost income relative to rural areas, as seen in specification 7. In this case, the premium for this location advantage is approximately 32 percent. Taxi and train locations seem to matter as well, with more than 50 percent higher owner's income than rural locations. In terms of business type, hawkers have lower income, all else the same.

Owner Unemployed, that is, the previous status of the owner as unemployed, shows the correct sign, but it is statistically insignificant across most specifications. *Business Training* has the expected positive sign, but is not significant. Proximity to a shopping center/mall is negative, yet also not statistically significant. In specification 7, *Minimal Education* is negative as expected and not significant. The age of the business is not significant, although there is evidence that the larger size enterprises (more than two employees) generate higher owner's income.

Thus, there is evidence that viable businesses benefited from higher start-up capital, hiring workers, having male ownership, and locating in formal, urban locations. Before

elaborating on these results, let us first consider a similar set of regressions run on sales.

These regressions provide additional evidence for the viability of the business, given that they contain a larger number of observations. They also serve as a check on the accuracy of reported owner's income. To be sure, owner's income and sales are closely correlated (approximately 79 percent).

Not surprisingly, the estimates given Table 3 for sales largely follow those discussed in Table 2 for owner's income. The overall explanatory power of the regression improves. While all independent variables still show the expected signs, we find *Established Business* and *Shebeen* are now statistically significant in the sales regressions. As for *Startup Capital*, the elasticity rises from 0.28 percent to 0.33 percent.

Table 3. Regression for Sales (log)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Startup Capital (log)</i>	0.375*** (0.034)	0.372*** (0.034)	0.358*** (0.036)	0.354*** (0.037)	0.353*** (0.034)	0.351*** (0.034)	0.333*** (0.036)
<i>Owner Unemployed</i>	-0.161 (0.083)	-0.157 (0.084)	-0.172* (0.083)	-0.168* (0.083)	-0.139 (0.082)	-0.134 (0.082)	-0.141 (0.081)
<i>Employees (log)</i>	0.574*** (0.093)	0.571*** (0.094)	0.558*** (0.094)	0.555*** (0.095)	0.549*** (0.090)	0.547*** (0.091)	0.494*** (0.091)
<i>Business Training</i>	0.348* (0.176)	0.341 (0.177)	0.338 (0.174)	0.329 (0.174)	0.353* (0.166)	0.347* (0.167)	0.315 (0.161)
<i>Male Owner</i>	0.260*** (0.078)	0.261*** (0.078)	0.265*** (0.079)	0.265*** (0.079)	0.259** (0.079)	0.260** (0.079)	0.273*** (0.079)
<i>Established Business</i>	0.289*** (0.082)	0.289*** (0.082)	0.284*** (0.081)	0.285*** (0.081)	0.249** (0.081)	0.249** (0.081)	0.230** (0.078)
<i>Shopping Center</i>	-0.096 (0.102)	-0.093 (0.102)	-0.174 (0.104)	-0.172 (0.104)	-0.105 (0.101)	-0.103 (0.101)	-0.196 (0.103)
<i>Minimal Education</i>		-0.059 (0.095)		-0.071 (0.096)		-0.053 (0.094)	-0.090 (0.095)
<i>Urban Formal Residential</i>			0.364*** (0.085)	0.365*** (0.085)			0.405*** (0.086)
<i>Urban Informal Residential</i>			0.200 (0.183)	0.210 (0.183)			0.232 (0.179)
<i>Taxi Stand/Train Station</i>			0.261* (0.113)	0.274* (0.114)			0.602*** (0.143)
<i>Shebeen</i>					0.241* (0.121)	0.242* (0.122)	0.243* (0.120)
<i>Hawker</i>					-0.208* (0.099)	-0.06* (0.100)	-0.432*** (0.122)
<i>Constant</i>	4.974*** (0.245)	5.006*** (0.250)	4.890*** (0.256)	4.922*** (0.262)	5.133*** (0.247)	5.160*** (0.252)	5.082*** (0.251)
R-squared	0.460	0.460	0.475	0.475	0.471	0.471	0.496
N	476	476	476	476	476	476	476

Note: Standard errors are in parentheses. * p<0.05; **p<0.01; *** p<0.001

The most striking finding among all regression results is the apparent barrier to women's viability in terms of income and sales. Male ownership matters, even after controlling for startup capital, education, urban/rural location, and other factors. Men earn 27 percent more than women do. According to economic theory, this disparity should reflect differences in the marginal productivity of men versus women. It may be more likely in this case to be the result of hours devoted to the business. Many women enter informal sector activities in order to generate income while simultaneously exercising childcare responsibilities (as single mothers or in monogamous and polygamous marriages). Verhoef (2001) studied the burdens on rural South African. The paper pointed to the challenges of maintaining a family without a viable, regular source of income. Yet many have access to startup capital. Indeed, millions of women belong to South Africa's *stokvels*, or self-help savings clubs. *Stokvels* have existed for decades. More recently, microfinance institutions have supported these clubs. South African women use the access to credit that *stokvels* provide them to start their own informal, including *shebeens*, *spazas*, and other retail ventures. Nevertheless, given the present analysis of South African informal retail, there seem to be limits on women's income and sales that go beyond startup capital.

Location is also critical. For sales and income, entrepreneurs benefit from businesses in formal residential areas. In terms of impact, the premium over rural areas is approximately 50 percent. Logically, this finding stems from the higher per capita income and demand density in developed urban areas. Demand density also makes taxi ranks and train stations more lucrative. These spaces are limited and thus a source of competitive

advantage that cannot be copied or re-created, as is the case with *spaza* shops spread throughout informal residential areas or with street hawkers.

5. Conclusion

A central concern of developmental entrepreneurial policy is creating economically viable enterprises, which generate satisfactory living standards and do not require direct government subsidies (Staley and Morse, 1965; Cook, 2001). Economic development initiatives often focus on stimulating production, not distribution activities. Yet because of relatively low barriers to entry, the African retail sector attracts millions of entrepreneurs. Without stepped up formal employment, Africa's burgeoning informal retail economy will continue to offer one of the few feasible sources of income.

In South Africa, this paper has shown that the median income for informal retail micro-enterprise falls below the minimum wage. The best chance to success seems to be locations in urban areas, with male ownership, and greater startup capital. They will generate more income if they stay in operation more than five years and have grown to hire two or more employees.

Consistent with previous work, the regression analysis presented in this paper suggests that finance is an impediment to reaching a viable income for African small-scale business owners (Cook, 2001; Naudé et al. 2008). In a factor analysis of survey data, Chu et al. (2007) found that for Ghanaian and Kenyan entrepreneurs, obtaining capital was a "serious problem" (more so in the former case). Ligthelm's (2002) earlier study of South African *spaza* shops asked the owners to list the three most serious constraints they experienced. The most frequently mentioned was a shortage of funds. When asked how profitability could be improved, the most common response was

“through access to loans.” In that study, while almost 40 percent of the *spaza* owners said that access to loans would be one of the best ways to improve *spaza* profitability.

Beyond delving deeper into the capital constraint, more research needs to be done on gender discrimination and women’s inability to reach a sustainable livelihood through informal trade. To be sure, women carry out vital entrepreneurial and managerial functions in the South African informal economy. More research needs to be done regarding time constraints (child rearing) and other factors that lead females to earn less as entrepreneurs. We also need to understand crowding and copycat behavior in the informal economy and its affect on the success of small retailers. Interestingly, shopping centers do not yet appear to be a statistically significant deterrent to income. Yet they still represent a competitive threat to thousands of small businesses. The potential of formal retail centers to displace large numbers of informal entrepreneurs in Africa merits further study.

One of the major problems faced by researchers studying the informal sector in Africa is a lack of reliable data for statistical analysis. It would best to have detailed spatial data that, for example, could account for the crowding effects of entrepreneurs in distinct areas. Among attributes of the external environment facing entrepreneurs, a more comprehensive spatial data base would include local consumer buying power and crime around the location, a problem in Kenya detected by Chu et al. (2006). In Africa, it is particularly difficult, if not impossible to get reliable information about informal businesses from official governmental sources. Hence, to understand the viability of informal retail in South Africa in more depth, additional original field research is needed. This study is encouraging in that it proved possible to obtain detailed information about African informal entrepreneurs working and living at the “base of the pyramid.”

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