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Social accounting matrix

Labour accounts for South Africa



Statistics
South Africa

Discussion document - D0403

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Labour accounts for South Africa

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Preface

The first aim of this discussion document is to investigate whether South Africa has sufficient data and the capacity to extend the development of the social accounting matrix (SAM) to include labour accounts. The second aim is to investigate whether Stats SA will be in a position to publish labour accounts sub-matrices either as an external matrix, or as part of the main structure of the next SAM.

Labour accounts variables, the benefits of the development of these accounts, and recommendations will follow at the end of this discussion document.

One of the main features of the South African SAM is that it divides households into meaningful subgroups, for example occupational groups and skill levels, in order to show the economic significance of each of them. This is achieved by giving detailed final household consumption expenditure according to the four population groups in the country (using the characteristics of the head of the household) and twelve expenditure groups (using total household imputed expenditure). This information is useful in the development of labour accounts.

In addition, the document aims to encourage discussion amongst key role-players to ensure that this type of account can make a meaningful contribution in the field of labour statistics as well as the development of the SAM.

List of abbreviations

AME	Survey of average monthly earnings
EAS	European System of Accounts
FSDS	Framework for social and demographic statistics
FTEU	Full-time Equivalents
GDP	Gross domestic products
GHS	General household survey
ICLS	International conference of labour statistics
ILO	International labour organisation
ISCO	International Standard Classification of Occupation
LAS	Labour accounts system
LFS	Labour force survey
NAM	National accounting matrix
OHS	October household survey
QES	Quarterly employment survey
ROW	Rest of the world
SAM	Social accounting matrix
SEE	Survey of employment and earnings
SESAME	System of economic and social accounting matrices extension
Stats SA	Statistics South Africa
SNA	System of National Accounts
VAT	Value added tax

Contents

Preface	i
List of abbreviations	ii
List of tables	iv
List of figures	iv
1. Introduction	1
2. Overview of labour accounts.....	2
2.1. General principles of labour accounts	2
2.2. Core variables of a labour accounts system	3
3. National Accounts, SAMs and labour accounts	11
3.1. Coverage.....	12
3.2. Labour input: from source data to the inclusion in national accounts, SAMs and labour accounts	12
4. Labour statistics in South Africa	20
4.1. Labour force survey.....	20
4.2. The quarterly employment survey.....	26
4.3. Comparison of Stats SA labour statistics surveys	26
4.4. Linking labour data with a SAM	27
5. Conclusion.....	30
5.1. The most important characteristics of the labour accounts:	30
5.2. Recommendations	31
6. Glossary.....	32
7. Annexures.....	37
Annexure 1: Occupational group by skill levels and educational levels.....	37
Annexure 2: National Accounting Matrix (NAM), 1998.....	38
8. References	39

List of tables

Table 1: Relationship between national accounts, social accounting matrices and labour accounts .	11
Table 2: The labour matrix underlying the value added matrix and the rest of the world vector	14
Table 3: The labour matrix underlying the allocation of primary income matrix	16
Table 4: Labour market trends according to the official definition of unemployment: March and September 2004.....	21
Table 5: Labour market statistics based on the expanded definition of unemployment: March and September 2004.....	22
Table 6: Employment in the formal and informal sector by industry (excluding agriculture): September 2004.....	23
Table 7: Population of working age by province, gender and labour market status: September 2004.....	24
Table 8: Population of working age by highest level of education, by gender and labour market status (official definition of unemployment): September 2004.....	25
Table 9: Comparison of the Stats SA labour surveys.....	27

List of figures

Figure 1: The accounting relationship in the LAS	8
Figure 2: Labour factor of production.....	18

1. Introduction

Labour accounts may be described as a statistical system of core variables regarding the labour force, acquired through the integration of different datasets. They consist of a set of tables providing a systematic and consistent overview, mutually and over time, of the dynamics of these core variables. They therefore include all economic activities, all jobs and work and the entire labour force.

The aim of labour accounts is to combine statistical data sources, to produce a new series of labour data of superior quality to the original data. The choice of definitions enables direct connections with other statistical systems, such as national accounts or demographic accounts. Labour accounts offer a framework to integrate labour market data from all kinds of data sources.

The principle characteristics of this framework are labour input aggregates (persons, jobs, hours, etc.), which describe supply and demand in the labour market as well as labour payment (as income and as costs), both categorised by relevant characteristics.

The development of labour accounts has many benefits. The most important of these are as follows:

- **Optimality with respect to definitions:** The definitions used in various data sources (especially administrative data sources) often do not coincide with the statistical concepts needed by national users and for international comparison. The construction of labour accounts allows for transforming inadequate definitions from available data sources into standardised definitions. For example, breaks in concepts in administrative data and questionnaire changes can be substantially remedied by making use of an accounting framework.
- **Reduction of data collection costs:** With the help of labour accounts, one can reduce the need for asking the same question in different surveys to a minimum taking into account quality control and inter-linkages.
- **Improvement in data quality checks:** Relations between variables play a prominent role within labour accounts. For example, supply of labour (by personal characteristics) should be equal on the account to demand identified through filled positions (in all industries); wages and salaries in a certain industry should be equal to total employment in that industry multiplied by the average wage rate; and the combination of flows and previous stocks should lead to closing stocks for the period within the account.
- **Increased timeliness:** Although initially the integration of data in an accounting system may be time-consuming, eventually more reliable timely indicators may be estimated by using the accounting system to extrapolate more accurate information based on less complete information than is available for a more recent period.
- **Greater flexibility:** Although the core variables of accounting systems will remain quite stable over time, introducing additional detail within an accounting system has the advantage that the consistency with different standard classifications remains intact.

2. Overview of labour accounts

The labour market's accounting framework, the labour accounting system (LAS), was originally developed by the International Labour Organisation (ILO) (Hoffman, 2000). Some of the core variables in LAS are also found in the European System of Accounts for the year 1995 (ESA95) and the 1993 System of National Accounts (1993 SNA). The rationale for developing a labour accounting system was to obtain a complete and consistent picture of the labour market situation.

Although most developed countries have been collecting labour market data to draw a consistent picture, the major difficulties are as follows:

- ***Contradictory results between data sources:*** In general, the different labour market statistics describe different reference populations, and use different measurement units, reference periods and definitions. Like most statistics, they are also subject to sampling and non-sampling errors. This lack of comparability between the various sources often leads to contradictory results.
- ***Lack of global overview of the labour market data:*** Each available data source on the labour market tends to describe only a part of the labour market and its related aspects. This fragmented approach may lead to contradictory results.
- ***The links between labour market data and other statistical systems are often missing:*** In the present context, the interest is in the links between labour market statistics and statistics used as the basis for the national accounts estimates. However, there is also the need for clear links with other areas such as population and education statistics.
- ***Difficulties and limitations in describing labour market dynamics:*** Most surveys present only the situation at a given point in time or net changes between two points in time. They do not show the gross changes. It is often impossible to fully perceive important labour market phenomena without knowledge of the dynamic interplay.

The objective of the LAS is to address these problems by combining various statistical data sources within an accounting framework to enhance their strengths and overcome their weaknesses. At the 15th International Conference of Labour Statisticians (ICLS) in 1993, the LAS was said to 'provide a logical framework for obtaining internally consistent estimates of key labour market variables and their distribution over the population which are necessary for the description and analysis of the state and dynamics of the labour market and its interaction with the rest of the economy'. An appropriate choice of basic definitions enables direct connections with other statistical systems, such as the national accounts or demographic accounts.

2.1. General principles of labour accounts

There are seven major principles underlying the labour accounts approach:

- ***Full coverage:*** Labour accounts, fully developed, are exhaustive. They cover all economic activities, all jobs and both actual and the potential labour force, and can quantify all central indicators of all labour dimensions.
- ***Uniform use of ILO and SNA concepts:*** In labour accounts, concepts and breakdowns are transferred into uniform definitions and classifications, linked to ILO and SNA recommendations and resolutions. ILO concepts describe employment (paid and self-employment), underemployment, unemployment, earnings and labour cost, whereas the SNA describes labour and compensation of employees. In linking population and

economic statistics, labour market data have to be published according to national concepts (people who live in the country) and domestic concepts (people who work in the country under review).

- **Reference point and period and corresponding data:** Statistics monitor developments by ordering the time dimension in points and periods. There are five kinds of data that can be considered in labour accounts:
 - change in employees;
 - transition data, which refer to a sequence of changes occurring between two points in time;
 - events data, which give an overview of the very moment of change;
 - flow data, which refer to cumulating changes during a period of time; and
 - Average data which refer to the average during a period of time.
- **Full consistency:** Fully developed labour accounts provide data, which are in fully harmony and satisfy identity relations. Contradictory results do not occur. The term 'accounts' refers to the fact that the integrated statistics fit identities in a way similar to the macro-economic totals in the national accounts and labour accounts can serve as a co-ordinating tool for all labour statistics, in the same way as the 1993 SNA serves as a co-ordinating tool for economic and financial statistics (Hoffmann, 1999).
- **Comparability over time:** Labour accounts give continuity a high priority and provide a consistent time series. In the processing of labour accounts explicit adjustments are made for unreal changes in the figures from the direct sources. Therefore, they do not suffer from design changes as surveys do or from the changes in legal and administrative procedures that affect register-based statistics.
- **Transparency:** During the process of integration, many decisions are made to adjust data from the various sources. In documenting these adjustments, decisions can be challenged and improved wherever necessary.
- **Organisation:** There are several aspects which are relevant concerning the organisation (institution) of the production of labour accounts. Firstly, there has to be a unit within the organisation which is responsible for integration of different data results. Secondly, the unit should not be linked to one of the direct sources, because there is the danger of a bias in adjustment of the data from this particular source. The organisation has the danger of a sub-optimal use of the knowledge gathered by the producers of the direct source.

The extent of the success of developing labour accounts depends on the openness with respect to methodologies practiced, on willingness to gain from criticism and on the attitude of the men or women in control with respect to the publishing of conflicting data.

2.2. Core variables of a labour accounts system

The definition of labour accounts core variables in the 1993 SNA and ILO are broadly consistent. The 1993 SNA uses ILO definitions of employment concepts and the ILO uses 1993 SNA definitions of the production boundary. There are however some differences in the detail, namely:

- The ILO has an age limit on people classified as employed, while national accounts has no such limit.
- National accounts include in employment persons temporarily absent from work, but excludes them from the definition of a job. The definition of employment is in line with the ILO definition, but the ILO adds an educational qualification.
- The ILO classifies owners of incorporated enterprises as either self-employed, or employees if they are working in their own firm. In national accounts, they are always

classified as employees. The flexibility of the ILO definition could lead to compilers of labour market statistics using different definitions from their national accounts colleagues.

Overshadowing these small differences in definitions, are the more serious difficulties in applying these definitions using existing statistical sources. For example, administrative registers, and even statistical surveys, may not use ILO definitions. Some concepts are inherently difficult to measure in practice, and approximations have to be made. Coverage of registers and surveys may not accord exactly with international guidelines, as they may have been adjusted to suit the needs of specific role-players.

The core variables described in the labour accounts system are:

- posts
- jobs
- the employed, the unemployed and persons outside the labour force
- employer
- hours worked
- employee labour input at constant compensation
- vacancies
- full-time equivalents
- income from employment
- labour cost
- population groups
- urban and non-urban areas
- gender

The definitions of the labour accounts core variables are to be found in the glossary (see p. 34).

The employed persons, jobs and posts are the building blocks of the LAS. Hours worked, full-time equivalent units and employees labour input at constant compensation are the measurement variables of employment.

The above variables have characteristics that are of interest to users of labour market statistics. Additional characteristics can be derived from the link between posts or persons and other variables, such as employers and households, which are often sample units in surveys and registers.

2.2.1. Characteristics of the core variables

A LAS has many characteristics in common with a social accounting matrix (SAM) and also with national accounts in terms of purpose and processes, e.g. compensation of employees, jobs and household groups. Although there is a common core in both LAS and a SAM, there are also important differences. A LAS is designed to give a comprehensive description of the labour market, whereas a SAM covers the relationship between the labour market and the rest of the economy.

A LAS distinguishes between posts and persons and also describe their relationship to the labour market and their characteristics (i.e. activity variables and descriptive variables).

Descriptive variables are used to describe the structure of the core variables found in difference activity variables.

2.2.1.1. Activity variables

The following activity variables are important:

For posts:

- Filled posts
- Vacant posts

For persons:

- Employed persons,
- Unemployed persons, and
- Persons outside the labour force

The activity variables can be expanded with, for example, training and education attributes.

2.2.1.2. Descriptive variables

Descriptive variables describe some of the labour accounts variables such as the employers, persons, jobs, post and households. Listed below are the descriptive variables outlined in the LAS. This is not an exhaustive list, but it shows how some of the most important variables are linked to the basic variables. This is useful when designing surveys and reconciling data from different sources. Variables that should be used in constructing a pilot SAM for a country are presented in bold. An “*” indicates that there exists an international recommendation for the definition and classification of that variable.

2.2.1.3. Descriptive variables in LAS by primary variables

Employers

- *Type of ownership* refer to whether a business is a sole proprietor, partnership, company or close corporation
- **Industry*** consist of groups of establishments engaged in the same or similar kinds of activities
- *Size** refer to how big or small the establishment/business is.
- *Location* refer to a place where the establishment/business is situated

Posts

- **Status of employment*** refers to the term of employment, i.e. whether an employee is permanent or temporary.
- *Occupation** is the main activity performed by employees, for example occupations could cover senior managers, professionals, technicians, service workers, domestic workers etc.
- *Contractual working hours*
- *Shift system* is a circle of working hours for employees, for example, some employees start working in the morning and others only start working in the evening.
- *Pay system* is a form of remuneration for employees, for example, some employees received their remuneration at the end of month, while others received their remuneration weekly, etc.

- *Collective agreement* refer to an agreement in writing between an employer and the union representing the employees which contains provisions respecting conditions of employment, rates of pay, hours of work and the rights and obligations of the parties to the agreement.

Jobs

- ***Income from employment**** is any form of payment, for example cash income or income in kind.
- ***Amount of labour costs*** is the cost incurred as a result of labour for example salaries and wages paid by the employer.
- ***Amount of compensation of employees*** is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period
- ***Amount of net operating surplus for self-employed persons (of unincorporated enterprises)**** is the balancing item of the generation of income account for the unincorporated enterprises of households.
- ***Normal or usual hours worked**** is the number of hours actually worked as an employee or self-employed during the normal period, when their hours are within the production boundary
- ***Hours paid for*** include hours paid for worked and hours paid but not worked such as paid annual leave, paid sick leave and paid public holiday.
- ***Actual hours worked**** is hours actually worked plus the overtime hours worked.

Persons

- ***Gender*** refers to whether an employee is a male or female
- ***Age**** a person to be employed should be at least between the age of 15 and 65 years.
- ***Nationality*** refers to whether resident or non-resident employees perform a job within a country's economic territory.
- ***Ethnic group*** (population group) for example, in South Africa population is divided into four particular population groups, namely, black African, whites, coloured and Indian/Asian.
- ***Union membership*** is an organization to which employees are affiliated for representation.
- ***Education obtained**** the highest qualification an employee obtained
- ***Past occupation**** (and other life history variables) is any work experience an employee obtained
- ***Career path*** is the field of study employee that an employee can pursue based on his/her occupation and qualification.
- ***Other activities*** than those defining status refer to anything related to labour market.

Households

- ***Domicile (location)*** is the residence of the employees.
- ***Type of household**** consist of the head of household and related members and also include the non-relatives members who live with them.

Both remuneration and hours are linked to jobs, and are important for the compilation of national accounts, labour accounts and SAMs. Remuneration is the most important for national accounts and SAMs, linking the labour market with the rest of the economy. It describes that part of total labour costs that can be directly attributed to a job, and to an employee. Labour costs include wages and salaries in cash and in kind and employers' actual

and imputed social contributions. Remuneration is a major part of income from employment, which also contains the income from self-employment. Hours, both actual hours worked and hours paid for, are central to the LAS, national accounts, and SAMs. Normal (or usual) hours or contractual hours are often collected in surveys, and used as proxies for actual hours.

The list of descriptive variables is used to:

- describe the distribution of important characteristics of the units used in the LAS, e.g. the number of persons in different activity situations, or the changes in stock or amount or value of services provided by the unit during a reference period;
- detect incomplete coverage of units, and the way in which coverage varies between sources. Identification of gaps and overlaps in the different sources in terms of the descriptive variables provides a basis for making adjustments; and
- make explicit to which primary unit the definition of a specific descriptive variable relates.

2.2.2. Reference periods

In common with all accounting systems, the LAS requires reference periods to be clearly identified. This is particularly important when reconciling data from different sources. In SAMs, the most frequent reference period is a calendar year. Change in persons, hours worked and income/cost are measured over a period of time, usually a year.

2.2.2.1. Measurements of quantities

The main quantities used in the LAS are:

- number of variables, i.e. number of posts, jobs and persons;
- services provided by employed persons in filled posts; and
- value of services provided by employed persons in filled posts.

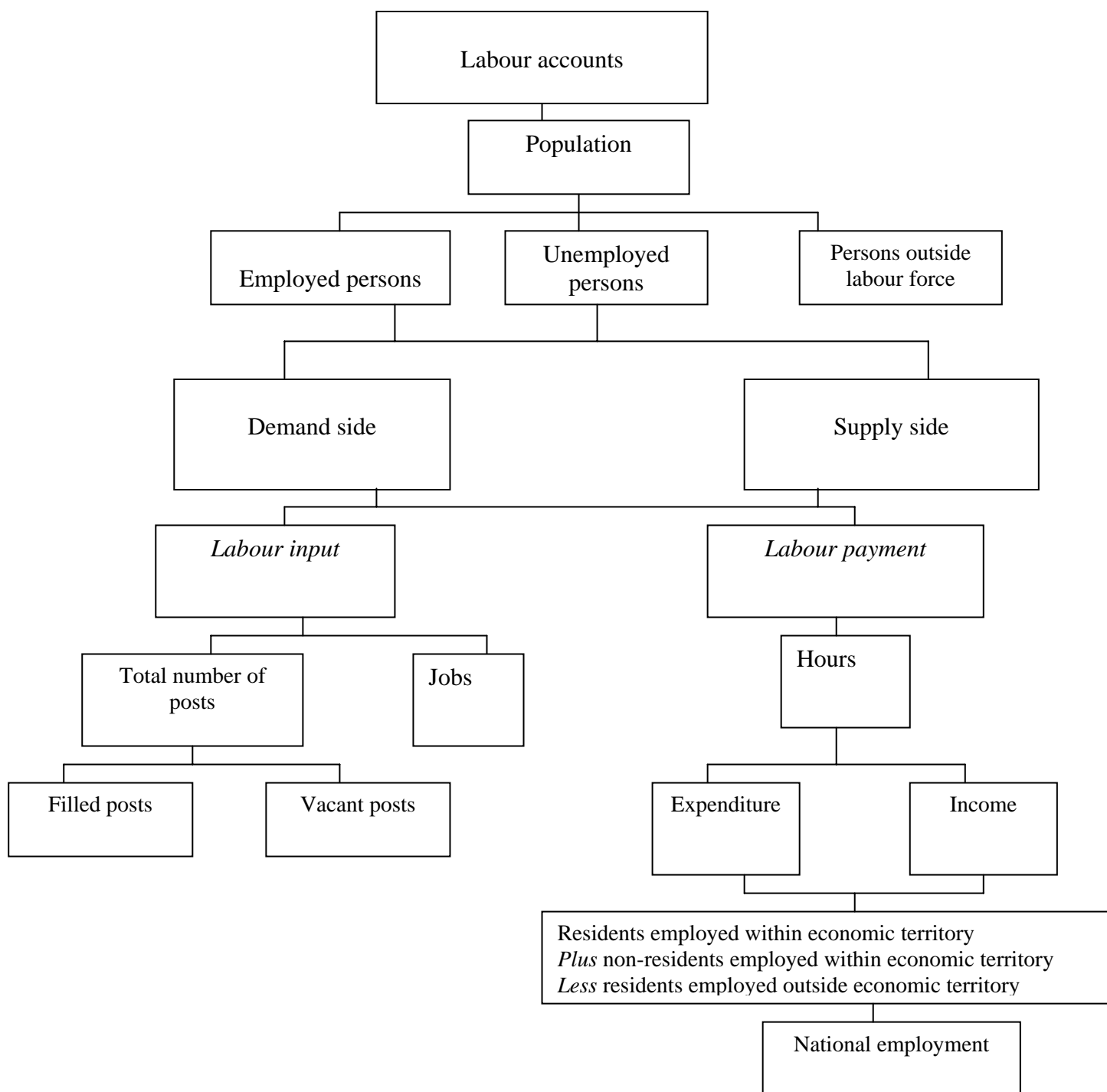
While there are accepted conventions on how to measure the number of persons and the value of labour services, there are different ways of measuring the amount and quality of services provided, using:

- number of persons employed (or maybe the sub-set of persons at work);
- number of jobs;
- number of full-time equivalents;
- number of actual hours worked; or
- value of wage bill at constant wages.

2.2.2.2. Accounting relationships in the LAS

Accounting (or identity) relationships in the LAS specify the logical and definitional interdependence of various labour market variables. They can also identify inconsistency in data. Relationships refer to changes in persons and posts for the supply side, and to 'flows' of hours and income/costs for the demand side (see Figure 1). These relationships are in line with the corresponding parts of the 1993 SNA and the framework for social and demographic statistics (FSDS). In practice, co-ordination between the LAS and FSDS systems depend on the co-ordination of scope, units, reference periods and classifications.

Figure 1: The accounting relationship in the LAS



Source: Unpublished draft handbook on Social Accounting Matrices and Labour Accounts, European Commission

The formula below and Figure 1 above illustrate the schematic accounting relationship in the LAS:

Employed persons
plus unemployed persons
plus persons outside the labour force,
equal to total population (of working age).

Filled posts
plus vacant posts
equal to total number of posts

Demand side:

Total number of posts
plus jobs
equal to labour input

Labour input is an aggregates number of persons, jobs and posts, which describe demand on the labour market.

Supply side:

Total hours
plus income
plus expenditure
equal to labour payment

Resident workers employed within resident production units
plus non-resident workers employed in resident production units
less resident workers employed in non-resident production units
equal to national employment.

Resident workers are defined as a resident of the economic territory of the country of reference. A non-resident worker is an outside worker within the economic territory of the country of reference. National employment is defined as the total of residence and non-residence workers within the economic territory of the country of reference. National employment is also used in national accounts, and is based on the residence of the labour, and is relevant for income from labour for the resident population.

A complete time-accounting system serves as a basis for defining a third accounting relationship of the LAS for hours actually worked should reflect the conventions developed for time-use studies. These studies account for the total use of time, and cover sleeping, eating, studying, traveling, working, etc. Work may be paid or unpaid, overtime for a paid job, or unpaid home-keeping or volunteer work.

Total hours can therefore be defined as:

Hours actually worked according to 1993 SNA production boundary:
Plus voluntary work
Plus home-keeping work
Plus time spend on education
Plus leisure time
Plus hours not elsewhere specified
Equal total hours.

Accounting relationships can be constructed from the total hours actually worked which quantify the identity relationship to other concepts of hours of work. Monetary accounts of the LAS should link the income of employed persons to the cost of employing income and the cost of paid employment.

3. National Accounts, SAMs and labour accounts

The 1993 SNA defines a SAM as the presentation of the SNA accounts in a matrix, which elaborates the linkages between supply and use tables and institutional sector accounts. Stats SA compiled and published a SAM for the 1998 reference year in November 2002 according to the recommendations of the 1993 SNA. Table 1 illustrates the relationship between national accounts, SAMs and labour accounts showing which variables are parts of which system. The job is the main unit linking the labour accounts, national accounts and SAMs.

Table 1: Relationship between national accounts, social accounting matrices and labour accounts

National accounts	Social accounting matrix	Labour accounts
(A) Job: Volume worked (full time equivalents) and compensation of employees		
(B) Item A distributed by socio-economic variables		
		(C) Other descriptive variables
(D) Re-distributive flows of compensation and consumption		
(E) Extension of item D		
(F) Capital accounts		

Source: Unpublished draft handbook on Social Accounting Matrices and Labour Accounts, European Commission

Jobs connect the demand and supply sides of the labour market. **Row (A)** in Table 1 represents the volume of work relating to jobs (hours worked and/or full-time equivalents), and the compensation (e.g. wages and salaries). It is part of all three accounts.

Row (B) represents the part where that volume of work and its compensation are distributed by socio-economic variables such as education level, gender and status in employment in the SAM. This, together with **Row (A)**, is where national accounts, SAMs and labour accounts overlap. The remaining part of labour accounts **Row (C)** relates to aspects that are not included in national accounts and SAMs, such as other descriptive variables, unmet supply (unemployed or employed person), unmet demand (vacancies or posts) and the organisation of the labour market.

Row (D) relates to those flows which, together with those included in **Row (A)**, are recorded in national accounts and SAMs, for example redistribution of income and consumption. **Row (E)** is the extension of the flows included in **Row (D)**, where a SAM is developed. **Row (F)** is those parts of national accounts not subject to SAM expansion (e.g. the capital accounts).

SAM and labour accounts are linked by a set of tables that expand national accounts estimates of monetary and non-monetary labour market variables. These expansions use the same classifications (e.g. the industrial classification) that are used in the development of a SAM.

In practice, analysis of labour within a SAM or labour accounts framework requires macro-economic aggregates to be spilt into volume and price measures. Input volumes of labour are persons employed, jobs, full-time equivalent units and hours worked. Price measures are wages rates, and earnings or income per unit of labour volume. Both volume and price measures need to be subjected to the same expansions that are applied to the values in the various SAM sub-matrices. Labour matrices, elaborated in this way, are part of a satellite account of the SAM.

3.1. Coverage

Household surveys and administrative registers cover all the people who live in the country, and this aligns with national employment. These sources are not entirely appropriate for measuring people who work in the country (domestic employment), which is needed in national accounts to align with output of the economic system. National accounts also needs data consistent with the national employment. This is measured by household surveys, but adjustments maybe needed. For example, persons outside the age limits, conscripts, collective households, etc. may be excluded from labour force survey (LFS) results, but need to be included in the national accounts.

The non-observed economy is by definition included in the national accounts production boundary. It relates to illegal activities, informal activities and legal activities which are deliberately concealed from public authorities (1993 SNA). It also includes activities not surveyed because of inefficiencies of the statistical system or because of non-response in surveys. Consistent with the production boundary, estimates of labour input must also be exhaustive i.e. include non-directly observed labour.

Countries have implemented a variety of different methods to include estimates of the non-observed economy in national accounts. Since no single source is specifically aimed at surveying the non-observed economy, integration and comparison of different sources of information is the basis of many countries methods. Knowledge of differential response behaviour could lead to at least part of these differences between surveys being attributed to labour that is not directly observed. For examples, household surveys may include some employment that is under-reported by enterprises in business surveys and registers. Enterprises may deliberately not declare employees not registered on the payroll. Employees answering LFS, on the other hand, may declare that work. On the other hand, it could be that enterprises surveys include employment which respondents to household survey or to tax enquiries.

3.2. Labour input: from source data to the inclusion in national accounts, SAMs and labour accounts

Labour input, like all other national accounts estimates, can be used for international comparisons and economic analysis. Labour input is the variable used in the building of performance indicators (productivity of labour in terms of value added or production). It underpins indicators of intensity of labour or intensity of capital. It is the volume component of economic aggregates, such as compensation of employees, allowing separate analysis of volume and price effects. For example, employee labour input at constant compensation leads to implicit price indices for labour.

3.2.1. Labour input by gender, education and household categories in the SAM

National accounts estimates of the input of labour are traditionally analysed only by economic activity and institutional units employing labour. The analysis of labour in a SAM requires labour figures to be disaggregated and cross-classified by socio-demographic criteria in the SAM sub-matrices. Furthermore in a SAM the labour factor can be looked at both from the person (i.e. supply of labour) and from the job (i.e. demand of labour) point of view. This is because the labour sub-matrices in a SAM analyse labour by characteristics of the employer

(e.g. industry), the socio-economic characteristics of the person providing labour (such as gender or education), and the type of household to which the worker belongs. Most of the characteristics used in these sub-matrices are also used in the system of labour accounts.

Linking labour characteristics to the person and to the household provides a consistency check on labour statistics and income statistics in national accounts. Input of labour included in a SAM is the same measure of the labour factor underlying both value added and income in the measurement of gross domestic product (GDP) in the national accounts. Production factors (including labour) are remunerated through income for their input into the production process (domestic net value added) sub-matrix 3,2, measures the value created by production and may be calculated either before or after deducting the consumption of fixed capital on the fixed assets used - see Annexure 2). This flow of income attributed to production factors is distributed to institutional industries to which the production factors belong. The labour factor belongs to households, i.e. wages and salaries, and mixed labour and capital incomes are distributed to households (net generated income, sub-matrix 4,3). The term net is a common means of referring to values after deducting consumption of fixed capital (generally used as in net capital stock or net domestic product; all the major balancing items in the accounts from value added to savings may be recorded gross or net - see Annexure 2). In this way, the SAM analyses the input of labour not only according to the economic activity and institutional unit employing it, but also according to the institutional unit providing it.

The structure of Table 2 and Table 3 can be used in the compilation of a SAM both where mixed income is split into remuneration of labour and capital, and where mixed income is not split. Only in the first case can a proper per capita value for remuneration of labour be calculated. In the second case, the analysis of self-employed cannot be according to per capita value, but is limited to a non-monetary analysis of the labour factor.

When a matrix is compiled for labour input, disaggregated by economic activity and labour categories, it is possible to measure the volume of work in physical term provided by each category of labour factor to each industry. The matrix can be directly linked to the value added sub-matrix showing the flow of value added produced by each industry and the labour categories which have contributed to it. The labour matrix underlying the SAM domestic net value added, sub-matrix 3,2 is shown in Table 2 in column 1 to 6.

The input of labour in this part of the table is the domestic concept. Labour provided by resident workers to non-resident production units are excluded, while labour provided by non-residents to resident production are included. Column 8 is the rest of the world account (ROW), and shows labour provided by resident workers to non-resident production units. This is the labour underlying the monetary flow of wages and salaries from the rest of the world in the SAM, (sub-matrix 3,10, compensation of employees from the rest for the world) (see Annexure 2). Column 9 shows the total of domestic employment and labour provided abroad by resident persons.

Table 2: The labour matrix underlying the value added matrix and the rest of the world vector

Generation of income account	Production account						Total industries	ROW account	Total
	Industries								
	Agric	Mine	Cons	Trade	Fin	Pub			
	1	2	3	4	5	6			
Employees	39	318	66	185	60	332	1 000	7	1 008
Primary education	24	157	59	94	15	71	420	3	423
Secondary education	1	17	3	13	11	17	62	1	63
Tertiary education	1	10	1	6	9	32	59	1	60
Total male	26	184	63	113	35	120	541	4	546
Primary education	11	118	1	53	12	119	314	0	314
Secondary education	1	11	1	13	8	23	57	2	59
Tertiary education	1	5	1	6	5	70	88	1	89
Total female	13	134	3	72	25	212	459	3	462
Self-employed	65	209	41	130	99	37	581	0	581
Primary education	32	112	38	67	24	10	283	0	283
Secondary education	2	16	2	12	24	3	59	0	59
Tertiary education	0	3	1	2	22	1	29	0	29
Total male	34	131	41	81	70	14	371	0	371
Primary education	30	69	0	39	11	17	166	0	166
Secondary education	1	8	0	8	8	5	30	0	30
Tertiary education	0	1	0	2	10	1	14	0	14
Total female	31	78	0	49	29	23	210	0	210
Total	104	527	107	315	159	369	1 581	7	1 589

Source: Unpublished draft Handbook on Social Accounting Matrices and Labour Accounts

Agric = Agriculture, Mine = Mining, quarrying and manufacture

Cons = Construction Trade = Wholesale and retails

Fin = Financial intermediate, Pub = Public Administration

ROW = Rest of the world

The net generated income (sub-matrix 4,3) record primary incomes and the economic flow (primary inputs and groups of households). This sub-matrix describes the remuneration of labour received by the household to which the labour factor belongs. It differs from the value added sub-matrix 3,2 as it relates to the income receive by resident households from resident and non-resident production units. It does not include the remuneration of non-resident labour working in resident production units.

The labour matrix underlying the net generated income matrix is shown in Table 3 in rows 1 to 7. It shows how much and what kind of labour is provided by each group of households. The input of labour is on the national concept, applying the residence criteria to the receiving income, and not to the production unit. This part of Table 3 includes residents working in resident units and residents working abroad. Row 8 relates to non-residents working in resident units, and is equivalent to the rest of the world account.

In Tables 2 and 3, labour is recorded only in the households` row, because remuneration of labour (both of employees and of self-employed) is transferred to households through wages and salaries and mixed income (see Annexure 2). Labour provided by self-employed can only be carried out from the households industry, i.e. self-employed workers (both own-account workers and employers) can be classified only to the household industry as sole proprietors or in partnerships of unincorporated enterprises. As self-employed workers they receive a mixed income, which remunerates their labour as well as their capital. Classifying self-employed workers to the corporations industry is not consistent with the ESA95. However, some countries may classify part of self-employed workers to the corporations industry because the economic and fiscal systems allow the presence of self-employed labour in corporations.

Table 3: The labour matrix underlying the allocation of primary income matrix

Allocation primary income	Generation of income												Total	
	Labour categories													
	Employees						Self-employed							
	Row nr	Male			Female			Male			Female			
Prim.		Sec.	Tert.	Prim.	Sec.	Tert.	Prim.	Sec.	Tert.	Prim	Sec.	Tert.		
<i>Institutional industry</i>														
Corporation	1													
General government	2													
NPISH	3													
<i>Household types</i>														
Employment (salaries and wages)	4	407	56	58	283	52	84	47	18	14	54	11	11	1 095
Self-employment (mixed income)	5	7	2	1	20	5	3	227	35	14	97	15	2	428
Income in connection (retired)	6	4	1	0	6	1	2	6	4	1	11	2	0	38
Other transfer income	7	3	1	0	6	1	0	4	2	1	4	1	0	23
Total industries		421	60	59	315	59	89	284	59	30	166	29	13	1 584
ROW	8	1	2	0	0	0	0	0	0	0	0	0	0	3
Total		422	62	59	315	59	89	284	59	30	166	29	13	1 587

Source: Unpublished draft Handbook on Social Accounting Matrices and Labour Accounts

Prim = primary school, sec = secondary school, tert = tertiary school

3.2.2. Accounting framework

A SAM follows a typical general structure, with groups of accounts for commodities, production activities, factors of production, households, other domestic institutions and transactions with the rest of the world (see Annexure 2). The SAM framework makes it possible to cover a wide range of problems, provided that various accounts have been disaggregated to a satisfactory level. For the purpose of studying underlying conditions and dynamics of labour markets, the most important disaggregation is that of factors and household accounts.

Factors' and households' disaggregations are crucial in order to capture how changes in the structure of productivity shocks or policy changes are transmitted to households. This transmission mechanism operates through the different factor intensities of the production activities and through the different factor endowments of households. As the 1993 SNA points out, appropriate subdivision of labour income by categories of employed persons permits a better comprehension of the linkage between value added of industries and primary income of household subgroups.

3.2.2.1. Labour factor of production

The labour accounts can be disaggregated to allow for different skills (similar to those used for a SAM) of earners (see Figure 2). This disaggregation has been widely used to explain wage differentials. The level of education which is adopted in the labour-oriented value added cell, serves as a proxy for the level of skills. However, other classifications of skills could be used. While the appropriate definition of skill is unambiguous in that it refers to the ability to carry out certain tasks and duties of a job in a competent manner, its measurement in empirical work follows two different classifications: one by the educational level and the other by type of occupation. Often, they are both used as synonyms of human capital. Indeed, each of them gives a different kind of information about the labour force.

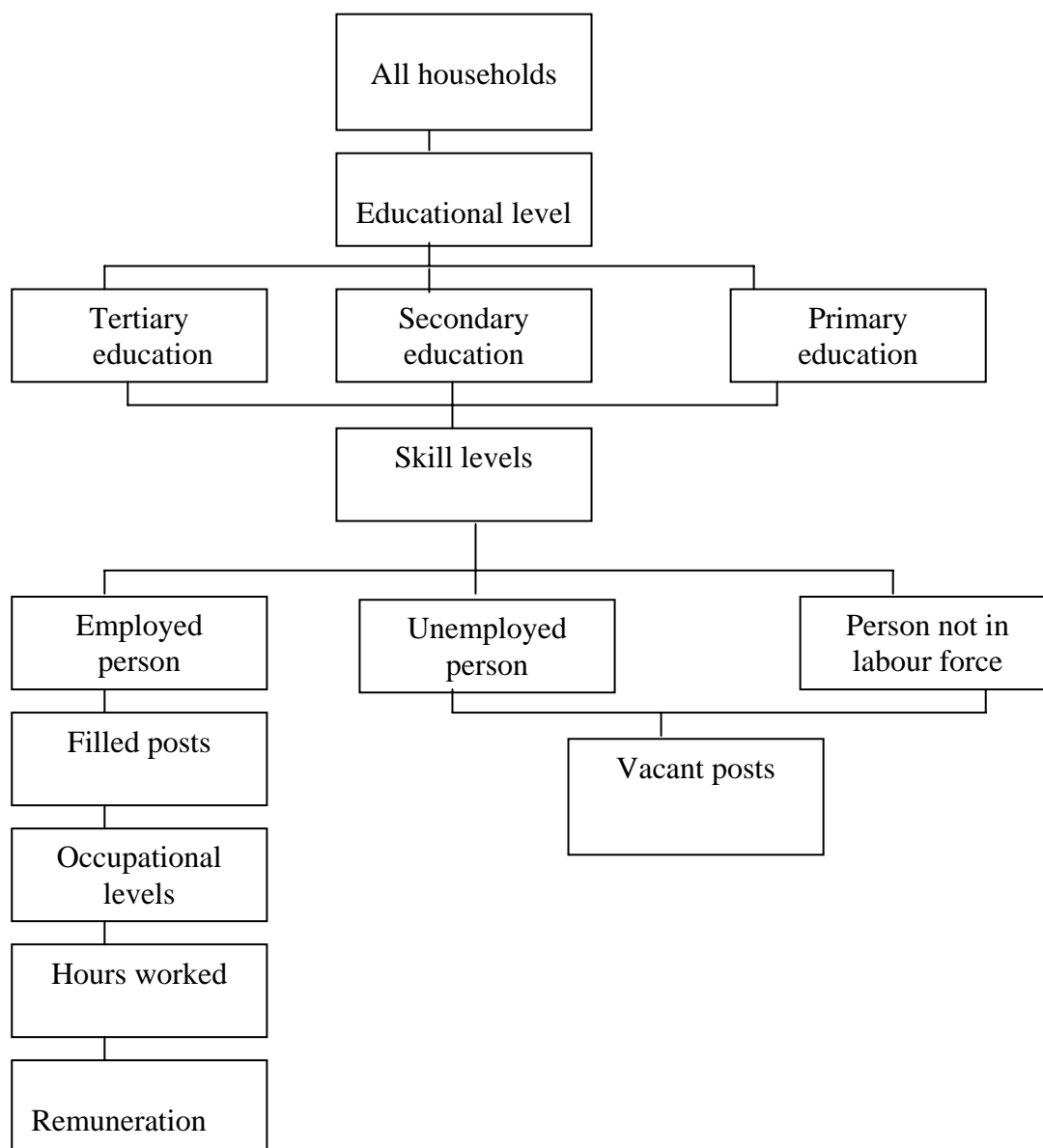
The first classification refers to years of schooling or final degree obtained. The second one is more useful, as it provides information on the qualifications required. Analysing the labour market in terms of both classifications would give a more detailed picture about the structure of employment. It is matter for debate whether firms' demand for highly skilled workers is complementary to that for highly educated workers, as is implicit in a considerable body of theoretical literature.

A common perception is that less educated job seekers find it more difficult to be hired than highly educated candidates. Evidence lending support to this view shows that in most industrialized countries unemployment is more concentrated among people with lower levels of schooling. The international occupation-based measure adopted is the International Standard Classification of Occupations of the International Labour Office (ISCO-88); each country has developed its own system of classification.

Generally, one of the main problems in terms of equal opportunities is the gap between per capita wages by gender, all other things being equal (education, skill, jobs, and so on). On the other hand, the problem requires great care in assessing 'base hypotheses'. For instance, propositions such as 'wage differences due to education are independent from gender enterprise' must be carefully checked on available data against the opposite hypotheses that for female workers differentials by education are less (or more) sharpened than their male

counterparts’, or that the augmented flexibility of smaller productive units may also involve greater gender differentials.

Figure 2: Labour factor of production



Source: Unpublished draft handbook on Social Accounting Matrices and Labour Accounts, European Commission

3.2.2.2. Classification of households

Strictly linked to the labour factor of production is the choice of disaggregation of household (see Figure 2). One possible choice is to distinguish between households in terms of their socio-economic groups as determined by income distribution and income level.

The 1993 SNA introduced the difference between analytical and monitoring SAMs. In an analytical SAM, the main income source seems a more adequate criterion than income size

when it comes to classifying households. In a 'monitoring' SAM, classifying households by income size or expenditure bracket cannot be ruled out, although the problem remains that income and expenditure are neither easily measurable nor stable and require a lot of survey questions, so that the information contained in, e.g., household and population surveys which do not ask these questions, cannot be linked up with such a SAM. For the South African SAM, households are classified according to the population group of the head of the household, and further aggregated by occupational group, expenditure group etc.

In this latter context, homogeneity of behaviour and interests among groups is potentially a more powerful basis on which to build than homogeneity of income. Moreover, the classification of households into socio-economic groups relates naturally to ideas of labour market segmentation and communities of interest in relation to them.

4. Labour statistics in South Africa

The two main employment surveys conducted by Stats SA are the labour force survey (LFS) and the quarterly employment survey (QES). These surveys are the main data sources for the proposed *labour accounts for South Africa*. LFS and QES figures will be used to expand some of the cells in the 2002 SAM and also be used as the external matrix.

Stats SA conducts the QES on a quarterly basis and the LFS twice a year. The LFS is a household survey which captures employment in all sectors of the economy, formal and informal. It also measures unemployment and other labour market data. QES is a business survey which measures employment only in the formal non-agricultural sector. The differences between the two surveys are expanded upon below (section 4.1 and 4.2).

Stats SA conducted the survey of average monthly earnings (AME) on a quarterly basis from 1998 to 2003 and survey of earnings and employment (SEE) quarterly from 1998 to 2004. These surveys were discontinued and were replaced by the QES in the third quarter of 2004. The QES is a combination of both the SEE and the AME and is covering a sample (24 000 sample units) of organisations in the formal non-agricultural business industries of the South African labour market economy. The QES provides data essential for estimating key economic statistics of employment and gross earnings.

Stats SA also conducted an October households survey (OHS) annually from 1994 to 1999. This survey was discontinued in 1999. February 2000 saw the birth of the LFS which is conducted by Stats SA in March and September of each year. The LFS covers some areas previously covered by the OHS but not all, since it is a specialized survey principally designed to measure the dynamics in the labour market. The LFS of September each year includes a section designed to measure social indicators such as access to infrastructure. The general household survey (GHS) was also introduced in July 2002, to concentrate on the non-labour issues.

4.1. Labour force survey

The labour force survey provides information on variables such as employment in formal and informal industries, and employment and unemployment rates by gender, province, educational level and population group.

Tables 4 and 5 gives the overall labour market trends for March and September 2004 based on the expanded and official definition of unemployment. The main difference between the official and the expanded definitions of unemployment is the requirement in the former that, in order to be classified as unemployed, a person must have engaged in job-seeking in the four weeks prior to the interview for the survey. These criteria have a significant effect on the size of what is considered to be the labour market.

Table 4: Labour market trends according to the official definition of unemployment: March and September 2004

Labour market variables	Bi-annual	Estimate ('000)	Precision of difference	Actual difference
Total employed = a	Mar 2004	11 392	465	251
	Sep 2004	11 643		
Total unemployed (expanded definition) = b	Mar 2004	4 415	290	-280
	Sep 2004	4 135		
Total economically active = c	Mar 2004	15 805	552	-29
	Sep 2004	15 778		
Total not economically active =d	Mar 2004	13 324	559	203
	Sep 2004	13 527		
Total aged 15-65 years = c + d = e	Mar 2004	29 131	876	174
	Sep 2004	29 305		
Official unemployment rate $b/c*100 = f$	Mar 2004	27,9%	1,5	-1,7*
	Sep 2004	26,2%		
Labour market participation rate = $c/e*100 = g$	Mar 2004	54,3%	1,2	-0,5
	Sep 2004	53,8%		
Labour absorption rate $=a/e*100 = h$	Mar 2004	39,1%	1,2	0,6
	Sep 2004	39,7%		

Source: Statistics South Africa

*Statistically significant at 95% level of confidence

As indicated in Table 4, the total number of employed people according to the official definition was estimated to be 11 392 000 in March 2004. This figure rose to 11 643 000 people by September 2004. The difference between the two figures is 251 000. However 251 000 lies between -465 000 and +465 000 (precision of difference). This implies that the difference between the two estimates is not statistically significant. Therefore the increase in the number of employed people between March and September 2004 is not statistically significant and can be accounted for by sampling error.

Table 5 shows that, using the expanded definition of unemployment, the size of the economically active population, the number of unemployed people and the unemployment rate increase substantially. A large group of people who were available for work did not actively seek work in the four weeks prior to the March and September 2004 interview.

The official unemployment rate in September 2004 was estimated to be 26,2%, compared to 41,0% for the expanded definition of unemployment.

Table 5: Labour market statistics based on the expanded definition of unemployment: March and September 2004

Labour market variables	Bi-annual	Estimate ('000)	Precision of difference	Actual difference
Total employed = a	Mar 2004	11 392	465	251
	Sep 2004	11 643		
Total unemployed (expanded definition) = b	Mar 2004	8 180	441	-89
	Sep 2004	8 083		
Total economically active = c	Mar 2004	19 572	631	-97
	Sep 2004	19 726		
Total not economically active =d	Mar 2004	9 559	397	19
	Sep 2004	9 578		
Total aged 15-65 years = c + d = e	Mar 2004	29 131	876	174
	Sep 2004	29 305		
Expanded unemployment rate $b/c \times 100 = f$	Mar 2004	41,8%	1,8	-0,8
	Sep 2004	41,0%		
Labour market participation rate = $c/e \times 100 = g$	Mar 2004	67,2%	0,8	0,1
	Sep 2004	67,3%		
Labour absorption rate $= a/e \times 100 = h$	Mar 2004	39,1%	1,2	0,6
	Sep 2004	39,7%		

Source: Statistics South Africa.

The LFS also captures the proportion of people working in the formal and informal sectors. For the LFS, formal industries include all businesses which are registered for VAT purposes, and which have a Value Added Tax (VAT) number. Informal industries consist of those businesses that are not registered in any way. They are generally small in nature, and are seldom run from business premises. Instead, they are run from homes, street pavements or other informal arrangements.

**Table 6: Employment in the formal and informal sector by industry (excluding agriculture):
September 2004**

Industry	Formal		Informal		Domestic		Total	
	N (‘000)	%	N (‘000)	%	N (‘000)	%	N (‘000)	%
Mining	404	5,3	1	0,0			405	3,8
Manufacturing	1 486	19,3	220	11,3			1 714	16,2
Utilities	98	1,3	1	0,0			99	0,9
Construction	492	6,4	317	16,3			824	7,8
Trade	1 648	21,4	883	45,4			2 542	24,0
Transport	441	5,7	120	6,2			563	5,3
Finance	1 081	14,1	60	3,1			1 147	10,8
Community services	2 015	26,2	161	8,2			2 185	20,7
Private households	10	0,1	183	9,4	881	100,0	1 075	10,2
Other/unspecified industry	16	0,2	1	0,1			26	0,2
Total	7 692	100,0	1 946	100,0	881	100,0	10 580	100,0

Source: Statistics South Africa.

Sub-categories of a row will not add to the total for a row because the unspecified category is not included as a column in the table, but is included in the total for a row

According to the September 2004 LFS, unemployment rate by province, gender and labour market status was higher in Eastern Cape than other provinces. The unemployment rate was lowest in Western Cape. The LFS also indicated that women had a higher unemployment rate than men (see Table 7).

The September 2004 LFS also indicates that the highest unemployment rates were found among people with educational qualifications between grade 8 and grade 12, for both males and females. Generally, the female unemployment rates were higher than that of males. However there was not much difference for those with no education up to grade 4 (see Table 8).

Table 7: Population of working age by province, gender and labour market status: September 2004

Province	Male						Female						Total					
	Total	Not economically active	Economically active				Total	Not economically active	Economically active				Total	Not economically active	Economically active			
			Total	Workers	Unemployed	Unemployment rate			Total	Workers	Unemployed	Unemployment rate			Total	Workers	Unemployed	Unemployment rate
	N ('000)						N ('000)						N ('000)					
RSA	14 194	5 394	8 800	6 772	2 029	23,1	15 097	8 128	6 969	4 866	2 103	30,2	29 305	13 527	15 778	11 643	4 135	26,2
Western Cape	1 544	424	1 120	930	190	17,0	1 603	645	958	761	196	20,5	3 147	1 069	2 078	1 691	387	18,6
Eastern Cape	1 857	917	940	679	261	27,7	2 148	1 275	874	598	276	31,6	4 005	2 191	1 814	1 278	536	29,6
Northern Cape	281	98	183	148	36	19,4	286	167	120	81	38	32,1	568	265	303	229	74	24,5
Free State	938	328	609	459	150	24,7	972	493	479	318	161	33,6	1 909	821	1 089	777	311	28,6
Kwazulu-Natal	2 731	1 184	1 547	1 137	410	26,5	3 200	1 814	1 386	955	431	31,1	5 931	2 998	2 933	2 092	841	28,7
North West	1 186	492	694	522	172	24,7	1 213	748	466	313	153	32,9	2 399	1 240	1 159	835	325	28,0
Gauteng	3 327	846	2 481	1 939	542	21,9	2 927	1 285	1 642	1 125	517	31,5	6 267	2 135	4 132	3 070	1 062	25,7
Mpumalanga	922	329	593	472	120	20,3	1 022	556	456	316	140	30,6	1 944	895	1 049	789	260	24,8
Limpopo	1 409	776	633	485	148	23,3	1 725	1 136	589	398	191	32,5	3 134	1 912	1 222	883	339	27,8

Source: Statistics South Africa

Sub-categories of a row will not add to the total for a row because the unspecified category is not included as a column in the table, but is included in the total for a row

**Table 8: Population of working age by highest level of education, by gender and labour market status (official definition of unemployment):
September 2004**

Highest level of education	Male						Female						Total					
	Total	Not economically active	Economically active				Total	Not economically active	Economically active				Total	Not economically active	Economically active			
			Total	Workers	Unemployed	Unemployed rate			Total	Workers	Unemployed	Unemployed rate			Total	Workers	Unemployed	Unemployed rate
	N ('000)						N ('000)						N ('000)					
%						%						%						
Total	14 194	5 394	8 800	6 772	2 029	23,1	15 097	8 128	6 969	4 866	2 103	30,2	29 305	13 527	15 778	11 643	4 135	26,2
None	827	366	460	400	61	13,1	1 160	802	358	297	61	17,0	1 986	1 168	818	697	121	14,8
Grade 0 to Std1	567	232	335	258	77	22,9	522	331	191	148	43	22,6	1 089	563	526	406	120	22,8
Grade4/Std2	433	199	235	182	53	22,5	427	266	161	121	40	25,0	860	464	396	303	93	23,5
Grade 5/Std 3	521	226	295	218	77	26,2	491	302	189	132	57	30,2	1 012	528	484	350	134	27,7
Grade 6/Std 4	783	382	400	308	92	23,0	790	471	319	223	95	29,9	1 574	854	720	533	187	26,0
Grade 7/Std 5	1 092	498	594	448	146	24,6	1 115	686	430	291	138	32,2	2 207	1 183	1 024	739	285	27,8
Grade 8/Std6	1 372	677	694	500	195	28,0	1 473	931	542	363	179	33,1	2 846	1 610	1 236	862	374	30,2
Grade 9/Std 7	1 376	747	629	420	209	33,2	1 424	962	462	278	184	39,8	2 801	1 710	1 091	698	393	36,0
Grade 10/Std 8	1 613	710	903	660	243	26,9	1 766	1 067	699	433	266	38,0	3 379	1 777	1 602	1 093	508	31,7
Grade 11/Std 9	1 186	515	671	440	231	34,4	1 503	849	654	350	304	46,5	2 691	1 365	1 327	790	536	40,4
Grade 12/Std 10	2 980	661	2 319	1 775	544	23,5	3 095	1 195	1 900	1 267	633	33,3	6 082	1 859	4 223	3 043	1 180	27,9
NTC I-NTC III	168	30	139	116	22	16,2	41	16	25	16		33,3	209	46	163	133	31	18,8
Diplom/certificate with Std 9/ lower	67		57	50		11,6	88	19	69	57	12	16,9	155	29	125	107	18	14,5
Diploma with Std 10	574	54	520	475	45	8,7	708	118	590	525	65	11,1	1 285	172	1 113	1 002	111	9,9
Degree and higher	490	44	445	432	14	3,1	407	75	332	321	11	3,3	897	119	777	753	25	3,2
Other	43	11	31	24		21,3	18					4,3	61	20	41	34		17,3
Unspecified	104	30	73	67		9,5	67	28	39	33		15,5	171	58	112	100	13	11,5

Source: Statistics South Africa

*Note: For all values of 10 000 or lower the sample size was too small for reliable estimates

Sub-categories of a row will not add to the total for a row because the unspecified category is not included as a column in the table, but is included in the total for a row

4.2. The quarterly employment survey

The quarterly employment survey covers private and public businesses in the formal non-agricultural sector of the South African labour market economy. The survey collects and provides information on current indicators of employment and the contribution of salaries and wages to the GDP, needed for compiling the national accounts and labour accounts for South Africa.

This survey collects information on the following variables:

- Number of employees who received pay for any part of the last pay period ending on or before the end of the reference quarter (total, full-time and part-time employees),
- Number of employees who commenced working for the business/organisation during the reference quarter,
- Number of employees who left the business/organisation during the reference quarter,
- Total gross salaries and wages paid for all payrolls for the reference quarter, and
- Total severance, termination and redundancy payments paid during the reference quarter.

The industries covered are wholesale trade, retail trade, motor trade, hotels, mining and quarrying, construction, electricity, gas, water supply, transport, storage, communication, financial intermediation, real estate, insurance, business services, community, personal and social services industries. A stratified systematic sample design is used for the selection of the samples. The basis for the selection of the sample is turnover for wholesale trade, retail trade and motor trade, number of rooms for hotels and number of employees for local government. Information collected through the questionnaire includes:

- Number of employees on the last pay day of the quarter (full-time and part-time employees).
- Total gross salaries and wages for the quarter (full-time and part-time employees).
- Overtime wages.
- Bonuses paid for the quarter.
- Total actual hours worked, and.
- Total number of vacancies.

4.3. Comparison of Stats SA labour statistics surveys

Table 9 illustrates the comparisons of labour variables within Stats SA. The QES (the quarterly surveys) is a business survey whereas the LFS (twice a year survey) is a households-based survey. The QES collect information in both private and public enterprises in the formal non-agricultural industries whereas LFS collect information regarding employed and unemployed persons in formal and informal industries. The QES measure the earnings of employees only whereas LFS measures the earnings of employers, self-employed and employees.

Table 9: Comparison of the Stats SA labour surveys

Variables	LFS	QES
Employment	X	X
Unemployment	X	X
Occupational groups		
Educational level	X	
Gender	X	
Province	X	
Hours worked		X
Households	X	
Business		X
Skills level	X	
Remuneration		X
Age	X	
Vacancies		X
Population groups	X	
Formal sector	X	X
Informal sector	X	
Industries	X	X

4.4. Linking labour data with a SAM

In developing a pilot ‘labour’ SAM, the required data are typically collected from a number of different sources, for example, national accounts, an income and expenditure survey and the population census are combined with sources such as the LFS and QES. Information on the distribution of consumption expenditure among household groups is presented in combination with elaborated labour market data (occupational groups, skill and educational level, gender and age) and national accounts.

With respect to the labour data, the 1998 SAM contains two types of cross-tabulations. The first, sub-matrix 3,2 (see Annexure 2), records generation of labour income by various factors of production, namely, mixed income and the compensation of employees, (remuneration in cash or in kind and exclude employers contribution). In sub-matrix 3,2 (see Annexure 2) compensation of employees and mixed income are broken down into 11 occupational groups and four skill levels.

The second sub-matrix 4,3 (see Annexure 2), records allocation of income for labour to the institutional industries. In this sub-matrix 4,3 (see Annexure 2), compensation of employees and mixed income are disaggregated into four population groups and 12 percentile or expenditure groups.

4.4.1. Demand for labour sub-matrix 3,2 (see Annexure 2)

In sub-matrix 3,2 (see Annexure 2) compensation of employees can be broken down by type of person employed and the hours worked. According to the QES, employees who work less than 35 hours a week are regarded as part-time workers and those who work more than 35 hours a week are regarded as full-time workers.

Senior managers or professionals are those employees with the highest educational level (university degree) and are classified as skill level four (see Annexure 1). Technicians are those employees with higher educational level (diploma) and are classified as skill level 3. Clerks, service workers or skilled agriculture worker are those employees who complete secondary and are classified as skill level two. Those in skill level one are domestic workers, some of whom have no formal education while others have complete primary school.

LFS also collects data on the highest level of education and the labour market status (see Table 8) using official definition of unemployment. Less than 10% of the total population has acquired tertiary education, only 3% has degree and higher. Majority of total population with tertiary education are economically active (employed) as compared to those with no formal education.

4.4.2. Supply of labour sub-matrix 4,3 (see Annexure 2)

A SAM distinguishes labour input data based on the head of the household and data on compensation of employees classified by population groups, percentile or expenditure groups, educational level, age, gender and urban and non-urban areas. The main focus of the 1998 SAM is on household. Their household consumption expenditure is broken down into four population groups (black African, whites, coloured and Indian or Asian) based on the head of the household and twelve expenditure groups.

In 1998 SAM the black African, Indian or Asian and coloured households spent most of their total expenditure on secondary products (food, beverages, electricity, tobacco, etc) compared to white households who spent most of their total expenditure on tertiary products (real estate, insurance, etc).

The LFS collects data on educational level among population groups and gender. For example in September 2004, the black African population had lower levels of education than the white, coloured and Indian or Asian population (see Table 8). The white population group is more educated than other population groups. Females are less educated than males. The population with no formal education or only primary education work in the primary industries (agriculture, mining) and those with the higher educational levels (degree or post degree) work in tertiary industries.

The LFS collects data on the formal and informal industries. Table 6 indicates that in September 2004 approximately 72,7% of the population received their income from formal industries, and 27,3% of the population received their income from informal and domestic industries.

4.4.3. Final consumption expenditure sub-matrix 1,6 (see Annexure 2)

The income and expenditure survey (IES) collects data on the final consumption expenditure of households. Final consumption expenditure is divided into two components, namely government consumption expenditure (M (1.6)a) and household consumption expenditure (M (1.6)b). Government consumption expenditure consists of expenditure, including imputed expenditure, incurred by the general government on both individual consumption goods and services and collective consumption services. Household consumption expenditure consist of expenditure incurred by the individual consumptions of goods and services.

Household consumption expenditure is further disaggregated into twelve percentile groups. The percentiles are calculated for the total population and are used for all four population groups. According to the 1998 SAM, black African and coloured households spent the major portion of their total expenditure on primary and secondary products (food, tobacco, rubber etc). The white households spent the major portion of their expenditure on tertiary products (real estate, insurance, etc).

5. Conclusion

Labour accounts provide a logical framework for obtaining internally consistent estimates of key labour market variables and their distribution over the population. It is necessary for the description and analysis of the state and dynamics of the labour market and its interaction with the rest of the economy. The labour market is a complex part of the economy covering a variety of agents, exchanges and events, which can be described from different point of views, and from different time perspectives. Labour market data are provided both by social and economic statistics. They can be both short term and detailed structural statistics, and both cross-sectional and flow statistics. Specific surveys are carried out to measure particular aspects of the labour market. Some surveys are about demand for labour (the enterprise point of view) and others are about supply of labour (the households and persons point of view).

5.1. The most important characteristics of the labour accounts:

- Labour accounts units and variables are found in the 1993 System of National Accounts, chapter 17.
- Core variables of labour accounts are: jobs, employed, unemployed and employee labour input at constant compensation, posts, hours of work and full-time equivalents, income from employment, the labour costs and compensation of employees.
- Post is a set of tasks, which are (designed to be) carried out by one person.
- Jobs is an explicit or implicit contract between a person and a resident institutional unit to perform work in return for compensation for a defined period or until further notice. Jobs cover all filled posts. One person may have more than one job. The job is the main unit linking the LAS and SAMs. Jobs connect demand and supply sides of the labour market. Both remuneration and hours are linked to jobs, and are important for the compilation of labour accounts and SAMs. Remuneration is the most important for SAMs linking the labour market with the rest of economy.
- Hours worked is the totals hours worked represent the aggregate number of hours actually worked as an employee or self-employed during the accounting period, when their output is within the production boundary.
- Full time equivalent is the ratio of the total number of hours worked and the average numbers of hours worked in full-time jobs.
- Employee labour input at constant compensation is the current labour input at the levels of compensation of employee jobs ruling during a selected base period.
- Sources used for the compilation of labour accounts are socio-economic accounts, household budget surveys, Establishment surveys on employment, earnings and labour cost, labour force survey, survey of total employment and earnings, family expenditure survey, statistics of employed persons, household survey, average monthly earnings, income and expenditure survey, population census etc.
- Appropriate subdivision of labour income by categories of employed persons permits a better comprehension of the linkage between value added of industries and primary income of household subgroups
- Labour input is disaggregated into gender, educational level, household types and the compensation of employees, age, geographical areas etc. Educational levels is further disaggregated into no formal education, lower primary school, lower secondary, middle secondary, tertiary training, lowly skills levels, middle skills, highly skills levels. Households types is further disaggregated into singles with or without children, couples with or without children, student, pensioners, etc.

- Labour payment is divided into income and expenditure. Expenditure is consists of compensation of employees, intermediate consumption, etc. and income is consists of the output.

5.2. Recommendations

It is proposed that in the 2002 SAM the labour account be treated as an additional external matrix.

For the official labour accounts report:

- Stats SA can extend the net domestic value added sub-matrix 3,2 and the net generated income sub-matrix 4,3, both as external matrices, in the next SAM.
- Stats SA can use the labour force survey and the quarterly employment survey as the labour accounts data sources.
- To compile labour accounts, Stats SA will use the official definition of unemployment as recommended by the International Labour Organisation. This could be expanded for the compilation of the labour accounts to include discouraged work seekers. The latter could add value to the analysis of the labour market, but should only be used as a supplement to the official definition.'
- Household groups can also be classified according to expenditure groups because imputed expenditure information is more reliable than income related data.
- The LFS collects data on educational level, household groups, gender and provinces. Educational level can be aggregated into four groups, no formal education, completed primary school, completed secondary school, completed tertiary education. Skills level can be divided into four groups, unskilled, low skilled, skilled and highly skilled. LFS can also collect data on personal characteristics, including labour market status of the head of household.
- In the compilation of labour accounts, countries can focus their attention on the specific interest of that country (employed versus the labour market (total economically active population)). It is recommended that South Africa compiles the labour accounts for the labour market, thereby including the discouraged work seekers separately.

Given the level of detail necessary to compile labour accounts, it would be an advantage to look at and evaluate all the data series over time

6. Glossary

Compensation of employees	Compensation of employees is as the total remuneration, in cash or kind, payable by an employer to an employer in return for work done by latter during the accounting period (1993 SNA).
Educational level	Educational level is aggregated into no formal education, primary school (grade 1 to grade 7), secondary school (grade 8 to grade 12) diploma or certificate without grade 12 (from lower to grade 11), diploma or certificate with grade 12, degree and other post degree (Stats SA).
Employed	Employed are those who perform work for pay, profit or family gain for at least one hour in the seven days prior to the interview or who were absent from work during these seven days, but did have some form of paid work to return to (ILO).
Employees	Employees are defined as all persons who, by agreement work for another resident institutional unit and receive remuneration (1993 SNA).
Employee labour at constant compensation	Employee labour at constant compensation is the current labour input at the levels of compensation of employees jobs ruling during a selected base period (1993 SNA).
Employer	An employer may be a corporation, a government unit, a non-profit institution, or a person in her/his capacity as owner of an unincorporated post (ILO).
Employment	Employment covers all persons, both employees and self-employed, engaged in some productive activity that falls within the productive boundary (ILO and 1993 SNA).
Gross domestic products	The GDP is a measure of the total value of production of all resident institutional units in the economic territory of a country in a specified period (1993 SNA).
Filled posts	Filled posts is a posts for which an employee has been appointed.
Formal sector	Formal sector includes all businesses which are registered for tax purpose, and which have a VAT number (Stats SA).

Full-time equivalents	Full-time equivalents are defined as the ratio of the total number of hours worked and the average number of hours worked in full-time jobs. When an estimation of the number of hours worked is available, it is obviously used as the numerator. If estimation of the average hours worked in a full time job is not available, estimates of average contractual hours in full-time jobs can be used as the denominator (ILO). Full-time equivalents are defined as the total hours worked divided by average annual hours worked in full-time jobs (1993 SNA).
Hours worked	Hours worked is the totals hours worked represent the aggregate number of hours actually worked as an employee or self-employed during the accounting period, when their output is within the production boundary (1993 SNA and ILO).
Household	A household consists of a single person or a group of people who live together for at least four night a week, who eat together and who share resources (1993 SNA and Stats SA).
Income from employment	Income from employment is any form of reward employee received from the employer, for example, salaries and wages or income in any kind such as uniform, food parcel etc (ILO).
Industries	Industries consist of groups of establishments engaged in the same or similar kinds of activities (Stats SA and 1993 SNA).
Informal sector	Informal industries consist of those businesses that are not registered in any way. They are generally small in nature, and are seldom run from business premises. Instead, they are run from homes, street pavements or other informal arrangements (Stats SA).

Job	A Job comprise filled posts. One person may have more than one job. The LFS asks additional questions of multiple jobholders to get information, at least, about their primary and secondary jobs. On the other hand, QES cover the number of employed persons in enterprises/establishments, which do not know whether their employees have other jobs. Aggregating figures on employed persons over firms measures jobs not persons. Social security records or tax registrations might be another way of showing the relation between jobs and persons (ILO and Stats SA).
Labour accounts	Labour accounts is a statistical system of core variables on consists of a set of tables providing a systematic and consistent overview, mutually and over time, of the core variables (ILO).
Labour cost	Labour cost is all the expenses incurred by employer for a particular task to be completed (ILO).
Labour force	Labour force is the number of people employed plus the number of people unemployed (ILO).
Labour market	Labour market is the supply of people available for employment and the available jobs (ILO).
Mixed income	Mixed income is a measure of the surplus accruing from processes of production before deducting any explicit or implicit interest charges, rents or other property incomes payable on the financial assets, land or other tangible non-produced assets required to carry on the production. Mixed income is the balancing item in the generation of income account of unincorporated enterprises owned by members of households, either individually or in partnership with others i.e. the value added minus compensation of employees payable minus taxes on production payable plus subsidies receivable (1993 SNA).
National accounts	National accounts serves as a framework for statistical systems. It also serves as a point of reference in establishing standards for related statistics. The internationally agreed framework that guides the compilation of national accounts is contained in the SNA (1993 SNA).

Occupational groups	Occupational groups are divided into eleven groups, for example, senior managers, professionals, technicians, services workers, labourers etc (Stats SA).
Ordinary-time hours	Ordinary-time hours paid for are those hours actually worked during normal periods of work. These hours include hours of paid leave taken during the reference period (e.g. sick leave, annual leave) and hours of normal shift work (Stats SA).
Person outside the labour force	Person outside the labour force is a person who performs unpaid work such as household work, care giving for households member and purchasing goods and services for the household (ILO).
Population group	<p>Population is the annual average number of persons present in the economic territory of a country (1993 SNA).</p> <p>Population group describes the racial classification of a particular group of South African citizens. The previous government used legislation to impose this type of classification, to divide the South African population into distinct groupings on which to base apartheid policies. For quite a different reason it remains important for Stats SA to continue to use this classification wherever possible. It clearly indicates the effects of discrimination of the past, and permits monitoring of policies to alleviate discrimination. Note that, in the past, population group was based on a legal definition, but it is now based on self-perceptions and self-classification. An African person is someone who classifies him/herself as such. The same applies to a coloured, Indian or Asian and white person (Stats SA).</p>
Post	Post is defined as a set of tasks, which are (designed to be) carried out by one person. Post may be vacant. (ILO)
Production boundary	The production of all individual or collective goods or services that are supplied to units other than their producers, or intend to be supplied, including the production of goods or services used up in the process of producing such goods or services (ILO and 1993 SNA). Production boundary is also defined as the own-account production of all goods that are retained by their producers for their own final consumption or gross capital formation (1993 SNA).

Remuneration	Remuneration is a major part of income from employment which also contains the income from self-employment (ILO).
Social accounting matrix	SAM is a presentation of a SNA account in a matrix form, which elaborates on the linkages between SU-tables and institutional sectors accounts (1993 SNA).
Supply and use tables	Supply and use tables are sometimes referred to as rectangular input-output tables, make and use tables, supply and disposition of commodities tables. The SU-tables framework has two tables. The SU-tables are industry-by-product matrices and both industry and commodity classifications are used (1993 SNA).
System of National Accounts	The SNA consists of a coherent, consistent and integrated set of macroeconomic accounts, balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules. The latest version of the SNA was published by the United Nations, in co-operation with other international organizations, in 1993.
Unemployment	Unemployed are those people within the economically active population, who: (a) did not work during the seven days prior to the interview, (b) want to work and are available to start work within two weeks of the interview, (c) have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview (ILO and Stats SA).
Vacancies	Vacancies are available funded positions/posts for immediate filling on the survey reference date and for which recruitment action had been taken (ILO).
Vacant post	Vacant post is a post available in a department for which there is no candidate to occupy (ILO).
Value added	Value added measures the value created by production and may be calculated either before or after deducting the consumption of fixed capital on the fixed assets used (1993 SNA).

7. Annexures

Annexure 1: Occupational group by skill levels and educational levels

Annexure 1 shows the occupational group, skills levels and educational levels.

Occupational group	Skill level	Educational level
Senior managers Legislator Professionals	4 4 4	Education which begins at the age of 18 or 19, lasts three, four or more years and leads to a university or post-graduate university degree
Technicians	3	Education which begins at the age of 17 or 18, lasts one to four years, and leads to an award not equivalent to a first university degree
Clerks Services workers Skilled agricultural workers Craft workers Plant and machine operators	2 2 2 2 2	Secondary education which begins at the age of 13 or 14 last about five years. A period of on-the-job training and experience may be necessary
Elementary occupations Domestic workers	1 1	Primary education which generally begins at the age of 6 Or 7 and lasts about seven years. Including persons without any formal primary education, or with incomplete primary education.

Source: Report No. 04-03-02 (1998), Statistics South Africa

Annexure 2: National Accounting Matrix (NAM), 1998

Integrated Economic Account (classification)	0. Goods & services (products)	I. Production (industries)	II.1.1. General of income (race and occupations)	II.1.2. Allocation of primary income (institutional sectors)	II.2. Secondary distribution of income (institutional sectors)	II.4. Use of disposable income (race and percentiles)	III.1. Capital		III.2. Financial (financial intermediaries)	V. Rest of the world		Residual	TOTAL
							Change in inventories	Gross fixed capital formation		II. Current	III.1. Capital		
Goods & services	Trade & transport 0	Use 671 101				Final consumption exp 607 082	Change in inventories -2 634	Gross fixed capital formation 125 876		190 189		622	1 592 238
I. Production (industries)	Supply/ 1 345 556												1 345 556
II.1.1 Generation income (race and		<i>Domestic net value added, 577 868</i>								Compensation of employees from R 503			578 371
II.1.2 Allocation primary income	Taxes less subsidies on products 65 050		<i>Net generated income, 576 072</i>	Property income: resident 365 643						Property income from ROW 6 690			1 013 455
II.2 Secondary distribution of income				<i>Net national Y 625 587</i>	Current transfers resident sector 331 589					Current transfers from ROW 334		-622	956 888
II.4 Use of disposable income (race and percentile)					<i>Net disposable income 620 872</i>	Adj. for change in net equity hh. on resident pension 27 228				Adj. for change in net equity of hh. on pension funds from R 0			648 100
III.1 Capital						<i>Net saving 13 790</i>	Capital transfers 0		Borrowing 334 315		Capital transfers from 134		348 237
		Consumption of fixed capital 96 587					Net fixed capital 29 289						125 876
III.2 Financial (intermediaries)							Lending 321 139				<i>Net lending of ROW 13 174</i>		334 315
V.II Rest of the world, current	Imports 181 632		Compensation of employees 2 299	Property income to ROW 22 225	Current transfers to ROW 4 427	Adj. for change in net equity of 0							210 583
V.III.1 Rest of the world,							Capital transfers to 443			<i>Current external 12 867</i>			13 308
TOTAL	1 592 238	1 345 556	578 371	1 013 455	956 888	648 100	348 237	125 876	334 315	210 583	13 308	0	

Source: Report No. 04-03-02 (1998), Statistics South Africa

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