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# The comparability of Labour Force Survey (LFS) and Quarterly Labour Force Survey (QLFS)

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## ABSTRACT

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Statistics South Africa (Stats SA) has been collecting labour market data since 1993 with the October Household Survey (OHS), which was conducted annually between 1993 and 1999, as well as the Labour Force Survey (LFS), which was a biannual survey introduced in 2000 to replace the OHS. In March 2005, consultants from the International Monetary Fund (IMF) were appointed to revise all aspects of the LFS. All documents, processes and procedures relating to the LFS were reviewed, before a report on the findings was presented to Stats SA in June 2005. At the end, it was decided to re-engineer the LFS, and this took place in October 2005. Moreover, consultants were appointed in 2006 to help improve the survey questionnaire, sampling and weighting, data capture and processing systems. Eventually, Stats SA came up with a decision that the LFS would take place on a quarterly basis from 2008, i.e., the Quarterly Labour Force Survey (QLFS) was introduced to replace the LFS.

The comparability issues between the OHSs and LFSs have been discussed thoroughly by Burger and Yu (2006), Casale, Muller and Posel (2005), Wittenberg (2004) and Yu (2007), focusing on changes in the sampling frame, inconsistencies in the questionnaire design, changes in the methodology to derive labour market status, trends in numerous variables (e.g., demographics, educational attainment, labour force participation rates, unemployment rates, earnings, etc.), oversampling of informal sector workers in 2000, overestimation of the earnings of self-employed in the OHSs, and the continuous improvement of the questionnaire by Stats SA. Therefore, this paper rather focuses on the comparability between LFS and QLFS, so as to assist researchers and policy makers when they try to analyze or compare both the LFS and QLFS data.

As only four QLFSs have taken place at the time of writing, trends in variables will not be the focus of this paper. Instead, this paper will mainly look at the changes in questionnaire design, sampling method, derivation of new variables (i.e., underemployment status and unemployment status), a new methodology to capture the formal/informal status of the employed, as well as the drastic changes in methodology to capture labour market status. With regard to the latter, it is found that there is no longer a clear distinction between strict and broad labour market status in the QLFS, and this makes it difficult to derive long-term trends in the labour force participation rates (LFPRs) and unemployment rates under both strict and broad definitions.

Keywords: South Africa, Household survey  
JEL codes: J00

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<sup>1</sup> The author gratefully acknowledges the valuable comments by Servaas van der Berg.

# The comparability of Labour Force Survey (LFS) and Quarterly Labour Force Survey (QLFS)

## 1. Introduction

Statistics South Africa (Stats SA) has been collecting labour market data since 1993 with the October Household Survey (OHS), which was conducted annually between 1993 and 1999<sup>2</sup>, as well as the Labour Force Survey (LFS), which was a biannual survey<sup>3</sup> introduced in 2000 to replace the OHS. In March 2005, consultants from the International Monetary Fund (IMF) were appointed to revise all aspects of the LFS. All documents, processes and procedures relating to the LFS were reviewed, before a report on the findings was presented to Stats SA in June 2005. At the end, it was decided to re-engineer the LFS, and this took place in October 2005. Moreover, consultants were appointed in 2006 to help improve the survey questionnaire, sampling and weighting, data capture and processing systems. Eventually, Stats SA came up with a decision that the LFS would take place on a quarterly basis from 2008, i.e., the Quarterly Labour Force Survey (QLFS) was introduced to replace the LFS. Note that each QLFS takes place during the 3-month quarter instead of only taking place at a particular month as in the OHSs and LFSs. In other words, the first QLFS of a particular year takes place between January and March, the second survey takes place between April and June, and so forth.

The comparability issues between the OHSs and LFSs have been discussed thoroughly by Burger and Yu (2006), Casale, Muller and Posel (2005), Wittenberg (2004) and Yu (2007), focusing on changes in the sampling frame, inconsistencies in the questionnaire design, changes in the methodology to derive labour market status, trends in numerous variables (e.g., demographics, educational attainment, labour force participation rates, unemployment rates, earnings, etc.), oversampling of informal sector workers in 2000, overestimation of the earnings of self-employed in the OHSs, and the continuous improvement of the questionnaire by Stats SA. Therefore, this paper rather focuses on the comparability between LFS and QLFS. As only four QLFSs have taken place at the time of writing, trends in variables will not be the focus of this paper. Instead, this paper will mainly look at the changes in questionnaire design, sampling method as well as the formal/informal sector status of the employed, and newly derived variables.

The paper is structured as follows: Section 2 looks at the sampling design and sample size, while Section 3 discusses how the questionnaire design has changed between the LFS and QLFS. Section 4 explains how the labour market status and formal/informal sector status of the employed are derived differently in QLFS, as well as the introduction of newly derived variables. Section 5 concludes.

For the remainder of the paper, the OHSs will be referred to as OHS1993, OHS1994, etc., while the LFSs will be referred to as LFS2000a (for the first round of LFS in 2000), LFS2000b (second round in 2000), LFS2001a, LFS2001b, and so forth. Moreover, the QLFSs will be referred to as QLFS2008a (for the QLFS conducted in the first quarter of 2008), QLFS2008b (second quarter of 2008), and so forth. Besides, in this paper, note that all question numbers refer to the questionnaires for LFS2007b and QLFS2008a, unless stated otherwise.

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<sup>2</sup> The 1993 OHS sample excluded the TBVC states. Also, the 1996 OHS actually took place in November because enumeration for the 1996 population census took place during that time.

<sup>3</sup> The first round of LFS took place in March and the second round in September, with the only exception being that the first round of the 2000 LFS took place in February.

## 2. Sampling design and sample size

As with the OHS, the LFS sample is representative of all provinces and strata (which are District Councils (DCs) within provinces). Nonetheless, Stats SA had used a Master Sample of 3 000 Primary Sampling Units (PSUs) from the population census as the sampling frame for the LFS since 2000. Thus, unlike the OHSs, the LFS sampling methodology was consistent in each round of the survey, with the intention being that the selected dwelling units would remain in the sample for five consecutive surveys, with one-fifth of these dwelling units rotating out at each round of the survey. The dwelling unit approach was adopted as the households are mobile and cannot easily be tracked. In other words, in LFS, the unit of sampling was the dwelling unit and the unit of observation was the household.

As far as the sampling design of the QLFS is concerned, the sample covers the non-institutional population except for workers' hostels, and is based on information collected during the 2001 Census. The sample is designed to be representative at the provincial level and within provinces at the metro/non-metro level. Within the metros, the sample is further distributed by geography type, and there are four geography types, namely urban formal, urban informal, farms and tribal areas. Besides, there are 3 080 PSUs, and they are assigned to four rotation groups. Dwellings selected from the PSUs assigned to rotation group "1" are rotated in the first quarter, while dwellings selected from the PSUs assigned to rotation group "2" are rotated in the second quarter, and so on. In other words, each sampled dwelling will remain in the sample for four consecutive quarters. Finally, a stratified two-stage design is involved, with probability proportional to size (PPS) sampling of PSUs in the first stage, and sampling of dwelling units (DUs) with systematic sampling in the second stage.

Table 1 Sample size in each survey, 1993 – 2008

Survey	Number of households	Number of people – All ages	Number of people – 15-65 years
OHS1993	30 233	136 466	86 107
OHS1994	30 279	132 469	82 446
OHS1995	29 700	130 787	81 108
OHS1996	15 920	72 889	44 001
OHS1997	29 811	140 015	82 613
OHS1998	18 968	82 213	49 560
OHS1999	26 134	106 650	65 995
LFS2000a	9 705	38 529	23 713
LFS2000b	26 648	105 370	65 612
LFS2001a	28 170	107 726	67 903
LFS2001b	27 356	106 439	66 517
LFS2002a	29 010	109 408	69 150
LFS2002b	26 474	102 480	64 372
LFS2003a	26 702	100 834	63 825
LFS2003b	26 825	98 748	62 869
LFS2004a	26 829	98 256	62 696
LFS2004b	28 594	109 888	68 433
LFS2005a	28 841	110 671	69 101
LFS2005b	28 418	109 079	68 269
LFS2006a	28 649	108 345	68 386
LFS2006b	28 363	106 900	66 867
LFS2007a	27 981	105 986	68 673
LFS2007b	29 467	109 551	65 891
QLFS2008a	26 180	95 186	59 488
QLFS2008b	26 293	93 945	58 540
QLFS2008c	26 619	93 725	58 315
QLFS2008d	26 817	93 062	57 944

With regard to the sample size in each survey, Table 1 above presents the results. Looking at the LFSs, with the exception of LFS2000a (which was considered to be a pilot study for the newly introduced LFSs), each survey consisted of around 26 000 – 29 000 households, and the number of people interviewed was about 100 000. In the QLFSs, the number of households and people decrease slightly to approximately 26 000 and 95 000 respectively.

### **3. Changes in the questionnaire design**

In both the LFSs and QLFSs, there are four sections<sup>4</sup>:

- Section 1: Particulars of each person in the household: Socio-demographic questions are asked in this section.
- Section 2: A few important questions covering economic activities are asked, which determine the labour market status (i.e., employed, unemployed, inactive) of the individuals.
- Section 3: This section asks questions which help distinguishing the unemployed from the economically inactive people.
- Section 4: In this section, only the employed are asked to take part. Various questions are asked about the work situation of the employed, such as occupation, industry, work hours, whether or not the person is employed in the formal or informal sector, working conditions (e.g., paid leave, pension fund contributions by employer, work location, etc.), as well as earnings.

Note that only people aged 15 years or above are asked to take part in Sections 2-4.

The changes and improvements in each section of the questionnaire are now discussed.

#### **3.1 Changes in Section 1 of the questionnaire**

In this section, socio-demographic questions such as age, race, marital status and educational attainment are asked. However, the following LFS questions are no longer asked in the QLFS:

- The questions (1.1b and 1.1c) regarding whether the respondent lives in the same household with his/her spouse/partner.
- The language that the respondent most often speaks at home (1.2).
- The respondent's field of education (1.3b).
- All questions relating to training (1.4 – 1.6).
- Questions relating to reading and writing ability (1.7a and 1.7b).
- The respondent's attendance at educational institution at the time of the survey (1.8 – 1.10). It is suggested that "1.8: Which of the following educational institutions, if any, does ... currently attend?" be asked in QLFS, since this question helps identify people who repeat Matric (i.e., people claiming their highest educational attainment is Matric, but also claiming in 1.8 that they are attending school at the time of the survey), as well as people who might have answered the highest educational attainment question incorrectly (e.g., people claiming they have completed Matric but also claiming they are attending pre-school at the time of the survey).
- Questions about the respondent's time spent on fetching water or wood/dung for home use (1.11 – 1.14).
- The person bringing the most money into the household (1.15).

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<sup>4</sup> In some LFSs, there were additional sections which asked questions on farming activities, job creation or public works program, and household's access to goods and services (e.g., water access, refuse removal, sanitation, ownership of landline telephone, availability of cellphone, etc.). However, these questions were no longer asked in the QLFSs. In fact, the household-level questions were not asked anymore since LFS2005a, since these questions were channeled to the General Household Survey (GHS).

Besides, the question regarding the age of the respondent is asked differently in QLFS, as the respondent not only has to declare his/her age in completed years, he/she must also state his/her year and month of birth.

### 3.2 Changes in Section 2 of the questionnaire

In this section, a few questions are asked which help determine the labour market status of the respondents. Similar questions are asked in both LFSs and QLFSs, with the exception that the categorization of the answer to the question regarding the work activities in the last seven days (i.e., Question 2.1 in LFS and Question 2.4 in QLFS) has changed, as shown in Table 2 below. In the LFS, there are eight detailed categories for the respondents to choose from. However, in the QLFS, despite the fact that there are only three categories, the categorization clearly distinguishes paid employees (option 1) from employer (option 2) and unpaid work (option 3).

Table 2 The question about the respondents' work activities in the last seven days

<p><b><u>LFS – Question 2.1</u></b></p> <p>In the last seven days, did ..... do any of the following activities, even for only one hour?</p> <p>a) Run or do any kind of business, big or small for himself/herself? <i>Examples: Selling things, making things for sale, repairing things, guarding cars, brewing beer, hairdressing, crèche businesses, taxi or other transport business, having a legal or medical practice, etc.</i></p> <p>b) Do any work for a wage, salary, commission or any payment in kind (excl. domestic work)? <i>Examples: A regular job, contract, casual or piece work for pay, work in exchange for food or housing.</i></p> <p>c) Do any work as a domestic worker for a wage, salary, or any payment in kind?</p> <p>d) Help unpaid in a family business of any kind? <i>Examples: Help to sell things, make things for sale or exchange, doing the accounts, cleaning up for the business, etc. Don't count normal housework.</i></p> <p>e) Do any work on his/her own or the family's plot, farm, food garden, cattle post or kraal or help in growing farm produce or in looking after animals for the household? <i>Examples: Ploughing, harvesting, looking after livestock.</i></p> <p>f) Do any construction or major repair work on his/her own home, plot, cattle post or business or those of the family?</p> <p>g) Catch any fish, prawns, shells, wild animals or other food for sale or family food?</p> <p>h) Beg for money or food in public?</p>
<p><b><u>QLFS – Question 2.4</u></b></p> <p>In the last week,</p> <p>a) Did you work for a wage, salary, commission or any payment in kind (including paid domestic work), even if it was for only one hour? <i>Examples: A regular job, contract, casual or piece work for pay, work in exchange for food or housing, paid domestic work.</i></p> <p>b) Did you run or do any kind of business, big or small, for yourself or with one or more partners, even if it was for only one hour? <i>Examples: Commercial farming, selling things, making things for sale, construction, repairing things, guarding cards, brewing beer, collecting wood or water for sale, hairdressing, crèche businesses, taxi or other transport business, having a legal or medical practice, performing in public, having a public phone shop, etc.</i></p> <p>c) Did you help without being paid in any kind of business run by your household, even if it was for only one hour? <i>Examples: Commercial farming, help to sell things, make things for sale or exchange, doing the accounts, cleaning up for the business, etc.</i></p>

### 3.3 Changes in Section 3 of the questionnaire

In Section 3 of the questionnaire, numerous questions are asked to the unemployed or inactive, and the major changes of this section are as follows:

- The question ‘How do you support yourself?’ was asked right at the beginning in LFS (3.1), but it is only asked at the end of this section in QLFS (3.19). In addition, two new categories are included in the QLFS, namely child support/foster care grants, and other welfare grants.
- The three LFS questions (3.3 – 3.5) relating to turning down an offered job are no longer asked in QLFS.
- In question 3.6 of the LFS, the respondent was asked “If a suitable job is offered, will ..... accept it? This question is asked again in a slightly different way in question 3.9 of QLFS as “If a suitable job had been offered, would you have been able to start work last week?” Also, in the QLFS, an additional question is asked (3.10), namely “If circumstances had allowed, would you have started a business last week?”
- With regard to the respondents’ action to look for work or to start a business (i.e., 3.9 in LFS and 3.2 in QLFS), two new categories are included in the QLFS, namely “04: Searched through job advertisement(s) / Searched the internet” as well as “Sought financial assistance to look for work or start a business” Furthermore, in the QLFS, the respondents can declare more than one job-seeking action.
- Looking at the question “How long has ..... been trying to find work or start a business?” (i.e., 3.10 in LFS and 3.6 in QLFS), the number of categories has changed across the two surveys, as shown in Table 3 below.
- A similar finding is observed when looking at the categorization of the answer to the question “How long ago was it since ..... last worked?” (i.e., 3.13 of LFS and 3.13 of QLFS), as shown in Table 4.
- A new question is asked in QLFS (i.e., 3.17), which helps determining whether the unemployed/inactive worked as paid employees, employer, own-account worker or unpaid worker in his/her previous job or business.

Table 3 The question about the respondent’s duration of finding work or starting a business

<b>LFS – Question 3.10</b>	<b>QLFS – Question 3.6</b>
1: Less than a month	1: Less than 3 months
2: 1 month to less than 2 months	2: 3 months – less than 6 months
3: 2 months to less than 3 months	3: 6 months – less than 9 months
4: 3 months to less than 4 months	4: 9 months – less than 1 year
5: 4 months to less than 6 months	5: 1 year – less than 3 years
6: 6 months to less than 1 year	6: 3 years – 5 years
7: 1 year to less than 3 years	7: More than 5 years
8: 3 years or more	8: Don’t know
9: Don’t know	

Table 4 The question about how long ago the respondent last worked

<b>LFS – Question 3.13</b>	<b>QLFS – Question 3.13</b>
1: More than a week but less than a month	1: Less than 3 months
2: 1 month – less than 2 months	2: 3 months – less than 6 months
3: 2 months – less than 3 months	3: 6 months – less than 9 months
4: 3 months – less than 4 months	4: 9 months – less than 1 year
5: 4 months – less than 5 months	5: 1 year – less than 3 years
6: 5 months – less than 6 months	6: 3 years – 5 years
7: 6 months – less than 1 year	7: More than 5 years
8: 1 year – less than 2 years	8: Don't know
9: 2 years – less than 3 years	
10: 3 years or more	
11: Don't know	

### 3.4 Changes in Section 4 of the questionnaire

In Section 4, many questions are asked to the employed. The major changes of this section could be summarized as follows:

- A new question is asked right at the beginning of QLFS (4.1), which helps identifying the employed with more than one job/business<sup>5</sup>.
- The number of options of the question that helps identify whether the employed works as employee or self-employed (4.3 of LFS and 4.5 of QLFS) has changed, as shown in Table 5.

Table 5 The question about whether the employed works as employee or self-employed

<b>LFS – Question 4.3</b>		<b>QLFS – Question 4.5</b>	
<b>Category</b>	<b>Classified as</b>	<b>Category</b>	<b>Classified as</b>
1: Working for someone else for pay	Employee	1: Working for someone else for pay (including paid domestic workers, gardeners or security guards)	Employee
2: Working for one or more private households as a domestic employee, gardener or security guard	Employee	2: An employer (employing one or more employees)	Self-employed
3: Working on his/her own or on a small household farm/plot or collecting natural products from the forest or sea	Self-employed	3: Own-account worker (Not employing any employees)	Self-employed
4: Working on his/her own or with a partner, in any type of business (including commercial farms)	Self-employed	4: Helping without pay in a household business	Self-employed
5: Helping without pay in a household business	Self-employed		

<sup>5</sup> The proportion of employed with more than 1 job hovers around 0.6%-0.8% in the three 2008 QLFSs.



- The question about whether the employee works for one employer or more than one employer (i.e., 4.4 of LFS) is no longer asked in the QLFS.
- As far as the tenure question (4.6 of LFS and 4.12 of QLFS) is concerned, there are six categories in the LFS, namely “permanent”, “fixed period contract”, “temporary”, “casual”, “seasonal” and “don’t know”. However, this has reduced to only three categories in the QLFS, namely “limited duration”, “permanent nature” and “unspecified duration”.
- The following LFS questions relating to the working conditions of the employees are no longer asked in the QLFS: “4.7: Who owns the tools and/or equipment that ..... uses at work?”, “4.9: Does anyone directly supervise the work ..... or does he/she work independently?”, “4.10: Who pays ..... ?”, and “4.13: Is ..... a member of a trade union?”
- In 4.8 of LFS, the employee was asked if he/she had a written contract with the employer. This question is asked differently in 4.11 of QLFS, as the respondent is asked if he/she has a written contract or verbal agreement with the employer.
- Looking at the earnings of the employed, it is argued that the LFSs (and also the OHSs) collected poor-quality earnings data (from questions 4.15a – 4.15c), especially for the self-employed (Burger & Yu, 2006: 6-8, Statistics South Africa, 2008b: 7-8). Besides, the question has relatively high refusal/non-completion rates (Yu, 2007: 27-28). Therefore, Stats SA decided to redesign the earnings questions for the QLFS, but these questions would only be asked occasionally. At the time of the writing, the earnings questions were not asked in all 2008 QLFSs, and it is not known if the earnings questions will be asked in 2009, as well as whether the questions will be asked in exactly the same way as in the LFSs.
- The question relating to the number of regular workers in the workplace, including the respondent himself/herself in the LFS (4.16), is asked in a different way in QLFS (4.16), as the question now clearly states that only the employees are counted. Also, an additional option (“0 employee”) is included in the QLFS.
- The LFS question about whether the workplace is a registered company or close corporation (4.17) is not asked in QLFS.
- In the LFS, there was only one question relating to income tax (i.e., “4.21: Is the organization / business / enterprise / branch where ..... works registered for income tax?”) and it was asked to both employees and self-employed. However, in the QLFS, there are two separate questions, one asked to employees only (“4.10: Does your employer deduct income tax (PAYE/SITE) from your salary/wage?”) and one asked to self-employed only (“4.14: Is the business (or household business where you work) registered for income tax?”).
- The question that determines whether the employed is a formal or informal sector worker is asked in a similar way in both LFS (4.22) and QLFS (4.17). However, an additional option (“private household”) is included in the latter. Besides, the footnote becomes more detailed and helps distinguish formal sector employment clearly from informal sector employment, as shown in Table 6.
- The question regarding the work location (4.23 of LFS) is no longer asked in QLFS.
- As far as the questions relating to the usual weekly work hours as well as the work hours in the last week of employed are concerned (i.e., 4.24 – 4.25 of LFS as well as 4.18 – 4.21 of QLFS), in the LFS, the respondent only needed to declare his/her work hours on the main job/activity, and then the work hours in all other work activities. However, the question is asked in more detail in QLFS, as the respondent needs to declare his/her work hours from the first job/business, second job/business, and all other jobs/business. In addition, as far as the work hours in the last week is concerned, the respondent needs to declare his/her actual work hours in each day of the week, before the daily work hours are added up to derive the work hours in the last week.

Table 6 The question that determines the formal/informal sector status of the employed

<b>LFS – Question 4.22</b>	<b>QLFS – Question 4.17</b>
Is the organization / business / enterprise / branch where ..... works	Is your place of work
1: In the formal sector 2: In the informal sector (Including domestic work) 3: Don't know	1: In the formal sector 2: In the informal sector 3: Private household 4: Don't know
<i>Formal sector employment is where the employer (institution, business or private individual) is registered to perform the activity. Informal sector employment is where the employer is not registered.</i>	<i>Formal sector employment is where the business, institution or private individual is registered in some way with the government or statutory bodies to perform the activity. Registration may involve collecting taxes (e.g., PAYE), making UIF contributions or having a business licence.</i>
	<i>Informal sector employment is where the business or private individual is not registered with government or any statutory body in any way.</i>

- With regard to the work hours of people with multiple jobs/businesses (4.20 – 4.21 of QLFS), it is not sure if the first job/business stands for the main job/business of the respondent, as it is not clearly indicated on the questionnaire. In fact, in all three surveys, 10%-15% of people with more than one job/business have their usual weekly work hours from the second job/business greater than their usual weekly work hours from the first job/business. Similar findings are observed when comparing the work hours in the last week from the first job/business with the work hours in the last week from the second job/business. Thus, it seems the work hours questions should clearly specify that the first job/business actually stands for the main job/business of the employed with multiple jobs/businesses.
- The LFS question relating to flexibility of work hours of the employed (4.26) is not asked in QLFS.
- With regard to the question that asks whether the employed wants to work longer hours, it was asked simply as a “Yes/No” question in the LFS (4.27). However, it is asked in greater detail in QLFS, as the respondent is not only asked if he/she is willing to work more hours (4.22), but he/she is also asked the number of additional hours he/she could have worked last week (4.23), and whether he/she is willing to work more hours at the current rate of pay (4.24).
- The detailed LFS questions relating to action to look for extra work (4.29 – 4.31) are no longer asked in QLFS. Instead, only a simple question is asked in the latter as “4.25: If extra work became available, would you be able to start such work in the next four weeks?”

Therefore, to conclude, there are drastic changes in the QLFS questionnaire design, as the categorization of certain questions has changed, some new questions are asked, and some questions that were asked in the LFS are no longer asked in QLFS. In fact, in the LFS, there were 78 questions asked in total (in the first four sections, including the earnings questions), while only 64 questions are asked in the each of the first three QLFSs (but it would increase, when the earnings questions are asked in the fourth quarter’s survey).

## 4. Other changes in the QLFS data

### 4.1 Labour market status

In the OHSs and LFSs, Stats SA used numerous questions to identify the labour market status of the working-age population under both the strict and broad definitions. The algorithm to identify the status of the people has changed throughout the years (Yu: 2007: 49-58), but a consistent methodology has been applied since LFS2000b (See Figures 1 and 2). However, a new methodology (See Figure 3) is applied by Stats SA so as to stick to the international recommendations (i.e., International Labour Organization (ILO)) for determining labour market status.

Looking at the LFS and QLFS algorithms to derive labour market status, one finds that:

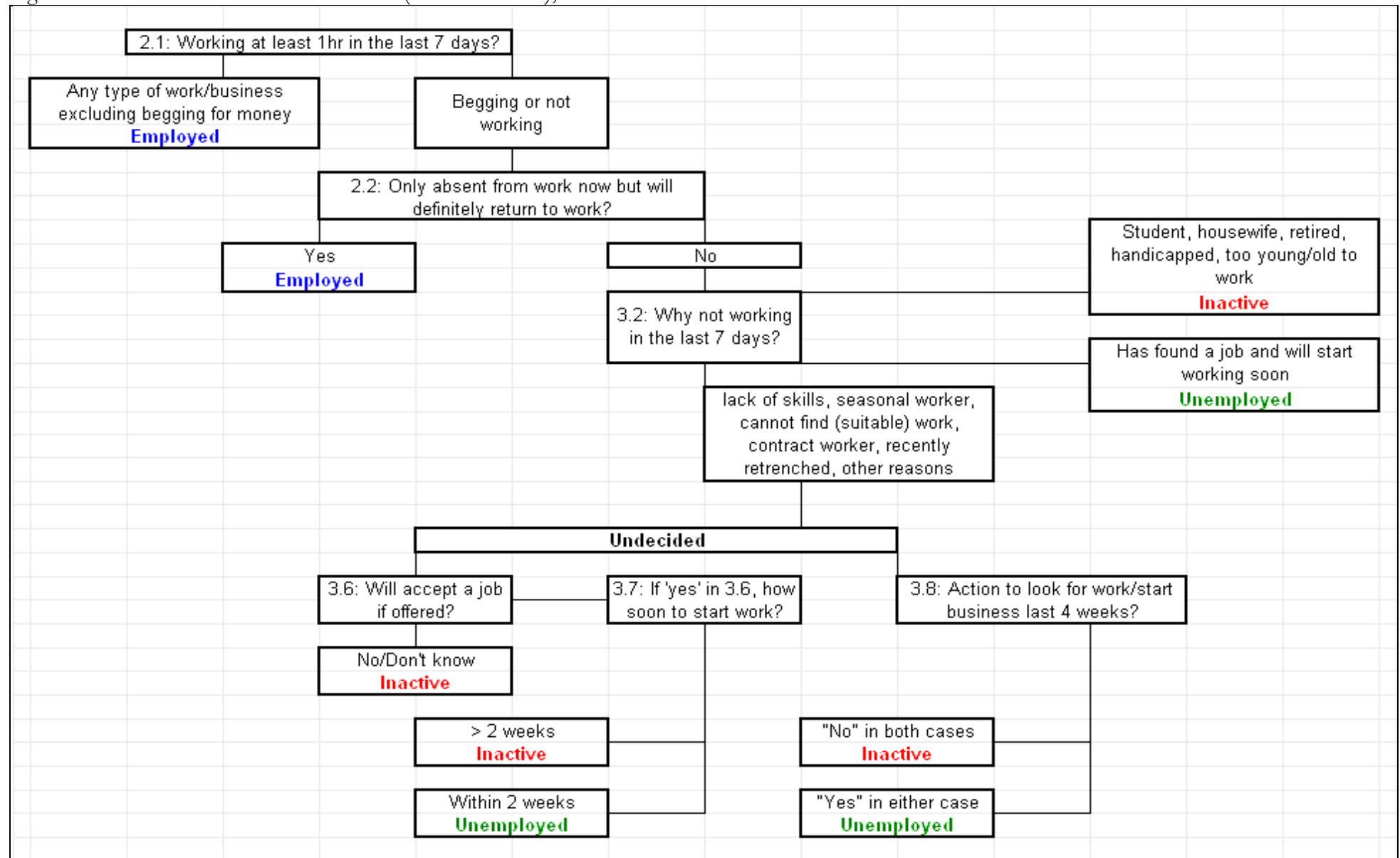
- Similar questions are used to derive the labour market status, such as “Worked at least 1 hour in the last seven days”, “Temporarily absent from work but will definitely return to it”, “Reason for absent from work in the last seven days”, and “Action to look for work or try to start a business”.
- The LFS algorithm clearly distinguishes the strict labour market status from the broad one, as the question “Action to look for work or try to start a business” is included in the former only.
- The QLFS algorithm is more complicated, and some new questions are considered when deriving the labour market status, e.g., “3.3: Already arranged to accept a job or start a business later”.
- The QLFS algorithm no longer distinguishes the strict labour market status from the broad labour market status.
- Under both the strict and broad definitions of labour market status in LFS, the working-age population is divided into three groups, namely employed, unemployed and inactive. In contrast, in QLFS, the working-age population is divided into four groups, namely employed, unemployed, inactive and discouraged job seekers.

As the QLFS labour market status methodology differs a lot from the LFS method, it is difficult to compare the labour force participation rates (LFPRs) and unemployment rates between the two surveys. However, the “strict” and “broad” LFPRs and unemployment rates in QLFS could be approximated using the method as shown in Table 7.

Table 7 Derivation of “strict” and “broad” labour force participation rates and unemployment rates in QLFS

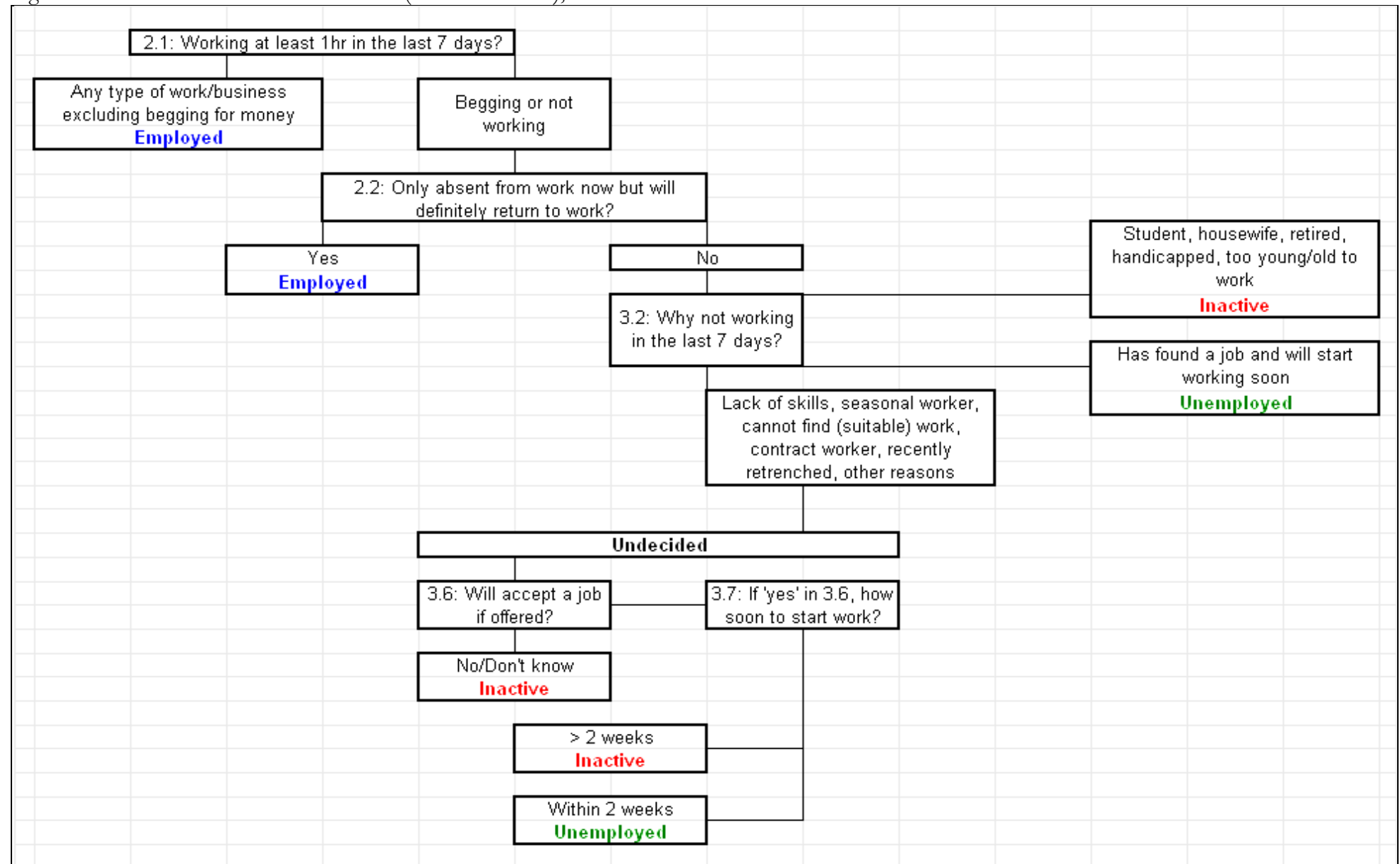
<b>Labour market status</b>
(1) Employed
(2) Unemployed
(3) Discouraged job seeker
(4) Inactive
<b>“Strict” labour force participation rate</b> = $\frac{(1) + (2)}{(1) + (2) + (3) + (4)}$
<b>“Broad” labour force participation rate</b> = $\frac{(1) + (2) + (3)}{(1) + (2) + (3) + (4)}$
<b>“Strict” unemployment rate</b> = $\frac{(2)}{(1) + (2)}$
<b>“Broad” unemployment rate</b> = $\frac{(2) + (3)}{(1) + (2) + (3)}$

Figure 1: Derivation of labour market status (strict definition), LFS2000b – LFS2007b



Note: The question number refers to the LFS2007b questionnaire.

Figure 2: Derivation of labour market status (broad definition), LFS2000b – LFS2007b



Note: The question number refers to the LFS2007b questionnaire.

Figure 3: Derivation of labour market status, QLFS

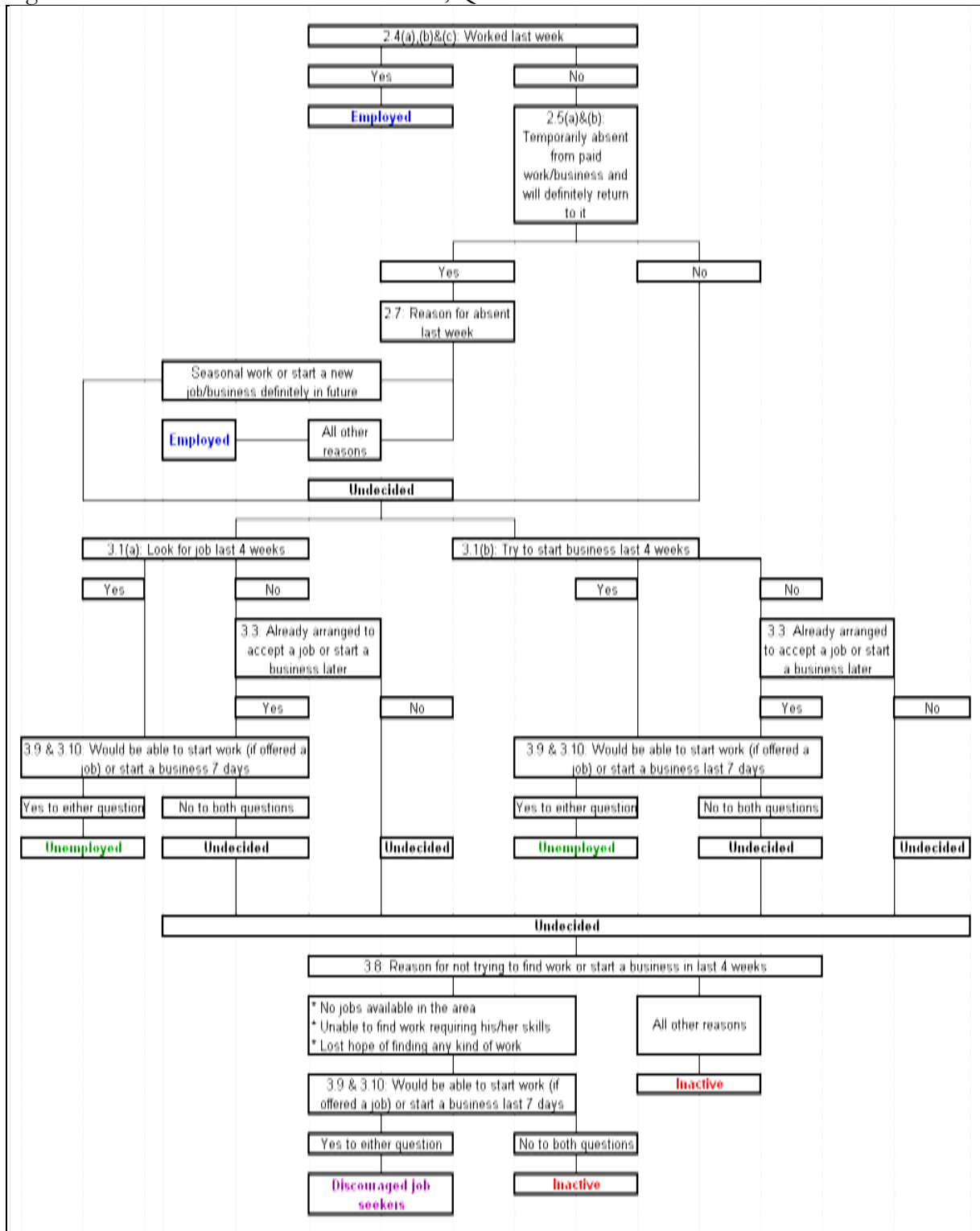
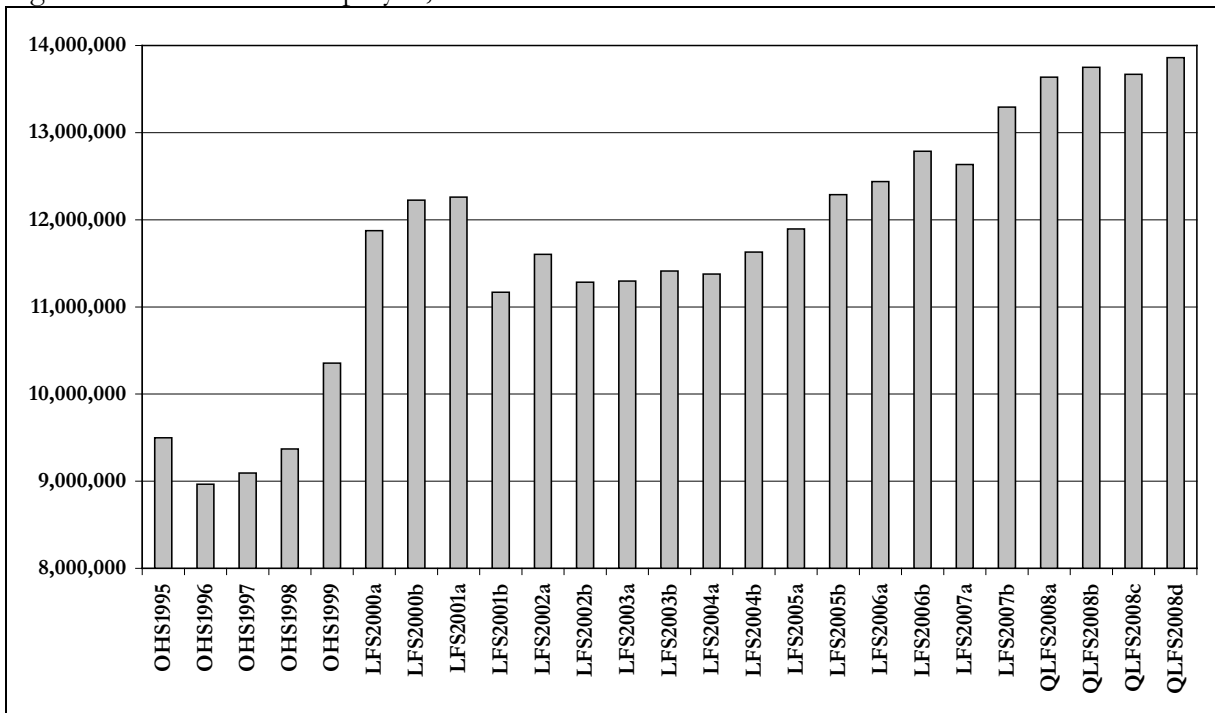


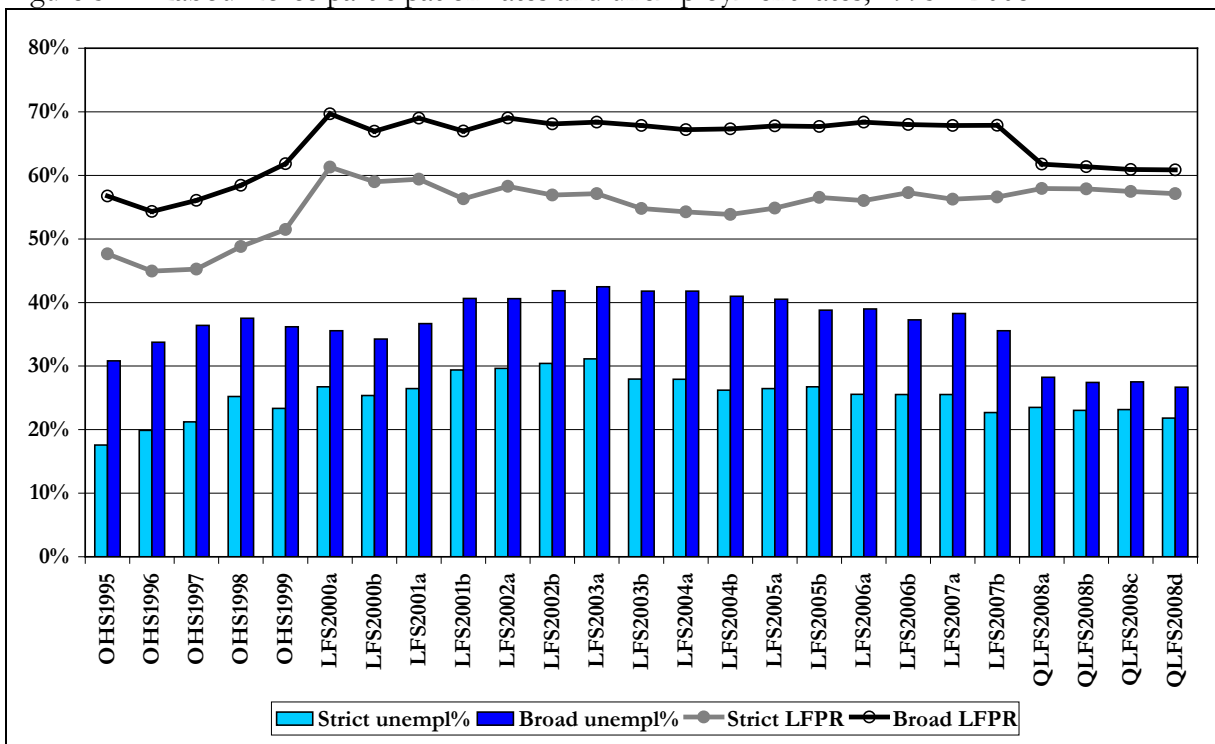
Figure 4 shows the trends in the number of employed since 1995, and it can be seen that despite the changes in the methodology to derive labour market status between LFS and QLFS, a stable trend can still be observed regarding the number of employed. In fact, there is a slight upward trend in employment between 2007 and 2008.

Figure 4 Number of employed, 1995 – 2008



As far as the LFPRs and unemployment rates are concerned, Figure 5 below shows that if the assumptions in Table 7 are applied to the QLFS data, the strict LFPR and unemployment rate still show a stable but slight upward trend during the changeover from the OHS to the LFS. However, the broad LFPR and unemployment rate show an abrupt decrease between LFS2007b and QLFS2008a, which suggests that the “broad” labour market status in QLFS derived using the methodology shown in Table 7 might not be comparable with the LFS methodology. Therefore, it seems that the new labour market status methodology adopted in the QLFS has made it difficult to analyze the long-term trends in LFPR and unemployment rate under the broad definition.

Figure 5 Labour force participation rates and unemployment rates, 1995 – 2008



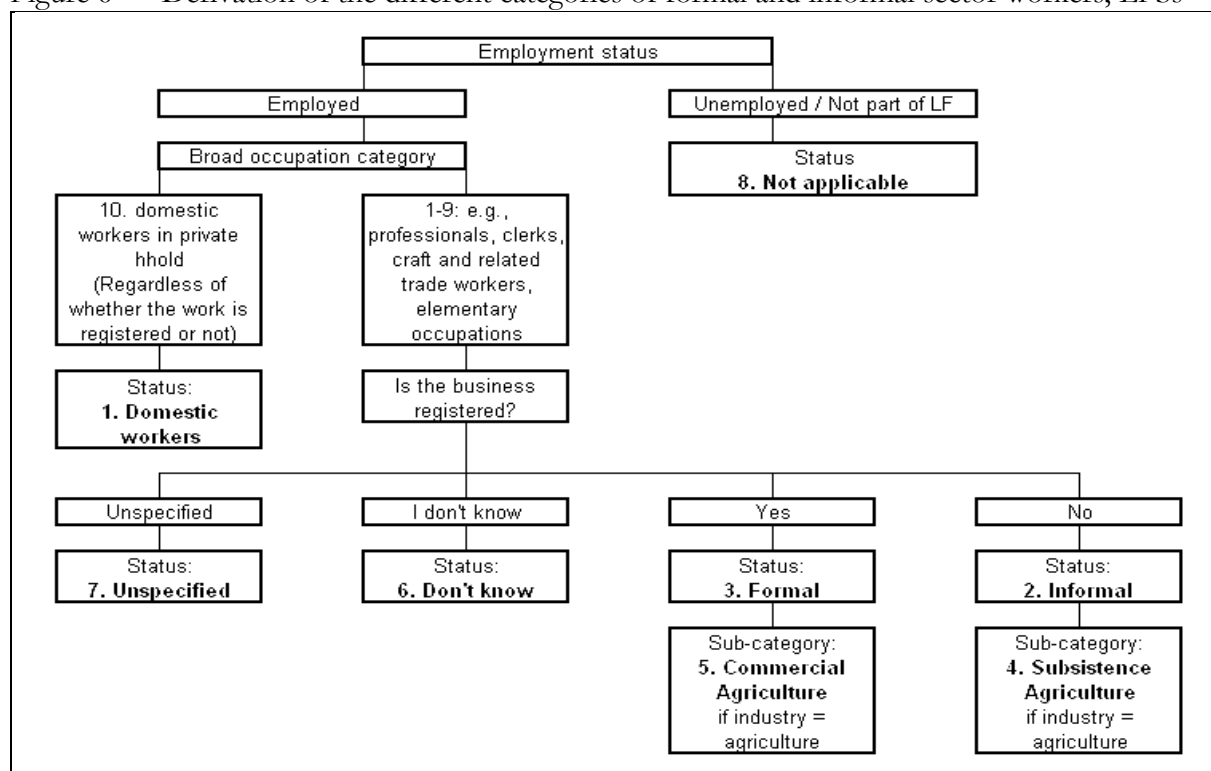
## 4.2 Derivation of formal/informal sector status of the employed

Stats SA has been using the same methodology to measure informal sector employment for the duration of the OHS and the LFS until LFS2007b, focusing on whether an enterprise is registered according to legislation. Further, using a stepwise approach, several questions from the questionnaire are involved to determine the different categories of workers. Firstly, the employment status of the respondent is determined<sup>6</sup>. Next, if the broad occupation category of the employed is “domestic workers in the private households”, they are grouped under the category “domestic workers”, which is an independent category that falls under neither the formal sector nor the informal sector.

The other employed, whose occupation is something other than domestic worker, are classified as either formal or informal sector workers, according to their answer on the question concerning the registration of the enterprise. If the respondents do not answer the question, they are shifted to the category ‘unspecified’. On the other hand, if the respondents’ answer is ‘I don’t know’<sup>7</sup>, they fall under the category ‘don’t know’.

Finally, if the broad industry category of the formal sector workers is agriculture, they will be classified as a commercial agriculture worker. On the other hand, if the broad industry category of the informal sector workers is agriculture, they will be classified as a subsistence agriculture worker. Figure 6 summarizes the methodology.

Figure 6 Derivation of the different categories of formal and informal sector workers, LFSs



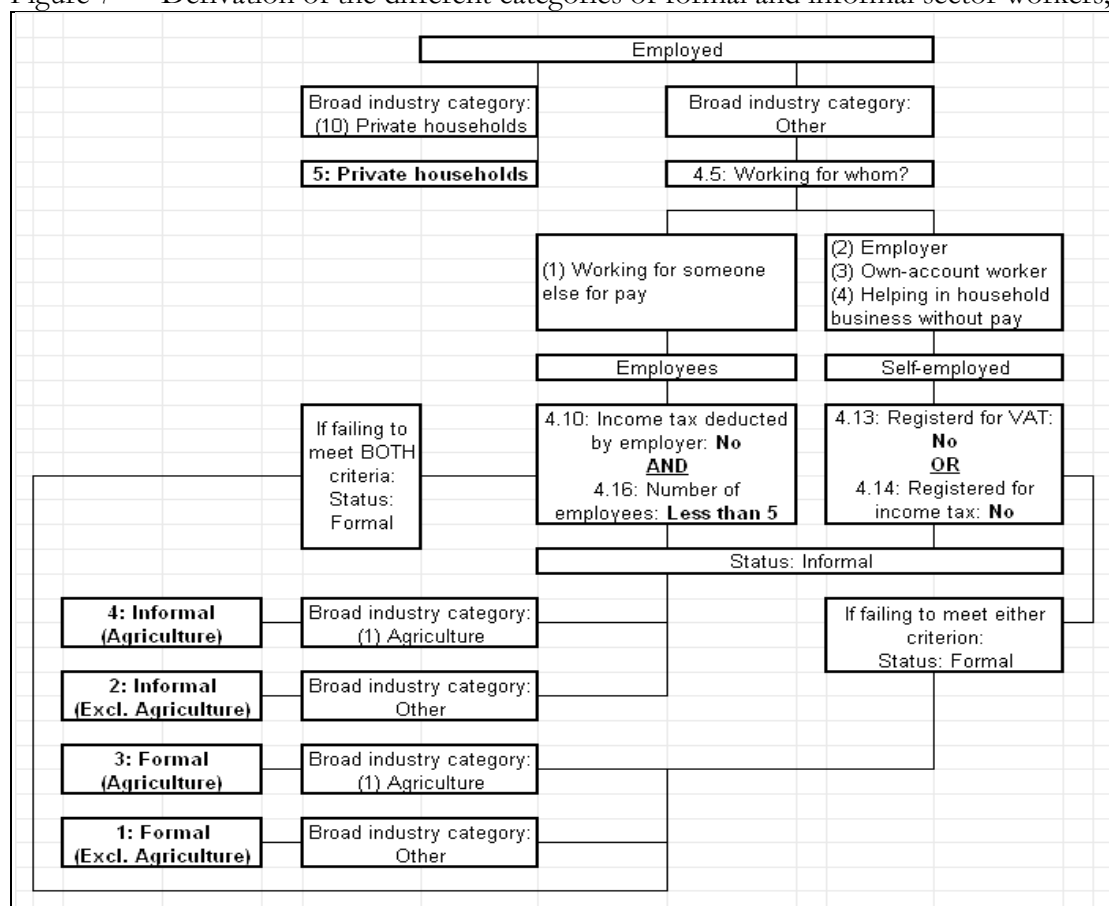
With the inception of the QLFS, Stats SA decided to adopt a new definition of informal sector employment (See Figure 7). When the self-employed are considered, they are defined as informal sector workers if their businesses are not registered for either income tax or value-added tax. On the other hand, the employees are classified as informal sector workers if they are not registered for income tax and work in establishments that employ fewer than five employees.

<sup>6</sup> The questions on employment as well as the methodology to derive employment status have changed substantially throughout the OHS/LFS surveys. They are explained in the metadata of the surveys as well as in Yu (2007).

<sup>7</sup> The option “don’t know” only became available after LFS2000a.



Figure 7 Derivation of the different categories of formal and informal sector workers, QLFSs



It is difficult to use this newly adopted 2008 method to derive the informal sector employment in 1995-2007, due to the following reasons:

- Before 2008, the firm size question was asked as ‘How many regular workers has the organization/business/enterprise where ... works, including him/herself’, so the self-employed could also be included. However, in 2008, the question clearly states that only the employees are counted.
- The VAT registration question was only asked since LFS2001a.
- The income tax registration question was only asked in LFS2005b, LFS2006b – LFS2007b. Besides, there was only one question asked to both self-employed and employees, ‘Is the organization/business/enterprise/branch where ...works registered for income tax?’ However, Figure 7 above clearly shows that in the quarterly survey, there are two questions on income tax registration, one to employees (“4.10: Does your employer deduct income tax (PAYE/SITTE) from your salary/wage?”) and one to self-employed (“4.14: Is the business or household business where you work registered for income tax?”).

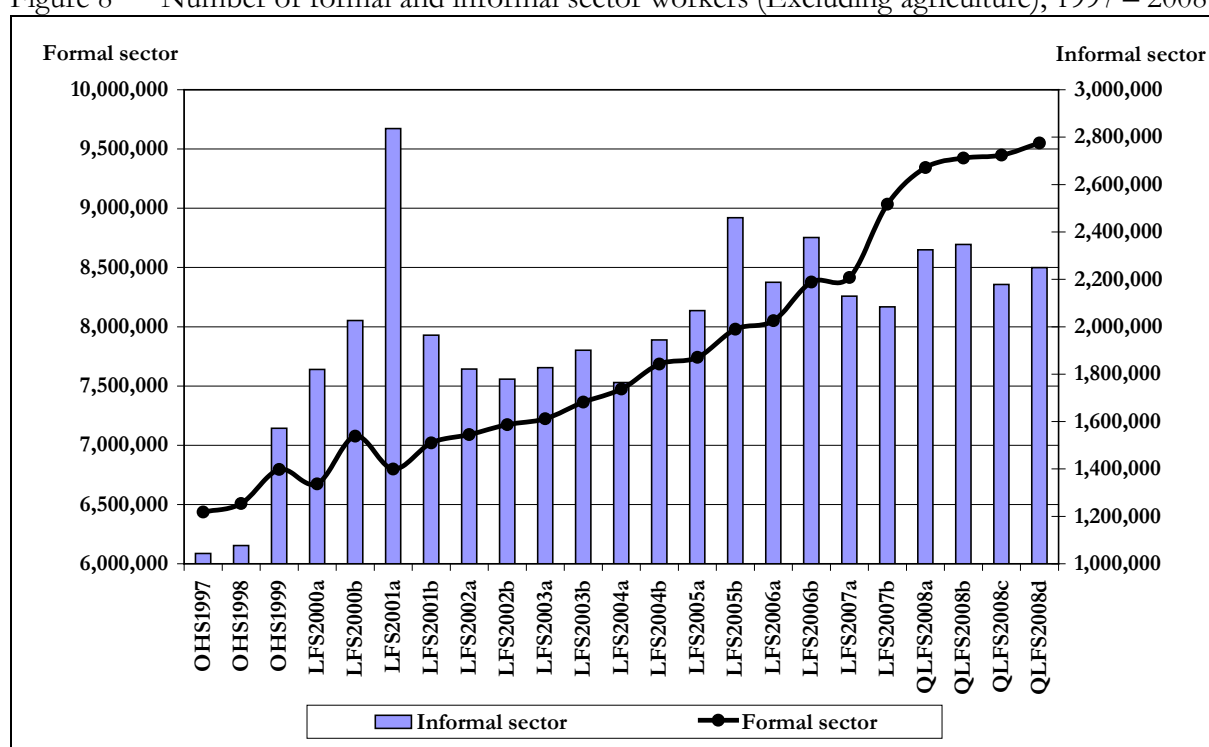
In addition, Table 8 and Figure 8 present the number of employed by formal/informal sector status, and it can be seen that there are seven categories in OHSs and LFSs, but that this is reduced to five categories in QLFSs. Besides, the categories “don’t know” and “not specified” do not exist anymore in QLFSs, while ‘domestic workers’ is replaced by “private households”. Looking at the latter, more than 80% of these people work as domestic workers, while almost all of the remaining 20% are involved in elementary occupations.

Moreover, with the adoption of the new methodology in QLFS, the number of informal sector workers still hover around 2.0-2.4 million, while there is a continuous upward trend in the number of formal sector workers (reaching almost 9.5 million in the first three QLFSs).

Table 8 Number of employed by sector status, 1995 – 2008

<b>OHSs &amp; LFSs</b>								
	Domestic workers	Informal	Formal	Subsistence agriculture	Commercial agriculture	Don't know	Not specified	Total employed
OHS1995	695 416	521 668	219 213	26 530	49 546	0	7 986 974	9 499 347
OHS1996	766 334	330 100	304 260	24 687	56 296	0	7 484 630	8 966 307
OHS1997	828 254	1 043 347	6 436 017	187 486	525 618	0	72 925	9 093 647
OHS1998	747 281	1 077 141	6 508 097	202 082	725 474	0	110 055	9 370 130
OHS1999	812 465	1 571 646	6 796 008	284 336	798 905	0	92 783	10 356 143
LFS2000a	1 002 719	1 819 556	6 672 951	1 507 625	756 510	86 472	28 576	11 874 409
LFS2000b	941 463	2 026 065	7 077 307	1 074 413	766 917	108 318	229 923	12 224 406
LFS2001a	844 135	2 836 182	6 798 257	742 404	784 712	214 235	40 282	12 260 207
LFS2001b	881 168	1 964 763	7 019 158	382 241	764 521	127 023	28 667	11 167 541
LFS2002a	875 172	1 821 426	7 089 163	862 747	864 576	74 868	15 446	11 603 398
LFS2002b	843 019	1 778 542	7 173 080	550 068	851 897	61 643	25 675	11 283 924
LFS2003a	885 322	1 827 711	7 223 138	443 426	841 440	57 332	19 252	11 297 621
LFS2003b	894 626	1 901 131	7 364 616	365 378	831 526	36 403	17 671	11 411 351
LFS2004a	845 965	1 764 630	7 473 638	340 515	912 831	25 704	14 934	11 378 217
LFS2004b	880 067	1 944 236	7 684 843	425 083	624 358	52 970	18 639	11 630 196
LFS2005a	848 914	2 068 479	7 741 991	513 022	647 448	27 756	46 710	11 894 320
LFS2005b	858 199	2 459 690	7 979 587	337 884	578 059	33 783	40 596	12 287 798
LFS2006a	849 085	2 187 940	8 051 532	702 881	605 795	14 098	26 632	12 437 963
LFS2006b	884 898	2 376 338	8 376 441	472 697	605 129	46 935	28 847	12 787 285
LFS2007a	935 642	2 129 164	8 414 719	459 509	602 942	52 537	40 383	12 634 896
LFS2007b	1 024 039	2 083 855	9 034 135	368 256	666 533	47 251	69 258	13 293 327
<b>QLFSs</b>								
	Private households	Informal sector (Excl. agriculture)	Formal sector (Excl. agriculture)	Informal sector (Agriculture)	Formal sector (Agriculture)			Total employed
QLFS2008a	1 164 921	2 324 768	9 343 508	161 434	642 364			13 636 995
QLFS2008b	1 186 263	2 347 559	9 423 952	121 703	669 811			13 749 288
QLFS2008c	1 274 171	2 178 806	9 448 588	111 129	655 836			13 668 530
QLFS2008d	1 298 617	2 249 608	9 549 910	120 942	642 745			13 861 822

Figure 8 Number of formal and informal sector workers (Excluding agriculture), 1997 – 2008



### 4.3 Newly derived variables

Two new variables are derived in the QLFSs, namely the unemployment status and underemployment variables. With regard to the former, it is derived from four questions in Section 3 of the questionnaire<sup>8</sup>, and the five categories of the unemployed are as follows:

- People who have lost their job (i.e., job loser)
- Job leaver
- New entrant
- Re-entrant
- Other – last worked more than 5 years ago

Table 9 compares the labour market status variable with the unemployment status variables, and it can be seen that none of the discouraged job seekers are job losers or job leavers. On the other hand, more than two-thirds of the inactive are new entrants to the labour market. Finally, looking at the unemployed, more than 20% of them are job losers and more than 40% of them are new entrants to the labour market.

Table 9 Labour market status vs. Unemployment status, QLFS2008a – QLFS2008d

	<i>Unemployed</i>	<i>Discouraged job seeker</i>	<i>Inactive</i>	<i>Total</i>
<b>QLFS2008a</b>				
Job loser	1 231 663	0	2 010	1 233 673
Job leaver	383 166	0	3 315	386 481
New entrant	1 731 189	551 033	7 955 512	10 237 734
Re-entrant	286 036	411 472	1 472 080	2 169 588
Other – last worked more than 5 years ago	557 036	214 255	2 328 068	3 099 359
	4 189 090	1 176 760	11 760 985	17 126 835
<b>QLFS2008b</b>				
Job loser	1 173 085	0	3 624	1 176 709
Job leaver	401 241	0	3 358	404 599
New entrant	1 745 134	528 895	8 168 952	10 442 981
Re-entrant	252 986	377 427	1 423 173	2 053 586
Other – last worked more than 5 years ago	542 069	171 713	2 334 021	3 047 803
	4 114 515	1 078 035	11 933 128	17 125 678
<b>QLFS2008c</b>				
Job loser	1 266 859	0	3 218	1 270 077
Job leaver	386 111	0	4 179	390 290
New entrant	1 743 302	529 929	8 275 939	10 549 170
Re-entrant	184 606	367 871	1 451 558	2 004 035
Other – last worked more than 5 years ago	539 213	173 277	2 355 821	3 068 311
	4 120 091	1 071 077	12 090 715	17 281 883
<b>QLFS2008d</b>				
Job loser	1 200 768	0	781	1 201 549
Job leaver	341 402	0	5 333	346 735
New entrant	1 677 427	584 074	8 401 699	10 663 200
Re-entrant	177 038	377 034	1 344 254	1 898 326
Other – last worked more than 5 years ago	474 303	207 370	2 393 648	3 075 321
	3 870 938	1 168 478	12 145 715	17 185 131

<sup>8</sup> The four questions are “3.7: Activity prior job search”, “3.12: Ever worked”, “3.13: Time unemployed” and “3.14: Reason for stopping work”. The QLFS metadata does not explain the methodology to derive this variable in detail.

Looking at the underemployment variable, it is derived from four questions in Section 4 of the questionnaire<sup>9</sup>. According to Stats SA’s QLFS metadata (2008c), if the employed’s usual weekly work hours is less than 35 (regardless of the number of jobs he/she has) and if he/she would have liked to work more hours than he/she actually has worked, providing the extra hours would be paid (i.e., the employed’s answer in 4.22 must be either of the following: “1: Yes, in the current job”, “2: Yes, in taking an additional job”, “3: Yes, in another job with more hours”) and if he/she is available to start this extra work in the next four weeks (i.e., the answer of 4.25 is “1: Yes”), then he/she is defined as under-employed. Table 10 below shows that the proportion of workers who are under-employed hovers around 15% in the QLFSs.

Table 10 Underemployment status, 2008

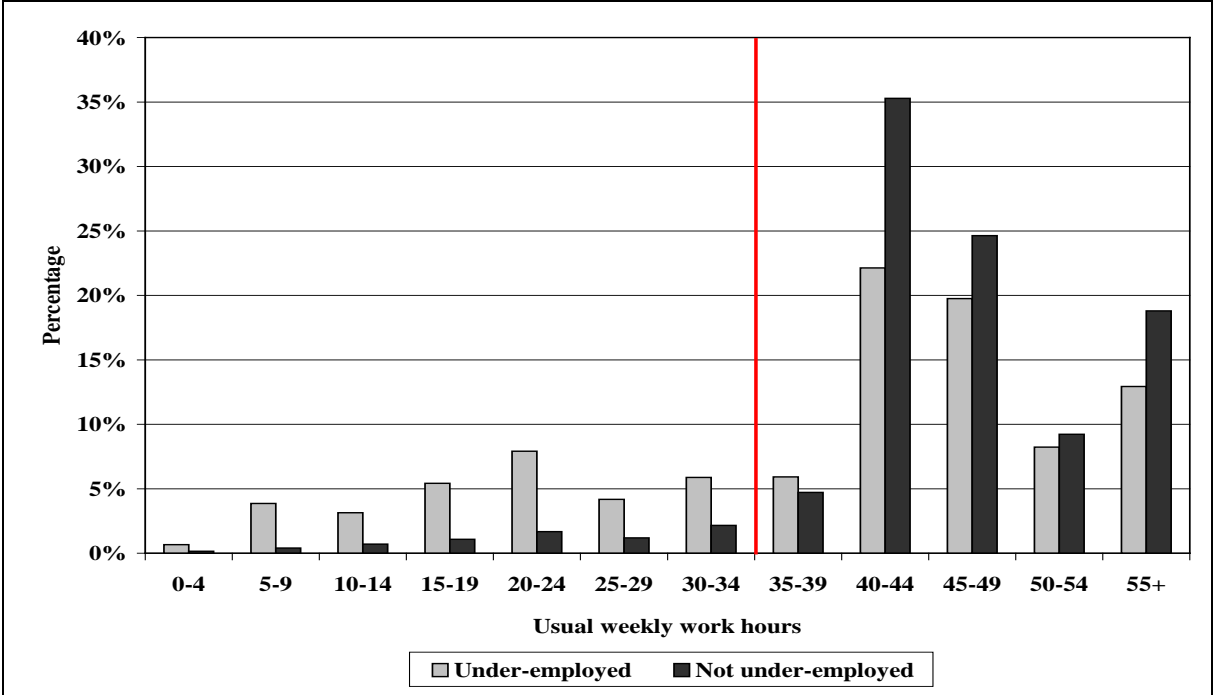
	Under-employed?		
	Yes	No	All employed
QLFS2008a	2 372 113 (17.4%)	11 264 882 (82.6%)	13 636 995 (100.0%)
QLFS2008b	2 095 624 (15.2%)	11 653 664 (84.8%)	13 749 288 (100.0%)
QLFS2008c	2 017 362 (14.8%)	11 651 168 (85.2%)	13 668 530 (100.0%)
QLFS2008d	618 922 (4.5%)	13 242 900 (95.5%)	13 861 822 (100.0%)

However, when the the under-employed are analyzed in greater detail, it is found that only approximately one-third of them usually work less than 35 hours per week in each of the first three QLFSs, as shown in the second column of Table 11 (as well as Figure 9), but one expects this proportion to be 100% under the definition as explained in the metadata.

Table 11 Usual weekly work hours by underemployment status

	Proportion of employed usually working less than 35 hours per week	
	Under-employed	Not under-employed
QLFS2008a	31.35%	11.34%
QLFS2008b	33.51%	11.23%
QLFS2008c	34.98%	11.04%
QLFS2008d	100.00%	0.00%

Figure 9 Usual weekly work hours of the employed by underemployment status, QLFS2008c



<sup>9</sup> The four questions are “4.18: Hours usually work”, “4.20: Total hours usually work”, “4.22: Like to work more hours” and “4.25: Able to start extra work”.

Therefore, Stats SA has been contacted with regard to the problems above, and Stats SA responded that the errors in the first three QLFSs would be corrected when QLFS2008d is released. Table 12 below shows the number of under-employed in the three QLFSs, after the errors are corrected by the author. Now, in all four surveys, the under-employed people account for approximately 4.5% of the employed. Besides, 85% of them are Blacks, and the female share is about 60%. Finally, nearly 60% of them are involved in unskilled occupations.

Table 12 Underemployment status (Correcting the mistakes in the first three QLFSs), 2008

	Under-employed?		
	Yes	No	All employed
QLFS2008a	649 619 (4.8%)	12 987 376 (95.2%)	13 636 995 (100.0%)
QLFS2008b	608 876 (4.4%)	13 140 412 (95.6%)	13 749 288 (100.0%)
QLFS2008c	626 163 (4.6%)	13 042 367 (95.4%)	13 668 530 (100.0%)
QLFS2008d	618 922 (4.5%)	13 242 900 (95.5%)	13 861 822 (100.0%)

## 5. Conclusion

This paper has looked at the differences in the sampling design, sample size as well as questionnaire design between LFS and QLFS. Besides, the labour market status is defined very differently in QLFS, as there is no such distinction between the strict and broad definitions anymore. Thus, it has become difficult to look at the long-term trends in LFPRs and unemployment rates under each definition (especially the broad definition). In addition, a new approach is adopted in QLFS to distinguish the formal sector workers from the informal sector workers, and under this new method, the enterprise registration question is no longer the only question that is considered to distinguish formal sector workers from informal sector workers. Finally, the two newly derived variables in the QLFS – unemployment status and underemployment status – are also discussed. However, there are some uncertainties regarding the derivation of the underemployment status variable.

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