



UNIVERSITY OF THE WESTERN CAPE

DEPARTMENT OF ECONOMICS

INFORMAL EMPLOYMENT IN SOUTH AFRICA:  
A CRITICAL ASSESSMENT OF ITS DEFINITION  
AND MEASUREMENT

by

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A mini-thesis submitted in partial fulfilment of the requirement for the degree of  
Honours of Commerce in the Department of Economics,  
University of the Western Cape.

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## **Declaration**

I declare that this mini-thesis is my own, unaided work. It is submitted in fulfilment of the requirements for the degree in Honours of Commerce at the University of the Western Cape. It has not been submitted before for any degree or examination at any other university.

Marshall Maurice Petersen

Signature: .....

Date: 1 December 2011 .....

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## CHAPTER 1: INTRODUCTION

From 1985 onwards, the South African economy went through its most turbulent political and economic period, putting pressures on economic performance. In 1994, there was a change in the constitution which emphasised the importance of equality and freedom amongst all races and genders. However, although the fight for political-freedom has ended, the legacy and consequences of the Apartheid era are visible from an economic perspective. South Africa recorded low economic growth rates, widespread poverty, high wealth inequalities, high unemployment rates due to lack of job opportunities and a large portion of the disadvantaged population had poor nutrient, inadequate housing, limited access to basic public goods and lacked high formal-educational attainment (Black, Calitz & Steenekamp, 2008:4). These poor socio-economic circumstances posed major challenges for the new African National Congress government in 1994.

The African population, consisting of the Black, Coloured and Indian race, constitute the majority of the South African population. Given the poor educational and skills attainment of the African population, it should be expected that the informal sector of South Africa is relatively large compared to other developing and industrialised countries, as education and skills level of some of the people from the abovementioned races might not enable them to find employment in the formal sector. Contrary to this expectation, it is the smallest relative to countries such as Egypt, Ghana, Poland, Malaysia, Thailand, Mexico, Brazil and even Greece and Italy, among others (Schneider, 2002:5-17). Many labour economists in South Africa questioned the definition and measurement of the informal sector used by the official statistics authority. The economists believed that the informal sector is significantly being underestimated either because it uses an inappropriate definition or measurement or both.

Furthermore, South Africa's labour market characteristics are unique compared to international standards. As Kingdon & Knight (2007:818) state, South Africa is an international outlier with respect to its labour market as seen by the simultaneous high unemployment and low informal employment rates. The potential underestimation of the informal sector and the unique labour market characteristics of South Africa pose major challenges in design, implementation and outcomes of economic policies<sup>1</sup>. The New Growth Path, much like the RDP, GEAR and ASGISA, is a broad-based economic policy aiming to

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<sup>1</sup> Policies such as the Reconstruction and Development Program (RDP), Growth, Employment and Redistribution (GEAR), Accelerated and Shared Growth Initiative of South Africa (ASGISA) and the New Growth Path. The first phase of the latter policy will be implemented from 2012.

create “decent jobs”. Particularly, the New Growth Path aims at creating 5 million new decent jobs, defined as a job with, *inter alia*, social protection including working conditions and social security, by 2020 (Economic Development Department, 2010:1-4). Hence, not only do government want to reduce unemployment, but also reduce the size of informal sector by transferring existing informal workers to the formal sector. The problem is, if the informal sector is underestimated, the targeted outcome of the New Growth Path policy would deviate from the actual outcome. According to the United Nations (2010), definition, data and measurement problems of the informal sector weaken the formulation, implementation and evaluation of policies and programs. It is therefore crucial to analyse and assess the definition and measurement of the informal sector in South Africa, particular for policy purposes.

In general, the informal sector is often regarded as the unrecorded or shadow sector of an economy resembling its relative unimportance compared to the formal sector. The result of this unimportance is that the informal sector is poorly covered with respect to its employment opportunities and contribution towards Gross Domestic Product (GDP). In fact, it contributes sufficiently to GDP providing opportunities not only for many women, but also for those in poverty. Therefore, if this sector is poorly covered, GDP and female employment would be underestimated whereas the extent of poverty would be overestimated (United Nations, 2010).

Nevertheless, in 1973 Keith Hart established the term “informal sector”, described as a traditional urban economy with low productivity, informal income opportunities whether in primary, secondary or tertiary economic activities (Hart, 1973:69). However, the term “informal sector” has a partial focus on economic activities. The term “informal economy” was introduced in order to capture the broader area of the informal spectrum. As Devey, Skinner and Valodia (2006b:4) reason, the term “informal economy” captures a broader range of economic activities and shows the integral link between the two economies. Therefore, for the remainder of this study, the term “informal economy” will be used.

This study will be structured as follows: Chapter 2 looks at the importance of the informal economy and the characteristics of South African informal workers. Chapter 3 discuss the measurement methodologies for estimating the size of the informal economy. Chapter 4, the core chapter, will investigate the past, current and proposed informal employment definitions in South Africa. Chapter 5 will apply and compare informal employment estimates using past, current and proposed definitions. Lastly, Chapter 6 will conclude with a recommendation on the appropriate definition and measurement methodology to be used in South Africa.

## **CHAPTER 2: THE SOUTH AFRICAN INFORMAL ECONOMY: ITS IMPORTANCE AND PROFILE**

This chapter focus on the relative importance of the informal economy compared to the formal economy in context of South Africa. It also gives a general and comprehensive profile of the characteristics of the informal workers in South Africa.

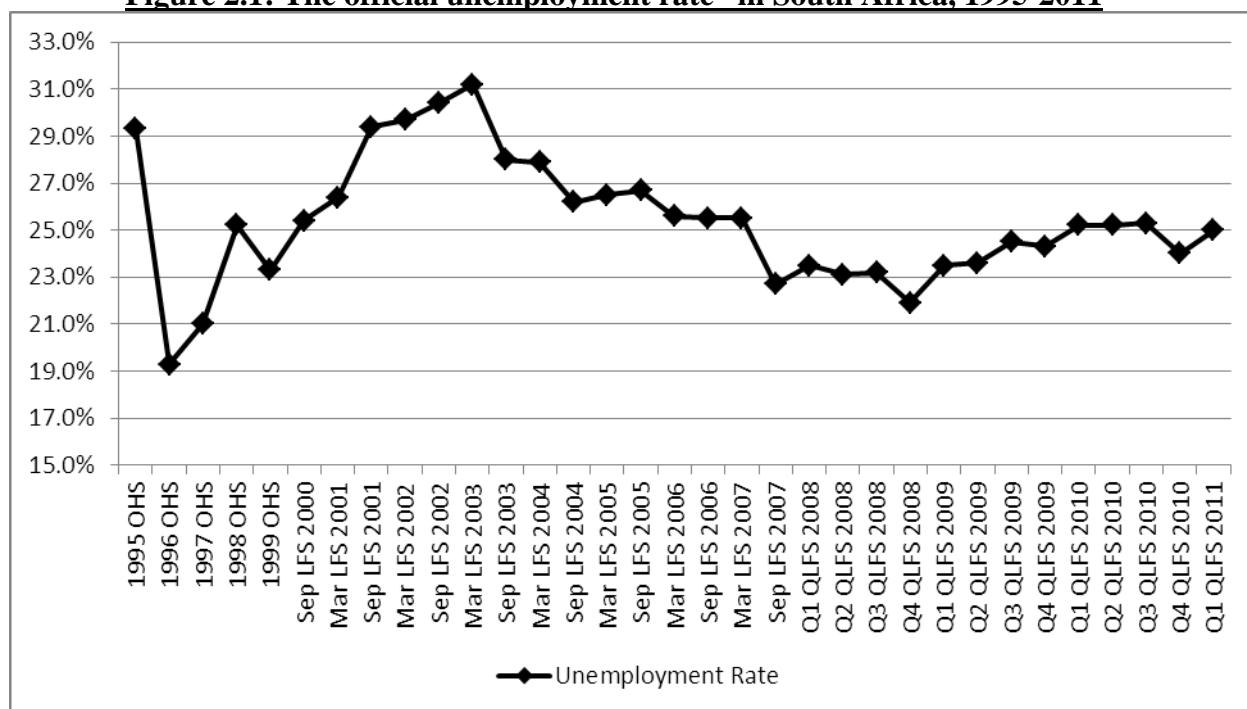
### **2.1 The importance of the informal economy**

A credible argument for the importance of the informal economy in South Africa is given by the high unemployment and poverty levels. Many of the poor and impoverished who fail to find employment in the formal economy rely and enter the informal economy for economic survival reasons (Barker, 2007:49). Furthermore, Perry, Maloney, Arias, Fajnzylber, Mason and Saavedra-Chanduvi (2007:21) reason that informal employment suits younger and older individuals who do not have the necessary educational requirements needed in the formal economy and those employees who were fired or retrenched in the formal economy may seek alternative, although temporary, employment in the informal economy. Importantly, the link between the formal and informal economy can be seen in this regard as individuals enter and exit the two economies. Also, women prefer informal employment due to its flexible time schedule in order to balance house-work responsibilities (Perry *et al.*, 2007:6). Micro-enterprises that have no intention to enter the formal economy or who want to avoid company income taxes and employee regulation will opt to remain enshrined in the informal economy (Perry *et al.*, 2007:22). Furthermore, Chen (2007:5) argues that the informal economy is a major contributor towards employment and GDP.

However, South Africa's current serious problem is the high unemployment rate, particularly amongst the youth. Acknowledging the high unemployment rates (see Figure 2.1 below), South Africa is also characterised with high absolute poverty levels, high income inequality and relatively low primary and secondary educational standards.



**Figure 2.1: The official unemployment rate\* in South Africa, 1995-2011**



Source: Own calculations using OHS/LFS/QLFS data.

\* The official definition of unemployment in South Africa excludes discouraged work seekers

Note: OHS=October Household Survey, LFS=Labour Force Survey, QLFS=Quarterly Labour Force Survey<sup>2</sup>.

In addition, the formal-employment elasticity of economic growth<sup>3</sup> (or formal-employment coefficient) is an important indicator to determine the sensitivity of formal employment to economic growth. According to Baker (2007:44), the formal-employment coefficient indicates the job creation capacity of the formal economy. From 1970-2005, the formal-employment coefficient decline from 1.06 to 0.58. Interestingly, between from 2005-2010 South Africa had a coefficient of -0.83, indicating that the economy failed to create formal jobs. This phenomenon can be attributed to the impact of the global financial crises causing a recession in South Africa in 2009. Overall, the period 1980-2010 show a declining trend in the employment coefficient meaning that South Africa needs a much higher real economic growth rate to reduce overall unemployment and underemployment in the informal economy (Barker, 2007:44).

<sup>2</sup> A detailed explanation of these three surveys will be given in chapter 4 later.

<sup>3</sup> The formal-employment elasticity of economic growth is given by the formula: [% change in formal employment / % change in real economic growth]. A positive elasticity of 1 or more means that formal employment is very responsive to a percentage change in real economic growth whereas an elasticity coefficient of 0.99 and less is the opposite. A negative elasticity coefficient indicates that the economy fails to create formal (decent) employment despite economic growth taking place, i.e., jobless growth.

**Figure 2.2: Formal-employment coefficient for South Africa, 1970-2010**



Sources: Data from SA Reserve Bank (2011); Stats SA (various)

Furthermore, barriers to entry in the informal economy are also factors that contribute to the high unemployment and low informal employment rates in South Africa. Barriers are experienced on the supply and demand side. Supply-side barriers, which are voluntary, are the preferential choice of being unemployed due to the unreasonably high reservation wage of the unemployed, especially young graduates (Kingdon & Knight, 2003:7). Example, when the reservation wage-rate of the unemployed is higher than the capital-rate of employment, labour-unemployment will be high, especially when capital and labour are highly substitutable. Furthermore, South Africa has a well-developed social security system which is well targeted to those who need it, but the unintended consequences is that social grants adversely affect the growth of labour-force participation rates in the South African labour market (Van der berg, Siebrits & Lekezwa, 2010:33-35). Recipients of these social grants receive a relatively high nominal-monetary value which affects labour market participation resulting in higher reservation wages.

The demand-side barriers for employees and self-employed persons are involuntary. The barriers for employees are namely, but not limited to, skill and experience requirements outside the formal educational framework (skills etc.), contacts for clientele purposes, high crime levels, lack of upward mobility and stable jobs. For the self-employed and employers, the barriers are the scarcity of financial resources, physical capital and technology, high minimum-wage regulation and excessive tax burdens for firms' that are relatively small (Blunch, Canagarajah & Raju, 2001:13; Kingdon & Knight, 2003:14; Perry, *et al.*, 2007:1; Heintz & Posel, 2008:30).

Notwithstanding, although the importance of the informal economy is clearly evident in the South African context, the resultant barriers to entry inhibits the labour absorption of the informal economy in South Africa, hence the high unemployment and low informal employment rates. As evidence, Kingdon and Knight (2001:5) estimated that between the years 1994-1999, only a dismal 10-12% labour absorption capacity in the informal economy was achieved. This shows that the labour market fails to absorb the unemployed. These barriers to entry are the prominent factors of South Africa's relatively small-sized informal economy compared to international standards and the high open unemployment rates. It therefore remains an international outlier.

Contrary to a small informal economy, a big one is not preferable either. This would mean that the formal economy does not absorb enough educated individuals that would enable the country to enhance their economic growth prospects. Given the low income levels of informal workers, the personal and company income tax base will shrink, deteriorating fiscal prudence (i.e. leading to large fiscal deficits and borrowing for current expenditure). Lastly, the poor majority in the informal economy may not survive in the long-term due to low wage levels and poor working conditions (hence, a poor standard of living). However, a big informal economy is preferred to a high unemployment rate and poverty rate.

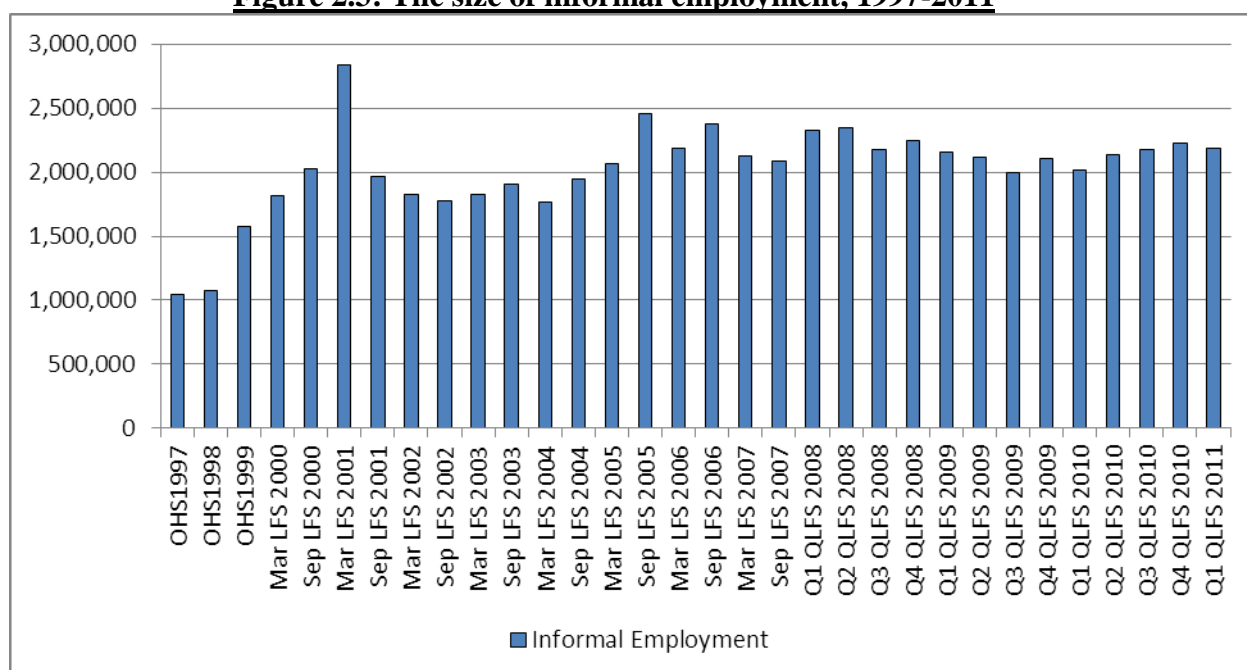
It is therefore conclusive that the importance of the informal economy to South African cannot be understated as it contributes to employment and GDP. Also, given the extent of poverty, low educational attainment and inequality in South Africa, the informal economy plays a significant role for the poor. Furthermore, the demand and supply side barriers hinder the growth and development of the informal economy resulting in high unemployment. Thus, the actual importance of the informal economy is often underestimated, especially if the unemployed, poor and impoverished are included in its reliance.

## **2.2 The profile of informal workers**

Having noticed the importance of the informal economy in South Africa, the general characteristics of it will enhance the explanation of why the informal economy is important in the South African labour market. The informal economy is generally a part of the overall economy that has low income opportunities, temporary employment, low productivity, constitutes mainly of self-employed persons, small-scale enterprises using labour intensive

activities in the primary, secondary, tertiary and service industry whether legitimate or not (Hart, 1973:68). Furthermore, other characteristics of the informal economy are those economic activities that are unorganized, unregulated, lacks social protection, existence of minimum wage, poor working conditions, tax evasion, not part of the national accounts, low level of professional status (i.e. domestic, family workers or self-employed), nepotistic business networks, flexibility in working hours and employment for survival reasons (Gerxhani, 2004:269-276; Barker, 2007:49). However, in South Africa the characteristics of the informal economy are much more comprehensive than the general description above. With respect to the size of informal employment<sup>4</sup> in South Africa, indicated in Figure 2.3 below, Statistics South Africa (Stats SA) used different definitions in its employment surveys throughout 1997-2011<sup>5</sup>. These definitions will be explained in chapter 4 later. With regard to the characteristics of the informal economy and employment, Stats SA's first methodology in the QLFS of 2008 will be used in this section. This definition will also be explained in chapter 4 later.

**Figure 2.3: The size of informal employment, 1997-2011**



Source: Own calculations using OHS/LFS/QLFS data.

Saunders (2005:126) claims that more than 80% of informal workers consist of the black racial group of South Africa using the September 2001 Labour Force Survey (LFS)<sup>6</sup>. The

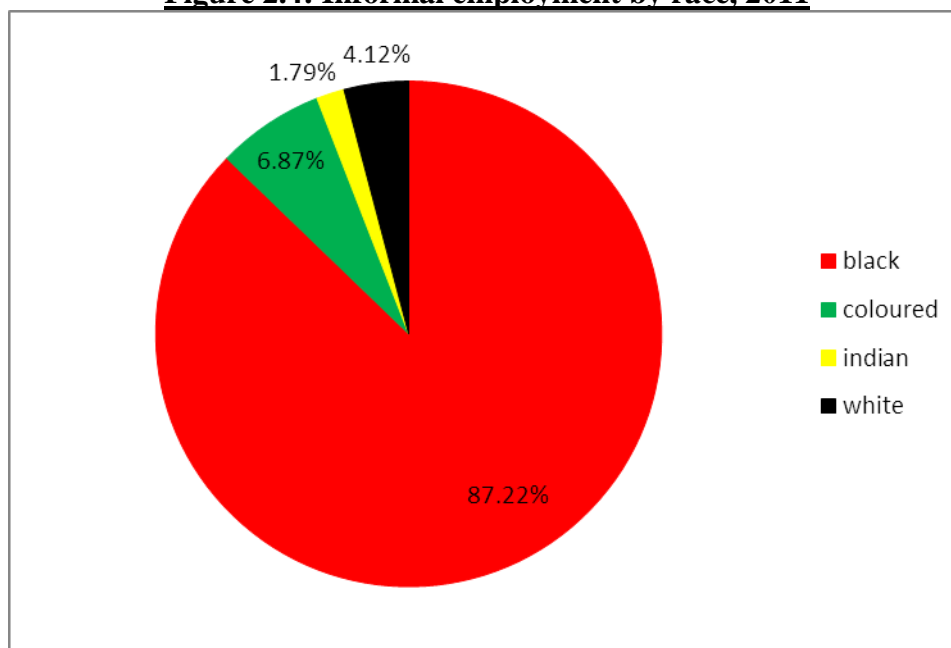
<sup>4</sup> Informal employment throughout this study refers to informal employment excluding agriculture and domestic workers.

<sup>5</sup> Informal employment in 1995/6 was unreliable because only the self-employed formal-informal status could be captured, not the status of employees. This will be explained later in chapter 4.

<sup>6</sup> All characteristics mentioned by Saunders 2005 in this section will be based on the September LFS of 2001.

explanation for the high black racial proportion in the informal economy is due to the white minority rule policies of the Nationalist government which denied them the right to quality education and residing in the so-called “white” urban cities where formal employment is most likely to take place. Similarly, the black racial group in 2011 comprised a relatively larger share of informal employment than the other racial groups as indicated in Figure 2.4 below.

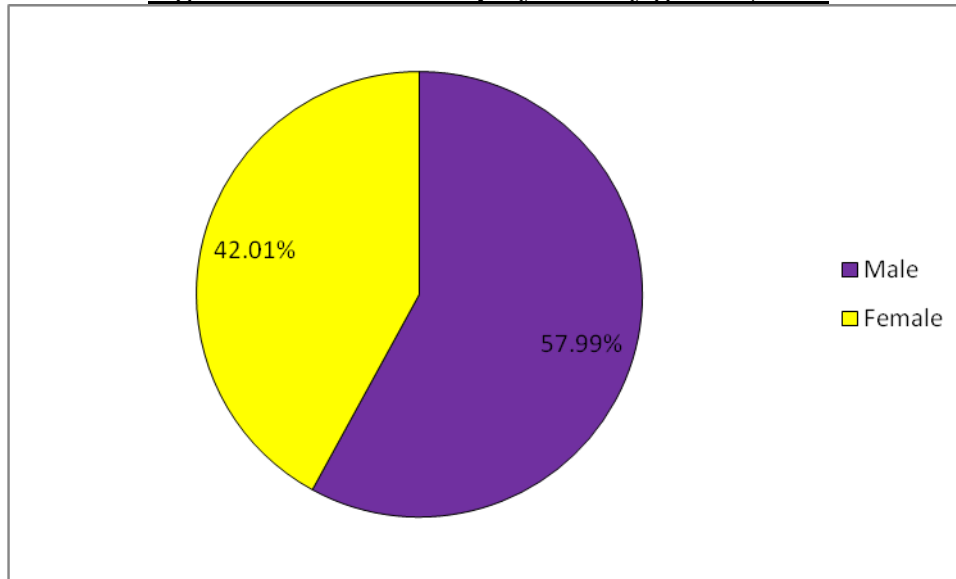
**Figure 2.4: Informal employment by race, 2011**



*Source:* Own calculations using QLFS data.

With respect to gender status, Saunders (2005:130) showed that there is a slightly larger share of male workers (averaging more than 55%) in the informal economy compared to their female counterparts. Male informal workers also constitute a slightly higher proportion than female workers in 2011 as indicated in Figure 2.5 below.

**Figure 2.5: Informal employment by gender, 2011**



*Source:* Own calculations using QLFS data.

Furthermore, according to Essop and Yu (2008a:16) Gauteng, KwaZulu-Natal and the Eastern Cape have the largest share of informal workers in all nine provinces of South Africa. Gauteng, Kwa-Zulu Natal, Limpopo and the Eastern Cape have a relatively larger share of informal employment than the other provinces in 2011 as indicated in Table 2.1 below.

**Table 2.1: Informal employment by province, 2011**

Province	Informal Employment	Percentage
WC	191,478	8.77%
EC	257,799	11.80%
NC	31,326	1.43%
FS	132,089	6.05%
KZN	465,916	21.33%
NW	89,346	4.09%
GAU	538,081	24.64%
MPU	190,917	8.74%
LIM	286,862	13.14%

*Source:* Own calculations using QLFS data.

In Table 2.2 below, informal employment in South Africa mainly consist of workers between the age of 20 and 49. This interval cumulatively represents 81% of informal workers. It is evident that the informal economy in South Africa consists of relatively young individuals.

**Table 2.2: Informal employment by age, 2011**

Age Range	Informal Employment	Percentage	Cumulatively
15 to 19	22,238	1.02%	1.02%
20 to 24	239,819	10.98%	12.00%
25 to 29	363,184	16.63%	28.63%
30 to 34	398,420	18.24%	46.87%
35 to 39	345,727	15.83%	62.71%
40 to 44	204,524	9.37%	72.07%
45 to 49	196,829	9.01%	81.08%
50 to 54	177,397	8.12%	89.21%
55 to 59	128,068	5.86%	95.07%
60 to 65	38,570	1.77%	96.84%
Other	69,038	3.16%	100.00%

*Source:* Own calculations using QLFS data.

With respect to education attainment, Saunders (2005:125) states that 95% of informal workers have a no more than a matric. In 2011, almost 93% of informal employees have a matric or less as indicated in Table 2.3 below<sup>7</sup>.

**Table 2.3: Informal employment by educational attainment, 2011**

Educational attainment	Informal employment	Percentage	Cumulative
No schooling	88,996	4.08%	4.08%
Incomplete primary	268,168	12.28%	16.36%
Incomplete secondary	1,169,610	53.56%	69.92%
Matric	500,596	22.92%	92.84%
Matric + certificate/diploma	92,862	4.25%	97.09%
Degree	34,869	1.60%	98.69%
Unspecified	28,713	1.31%	100.00%

*Source:* Own calculations using QLFS data.

Table 2.4 below indicate that informal employment in South Africa is concentrated in the elementary, sales and services and the craft and related services occupations. These occupations require skills or education outside the formal educational framework. Hence, those who do not have a high attainment of formal education are most likely to acquire skills related to the informal economy.

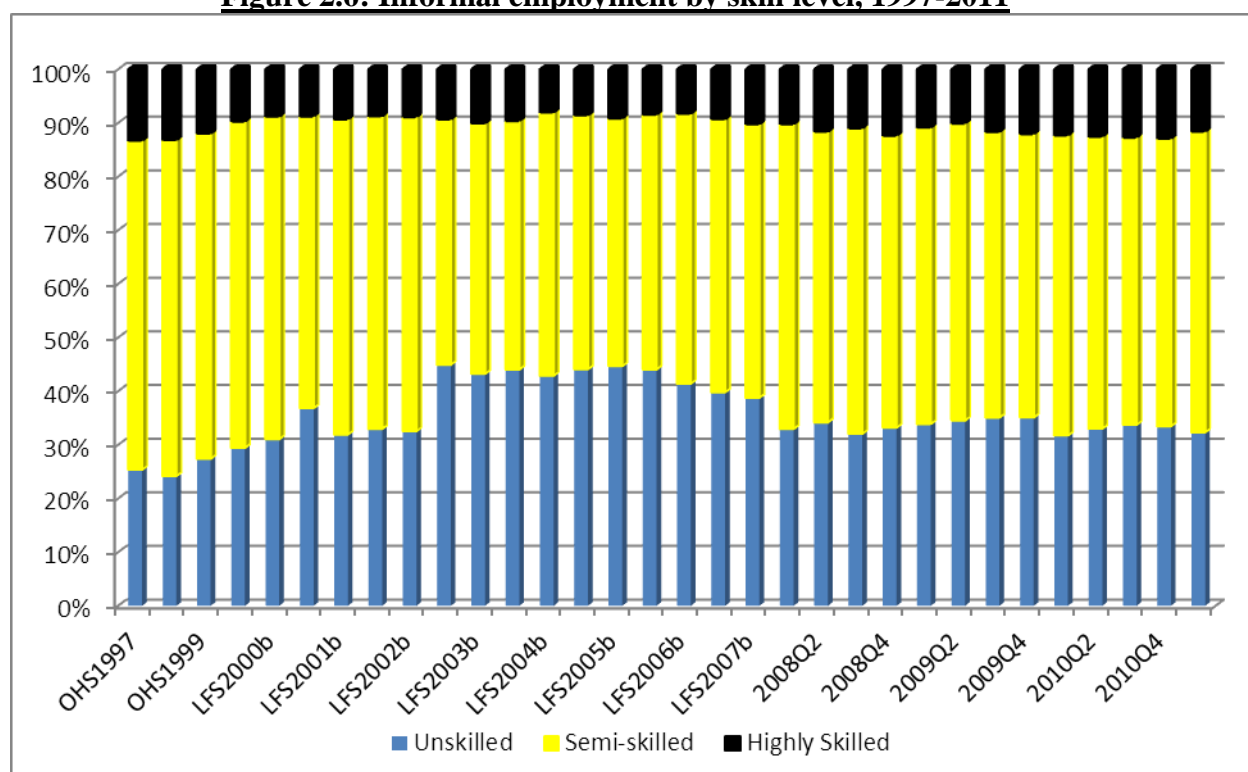
<sup>7</sup> A large majority of formal economy workers have at least Matric. Hence they are relatively higher educated than the workers in the informal economy.

**Table 2.4: Informal employment by occupation, 2011**

Occupation - broad category	Informal employment	Percentage
Managers	113,637	5.20%
Professionals	35,049	1.60%
Technicians	105,160	4.82%
Clerks	69,933	3.20%
Sales and services	489,769	22.43%
Skilled agricultural	635	0.03%
Craft and related trade	487,975	22.35%
Plant and machinery operator	175,323	8.03%
Elementary occupation	703,241	32.20%
Domestic workers	3,092	0.14%

Source: Own calculations using QLFS data.

Informal workers are likely to acquire skills outside the formal educational framework. Thus, almost 90% of informal workers are either unskilled or semi-skilled as seen in Figure 2.6 below. Therefore, the informal economy predominately absorbs relatively low skilled workers<sup>8</sup>.

**Figure 2.6: Informal employment by skill level, 1997-2011**

Source: Own calculations using OHS/LFS/QLFS data.

<sup>8</sup> Given that the formal economy constitutes highly educated workers, it absorbs more highly skilled workers as well. Thus, formal employment by skill would be much different than Figure 2.6 above.



In Table 2.5 below, informal employment is concentrated in the wholesale, community and social services and construction industries.

**Table 2.5: Informal employment by industry, 2011**

<b>Category</b>	<b>Informal employment</b>	<b>Percentage</b>
Mining	6,660	0.30%
Manufacturing	220,305	10.09%
Utilities	1,259	0.06%
Construction	292,487	13.39%
Wholesale	1,027,596	47.06%
Transport	193,724	8.87%
Financial	126,660	5.80%
Community and social	315,123	14.43%
Private households	0	0.00%
Others	0	0.00%

*Source:* Own calculations using QLFS data.

Most importantly, Saunders (2005:132) state that monthly income in the informal economy averaged less than R1000 (in 2000 prices) in 2001<sup>9</sup>. This shows the low income level of informal workers, hence they should not be encouraged to remain in the informal economy permanently.

In 2011, more than 93% of informal employers make no contribution to pension funds, 73% of informal employers make no contribution to UIF, more than 98% of informal employees receive no medical aid benefits, all informal employees do not pay income tax due to the general income tax amnesty threshold and more than 78% of informal employees do not receive paid leave benefits. With respect to self-employers, all of them are not registered for income tax and VAT, as indicated in Table 2.6 below.

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<sup>9</sup> After the introduction of the QLFS in 2008, Stats SA no longer asks the income question.

**Table 2.6: Informal employment by employment conditions, 2011**

<b>Employees only</b>	<b>Informal employment</b>	<b>Percentage</b>
Employers contribution to pension fund: No	768,505	93.28%
Employers contribution to UIF: No	603,999	73.31%
Medical Aid benefits: No	814,416	98.86%
Income Tax deductions from employer: No	823,843	100.00%
Paid Leave: No	650,174	78.92%
<b>Self-employed only</b>	<b>Informal self-employment</b>	<b>Percentage</b>
Income Tax Registration: No	1,359,971	100.00%
VAT registration: No	1,359,971	100.00%

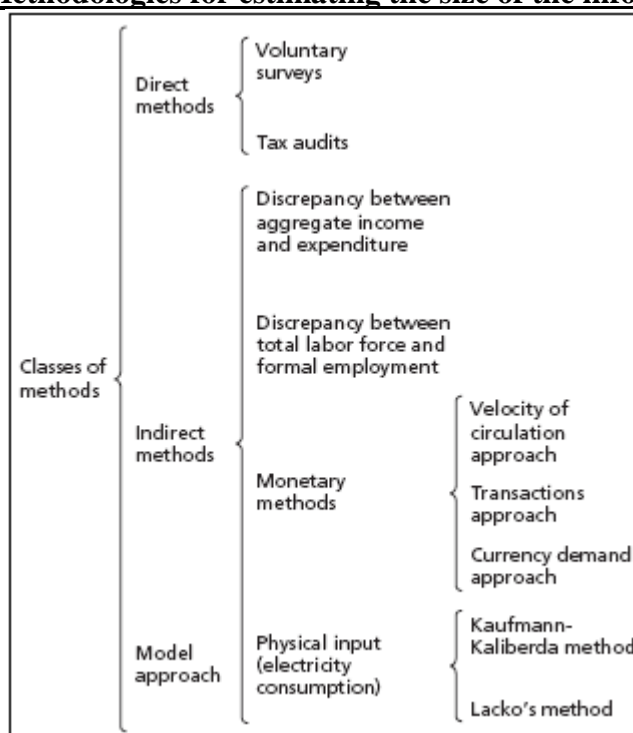
*Source:* Own calculations using QLFS data.

In concluding Chapter 1, given the historical circumstances of South Africa, many poor and impoverished citizens rely on the informal economy as a means to survive. Although South African informal workers have some of the general characteristics of an informal worker internationally, it is more comprehensive. A typical informal worker in South Africa is most likely to: be black; be male; reside in Gauteng, Kwazulu-Natal, Limpopo or the Eastern Cape; be between the ages of 20 to 49; have matric or less; work in an elementary, sales or craftsmanship occupation; be low- or semi-skilled; work in the wholesale, community/social services or construction industry and earn an average income of R1000 or less (in 2000 prices). In addition, informal employees are likely to have no form of social protection or security whereas informal self-employed persons are likely to be unregistered for any form of taxes.

## CHAPTER 3: METHODOLOGIES USED FOR ESTIMATING THE SIZE OF THE INFORMAL ECONOMY

This chapter focus on the methods used for estimating the size of the informal economy. Unfortunately, it is not as straightforward. There are many methodologies and approaches that can be applied to estimate its size. Figure 3.1 below give a graphical illustration of the three main methodologies used, namely the direct, indirect and model methodologies. Each of these methods has its own advantages and setbacks which will be explained below.

**Figure 3.1: Methodologies for estimating the size of the informal economy**



*Source: Perry et al., (2007:28)*

### 3.1 Direct methodology

The direct method is based on either tax audits or voluntary surveys. According to Perry *et al.* (2007:28), the direct methodology is microeconomic in nature, collecting individual tax audit reports and employment statistics. However, this study will only focus on the survey approach. The survey approach is aimed at using well-designed surveys and unbiased population samples to estimate the absolute and relative size of informal employment in a particular labour market. It is usually employment surveys that are conducted via direct interviews in an attempt to obtain the most accurate labour market information, particular with respect to unemployment and employment. Moreover, there are three sub-categories

within the direct-survey methodology to define informal employment, namely the enterprise-characteristic, the employment-relationship and the worker-characteristic approach.

### **3.1.1 The enterprise-characteristic approach**

This estimation approach is based on the characteristics of the enterprise. The enterprise-characteristic approach of informal employment was recommended by the 15<sup>th</sup> International Conference of Labour Statisticians (ICLS) of the International Labour Organization (ILO) in 1993 which it defined a worker informally employed using one or more of the following criteria (Devey *et al.*, 2003:9; Heintz & Posel, 2008:30; Essop & Yu, 2008a:5):

- The registration status of the enterprise, (enterprise or tax registration)
- The registration status of the employees,
- And whether the enterprise has less than five employees working in it.

In other words, an informal employee is defined based on the registration status of the enterprise and its size (number of employees). In the absence of one or more criteria used in the survey (when the interviewee answers “No” to all criteria above), all employees undertaking employment in these enterprises will be declared informally employed.

The advantage of this approach is that it is relatively easy to estimate informal employment based on the number of business owners and not employees<sup>10</sup>. Employment surveys designed for enterprises are relatively less expensive than surveys designed for employees due to the relative number of enterprises compared to employees. As Devey *et al.*, (2006a:313) reason, statistics agencies have financial constraints that restrict them from interviewing as many interviewees as they wish. Employment surveys in general give detailed information about the nature and development of the labour market and the structure of the informal economy (Schneider, 2002:33).

Many labour economists criticised the relevance of this approach and identified its disadvantages. Devey *et al.*, (2006a:313) argue that workers in general are not homogenous. The enterprise-characteristic approach assumes that workers are homogenous by creating a dividing line between the formal and informal economies. Budlender, Buwembo & Shabalala

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<sup>10</sup> There are relatively less businesses than there are workers, hence time and costs are spared.

(2001:22) reason that the informal economy, relative to the formal economy, should not be viewed as dichotomous but rather as a continuum. They argue that there is a link between the informal and formal economies with respect to employment, thus no clear dividing line should exist between them. Also, this approach does not consider the characteristics of the employee rather it places emphasis on the characteristics of the enterprise (Devey *et al.*, 2003:9). Hence, the enterprise-characteristic definition is not employee related.

Given the severe shortcomings of the enterprise-characteristic approach, this approach is inappropriate as underestimation is a likely consequence.

### **3.1.2 The employment-relationship approach**

Given the setbacks of the enterprise-characteristic approach, the international standard for defining informal employment had to be revised. At the 17<sup>th</sup> ICLS, the ILO recommended an employment-relationship characteristic definition which focuses on the relationship between the informal economy and its employment (Devey *et al.*, 2006a:312; Heintz & Posel, 2008:27; Essop & Yu, 2008a:6). This definition was based on employment characteristics such as conditions of employment, contractual employment agreements, permanence of work, retirement, medical aid and paid leave contributions. The reason for this alternative definition is that some workers in formal enterprises may possess informal characteristics. This dilemma shows the link between the formal and informal economies with respect to employment, hence many employment indicators are used to determine the size of informal employment. Nevertheless, in the absence of each of these employee characteristics mentioned above, the size of informal employment can be estimated.

One of the advantages of this approach is that it ties informal employment directly to the employee and not to the enterprise. This would result in a relatively more accurate estimate of the informal economy's employment level compared to the enterprise-characteristic approach. In addition, it uses many employee characteristics as a proxy to define informality. Furthermore, it does not assume that the difference between the informal and formal economies is dichotomous, but rather shows the link between them. Hence, if one juxtaposes the disadvantages of the enterprise-characteristic approach to that of the advantages of the employment-relationship approach, it is evident that the latter approach corrects much of the errors of the former approach.

A disadvantage of the employment-characteristic approach is choosing which indicators (questions) to include in the survey which would most accurately represent the informal economy's employment estimates<sup>11</sup>. If too many questions are asked in the survey, the respondents may experience interviewee-fatigue.

Overall, there is a definite enhancement in the definition of informal employment. The employment-relationship definition is relatively better than the enterprise-characteristic definition as it corrected most of the short-comings of the latter approach. However, there are problems of which questions to include.

### **3.1.3 The worker-characteristic approach**

The worker characteristics approach basically relates the definition of informality to the work or job undertaken in the informal economy. This approach defines informality using a host of indicators related to the nature of the work or job of the informal worker. Examples of these indicators are labour productivity, occupation, skill level, industry, earnings, private or public sector employment status etc. Gasparini and Tornarolli (2007:3) state that the worker-characteristic approach is closely linked to the production of the worker, hence they argue that this approach can define informality using the “production” definition of informal employment. The production definition of informality is defined as a worker who is an unskilled self-employed person or a salaried-employee who performs the work duty in a small-sized firm with low or no income. Furthermore, it views informality as those economic activities that are semi-legal, exhibit low productivity levels, occurs in small-scaled and family-based enterprises that use no or pre-capitalistic technologies (Maloney, 2004:1159; Gasparini & Tornarolli, 2007:2).

The advantage of this approach is that it relates informality to the productive component of employment. A firm that is relatively non-productive in its economic activity should be classified as being part of the informal economy (Gasparini & Tornarolli, 2007:3). This approach makes it easy for policy makers to estimate of the size of the informal economy when individuals undertake employment in specific occupations and industries. Example, if a firm exhibit low total factor productivity levels, all workers within that firm can be classified as informal. Similarly, this method can be applied at industry level. This approach is usually

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<sup>11</sup> A detailed explanation about this disadvantage will be critically evaluated in Chapter 4 when Stats SA's methodologies are discussed.

used in countries whose labour markets have the relevant characteristics of informality in the productive sense (Gasparini & Tornarolli, 2007:4). Most Latin American countries (LAC), namely Brazil; Chile and Mexico, use the worker-characteristic approach to define informality.

There are disadvantages of this approach as well. Firstly, a particular small-scaled firm might be highly productive (i.e. adding significant value to the product or service), but occurs in a particular industry that is characterised as an informal-sector industry (Gasparini & Tornarolli, 2007:3). Also, if a self-employed person who is highly productive but undertakes his or her economic activity in a particular occupation which is deemed as informal, he or she would then be defined as informally employed. The worker approach thus aggregates all who is in a particular industry or occupation. As evidence, Maloney (2004:1159) estimated that 30% to 70% of the urban labour force is absorbed in the informal economy. Furthermore, there might be some difficulty in defining certain production characteristics such as scarce or primitive technologies and small-scaled firms. In addition, this approach is only applicable to countries whose labour markets exhibit the relevant informal-production characteristics. Example, the worker-characteristic approach, which is applicable to most LAC's, may not be applicable to Germany or India. Hence, the worker approach methodology cannot be universally adopted, especially when international comparisons are made. Lastly, this approach is theoretically weak and empirically vexed to estimate (Gasparini & Tornarolli, 2007:3).

Overall, the worker-characteristic approach links informality to the productive nature of the economic activity. However, the indicators used in this approach are extremely difficult to measure, making estimation problematic. South Africa do not resemble the characteristics required for the worker-characteristic approach, therefore it is inappropriate.

In conclusion, the survey-based approaches have its advantages and disadvantages. The appropriate and relevant direct-survey methodology in the South African context is the employment-relationship approach which emphasise the importance of employment characteristics relative to the enterprise- and worker-characteristic approach which includes irrelevant labour market characteristics<sup>12</sup>. Overall, Saunders (2005:61) makes a valid point by stating that data accuracy using the direct-survey method depends widely on the willingness

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<sup>12</sup> Refer back to Chapter 2 for the dynamic characteristic of the South African informal economy.

of respondents to cooperate. Furthermore, Schneider (2002:33) and Gujarati and Porter (2009:27) claim that survey-type data are prone to high non-response levels which may indeed lead to selectivity bias. In other words, surveys rely strongly on the willingness of interviewees to respond correctly to the questions. Another disadvantage of the direct-survey method is that they are often costly (Saunders, 2005:61). Statistical agencies that experiences binding financial constraints could jeopardise the credibility of the method. Despite these issues of the survey method, if conducted correctly with the needed finances and an unbiased population sample, it nonetheless provides researchers with much needed dynamics of the labour market particularly with respect to informal employment.

### **3.2 Other methodologies**

There are two alternative methodologies that can be used estimate the size and development of the informal economy, namely the indirect and the model method. The indirect method is an alternative methodology which relies indirectly on macroeconomic data sources (Schneider, 2002:34). Given the short-comings of the direct-employment methodology, the indirect method is an improvement as it does not rely on direct surveys instead it uses published macroeconomic data that is indirectly related to the informal economy.

The other methodology is the model methodology. According to Schneider (2002:41), the model method uses exogenous and endogenous variables that essentially infer the existence and development of the informal economy. The mechanics behind this method is that the researcher constructs models containing variables and indicators that would identify the unobserved variable, namely the informal economy. The reason for this approach is that it captures many “causes” of the existence of the informal economy.

Unfortunately, the indirect and model methodologies are beyond the scope of this study; however, a brief explanation of them can be found in Table A.1 in the Appendix. (For a detailed explanation, see Schneider, 2002:34-43).



## **CHAPTER 4: DEFINING INFORMAL EMPLOYMENT IN SOUTH AFRICA**

Although there are various dynamic methods to estimate the size, growth, and development of the informal economy, particular attention will be given to the direct-survey methodology. Therefore, this chapter critically evaluates the official and proposed definitions to overcome the potential underestimation problems.

### **4.1 The official and proposed informal employment definitions in South Africa**

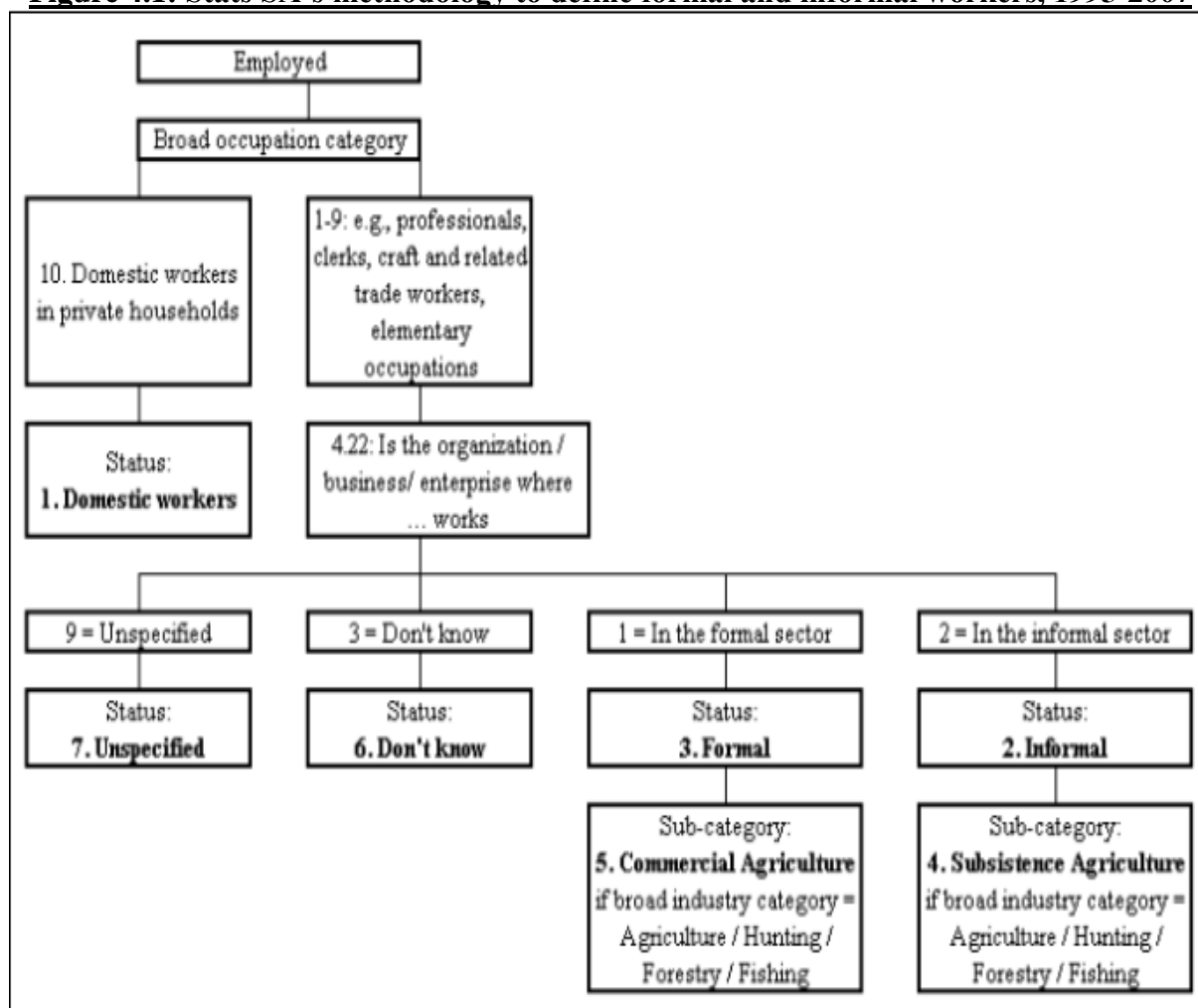
Stats SA throughout 1995-2007 used the enterprise-characteristic approach for defining informal workers in South Africa using the recommendation from the 15<sup>th</sup> ICLS. Thereafter, the ILO approved that informal employment be defined according to the 17<sup>th</sup> ICLS recommendation, based on employee characteristics. Therefore, since the adoption of the QLFS in 2008, Stats SA introduced two methods for defining informal employment in South Africa. Method A included indicators of the enterprise-characteristic approach but used different indicators than the 1995-2007 approach, whereas Method B used a combination of the enterprise-characteristic and employment-relationship approach to define informal employment. However, Stats SA do not release informal employment data of Method B.

#### **4.1.1 Statistics South Africa's 1995-2011 methodologies**

From 1995-2007, Stats SA applied the enterprise-characteristic approach in its employment surveys to define informal employment in South Africa. Specifically, from 1995-1997, Stats SA annually conducted the OHS and from 2000-2007, the semi-annual LFS. The aim of the OHS was to broaden the scope of employment, particular to estimate the size of informal employment and to meet the national and international requirements that conformed to that of the ILO (Muller & Posel, 2004:2; Statistics South Africa, 2008a:1). The 1995 and 1996 OHS asked the enterprise registration question directly to self-employed respondents to determine whether or not they were informally employed. However, the OHS was not comprehensive in its pursuit to capture the overall dynamics of the South African labour market (Muller & Posel, 2004:3). Thus, the semi-annual LFS (conducted in March and September of each year) was introduced in 2000 and was an improvement to the OHS. Although the above mentioned household surveys were introduced for different reasons, the definition of informal employment remained the same throughout 1995-2007.

In particular, both the OHS and LFS used the enterprise-characteristic definition of informal employment, which a direct question was asked to distinguish between those who were formally and informally employed. The direct question was “Do you work in the formal or informal sector” (Yu, 2010:5). In the event that the interviewees respond “don’t know”, the registration-status indicator is used. This was Stats SA’s 1995-2007 methodology for defining informal employment in South Africa as shown in Figure 4.1 below.

**Figure 4.1: Stats SA’s methodology to define formal and informal workers, 1995-2007**



Source: Yu (2010:4)

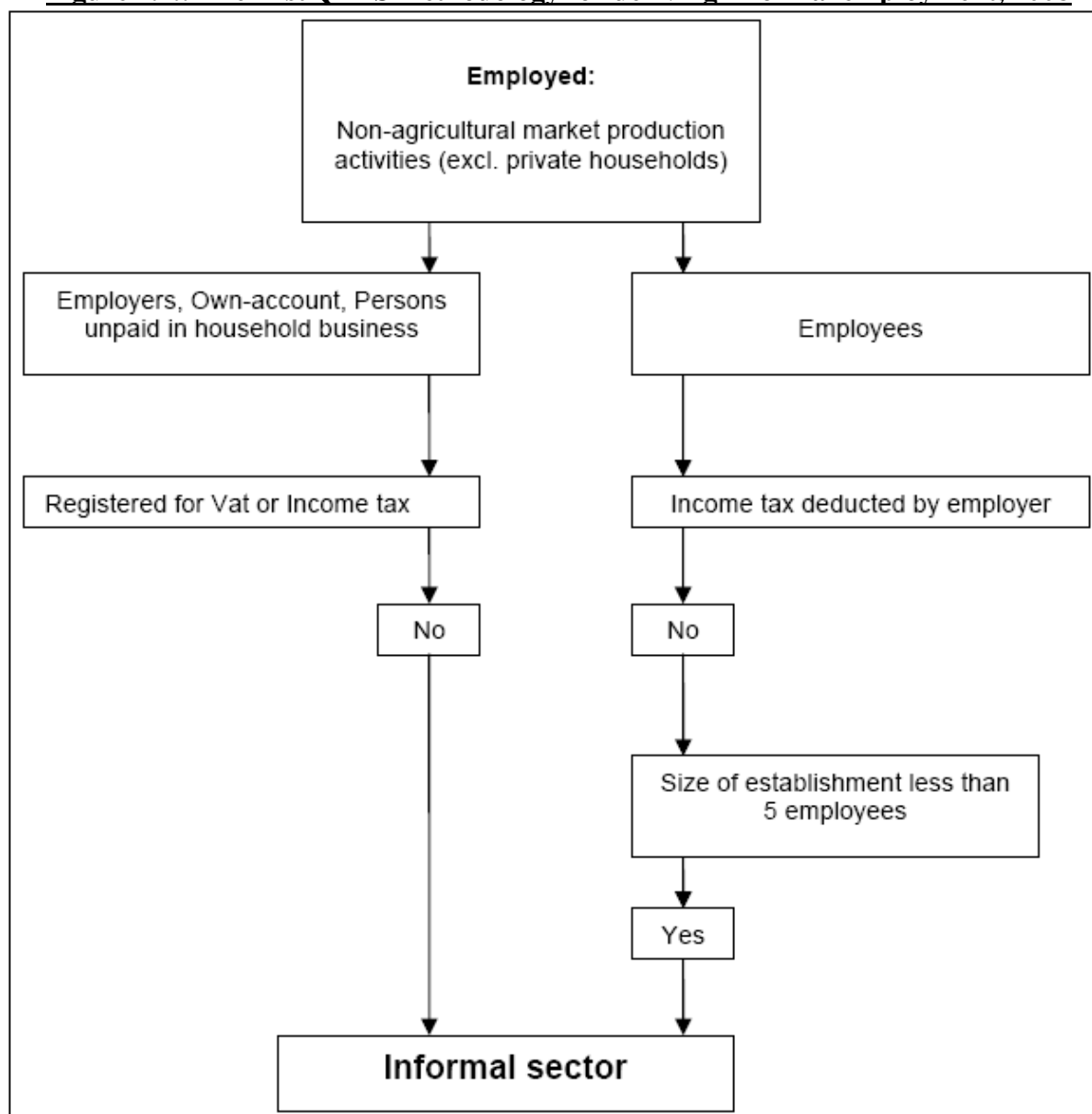
Note: The question number refers to the 2007 September LFS

However, given that only one question or indicator was used in the enterprise-characteristic definition, both the 1997-1999 OHS and the 2000-2007 LFS would potentially underestimate the size of informal employment in South Africa. Muller (2003:1) argues that informal employment in South Africa is likely to be underestimated using the enterprise-characteristic definition in both the OHS and LFS surveys. The reason for this underestimation is caused by four main factors (Muller, 2003:8):

- Firstly, interviewers were not instructed to clearly read out the footnote and explain the difference between formal and informal economy to respondents.
- Secondly, even though the note was read out clearly, the interviewees may have not understood the concept of informality.
- Thirdly, the questionnaire assumes that the interviewees exactly know the registration status of the enterprise.
- Lastly, in most registered enterprises, not all employees in formal enterprises enjoy benefits such as pension, medical aid, paid leave and unemployment insurance which are prominent characteristics of informal employment in South Africa.

Therefore, given the valid reasons for underestimation using the enterprise-characteristic definition, Stats SA had to seek an alternative definition of informal employment in order to improve the accuracy of the estimates. Not surprisingly, in 2008, Stats SA introduced the QLFS. The reason for this adoption was the criticisms from data users, especially labour economists, on the coverage, timeliness, scope and frequency of the LFS (Statistics South Africa, 2008a:1). According to Yu (2010:9), Stats SA had two methods in the 2008 QLFS. The first method (Method A) of 2008 retained the 15th ICLS recommendation but using different indicators namely criterion 2 and 3 (See section 3.1.1 above). In addition to this introduction, private household and agricultural workers were excluded whereas employers, own-account and unpaid household-business workers who were not registered for taxes were declared informally employed as derived in Figure 4.2 below.

**Figure 4.2.: The first QLFS methodology for deriving informal employment, 2008**

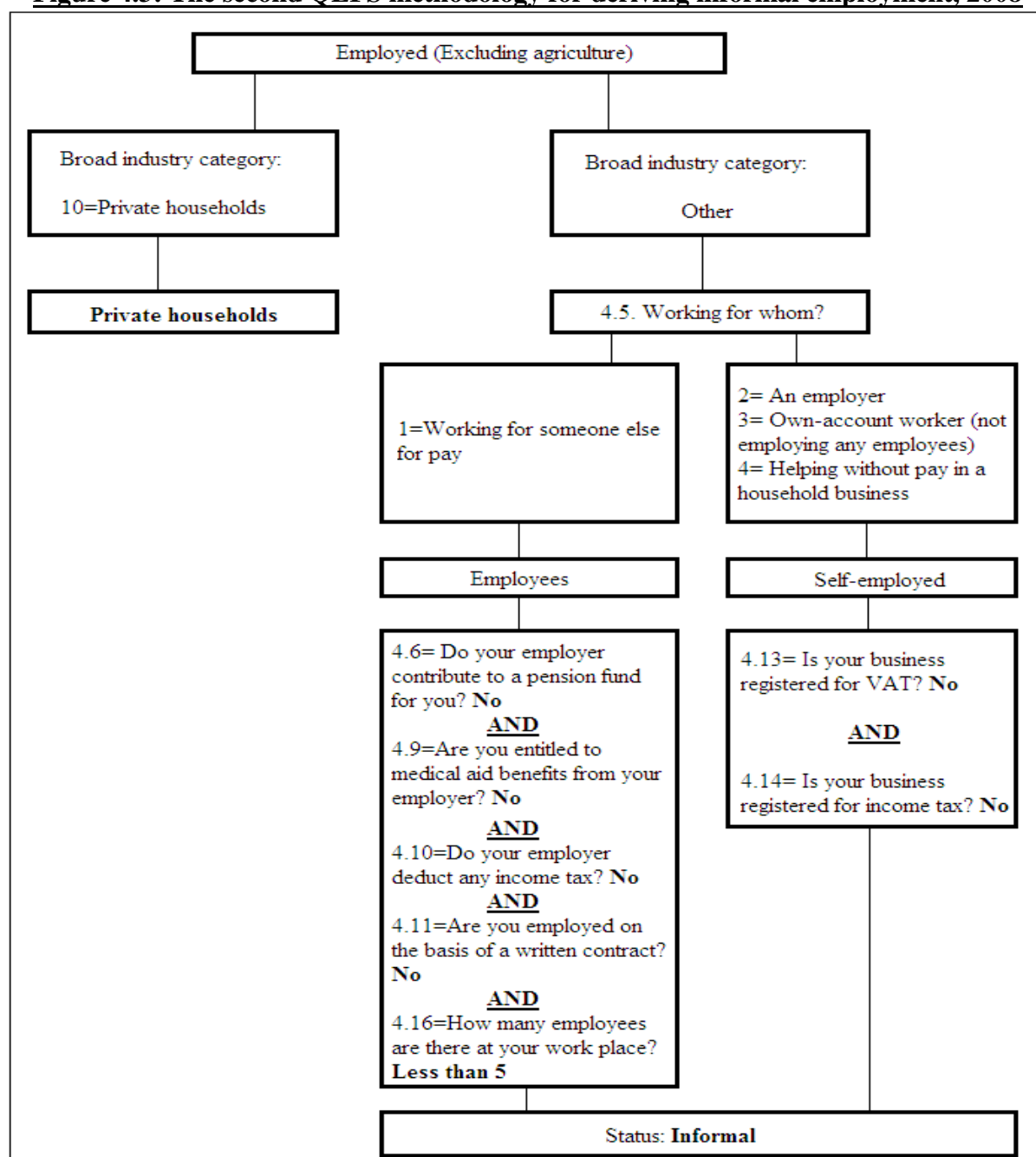


Source: Statistics South Africa (2008a:17)

Furthermore, the second QLFS method (Method B) of 2008 focused on both the 15<sup>th</sup> and the 17<sup>th</sup> ICLS recommendations. The definition included the workers employed in the informal economy together with those workers employed in the formal economy, but displayed characteristics of informal workers (Yu, 2010:10). Three employee characteristics were added in method B. The characteristics were the enjoyment of pension fund contributions, the entitlement of medical aid benefits and the privilege of having a written employment agreement with the employer. A worker is coded as informally employed if he or she answers “no” to any of the indicators used in method B above. With respect to self-employed persons, two indicators were used namely the income tax and VAT registration criteria. The derivation

of method B can be seen in Figure 4.3 below. However, Stats SA never releases the data or estimates of informal employment of method B.

**Figure 4.3: The second QLFS methodology for deriving informal employment, 2008**



Source: Adapted from Yu (2010:4), Figure 1.

Note: The question number refers to the 1<sup>st</sup> QLFS of 2008.

Juxtaposing Stats SA's 1995-2007 methodology with that of the 2008 methodologies Table 4.1 below show the difference of the three methods used by Stats SA from 1995 to 2008. It should be noted, from 2008 onwards the first methodology of the QLFS is the official method used by Stats SA for defining informal employment in South Africa.

**Table 4.1: The methodologies used by Stats SA for defining informal employment, 1995-2008**

Indicators	Stats SA 1997-2007 method	Stats SA method A	Stats SA method B
<b>Self-employed</b>			
Formal/Informal sector direct question	×		
Company/CC registration			
VAT registration		×	×
Income tax registration		×	×
Educational attainment			
Occupation			
<i>Number of indicators used</i>	<i>1</i>	<i>2</i>	<i>2</i>
<b>Employees</b>			
Formal/Informal sector direct question	×		
Pension fund			×
Paid leave			
UIF			
Medical aid			×
Written contract			×
Job permanence			
Firm size		×	×
Income tax registration		×	×
<i>Number of indicators used</i>	<i>1</i>	<i>2</i>	<i>5</i>

Source: Yu (2010:14-15)

Overall, Stats SA since 1995 enhanced the definition of informal employment in order to estimate the size of the informal economy in South Africa. Although there has been an improvement in the definition of informal employment over time, there remain criticisms on the new methodology, namely QLFS method A of 2008. Hence, numerous labour economists have proposed alternative definitions of informal employment in South Africa, which Stats SA could use to improve the accuracy of estimation.

#### **4.1.2 Proposed methodologies for defining informal employment in South Africa**

##### **4.1.2.1 Devey *et al.* index method**

As seen in Table 4.1 above, Stats SA's method A only considers two characteristics in defining an informal employee. However, Devey, Skinner and Valodia (or Devey *et al.*) argue that these two characteristics are not sufficient to define informal employment in South Africa. According to Devey *et al.* (2006a:315), indicators that resemble the relationship between the employer and the employee in terms of the employee's conditions of employment should be included in the informal employment definition. These indicators include the number of employers, the year for which the employee started to work at the enterprise, the

permanence of the work, the presence of a written contractual agreement, contribution towards a pension fund, medical aid and leave arrangements and lastly the membership of a trade union. There are many indicators that could be used to define an informal employee, not only two. As mentioned in section 3.1.2 earlier, the main disadvantage of the employment-relationship approach is deciding which indicators to include in national employment surveys. Henceforth, Devey, *et al.* lists a number of employment characteristics, which are essential for appropriately defining an informal worker, indicated in Table 4.2 below.

**Table 4.2: The Devey, Skinner and Valodia formal-informal index**

Question number***	Index = 1	Index = 0
4.4: Number of employers	(1): One employer (2): More than one employer	???
4.6: Permanence of work	(1): Permanent	(2): Fixed period contract (3): Temporary (4): Casual (5): Seasonal
4.8: Written contract with employer	(1): Yes	(2): No
4.10: Who pays wage	(1): Employer (2): Labour broker (3): Contractor or agency	(4): Other
4.11: Employer contributes to pension of retirement fund	(1): Yes	(2): No
4.12: Paid leave	(1): Yes	(2): No
4.13: Membership of trade union	(1): Yes	(2): No
4.16 Number of regular workers in enterprise	(6): 50 or more	(1): 1 (2): 2 – 4 (3): 5 – 9 (4): 10 – 19 (5): 20 – 49
4.17: Working for a registered company or close corporation	(1): Yes	(2): No
4.18: Employer makes UIF deductions	(1): Yes	(2): No
4.19: Employer makes medical aid or health insurance payments	(1): Yes, for himself only (2): Yes, for himself and his dependents (3): Yes, but he is not using it	(4): No, because he is covered by someone else's medical aid (5): No medical aid benefits provided
4.20: Enterprise is registered to pay VAT	(1): Yes	(2): No
4.23: Location of work	(3): Inside a formal business premises (4): At a service outlet	(1): In the owner's home (2): In someone else's home (5): At a market (6): On a footpath or street (7): No fixed location (8): Other

Source: Essop and Yu (2008b:9)

Note: The questions number refers to the LFS of September 2007.

The 13 indicators above are a mixture of all three direct-survey approaches (See section 3.1.1). Referring to Table 4.2 above, questions 4.16, 4.17 and 4.20 are indicators used in the enterprise-characteristic approach. Questions 4.4, 4.8, 4.10, 4.11, 4.12, 4.18 and 4.19 are

characteristics used in the employment-relationship approach whereas questions 4.6, 4.13 and 4.23 are characteristics used in the worker-characteristics approach.

It was for this reason that economist Devey, Skinner and Valodia proposed a definition that included a host of informal indicators. They developed an index known as the Devey, Skinner and Valodia formal-informal index or simply the Devey *et al.* index and it was proposed as a definitional index for informal employment in South Africa (Devey *et al.*, 2006a:314). The 13 indicators are used to characterise an informal worker. Furthermore, these indicators are not weighted, therefore each indicator has equal importance. The mechanics behind it is that each respondent in the sample are asked all relevant indicators in which they either have to respond “yes” or “no”. When the respondent answers “yes”, they score an index point, if “no” a zero is obtained.

The advantage of this methodology is that various indicators are used to define an informal worker. In addition, the 13 indicators resemble the nature of the South African informal economy, namely the lack of social protection. Furthermore, given the number of indicators used in the index, relative to Stats SA’s 1995-2007 method, the index is likely to have a higher informal employment estimate than the latter method. Thus, reducing or eliminating the underestimation of Stats SA’s 1995-2007 method.

However, there are a few important disadvantages with this methodology which need to be taken into account. Firstly, if all these indicators are used, there is no numeral-index guide as to who will be declared informally and formally employed. Example, if one respondent scores 6 index points and another one scores 5 index points, who is informally employed. There is no theoretical threshold index number that distinguishes someone who is informally or formally employed. However, to overcome this dilemma, Devey *et al.* (2006a:314) claim that more than 95 per cent of informal workers had a score of less than or equal to 5 using the September LFS of 2001. One could therefore argue that if a respondent score 5 index points or less, he or she will be declared informal using the Devey *et al.* formal-informal index. However, the index value remains arbitrary and is not guided by literature.

Furthermore, Essop and Yu (2008b:10) identifies four main problems with the Devey *et al.* index. They are:



- All thirteen indicators must be answered with a “no” or a “yes”, Devey, *et al.* did not provide an explanation if the respondent may answer “don’t know” or “unspecified”,
- Secondly, in question 4.4 in Table 4.2 above, 99.82 per cent of employees responded “yes” to this question. All employee-respondents are most likely to receive an index point in this question. Clearly, this indicator is non-sensible because every employee is bound to have one or more employers, if not, then the respondent must be self-employed,
- Thirdly, out of all 13 indicators, self-employed respondents could not answer the first seven questions in Figure 4.2. There should be a “not applicable” answer to the first seven questions. In addition, even if the “not applicable” option is present, there is no explanation to what index value this option is given. Hypothetically, if 0 is assigned to this option, the maximum index score that a self-employed respondent could obtain is 6. As a result, the Devey *et al.* method is likely to underestimate the self-employed,
- Lastly, it is possible that two random respondents may end up with the same score, but have answered “yes” to different questions. Example, one employee-respondent may answer “yes” to the first six questions and answer “no” to the latter questions, thus obtaining a score of 6. A second respondent may answer “yes” to the last six questions and answer “no” to the others, thus also obtaining a score of 6. Does this mean that the first six questions are equally important to the last six? There is no relative importance of the 13 indicators. Weighting these indicators plays a crucial role in this regard.

Even though the Devey, *et al.* formal-informal index provides a comprehensive definition for informal employees, there are a few important considerations to make with respect to the problems outlined by Essop and Yu. These problems need to be corrected before Stats SA approve and adopt it as the official South African definition.

#### **4.1.2.2 Revised Devey *et al.* index method**

Given the setbacks of the Devey *et al.* index, Essop and Yu proposed a revised formal-informal index that corrects the original index. Firstly, Essop and Yu (2008b:15) abandoned question 4.4 “number of employers” and replaced it with question 4.26 in the LFS namely “flexibility in work hours”. The rationale behind the inclusion of this indicator is that, most formal employees tend to have fixed working hours whereas most informal employees have flexible working hours. Hence, there is a clear separation between a formal and informal employee with respect to this indicator.

Secondly, Essop and Yu (2008b:15) included two response-options namely “don’t know” and “unspecified” when respondents who do not know the particulars of the respective question, in which a respondent is given zero if these options are selected. These two additional options were attached to all 13 questions including the replaced one. Thirdly, given the problem with the self-employed participants, Essop and Yu (2008b:15) developed the revised formal-informal index which only included employees as participants. Therefore, even though changes were made to the index, there remain many questions that are not applicable to self-employed participants hence they are excluded from participating in the revised Devey *et al.* index.

Lastly and most importantly, Essop and Yu proposed that all indicators in the revised formal-informal index should receive a relative weighting. Essop and Yu (2008b:17) used a principle-component analysis (PCA) test to determine which indicator should receive a higher weighting relative to the others<sup>13</sup>.

Moreover, although the revised Devey, *et al.* index corrects the setbacks of the original Devey *et al.* index, there is also a major disadvantage with the revised index, in that it is once again restricted to employees only. Self-employed persons cannot participate in responding to the revised formal-informal index. Furthermore, the index does not provide an alternative index for the self-employed. The result too would be an underestimation of informal self-employed workers in South Africa. Lastly, the revised Devey *et al.* index methodology does not provide a distinguishing formal-informal index threshold value.

It is plausible to state that Essop and Yu corrected most of the problems of the original Devey *et al.* formal-informal index. However, there is no threshold index value that divides a formal employee from an informal employee. Furthermore, self-employed workers are not considered. The self-employed would again be underestimated.

#### **4.1.2.3 Heintz and Posel method**

The revised formal-informal index does not implicitly consider self-employed persons as participants. The result being that informal employment would be underestimated if self-

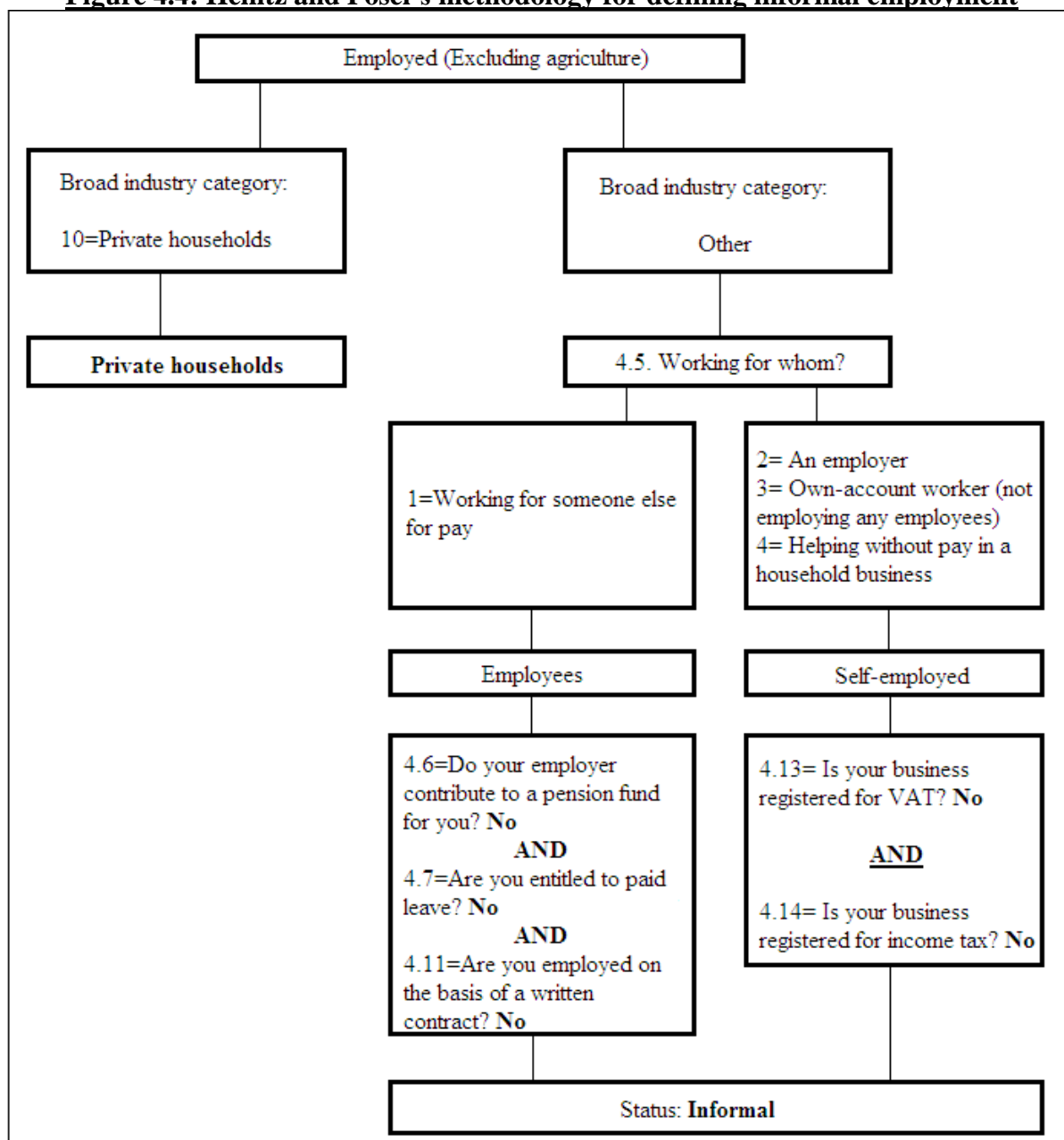
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<sup>13</sup> See Essop and Yu (2008b:17) for further explanations on the PCA testing.

employed persons are not included in the definition of informal employment. Heintz and Posel proposed a definition of informal employment in order to include employees and self-employed workers. Heintz and Posel (2008:32) recommended that informal wage-employees be defined in accordance with legal and social protection. Specifically, a wage-employee is informally employed if he or she does not have a written employment contract or receives social benefits such as pension fund contributions and paid leave. Furthermore, self-employed workers are classified as informally employed if the self-employed worker is not registered in terms of enterprise legislation or tax legislation (Heintz & Posel, 2008:32). The reason for defining informal self-employed workers according to their registration status is that, self-employed workers have more accurate answers to the registration questions relative to employees.

As seen from Figure 4.4 below, Heintz and Posel still use a similar methodology to that of Stats SA's first QLFS methodology for defining informal workers. That is, the enterprise-characteristic approach is used to define informal self-employed workers whereas the employment-relationship approach is used to define informal employees.

**Figure 4.4: Heintz and Posel's methodology for defining informal employment**



Source: Yu (2010:11)

The advantage of Heintz and Posel's alternative definition is that it considers both wage-employees and self-employed workers. Specifically, this definition includes wage-employees such as domestic workers<sup>14</sup> and self-employed workers. In addition, it uses the recommendation of the 15<sup>th</sup> and 17<sup>th</sup> ICLS and as Heintz and Posel (2008:32) argue, this is the best way to capture the difference between the formal (regulated) and informal (unregulated) economy. The result being that this definition covers a wide range of informal employment in South Africa.

<sup>14</sup> However, domestic workers will be excluded when comparing the different definitions in chapter 5 for statistical consistency problems.

The disadvantage of this methodology is that wage employees are only defined by considering only three employee characteristics or indicators namely, a written employment contract, pension fund and paid leave contributions. Essop and Yu (2008b:14) argues that only three out of thirteen characteristics (i.e. as used in the revised Devey *et al.* index) are used to define a wage-employee as informal. Another problem found by Essop and Yu (2008b:14) is that it is not clear why Heintz and Posel used pension fund and paid leave employment characteristics to differentiate between formal and informal employees because these two characteristics are not prominent informal employment indicators in South Africa. Indicators such as medical aid benefits and permanence of work should be used to define informal workers in South Africa.

Overall, the Heintz and Posel methodology includes self-employed workers. However, there are two characteristics that are relative unimportant when defining informal employees. If these two unimportant employee characteristics used in this definition can be replaced (or added) by characteristics recommended by Essop and Yu (namely, medical aid and permanence of work), Heintz and Posel's proposed methodology may be the most accurate estimation methodology of informal employment in South Africa.

Table 4.3 below gives a comparison between all methodologies discussed in this chapter. It summarises and juxtaposes all direct approaches.

**Table 4.3: A summary of all definitions (past, current and proposed)**

Indicators	Stats SA 1997-2007 method	Stats SA method A	Stats SA method B	Devey <i>et al.</i>	Revised Devey <i>et al.</i>	Heintz & Posel
<b>Self-employed</b>						
Formal/Informal sector direct question	X			Not applicable to self-employed		X
Company/CC registration						
VAT registration		X	X			X
Income tax registration		X	X			X
Educational attainment						
Occupation						
<i>Number of indicators used</i>	<i>1</i>	<i>2</i>	<i>2</i>			<i>3</i>

**Table 4.3: Continued**

Indicators	Stats SA 1997-2007 method	Stats SA method A	Stats SA method B	Devey <i>et al.</i>	Revised Devey <i>et al.</i>	Heintz & Posel
<b><u>Employees</u></b>						
Formal/Informal sector direct question	X					
Pension fund			X	X	X	X
Paid leave				X	X	X
UIF				X	X	
Medical aid			X	X	X	
Written contract			X	X	X	X
Job permanence				X	X	
Firm size		X	X	X	X	
Income tax registration		X	X			
Company/CC registration				X	X	
VAT registration				X	X	
Payer of wages				X	X	
Trade union membership				X	X	
Location of work				X	X	
Number of employers				X		
Work hours flexibility					X	
<i>Number of indicators used</i>	<i>1</i>	<i>2</i>	<i>5</i>	<i>13</i>	<i>13</i>	<i>3</i>

Source: Yu(2010:14 &15)

In concluding the chapter, with respect to defining informal self-employed workers, the Stats SA 1995-2007 methodology only uses one indicator. Importantly, the Stats SA's QLFS method A and method B uses two indicators which are the same. The Heintz and Posel uses three indicators, two of which are the same as the QLFS method A and method B. Unfortunately, the original and revised Devey *et al.* formal-informal index is not applicable to self-employed workers.

With respect to informal employees, the Devey *et al.* original and revised formal-informal index provides the most comprehensive definition relative to Stats SA's 1995-2007, QLFS method A and method B as well as the Heintz and Posel. However, although the indicators give a comparative evaluation of the different methodologies, a statistical analysis will give a much better stance on which method is the most appropriate for defining overall informal-employment in South Africa.

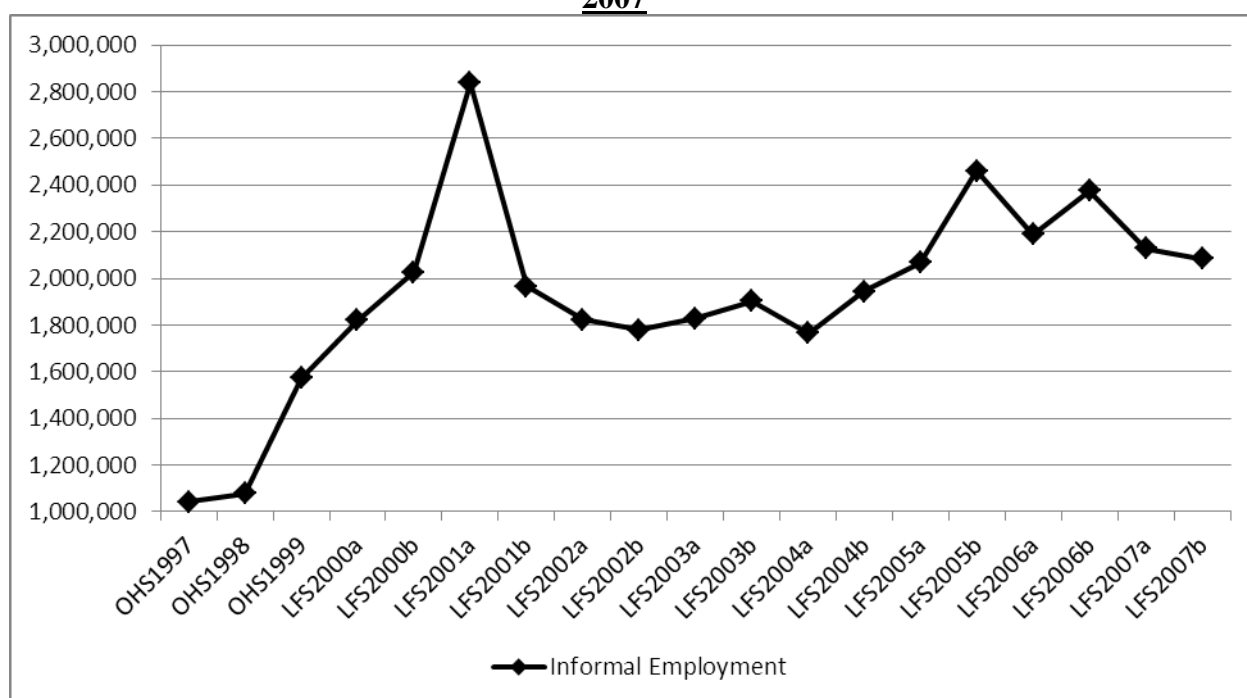
## CHAPTER 5: ESTIMATING INFORMAL EMPLOYMENT IN SOUTH AFRICA

Having critically discussed and evaluated the different methods for defining informal employment in chapter 4, the focus of this chapter is to apply these definition in an attempt to seek the most appropriate definition to be used in South Africa. Particularly, the proposed methodologies should be higher than the past and current Stats SA definition in order for it to be an appropriate definition for informal employment in South Africa.

### 5.1 Statistics South Africa's 1995-2011 methodologies

From 1995-2007, Stats SA used the direct question to define informal employment in South Africa as explained in section 4.1.1. As discussed previously, it was impossible to estimate informal employees in the 1995 and 1996 OHS, therefore, the 1997-1999 OHS and the 2000-2007 LFS will be used to estimate informal employment in Stats SA's 1995-2007 method. Do note, the notation LFS2000a means that this is the estimate of informal employment in the LFS of 2000 conducted in March, whereas LFS2000b means the LFS of 2000 conducted in September etc. Figure 5.1 below show the level of informal employment using the Stats SA 1995-2007 method.

**Figure 5.1: Estimates of informal employment using Stats SA's 1995-2007 method, 1997-2007**

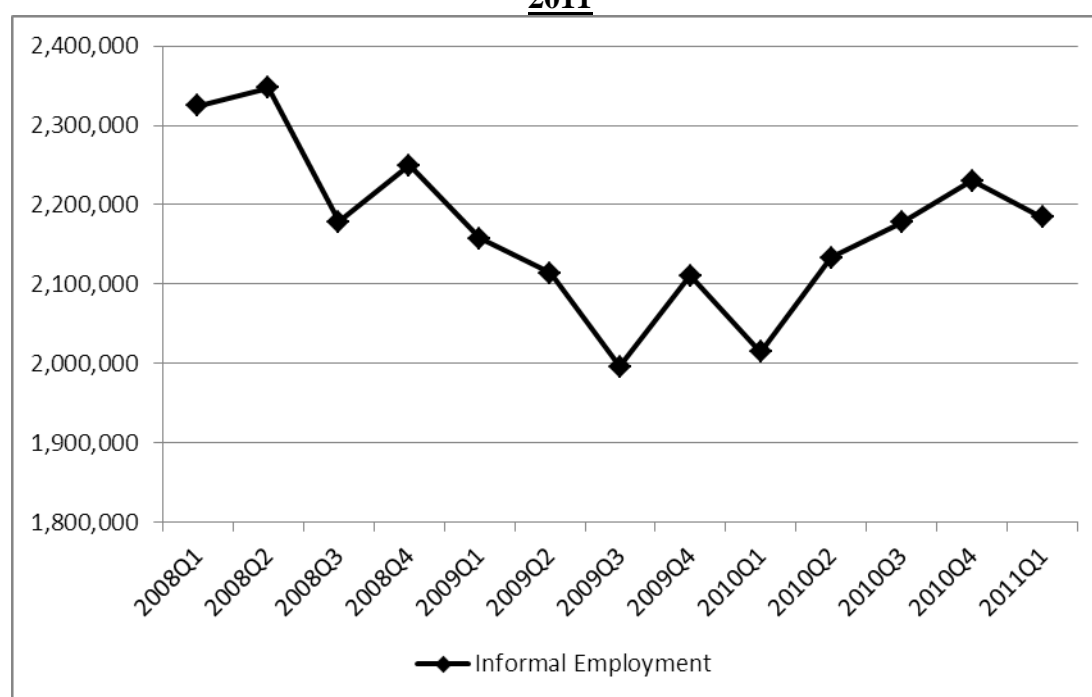


Source: Own calculations using OHS/LFS data.

After using this method for more than a decade, labour economists criticised the accuracy of informal employment estimates observed in South Africa. Essop and Yu (2008b:29) claim that it underestimates informal employment and is therefore an inappropriate definition in the context of South Africa. Furthermore, comparing the OHS to the LFS, there is steep increase in informal employment particularly from the 1997OHS up until the LFS2001a<sup>15</sup>.

Fortunately, Stats SA used an alternative method for defining informal employment in the QLFS of 2008 in order to capture its size more accurately. Figure 5.2 below show the QLFS method (refer to the first methodology of 2008 in QLFS described in Section 4.1.1 earlier) used to estimate informal employment from 2008 to 2010. Note that 2008QLFSQ1 refers to the QLFS conducted in the first quarter of 2008 whereas 2010Q3 means the QLFS conducted in the third quarter of 2010, etc.

**Figure 5.2: Estimates of informal employment using the Stats SA's QLFS method, 2008-2011**



Source: Own calculations using QLFS data.

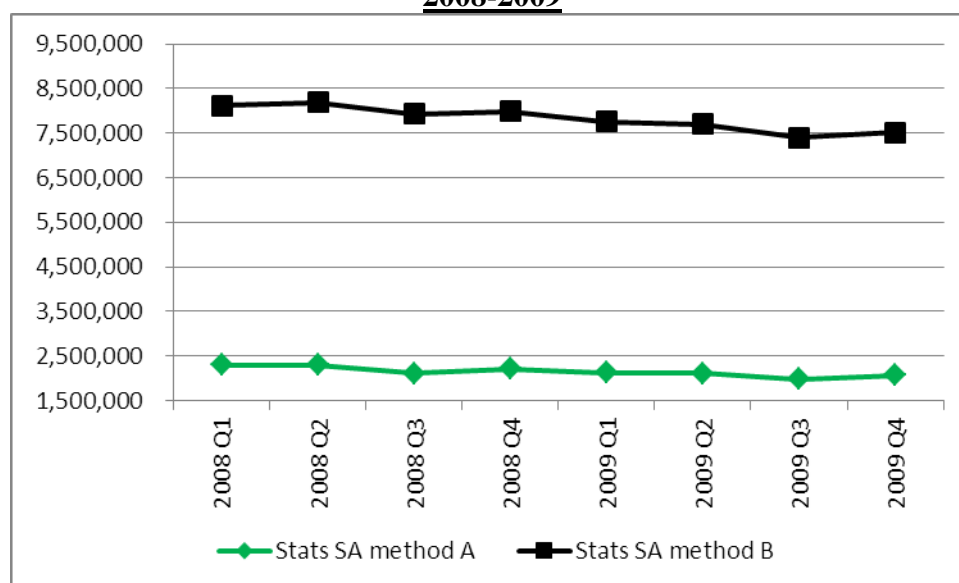
As seen in Figure 5.2 above, in 2008Q1 informal employment was estimated well over 2.3 million people (including employees and self-employed) and declined steadily to a low of 2 million in 2009Q3. Due to the impact-lags of recession, the decline in informal employment from 2008Q1-2010Q2 may be attributed to the global financial recession of 2007/2008. On

<sup>15</sup> The LFS2001a estimate is an outlier, the reason is that more probing questions were asked in this survey relative to the previous two LFS surveys, hence high levels of interviewee fatigue was experienced resulting in incorrect classifications (Devey *et al.*, 2003:20). It is therefore excluded from subsequent estimates below.



average, informal employment constitutes more than 2 million people in South Africa using the QLFS's first methodology. Comparing the 1995-2007 method to the QLFS 2008 method, there was a significant increase in the number of informal workers in South Africa by approximately 300 000 workers as indicated in Figure 2.3 earlier. This increase can be attributed to the introduction of the QLFS in 2008.

**Figure 5.3: Informal employment estimates using Stats SA's first and second method, 2008-2009**



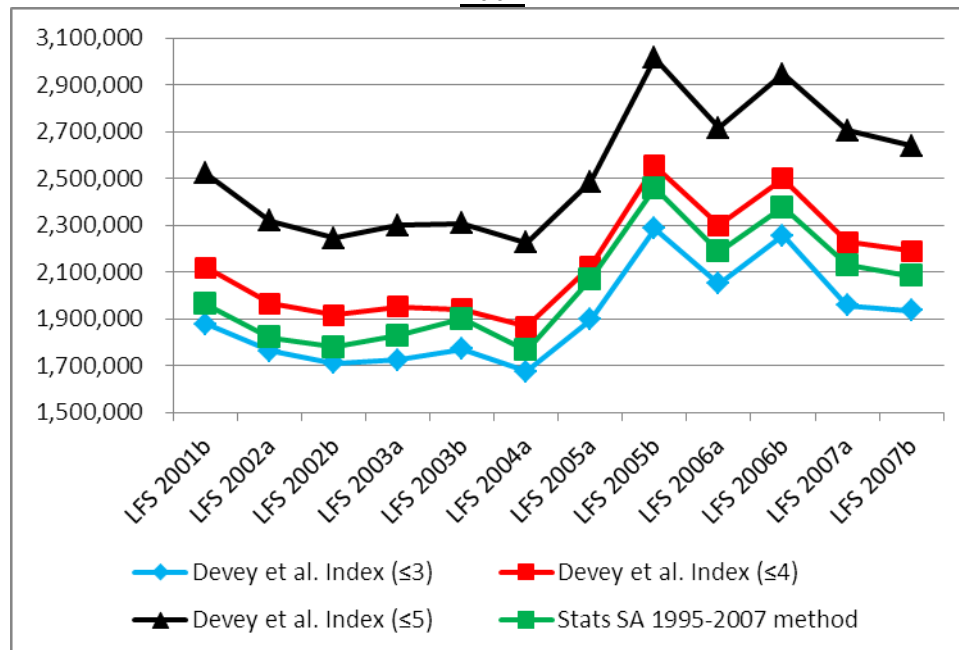
Source: Calculations from Yu (2010:21).

Comparing Stats SA's method A and method B, in Figure 5.3 above, it is highly unlikely that informal employment constitutes more than 7.5 million people in 2008/2009. Thus, method B is likely to overestimate informal employment in South Africa. It is for this reason that Stats SA does not publish informal employment estimates using method B in its QLFS.

## 5.2 Devey *et al.* index method

Using the original Devey *et al.* method, the estimated number of informal employment is given in Figure 5.4 below. Although there would be a general underestimation of informal self-employed persons using this methodology, the estimates below includes both informal employees and self-employed persons.

**Figure 5.4: Informal employment estimates using the Devey *et al.* index method, 2001-2007**



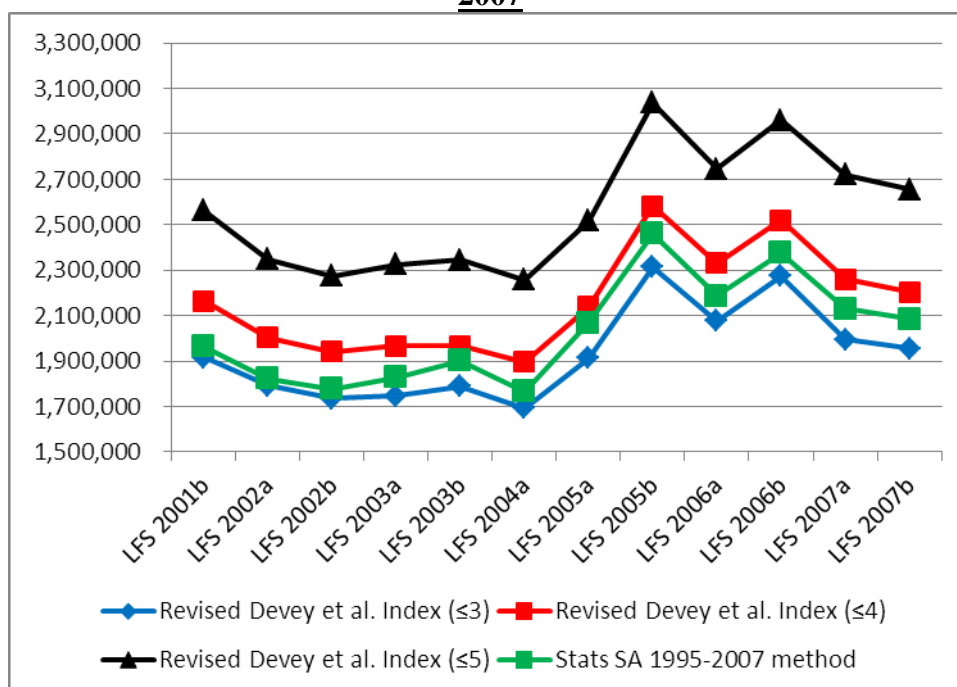
Source: Calculations from Essop and Yu (2008b:20).

In Figure 5.4 above, it is clear that the index value of ( $\leq 3$ ) is inappropriate in measuring the size of informal employment because it is relatively lower than the Stats SA 1995-2007 methodology. Furthermore, the index value of ( $\leq 4$ ) is incrementally higher than the 1995-2007 Stats SA method resulting in no significant difference. However, the differential index value of ( $\leq 5$ ) is significantly higher than the Stats SA method, hence, when using the original Devey *et al.* method, the index value of ( $\leq 5$ ) is relatively more appropriate than the lower index values.

### 5.3 Revised Devey *et al.* index method

Given the reason for the revised Devey *et al.* method, there is an incremental change in informal employment compared to the original method. Contrary to this difference, the same conclusion can be reached in the revised method as in the original method. Namely, the index value of ( $\leq 5$ ) is appropriate when estimating informal employment because the value of ( $\leq 3$ ) underestimates whereas ( $\leq 4$ ) is insignificant relative to the Stats SA 1995-2007 method in Figure 5.5 below.

**Figure 5.5: Informal employment estimates using the revised Devey *et al.* method, 2001-2007**

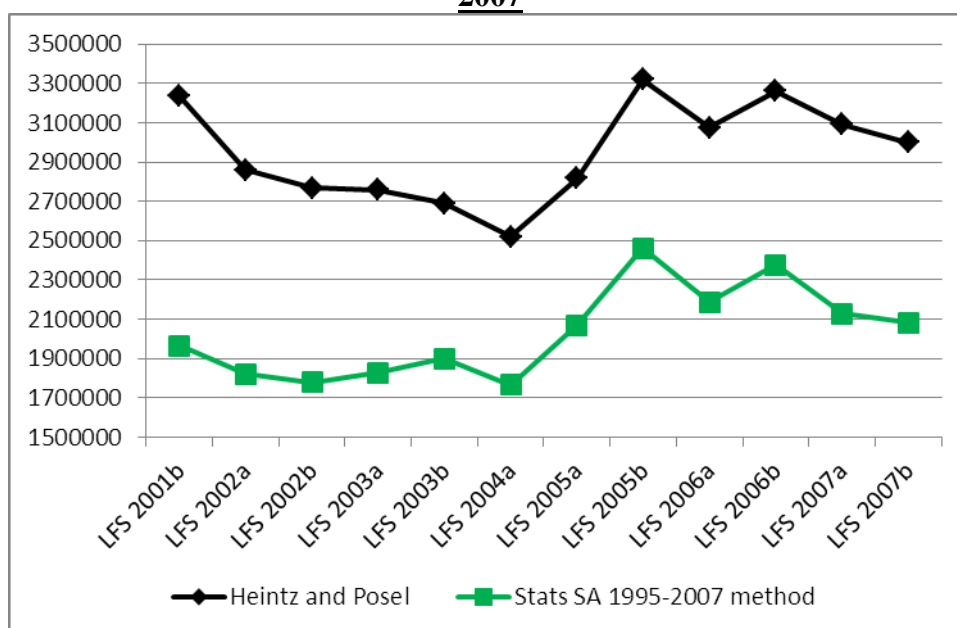


Source: Calculations from Essop and Yu (2008b:20).

#### 5.4 Heintz and Posel method

Figure 5.6 below shows the estimation of informal employment using the Heintz and Posel method which includes both informal employees and self-employed persons.

**Figure 5.6: Informal employment estimates using the Heintz and Posel method, 2001-2007**



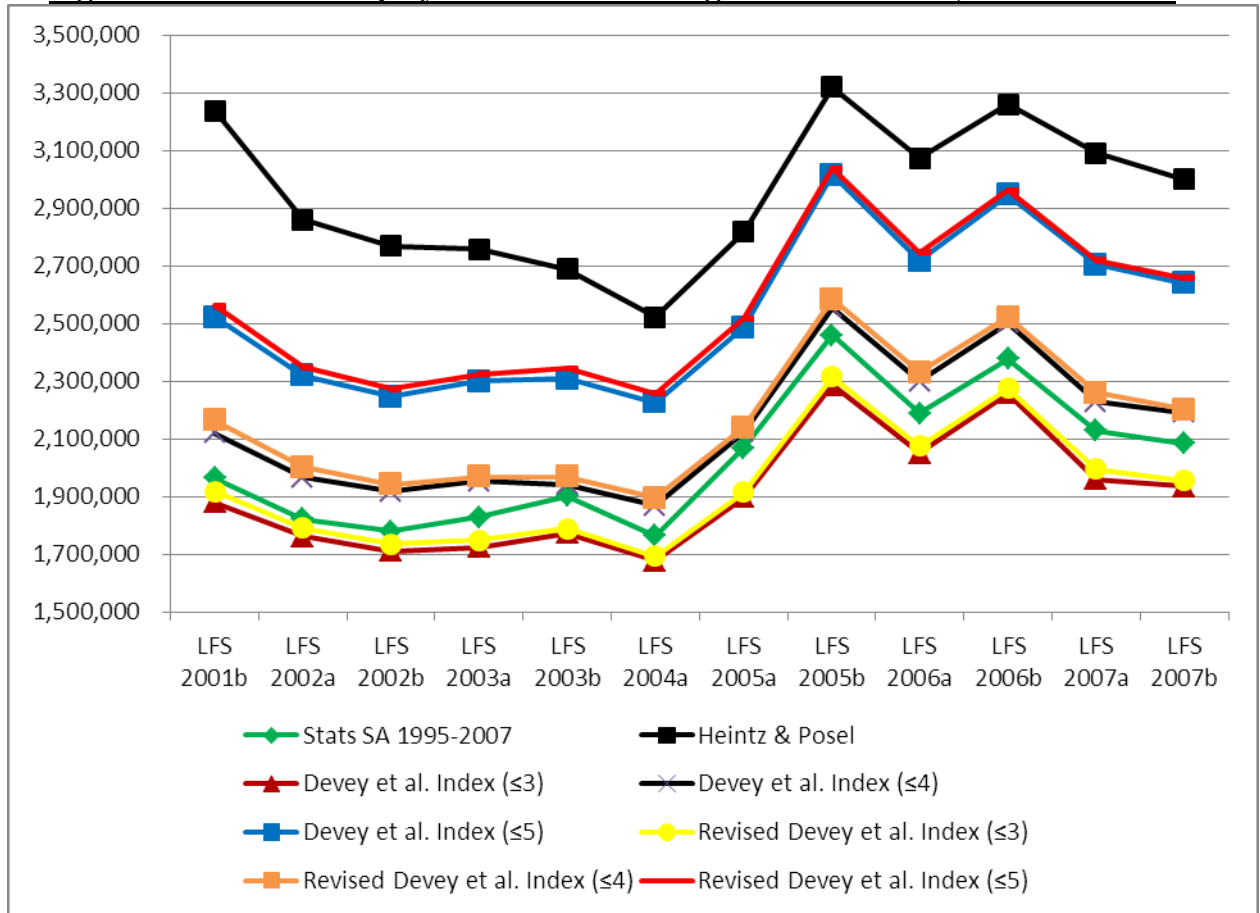
Source: Calculations from Essop and Yu (2008b:20).

As Figure 5.6 suggest, informal employment estimates using the Heintz and Posel approach is significantly different from the 1995-2007 Stats SA method. The reason is that, this is the only method that includes both informal employees and self-employed workers. However, as noted in section 4.1.2.3, the Heintz and Posel method uses two inappropriate indicators to define informal employees hence it is likely to overestimate informal employment in South Africa.

### **5.5 Comparing the informal employment estimates derived from various methods**

Now that all estimations have been completed using the official and proposed methods for defining informal workers in South Africa, it is useful to compare these estimates to see which approach yield the most accurate. Firstly, the LFS data set of 2001-2007 will be used after which the QLFS data set of 2008-2009 will be analysed. Figure 5.7 below shows the estimates of the various approaches discussed earlier. Do note, given the introduction of the QLFS in 2008 there was a change in the survey design in which a number of questions in the LFS was no longer asked in the QLFS. The result being that the proposed methodologies (i.e. Devey *et al.* and the Heintz and Posel) had to be adjusted slightly. Unfortunately, these minor adjustments will not be critically discussed in this study, but the reader is encouraged to see Table A.10 in the Appendix and read Yu (2010:4-15).

**Figure 5.7: Informal employment estimates using various methods, LFS 2001-2007**

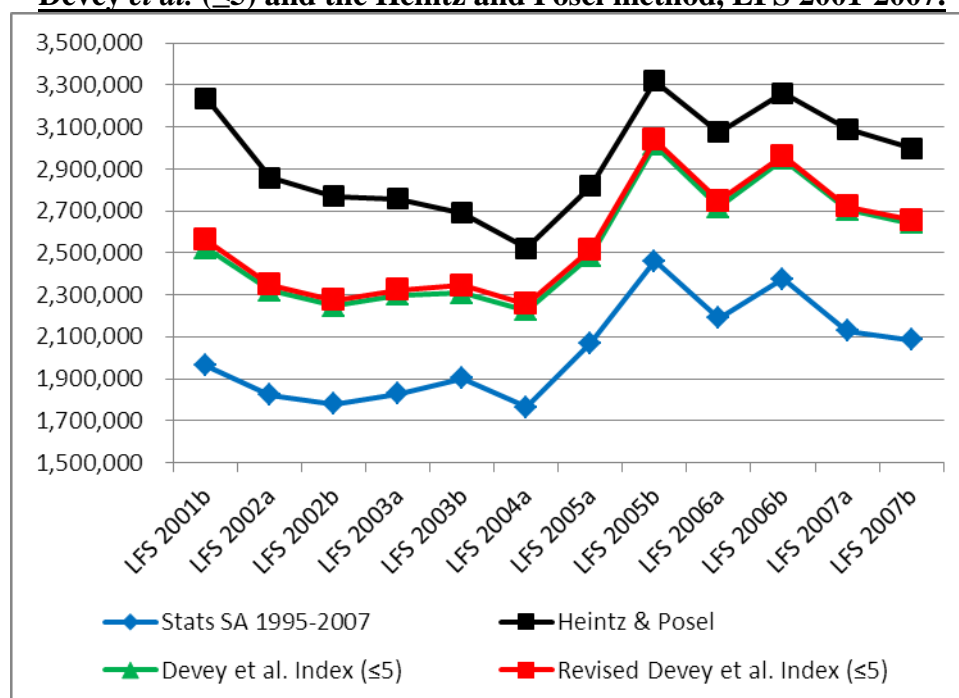


Source: Calculations from Essop and Yu (2008b:20).

Figure 5.7 above compares all the methodologies and gives evidence on which method is the most appropriate and relevant when defining informal employment in South Africa. The Stats SA 1995-2007 method is the reference method, any method below it is automatically inappropriate for measuring informal employment. Furthermore, any estimate slightly or insignificantly above the Stats SA 1995-2007 method could also be ruled out. Reason being, it is expected that the size of informal employment is significantly above the Stats SA 1995-2007 estimate.

Therefore, the original and revised Devey *et al.* index with the value of ( $\leq 3$ ) and ( $\leq 4$ ) can be ruled out as appropriate measurements for informal employment in South Africa. This leaves the original and revised Devey *et al.* method with an index value of ( $\leq 5$ ) as well as the Heintz and Posel method. Figure 5.8 below compares the valid definitions.

**Figure 5.8: Informal employment estimates using the original-Devey *et al.* ( $\leq 5$ ), revised-Devey *et al.* ( $\leq 5$ ) and the Heintz and Posel method, LFS 2001-2007.**

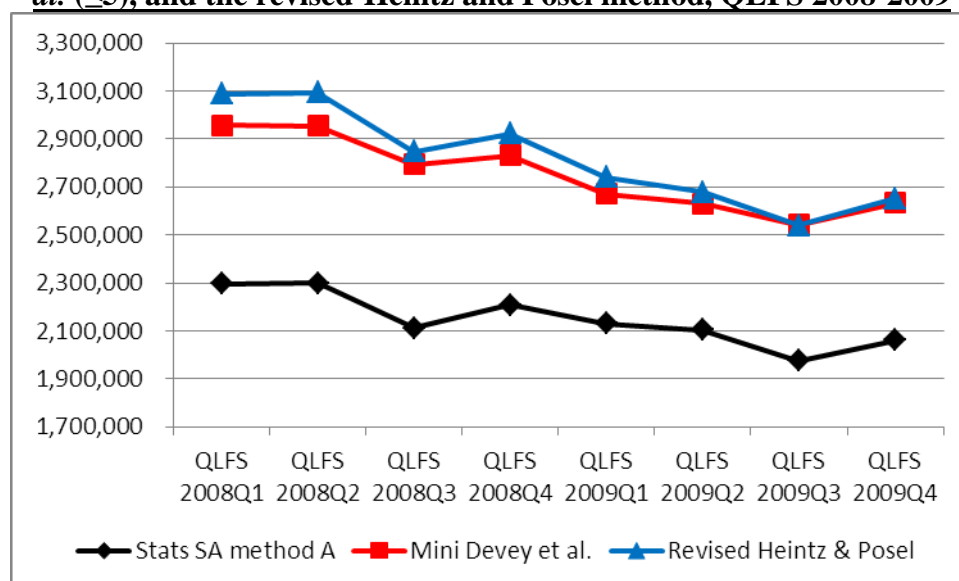


Source: Calculations from Essop and Yu (2008b:20).

Looking at Figure 5.8 above, informal employment using the Stats SA 1995-2007 method is the lowest compared to the others. However, the revised Devey *et al.* method is slightly higher relative to the original Devey *et al.* method. These two methodologies are between the Stats SA 1995-2007 method and the Heintz and Posel method. The latter method is the highest, but potentially overestimated thus is also questionable for measuring informal employment in South Africa.

It is therefore conclusive that the 1995-2007 Stats SA method underestimated informal employment throughout the OHS and LFS period. The 1995-2007 Stats SA method was therefore inappropriate.

**Figure 5.9: Informal employment estimates using the first QLFS method, mini-Devey *et al.* ( $\leq 5$ ), and the revised-Heintz and Posel method, QLFS 2008-2009**



Source: Calculations from Yu (2010:21)

Note: The mini-Devey *et al.* excludes informal self-employed workers as the questions asked in it are not applicable to them and seven employee-characteristic questions were no longer asked. The only change in the revised-Heintz and Posel method is that the direct question of informality is not included because the QLFS no longer ask it.

In Figure 5.9 above, the mini-Devey *et al.* and the revised-Heintz and Posel method are significantly higher than the Stats SA QLFS method A. Therefore, even with the QLFS definition of informal employment, Stats SA underestimate informal employment using method A. Contrary to method A, method B definitely overestimates informal employment relative to method A and the proposed methodologies. This overestimation can clearly be seen in Table A.8 and A.9 in the Appendix. Method B might therefore be too lenient.

Furthermore, there seems to be no clear cut difference between the mini-Devey *et al.* and the revised-Heintz and Posel method, but it should be noted that the former method does not include self-employed workers, hence it is likely to underestimate informal employment in South Africa. Therefore, it is evident that the “revised-Heintz and Posel” is the relatively appropriate method compared to the mini-Devey *et al.* and the QLFS method A.

Therefore, the revised-Heintz and Posel method can be used as the official definition of informal in South Africa. Furthermore, if Stats SA replaces the two unimportant employee indicators for two other important indicators in the revised-Heintz and Posel method, as prescribed by Essop and Yu, it may yield the most accurate estimate of informal employment in South Africa. It could then be used for policy design, especially in policies such as the New Growth Path which places emphasis on creating decent employment in South Africa.

Therefore, the critical question is, does the past (1995-2007) and the current (QLFS method A) definition of Stats SA accurately capture informal employment in South Africa?

Nevertheless, even though the revised-Heintz and Posel definition is adopted as the official definition used in South Africa, it cannot be readily applied for cross-sectional comparative analysis with respect to international labour markets. Different countries use different definitions for informality, making cross-sectional analysis inconclusive. However, the United Nations Expert Group on Informal Sector Statistics is ambitiously trying to promulgate a standardised definition (using the recommendations of the 15<sup>th</sup> and 17<sup>th</sup> ICLS) and data collection mechanism of informality to enhance international comparability (United Nations, 2010). This would aid South African policy makers to assess whether their informal economy is in fact an international outlier relative to other developing and transition economies.



## CHAPTER 6: CONCLUSION

In conclusion, after stating the importance of the informal economy in the South Africa context, a comprehensive profile of informal workers was analysed to identify the relevant characteristics needed in an appropriate definition of informality. Placing much emphasis on the direct-survey methodology for measuring the size of the informal economy, the enterprise-characteristic, employment-relationship and the worker-characteristic approach were assessed to determine their respective strengths and shortfalls. After proving that the employment-relationship approach is the most suitable survey method in the South African context, a critical study was conducted to determine the accuracy and relevance of definitions used in South Africa as well as proposed definitions.

This study revealed that the Stats SA 1995-2007 and the first method of the 2008 QLFS were and is, respectively, inappropriate approaches for defining informal employment in South Africa. The Heintz and Posel method is a relatively accurate definition for measuring the size of informal employment in South Africa. However, there are small, but correctable, setbacks of the Heintz and Posel approach. Thus, the recommendation for the Heintz and Posel definition is to replace the employee indicators, namely “pension fund and paid leave” with the “flexibility and medical aid” indicators. If either change is made, Statistics SA will most accurately estimate informal employment, enhancing employment-policy formulation, implementation and evaluation in South Africa.

Lastly, given that informal employment has been underestimated in South Africa for almost 15 years, South Africa’s size of the informal economy might not be an international outlier relative to its developing country counterparts. However, there is no standardised definition of informal employment internationally, hence comparisons cannot be made with certainty. The United Nations is taking a bold step forward in promulgating an internationally standardised definition of informal employment in order to compare countries with regard to the size of their informal economies. Only then can South Africa really see whether its informal economy is relatively small.

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## APPENDIX

**Table A.1: A brief background on the indirect and model method**

<b>Indirect approach</b>	Consisting of macroeconomic data sources that estimate the development of the informal economy over time, using specific indicators. There are five methods used in this approach.
A) The discrepancy between national expenditure and income statistics	The expenditure side of GNP should equal the income side of GNP. Therefore, the difference between the expenditure and income of GNP represent the informal economy (i.e. unrecorded economy)
B) The discrepancy between the official and actual labour force	A decline in the formal economy's labour force participation rate can be attributed to an increase in the size of the informal economy. The assumption being that the labour force participation rate remains constant.
C) The transaction method	The difference between the total nominal GNP and the official GNP represents the size of GNP in the informal economy. Assumptions include a constant relationship between the volume of transactions and official GNP. Also, assumptions must be made on the velocity of money.
D) The currency demand method	Most transactions in the informal economy are via cash payments and transactions. Therefore, the excess demand for currency represents the size of the informal economy.
E) The physical input (electricity consumption) method.	<p>This method has two approaches namely the Kaufman-Kaliberda approach and the Lacko method.</p> <p>A) <i>Kaufman method</i>: The difference between the gross rate of official GDP and the gross rate of the total electricity consumption represents the size of the informal economy. Assumption is that electricity is the best indicator of overall economic activity.</p> <p>B) <i>Lacko method</i>: The difference between total household electricity consumption and the official electricity consumption used in the formal economy represents the size of the informal economy. Assumption is that all informal activities are household and do-it-yourself activities.</p>
<b>Model approach</b>	<p>This approach uses multiple “causes” and multiple “effects” of the development of the informal economy over time.</p> <p>Causes: The overall tax burden, the regulation burden and tax morality.</p> <p>Effects: Changing developments in the financial market, labour market and production markets.</p>

Source: Schneider (2002:34-44).

**Table A.2: Informal employment estimates using Stats SA's LFS approach, 1997-2007**

Survey Type and Year	Informal Employment
OHS1997	1,043,347
OHS1998	1,077,141
OHS1999	1,571,646
LFS2000a	1,819,556
LFS2000b	2,026,065
LFS2001a	2,836,182
LFS2001b	1,964,763
LFS2002a	1,821,426
LFS2002b	1,778,542
LFS2003a	1,827,711
LFS2003b	1,901,131
LFS2004a	1,764,630
LFS2004b	1,944,236
LFS2005a	2,068,479
LFS2005b	2,459,690
LFS2006a	2,187,940
LFS2006b	2,376,338
LFS2007a	2,129,164
LFS2007b	2,083,855

Source: Own calculations using OHS/LFS data.

**Table A.3: Informal employment estimates using the Stats SA's QLFS method, 2008-2011**

QLFS	Informal Employment
2008Q1	2,324,768
2008Q2	2,347,559
2008Q3	2,178,806
2008Q4	2,249,608
2009Q1	2,157,422
2009Q2	2,113,654
2009Q3	1,995,863
2009Q4	2,110,204
2010Q1	2,014,083
2010Q2	2,132,921
2010Q3	2,177,395
2010Q4	2,230,378
2011Q1	2,183,814

Source: Own calculations using QLFS data.

**Table A.4: Informal employment estimates using the Devey, *et al.* index**

LFS	Devey et al. Index ( $\leq 3$ )	Devey et al. Index ( $\leq 4$ )	Devey et al. Index ( $\leq 5$ )
2001b	1,878,077	2,118,166	2,522,613
2002a	1,761,758	1,966,261	2,318,849
2002b	1,711,172	1,917,159	2,246,061
2003a	1,724,612	1,952,627	2,298,770
2003b	1,771,707	1,942,316	2,307,918
2004a	1,675,813	1,868,011	2,226,861
2005a	1,895,961	2,124,528	2,485,397
2005b	2,286,553	2,554,666	3,013,863
2006a	2,050,895	2,299,798	2,716,920
2006b	2,256,957	2,500,516	2,945,959
2007a	1,958,079	2,229,085	2,704,342
2007b	1,934,882	2,191,229	2,639,598

Source: Essop and Yu (2008b:20)

**Table A.5: Informal employment estimates using the revised Devey *et al.* approach**

LFS	Rev Devey et al. Index ( $\leq 3$ )	Rev Devey et al. Index ( $\leq 4$ )	Rev Devey et al. Index ( $\leq 5$ )
2001b	1,916,691	2,163,335	2,561,379
2002a	1,790,312	2,001,834	2,347,852
2002b	1,734,598	1,940,548	2,273,074
2003a	1,747,065	1,967,316	2,323,859
2003b	1,787,556	1,967,693	2,344,591
2004a	1,691,779	1,895,133	2,257,273
2005a	1,913,918	2,138,600	2,516,655
2005b	2,314,219	2,583,302	3,036,587
2006a	2,075,348	2,331,006	2,746,880
2006b	2,275,459	2,520,842	2,960,877
2007a	1,995,007	2,260,097	2,719,954
2007b	1,954,169	2,202,448	2,656,024

Source: Essop and Yu (2008b:20)

**Table A.6: Informal employment estimates using the Heintz and Posel method, 2001-2007**

<b>LFS</b>	<b>Heintz &amp; Posel</b>
2001b	3,236,195
2002a	2,859,271
2002b	2,768,694
2003a	2,757,669
2003b	2,689,003
2004a	2,520,646
2005a	2,816,861
2005b	3,318,977
2006a	3,073,543
2006b	3,259,628
2007a	3,091,194
2007b	2,998,371

Source: Essop and Yu (2008b:20)

**Table A.7: Informal employment estimates using various methods, 2001-2007**

<b>LFS</b>	<b>Stats SA</b>	<b>Heintz &amp; Posel</b>	<b>Devey et al. Index (≤3)</b>	<b>Devey et al. Index (≤4)</b>	<b>Devey et al. Index (≤5)</b>	<b>Rev Devey et al. Index (≤3)</b>	<b>Rev Devey et al. Index (≤4)</b>	<b>Rev Devey et al. Index (≤5)</b>
2001b	1,963,773	3,236,195	1,878,077	2,118,166	2,522,613	1,916,691	2,163,335	2,561,379
2002a	1,821,426	2,859,271	1,761,758	1,966,261	2,318,849	1,790,312	2,001,834	2,347,852
2002b	1,778,542	2,768,694	1,711,172	1,917,159	2,246,061	1,734,598	1,940,548	2,273,074
2003a	1,827,393	2,757,669	1,724,612	1,952,627	2,298,770	1,747,065	1,967,316	2,323,859
2003b	1,901,131	2,689,003	1,771,707	1,942,316	2,307,918	1,787,556	1,967,693	2,344,591
2004a	1,764,630	2,520,646	1,675,813	1,868,011	2,226,861	1,691,779	1,895,133	2,257,273
2005a	2,068,479	2,816,861	1,895,961	2,124,528	2,485,397	1,913,918	2,138,600	2,516,655
2005b	2,459,690	3,318,977	2,286,553	2,554,666	3,013,863	2,314,219	2,583,302	3,036,587
2006a	2,187,940	3,073,543	2,050,895	2,299,798	2,716,920	2,075,348	2,331,006	2,746,880
2006b	2,376,338	3,259,628	2,256,957	2,500,516	2,945,959	2,275,459	2,520,842	2,960,877
2007a	2,129,164	3,091,194	1,958,079	2,229,085	2,704,342	1,995,007	2,260,097	2,719,954
2007b	2,083,855	2,998,371	1,934,882	2,191,229	2,639,598	1,954,169	2,202,448	2,656,024

Source: Essop and Yu (2008b:20)

Note: The estimates above include employees and self-employed persons.



**Table A.8: Informal employment estimates using the Stats SA method A and method B, 2008-2009**

QLFS	Stats SA method A	Stats SA method B
2008 Q1	2,295,000	8,112,000
2008 Q2	2,298,000	8,194,000
2008 Q3	2,113,000	7,927,000
2008 Q4	2,209,000	7,988,000
2009 Q1	2,130,000	7,761,000
2009 Q2	2,105,000	7,695,000
2009 Q3	1,976,000	7,403,000
2009 Q4	2,062,000	7,518,000

Source: Yu (2010:21)

**Table A.9: Informal employment estimates using the Stats SA first QLFS method, mini-Devey *et al.* and revised Heintz and Posel, 2008-2009**

	Stats SA method A	Stats SA method B	Mini Devey <i>et al.</i>	Revised Heintz & Posel
2008Q1	2,295,000	8,112,000	2,957,000	3,089,000
2008Q2	2,298,000	8,194,000	2,955,000	3,093,000
2008Q3	2,113,000	7,927,000	2,795,000	2,848,000
2008Q4	2,209,000	7,988,000	2,831,000	2,923,000
2009Q1	2,130,000	7,761,000	2,670,000	2,741,000
2009Q2	2,105,000	7,695,000	2,630,000	2,679,000
2009Q3	1,976,000	7,403,000	2,542,000	2,539,000
2009Q4	2,062,000	7,518,000	2,634,000	2,652,000

Source: Yu (2010:21)

**Table A.10: Changes made to definitions due to the introduction of the QLFS in 2008**

A.10: Changes made to definitions due to the introduction of the QERS

Indicators	Mini-Devey et al	Revised Heintz & Posel
<b><u>Self-employed</u></b>		
Company/CC registration	N/A	
VAT registration		X
Income tax registration		X
Educational attainment		
Occupation		
<i>Number of indicators used</i>		2
<b><u>Employees</u></b>		
Pension fund	X	X
Paid leave	X	X
UIF		
Medical aid	X	
Written contract	X	X
Job permanence	X	
<i>Number of indicators used</i>	6	3

Source: Yu (2010:14&15)