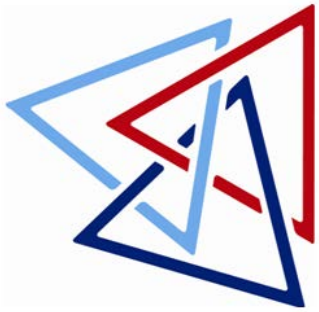

Informal sector employment creation in South Africa: What can the SESE enterprise survey tell us?

Frederick Fourie and Andrew Kerr

Abstract

This paper analyses the employment performance of enterprises in the informal sector, highlighting firms with employees and, in particular, paid employees. We use StatsSA's Survey of Employers and the Self-employed *(SESE), which surveys owners of non-VAT registered enterprises. In contrast to the QLFS, the SESE provides data on enterprises, their owners and their employees. Whilst the general impression of the informal sector may be that of mostly one-person street traders or spaza shops, we find that 21% of 2013 informal-sector enterprises had paid employees. These employing enterprises provided paid work to approximately 850 000 people (owner-operators plus paid employees), as well as 211 000 unpaid workers (probably paid in kind in some way). The paid component amounts to about twice the direct employment of the mining sector. Informal firms increasingly operate in non-trade sectors such as construction, financial and other services. We describe the characteristics of informal firms and analyse how these, such as premises and having accounts, are associated with the probability to employ. Linkages to LFS and QLFS data enable an analysis of the personal and household characteristics of the owners of informal firms. Regression analysis is used to get a multivariate grasp of the relationship between enterprise performance and the characteristics of firms and owners. The results make a compelling case that economic policies need to view the informal sector as an integral part of the economy, a heterogeneous sector with significant paid employment, which requires enabling policies – rather than as a 'problem sector' of hawkers and street traders mostly requiring regulation, compliance and policing.*

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Informal sector employment creation in South Africa: What can the SESE enterprise survey tell us?

Frederick Fourie

(Department of Economics, University of the Free State)

Andrew Kerr

(DataFirst, University of Cape Town)[1]

Introduction

The roots of this paper lie in the work by Fourie (2011), a meta-analysis of research – or the lack of it – on the problem of unemployment in South Africa. The informal sector, which provides a livelihood, income and jobs to millions of people, was identified as a major gap in unemployment research. Especially the analysis of employment and unemployment tends to focus almost exclusively on the formal sector.

Another event of relevance was the 2012 publication of the National Development Plan (NDP), and its recommendations regarding (un)employment. Fourie (2015) points out that, in the chapter on 'the economy and employment', the NDP ignores informal sector enterprises and their peculiar needs and constraints – both in the NDP's analysis and policy recommendations. Nevertheless, the NDP wants the sector (plus domestic work) to produce 2 million new jobs by 2030 (NPC 2012: 121-2).

This raises the question whether, and to what extent, the informal sector should be approached, in analysis and policy design, as a sector with employment-generating potential – rather than as a problem sector reflecting the legacy of apartheid, or a buffer or mopping-up facility in times of cyclical lay-offs by the formal sector and/or a sector with no entrepreneurial acumen or development prospects.[2]

[1] The authors wish to acknowledge REDI3x3 funding for the project. Frederick Fourie is a research fellow in the Dept of Economics, Free State University, research coordinator of REDI3x3 and research affiliate at SALDRU, UCT. Andrew Kerr is a senior research officer at DataFirst, UCT.

[2] See, for example, Ligthelm (2013), who compare informal and formal sector small businesses based on a Soweto survey. He concludes that the informal sector 'cannot be regarded and will never be the springboard of successful and productive business development and growth' (2013: 73), mainly because most of the owners lack 'natural entrepreneurial acumen' and are in survivalist mode. It should be noted that he does not distinguish subgroups within the informal sector in his analysis and thus treats the sector as amorphous/homogeneous.

Such an *employment-potential approach* would also be in marked contrast to an approach – prevalent in South African policy circles – which is to deal with informality from the *employed-worker* perspective, i.e. in terms of employment conditions. This is the approach found with the International Labour Organisation (ILO) as well as organised labour (e.g. Cosatu): looking at growing informality as an undesirable aspect of employment conditions in the formal sector. This is about workers increasingly not having secure contracts or benefits such as pensions and medical insurance, about the casualisation of labour, labour brokers, etc. From this perspective it follows that the remedy is to *reduce* informality.

When this concern over employee working conditions is summarily carried over to the informal *sector*, the answer is to shrink the number/share of informal enterprises, e.g. by the formalisation of informal enterprises (even though currently approximately 75% of informal-sector enterprises in South Africa have no employees.)

- This view may also derive from a belief that the informal sector is likely, or meant, to shrink and disappear as the economy develops and modernises (cf. Lewis 1954; Kanbur 2015:1;3).
- The experience in developing countries, and even developed countries, suggests that the informal sector is not going anywhere soon; it is here to stay and is going to grow.

Adopting an unemployment, or employment-creating angle when looking at the informal sector derives from a different perspective: informal sector work (be it as enterprise owner or as wage worker) is considered relative to the alternative of being unemployed. It is an *unemployed-worker* perspective – implying that a transition from unemployment to the informal sector is desirable, especially in a country with unemployment rates of 25% (narrow) and 35% (broad), and youth (aged 15-24) unemployment rates of 50% (narrow) and 63% (broad) (StatsSA 2015b: 24).

Adopting such a perspective creates new questions and new answers. In addition, it suggests adopting an enterprise-based analysis rather than one based on the household or worker characteristics/conditions.[3]

This paper present the findings from the first quantitative research on the nature and dynamics of the informal sector in South Africa using national enterprise survey data. The analysis considers the employment performance, potential and constraints of enterprises in the informal sector, with a focus on firms with employees and, in particular, paid employees. We use

[3] The important distinction between an unemployed-worker perspective and an employed-worker perspective on informality was greatly blurred by the introduction, by the ILO in 2003, of the broad concept of informal *employment,* which pools all forms of employment that do not involve formalised employment conditions and benefits – whether in the formal or the informal sector. While one can rightfully be concerned about possible bad employment conditions in the informal sector, one can also put oneself in the shoes of the unemployed worker and acknowledge the limited options available to such a person.

Statistics South Africa's (StatsSA) neglected *Survey of Employers and Self-employed* (SESE), which surveys owners of non-VAT registered enterprises. Whereas the QLFS provides information on the informal sector from the employee side, SESE provides data on informal enterprises, their owners and their employees.

We first provide an overview of earlier research, predating SESE. Then we review some enterprise-based quantitative analyses of South Africa as well as countries in Sub-Saharan Africa, in order to situate our analysis relative to the approach and variables used in the relevant literature on informal sector employment. In section 3 we describe and analyse the characteristics of informal firms, including their age, size, location, employment and sector, and explore the characteristics of surviving informal firms and factors that impact on their business health and employment behaviour. Linkages to the LFS and QLFS data also enable us to consider the personal and household characteristics of the owners of informal firms. Section 4 provides a more in depth analysis, contrasting one-person (non-employing) firms and multiperson (employing) firms in terms of their owner and firm characteristics. Section 5 reports on regression analysis to get a multivariate grasp of the relationship between enterprise employment behaviour and the characteristics of firms and firm owners. Section 6 concludes.

1. Analysing the informal sector in South Africa: the struggle for data

The story of informal sector enterprise and employment analysis in South Africa is one of data struggles. While much qualitative and case-study work occurred, on a national basis the only available data sources were labour market data derived from household surveys.

Significant improvements in labour market data occurred since 1990. In the 1990s significant problems still were present relating to the quality and compatibility of official, private-sector and university surveys. In estimating the labour force, labour participation, employment and unemployment, the PSLSD (of UCT's SALDRU) and the October Household Survey (OHS) of StatsSA started to create data credibility. After 2000, household surveys such as StatsSA's Labour Force Survey (LFS) and QLFS as well as the National Income Dynamics Study (NIDS, also at SALDRU) have continued the trend towards better labour market data, enabling much more sophisticated analysis.

However, these were all household surveys with a focus on individuals/workers and the estimation and analysis of employment and unemployment levels/rates. No official (i.e. StatsSA) firm/enterprise surveys of the informal sector were available – nor, at the time and since, of the formal sector. [4] Analysts had to use labour-market surveys (as described below).

[4] The World Bank (2008) conducted a formal-sector enterprise survey of South Africa in 2007.

Thus, for many decades the study of the informal sector in SA has been constrained by, and determined by, the limited access to appropriate data. Economists, increasingly preferring statistics-intensive econometric analysis, shied away from the topic – leaving the field to other disciplines such as geography (e.g. Rogerson), sociology, psychology, social welfare, poverty studies, development studies, etc. The era of the LFS and the QLFS changed things – but only partially.

1.1 Using labour market data and household surveys

One of the first analyses of unemployment that touched on the informal sector was done by Kingdon and Knight (2004). They were concerned, inter alia, with the labour market status of individuals (unemployed, informally employed, formally employed), their aim being to explain the allocation/movement of individuals between these categories – using individual, household and community characteristics in regression analysis. (Their main question was why the large numbers of people who were unemployed did not seek self-employment in the informal sector.) They used the (at the time) newly-introduced LFS.

Related quantitative work by Banerjee *et al.* (2008) analysed worker transitions into and out of the informal sector using the panel component of the LFS; Altman (2007; 2008) produced research on informal-formal sector linkages and employment scenarios that include the informal sector, while Heintz and Posel (2008) published on internal segmentation, revealing significant earnings differentials and thus segmentation *within* the informal sector. All these studies were based on the LFS.

Devey, Valodia and Skinner (2006; 2008) are perhaps the most-quoted local authors on the informal sector. After the 2000 launch of the LFS – which suddenly opened the door to more systematic (though still constrained) analyses of the informal sector – they wrote a number of reports with a descriptive analysis of the new data (also using the OHS where applicable). The LFS data provided an estimate of the size of the informal sector in terms of employment – which hovered around 19-22%[5] of total employment in 2002-2006. This appears to be a mid-range size compared to other developing countries (Essop and Yu 2008: 11; also see Kingdon and Knight 2004: 391).

[5] These numbers are from Essop & Yu (2008: 11), who provide estimates for 1997-2006 from the OHS and LFS, thereby conveniently adding to, and updating, the numbers of Devey *et al.* (2008). They also use multivariate analysis to determine the role of various factors that influence whether or not a person would be involved in informal sector activities. Moreover, a multinomial logistic regression analysis is utilized to analyse whether the characteristics of informal sector workers differ from those of formal sector workers, the broad unemployed, and those that are not economically active.

The LFS data led Devey *et al.* to focus, analytically, on the characteristics of informal-sector *workers* (relative to formal-sector workers): race, gender, economic sector, occupation, income categories, education level, training, etc. – with some cross-tabulations to show possible correlations (e.g. education and occupation, education and income). However, given the constrained nature of the LFS as a household survey, this research was not, and could not be, an enterprise-focused approach.[6]

1.2 Early enterprise-based analyses

Due to the data constraints implied by household surveys, enterprise-based analyses of informal sector behaviour and employment have been few and far between – and fairly simple methodologically.

1.2.1 Berry et al. (2002)

Berry *et al.* (2002) may have been the first local analysts to adopt an enterprise focus. In a paper for TIPS, they try (*inter alia*) to gauge, on the basis of published information, the number of formal and informal SMMEs (the latter estimated at two-thirds of total SMMEs). They use extrapolations of OHS employment data (from StatsSA), enterprise data from industrial censuses of the Ntsika Enterprise Promotion Agency, as well as data from private sources such as the SA Global Entrepreneurship Monitor (GEM). Amongst various sources and varying estimates, StatsSA's estimate is 1.1 million informal enterprises in 2000 (2000: 13).

Berry *et al.* also consider employment in formal and informal SMMEs (combined). In an era before the LFS, significant inconsistencies amongst the various sources make their task difficult and their results inconclusive. For example, estimates of the level of employment in informal sector enterprises range from 0.9 to 2.7 million jobs, i.e. between 13.7% and 26.1% of total employment in the years concerned (2002: 25).

They also ask the important question: are (formal and informal) SMMEs employment generators? They note apparent increases in SMME employment between 1995 and 2000. Then they consider whether the observed employment growth was due to the expansion of existing SMMEs or due to new enterprise formation (i.e. births) – concluding (with some caveats) that the latter was the most likely one (2002: 27). The high birth rate of SMMEs after 1994 suggest that 'microenterprise and very small firm formations and not the expansion of existing SMMEs accounted for the overall employment growth in the SMME sector' (Berry *et al.* 2002:27; also quoted in Rogerson, 2004: 771).

[6] It *is* possible to analyse the characteristics of the owners/self-employed in the LFS and QLFS.

However, they could not do an enterprise-based analysis of employment levels or changes, since the data were not at the individual enterprise-level. They could also not isolate the data on informal SMMEs as such.

1.2.2 Liedholm and McPherson

Such an enterprise-based analysis was conducted, more than a decade *earlier*, by Liedholm and McPherson (1991) from Michigan State University and the University of North Texas respectively. It was related to the GEMINI project.[7] In 1990 they undertook a complete small-area census[8] of small-scale enterprises in two South African townships (Mamelodi and Kwazakele), gathering information on the number of such enterprises – as well as, notably, employment numbers. In addition, the researchers gathered information on labour force composition, owners and worker characteristics, worker income, initial firm size, firm age, firm location, sector, etc., enabling basic analyses of possible patterns and relationships.

Key results from relatively simple analysis include:

- More than a quarter of households were engaged in small-scale business activities;
- the townships had fewer firms (per 1 000 people) than in comparable other countries;
- the townships had fewer one-person firms (in the size distribution) than in comparable other countries;
- approximately 7 750 enterprises provided employment for 16 400 people;
- 53% of the enterprises had employees;
- the average number of persons per enterprise was 2.1;
- 38% of employees were hired (paid) and 60% were unpaid family members.

Their main focus was firm growth in employment. Approximately 50% of firms demonstrated no employment growth in the previous twelve months. However, a similar percentage did have employment growth; the average employment growth rate for the two townships together was almost 24% per annum.[9] This was higher than in other countries that they had surveyed similarly (see 2.2.1 below), perhaps reflecting the lifting of black business restrictions at the time.

[7] The GEMINI Project was funded by the USAID and others. Together with Donald Mead of Michigan State, they produced a series of papers based on small-area censuses of informal enterprises in several Sub-Saharan and other countries. See Mead & Liedholm (1998) or Rogerson (2001) for an overview of the findings of the project. It is discussed further in section 2.2 of this paper.

[8] In South Africa, Charman *et al*. (2015) have produced similar small-area census work (partly funded by the REDI project). Unfortunately they focus on spatial analysis and thus did not gather information on employment and income. The lack of random selection of areas means one cannot generalise their findings.

[9] Such an analysis excludes data on firms that have closed down in the previous 12 months. Thus the data only tells the story of the surviving firms. A full story of firm births, growth and deaths will require panel data.

They conclude that small enterprises "are an important aspect of the economic life of the two South African townships… Building on this large and dynamic base of indigenous entrepreneurship should be a component of any development strategy for South Africa" (1991: v). They also suggest possible policy interventions.

Though not a national study, this was pioneering work. Strangely, the existence and usefulness of this survey design appear to have gone entirely unnoticed by South African researchers, official statisticians and policymakers (though Rogerson (2001) published an overview of the larger project, which comprised similar studies in several African countries – see Mead & Liedholm, 1998). We will return to the GEMINI project below.

2. Towards informal enterprise analysis using national survey data

2.1 Analyses of employment in Sub-Saharan Africa using 1-2-3 and other surveys

In the design of our analysis of informal sector employment we were informed by the research design trends in earlier work in this area. We mainly considered work that focus on employment, identifying the explanatory variables and hypotheses in these studies.

2.1.1 The GEMINI project in the 1990s: Mead, Liedholm and McPherson

This project, under the leadership of Mead and Liedholm (1998; Liedholm and Mead 1999), can be considered as the forerunner of later econometric studies of the determinants of informal sector firm and employment growth, as well as newer types of surveys, all discussed in the next sub-section. They undertook national surveys of small-scale enterprises in randomly-selected locations in several Sub-Saharan and other countries in the period 1990-1995. Comprehensive surveys were done in five African countries: Botswana, Kenya, Malawi, Swaziland and Zimbabwe – as well as the Dominican Republic.

Though not an econometric study, the work involves a careful quantitative analysis of firm births, closures and expansions, and possible linkages to macroeconomic conditions and microeconomic factors such as the characteristics of informal firms and their owners.

Measuring enterprise growth in terms of employment growth, they calculate (1998: 65-8):

- annual employment growth rates for SMEs (13-16%);
- employment growth rates relative to GDP growth (at least double);
- the percentage of informal SMEs that grew their employment in the survey year (27%);
- the magnitude of employment growth in firms that grew (small).

They were also able to analyse the rate of firm births (23%; mostly one-person) and the resultant contribution to (self-)employment.

Doing basic quantitative analyses, they found (Mead and Liedholm 1998: 66-8) the characteristics of informal SMEs that are most likely to expand employment to be:

- firm age (younger better)
- initial firm size (smaller better)
- firm location (urban and non-home better)
- owner gender (male better) and
- sector (country dependent).

In a project input paper (involving Swaziland, Lesotho, Botswana, Zimbabwe and two South African townships) McPherson (1996) identifies similar variables, as well as the owner's human capital in terms of education, training and entrepreneurial experience. (McPherson also considers the owners' marital status, ethnic group and household size.)

2.1.2 The World Bank's Multi-Donor Trust Fund projects in the 2010s: Grimm, Lay, Roubaud and others

Other relevant work is part of a comprehensive project, launched in the early 2010s and funded by the World Bank's *Multi-Donor Trust Fund* (http://go.worldbank.org/KK5UXWE600). It focuses on factors determining, or constraining, informal sector performance and growth in Sub-Saharan Africa, and has produced more than 20 research papers and approximately 10 research briefs. It represents a quantum leap forward in terms of the scope and sophistication of quantitative research on informal enterprises, especially in Africa. The possibility of sophisticated econometric work on the informal sector came about due to the introduction, in many Sub-Saharan countries, of so-called *1-2-3 surveys*.[10]

The Multi-Donor Trust Fund project involves papers on various aspects of the informal enterprise (see Grimm *et al.* 2011 for a summary of the project's findings). Unfortunately the work has excluded South Africa (perhaps due to the absence of a proper Phase 2 survey – see below). Much of the work comprises econometric analyses of the levels, determinants and constraints of firm performance in terms of the returns to capital – but also other aspects. Amidst the diversity there are common patterns in terms of specification and variables.

[10] See De Vreyer and Roubaud (2013:9-11) and ILO (2013:196-205).

The **1-2-3 surveys** were gradually developed since 1987 but came to full fruition after the turn of the century. They have dramatically changed the quality and depth of informal-sector data and analysis in developing countries (Nordman and Roubaud 2010). It amounts to a 'mixed' survey which comprises three nested surveys that ensure the full representativeness of the informal sector.

- Phase 1 is a typical labour-force survey (household survey) such as the QLFS.
- Phase 2 is an enterprise survey involving informal enterprise owners identified in the household survey. This phase covers the main characteristics of the owner, of the production unit (input use, capital stock, output, sales, value-added, profits, investment and financing) and of the employees. The owner is taken through a step-by-step recording process to generate business accounts, thereby enabling quite accurate estimates of costs, profits, returns to capital, etc. (The SESE was devised as a partial phase-2 survey. It is likely to be upgraded to a full phase-2 level for the 2017 survey.)
- Phase 3 is an income and expenditure survey of a subsample of households from Phase 1. It is designed to identify expenditure flows between households, the informal sector and the formal sector, thereby uncovering expenditure and supply linkages.

The data from the three phases can be linked, ensuring a rich source of information.

One particular paper on Madagascar (Vaillant *et al.* 2011) is of much relevance since it explicitly considers employment and employment growth (as a proxy for firm growth). One question that the paper addresses is informal-sector employment over the business cycle, e.g. whether total informal-sector employment growth in a cyclical upswing is due to firm births (i.e. extensive) rather than due to employment expansion of existing firms, i.e. intensive. (In the case of a 'fragile growth' period in Madagascar they find the former.)

In trying to analyse and explain employment growth, they use the following variables:

a) Owner characteristics:

Age and gender, marital status, education and experience

Number of firms owned

b) Firm characteristics:

'Pure self-employment' = being a one-person firm or not

Firm size (number of persons) and firm age; sector

c) Business variables:

Number and characteristics of paid and unpaid workers

Earnings (monthly) of workers

Capital stock, expenditure on intermediate inputs, fees and taxes

Sales, value-added and profits

Investment at start-up (an entry barrier, especially for young firms).

It is noticeable that there is significant commonality between this list and the variables used by Mead, Lindholm and McPherson in their earlier studies. Location, found to be significant by Mead and his colleagues, is not used by Vaillant *et al.*; however, location (including facilities and

infrastructure) features in other contributions in the Multi-Donor Trust Fund project (e.g. Grimm *et al.* 2012).

2.2 Data improvements in South Africa: the (unnoticed) introduction of the SESE

The introduction of the SESE, the *Survey of Employers and the Self-Employed,* by StatsSA in 2001 was not received as the data breakthrough that, one might expect, would be celebrated by those interested in employment (or even informal sector) analysis. Compared to the ubiquity of the OHS, LFS and QLFS in microeconomic analyses, the all but total absence of SESE in research is quite puzzling. (To the knowledge of the authors, it has not featured in published research on employment at all.)

Its perhaps awkward, 'disinformative' name[11] and the general lack of interest in the informal sector amongst economists and policymakers may have played a role. Its stated objective was "to give information on the potential that the owners of non-VAT-registered small and micro-business in the country may have to create employment or income generating activities, and to contribute to the economic growth of the country" (StatsSA 2002: v). In addition, it was to be used to facilitate the estimation, for the purposes of the National Accounts, of the contribution of the non-VAT registered enterprises to GDP (currently estimated by StatsSA at about 6%). This second(ary) objective may have dominated its use for at least a decade.[12]

Nevertheless, the SESE represents an important step forward. Compared to international benchmark surveys for the informal sector, it has some shortcomings mainly related to accurate/verifiable numbers on capital, revenue, costs, value-added and profits (see below). However, on employment data and firm and owner characteristics – prominent in all analyses of informal enterprises – it is a rich source of information.

The SESE is a national survey of the owners of enterprises that are not registered for VAT.[13] It largely captures informal enterprises, though one must remove enterprises that are registered for income tax from the data to get informal enterprises only.[14] Not being registered for consumption tax (like VAT) or income tax is one of the main international criteria for the

[11] In the first two SESE questionnaires (2001 and 2005), StatsSA actually uses the concept of 'self-employment' incorrectly, equating it with 'own-account worker' (which is only one of several components of 'self employment' as defined by the ILO).
[12] At times it was also used to survey ad hoc issues, e.g. financial inclusion or transport services.
[13] VAT registration is compulsory for any firm with a 12-month turnover above R1 million. Below that threshold VAT registration is optional/voluntary – as long as 12-month turnover is above R50 000.
[14] Statistics SA (2015: 2) reports that there are 'a small number of businesses (9.4% in 2013) that are not registered for VAT but are registered for income tax. These belong to the formal sector.' It is possible to remove these firms from SESE data analysis, as was done for this paper.

definition of an informal enterprise. An optional/ supplementary one is small employment size.[15]

The survey has been done every four years since 2001. The SESE is designed to piggyback on the labour force survey. Owners of enterprises are identified in the household questionnaire of the LFS/QLFS. Soon after that, all the identified owners or contacted for a potential interview; those whose enterprises are not registered for VAT are then interviewed to gather informal enterprise information with a separate SESE questionnaire.

In is apparent that the SESE resembles a Phase 2 survey in the context of the 1-2-3 surveys. Indeed, StatsSA intended SESE to be seen as a 1-2-3 component (2002:3), even though it is not as comprehensive as a typical Phase 2 survey in key respects.[16] The SESE particularly lacks detailed and consistent information on business accounts variables (capital stock, sales, profits, etc.). Nevertheless, it produces good data on employment, firm characteristics and owner characteristics; the availability of these SESE data is a major step forward. (It is likely that StatsSA will upgrade, or revamp, the SESE survey to full Phase 2 level in the near future – which will enable better analyses of capital, profits and so forth.)

Apart from providing quite detailed data on many enterprise characteristics as well as employment behaviour (and other business dimensions), this methodology has the benefit that enterprise behaviour can be linked to the owner's household and personal characteristics via the LFS/QLFS data.

- If one considers the difficulties experienced by Berry *et al.* (2002) to gauge and analyse the informal sector (informal micro-enterprises), as well as the limitations of household surveys such as the LFS, QLFS and NIDS in this regard, it suggests that the SESE represents a major step forward, even if it has limitations.
- As part of the REDI3x3 project the SESE data have been 'cleaned-up' and harmonised by Andrew Kerr and made available to researchers as a consistent dataset through DataFirst, though some inter-survey comparability problems remain. (This process included some data quality checks (see Kerr 2015).)

[15] It should be noted that the definition of the 'informal sector' in the QLFS and in the SESE differ. In the SESE the definition is based on enterprises not being registered for VAT irrespective of firm size (and not on being informal as such). In the QLFS the definition also requires non-registration for income tax and adds a size criterion: only enterprises with fewer than five employees are categorised as informal (see Statistics SA (2015: 3) for the full definitions.) This difference and other factors make it difficult to fully reconcile the numbers of informal enterprises and informal sector workers obtained from the QLFS and SESE respectively (see table 1 below). The QES (Quarterly Employment Survey) defines the informal sector as enterprises that are 'not registered in any way', i.e. there is no size criterion as in the QES (QES December 2013).

[16] StatsSA (2002: 3; 11) even foresaw a Phase 3 survey to be done 'in near future'. It does not say why the SESE questionnaire was not compiled initially to include detailed questions to construct enterprise accounts, as is found in the typical Phase 2 of a 1-2-3 survey.

3. The SESE results on informal enterprise employment in South Africa

In this section we describe and analyse the characteristics of informal firms, including their size, age, sector, location, employment behaviour and profitability. We explore the characteristics of growing informal firms and the constraints on employment. Linkages to the (Q)LFS data also enable us to consider the characteristics of enterprise owners.

3.1 Data and method

The 2013 SESE data, in conjunction with data from the first three surveys (2001, 2005, 2009), are used to analyse the patterns and determinants of employment in informal firms. StatsSA advises that care should be taken in comparing *absolute numbers* and trends across the four SESE surveys.[17] This is due to some changes in sampling and survey methodology after 2001, a surprisingly high total number of firms identified in both the 2001 March LFS survey and the first SESE survey (March 2001), and a still incomplete reweighting of the 2005 SESE numbers on the basis of the 2011 Census; there also appears to be under-weighting in 2009. As a result, the SESE 2001 and 2009 *totals* differ materially from (Q)LFS-derived totals.[18] Enterprises that were registered for income tax (and thus are in the formal sector) were removed from the analysis to focus on the informal sector proper. However, there is one complication. The 2001 SESE did not contain a question that enables such a separation. Thus the 2001 data contain a probably very small percentage of income-tax-paying enterprises that are not strictly speaking in the informal sector.[19]

Our main concern is the analysis of structural patterns (shares and proportions) and structural relationships between variables – rather than trends in absolute numbers of enterprises or owners over time. Thus we largely avoid such problems and can work with the four SESE samples in analysing changes in shares and proportions over time. (Whilst we are cautious with regard to the 2001 survey data, for example in comparing 2001 with 2013 proportions, it appears from the summary tables that changes from 2005 to 2013 frequently are similar to, and similarly significant as, changes from 2001 to 2013. Thus we often only discuss the latter.)

[17] In his SESE Quality Note, Kerr (2015) comes to the same conclusion re absolute number comparisons – in contrast to descriptive and proportional comparisons. (It is notable that he concludes, after completing several tests, that 2001 might even provide a better indication of the total number of enterprises in the informal sector than the other three SESEs.)

[18] For the (Q)LFS one must distinguish between published data on informal sector employment (which uses a specific definition and has a specific coverage) and broader data on non-VAT-registered enterprises to be found in the (Q)LFS database. Here we refer to the latter data. In the case of the former data, the totals will also not match published SESE totals on non-VAT-registered enterprises since the definition and coverage differ between the QLFS and the SESE. See table 1 below.

[19] StatsSA reports that 3.5% of non-VAT-registered enterprises in 2005, 6.7% in 2009 and 9.4% in 2013 were registered for income tax.

We are able to include most of the variables typically used in the literature, as discussed above, in our analysis. Unfortunately, the limitations of the SESE prevents us from including business variables to the extent done in 1-2-3 studies. Profits and sales data are present in the SESE, but their accuracy is somewhat in question, not having been generated via constructed business accounts as in the 1-2-3 methodology.

We highlight firms *with employees* in distinction from non-employing firms, distinguish between paid and unpaid employees, and consider firms that have expanded their employment. This includes one-person firms that have grown beyond one person.[20] Births of especially one-person firms are an important provider of new employment, while non-expanding one-person firms remain important providers of livelihoods and work.

3.2 Basic characteristics of informal sector enterprises and owners

3.2.1 The size of the informal sector?

While we will avoid comparing absolute numbers across surveys, some indication of the absolute size of the South African informal sector is necessary. Table 1 provides the SESE numbers for 2013, both before and after the removal of the income-tax-paying component. (Corresponding QLFS numbers are provided for comparison. While the two surveys measure the informal sector from different sides – enterprises/owners and employees – the numbers are not too dissimilar.)

Table 1: Number of non-VAT registered and informal enterprises and employees

(thousands)	**SESE 2013**[3]	**SESE 2013 (pure informal)**	**QLFS 2013**
Number of owners:	**1601**	**1448**	**1424**
Of one-person firms	1215	1145	1132
Of multiperson firms	386	303	292
Number of employees	**1055**	**760**	**936**
Total working in informal sector	**2656**	**2208**	**2360**

Source for QLFS: StatsSA: *National and provincial labour market: the informal sector* (2015:10).
Source for SESE: ESS database, DataFirst. It differs a bit from the StatsSA (2015) and SESE 2013 *reports*.
*Note*s on some discrepancies:
1. SESE includes some agriculture: 11 000 owners; 24 000 employees.
2. SESE does not limit the informal sector to firms with <5 employees (unlike QLFS), thus it includes some small, medium and large informal firms.
3. The first SESE 2013 column includes some firms registered for income tax.

[20] Vaillant *et al.* (2011: 19) find that firms that started with two, three, four or more workers grow less than 'pure self-employment' firms (one-person firms). This is in line with other findings on microenterprise growth in developing countries (Mead and Liedholm, 1998).

Roughly speaking, in terms of SESE2013 the informal sector in South Africa comprises 1.45 million firm operators/owner-managers (and thus at least[21] the same number of enterprises), and three-quarters of a million employees. Thus it provides work for approximately 2.2 million people – relative to total employment of approximately 15 million in South Africa in 2013, i.e. approximately 15% of total employment. This is a smaller percentage than in 2001.[22] The contribution of the informal sector to GDP in 2013 is estimated at 5.9% (StatsSA 2014: 9).

3.2.2 Firm characteristics

Table 2 provides a summary of basic statistics of the informal enterprises and their owners for each survey year, plus relevant p-values for statistical significance of changes between years. This enables one to observe notable patterns as well as indications of changes across the four surveys from 2001 to 2013. Generally, we not only be count firms, but also (and especially) persons working in those firms.

Perhaps the strongest characteristic of the SA informal sector is that retail and wholesale trade is by far the dominant industry. However, this dominance of trade seems to have declined across the surveys, with its share dropping steadily from approximately 70% in 2001 to 57% in 2013. Except for a miniscule (and shrinking) agricultural component (subsistence agriculture is excluded), the other sectors are roughly of similar size in 2013. Manufacturing displays a declining share, while construction's share has grown robustly; services as well as transport and communication have also grown substantially. The share of the financial services component has been fluctuating, ending higher again in 2013.

The trend for the distribution of the number of persons is not all that different from that for the number of firms, except that the share of trade is less dominant (52% of persons in 2013, down from 64% in 2001) and the shares of construction as well as community services are relatively higher.[23]

[21] A small number of owners (approximately 26 000) reported owning two businesses (SESE 2013:25).
[22] In 2001, according to the LFS 2001b, informal sector employment was about the same absolute number (2.3 million) as in 2013, but higher relative to total employment of only 11.7 million, i.e. at a 19.8% share.
[23] These shares of persons are quite different from the QLFS's sectoral distribution of employment in the informal sector. For example, in the QLFS2013 the share for retail and wholesale trade is approximately 32% of total informal sector employment (excluding agriculture.)

Table 2. Basic owner and firm characteristics of 'pure' informal firms

		2001	2005	*p*	2009	*p*	2013	*p [09-13]*	*p [05-13]*	*p [01-13]*
	Owner characteristics									
1	Mean owner age	**42.3**	**41.2**	*0.006*	**41.1**	*0.849*	**41.9**	*0.118*	*0.135*	*0.308*
2	Owner age distribution: 15-35	**35.8%**	**38.6%**	*0.062*	**34.9%**	*0.056*	**33.0%**	*0.364*	*0.003*	*0.085*
3	36-64	**56.7%**	**56.9%**	*0.884*	**62.4%**	*0.005*	**63.7%**	*0.550*	*0.000*	*0.000*
4	65+	**7.5%**	**4.5%**	*0.000*	**2.7%**	*0.002*	**3.3%**	*0.308*	*0.075*	*0.000*
5	Mean owner education (years)	**7.2**	n.a		**8.2**	*0.000*	**8.4**	*0.152*		*0.000*
6	Distribution: No schooling	**14.3%**	n.a		**10.1%**	*0.000*	**1.6%**	*0.000*		*0.000*
7	grade 0-7	**33.6%**	n.a		**26.2%**	*0.000*	**31.7%**	*0.006*		*0.248*
8	grade 8-11	**33.5%**	n.a		**42.0%**	*0.000*	**61.6%**	*0.000*		*0.000*
9	grade 12	**13.8%**	n.a		**16.5%**	*0.031*	**0.2%**	*0.000*		*0.000*
10	> grade 12	**4.8%**	n.a		**5.1%**	*0.741*	**5.0%**	*0.948*		*0.761*
11	Male owner %	**39.5%**	**44.9%**	*0.000*	**48.9%**	*0.052*	**53.8%**	*0.021*	*0.000*	*0.000*
12	Married + cohabitating %	54.1%	n.a.		**53.7%**	*0.798*	**50.5%**	*0.138*		*0.036*
13	Pop group: Black	89.5%	**92.6%**	*0.005*	**91.5%**	*0.430*	**92.1%**	*0.681*	*0.688*	*0.022*
14	Coloured	3.7%	**3.2%**	*0.527*	**3.9%**	*0.493*	**2.4%**	*0.066*	*0.314*	*0.024*
15	Indian	2.3%	**1.0%**	*0.003*	**0.9%**	*0.928*	**2.2%**	*0.055*	*0.060*	*0.902*
16	White	4.4%	**3.2%**	*0.089*	**3.7%**	*0.605*	**3.3%**	*0.677*	*0.906*	*0.125*
17	Owner home location: % urban	42.2%	n.a.							
18	% Urban formal		n.a.		**45.1%**		**46.9%**	*0.535*		
19	% Urban informal		n.a.		**10.2%**		**9.6%**	*0.746*		
20	% Tribal areas		n.a.		**42.8%**		**41.4%**	*0.600*		
21	% Rural formal		n.a.		**1.9%**		**2.1%**	*0.675*		
22	***Firm characteristics***									
23	Firm age (average in years)	**4.2**	**4.6**	*0.004*	**5.5**	*0.000*	**5.6**	*0.815*	*0.000*	*0.000*
24	Firm age distribution: <1 year	**24.4%**	**18.8%**	*0.000*	**21.6%**	*0.066*	**20.5%**	*0.511*	*0.262*	*0.005*
25	1 to 3 years	**33.0%**	**33.8%**	*0.583*	**24.5%**	*0.000*	**23.6%**	*0.623*	*0.000*	*0.000*
26	3 to 5 years	**17.9%**	**20.1%**	*0.051*	**16.2%**	*0.009*	**17.9%**	*0.287*	*0.133*	*1.000*
27	5 to 10 years	**13.3%**	**14.7%**	*0.180*	**17.9%**	*0.017*	**18.1%**	*0.936*	*0.014*	*0.000*
28	>10 years	**10.9%**	**12.5%**	*0.115*	**19.6%**	*0.000*	**19.5%**	*0.933*	*0.000*	*0.000*
29	1-person firms (non-employ)	**85.3%**	**84.8%**	*0.637*	**84.0%**	*0.603*	**79.1%**	*0.006*	*0.001*	*0.000*
30	multiperson firms (employ)	**14.7%**	**15.2%**	*0.637*	**16.0%**	*0.603*	**20.9%**	*0.006*	*0.001*	*0.000*
31	Firm size (mean persons)	**1.3**	**1.3**	*0.794*	**1.4**	*0.330*	**1.5**	*0.068*	*0.005*	*0.005*
32	***Sector: (% of firms)***									
33	Agriculture	**1.7%**	**1.8%**	*0.867*	**0.8%**	*0.025*	**1.1%**	*0.513*	*0.125*	*0.091*
34	Manufacturing	**9.3%**	**12.9%**	*0.001*	**10.3%**	*0.055*	**7.6%**	*0.022*	*0.000*	*0.054*
35	Construction	**3.1%**	**5.3%**	*0.001*	**9.4%**	*0.000*	**10.0%**	*0.651*	*0.000*	*0.000*
36	Trade (wholesale & retail)	**69.3%**	**66.3%**	*0.053*	**58.6%**	*0.000*	**56.9%**	*0.438*	*0.000*	*0.000*
37	Transport & communication	**3.2%**	**3.9%**	*0.173*	**3.3%**	*0.363*	**5.9%**	*0.004*	*0.025*	*0.001*
38	Financial services	**7.2%**	**2.7%**	*0.000*	**2.4%**	*0.518*	**6.5%**	*0.000*	*0.000*	*0.481*
39	Community & social services	**6.0%**	**6.8%**	*0.239*	**10.3%**	*0.002*	**12.0%**	*0.232*	*0.000*	*0.000*
40	***Sector: (% of persons)***									
41	Agriculture	**3.2%**	**2.5%**	*0.426*	**0.7%**	*0.004*	**1.8%**	*0.103*	*0.436*	*0.122*
42	Manufacturing	**8.7%**	**12.1%**	*0.008*	**10.9%**	*0.640*	**7.2%**	*0.126*	*0.001*	*0.205*
43	Construction	**5.7%**	**8.2%**	*0.086*	**14.3%**	*0.002*	**14.5%**	*0.939*	*0.001*	*0.000*
44	Trade (wholesale & retail)	**64.2%**	**61.2%**	*0.187*	**51.2%**	*0.001*	**51.9%**	*0.866*	*0.005*	*0.000*
45	Transport & communication	**5.0%**	**4.3%**	*0.414*	**3.4%**	*0.380*	**5.8%**	*0.043*	*0.169*	*0.450*
46	Financial services	**6.5%**	**3.9%**	*0.074*	**2.3%**	*0.260*	**4.5%**	*0.003*	*0.658*	*0.019*
47	Community & social services	**6.4%**	**7.8%**	*0.258*	**12.7%**	*0.046*	**14.2%**	*0.697*	*0.070*	*0.024*
48	***Number of observations***	**5,701**	**3,370**		**1,944**		**2,031**			

A second pertinent characteristic – to be analysed in more detail in section 4 – is that more than three quarters of the firms are one-person enterprises. This matches the dominant casual

impression that the informal sector is mostly made up of one-person firms, also called own-account workers (or sometimes, imprecisely, self-employed persons[24]). This has been the basis for a view that the informal sector is mostly street traders, is non-entrepreneurial, mostly survivalist and has little potential for job creation (compare Ligthelm 2013). The analysis in section 4 will show that a more nuanced view is appropriate: the group of employing firms (multiperson firms) has much relevance for informal sector dynamics and *employment* – counting people and not only firms.

The average age of firms has increased from approximately 4.2 years in 2001 to approximately 5.6 years in 2013.[25] There was a decline in the proportion of firms less than 3 years old, and a doubling (to 20%) of the share of 'mature' firms (older than 10 years).

3.2.3 Owner characteristics

A number of statistically significant trends regarding owner characteristics can be observed.

- The average age of owners has remained steady at approximately 42 years, though the proportion older than 65 has more than halved – leaving the sector with a more normal working-age owner population. There has been a statistically significant increase in the proportion of owners in the 'adult' age bracket 36-64, while the youth group (aged 15-35) has declined from 39% in 2005 to 33% in 2013.
- The average owner education level has increased from 7.2 years in 2001 to 8.4 years in 2013, with significant increases in the proportion of owners with high school attainment. Owners with no schooling have all but disappeared by 2013. (This mirrors trends in the broader population regarding educational attainment.)
- Owner gender also shows a significant change in the period: a decline from more than 60% female to 46% female. Construction and Transport are dominated by male owners, while the traditional 2-to-1 dominance of female owners in trade has almost disappeared by 2013.
- The marital status of owners has changed somewhat, with a statistically significant decline in the percentage of owners that are married or cohabiting: from 54% in 2001 to 51% in 2013.
- The dominant population group amongst owners remains black persons (92% in 2013).

[24] Self-employment indeed includes own-account workers (one-person operations), but *also the owner-managers of unincorporated firms with employees*; self-employment indicates an owner-operator 'whose remuneration depends directly on the (expectation of) profits derived from the goods and services produced'. Also included in 'self-employment' are members of a producers' cooperative and 'contributing family workers' (but not its employees). This is according to the definition adopted in 1993 by the 15th International Conference of Labour Statisticians (ICLS-93). http://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/status-in-employment/current-guidelines/lang--en/index.htm

[25] In the SESE the age of firms is recorded in intervals; for our analysis the age-of-firms variable was constructed by using interval midpoints, and 15 years for the 10+ interval.

3.3 Employment-related characteristics and behaviour of informal sector enterprises

Table 3 provides a summary of employment- and business-related characteristics of the informal enterprises and their owners for each survey year, allowing further scrutiny of employment behaviour.

Table 3. Employment and business characteristics of informal-sector firms

	2001	2005	*p*	2009	*p*	2013	*p [09-13]*	*p [05-13]*	*p [01-13]*
Firm characteristics									
1-person firms (non-employ)	**85.3%**	**84.8%**	*0.637*	**84.0%**	*0.603*	**79.1%**	*0.006*	*0.001*	*0.000*
Multiperson firms (employing)	**14.8%**	**15.2%**	*0.637*	**16.0%**	*0.603*	**20.9%**	*0.006*	*0.001*	*0.000*
Mean no of employees	**0.32**	**0.31**	*0.794*	**0.37**	*0.330*	**0.52**	*0.068*	*0.005*	*0.005*
Mean no of paid employees	**0.21**	**0.24**	*0.346*	**0.28**	*0.338*	**0.38**	*0.200*	*0.036*	*0.008*
Mean no of unpaid employees	**0.11**	**0.07**	*0.002*	**0.08**	*0.746*	**0.15**	*0.156*	*0.037*	*0.353*
Mean prop. paid employees	**53.4%**	**69.9%**	*0.000*	**77.6%**	*0.060*	**72.3%**	*0.208*	*0.559*	*0.000*
Home-related location	**67.2%**	**60.3%**	*0.000*	**56.2%**	*0.044*	**54.7%**	*0.501*	*0.005*	*0.000*
Commercial location	**2.9%**	**3.6%**	*0.244*	**2.5%**	*0.112*	**3.8%**	*0.091*	*0.822*	*0.193*
Single owner (%)	**96.2%**	**94.7%**	*0.036*	**71.0%**	*0.000*	**90.6%**	*0.000*	*0.001*	*0.000*
Own start-up capital	**76.4%**	**71.7%**	*0.003*	**74.6%**	*0.189*	**77.5%**	*0.218*	*0.005*	*0.525*
Keeping accounts	**18.4%**	**20.9%**	*0.049*	**17.0%**	*0.017*	**19.5%**	*0.166*	*0.372*	*0.453*
Buss. expenditure separate	**13.7%**	**15.4%**	*0.141*	**13.0%**	*0.097*	**16.2%**	*0.045*	*0.582*	*0.062*
Number of observations	**5,701**	**3,370**		**1,944**		**2,031**			

In 2001 the percentage of one-person enterprises was 85% (table 3, line 1). However, it has declined steadily to about 79% in 2013. Therefore, the percentage of employing firms (multiperson firms) has grown significantly from 15% in 2001 to approximately 21% in 2013; this can be interpreted as a statistically significant increase in the *propensity to employ*. This was accompanied by a statistically significant increase in the average number of employees per firm (including the firms that have no employees) from 0.3 in 2001 to 0.5 in 2013. With the owner counted in, the average number of persons per firm has increased from 1.3 to 1.5, i.e. a 15% increase.

A large majority of the employees in the informal sector are paid employees. The percentage of paid employees reached 72% in 2013, up from 53% in 2001. The average number of paid employees per firm (over the entire informal sector) increased significantly from 0.21 in 2001 to 0.38 in 2013.

The other variables in table 2 are notable correlates of having employees. One is whether the enterprise is in a home-related location or operates at a commercial or non-residential location – where there appears to be a significant trend away from home-related locations and one

towards non-residential locations (though the former still is dominant).[26] For example, table 3 shows that, for all firms together, the percentage in a home-related location has declined from 67% in 2001 to 55% in 2013 (a statistically significant change). The percentage of informal firms that are in a commercial location is very low, but has increased somewhat.

A similar differentiation is visible in the extent to which firm expenses are gradually being kept separate from household expenses, and similarly for the keeping of separate business accounts. Both of these activities have increased significantly from 2001 to 2013. About 20% of informal enterprises kept some kind of accounts of the enterprise in 2013, and a significantly growing proportion kept business expenditures separate from household expenditures. Analysing these variables will be more relevant when we distinguish between employing and non-employing firms in section 4.

Although the absolute size of the informal sector might have been relatively stable (at least as measured by the LFS and QLFS), there are indications of significant changes, along several dimensions, towards a higher employment-intensity and higher *employment-orientation* – as suggested by increasing proportions of multiperson/employing firms, persons per firm, employees per firm and paid employees per firm.

4. Comparing employing and non-employing informal sector enterprises

To understand the nature and determinants of this changing dynamic, we turn to a deeper analysis of employing (multiperson) firms in contrast to non-employing (one-person) firms. Table 4 provides a comparative summary of the characteristics these two groups of informal enterprises, for each survey year.

[26] In the SESE questionnaire (question 17), ten options are specified. We have simplified these into three categories: residence-related locations (in the owner's dwelling or on the same plot), commercial locations (e.g. an office block or factory) and other locations (e.g. at a customer, market, taxi rank, street, or a mobile business).

Table 4. Comparing one-person (non-employing) and multiperson (employing) informal-sector firms

		2001			2005			2009			2013		
		1-person	Multi-pers	*p*	1-person	Multi-pers	*p*	1-person	Multi-pers	*p*	1-person	Multi-pers	*p*
	Owner characteristics												
1	Owner age	**41.8**	**45.1**	*0.000*	**41.2**	**41.1**	*0.923*	**41.0**	**41.6**	*0.567*	**41.8**	**42.4**	*0.425*
2	Owner education (years)	**7.1**	**8.1**	*0.000*	na	na	*na*	**8.1**	**8.04**	*0.000*	**8.0**	**9.2**	*0.132*
3	Male owner %	**36.0%**	**59.7%**	*0.000*	**39.7%**	**73.6%**	*0.000*	**44.0%**	**74.5%**	*0.000*	**48.7%**	**73.1%**	*0.000*
4	Married %	**51.9%**	**67.3%**	*0.000*	na	na	*na*	**67.3%**	**51.6%**	*0.000*	**51.6%**	**64.9%**	*0.003*
5	Pop group: Black %	**91.3%**	**78.9%**	*0.000*	**93.3%**	**88.6%**	*0.030*	**92.8%**	**84.6%**	*0.017*	**92.2%**	**91.6%**	*0.755*
6	Coloured	**3.2%**	**6.7%**	*0.004*	**2.9%**	**5.2%**	*0.147*	**3.9%**	**4.0%**	*0.952*	**2.2%**	**3.3%**	*0.297*
7	Indian	**1.9%**	**4.5%**	*0.002*	**0.88%**	**2.1%**	*0.129*	**1.0%**	**0.9%**	*0.889*	**2.3%**	**1.9%**	*0.732*
8	White	**3.4%**	**10.0%**	*0.000*	**3.03%**	**4.00%**	*0.417*	**2.36%**	**10.6%**	*0.011*	**3.3%**	**3.2%**	*0.964*
	Firm characteristics												
9	Firm age (years)	**3.9**	**5.4**	*0.000*	**4.4**	**5.7**	*0.000*	**5.4**	**6.3**	*0.134*	**5.4**	**6.4**	*0.006*
10	Firm age distribution: <1 year %	**25.6%**	**17.6%**	*0.000*	**19.5%**	**14.9%**	*0.079*	**22.9%**	**14.5%**	*0.007*	**21.5%**	**16.4%**	*0.063*
11	1 to 3 years	**34.2%**	**26.4%**	*0.000*	**35.1%**	**27.0%**	*0.011*	**24.7%**	**23.9%**	*0.838*	**24.5%**	**20.4%**	*0.154*
12	3 to 5 years	**17.4%**	**20.9%**	*0.040*	**20.4%**	**18.4%**	*0.459*	**15.3%**	**18.3%**	*0.383*	**17.6%**	**19.1%**	*0.601*
13	5 to 10 years	**12.7%**	**16.9%**	*0.007*	**13.4%**	**22.1%**	*0.003*	**17.3%**	**21.6%**	*0.172*	**17.7%**	**19.5%**	*0.503*
14	>10 years	**9.7%**	**18.1%**	*0.000*	**11.6%**	**17.6%**	*0.034*	**19.2%**	**21.8%**	*0.522*	**18.1%**	**24.5%**	*0.023*
15	Home-related location	**69.5%**	**53.5%**	*0.000*	**62.8%**	**46.5%**	*0.000*	**57.5%**	**49.2%**	*0.057*	**57.2%**	**45.1%**	*0.002*
16	Commercial location	**1.9%**	**8.7%**	*0.000*	**3.0%**	**7.2%**	*0.026*	**1.9%**	**5.8%**	*0.066*	**3.1%**	**6.5%**	*0.056*
17	Keeping accounts	**14.5%**	**40.7%**	*0.000*	**17.8%**	**38.1%**	*0.000*	**13.1%**	**37.8%**	*0.000*	**15.4%**	**34.6%**	*0.000*
18	Business expenditure separate	**10.6%**	**31.9%**	*0.000*	**12.9%**	**29.1%**	*0.000*	**9.3%**	**32.1%**	*0.000*	**12.1%**	**31.7%**	*0.000*
19	**% of firms**	**85.3%**	**14.7%**	*0.000*	**84.8%**	**15.2%**	*0.000*	**84.0%**	**16.0%**	*0.000*	**79.1%**	**20.9%**	*0.000*

		2001	2005	*p [01-05]*	2009	*p [05-09]*	2013	*p [09-13]*	*p [05-13]*	*p [01-13]*
	Multiperson firm characteristics									
20	% Multiperson firms	**14.7%**	**15.2%**	*0.637*	**16.0%**	*0.603*	**20.9%**	*0.006*	*0.001*	*0.000*
21	Firm size (mean persons)	**3.2**	**3.0**	*0.445*	**3.3**	*0.408*	**3.5**	*0.594*	*0.158*	*0.299*
22	Mean number employees	**2.2**	**2.0**	*0.445*	**2.3**	*0.408*	**2.5**	*0.594*	*0.158*	*0.299*
23	Mean number of paid employees	**1.4**	**1.6**	*0.403*	**1.8**	*0.418*	**1.8**	*0.912*	*0.409*	*0.167*
24	Mean number of unpaid employees	**0.8**	**0.5**	*0.000*	**0.5**	*0.837*	**0.7**	*0.454*	*0.193*	*0.610*
25	% paid employees	**64.4%**	**76.4%**	*0.000*	**77.6%**	*0.060*	**72.3%**	*0.204*	*0.558*	*0.000*

We first consider the scope and scale of the employing (multiperson) component. Subsequently we compare that component with the one-person component to try to understand the factors associated with the observed employment behaviour in the informal sector.

4.1 Informal sector enterprises that employ: scale and scope

Table 5 provides key parameters on the size – in terms of number of enterprises, employers and employees – of the multiperson, employing component of the informal sector in 2013.

Table 5: Employing firm essentials (2013)

	Firms/owners	Employees
All firms	**1 447 776**	**759 933**
Total persons	**2 207 708**	
Mean persons per firm	**1.5**	
Employing firms	**302 937**	**759 933**
Total persons	**1 062 870**	
Mean employees	**2.5**	
Mean persons	**3.5**	
Paid employees		**549 333**
% Paid employees		**72.3%**
Unpaid employees		**210 600**
Mean paid employees	**1.8**	
Mean unpaid employees	**0.7**	
Share of persons in sector	**48%**	
One-person firms	**1 144 839**	**0**
Total persons	**1 144 839**	

Source: Own calculations from SESE data

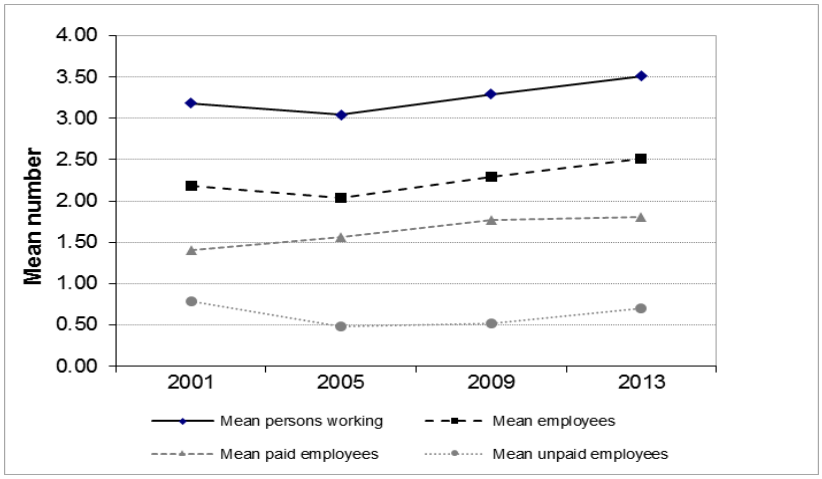
In 2013 the 21% of employing firms (multiperson firms) comprised approximately 303 000 informal enterprises. They employed 760 000 employees, of which 550 000 (or 72%) were paid employees. This means that in 2013 the 21% employing firms provided *paid* work to approximately 1.1 million people (employers plus paid employees), as well as 211 000 unpaid workers (probably paid in kind in some way). To provide some perspective on this number: total employment in the formal mining sector in 2013 was approximately 420 000 to 500 000.[27] The employment performance of this 21% of informal-sector firms is quite substantial.

On average, employing firms had 2.5 employees (over and above the employer) in 2013, in contrast to 2.2 in 2001 (table 4). For paid employees, the increase was from 1.4 in 2001 to 1.8 paid employees per multiperson firm in 2013. As figure 2 shows, there has been a noticeable

[27] These are the values for the total number of people employed by, respectively, the QLFS September 2014 and the QES December 2013. (The QES number excludes working proprietors, sole and joint owners, *inter alia*.)

change towards rising employment, coupled with a change towards paid employment. (The mean number of unpaid workers appears to be relatively stable.)

Figure 2: Mean persons per employing firm



Source: Own calculations from SESE data

Together these changes suggest that there may have been a compositional, if not structural, change in the informal sector:

- The non-employing component has shrunk, as a proportion of the total number of firms, from 85% in 2001 and 2005 to 79% in 2013 – a statistically significant change.
- The employing component has grown from a 15% to a 21% share of firms and has increased its average employment per firm and paid employment in particular.
- As a percentage of multiperson firms' employment, paid employees show a statistically significant increase from 64% in 2001 to 72% in 2013.

These 21% employing firms provided work for approximately 48% of those working in the informal sector. In other words, almost half of those working in the informal sector, worked in a multiperson, employing firm in 2013. The proportion of people that work in multiperson firms has changed quite dramatically since 2001 and 2005, when it was at 35%.

4.2 Sectoral analysis and the propensity to employ

The distribution of firms across sectors for multiperson firms (Table 6, column 3 and 1) is different from the overall distribution (as well as that of one-person firms). The dominance of trade is lower, while construction has a substantially higher share (26%) of multiperson firms.

For multiperson firms the distribution of *persons* (employers plus workers) across industries (column 4) is similar to the distribution of firms (column 3), except for community and social services, where the share of workers is significantly higher than the share of enterprises.

Table 6: Distribution of employing firms and persons (2013)

Sector	Share of firms across sectors (column total)			Share of *persons* across sectors	Share of firms per sector (row total)	
	All	*1-person*	*Multiperson*	*Multi*	*1-person*	*Multiperson*
Agriculture	1.1%	1.1%	1.33%	2.0%	75.7%	24.3%
Manufacturing	7.6%	8.0%	6.1%	5.5%	83.4%	16.6%
Construction	10.0%	5.9%	25.5%	22.5%	46.5%	53.5%
Trade (wholesale & retail)	56.9%	59.6%	46.8%	36.9%	82.8%	17.2%
Transport & communication	5.9%	5.5%	7.4%	6.8%	73.8%	26.2%
Financial services	6.5%	7.9%	1.2%	3.5%	96.1%	3.9%
Community & social services	12.0%	12.1%	11.7%	22.8%	79.5%	20.5%

The last column shows proportion of multiperson firms in each industry, which indicates the propensity to employ per sector. In the construction industry the majority of firms (54%) are employing firms – the only sector where that is the case in 2013 (whereas in 2001 only 46% of construction firms were employing firms). This means that by 2013 the propensity to employ was the highest (and has been increasing) for Construction, followed by the Transport sector, Agriculture and Community Services. Except for Financial services, all the sector propensities to employ are higher in 2013 than in 2005 and 2009.

4.3 Owner characteristics and the propensity to employ

It remains to explore and provisionally analyse owner and enterprise characteristics that are associated with the employment numbers noted above. (Multivariate correlation and regression analysis of these factors are presented in section 5.)

A number of statistically significant differences regarding owner characteristics can be observed in table 4.

- Schooling: The owners of firms with employees have roughly one year more schooling than one-person firms (amidst increasing years of education for both groups of owners). The higher the education level of the owner, the higher the propensity to employ.
- Gender: A large majority (60-73%) of multiperson firms have male owners, and this majority has increased significantly from 2001 to 2013. For one-person firms, the majority of owners

was female up to 2009, but it has declined, almost reaching 50% in 2013. Being male is associated with a significantly higher propensity to employ.

- Marital status: There is a significant difference between the two groups of enterprises. For example, in 2013 an average of 65% of the owners of employing firms were married or cohabiting, as against 52% for one-person firms. In other words, in all survey years a married or cohabiting owner had a significantly higher propensity to employ than a never-married, divorced/separated or widowed owner.
- Population group: Though blacks dominate both groups of firms, they dominate less in employing firms, i.e. looking at all survey years, other population groups have a stronger presence in employing firms than in one-person firms.

In summary, owners of multiperson/employing firms tend to be better schooled, male, and married or cohabiting. These owner characteristics appear to have a significant effect on the propensity to have employees.

4.4 Firm characteristics and the propensity to employ

A number of firm characteristics display significant differences between one-person firms and multiperson firms.

4.4.1 Firm age

Amidst the gradual increase in the age of firms since 2001, there is a statistically significant difference between the two groups: employing firms are, on average, approximately 14 months older than non-employing firms. The age distributions also are quite different. Multiperson firms have a lower clustering of entrants (<1 years) and a significantly higher clustering of firms (>10 years old).

Further analysis suggest that, amongst multiperson firms, the propensity to employ tends to increase with firm age (noting that this propensity has increased for all ages of multiperson firms since 2001).

4.4.2 Location and premises

Location, or the premises where the business is conducted, has potential relevance because it can signify access to business facilities and infrastructure – as well as a degree of spatial separation, but perhaps also institutional differentiation, between the household and the enterprise.

The results in table 4 show the locational variables to be statistically significant covariates of employment behaviour. First, for all survey years there is a significant difference between the proportion of one-person and multiperson businesses that are in a home-related location. This gap varies between 8 and 16 percentage points. For example, in 2013, 57% of one-person businesses and 45% of multiperson businesses were operated in a home-related location.

Similar findings apply to having a commercial site or premise (even if very few firms have such a location). For one-person firms, the value hovers around a lowly 2 to 3%. For multiperson firms the range has been 6 to 9%. Informal firms at commercial premises, customer's premises (mainly construction-related firms) and market locations have the highest propensity to employ compared to other locations, with transport stations gaining ground recently.

The propensity to employ for home-related locations is amongst the lowest of all locations in all survey years. Being operated in the dwelling (or not) appears to be a quite important factor in the employment behaviour of informal firms (and perhaps other performance indicators of such firms). Of course, no simple causality can be derived in this regard. (See regression analysis in section 5.)

4.4.3 Separate business accounts (and keeping business expenditure separate)

In line with our hypothesis that institutional differentiation between the household and the business enterprise may be crucial for the emergence and development of standalone and viable/sustainable businesses, we consider a dimension not used by earlier studies. This is the extent to which household and enterprise finances are kept separate. In the SESE, two questions relate to this issue. One asks directly whether expenses of the business are recorded separately from those of the household; another asks about the kind of accounting records being kept for the business. The two questions provide similar results.

Generally speaking, for all informal firms there has been a statistically significant increase in the extent to which some type of business accounts is kept: from 18% in 2001 to 20% in 2013. When one contrasts one-person and multiperson firms, there is a significant difference. For example, in 2013 only 17% of one-person firms kept some type of business accounts – in contrast to 33% of employing (multiperson) firms. Put differently: the propensity to employ of owners who keep accounts (or business expenditures separate) is two to three times as high as the propensity of those who do not.

Both of these variables indicate the degree of institutional separation, possibly a significant indicator of the emergence (or differentiation) of a more or less standalone enterprise – rather than being integrated with the household. Such 'liberation' may be important in the continuing

development of an enterprise, also relating to access to business finance and other business services, and even formalisation in the sense of becoming a limited-liability company and registering under the companies act.

5. Regression analysis: covariates of employment behaviour

The summary statistics and accompanying analysis in section 3 and especially section 4 have identified a number of variables that appear to be covariates of employment behaviour in the informal sector. These comprise owner characteristics and firm characteristics. In this section we use OLS regression analysis to investigate the importance of these apparent correlations in a multivariate context.

A well-known problem in the analysis of firm behaviour is that many of the relevant variables are, or may be, endogenous – or at least cannot be considered unambiguously exogenous. However, we concur with the view of Grimm *et al.* (2012: 14), that 'the objective is not to identify causal relationships, but to identify factors that correlate with entrepreneurial success and to separate these from those that seem rather unrelated. Identifying causal relationships needs a different type of analysis'.

5.1 Regressions for employment (having employees)

Table 7 shows regression results for each of the survey years for 'having employees' (employeesD = a dummy variable created for the purpose).[28]

Table 7: OLS regression of dummy variable 'employeesD' = having employees

	(1)	(2)	(3)	(4)
	2001	**2005**	**2009**	**2013**
VARIABLES	**employeesD**	**employeesD**	**employeesD**	**employeesD**
Firm age 1 to 3D	**-0.0014**	**0.0154**	**0.0318**	**0.0133**
	(0.0108)	(0.0143)	(0.0226)	(0.02520
Firm age 3 to 5D	**0.0227**	**0.0251**	**0.0675****	**-0.0156**
	(0.0139)	(0.0181)	(0.0268)	(0.0273)
Firm age 5 to 10D	**0.0252***	**0.0844*****	**0.0519****	**0.0245**
	(0.0152)	(0.0209)	(0.0245)	(0.0274)
Firm age >10D	**0.0650*****	**0.0621*****	**0.0342**	**0.0513**
	(0.0179)	(0.0210)	(0.0270)	(0.0296)
AgricultureD	**0.168*****	**0.0527**	**0.0316**	**0.1791***
	(0.0499)	(0.0508)	(0.0873)	(0.108)
ManufacturingD	**-0.0599*****	**-0.0341**	**-0.0510***	**-0.0098**
	(0.0228)	(0.0283)	(0.0297)	(0.0421)

[28] Data on owner education and age are omitted in our 2005 regressions because, due to technical complexities with LFS2005, it was not possible to match SESE owners and 2005 LFS personal data.

ConstructionD	**0.252*** **	**0.2156*** **	**0.339*** **	**0.3902*** **
	(0.0449)	(0.0527)	(0.0495)	(0.0529)
TradeD	**0.0124**	**0.0028**	**-0.0290**	**-0.0297**
	(0.0203)	(0.0254)	(0.0244)	(0.0308)
Transport& CommD	**0.183*** **	**0.0339**	**0.0183**	**-0.0588**
	(0.0425)	(0.0414)	(0.0546)	(0.0547)
Financial servicesD	**-0.0875*** **	**0.0180**	**-0.102***	**-0.1476*** **
	(0.0243)	(0.0456)	(0.0566)	(0.0376)
Owner male	**0.0649*** **	**0.1033*** **	**0.1043*** **	**0.0818*** **
	(0.0104)	(0.0304)	(0.0193)	(0.0209)
WhiteD	**0.102*** **	**0.0227**	**0.1251**	**-0.1323**
	(0.0377)	(0.0469)	(0.0766)	(0.0628)
IndianD	**0.0462**	**0.1023**	**0.0688**	**0.035**
	(0.0373)	(0.0743)	(0.1072)	(0.0800)
ColouredD	**0.0556***	**0.0067**	**-0.0256**	**0.1296***
	(0.0287)	(0.0371)	(0.0452)	(0.0669)
Commercial location	**0.216*** **	**0.1699*** **	**0.2566**	**0.1112***
	(0.0357)	(0.0530)	(0.0585)	(0.0624)
Transport location	**0.100*** **	**0.0924** **	**0.0268**	**0.0726**
	(0.0345)	(0.0367)	(0.0351)	(0.0523)
Open space location	**0.0165**	**0.0080**	**-0.0140**	**-0.0468***
	(0.0165)	(0.0195	(0.0252)	(0.0261)
Market location	**0.0117**	**-0.0040**	**0.0767**	**0.0806**
	(0.0594)	(0.0858)	(0.0577)	(0.0804)
No fixed location	**-0.00971**	**-0.0566*** **	**-0.0342**	**-0.0481***
	(0.0133)	(0.0139)	(0.0231)	(0.0248
Customer location	**0.0896** **	**0.1101***	**-0.1078**	**-0.0349**
	(0.0413)	(0.0647)	(0.0555)	(0.0538)
Other location	**0.104** **	**0.0759***	**0.1855** **	**0.0991**
	(0.0522)	(0.0453)	(0.0834)	(0.0699)
Owner years education	**0.00448*** **		**0.0048***	**0.0076** **
	(0.0013)		(0.0025)	(0.0030)
Owner age	**0.00194**		**0.0038**	**-0.0059**
	(0.0017)		(0.0037)	(0.0045)
Owner age sq	**-2.73e-06**		**-00003**	**0.0001**
	(0.0002)		(00004)	(0.00005)
Urban (owner home area)	**0.00883**		**-0.0110**	**0.0134**
	(0.0097)		(0.0180)	(0.0193)
Having accountsD	**0.160*** **	**0.1463*** **	**0.189*** **	**0.1958*** **
	(0.0154)	(0.018)	(0.0288)	(0.0286)
Owner marriedD	**0.0425*** **		**0.0312** **	**0.0472** **
	(0.0098)		(0.016)	(0.0187)
Constant	**-0.0976** **	**0.020**	**-0.112**	**0.0705**
	(0.0436)	(0.028)	(0.086)	(0.0963)
Observations	5,653	3,276	1,782	1,678
R-squared	**0.154**	**0.130**	**0.187**	**0.193**

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

This is a linear probability model – the dependent variable is a 1/0 dummy variable capturing the decision to have employees or not. The right-hand side variables are self-explanatory. Omitted categories are: firm-age less than or equal to 1; the community and social services sector; black owners; firm located in the home; owner dwelling in a rural area. D indicates a dummy variable.

In terms of owner characteristics, the following variables appear to be consistently correlated with the propensity to employ: male owners have on average an employing propensity 8 percentage points higher than female owners; married owners have an employing propensity around 5 percentage points higher than non-married owners; and each year of owner education translates into a 0.7 percentage point increase in employing propensity. There are no consistent differences between races in the propensity to employ.

The following firm characteristics appear to be statistically significant correlates:

- Industry or sector effects: Only the construction sector dummy variable is consistently significant and relatively large and positive: being in construction increases the likelihood to employ by 25-40 percentage points (compared to firms in community and social services). Agriculture has moved back to a positive effect in 2013 (as in 2001). Financial services has become significant again in 2013, with these firms 15 percentage points *less* likely to employ (than the community and social services sector). Trade has no significant relationship to informal firms' having employees. Agriculture has a positive relationship in 2001 and 2013, implying an 18 percentage point higher likelihood to employ (than the community and social services sector).
- Firm age: Some firm-age dummy variables were significant in the earlier surveys, but appears to have lost their significance in 2013. Firms 5 years and older and above 10 years may be around 5 percentage points more likely to employ than entrant firms (<1 year old).
- Site of operation: Locational variables appears to be a significant factor in the decision to employ, but the effect is variable between survey years. For example, in 2001 and 2005, firms located at premises outside the dwelling and specifically in a non-residential commercial location (such as an office block or factory) are around 20 percentage points more likely to employ than enterprises situated in the home. By 2013 this coefficient has declined to approximately 11 percentage points (and has become statistically weaker). Being in a transport station was significant in earlier surveys, but not in 2009 and 2013; not having a fixed location appears to have a small negative impact.
- Accounts: Keeping some kind of business accounts (with transactions recorded separate from those of the household) appears to be very significant and with a quite large coefficient. Informal firms who keep accounts are 15 to 20 percentage points more likely to employ than enterprises without any accounts (and finances largely integrated with that of the household).

As with the site of operation, having accounts indicates that the enterprise to some extent has been established as, or has developed to being, a differentiated, independent or standalone entity outside the household. Together these two 'independence' dimensions of the informal enterprise appear to explain, or be correlated with, a significant part of the decision to employ.

Despite several significant covariates of the decision to employ, the R^2 values of these regressions are between 0.13 and 0.19. While low, it is not too dissimilar to other studies of informal enterprises in sub-Saharan Africa with more exhaustive 1-2-3 data (e.g. Vaillant *et al.* 2011).

5.2 Regressions for profitability

Though our focus is on the employment behaviour of informal enterprises and not general business performance (also because of limitations with regard to available business variables in the SESE, for example data on capital), it is instructive to consider a regression on the log of profits, where profit is measured as the monthly nominal net profit amount. Notably, the number of employees (firm size) emerges as a statistically significant variable.

In terms of overall significance, the R^2 values are quite decent and higher than in the employment regressions. Being a semilog regression, the coefficients can be interpreted as the percentage change in net profits that is associated with the relevant variable, on average. For dummy variables the formula (*exp^beta)-1* gives the percentage increase or decrease relative to the base group.

Table 8 shows the regression results for the four survey years.

Table 8: OLS regression of log of net profits

	(1)	(2)	(3)	(4)
	2001	**2005**	**2009**	**2013**
VARIABLES	**logprofit**	**logprofit**	**logprofit**	**logprofit**
Firm age 1 to 3D	**0.0689**	**0.327*** **	**0.207** **	**0.184** **
	(0.0702)	(0.0558)	(0.0873)	(0.093)
Firm age 3 to 5D	**0.3922*** **	**0.663*** **	**0.394*** **	**0.314*** **
	(0.0858)	(0.0632)	(0.0964)	(0.101)
Firm age 5 to 10D	**0.472*** **	**0.716*** **	**0.535*** **	**0.369*** **
	(0.0960)	(0.0697)	(0.0906)	(0.097)
Firm age >10D	**0.566*** **	**0.757*** **	**0.543*** **	**0.407*** **
	(0.1027)	(0.0724)	(0.1009)	(0.098)
AgricultureD	**-0.023**	**0.0818**	**0.072**	**0.070**
	(0.245)	(0.176)	(0.3367)	(0.336)
ManufacturingD	**0.0241**	**-0.233** **	**0.0410**	**0.0514**
	(0.142)	(0.0964)	(0.1187)	(0.526)
ConstructionD	**0.110**	**0.327*** **	**0.170**	**0.263** **
	(0.217)	(0.143)	(0.157)	(0.153)

TradeD	**-0.449*** **	**-0.227*** **	**-0.047**	**-0.245** **
	(0.102)	(0.0824)	(0.0930)	(0.116)
Transport& CommD	**0.501*** **	**0.612*** **	**0.621*** **	**0.335***
	(0.171)	(0.137)	(0.196	(0.178)
Financial servicesD	**-0.273***	**0.0259**	**0.295**	**-0.119**
	(0.154)	(0.146)	(0.195)	(0.189)
Owner male	**0.362*** **	**0.388*** **	**0.372*** **	**0.444*** **
	(0.0558)	(0.0428)	(0.066)	(0.074)
WhiteD	**1.589*** **	**1.267*** **	**0.756*** **	**0.353**
	(0.193)	(0.143)	(0.228)	(0.276)
IndianD	**1.174*** **	**0.390***	**0.521**	**0.757*** **
	(0.2888)	(0.222)	(0.544)	(0.259)
ColouredD	**0.654*** **	**0.510*** **	**0.048**	**0.235**
	(0.167)	(0.109)	(0.219)	(0.187)
Commercial location	**0.534*** **	**0.591*** **	**0.316***	**0.329**
	(0.1589)	(0.122)	(0.183)	(0.237)
Transport location	**0.317*** **	**0.320** **	**0.075**	**0.397*** **
	(0.113)	(0.121)	(0.138)	(0.141)
Open space location	**0.0423**	**0.0516**	**0.111**	**0.020**
	(0.0910)	(0.0673)	(0.099)	(0.106)
Market location	**0.102**	**0.193**	**0.195**	**0.254**
	(0.245)	(0.2215)	(0.185)	(0.232)
No fixed location	**0.395*** **	**0.264*** **	**0.072**	**0.284*** **
	(0.083)	(0.0577)	(0.096)	(0.091)
Customer location	**0.664*** **	**0.240**	**0.146**	**0.356** **
	(0.254)	(0.1543)	(0.151)	(0.140)
Other location	**-0.079**	**0.086**	**0.238**	**-0.087**
	(0.292)	(0.1358)	(0.239)	(0.273)
Number of employees	**0.091*** **	**0.242*** **	**0.087***	**0.068** **
	(0.028)	(0.0224)	(0.045)	(0.029)
Owner years education	**0.033*** **		**0.018** **	**0.044*** **
	(0.007)		(0.008)	(0.011)
Owner age	**0.048*** **		**0.031** **	**0.026***
	(0.011)		(0.013)	(0.015)
Owner age sq	**-0.0005*** **		**-0.0004*** **	**-0.0003***
	(0.0001)		(0.0001)	(0.0002)
Urban (owner home area)	**0.211*** **		**0.332*** **	**0.181** **
	(0.059)		(0.066)	(0.070)
Having accountsD	**0.679*** **	**0.669*** **	**0.711*** **	**0.556*** **
	(0.074)	(0.0519)	(0.087)	(0.084)
Owner marriedD	**0.228*** **		**0.095**	**0.128***
	(0.058)		(0.062)	(0.067)
Constant	**4.226*** **	**4.906*** **	**4.617*** **	**5.053*** **
	(0.267)	(0.0918)	(0.311)	(0.349)
Observations	5,652	3,056	1615	1,562
R-squared	**0.179**	**0.313**	**0.230**	**0.233**

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The results show the following with regard to *owner characteristics*:

- Gender effects: Male-owned firms generate about 50% more profits than female owned firms, all else equal.
- Owner age effects: These are significant. Older owners make more profits. For example, in 2013 a 40-year old owner is predicted to make about 20% more net profits than a 20 year old owner (other things equal).
- Owner education is significant in all the years. This corresponds with results often found in Mincerian wage/earnings regressions. Going from 11 to 12 years of education increases net profits by around 10 % – which is similar to results from Mincerian wage regressions using earnings data from the LFS.
- Race: The regressions show very large race-dummy effects. For example, 2005 White and 2013 Indian ownership are associated with approximately 110% higher net profits than the omitted category (Black owners).
- Owner dwelling location: Firms whose owner lives in an urban area are about 25% more profitable.

For *firm characteristics*, the following can be noted:

- Firms with employees are more likely to be profitable – about 10% more profit per extra employee on average.
- Firm age effects are strong and consistent – increasing firm age is associated with increased profit, 10 year old firms are 80% more profitable on average than those <1 year old, holding other things constant.
- Sector/industry effects: Construction and transport are the most profitable industries, with the industry effects being relatively consistent over waves. Trade tends to have a negative coefficient (relative to the omitted sector, i.e. community and social services).
- Location matters a lot – enterprises in non-residential commercial locations are associated with much higher profits (about 55%) in 2001 and 2005 than firms in residential locations - though this benefit has declined in 2009 and 2013. Being located at a transport station was associated with much higher profits – as was 'no fixed location' (i.e. mobile enterprises) and working at the customer's premises.
- Accounts: Keeping some kind of business accounts (with transactions recorded separate from those of the household) appears to be very significant and with a quite large coefficient. Informal firms who keep accounts have around about 70% higher net profits than those who do not.

Again, the two 'independence' dimensions of the informal enterprise – site of operation and having accounts – appear to be important correlates of profitability.

6. Conclusion: findings from the SESE, on using the SESE

Heterogeneity in the informal sector

Most earlier analyses of the informal sector in South Africa implicitly treated the informal sector as a largely homogenous, or amorphous, sector – and/or as mostly comprising street spaza shops, traders and hawkers (retail trade). Generally, the analyses did not penetrate to the texture of the informal sector in terms of the variety of firms that it comprises. Devey, Valodia and Skinner (2006; 2008) and others carefully distinguish and describe the characteristics of informal sector workers/employees in terms of age, gender, education level and so forth – typical of labour-force survey analysis – but do not inquire into possible *categories or types of informal enterprises*. Ligthelm (2013), using a self-designed survey in Soweto, compares the informal sector (unfavourably) to the formal small business sector in terms of growth and entrepreneurship potential, but does not look 'inside' the informal sector for components with different economic profiles and potential.

Many observers reflect a common view (or hidden assumption) that the informal sector merely, or at most, has the function of 'passively' absorbing those that have lost formal-sector jobs or providing a survivalist livelihood for those who fail to get such jobs. Very rarely is the informal sector analysed as a real and rightful component of the developing (!) South African economy – as a part of its employment/growth/development trajectory (and related economic policy initiatives). To the contrary, it appears that the hope is that the informal sector will disappear as a result of economic growth and development.

By focusing on employment and job creation, our analysis using the SESE addresses both these shortcomings. A first element is to recognise all informal-sector firms *as firms*, even if it only is a one-person firm – rather than the labourist concept of an 'own-account worker' (or even a 'self-employed' person). Secondly, by highlighting informal firms that have employees, it reveals that (at least) two components can be distinguished. These are the employing and the non-employing firms (or: multiperson versus 1-person firms). Thirdly, by distinguishing between employment-stagnant (non-growing) and employment-expanding (growing) informal firms, we zoom in to observe the important dynamics of employment creation by informal sector firms.

While the employing component comprises only 21% of the *number* of informal firms, their employment performance is substantial. There actually are more than 760 000 employees in the informal sector, of which 550 000 are *paid* employees (2013 data). This means that in 2013 the 21% of employing informal firms provided *paid* work to approximately 1.1 million people (employers plus paid employees), as well as 211 000 unpaid workers (probably paid in kind).

Almost half (48%) of informal sector workers actually work in multiperson firms (i.e. employing firms).

The analysis using these two components – one-person and multi-person enterprises – leads to further insights into the characteristics of owners and firms that are correlated with firm performance/success as measured terms of employment and profitability. Factors like industry, firm age, accounting practices, nature of premises/location, owner gender and owner education become *analytically relevant* in understanding informal business behaviour, employment patterns and potential – rather than as mere descriptive characteristics with no economic import. It suddenly becomes analytically significant to distinguish those in trade (retail and wholesale) from those in non-trade sectors (with further subdivision into construction, manufacturing, services, etc.) – they display different behaviours in terms of employment levels and potential. Notably, from an employment perspective those that have been ignored in the past – non-trade enterprises – may be the most important.

Revealed changes over time also gain importance. The evidence indicates that compositional (or even structural?) changes may have occurred – and these suggest that the *employment orientation* and *employment intensity* of the informal sector may have increased since 2001 or 2005. The multiperson component appears to have grown as a percentage of total informal firms, the average size of firms has increased, the average number of employees has increased, the average number of paid employees has increased. Sectoral changes – with trade becoming less dominant and construction and other sectors growing as a proportion of numbers of enterprises (and employees) – suggest a move way from trade, which is a less-likely-to-employ sector. Business data relating to location/premises as well as accounting practices suggest an increase in the standalone character of many informal enterprises, especially the multiperson enterprises – perhaps constituting a growing group of emerging standalone, likely-to-employ firms.

The careful analysis of the heterogeneous texture of the informal sector and employing firms in particular, as well as the covariates of employment and profit performance (as in the regression analysis presented above), also reveal new dimensions, opportunities and imperatives for employment-oriented policy analysis and design. Further inquiry into internal and external constraints faced by informal businesses will be relevant, including the impact of macroeconomic cycles on firm behaviour, performance and survival in the informal sector (see Burger & Fourie, forthcoming 2018).

Finally: the patterns and firm behaviour with regard to employment, revealed by our analysis of the SESE, make a compelling case that South African economic policies should approach the informal sector as an integral part of the economy, as a heterogeneous sector with significant

employment levels and real employment-generating potential, requiring enabling policies – rather than as a problem sector of hawkers and street traders mostly requiring regulation, compliance and policing.

Reflections on data challenges

As in the formal economy, employment behaviour can be analysed from two sides (or sources of information): the enterprise or the employees. The latter is provided by national labour force surveys (like the LFS and QLFS), the former by national firm surveys (which currently is not publicly available for the formal sector by StatsSA). The SESE is such a publicly available firm survey for the informal sector. It differs from the typical national formal-sector firm survey in that it does not have (and cannot have due to non-registration) a sampling frame of registered enterprises. As in the 1-2-3 type surveys, it is linked to the LFS/QLFS (which constitutes phase 1) in that the owners of informal enterprises are identified in the LFS/QLFS. A follow-up interview with all these owners constitutes the SESE survey (i.e. a phase 2 survey). It provides information on the enterprise as such. (Information on owner characteristics largely is sourced from the QLFS phase.)

The SESE thus provides valuable data on variables that characterise the informal enterprise. Pertinent amongst these is the information on firm size as measured by employment, paid and unpaid employment, and so forth. The source of this information on enterprise employment is the owner of a specific enterprise, not – as in the QLFS – employees whose information is not linked to a specific enterprise. Thus it is a much more direct source of survey information on employment in informal sector enterprises. (Unfortunately, at the moment the SESE is not as comprehensive as other phase-2 surveys in terms of accounts-based business and financial variables. It is being upgraded by Statistics South Africa, though, and should be ready for the 2017 survey.)

Having two surveys on employment-related data – one firm-based and another employee-based – unfortunately also leads to two sets of results and numbers that do not always match or cannot be easily reconciled. That is an unavoidable part of the territory of employment analysis.

With QLFS-SESE the situation is complicated a bit by the apparently very high total numbers of enterprises in both the 2001 LFS and SESE surveys. Some of it can be explained by differences in the composition of the included firms (e.g. ‘running an enterprise as a second job’) compared to later surveys. But composition does not appear to explain everything. Nevertheless, a quality check of the 2001 SESE data does not reveal any obvious quality problems (Kerr 2015). According to Kerr, it might be that the 2001 SESE is closer to the truth in terms of the total number of informal enterprises than the other SESE and QLFS surveys; we simply cannot know.

In addition, in the 2001 data one cannot exclude the (probably very small) number of non-VAT-paying enterprises that pay (and thus are registered for) income tax, and thus are part of the formal sector.

Thus – and also in the interest of 'full disclosure' and assessing all the available SESEs – we have included the sample from 2001 survey in our analysis – which in any case deals with proportions and possible changes in proportions (i.e. not totals) between 2001 and 2013. Our confidence is boosted by the fact that comparisons between 2005 and 2013 largely confirm possible compositional and other changes between 2001 and 2013. Still, a healthy sense of watchfulness should remain when using the data reported in the 2001 SESE and LFS surveys.

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