Full Length Research Paper

Potential developmental effects of experience in the Southern African inner city street trading sector

Chris William Callaghan

University of the Witwatersrand, Johannesburg, Republic of South Africa. E-mail: chris.callaghan@wits.ac.za. Tel: +27 11 717 8066. Fax: +27 11 717 8081.

Accepted 20 December, 2011

This paper tests theory that predicts that context specific learning potentially contributes to entrepreneurial performance. Multiple linear regression analysis and moderated regression analysis is used to test the effects of experience upon street trader gross earnings, and to derive a typology of street trader tenure and exit. Marginalist perspectives of the sector that predict no potential for economic accumulation across the sector over time are contested as experience is found to be positively and significantly associated with higher levels of earnings. The finding that specific human capital or context specific learning does predict earnings suggests that a mechanism for the upliftment of entrepreneurial street traders might exist. Further, a more proactive role by the state to develop the human capital of street traders might enable a 'ladder' out of survivalist poverty and might ultimately contribute to the use of the informal sector as a developmental space for certain of these people.

Key words: Experience, informal street trading, entrepreneurship, development.

INTRODUCTION

Within the Southern African context, South Africa has experienced significant political, social and economic change over the past decades (Nasser et al., 2003; Padayachee, 2005; Peberdy and Rogerson, 2003). Within the context of such changes, the informal sector increased in size due to changes in urban residence patterns which were also matched by an influx of migrants from other areas of the country and ex-homelands together with immigrants (Peberdy and Rogerson, 2003). The Southern African context is, however, embedded within an overarching global context.

For Jessop (2002) the global paradigm of Keynesian welfare national state policies has typically been supplanted by the Shumpeterian workfare post national regime. South Africa is therefore nested within a global context of de-industrialisation and tertiarisation, as structural changes toward a more services oriented economy decrease requirements for less-skilled and unskilled labour (Ligthelm, 2006). Positioned at the nexus of such global change and local geographical changes is the urban informal sector. The nature and role of the sector is similarly not independent of the structure of global and local economies.

Schoeman et al. (2010) argue that the structure of the South African economy mitigates against the absorption of labour and perpetuates excessively high levels of unemployment. An over-regulated labour market might be at the heart of the unemployment problem. This has resulted in a paradoxical context: One of positive economic growth, reasonably low interest rates and inflation that co-exist with high levels of unemployment (Schoeman et al., 2010). The production elasticity of employment has declined over time, as despite an overarching context of gross domestic product (GDP) growth, labour shedding has occurred or employment growth has remained below GDP growth (Ligthelm, 2006). The shift from 'Fordist' to more skills based service oriented work has consequently placed a burden upon cities and their management to deal with the consequences of such structural shifts (Rogerson, 1997). Such economic structures, however, also exist within a specific demographic context.

The South African context also reflects a growth in the population that is in excess of the growth in employment
prospects of the formal sector (Ligthelm, 2006). In the face of the decreasing labour absorption capacity of the formal economy the informal economy therefore has an important labour absorption role (Ligthelm, 2006). This role is especially salient given the relative lack of a social security system.

Definitions of the informal sector typically fall short of capturing its nature (Barker, 1999; Devey et al., 2006). In this study the informal sector is defined as generally unregulated and unregistered activities that fall outside of the formally regulated sector of the economy. Approximately five million people in the country are supported to some extent by the ‘second’ or informal economy, and about 1.6 million are active either on a full-time or part-time basis in this sector (Ligthelm, 2006).

The specific Johannesburg informal sector has been estimated to comprise about five to eight thousand traders both in and around the Johannesburg area (O’Reilly, 2004; Van Rooyen, 2004; Antoniedies, 2007).

The ranks of Johannesburg’s inner city street trading sector include asylum seekers, migrants and refugees that have entered the country from the rest of the continent (Landau, 2004). The sector provides an income for these heterogeneous groups, and cultural heterogeneity is an inherent feature of this context (Roberson, 2004; Van Rooyen and Antonides, 2007). Similarly, in terms of activities the informal sector is “far from homogenous, incorporating many activities performed under different conditions” (Nattrass, 1987). The role of the informal sector within the broader societal challenges of the international and regional contexts is therefore not trivial.

According to De Soto (1989), the informal sector can act as an entrepreneurial training ground. Individuals can develop entrepreneurial skills and accumulate capital in the sector, and can develop their entrepreneurial enterprises and grow or move out of the sector, perhaps becoming formal enterprises. His conception of the informal sector or the ‘entrepreneurial’ perspective of the informal sector is, however, contested by the ‘marginalist’ perspective of the informal sector.

The marginalist perspective regards the informal sector as a ‘reserve army’ of the formal sector with no potential function associated with economic accumulation (Portes and Schauffler, 1993). Wellings and Sutcliffe (1984) criticise the conception of the informal economy as a developmental platform, arguing that it is created by capitalist structures aimed at exploiting its reserve labour capacity. Early neoliberal theory and Marxist theory typically frame the informal sector as inherently a temporary phenomenon and argue that its genesis and continued existence are purely a function of peripheral economies (Meagher, 1995; Portes et al., 1989). Hence, according ‘marginalist’ theory, there is no fundamental promise inherent in the informal sector for economic accumulation (Portes and Schauffler, 1993). Such theory disregards the entrepreneurial potential of the informal sector. Furthermore, such perspectives deny insight into the potential entrepreneurial role of the sector in addressing developmental challenges.

At the heart of the contested notion of the role of the sector between the ‘entrepreneurial’ and the ‘marginalist’ camps is whether economic accumulation is possible in the sector. If an entrepreneurial mechanism does indeed exist in the sector, that is clearly associated with entrepreneurial performance, or higher earnings, then one dimension of entrepreneurial economic accumulation would then have been identified. This mechanism would however need to exist across the population. It is argued that the action of specific human capital (Becker, 1975) acts as such a mechanism in this sector.

Research problem and objectives

As already indicated, in order to speak to the tension between marginalist and entrepreneurial theories of the informal sector a test of the relationship between specific human capital and entrepreneurial performance would need to produce findings that are generalisable across the population. Taking recourse to the conception that portions of the sector are entrepreneurial and others are marginalist is taken to be insufficient. Therefore, a quantitative research design is applied, in order to test this association across the entire sample.

The objective of this research is therefore to establish the extent to which specific human capital is associated with entrepreneurial performance, represented by gross earnings, across this inner city population.

The aim of this research is, therefore, to test theory that informs conceptions of the interrelationships around specific human capital and entrepreneurial performance in this context. Such an investigation is expected to reveal aspects of the structure of relationships in this sector that might have implications for development and more specifically the entrepreneurial upliftment of these people. Therefore, the overarching aim of this research is to facilitate the upliftment of these informal street traders.

Knowledge that facilitates such upliftment and the productivity of these people might contribute to the broader society as their participation in the economy might be enhanced. The research questions addressed in this work are the following:

1. To what extent does tenure or experience of the sector contribute to entrepreneurial performance?
2. What is the interactive relationship between learning specific to the context and the learning represented by life experience with regard to entrepreneurial performance?
3. What is the typology of street trader exit versus that of a trader that typically stays in the sector for longer?
4. What are the implications of such a typology for entrepreneurial street trader upliftment?

The extent to which specific human capital does contribute to entrepreneurial performance across the population would offer an indication of the extent to which the specific human capital mechanism of productivity predicted by Becker (1975) is present. Such evidence is expected to support either the marginalist or the entrepreneurial perspectives of the sector. The typology of traders exiting or staying in the sector for longer is expected to indicate the extent to which general human capital in the sector might enable transit out of the sector, given the assumption that certain of the traders that exit are entering other sectors. Relevant to these effects is the influence of national origin, given that the majority of traders are of foreign origin. This variable is controlled in the multivariate analysis, yet due to the dominance of this variable in the analysis, within the typology of exit the relationships of national origin are also investigated further.

**Hypotheses**

The research problem addressed in this research relates to the absence of literature that relates to clearly identified and tested mechanisms of informal upliftment in the specific Southern African street trading context.

If a claim is made that the informal sector is associated with entrepreneurial potential (De Soto, 1989), then such mechanisms would need to be identified in, and tested across, informal sector contexts. Entrepreneurial behaviour is typically associated with entrepreneurial performance, yet only when the dimensions of entrepreneurial behaviour are specifically matched to, or are appropriate for, a specific context (Lumpkin and Dess, 1996). It is argued that the problem of testing the marginalist and entrepreneurial predictions in this sector therefore effectively reduces to a test of such potential mechanisms of upliftment in specific informal contexts. Therefore:

**Hypothesis 1**: There is a significant and positive association between experience and earnings.

Following Lumpkin and Dess (1996) entrepreneurial behaviour is a necessary condition, yet not a sufficient condition for the attainment of entrepreneurial performance. Entrepreneurship is fundamentally associated with learning (Stevenson and Jarillo, 1990). Therefore, the extent to which entrepreneurs are able to adapt and learn in relation to a context is perhaps indicative of the entrepreneurial potential of a specific context. Human capital theory predicts that learning specific to a context will typically be associated with a financial return that is context specific. This learning or the investment in learning of the individual is termed human capital. Context specific human capital that does not attain a return in other contexts is specific human capital, and human capital that obtains a return across contexts is general human capital. According to the tenets of human capital theory, such learning will typically be associated with productivity increases. Such productivity increases will result in higher earnings, or also psychic returns on such an investment in human capital (Becker, 1975). Therefore, according to human capital theory the learning associated with experience or tenure in the informal sector (Becker, 1975) is expected to enable entrepreneurial performance (Lumpkin and Dess, 1996). Entrepreneurial performance itself comprises extrinsic and intrinsic dimensions, such as earnings and satisfaction (Lumpkin and Dess, 1996). However, the match between context and entrepreneurial behaviour is not known in this sector. Absent from the literature is a detailed investigation of the structure of relationships of this sector. If a specific focus on the relationships around experience within the context and earnings is applied, then by definition a differentiation has been applied: between experience gained by an individual that is within this context and the experience of the same individual that encompasses all such an individual’s life experiences. In typical working contexts, earnings typically increase with age, but at a rate that decreases over time (Becker, 1993). Age-earnings effects “tend to be steeper among more skilled and educated persons” (Becker, 1993). According to Becker’s (1975) conception, skills and education interacts with the effect of age upon earnings. This conception is tested in this study. Life experience is expected, following Becker (1975), to therefore, enable a more effective or efficient transmission of learning within the sector towards earnings related productivity. Other entrepreneurial effects have been found to be associated with age.

Age has been found to be positively associated with higher levels of commitment and effort in certain work contexts (De Clerq and Ruis, 2007). Certain studies have also shown a positive relationship between an entrepreneur’s levels of human capital as measured along the dimensions of age and other measures of human capital and new firm performance (Lynskey, 2004). Positive associations have also been found between age and entrepreneurial venture performance (Gimento et al., 1997).

In contrast, however, Levesque and Minniti (2006) argue that “the effect of age on entrepreneurial decisions is analogous to that of an inherent factor”, and that “age influences an individual’s decisions with respect to entrepreneurship in ways that are related to perceptions of self-efficacy and that do not depend on socio-economic incentives.” According to Levesque and Minniti (2006), as individuals get older they are expected to
Within the typology of exit factors, on the basis of the literature, two are singled out for special attention. The first is formal education. The second is South African origin. In terms of formal education, Becker (1975) defines general human capital as the skills and knowledge associated with investments in learning that derives a return across different contexts. According to Becker’s (1975), conception higher endowments of such human capital will be expected to obtain a return in both the formal sector and in the informal street trading sector. However, in other contexts education has been found to obtain a higher return in formal employment than in entrepreneurial work (Heywood and Wei, 2004). Furthermore, formal education has another property that is ‘attractive’ to formal employers; it acts to ‘signal’ the potential productivity of an individual (Spence, 1973). Therefore, hypothesis 3A is offered:

**Hypothesis 3A:** Higher levels of education are associated with lower levels of experience.

In terms of the exposure of inner city street traders to the xenophobic violence experienced by South Africa in 2008 (Neocosmos, 2008; Sharp, 2008), and given the finding that about sixty percent of the Johannesburg inner city street trading population is of foreign origin, the effect of country origin upon informal tenure is tested. Therefore:

**Hypothesis 3B:** South African origin is associated with higher levels of experience.

### RESEARCH METHODOLOGY

#### Research design

A quantitative research design was applied. Three hundred and three street traders were sampled from the Johannesburg inner city street trading population.

#### Method of data collection

The core inner city trading context was differentiated from surrounding areas, and delimited to the area between Plein, End, Faraday and Sauer streets. Using random number tables, about a ten percent sample of the 228 blocks was demarcated and the traders on the corner of these blocks were counted. This enabled an estimation of this inner city street trading population, of about five thousand traders. A sample size calculation was used. Based upon the sample size calculation, a sample of about three hundred respondents was taken to be adequate for the purposes of this study. The calculation used the standard deviation of the sample, as the standard deviation of the population was not known. Ethical principles were followed. Any indication of potential refusal was respected. Due to the relatively large number of refusals that needed to be respected, claims are made on the basis of convenience sampling.

#### Sampling instrument

The instrument was developed using a process of piloting. An
attempt was made to obtain ratio data where possible (Stevens, 1947). A strict sampling protocol was followed in order to not introduce extraneous variance into the data collection process.

**Method of data analysis**

A univariate analysis was applied to each variable. A bivariate analysis was then undertaken. The investigation of zero order effects was undertaken in order to gain a perspective of net relationships between the variables. Multivariate analysis was undertaken to test the hypotheses. Multiple linear regression analysis and moderated regression were applied to the process of testing the hypotheses. In each of the following sections, the procedures applied to test the assumptions of each statistical technique are reported in the results and discussion part of this paper. The effects of certain variables were 'controlled for' in the multivariate analysis. In this paper, these variables are referred to as control variables. This definition differentiates the use of this term from that used in experimental tests. Control variables were derived from the literature. The inclusion of the control variables was justified by the literature and past precedent. A brief discussion of the rationale for the inclusion of control variables is presented as follows:

**Justification of control variables**

Order of capture was a measure of the order in which respondents were sampled. Extraneous variance was excluded to some extent through the delimitation of the study to centrally located blocks representing the inner city character. However, within the inner city structure of city blocks, certain blocks were positioned closer to transports hubs, for example. Therefore, a variable was introduced in order to control for extraneous variance that might have been introduced as a function of the order of the process.

Exposure to a skills specific street trading entrepreneurial skills training programme offered in partnership by the City of Johannesburg and the University of the Witwatersrand was included as a control factor. Due to the specific human capital orientation of such training, and its significant association with earnings in a 2009 study in the sector (Callaghan and Venter, 2010), the inclusion of this variable was deemed necessary.

Gender is included as a control variable, as human capital effects have been found to differ in their effects upon earnings in this sector (Callaghan and Venter, 2010).

Age is included as a control variable due to its proxy effect. Age, when tested against earnings is expected to capture the human capital effects of a life-time of learning and experience. Holding age constant, it might be possible to ascertain the net effect of experience in this specific context upon earnings. A further analysis of the interaction effects between age and experience was also undertaken.

Although in the context of South African research to date dimensions of culture have not always been found to predict certain aspects of entrepreneurship (Urban, 2006), city and country origin are expected to contribute to variance along the dimension of culture. "Subcultures may form within a societal group based on a distinct history or geographically-based experiences that have influenced the values of the group" (Urban, 2006). To some extent, if these basic proxies for culture are therefore controlled for, then the net relationships around experience and earnings might be more accessible in testing. South African and Johannesburg origin are therefore included as control factors.

Hours worked per day have been found to be associated with earnings in this specific context (Callaghan, 2011a).

Initial investment has been found to be significantly associated with street trader earnings in this specific context (Callaghan, 2011b).

Total education and tertiary education are included as control factors in order to control for general human capital effects, in order to allow for an analysis primarily focused upon specific human capital effects (Becker, 1975). The operation of a rental stand might differentiate the experience of street trading along the dimension of legitimacy (ESSET, 2007; Tissington, 2009). This variable was therefore earmarked as a control variable in order to attempt to control for differences associated with the operation versus non-operation of a state provided rental stand.

Theory and research findings suggest that job satisfaction is typically negatively associated with intentions to not continue in jobs, or turnover (Chen et al., 2011). To the extent that satisfaction might influence the relation between experience and earnings, continuance satisfaction was also included as a control variable.

**Descriptive statistics**

The demographic factors are reported in Table 1. In Table 1, frequency proportions are shown for the demographic variables, which include gender, South African (RSA) origin, Johannesburg (Jhb) origin, and exposure to street trader skills training. The descriptive statistics for the continuous variables tested in this research are reported in Table 2.

**Univariate statistics**

The univariate statistics are reported in Table 2. Table 2 reports the tests of location, or means, modes and medians. The results of the tests of statistical dispersion: Test of standard deviation and quartiles data are also reported in Table 1. The descriptive characteristics of the sample that are relevant to the study are discussed subsequently in order to place the hypothesis testing process into context.

**Bivariate statistics**

A correlational analysis was applied to the data in order to ascertain

---

**Table 1. Demographic results: Frequency proportions.**

<table>
<thead>
<tr>
<th>Demographic factor</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>62</td>
</tr>
<tr>
<td>Female</td>
<td>38</td>
</tr>
<tr>
<td><strong>South African origin</strong></td>
<td></td>
</tr>
<tr>
<td>RSA origin</td>
<td>41</td>
</tr>
<tr>
<td>Non-RSA origin</td>
<td>59</td>
</tr>
<tr>
<td><strong>Johannesburg origin</strong></td>
<td></td>
</tr>
<tr>
<td>Jhb origin</td>
<td>8</td>
</tr>
<tr>
<td>Non-Jhb origin</td>
<td>92</td>
</tr>
<tr>
<td><strong>Street trader skills training</strong></td>
<td></td>
</tr>
<tr>
<td>Received training</td>
<td>9</td>
</tr>
<tr>
<td>Not received training</td>
<td>92</td>
</tr>
</tbody>
</table>
zero order associations. A comparative analysis between the multivariate results and the zero order correlations was undertaken. The results of this comparative analysis are reported and discussed in the results and discussion part of this paper.

Description of the sample

Of the sample, sixty two percent of the respondents were male. Forty-one percent of the sample was of South African origin and eight percent was of Johannesburg origin. This indicated that almost 60% of the traders sampled were of foreign origin and that about 33% of the local traders were migrants from other areas of the country. These statistics highlight the importance of migration and immigration as an influence upon the role and nature of the sector. These findings justify the inclusion of Johannesburg origin and South African origin as control factors in the analysis. Nine percent of the traders were found to have attended street trader specific skills training. Three quarters of the sample are found to work over nine and a half hours a day. The mode, median and average hours worked per day is close to eleven hours per day. This suggests that such traders are exposed to a context typically associated with long hours of work.

A quarter of the samples are found to have invested as little as three hundred and fifty rand in their enterprises. This supports the notion that entry barriers to the sector are relatively low. The sector is therefore relatively accessible to potential entrants in terms of financial constraints. The median tenure of traders within this sample was found to be five years. This indicates that across the sample traders are not typically found to use the inner city sector on a permanent basis. Such a temporary use of the sector makes the investigation of entrepreneurial potential of the sector more salient, because if one form of exit is toward entrepreneurial ventures that are more developed, then economic accumulation would perhaps be a necessary condition for such a form of exit proposed by De Soto (1989) and the entrepreneurial school of the informal sector.

On the other hand, marginalist theory is similarly not refuted by such a finding, because if the sector is used temporarily, then a portion of the traders that exit are no doubt expected to exit toward formal work. As already indicated, the primary issue addressed in this research is whether economic accumulation or the accumulation of resources can occur across the entire population on the basis of specific learning that occurs in this specific context. If such a finding is established, then the entrepreneurial perspective of De Soto (1989) is supported, and a claim can be made that the sector does indeed have significant potential to act as an entrepreneurial training ground.

However, a second level of analysis is relevant to differences between these two schools. The ratio of exit, between entrepreneurial exit and exit toward formal education might indicate the degree to which the sector is contributing to entrepreneurial development towards more sophisticated and perhaps formal entrepreneurship. Further research might build upon exploratory work such as this, and establish the relative ratio of exit, and the true extent to which entrepreneurial development is indeed facilitated by this sector. A quarter of the sample is found to earn a hundred and forty or less rand a day. This suggests that any research into how earnings can be increased in this sector might make a difference to the lives of these people, if such knowledge could empower higher earnings in this context. The results of the hypothesis testing are reported and discussed subsequently.

RESULTS AND DISCUSSION

Null-hypothesis 1: There is no significant association between experience and earnings.

In order to test the association between experience and earnings, a multiple linear regression analysis was applied with gross earnings as the dependent variable. A range of factors were included in the model in order to hold their influence constant. On the basis of the literature, these control factors were justified for inclusion in the analysis. The justification of the inclusion of the control factors was offered earlier.

A multiple linear regression model was obtained for the entire sample. Diagnostic tests were run against the process. According to the diagnostic tests, a range of potential outliers and influential points were identified. These points were removed from the data, and the analysis was run again, as a second model was tested. Further, on the basis of the diagnostic tests, a natural log transformation was applied to the dependent variable in the second model. Variables found to be significantly associated with both earnings (in the first model) and with the natural log of earnings (in the second model) are reported and discussed. Variables that failed to attain the required five percent level of significance in either of the models are not reported nor discussed.

In this manner, an attempt was made to apply a conservative process, and to avoid unwarranted claims in the analysis. In order to test hypothesis two, a further analysis of the potential interactions between experience

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mode</th>
<th>Median</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Quartiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>56</td>
<td>27</td>
<td>32</td>
<td>34.14</td>
<td>10.27</td>
<td>27/40</td>
</tr>
<tr>
<td>Hours worked</td>
<td>14</td>
<td>11</td>
<td>11</td>
<td>10.7</td>
<td>1.95</td>
<td>9.5/12</td>
</tr>
<tr>
<td>Initial investment</td>
<td>6999</td>
<td>350</td>
<td>650</td>
<td>1179.41</td>
<td>1284.92</td>
<td>350/1550</td>
</tr>
<tr>
<td>Total education</td>
<td>17</td>
<td>12</td>
<td>11</td>
<td>9.936</td>
<td>3.487</td>
<td>8/12</td>
</tr>
<tr>
<td>Experience</td>
<td>14</td>
<td>1</td>
<td>5</td>
<td>6.45</td>
<td>4.66</td>
<td>2/10</td>
</tr>
<tr>
<td>Continuance satisfaction</td>
<td>12</td>
<td>9</td>
<td>8</td>
<td>6.77</td>
<td>2.565</td>
<td>4/9</td>
</tr>
<tr>
<td>Earnings per day</td>
<td>870</td>
<td>900</td>
<td>230</td>
<td>351.58</td>
<td>275.84</td>
<td>140/510</td>
</tr>
</tbody>
</table>
and age with regard to predicting earnings was applied to the data. The results of this process are discussed in the section that relates to hypothesis two.

The first tested model which included the entire sample was found to be significant \( (p < 0.0001) \) with an adjusted \( R^2 \) squared value of 0.219. According to this model, about twenty percent of the variance in earnings was explained by experience together with the control factors left in the model after the backward elimination process had removed all factors with significance levels at or higher than the ten percent level. The Durbin-Watson statistic for the model was 1.78 which was considered to be reasonably close enough to the value of two to indicate that the presence of exogenous serial correlation did not pose a threat to the process. In the following MLR equations, the beta (unstandardised coefficient) values are reported first in each term, followed by the value of the standardised coefficient (in brackets). The variable name then follows together with the significance level, in the form of the \( p \) value (also in brackets). The equation found to be associated with the model is:

\[
Y = -51.3 (p=0.488) + 0.462(0.147) \text{ order of capture (}p<0.006\text{)} + 75.6 (0.133) \text{ Gender (}p<0.017\text{)} - 93.6 (0.167) \text{ RSA origin (}p<0.002\text{)} + 0.059 (0.276) \text{ Initial investment (}p<0.0001\text{)} + 8.14(0.103) \text{ Total education (}p<0.066\text{)} + 7.66 (0.129) \text{ Experience (}p<0.025\text{)} + 18.38 (0.171) \text{ Continuance satisfaction (}p<0.001\text{)}.
\]

The coefficients, standardised coefficients and significance of each variable in the first model and in the second model with the dependent variable transformed and with outliers removed are shown in Table 3 in order to aid comparisons between these models. The model was found to have a highest condition indices value of 14.44, which was taken to be close enough to the value of 15 to indicate further investigation for potential multicollinearity. The highest Variance Inflation Factor value was found to be 1.857, and the lowest tolerance value was found to be 0.759. However, the highest Pearsonian correlation value with earnings was that of initial investment \( (r = 0.32; \ p < 0.0001) \), and continuance satisfaction \( (r = 0.206; \ p < 0.0001) \) respectively. The bivariate zero order association between gross earnings and experience was not found to be significant \( (r = 0.037; \ p < 0.259) \). The bivariate association between age and earnings was also found to not be significant \( (r = -0.045; \ p < 0.217) \). In terms of MLR diagnostics, the Cook’s distance values were well under 0.5, yet the maximum standardised and studentised residuals values were 2.69 and 2.73, respectively. Since these were greater than two in value, the presence of outliers and influential points was recognised as a potential threat to the validity of the results. A univariate analysis was undertaken for the dependent variable, in order to ascertain the extent to which this variable met the requirements for normality in its distribution. The Quartile-Quartile (Q-Q) plot revealed reasonably significant deviations from the observed line. An examination of the plot of the frequency of the standardised residuals of the dependent variable over the frequency reflected what was interpreted as a reasonably normal distribution. The Schweinle method was used to remove outliers at or over two standard deviations from the mean. A natural log transformation was then applied to the dependent variable after the potential outliers and influential points had been removed. This model tested with the transformed dependent variable is used as a benchmark against the results of the first model. Only variables found to reflect associations at within the five percent level of significance in both models are reported and discussed. The equation obtained for the second model is:

\[
\text{Natural Log Earnings} = 3.934 (p<0.0001) + 0.002 (0.172) \\text{ Order of capture (}p<0.001\text{)} + 0.321(0.196) \text{ Gender (}p<0.0001\text{)} -0.213 (-0.132) \text{ RSA origin (}p<0.015\text{)} + 0.0001 (0.288) \text{ Initial investment (}p<0.0001\text{)} + 0.031(0.136) \text{ Total education (}p<0.014\text{)} + 0.039 (0.136) \text{ Experience (}p<0.0001\text{)} + 0.062 (0.198) \text{ Continuance satisfaction (}p<0.0001\text{)}.
\]

An improvement toward linearity was clear from an examination of the Probability-Probability plot of the standardised residuals of the dependent variable. In the

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standardised coefficient</th>
<th>Significance ( p &lt;… )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order of capture</td>
<td>0.462/0.002</td>
<td>0.147/0.172</td>
<td>0.006/0.001</td>
</tr>
<tr>
<td>Gender</td>
<td>75.6/0.321</td>
<td>0.133/0.196</td>
<td>0.017/0.0001</td>
</tr>
<tr>
<td>RSA origi</td>
<td>-93.6/-0.213</td>
<td>-0.167/-0.132</td>
<td>0.002/0.015</td>
</tr>
<tr>
<td>Initial investment</td>
<td>0.059/0.0001</td>
<td>0.276/0.288</td>
<td>0.0001/0.0001</td>
</tr>
<tr>
<td>Total education</td>
<td>8.14/0.031</td>
<td>0.103/0.136</td>
<td>0.066/0.014</td>
</tr>
<tr>
<td>Continuance satisfaction</td>
<td>18.38/0.062</td>
<td>0.171/0.198</td>
<td>0.001/0.0001</td>
</tr>
<tr>
<td>Experience</td>
<td>7.66/0.039</td>
<td>0.129/0.136</td>
<td>0.025/0.0001</td>
</tr>
</tbody>
</table>

Table 3. Multiple linear regression predictors of earnings: untransformed model/transformed model.
second model total education was found to be significant at within the five percent level of significance, unlike in the case of the first model. Other than this difference, all the other variables in the first model were found to also be significant at within the five percent level of significance in the second model.

When controlling for a range of relevant factors experience is therefore found to be a positive and significant predictor of gross earnings. The null hypothesis is rejected.

To the extent that the experience variable acts as a reasonable proxy measure for the specific human capital associated with learning in this specific context; and that this finding represents evidence that such specific human capital is associated with higher earnings over time it is argued that this finding refutes the marginalist perspective that economic accumulation is primarily not a feature of the informal sector (Portes and Schauffler, 1993). To the extent that the marginalist perspective regards the informal sector as a ‘reserve army’ with no function associated with economic accumulation (Portes and Schauffler, 1993), this perspective is therefore challenged by these findings, as a clear mechanism for economic accumulation is shown to exist in this sector. This mechanism might be but one of a range of potential mechanisms for economic accumulation in the sector.

This finding also challenges early neoliberal and Marxist theory that have argued for a conception of the informal sector as purely a phenomenon entirely a function of peripheral economies (Meagher, 1995; Portes et al., 1989). The informal sector can be considered to generate earnings on the basis of learning, and might be considered a sector that exists with a role of its own, beyond the simple dictates of supply and demand in the formal sector. The sector might ‘feed’ entrepreneurial enterprise as a training ground (De Soto, 1989). As such, a significant portion of entrepreneurial enterprise might be dependent upon the informal sector for its genesis. Therefore, the peripheral economy of entrepreneurs graduating from this sector might be considered to be a phenomenon that is a function of the potential of the sector to develop entrepreneurship. The entrepreneurial perspective is therefore considered to be supported by this finding insofar as it challenges the marginal perspective on the basis of the potential of the sector for economic accumulation.

It is therefore, argued that to the extent that specific human capital enables higher earnings such learning acts as a mechanism of upliftment. As such, to the extent that this mechanism contributes to entrepreneurial performance, it is further argued that specific human capital can provide the means for independence from formal sector employment. Moreover, such human capital may enable entrepreneurial behaviour. Furthermore, such a mechanism that might contribute to entrepreneurial continuance might lessen the load on the formal sector for employment creation. The implication of this argument is that the sector therefore might have an entrepreneurial function separate from that of a labour reservoir for the formal sector or a space for marginalist survival. This finding therefore supports the ‘entrepreneurial’ perspective of the potential of the informal sector in development (De Soto, 1989). If a core tension between the ‘marginalist’ and the ‘entrepreneurial’ theorists reduces to the debate over the potential for the sector to deliver upliftment and capital accumulation for its participants, then these findings support the notion that human capital has the potential to provide one mechanism of upliftment.

The theoretical contest therefore reduces further to the issue of the relative size and relative potential of the mechanism. This research might claim to have reduced the problem space around such conceptions of the sector. At this juncture, the linearity of the interaction relationships between experience and earnings are considered. The testing of the interaction effects of age with earnings are reported and discussed as follows:

**Null hypothesis 2:** Age does not significantly moderate the association between experience and earnings.

In order to test this hypothesis, the following processes and procedures were undertaken. The data were standardised. The measures tested for interactions were taken to meet the requirements of ratio data. Earnings, experience and age were tested. Age was tested as a variable that potentially acts as a proxy measure for all the learning of an individual over an individual’s life span. Experience is tested as a proxy measure of the specific human capital associated with learning in the sector. Earnings were tested as the dependent variable. The data was standardised in order to manage multicollinearity in the interaction and direct variable effects.

Baron and Kenny's (1986) process of moderated regression was applied to the data. When experience, age and the product of experience and age are entered into a regression model, only experience is found to be significantly associated with earnings at the five percent level of significance ($p < 0.018$). However, the interaction term is significant ($p < 0.054$) at just outside the five percent level of significance. It is therefore, argued that the effect of age has a weak and positive moderating effect upon the relationship between experience and earnings. Due to the significance of the effect (albeit with a low level of significance), the moderation relationship was explored further, and age was tested for a potential quadratic moderation effect.

When experience; age; the product of age and experience; age squared; and the product of experience and age squared were entered into the regression analysis, the latter term was found to be significant
Table 4. Multiple linear regression predictors of experience: model of entire sample/model with outliers removed.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standardised coefficient</th>
<th>Significance p&lt;...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.256/0.271</td>
<td>0.57/0.619</td>
<td>0.0001/0.0001</td>
</tr>
<tr>
<td>Entrepreneurial training</td>
<td>0.174/1.64</td>
<td>0.11/0.101</td>
<td>0.015/0.012</td>
</tr>
<tr>
<td>RSA origin</td>
<td>1.01/1.35</td>
<td>0.12/0.147</td>
<td>0.0001/0.0001</td>
</tr>
<tr>
<td>Hours worked per day</td>
<td>0.176/0.158</td>
<td>0.07/0.069</td>
<td>0.08/0.079</td>
</tr>
<tr>
<td>Total education</td>
<td>-0.186/-0.170</td>
<td>-0.139/-0.129</td>
<td>0.002/0.002</td>
</tr>
</tbody>
</table>

(p < 0.008). This indicates that the effect of age may moderate the association between experience and gross earnings in quadratic manner (Baron and Kenny, 1986). This indicates that the interaction effect of age upon the influence of experience upon earnings is reflected in a curvilinear relationship over age. This finding is taken to further support De Soto’s (1989) notion of the informal sector as an entrepreneurial training ground, or as a space in which capital accumulation can occur through learning. The learning or human capital investments over a lifetime therefore potentially enable the productivity effect of specific human capital or learning specific to the sector. It is therefore, argued that this finding further contests the marginalist perspective of the sector (Portes and Schauffler, 1993), as entrepreneurial performance might be a quadratic function of learning related interactions in this context. Becker’s (1975) predicted relationship between age and human capital as an interactive relationship is therefore found to be supported in this context.

**Null hypothesis 3**: There is no significant association between informal sector contextual factors and experience.

The multiple linear regression analysis model with experience as the dependent variable is found to return the following equation:

\[ Y = -4.42 \ (p<0.006) + 0.256 \ (0.57) \ \text{Age} \ (p<0.0001) + 1.74 \ (0.11) \ \text{Training} \ (p<0.015) + 1.01 \ (0.12) \ \text{RSA origin} \ (p<0.018) + 0.176 \ (0.07) \ \text{Hours Worked} \ (p<0.08) -0.186 \ (-0.139) \ \text{Total Education} \ (p<0.002) + 0.149 \ (0.08) \ \text{Continuance satisfaction} \ (p<0.061) + 0.001(0.086) \ \text{Earnings} \ (p<0.054). \]

Fourteen potential outlier or influential points were identified, and the model was run once again without these. The equation for this model is:

\[ Y = -5.315 \ (p<0.0001) + 0.271 \ (0.619) \ \text{Age} \ (p<0.0001) + 1.64 \ (0.101) \ \text{Training} \ (p<0.012) +1.35 \ (0.147) \ \text{RSA origin} \ (p<0.0001) + 0.158 \ (0.069) \ \text{Hours worked} \ (p<0.079) -0.170 \ (-0.129) \ \text{Total education} \ (p<0.002) + 0.155 \ (0.088) \ \text{Continuance satisfaction} \ (p<0.029) +0.02 \ (0.103) \ \text{Earnings} \ (p<0.013). \]

The model was significant (p<0.0001). The r squared value for the model is 0.480, and when corrected for variables, the adjusted r squared value is 0.468. With almost half of the variance in time in the sector explained by the model, the model was accepted as a reasonable representation of tested relationships. The model run without outliers is found to return an r squared value of 0.573 and an adjusted r squared value of 0.562. About half of the variance associated with exit or continuance in the sector is therefore found to be explained by the first model. The second model is used to check if the relationships of the first model are still significant when outliers are removed. In order to avoid claims that are not supported by a conservative process, relationships are only discussed in the following sections if they are significant in both models. The coefficients, standardised coefficients and significance of each variable in the first model and in the second model that has had outliers removed are shown in Table 4.

The tolerance values for the variables in the model range from 0.860 to 0.961, and the variance inflation factor (VIF) scores range from 1.007 to 1.163. The tolerance and VIF values are similar for the model run without the outliers. However, the inverse measure of tolerance, the VIF indicates no value greater than ten, and no value above 2.5 which might have indicated the possible presence of significant multicollinearity. The condition indices of the final model indicate a value of 23.08. This value was less than 30, and serious multicollinearity was taken to not be a problem for the model. The histogram of the frequency of experience over the regression standardised residuals was interpreted to reflect a reasonable pattern of normal distribution.

The probability-probability (P-P) plot showed slight curvature, yet did not seem to deviate significantly from linearity. No clear patterns of parabolic relationships were evident in the scatter or residual plots of the variables. With the improvements in the diagnostic tests associated with the second model, this model was used as a check against which the first model was benchmarked. Earnings
and continuance satisfaction both were found to be positively and significantly associated with experience yet at beyond the five percent level of significance in the first model. However, in the model with outliers removed, both are significant at within the five percent level of significance. Because these variables were not significant in both of the models they are not reported and discussed. The other factors in each model are significant at within the five percent level of significance in both models. The findings are discussed as follows.

According to the testing, the typology of a trader more prone to exit from the sector is associated with less training attendance, is younger, is of foreign origin, works less hours a day, is more educated, and is perhaps less satisfied with continuing in the sector and perhaps earns relatively less. Consequently, the type of trader that typically continues in the sector for relatively longer, or typology of continuance, is an individual that has attended more street trading skills specific training, is relatively older, is of South African origin, works more hours a day, is less educated, and is perhaps more satisfied with continuing and perhaps earns relatively more in the sector. Job satisfaction is typically negatively associated with intentions to not continue in a working activity, or turnover (Chen et al., 2011). Although satisfaction is found to be a significant predictor of tenure at just outside of the five percent level of significance, such a weak tested effect nevertheless supports research in other contexts such as findings by Chen et al. (2011). A differentiation of the sector might be possible according to a continuum of types in the sector, ranging from an exit typology to a continuance typology. If these typologies reflected the intent of individuals with regard to their use of the sector, then it might be possible that different policy maker interventions might be more suited to one type than the other. However, the streams of exit predicted by different bodies of theory (exit toward the formal sector according to the marginalist perspective and entrepreneurial development oriented exit according to the entrepreneurial perspective) cannot be differentiated by such typologies. Further research might build of exploratory studies such as this in this regard. These findings are now discussed with reference to theory according to each significant relationship not already discussed.

Training attendance

Training attendance is found to be positively associated with informal continuance. These empirical findings have relevance for the central focus of this work, as entrepreneurial skill specific street trader training might be considered to represent an aspect of specific human capital. However, such training which is typically provided by local government in partnership with a local university primarily excludes individuals of foreign origin unless they have resident status. The effects of this training for immigrant traders are not known, other than for traders of foreign origin that have local documentation. To the extent that this training might enable specific human capital, aspects of this learning might not be transferable to other contexts (Becker, 1964, 1975). This finding supports Becker's (1964, 1975) argument that specific human capital is not transferable to other contexts to the extent that such training does not facilitate exit (possibly to the formal sector) and that exposure to this training is negatively associated with exit. Perhaps the nature of such training might not improve the 'signalling' potential of human capital endowments for traders attempting to access the formal sector in the same manner as formal education (Spence, 1973). Such signalling of general human capital might suggest to potential employers that an individual that is more educated is more productive (an indirect influence of education upon earnings) which is expected to influence employment prospects through such an indirect effect (Spence, 1973). In addition, education is typically expected to enable increases in productivity directly (Becker, 1975; Spence, 1973). However, for Heywood and Wei (2004) the return on education for entrepreneurs reflects the 'true' productivity value of education or direct influence, net of its signalling value. Education therefore is expected to have a lower return in entrepreneurial enterprise than in formal employment (Heywood and Wei, 2004). Another potential explanation of the negative relationship between entrepreneurial context specific training and exit might be offered by the perspective that entrepreneurial career choices may be encouraged by such training. Entrepreneurial exit toward more developed enterprise might take relatively longer on average than exit to formal employment if economic accumulation of skills and capital were a necessary condition for graduation out of the sector into more extensive entrepreneurial enterprise.

Such skills specific entrepreneurial training might possibly also act on the intrinsic level to increase continuance, supporting Becker's (1964, 1975) notion of psychic satisfaction as an outcome associated with higher levels of human capital. To the extent that individuals empowered in this manner continue in such an entrepreneurial context, it might be possible that such training may encourage entrepreneurial behaviour in such individuals. If this were so, then implications for increasing entrepreneurial activity might derive from this. It is recommended that such specific human capital oriented training be provided more extensively, as it has been found to mitigate against exit. To some extent such an effect against exit might also be an effect against formal employment and toward entrepreneurial continuance. With the relatively heavy load upon the formal sector to absorb labour, such training might reduce this relative burden. Further research is
suggested into the specific impact of such training upon entrepreneurial continuance.

**Hypothesis 3A:** Higher levels of education are associated with lower levels of experience.

Total education is found to be negatively associated with time spent in the sector. The null hypothesis is rejected. In the South African context entrepreneurial variability has been found to exist between demographic groups, particularly with regard to education (Jonker and Saayman, 2010). Traders of foreign origin are found to have higher levels of education. To the extent that more educated individuals exit sooner, this finding might reflect research by Heywood and Wei (2004) that found that education has less of a return in entrepreneurial work, or self-employment than in the formal sector. An earnings differential between the two sectors might motivate exit for more educated individuals.

Further, in the case of the formal employment stream, higher levels of education have been found to potentially signal to possible employers that an individual might be more productive (Spence, 1973). Therefore, if an individual in the informal sector wishes to exit, then higher levels of education might enable such exit. Notwithstanding the motives of such an individual, this finding (that individuals with higher levels of education are more prone to earlier exit) supports such theory.

If such traders are aware of a higher return on general human capital in the formal sector, then it is perhaps understandable that certain traders might be more inclined to exit toward this end as they respond to the structure of incentives around this decision.

Formal education represents general human capital to the extent that such learning is transferable across contexts with regards to its influence upon productivity (Becker, 1964; 1975). However, entrepreneurial education has to date not been enough of a feature of most schooling provision in the Republic (Urban, 2010). To the extent that formal education might not enable productivity (as a direct effect) in the specific context of the informal sector enough to be able to ‘equal out’ the returns offered by formal employment not only to productivity but also to signalling related wage offerings (an additional indirect effect), formal education is expected to reduce entrepreneurial activity for these individuals to the extent that they choose formal employment over entrepreneurial self-employment. The incorporation of entrepreneurial education that matches the experience and the reality of self-employment (Urban, 2010) more extensively into formal schooling might therefore significantly contribute to higher levels of entrepreneurship in the sector. Such education might improve the ‘traction’ obtained by formal education in entrepreneurial contexts, through a tighter relationship between such education and productivity.

**Hypothesis 3B:** South African origin is associated with higher levels of experience.

Individuals of foreign origin are found to exit the sector sooner. This finding might support the notion that individuals of foreign origin might use the sector in a fundamentally different manner than their local counterparts. In the Latin American context, informal sector growth has been associated with the influx of people into urban centres (Portes and Schauffler, 1993). Such effects are mirrored in local informal contexts (Meagher, 1995). In a context where the median tenure of a street trader is five years and the mean tenure is 6.57 years, it is plausible that the sector might be used as a temporary career, or as a ‘training ground’ or ‘stepping stone’ to more developed entrepreneurial ventures (De Soto, 1989). Alternatively, the sector might simply be a ‘stepping stone’ to formal sector employment (Portes and Schauffler, 1993). The implication of this finding is that individuals of foreign origin may be using the sector as ‘stepping stone’ with less time spent in the sector than local traders, notwithstanding their exit destination. For traders merely using the sector as a means of survival, exit towards the formal sector would be predicted by marginalist theory (Portes and Schauffler, 1993). Empirical evidence of the type of exit from the sector might more properly speak to the tension between the marginalist and the entrepreneurial arguments. Evidence of entrepreneurial exit versus formal employment exit might provide more insight into how the sector is used by informal participants. Further research is suggested into these relationships.

Social networks might facilitate access to resources (Coleman, 1988; Coulthard, 2007; Dubini and Aldrich, 1991). Immigrant entrepreneurship has been found to be associated with such networks. Family networks might also influence an individual’s access to resources. Family involvement in enterprise can influence enterprise outcomes in different ways (Farrington et al., 2010). Such resources might include access to formal work beyond the informal sector or access to entrepreneurial opportunities beyond the sector. However, if this explanation is offered to explain the shorter tenure of traders of foreign origin in the sector then such an explanation rests upon a core assumption that traders of foreign origin have a more effective or more efficient access or use of such networks than traders of local origin. Such an assumption is not tested in this study, and therefore, this explanation is taken to be qualified.

For certain traders of foreign origin, certification and documentation might not be available (Light, 1984). To some extent this might exclude segments of these traders from formal sector work. However, with almost sixty percent of the sector found to be of foreign origin (Table 1), and taking into account the potential constraints to formal employment faced by immigrant
traders, the shorter tenure of this group as opposed to traders of local origin is perhaps surprising. Such a paradox gives rise to two plausible explanations for earlier exit for immigrant traders. First, many of these traders, given potential certification constraints to formal employment, might be developing into more sophisticated entrepreneurs beyond the sector according to De Soto’s (1989) theory. Second, and more concerning, is that perhaps earlier exit is driven by a different experience of the sector in itself by traders of foreign origin from that experienced by local traders. One dimension of such a potential difference is that of xenophobia.

To the extent that the majority of the city’s street traders are of foreign origin any xenophobic effects are expected to disproportionately influence these informal traders. Further research is suggested into what causes xenophobic behaviour and the influence of this behaviour upon street trading and other informal populations, given the demographic composition of these sectors. The finding, that traders of foreign origin remain in the inner city street trading population for significantly shorter periods, seems to be congruent with this explanation. Certain practical implications flow from this. If such effects are strong enough to counterbalance the effects of certification barriers to formal employment then there might be some degree of intrinsic trauma associated with working in a context in which xenophobia might be experienced. Further research into the potential effects of the exposure of individuals to the context of street trading over time is suggested.

Practical recommendations

The positive association between experience and earnings, to the extent that this reflects the return on learning that is entrepreneurial, suggests that if such learning were available to traders on entry then entrepreneurial performance might be enabled from entry. The inclusion of entrepreneurial education in schooling curricula (Urban, 2010) might therefore, increase the return to formal education for entrepreneurs in the sector over time. Such a learning investment might benefit both traders that are following an entrepreneurial path through the sector and also traders that are using the sector as they wait for formal employment through enabling higher levels of productivity specific to the informal context. South Africa, however, has generally been found to rate low in terms of entrepreneurial activities relative to other countries (Ligthelm, 2006). Given the role of entrepreneurial enterprises in employment creation, such a low rate of entrepreneurial activity therefore, poses a challenge to regional development.

Individual traders might frame their exit decisions on the basis of relative perceived inputs and outputs as posited by equity theory (Adams, 1963). Therefore, a reduction in the differential between the returns on general human capital across the sectors might increase the number of individuals that choose further entrepreneurial growth within and out of the sector, as the sector might then be more likely to be used as a ‘stepping stone’ to entrepreneurial development (De Soto, 1989). The fundamental nature of what kind of ‘stepping stone’ function this sector offers might then change in terms of its relative exit streams. It is therefore, recommended that entrepreneurial education be provided for all learners at school, especially with a focus on “more reality and experientially-based pedagogies” (Urban, 2010). Such an investment in human capital might truly be a more general form of human capital, as it would be able to be transferred into entrepreneurial contexts. However, other researchers in the same context have found that 92% of traders have never changed their product provision, or what they sell (ESSET, 2007). Access to entrepreneurial and context specific training should be expanded for these traders, with a specific focus on enabling the specific mechanisms identified by research for improvements in entrepreneurial performance. A proactive role of the state might be needed to address the significant structural problem of unemployment in the South African economy (Ligthelm and Kritzinger-van Niekerk, 1990). Such a proactive stance with regard to this sector might extend to training that is context specific, as specific human capital is found to contribute to higher earnings.

CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

It was argued in this paper that the informal street trading sector has the potential to be transformed into a developmental and entrepreneurial space. However, this argument rested upon a fundamental assumption: That there is a return on such education or learning that might enable productive entrepreneurial behaviour in this context. This research found that experience is a significant predictor of gross earnings when a range of appropriate factors are controlled for. This was taken to support the argument that across the tested sample specific human capital, or context specific and productivity enabling learning occurs within this sector. It is argued that such learning therefore contributes to higher levels of earnings (Becker, 1975). Such a finding therefore represents evidence that with time spent in the sector, increased earnings are possible. It is argued that this finding contests the ‘marginality’ perspective (Portes and Schaufliier, 1993) that argues that the sector does not hold the promise of economic accumulation. The ‘entrepreneurial’ perspective, of the sector as an entrepreneurial training ground or entrepreneurial space which holds the potential for productivity development of De Soto (1989) was taken to be supported by this finding.
Consequently, it was argued that the existence of a mechanism of informal upliftment would support the entrepreneurial perspective of the sector. The facilitation of entrepreneurship can provide solutions to South Africa's economic challenges. Furthermore, learning and education can provide the basis for the development of an entrepreneurial culture (Ligthelm, 2006). Age was found to moderate the relationship between experience and street trader earnings, with a curvilinear increase in earnings evident as a result of an interactive relationship. Further research is suggested into the interactive effects of learning in this context and how further implications for upliftment might be derived from such investigations.

Higher levels of education were found to potentially facilitate earlier exit from the sector, whether toward employment or toward entrepreneurial ventures outside the sector. Further research into the relative destinations of exit might offer further insight into the degree to which the sector contributes to entrepreneurial development. Being of foreign origin was found to be associated with earlier exit, either toward employment or toward entrepreneurial enterprise outside the sector. Further research is suggested into the reasons behind such earlier exit of traders of foreign origin.

In short, to the extent that current formal education might not significantly be entrepreneurially oriented, learning, that is, context specific, or specific human capital, is expected to be one mechanism whereby learning might translate into entrepreneurial performance. It is recommended that further research using both quantitative and qualitative methods (Schurink, 2003) be applied to investigating the operation of clearly identified mechanisms of entrepreneurial upliftment in the sector. To some extent the role of specific and general human capital has been identified. From this base, the relationships around the action of these learning investments within the fundamental relationship structure of the sector might be further investigated by researchers concerned with the potential for the upliftment of the people that labour in this sector.

Limitations of the research

One limitation of this study is that its design is cross-sectional. As such the results are expected to capture the sector and the infrastructure of relationships that comprise it at a point in time. However, due to the descriptive and exploratory nature of this investigation, the research design was applied in order to establish the operation of certain mechanisms in the sector. Further research might offer longitudinal insights that might indicate the content and direction of changes in these relationships and mechanisms of the sector. Another limitation is that inherent in the nature of quantitative research, in that net relationships between variables are tested. Such processes reveal that the variance in dependent variables is not entirely explained by independent variables. The implication of this is that many variables remain untested in their effect upon the relationships around specific human capital and entrepreneurial performance in this context. Further research, including qualitative research, might offer insight into the further reduction in the problem space around these relationships. Such research might build upon research such as this, which within such limitations seeks to establish certain basic relationships that hold across the sector. The descriptive statistics are now reported.

REFERENCES


