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Social Accounting Matrix

Linking the Social Accounting Matrix to
existing government strategies for South Africa

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Linking the Social Accounting Matrix to existing government strategies for South Africa

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Abbreviations

AA	Affirmative Action
ABET	Adult Basic Education and Training
AgriBEE	Agricultural Black Economic Empowerment
AsgiSA	Accelerated and Shared Growth Initiative for South Africa
B-BBEE	Broad-Based Black Economic Empowerment
BEE	Black Economic Empowerment
CGE models	Computable General Equilibrium models
CPI	Consumer Price Index
CPIX	Consumer Price Index (excluding interest rates on mortgage bonds)
DME	Department of Minerals and Energy
DoA	Department of Agriculture
DoE	Department of Education
DST	Department of Science and Technology
ECD	Early Childhood Development
EE	Employment Equity
GDP	Gross Domestic Product
GHS	General Household Survey
ICT	Information and Communication Technology
IEA	Integrated Economic Accounts
JIPSA	Joint Initiative on Priority Skills Acquisition
MDG	Millennium Development Goals
MPC	Monetary Policy Committee
NAM	National Accounts Matrix
Repo Rate	Repurchase Rate
SAM	Social Accounting Matrix
SARB	South African Reserve Bank
SASA	South African Schools Act
SASCO	South African Standard Classification of Occupation
SIC	Standard Industrial Classification of all Economic Activities
1993 SNA	1993 System of National Accounts
Stats SA	Statistics South Africa
SU-tables	Supply and Use tables
VAT	Value Added Tax
WINSA	Women in Nuclear South Africa

1 Introduction

South Africa is a dynamic country which has experienced significant political, economic and social changes over the last decade. Along with introducing a new Constitution for the country, the South African government has adopted numerous strategies and policies that are aimed at eradicating poverty and improving the overall quality of life for all citizens. High-quality measurement tools are necessary to evaluate the success of these strategies.

One of the measurement tools that can be used in determining the success of government strategies and policies is the Social Accounting Matrix (SAM). The SAM is defined by the 1993 System of National Accounts (1993 SNA) as a 'presentation of the System of National Accounts in a matrix format, which elaborates on the linkages between Supply and Use tables (SU-tables) and institutional sector accounts¹.' The SAM 'reflects the economic relationship between the sectors of the economy by identifying monetary transactions (expenditure and receipts) between them².' It therefore allows for a study of vital issues that are of a particular interest to a country, such as 'an analysis of interrelationships between structural features of an economy and the distribution of income and expenditure among household groups³.' Since a SAM links traditional macro-economic indicators such as the Gross Domestic Product (GDP) to indicators of socio-economic concern, for example, population group and income distribution, it is a valuable tool to use in policy monitoring and evaluation. It achieves the socio-economic aspect by dividing households into meaningful subgroups (e.g. occupational groups and skill levels) whereby the economic significance of each group is highlighted.

The SAM provides a tool for policy analysis from an analytical point of view. The accounting structure implied by a SAM can be used for all kinds of analyses, varying from simple analyses of income level and distribution changes and Keynesian multiplier analysis, through a somewhat more realistic 'fixed price' analysis with income and expenditure elasticities deviating from one, to comprehensive, price endogenous Computable General Equilibrium models (CGE models)⁴. There has been an increase in the use of CGE models for policy-making⁵. Other econometric models derived from the SAM can also be used for policy design and analysis.

This discussion document highlights the use of the SAM in analysing socio-economic dimensions. It then looks at some of the current acts, policies and strategies that have been adopted by the South African government such as the Accelerated and Shared Growth Initiative for South Africa (AsgiSA), monetary-, fiscal- and education policies, skills development and Black Economic Empowerment (BEE). It also illustrates how users can be informed on the progress of these strategies by using the SAM. A broader overview of uses of the SAM within government is then given. Finally Table 8 (see p. 26) of this document provides a quick summary of the different policies and how they can be informed by the SAM.

¹ 1993 System of National Accounts

² Final Social Accounting Matrix (Report No. 04-03-02 (2002)). Statistics South Africa

³ Final Social Accounting Matrix (Report No. 04-03-02 ((2002)). Statistics South Africa

⁴ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁵ National Treasury uses the SAM as a basis for its CGE model

2 The use of the Social Accounting Matrix in analysing socio-economic dimensions

The SAM provides unique insight into the 1993 SNA. It plays an important role in linking data from both social and economic origins. Therefore, the interdependence between a wide spectrum of economic sectors and industries, as well as a wide variety of information about employment, capital, households and population groups is illustrated in the SAM⁶. The analysis of these social and economic interrelationships occurs by linking mostly macro-economic statistics of national accounts with mostly micro-economic statistics of the labour market and of households.⁷ Thus, the purpose of the SAM is to quantify the circular flow of economic activity as widely as possible⁸.

The SAM integrates SU-tables and institutional sector accounts into a single matrix format based on the 1993 SNA. It is built within the basic framework of a National Accounting Matrix⁹ (NAM) where each entry of the NAM is expanded into a sub-matrix whose rows and columns identify groups of transactors or categories of transactors. The totals from the NAM are used as control totals in the SAM¹⁰.

By expanding the NAM, a further set of coherent sub matrices is provided which focuses on the role of people in the economy with a breakdown of households and then their representation in the labour market. The 1998 and 2002 SAMs compiled for South Africa focused on the income and expenditure patterns of households broken down into meaningful subgroups so that the economic significance of each of them became apparent. Expenditure patterns made use of four population groups and twelve final household consumption expenditure groups (see Annexure 1), which used percentile cut-off points based on total final household consumption expenditure¹¹¹². The income earned by households was sub-divided by four population groups as well as occupational categories (linked to four skill levels) (see Annexure 2). As a result, information on income distribution and economic welfare of the four population groups illustrated in the SAM framework supplements the information supplied by the conventional national accounts system¹³.

The data required for the compilation of the SAM are collected from a variety of sources from within Stats SA (such as the national accounts, population censuses and household income and expenditure surveys), and externally, from the South African Reserve Bank (SARB) (i.e. the integrated economic accounts (IEA) and internal unpublished working documents). A SAM incorporates and reconciles the data from different sources and reference years to ensure consistency¹⁴. As a consequence, the SAM assists in ensuring consistency between a range of social and economic statistics from different sources based on the 1993 SNA framework.

⁶ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁷ Handbook on Social Accounting Matrices and Labour Accounts

⁸ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁹ 'The NAM is a matrix presentation that distinguishes between different kinds of accounts at the highest level of aggregation. This presentation can be elaborated by expanding the individual cells to show the kinds of transactions between different economic subjects involved in each account. The units (product group, industry, sector) used to break down each cell will vary according to the nature of the account.' For more detail on a NAM refer to Final Social Accounting Matrix (Report No. 04-03-02 ((1998)). Statistics South Africa

¹⁰ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

¹¹ Imputed expenditure

¹² Final Social Accounting Matrix (Report No. 04-03-02 (2002)). Statistics South Africa

¹³ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

¹⁴ Final Social Accounting Matrix (Report No. 04-03-02 (2002)). Statistics South Africa

Table 1 highlights the different data sources used in the 1988, 1998 and 2002 SAMs.

Table 1: Main data sources of the 1988, 1998 and 2002 SAMs

1988 SAM	1998 SAM	2002 SAM
1988 Input-output tables and national accounts statistics	1998 SU- tables (unpublished) and national accounts statistics	2002 SU-tables and national accounts statistics
	1998 Integrated economic accounts (unpublished)	2002 Revised integrated economic accounts (unpublished)
1991 Population census for South Africa	1996 Population census for South Africa	2001 Population census for South Africa
1990 Household income and expenditure survey	1995 Household income and expenditure survey	2000 Household income and expenditure survey
Published and unpublished data from the SARB, e.g. Remuneration of foreign and domestic workers	Published and unpublished data from the SARB, e.g. Remuneration of foreign and domestic workers	Published and unpublished data from the SARB, e.g. Remuneration of foreign and domestic workers
		Labour Force Survey (September 2002)

Source: Statistics South Africa *Final Social Accounting Matrix 2002 (Report No. 04-03-02 (2002))*

The 2002 SAM introduced labour accounts as external matrices. Labour accounts can be described as a statistical system of core variables regarding the labour force which provide a systematic and consistent overview, mutually and over time, of the composition of these core variables. The core variables include educational qualification, jobs (both number of jobs and the type of job), number of employees, hours worked, gender, population group and urban and non-urban areas. Labour accounts therefore focus on economic activities related to the labour market¹⁵¹⁶. The use of the labour accounts in conjunction with the SAM allows for a socio-economic study of the country which is beneficial to policy-makers in reviewing or analysing the impact of current strategies or identifying new strategies that are needed¹⁷.

Table 2 outlines some of the characteristics of the 1988, 1998 and 2002 SAMs. The characteristics are compared in respect of the methodology and classification system used, as well as the level of detail available for various variables.

¹⁵ Handbook on Social Accounting Matrices and Labour Accounts

¹⁶ Labour Accounts links the labour variables with National Accounts totals

¹⁷ A detailed explanation on the compilation of labour accounts can be found in the discussion document 'Labour accounts for South Africa (D0403 (2005)). Statistics South Africa

Table 2: Comparison of characteristics of the 1988, 1998 and 2002 SAMs

1988 SAM	1998 SAM	2002 SAM
Compiled according to the 1968 SNA	Compiled according to the 1993 SNA	Compiled according to the 1993 SNA
Compiled according to the Standard Industrial Classification of all Economic Activities (SIC) (4 th Edition)	Compiled according to the SIC (5 th Edition)	Compiled according to the SIC (5 th Edition)
Emphasis on income distribution	Emphasis on income distribution	Emphasis on income distribution
23 Industries	27 industries	27 industries
Agriculture, hunting, forestry and fishing	Agriculture, hunting, forestry and fishing	Agriculture, hunting, forestry and fishing
Coal mining	Mining of coal and lignite	Mining of coal and lignite
Gold mining	Mining of gold and uranium ore	Mining of gold and uranium ore
Other mining activities	Other mining activities	Other mining activities
Manufacturing of food, beverages and tobacco products	Manufacturing of food products, beverages and tobacco products	Manufacturing of food products, beverages and tobacco products
Manufacturing of textiles, clothing and leather products	Manufacturing of textiles, clothing and leather products (except footwear)	Manufacturing of textiles, clothing and leather products (except footwear)
Manufacturing of wood and wood products including furniture	Manufacturing of footwear	Manufacturing of footwear
Manufacturing of paper and paper products, printing and publishing	Manufacturing of wood and wood products including furniture, articles of straw and plaiting materials, paper and paper products, publishing, printing and reproduction of record media and recycling	Manufacturing of wood and wood products including furniture, articles of straw and plaiting materials, paper and paper products, publishing, printing and reproduction of record media and recycling
Manufacturing of non-metallic mineral products	Manufacturing of other non-metallic mineral products	Manufacturing of other non-metallic mineral products
Manufacturing of chemicals and chemical products	Manufacturing of petroleum, chemical, rubber and plastic products	Manufacturing of petroleum, chemical, rubber and plastic products
Basic metal industries	Manufacturing of metal products, machinery and office equipment	Manufacturing of metal products, machinery and office equipment
Manufacturing of metal products, machinery and transport equipment	Manufacturing of transport equipment	Manufacturing of transport equipment
Other manufacturing industries	Electricity, gas, steam and hot water	Electricity, gas, steam and hot water
Electricity, gas and water	Collection, purification and distribution of water	Collection, purification and distribution of water
Building construction	Construction	Construction
Civil engineering and other construction	Wholesale and retail trade	Wholesale and retail trade
Wholesale and retail trade	Hotels and restaurants	Hotels and restaurants
Catering and accommodation services	Transport and storage	Transport and storage
Transport and storage	Post and telecommunications	Post and telecommunications
Communication	Financial intermediation and insurance	Financial Intermediation and insurance
Financing, insurance, real estate and business services	Real estate activities	Real estate activities
Community, social and personal services	Business services	Business services
Other	General government	General government
	Health and social work	Health and social work
	Other community, social and personal services	Other community, social and personal services

Table 2: Comparison of characteristics of the 1988, 1998 and 2002 SAMs (continued)

1988 SAM	1998 SAM	2002 SAM
<p>Quintiles calculated on household per capita income</p> <p>Different cut-off points were used for each quintile in each population group, namely:</p> <p>All population groups</p> <p>Q1: R1 – R375</p> <p>Q2: R376 – R912</p> <p>Q3: R913 – R1 962</p> <p>Q4: R1 963 – R5 192</p> <p>Q51: R5 193 – R10 528</p> <p>Q52: R10 529+</p> <p>White</p> <p>Q1: R1 –R5 594</p> <p>Q2: R5 595 – R9 441</p> <p>Q3: R9 442 – R14 028</p> <p>Q4: R14 029 – R21 272</p> <p>Q51: R21 273 – R31 650</p> <p>Q52: R31 651+</p> <p>Coloured</p> <p>Q1: R1 – R733</p> <p>Q2: R734 – R1 388</p> <p>Q3: R1 389 – R2 319</p> <p>Q4: R2 320 – R4 323</p> <p>Q51: R4 324 – R6 731</p> <p>Q52: R6 731+</p> <p>Indian/Asian</p> <p>Q1: R1 – R1 594</p> <p>Q2: R1 595 – R2 805</p> <p>Q3: R2 806 – R4 406</p> <p>Q4: R4 406 – R7 511</p> <p>Q51: R7 512 – R10 719</p> <p>Q52: R10 7209+</p> <p>Black</p> <p>Q1: R1 – R286</p> <p>Q2: R287 – R631</p> <p>Q3: R632 – R1 225</p> <p>Q4: R1 226 – R2 607</p> <p>Q51: R2 608 – R4 462</p> <p>Q52: R4 463+</p>	<p>Percentiles calculated on imputed household expenditure</p> <p>The same cut-off points were used for percentiles in all the population groups, namely:</p> <p>All population groups</p> <p>P1: R1 – R540</p> <p>P2: R541 – R5 700</p> <p>P3: R5 701 – R8 496</p> <p>P4: R8 497 – R10 716</p> <p>P5: R10 717 – R12 996</p> <p>P6: R12 997 – R15 828</p> <p>P7: R15 829 – R19 992</p> <p>P8: R19 993 – R26 556</p> <p>P9: R26 557 – R37 884</p> <p>P10: R37 885 – R57 816</p> <p>P11: R57 817 – R75 840</p> <p>P12: R75 841+</p>	<p>Percentiles calculated on imputed household expenditure</p> <p>The same cut-off points were used for percentiles in all the population groups, namely:</p> <p>All population groups</p> <p>P1: R1 – R3 496</p> <p>P2: R3 497 – R7 538</p> <p>P3: R7 539 – R9 070</p> <p>P4: R9 071 – R11 307</p> <p>P5: R11 308 – R12 933</p> <p>P6: R12 934 – R14 802</p> <p>P7: R14 803 – R17 930</p> <p>P8: R17 931 – R23 364</p> <p>P9: R23 365 – R33 340</p> <p>P10: R33 341 – R56 696</p> <p>P11: R56 700 – R70 118</p> <p>P12: R70 119+</p>
<p>6 Quintiles (calculated on household per capita income)</p> <p>Q1: 0–20% of the population</p> <p>Q2: 21–40% of the population</p> <p>Q3: 41–60% of the population</p> <p>Q4: 61–80% of the population</p> <p>Q51: 81–90% of the population</p> <p>Q52: 91–100% of the population</p>	<p>12 Percentiles (calculated on imputed total household expenditure)</p> <p>P1: 0–5% of the population</p> <p>P2: 6–10% of the population</p> <p>P3: 11–20% of the population</p> <p>P4: 21–30% of the population</p> <p>P5: 31–40% of the population</p> <p>P6: 41–50% of the population</p> <p>P7: 51–60% of the population</p> <p>P8: 61–70% of the population</p> <p>P9: 71–80% of the population</p> <p>P10: 81–90% of the population</p> <p>P11: 91–95% of the population</p> <p>P12: 96–100% of the population</p>	<p>12 Percentiles (calculated on imputed total household expenditure)</p> <p>P1: 0–5% of the population</p> <p>P2: 6–10% of the population</p> <p>P3: 11–20% of the population</p> <p>P4: 21–30% of the population</p> <p>P5: 31–40% of the population</p> <p>P6: 41–50% of the population</p> <p>P7: 51–60% of the population</p> <p>P8: 61–70% of the population</p> <p>P9: 71–80% of the population</p> <p>P10: 81–90% of the population</p> <p>P11: 91–95% of the population</p> <p>P12: 96–100% of the population</p>

Table 2: Comparison of characteristics of the 1988, 1998 and 2002 SAMs¹⁸ (concluded)

1988 SAM	1998 SAM	2002 SAM
Population groups Black Coloured Asian White	Population groups Black African Coloured Indian/Asian White Unspecified group	Population groups Black African Coloured Indian/Asian White
Gender dimension not included	Gender dimension included in external matrix	Gender dimension included in external matrix
Rural/urban dimension not included	Rural/urban dimension included in external matrix explicitly	Rural/urban dimension included in external matrix explicitly
Skills levels not included	4 skill levels (linked to occupation group) included: Legislator, senior officials and managers (4) Professionals (4) Technicians and associate professionals (3) Clerks (2) Service workers and shop market sales workers (2) Skilled agricultural and fishery workers (2) Craft and related trade workers (2) Plant and machine operators and assemblers (2) Elementary occupations (excluding domestic) (1) Domestic worker (1) Occupation unspecified (1) Unspecified (population group)	4 skill levels (linked to occupation group) included: Legislator, senior officials and managers (4) Professionals (4) Technicians and associate professionals (3) Clerks (2) Service workers and shop market sales workers (2) Skilled agricultural and fishery workers (2) Craft and related trade workers (2) Plant and machine operators and assemblers (2) Elementary occupations (excluding domestic) (1) Domestic worker (1) Undetermined (1)
	Income intervals (from 1996 population census) R1 – R200 R201 – R500 R501 – R1 000 R1 001 – R1 500 R1 501 – R2 500 R2 501 – R3 500 R3 501 – R4 500 R4 501 – R6 000 R6 001 – R8 000 R8 001 – R11 000 R11 001 – R16 000 R16 001 – R30 000 R30 000 or more Unspecified	Income intervals (from 2001 population census) R1 – R400 R401 – R800 R801 – R1 600 R1 601 – R3 200 R3 201 – R6 400 R6 401 – R12 800 R12 801 – R25 600 R25 600 – R51 200 R51 201 – R102 000 R102 001 – R204 800 R204 201 or more
Labour accounts not included	Labour accounts not included	Labour accounts included in external matrix

Source: Statistics South Africa *Final Social Accounting Matrix 2002 (Report No. 04-03-02 (2002))*

¹⁸ In 1998, the occupational groups were divided into 11 occupational categories (including unspecified) and the population groups were divided into five population groups (including 'unspecified'). For 2002, the 'unspecified' category was distributed across the eleven occupational categories and the four population groups (imputation done in the 2001 census)

The publication titled 'Overview of the 1998 Social Accounting Matrix'¹⁹ provides information on the socio-economic conditions of the South African population with the emphasis on income and expenditure patterns that is based on the 1998 SAM. It provides comparisons between specific areas of interest (such as population group and gender) for variables such as the 'generation of individual income' and 'final household consumption expenditure' and is therefore an example of the kind of analysis that is possible with the use of a SAM.

The SAM provides various options for analysis such as a description of inequalities among household groups through specific variables like income, expenditure and education. In addition, the SAM can 'identify subgroups in which the households are typically poor, with specific needs which cannot be properly met in these groups, and, above all, it allows for analyses concerning some of the causes and consequences of these circumstances'²⁰. It allows for the impact of policies to be monitored and analysed in an interrelated manner owing to the integration of a large quantity of social and economic data. This makes SAMs vital for monitoring and analysing policy issues relating to poverty, unemployment and inequality. A theoretical background on the compilation of the SAM can be found in the report 'Final Social Accounting Matrix, 1998' (Report No. 04-03-02 (1998))²¹.

¹⁹ www.statssa.gov.za

²⁰ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

²¹ www.statssa.gov.za

3 Government strategies to decrease poverty, unemployment and inequality

Government has introduced several strategies, initiatives and policies in order to achieve its socio-economic goals. These include AsgiSA and various monetary and fiscal policies. Instrumental changes have also been made by government to the structure of the education department such as the introduction of educational strategies and skills development programmes which will ensure that the youth are better equipped to find employment in the labour force. A strategy implemented to ensure equality in the workplace is the Broad Based Black Economic Empowerment (B-BBEE) initiative through the Employment Equity (EE) and Affirmative Action (AA) policies. These policies aim to create opportunities with immediate effect as well as long-term opportunities for all individuals in the country.

3.1 The Accelerated and Shared Growth Initiative for South Africa

3.1.1 A brief outline of the Accelerated and Shared Growth Initiative for South Africa

In 2004, government set a mandate stating that the level of unemployment (which was then just over 26%)²² and poverty have to be halved by 2014 through an initiative called AsgiSA. The official goal is to have maximum unemployment of 14% by 2014²³. This initiative is in line with the Millennium Development Goals (MDG)²⁴ that relates to eradicating extreme poverty and hunger. AsgiSA is supported by key groups in the economy such as business, labour, state owned enterprises, government economic agencies, entrepreneurs and all spheres of government and consists of targets for the GDP which will ensure that these social objectives are met. In order to achieve this mandate, a 4,5% or higher average annual growth rate as measured by the GDP is needed for the period 2005 to 2009, followed by an average annual growth rate of at least 6% for 2010 to 2014 for South Africa²⁵. The revised annual growth in the GDP at constant prices for 2005 was 5,0%²⁶.

The high annual growth rate objective will only be achievable if the government addresses constraints such as the shortage of suitably skilled labour and the special distortions of apartheid affecting low-skilled labour costs²⁷, relative volatility of the currency, limits to competition, and limited new investment opportunities²⁸.

²² Labour Force Survey (March 2005). Statistics South Africa

²³ Development Indicators (Mid-term review) The Presidency, Republic of South Africa

²⁴ There are eight MDGs that were developed by the OECD at the millennium summit in 2000

²⁵ ASGISA from www.info.gov.za/AsgiSA/AsgiSA.htm

²⁶ GDP release (P0441) (November 2007). Statistics South Africa.

²⁷ AsgiSA Annual Report 2006

²⁸ AsgiSA from www.info.gov.za/AsgiSA/AsgiSA.htm

Several interventions were derived to counter these constraints with the aim of ensuring that government objectives are met. These interventions fall into six broad categories, namely²⁹:

- Infrastructure programmes;
- Sector investment (or industrial) strategies;
- Skills and education initiatives;
- Second economy interventions;
- Macro-economic issues; and
- Public administration issues.

3.1.2 The role of the Social Accounting Matrix in measuring the success of the Accelerated and Shared Growth Initiative for South Africa

The SAM plays a unique role in providing a social dimension to economic data which provide users with an overall view of the socio-economic situation within South Africa. In the SAM, the generation of income in the economy through compensation of employees is disaggregated into four population groups, 27 industries (see Annexure 3), and 11 occupational groups linked to four skill levels (see Annexure 4). The generation of income is further expanded in external matrices in the 2002 SAM.

These external matrices provide a social dimension as economic data (compensation of employees) are disaggregated according to the four population groups, and then by either gender or urban/non-urban characteristics. Both the generation of income sub-matrix in the SAM and the external matrices can be used to inform the success of AsgiSA in its quest to lower unemployment, and more specifically poverty. Table 3 show the structure³⁰ of compensation of employees disaggregated by 27 industries, four population groups, 11 occupational groups linked to four skills levels and gender.

²⁹ AsgiSA from www.info.gov.za/AsgiSA/AsgiSA.htm

³⁰ As it is represented in the 1998 and 2002 SAM

Table 3: Compensation of employees by industry by occupation, population group and gender (Rand)³¹

	Agriculture	Other activities/ services	Total industry
Legislators, senior officials and managers					
African					
Male					
Female					
Total					
Coloured					
Male					
Female					
Total					
Indian					
Male					
Female					
Total					
White					
Male					
Female					
Total					
Total all population groups					
African					
...					
...					
Total all population groups					
Male					
Female					
Total					

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Table 4 illustrates how compensation of employees is disaggregated by 27 industries, four population groups, 11 occupational groups linked to four skills levels and urban and non-urban areas.

³¹ Table 3 is an abridged version of Table 3.1 from the 2002 SAM

Table 4: Compensation of employees by industry by occupation, population group and urban/non-urban area (Rand)³²

	Agriculture	Other activities/ services	Total industry
Legislators, senior officials and managers					
African					
Urban					
Non-urban					
Total					
Coloured					
Urban					
Non-urban					
Total					
Indian					
Urban					
Non-urban					
Total					
White					
Urban					
Non-urban					
Total					
Total all population groups					
African					
...					
...					
Total all population groups					
Urban					
Non-urban					
Total					

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

The 2001 population census data serve as the distribution basis to disaggregate the compensation of employees into the variables of Table 4. The information shows changes in the composition of the labour market (through changes in the compensation of employees by individuals according to different population groups, different occupational groups (linked to skill levels) and industries).

The results can be compared with a poverty line. The poverty line refers to a level of income (or consumption) below which individuals/ households are classified as poor. The user will be able to determine the income distribution (linked to frequency distribution) amongst individuals in different population groups and occupational groups and therefore determine if there has been a change in the number of individuals below the poverty levels in specific industries.

The SAM provides data on final household consumption expenditure disaggregated by population group and percentile (see Annexure 1) for 27 goods and services (see Annexure 5). Final household consumption expenditure for households with low individual income and falling in the low expenditure group have different spending patterns to those households that are in moderate or high expenditure groups.

³² Table 4 is an abridged version of Table 3.2 in the 2002 SAM

Households falling into the low expenditure groups will spend a larger portion of their income on food products whereas households falling into higher expenditure groups will typically have higher expenditure in other industries such as 'financial and business services'.

3.2 Monetary policy

3.2.1 A brief outline of monetary policy

The primary objective of monetary policy as articulated in the Constitution of the Republic of South Africa and in the Reserve Bank Act, 1989 (Act No. 90 of 1989) is to 'protect the value of the currency in order to obtain balanced and sustainable economic growth in the country'³³. Financial stability is needed to achieve this objective and hence the inflation-targeting monetary policy framework was adopted by the SARB in February 2002. This entailed the introduction of an inflation target range of 3,0% to 6,0%³⁴ (as measured by the Consumer Price Index excluding mortgage interest costs (CPIX)) and was set to be achieved by the end of 2002³⁵. It then had to be maintained within that range.

Although price stability is the main objective, growth in money supply, bank credit extension, level of international interest rates, the shape and position of the yield curve, changes in nominal and real salaries and wages, changes in employment, nominal unit labour costs, the gap between potential and actual national output, general money market conditions, changes in asset prices, the overall balance of payments position, the terms of trade and exchange rate developments must still be monitored³⁶.

The principle instrument used by SARB in an attempt to ensure financial stability and maintain inflation within the targeted range is the bank repurchase rate (repo rate). This is the rate charged by SARB to commercial banks if these banks borrow money. Any changes to the repo rate will result in commercial banks adjusting their prime lending rates accordingly. The Monetary Policy Committee (MPC) will therefore need a thorough knowledge of the socio-economic conditions in the country before any changes in the repo rate are made. This includes a study of how interest rate changes will affect the expenditure patterns of individuals and households, their individual salaries and wage levels, labour composition of different industries, studies of the effects on different industries, and international effects from changes in the interest rate.

The MPC should only consider adjusting the repo rate once they have a thorough understanding of economic conditions in the country. To achieve this broad economic knowledge, socio-economic statistics are also needed to monitor the implications and success of their actions.

³³ A New Monetary Policy Framework. South African Reserve Bank

³⁴ The range was set by the Technical Committee which consisted of members from both National Treasury and SARB

³⁵ Average CPIX for 2002 was 9,3%. Statistics South Africa

³⁶ A New Monetary Policy Framework. South African Reserve Bank

3.2.2 The role of the Social Accounting Matrix in informing monetary policy decisions

The SAM can be used to determine the socio-economic effects that monetary policy decisions will have on the economy and population of the country. The links between employment and income distribution to macro-oriented objectives such as GDP and stable price levels come within reach with a SAM³⁷. This is useful information for monetary policy even though the reference year of the SAM is not current. It provides the basic links, which will remain fairly constant over the years³⁸.

In the SAM, final household consumption expenditure is disaggregated into four population groups, 12 expenditure groups (see Annexure 1) and 27 goods and services (see Annexure 5) which illustrate different final household consumption expenditure patterns. These patterns and trends give policy-makers a clear picture of the expenditure of the different expenditure groups within population groups. This will also illustrate which groups will be affected by changes in the repo rate due to the increased cost of credit. The MPC also needs to consider the impact of changing the repo rate will have on different industries because some industries will be affected to a greater degree than others. This, in turn, affects individuals working in those specific industries, the compensation they earn and their expenditure patterns which could have a ripple effect on the economy.

The SAM records payment made between (sub)sectors³⁹ which provides a thorough analysis of transmission mechanisms in the economy. Since the SAM includes both monetary and non-monetary variables, it allows for an analysis of the impact of monetary policy decisions on the holdings of both financial and non-financial assets and liabilities⁴⁰. The capital and financial accounts provide the links between the real and financial economy. The capital accounts also show which (sub)sectors have invested in which industries of the domestic economy and which (sub)sectors have invested abroad, the linkages between financing the real sector dynamics are thus better revealed⁴¹.

Another indicator needed for monetary policy, although it is not part of its main objective, is an indication of changes in salaries and wages. This can provide a clear picture of the economic situation of households in the country. It shows changes in the salaries and wages and the effect of inflation on individual incomes. Compensation of employees which is linked to salaries and wages is obtainable from the SAM from the generation of income sub - matrix as well as in the external matrices.

The population census data served as a distribution basis in order to obtain average individual compensation of employees for different population groups and industries within the SAM⁴². The socio-economic breakdown of compensation of employees can therefore be obtained from the SAM.

³⁷ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

³⁸ The socio-economic structure of a country does not change drastically in the short-term

³⁹ Institutional sectors

⁴⁰ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁴¹ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁴² Population census data linked with National Accounts totals

The goal of financial stability as part of monetary policy can be illustrated in the SAM. The level of production in the production accounts in the SAM illustrates the state of production in the economy. Production figures are disaggregated into 27 industries (see Annexure 3) and then according to the 27 goods and services produced (see Annexure 5). Comparisons of trends between years illustrate major changes in the production account for each of the different industries and then for the products that are produced in those industries. Consumption levels, which can also provide signs of financial instability, are also illustrated in the SAM in the final household consumption expenditure. If these figures are not constant and do not illustrate a steady increase over the years, one of the causes might be financial instability. The MPC could use the SAM to create models to determine the financial stability within the country. This will inform the MPC on current socio-economic conditions in the country.

3.3 Fiscal policy

3.3.1 A brief outline of fiscal policy

Fiscal policy refers to government expenditure and the method of funding the spending. National Treasury monitors and controls fiscal policies. The budget compiled by National Treasury provides an outline of the planned expenditure on various public services such as education, police service, defence force, health, etc. Government spending is funded through borrowing as well as through taxes raised according to the country's tax policy. The budget outlines the tax policy that has to be implemented to ensure that enough funds are collected to fulfil the planned government spending.

Careful planning is needed by government to determine the best use of funds to ensure that the country's reconstruction and development needs are met⁴³. Government has identified five important areas for spending, namely⁴⁴:

- Meeting the basic needs of South Africans such as primary health care, and housing grants for the poor and unemployed;
- Investment in the country's infrastructure such as clinics, water, electricity and roads;
- Better schools and training;
- Job creation and better living standards; and
- Ensuring the safety of the people.

In order to ensure that there are sufficient funds available to meet the expenditure in the identified areas, funds are raised from different types of taxes like personal income tax, property tax, company tax, Value Added Tax (VAT), etc.

⁴³ Budget – Your Guide to the Budget National Treasury

⁴⁴ Budget – Your Guide to the Budget National Treasury

National Treasury does periodic impact analyses in order to determine the socio-economic impact that specific events or issues will have on the country. This could influence their decisions on fiscal spending and also give an indication of potential income from planned taxes. One such event that will require an impact analysis would be the 2010 Soccer World Cup. It is important for government to understand the full impact that this event will have on the entire economy. Other impact studies need to be done on a variety of issues or events, including impact analysis to determine the full effect that changes in taxes or levies (such as the fuel levy) will have on the economy.

3.3.2 The role of the Social Accounting Matrix in informing fiscal policy decisions

National Treasury needs to monitor the impact of all fiscal policy decisions in order to ensure tight control over government spending and tax policies. Decisions on government spending have implications across the economy and could have different effects on the different population groups. The SAM can therefore be used by National Treasury in order to form an understanding of both the economic and social implications of fiscal policies.

The CGE model uses economic data to estimate how the economy might react to policy changes or other external factors. This model is used by National Treasury to determine how changes in fiscal policy (through government spending and tax) will infiltrate and affect various sectors or variables. National Treasury uses the SAM as a base for their CGE models as the SAM enables the model to represent the economy as realistically as possible.

The CGE model based on the SAM is also used for impact analysis and as a simulation model to measure socio-economic effects whereby the different scenarios are tested in the model to determine the impact on the different sectors of the economy. The CGE model has been used to measure the impact of the 2010 Soccer World Cup. It can also be used to measure the impact of changes in the fuel levy, oil price shocks, etc. on specific variables such as population group, gender and urban and non-urban areas.

3.4 Education policies

3.4.1 A brief outline of education policies

The importance of good quality education for all South Africans is recognised in the Constitution. 'The Constitution requires education to be transformed and democratised in accordance with the values of human dignity, equality, human rights and freedom, non-racism and non-sexism. It guarantees access to basic education for all, with the provision that everyone has the right to basic education, including adult basic education'⁴⁵. Along with the Constitution, 'section 29 (chapter 2) of the Bill of Rights indicates that everyone has the right to: a basic education, including adult basic education; and to further education, which the state through reasonable measures must make progressively available and accessible'⁴⁶.

⁴⁵ Department of Education Annual Report 2005/2006

⁴⁶ Gauteng Provincial Government Annual Report 2004/2005

The South African Schools Act (SASA) 1996 (Act No. 84 of 1996) is a national legislative mandate that focuses on education and ensures that it is provided to all learners in the country. SASA 'ensures that all learners have right of access to quality education without discrimination, and makes schooling compulsory for children ages 7 to 14'⁴⁷.

The Educational White Paper on Early Childhood Development (ECD) was implemented in 2000 to ensure that children have access to quality early childhood education and to protect the child's right to 'develop to his or her full cognitive, emotional, social and physical potential'⁴⁸. The Adult Basic Education and Training programme (ABET) was introduced to encourage adults to learn to read and write.

In addition to statistics on education for 7 to 14 year olds and on early childhood development, other statistics are needed by the Department of Education (DoE) for planning purposes and for implementing current and future policies and strategies. The DoE will benefit from knowing the total number of individuals that have obtained different levels of education, e.g. the number of people in different population groups who have obtained a highest level of education of Grade 10 or if the number of matriculants is increasing over the years. This means that information regarding the highest level of education by population group, gender, age group and geographic location (urban or rural) will greatly assist the DoE.

3.4.2 Role of the Social Accounting Matrix in evaluating the success of education policies

There are many data sources for information relating to education and the level of education in the economy, but the information provided by the SAM is unique as it provides a socio-economic platform to evaluate the impact of educational policies.

The SAM provides information relating to education⁴⁹ in external labour accounts. By looking at these external matrices of the SAM, the user is able to obtain economic data on compensation of employees earned by workers in the labour force, as well as a social dimension in the form of level of education completed and skill levels, population groups, gender, etc.

The inclusion of the skill levels provides information on the level of education completed for different occupation groups as well as the compensation of employees earned by these groups, population groups and within different industries.

When comparing these figures with past or future SAMs, the user will be able to determine whether there has been a significant change in the compensation of employees earned by a population group within a specific occupation group and skill level. Therefore trends in the link between education and skill levels to actual compensation for different population groups can be identified. This will also assist in measuring if the economy is moving towards equality in the workforce since it provides measures on people with similar skill levels, in a particular industry, but from different population groups and gender.

⁴⁷ Gauteng Provincial Government Annual Report 2004/2005

⁴⁸ Early Childhood Development www.info.gov.za/issues/govtprog.htm

⁴⁹ As pertaining to the labour force of South Africa

The user will also be able to determine whether there were any significant increases in the number of people (by population group and gender) obtaining higher levels of education. This will ultimately indicate improvements in the education levels obtained and the achievement of the DoE goals of improved education for all.

Three external labour account sub matrices in the 2002 SAM⁵⁰ provide further detail on the level of education by looking at both the volume (number of employees) and monetary values of compensation of employees. Table 5 represents the structure of the relevant matrix in the SAM and disaggregates the number of employees into 6 educational level categories (see Annexure 6), 4 population groups and gender across 27 industries (see Annexure 3).

Table 5: Labour accounts – Number of employees by industry by highest level of education, population group and gender⁵¹

	Agriculture	Other activities/ services	Total industry
No schooling					
African					
Male					
Female					
Total					
...					
...					
Total all population groups					
Male					
Female					
Total					

Source: Statistics South Africa *Final SAM (Report No. 04-03-02) (2002)* – external sub - matrix Table 4.1

Table 6 disaggregates the monetary value of compensation of employees into 6 educational level categories (see Annexure 6), 4 population groups and gender across 27 industries (see Annexure 3) in the labour market.

⁵⁰ www.statssa.gov.za

⁵¹ Table 5 is an abridged version of Table 4.1 in the 2002 SAM

Table 6: Labour accounts – Compensation of employees by industry by highest level of education, population group and gender (Rand)⁵²

	Agriculture	Other activities/ services	Total industry
No schooling					
African					
Male					
Female					
Total					
...					
...					
Total all population groups					
Male					
Female					
Total					

Source: Statistics South Africa *Final SAM 2002 (Report No. 04-03-02) (2002)* – external sub - matrix Table 4.3

Finally Table 7 disaggregates the employees who indicated in the first labour accounts (sub-matrix) (Table 5), that they had 'higher' education, into the same 27 industries, but now focuses on 12 areas of study (see Annexure 7) disaggregated further by the 4 population groups and gender.

Table 7: Labour accounts – Number of employees by industry by area of study, population group and gender⁵³

	Agriculture	Other activities/ services	Total industry
Communication studies and language					
African					
Male					
Female					
Total					
...					
...					
Total all population groups					
Male					
Female					
Total					

Source: Statistics South Africa *Final SAM 2002 (Report No. 04-03-02) (2002)* – external submatrix Table 4.2

⁵²Table 6 is an abridged version of Table 4.3 in the 2002 SAM

⁵³Table 7 is an abridged version of Table 4.2 in the 2002 SAM

Comparisons between the 2002 SAM and future SAMs with labour accounts will provide an opportunity for the DoE to measure the progress of their goal of providing an educational system that is free of discrimination. This is possible to measure by looking at Table 5. Over time, this table should illustrate a positive improvement in highest level of education achieved by people that were previously discriminated against on the basis of either their population group or gender. In the current format, the 2002 SAM does not provide details on the number of 7 to 14 year olds that are receiving education, but slight changes to the format in the future may allow for this kind of information to be obtainable.

Information from these external labour accounts will also be useful in determining the progress of several of the educational acts and programmes such as the SASA, ECD and ABET⁵⁴. The only way that people can obtain higher levels of education and at least complete the SASA requirements is through solid ECD programmes. ABET will also increase the highest level of education obtained over time, if it is successful. Table 7 will also provide information on the success of educational acts and programmes as it will indicate the number of workers that have obtained a higher level of education. This table should illustrate an increase over time.

3.5 Skills development

3.5.1 A brief outline of skills development

Identification of skills shortages and skills development will assist in creating opportunities for individuals to enter the workforce and to decrease skills gaps and ultimately lower the unemployment rate in the country. The development of specific skills links up with the AsgiSA and MDG goal of poverty alleviation as it prepares individuals for their future engagement in the labour force. Skills development is also directly related to the DoE goals of providing quality education since addressing specific skills shortages begins at a school level.

The Joint Initiative on Priority Skills Acquisition (JIPSA)⁵⁵ programme was introduced to identify and address skills shortages. JIPSA is made up of government, business and labour organisations, and is aimed at 'speeding up development of skills most needed in South Africa to help the economy grow. It looks at skills shortages and ways to develop these skills'⁵⁶. JIPSA has identified specific areas where there are shortages of skills and has developed plans to address skills in the following⁵⁷:

- Engineering and planning skills for jobs in transport, communication and energy;
- Engineering projects for cities and towns needed by municipalities;
- Management and planning skills in education, health and municipalities; and
- Teacher training for mathematics, science and information and communication technology (ICT) and language skills.

⁵⁴ This can also be obtained from Table 5 in the 2002 SAM as the highest level of education completed by people in the labour force should increase for both genders and all population groups over time

⁵⁵ JIPSA is one of the most important parts of AsgiSA

⁵⁶ JIPSA [www.info.gov/vukuzenzele/pages/jipsa\(1\).htm](http://www.info.gov/vukuzenzele/pages/jipsa(1).htm)

⁵⁷ JIPSA [www.info.gov/vukuzenzele/pages/jipsa\(1\).htm](http://www.info.gov/vukuzenzele/pages/jipsa(1).htm)

Along with developing specific skills, there also needs to be control over the quality of skills developed. The national legislative mandate is the South African Council of Educators Act, 2000 (Act No. 31 of 2000). The purpose of this Act is to 'promote the professional development of educators by ensuring that all educators are appropriately licensed in order to carry out their professional duties'⁵⁸. The DoE needs to have an indication of the number of teachers needed country-wide, as well as their level and area of qualification. A social breakdown (by population group and gender) of this information needs to be obtained and measured to determine if there are sufficient qualified teachers entering the education field.

3.5.2 Role of the Social Accounting Matrix in evaluating skills development

The measurement of skills development is important as it will not only inform the users of the progress of the programmes, but will also allow for a study of current trends highlighting possibilities of skills shortages in the future. The SAM provides a tool to measure skills shortages and to inform government on the success of JIPSA as well as attempts to decrease skills gaps. It supplies valuable information on trends in the field of study undertaken by employees as well as the current skill level which is linked to different occupational groups. Therefore the SAM will be able to supply valuable information on current trends in the field of education and the effect on specific industries.

In the SAM compensation of employees, is broken down into the 4 population groups, 27 industries (see Annexure 3), and 11 different occupational groups linked to 4 skill levels (see Annexure 4). These skill levels that are linked to different occupation groups provide a tool to measure skills shortages within different population groups and within industries.

Table 7 provides information on the number of people according to population group and gender that have obtained a diploma, degree or postgraduate degree, their focus in a specific area of study disaggregated into the 12 different areas of study (see Annexure 7), as well as the industry (see Annexure 1) that they have entered. This information can be used by the JIPSA initiative to identify and measure potential gaps in skills in certain areas such as engineering, mathematics and science⁵⁹. This information will also allow the JIPSA initiative a method to measure the success they have had in each industry in addressing the skills shortages that have been identified.

The external labour accounts in the 2002 SAM⁶⁰, specifically Table 7, will allow the DoE and other users the opportunity to determine the number of people that have studied within a specific field and the industry of their occupation. This will help the DoE or other users to measure the number of people that have studied 'education, training and development' and the number of people specialising in fields where there are known shortages among teachers such as 'physical, mathematical, computer and life sciences'⁶¹. The SAM can also assist the DoE in monitoring the South African Council of Educators Act as the number of qualified professionals broken down by population group and gender in the education field will be obtainable and can then be compared with the department's figures.

⁵⁸ Gauteng Provincial Government Annual Report 2004/2005

⁵⁹ Study of the labour accounts

⁶⁰ www.statssa.gov.za

⁶¹ Linked to the industry in which they are employed

Table 7 can be used by the business sector to detect potential shortages in different industries or skills development areas. They can use this information to determine if there is a need to encourage people to enter a specific field of study by offering potential candidates bursaries or other incentives.

3.6 Black Economic Empowerment

3.6.1 A brief outline of Black Economic Empowerment

BEE was introduced to promote employment specifically for the non-white population groups, women and people with disabilities. The EE Act, 1998 (Act No. 55 of 1998) was passed with the aim of achieving equality in the workforce. EE was designed to ensure 'equal opportunity and fair treatment in employment through the elimination of unfair discrimination'⁶². EE also stipulated the implementation of 'Affirmative Action (AA) measures to redress the disadvantages in employment experienced by designated groups to ensure their equitable representation in all occupational categories and levels in the work force'⁶³.

In 2003, B-BBEE was introduced and the B-BBEE Bill (B27B-2003) was passed.

B-BBEE is defined as⁶⁴:

- An integrated and coherent socio-economic process (through the use of EE and AA) that directly contributes to the economic transformation of South Africa and brings about significant increases in the numbers of black people⁶⁵ that manage, own and control the country's economy, as well as significant decreases in income inequalities.
- Thus the BEE process will include elements of human resource development, employment equity, enterprise development, preferential procurement, as well as investment, ownership and control of enterprises and economic assets.

Ultimately the B-BBEE will lead to the number of top and senior managers broadly reflecting the demographic make-up of the country⁶⁶.

B-BBEE refers to the economic empowerment of all black people and is aimed at⁶⁷:

- Increasing the number of black people that manage, own and control enterprises and productive assets;
- Facilitating ownership and management of enterprises and productive assets by communities, workers, cooperatives, and other collective enterprises;
- Human resource and skills development;
- Achieving equitable representation in all occupational categories and levels in the workforce;
- Preferential procurement; and
- Investment in enterprises that are owned or managed by black people.

⁶² Summary of the Employment Equity Act , Act No. 55 of 1998
www.labour.co.za/basic_guides/bgguide_display.jsp?guide_id=5848

⁶³ Summary of the Employment Equity Act , Act No. 55 of 1998
www.labour.co.za/basic_guides/bgguide_display.jsp?guide_id=5848

⁶⁴ Codes of good practice for Broad-Based Black Economic Empowerment The dti

⁶⁵ 'Black people' is a generic term referring to black Africans, Coloureds and Indians including women, workers, youth, people with disabilities and people living in rural areas through diverse but integrated socio-economic strategies

⁶⁶ Development Indicators (Mid-term Review) The Presidency Republic of South Africa

⁶⁷ Broad-Based Black Economic Empowerment Bill Minister of Trade and Industry (B27B-2003)

B-BBEE covers all the industries within South Africa, but some industries have since expanded the basic B-BBEE to be more specific to their situation. The Department of Agriculture (DoA) established the Agricultural Black Economic Empowerment (AgriBEE) framework in 2004 to provide guiding principles for B-BBEE in the agriculture industry. AgriBEE is defined as a 'sectoral B-BBEE framework intended at a deliberate and systematic support of black South Africans to actively participate fully in the agricultural sector as owners, managers, professionals, skilled employees and consumers'⁶⁸.

Similarly, the mining industry has its own act that stipulates and regulates BEE within minerals and energy. The minerals regulation branch, which is part of the Department of Minerals and Energy (DME), was established to administer the Minerals and Petroleum Resources Development Act 2002, (Act No. 28 of 2002) and other legislation. The Department of Science and Technology (DST) is focusing specifically on promoting women in science. Another industry that has expanded the B-BBEE to cater for their individual needs is the ICT sector. A charter has been established consisting of stakeholders of the ICT in both the private and public sector.

3.6.2 The role of the Social Accounting Matrix in informing Black Economic Empowerment

The SAM provides a mechanism for analysing the progress of specific areas of B-BBEE and EE since it allows for a study of compensation of employees received by the different population groups and gender in the different industries as well as their movement across occupational groups and industries. The main aim of B-BBEE is to achieve equitable representation in all occupational categories and levels of the workforce. This goes along with the goal of having top and senior managers reflect the demographics of the country.

The SAM can assist in measuring movements towards equitable representation and demographic changes to top and senior managers by referring to the compensation of employees in the SAM matrix. The link between occupational groups and skill levels is beneficial as it illustrates movements in population groups between the different skills levels and occupational groups. This will illustrate movement towards equitable representation in the different skills levels and therefore the success of BEE.

Compensation of employees is disaggregated to represent skill level and population group which provides a clear overall picture of the composition of specific people in the workforce. A comparison of the disaggregation in compensation of employees by gender and population groups combined with census data as the distribution basis will illustrate the wealth by gender of individual population groups. This will allow for measurements of changes in demographics of top and senior managers and movements towards equitable representation in the workforce. As more SAMs are compiled with external labour accounts, comparisons can be done between the years and improvements in the B-BBEE will be observed.

⁶⁸ AgriBEE – Department of Agriculture www.nda.agric.za

The impact of B-BBEE in AgriBEE, ICT and other specific industries can be illustrated by the SAM. In Table 3 compensation of employees are disaggregated by occupation, population group, and gender for each specific industry so the user will be able to focus on the specific composition of the individual industry (such as agriculture or mining) in which they are interested in. The user will be able to determine if the aim of creating an equitable workforce has been achieved and if there is an increase in the specified population group or gender in the required industries based on the skills levels.

Table 3 (of this document) provides the social aspect of population group and gender to economic data of compensation of employees in each industry and will therefore indicate if the BEE goals of equal opportunities have been achieved in regard to population group and gender. The breakdown in compensation of employees by gender is useful to measure any changes in women in the workforce which will help to indicate if the DME and DST efforts of improving the working environment for women are successful.

Another aim of the B-BBEE is to ensure there is equitable human resource and skills development amongst the specified designated groups. This aim is illustrated by using the SAM in a similar manner as used by the DoE. The external labour accounts of the 2002 SAM, more specifically Tables 5 and 6, look at the highest level of education completed by population group, gender and industry and then by number of employees (Table 5) and in Rand million (Table 6). This will assist in determining if there has been an increase in level of education obtained by the desired population group and gender as specified by the B-BBEE.

Table 7 indicates the field of study that the different population groups have entered. This table looks at the number of employees, by population group, that have indicated that they have obtained a 'higher education' their specific field of study, and the industry they have entered. It shows if there has been sufficient increases in the number of specified people entering a specific field and industry, and thus will provide a way of measuring if B-BBEE has been successful. This will once again assist the DST in measuring the success of promoting science to women as there should be an increase in the number of women studying in the specific fields like science and technology.

Further success of BEE can be monitored by looking at the different final household consumption expenditure groups. The user can determine if there is an increase in expenditure by the designated population groups by monitoring the possible movement of these people to higher expenditure groups. This will indirectly indicate an increase in the income earned by specific groups since increased income generally leads to increased expenditure. The user could also look at specific goods and services that individuals on higher incomes would spend a greater portion of their income on and then do a comparison with the population groups in order to determine if there has been an increase in specific groups in the goods and services that do better with higher income earners. An example would be to look at the breakdown in expenditure on items such as finance and business services, and compare this with the amount and breakdown of expenditure on items that are more popular amongst lower income earners such as manufactured food products.

4 Linking government strategies to the Social Accounting Matrix

The SAM is a unique tool that can be used by government and other users to monitor both social and economic effects of current strategies, policies and initiatives as well as to determine areas of need for new policies and strategies. The SAM is used to:

- monitor and analyse policy issues interrelatedly owing to the integration of basic data⁶⁹;
- provide a mechanism to combine the two distinct fields of economic and social statistics. This will provide Government with better overall measurement of a wide variety of strategic issues that have both a social and an economic impact on the country;
- provide for a reliable⁷⁰ description of income inequalities amongst household groups. This information is not easily available through regular household surveys which usually underestimate household income and expenditure;
- do simple analysis of income level and distribution changes and Keynesian multiplier analysis⁷¹;
- calibrate the 'base year situation' in price endogenous CGE models which are gaining importance for use in policy-making⁷²;
- record the amounts paid by (sub)sectors to other (sub)sectors which allows for a thorough analysis of transmission mechanisms in the economy. Since the South African SAM has both non-financial and financial accounts, it allows for an analysis of the impact of monetary policy decisions on the holdings of both financial and non-financial assets and liabilities⁷³;
- create a clear picture of the composition of the labour force and changes over time through the inclusion of the labour accounts;

Table 8 provides a brief overview of the different government policies, strategies or initiatives that have been discussed. The table then links these policies to specific sections of the SAM, which can be used to inform government of the success of their policies.

⁶⁹ Final Social Accounting Matrix, 1998 (Report No. 04-03-02 (1998)) Statistics South Africa

⁷⁰ As the SAM integrates household survey data with the the National Accounts totals

⁷¹ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁷² Overview of the 1998 Social Accounting Matrix. Statistics South Africa

⁷³ Overview of the 1998 Social Accounting Matrix. Statistics South Africa

Table 8: Linking the Social Accounting Matrix to existing government strategies

Policy, strategy or initiative	Aim of policy, strategy or initiative	SAM informs or evaluates policy, strategy or initiative	
		Part of the SAM	How the SAM informs government
AsgiSA	Halve unemployment and poverty by 2014. This is to be achieved by obtaining an average of: 4,5% GDP for 2005–2009 and 6,0% GDP for 1010–1014.	In the main SAM matrix and external sub matrices of the SAM disaggregate compensation of employees by: <ul style="list-style-type: none"> • 4 population groups • 11 Occupational groups (4 skill levels) • 27 industries • Gender • Urban and non-urban areas 	The SAM provides a social dimension to economic data. These tables illustrate income distribution amongst individuals in different population groups and occupation groups. These tables provide data on the state of the labour force.
		Expenditure patterns illustrated by final household consumption expenditure, disaggregated by: <ul style="list-style-type: none"> • 4 population groups • 12 final household consumption, expenditure groups • 27 goods and services 	Patterns in the final household consumption expenditure figures indicate changes in poverty levels since these figures provide details on goods and services consumed by households.

Table 8: Linking the Social Accounting Matrix to existing government strategies (continued)

Policy, strategy or initiative	Aim of policy, strategy or initiative	SAM informs or evaluates policy, strategy or initiative	
		Part of the SAM	How the SAM informs government
Monetary policy: Inflation targeting framework	Inflation targeting through price stability. Maintain inflation between the ranges of 3,0%–6,0%	Expenditure patterns illustrated by final household consumption expenditure, disaggregated by: <ul style="list-style-type: none"> • 4 population groups • 12 final household consumption, expenditure groups • 27 goods and services 	Expenditure patterns illustrate population groups that are affected by changes in the Consumer Price Index (CPI) as well as specific goods and services will be affected by changes in the repo rate.
		Records payments made by (sub)sectors to other (sub)sectors	Illustrates the transmission mechanism and the impact of monetary policy decisions on holdings on financial and non-financial data.
	Protect the value of the currency. This is needed for balanced and sustained economic growth and to encourage foreign direct investment.	Rest of the world figures and final household expenditure figures.	These figures assist in determining the amount of imports and exports for specific industries and the effect of a volatile rand on these industries.
Change in nominal and real salaries and wages.	In the main SAM matrix and external sub matrices of the SAM disaggregate compensation of employees by: <ul style="list-style-type: none"> • 4 population groups • 11 Occupational groups (4 skill levels) • 27 industries • Gender • Urban and non-urban areas 	Illustrates changes over time in compensation of employees received by different population groups, occupation groups and industries. The external sub matrices add gender and urban/ non-urban as variables allowing for more detailed analysis of compensation of employees.	

Table 8: Linking the Social Accounting Matrix to existing government strategies (continued)

Policy, strategy or initiative	Aim of policy, strategy or initiative	SAM informs or evaluates policy, strategy or initiative	
		Part of the SAM	How the SAM informs Government
Monetary policy: Inflation targeting framework	Financial stability	Production levels through the production accounts: <ul style="list-style-type: none"> • 27 industries • 27 goods and services produced Consumption levels through final household consumption expenditure, disaggregated by: <ul style="list-style-type: none"> • 4 population groups • 12 final household consumption, expenditure groups • 27 goods and services 	Unusual changes in production (production accounts) and consumption (final household consumption expenditure) over a period of time indicate financial instability.
Fiscal policy	Fiscal policy is implemented through government spending and tax policies.	The SAM is used as a base for CGE models.	The CGE model shows how changes in government spending and tax policy will affect different social and economic variables in the economy. It is also used for impact analysis where the impact of specific events (such as the 2010 soccer world cup) in the economy is illustrated.

Table 8: Linking the Social Accounting Matrix to existing government strategies (continued)

Policy, strategy or initiative	Aim of policy, strategy or initiative	SAM informs or evaluates policy, strategy or initiative	
		Part of the SAM	How the SAM informs government
Educational policies including: SASA, ECD, ABET and skills development through JIPSA	Increased levels of education provided free of discrimination to all individuals starting at early childhood and including adult education.	External labour accounts of the SAM disaggregates number of employees by: <ul style="list-style-type: none"> • 4 population groups • Gender • 27 industries • 6 education levels 	Shows the highest level of education completed and illustrate improvements in the level of education completed by population group and gender over time.
	Identify areas of skills shortages such as engineering, mathematics and science.	External labour accounts of the SAM disaggregates the number of employees who indicated they had 'higher' education in Table 4.1 by: <ul style="list-style-type: none"> • 4 population groups • Gender • 27 industries • 12 areas of study 	Indicates any shortage in skills in specific areas of people that have studied further.
B-BBEE	Equitable representation in all occupation categories and levels. Top and senior managers must represent demographics of the country.	In the main SAM and external sub matrices of the SAM disaggregate compensation of employees by: <ul style="list-style-type: none"> • 4 population groups • 11 Occupation group (4 skill levels) • 27 industries • Gender • Urban and non-urban areas 	Provides a clear picture of the composition of the labour force since it adds the social dimension of population group to compensation of employees. The occupation group linked to skill levels provide an indication of transformation in top and senior manager positions.

Table 8: Linking the Social Accounting Matrix to existing government strategies (continued)

Policy, strategy or initiative	Aim of policy, strategy or initiative	SAM informs or evaluates policy, strategy or initiative	
		Part of the SAM	How the SAM informs government
B-BBEE	BEE skills development	<p>External labour accounts of the SAM disaggregates number of employees into:</p> <ul style="list-style-type: none"> • Gender • 4 population groups • 27 industries • 6 levels of education <p>External labour accounts of the SAM disaggregates number of employees with 'higher education' into:</p> <ul style="list-style-type: none"> • Gender • 4 population groups • 27 industries • 12 areas of study <p>External labour accounts of the SAM disaggregates compensation of employees earned into:</p> <ul style="list-style-type: none"> • Gender • 4 population groups • 27 industries • 6 levels of education 	<p>Tables 5 and 6 (of this document) illustrate the level of education and area of study by gender, population group and industry. This is useful in informing government of the success of BEE in skills development. Table 7 (of this document) provides the monetary breakdown of compensation of employees by population group and gender across the industries. This provides a tool to measure equality at different educational levels.</p>

Table 8: Linking the Social Accounting Matrix to existing government strategies (concluded)

Policy, strategy or initiative	Aim of policy, strategy or initiative	SAM informs or evaluates policy, strategy or initiative	
		Part of the SAM	How the SAM informs government
B-BBEE	Individual industries introduced specific BEE charters such as ICT, AgriBEE and Woman in Nuclear South Africa (WINSA).	<p>In the main SAM and external sub matrices of the SAM disaggregate compensation of employees by:</p> <ul style="list-style-type: none"> • 4 population groups • 11 Occupation group (4 skill levels) • 27 industries • Gender • Urban and non-urban areas 	The compensation of employees provides a clear indication of the breakdown of population group into the different industries. This allows the user to measure if there has been an improvement in the BEE status in specific industries. The external sub matrix provides a disaggregation by gender which informs users of the success of gender specific programmes.

5 Conclusion

The South African government has introduced numerous strategies, initiatives and policies that are aimed at eradicating poverty and improving the overall quality of life for all citizens. Socio-economic conditions in the country need to be measured in order to determine the success of these initiatives and policies. The SAM is a unique tool that combines social and economic data and presents this data in a way that illustrates the current conditions in the country. The SAM can therefore inform government on the impact of many of their strategies.

An area of strategy development for the government is in the field of education. High quality education is of absolute importance for any country that wishes to ensure a prosperous future. Many new programmes like ABET and ECD have been introduced. Analysis of skills shortages across different industries is also of extreme importance in addressing a variety of goals from lowering unemployment to increased productivity. The JIPSA initiative plays an important role in firstly identifying these skills shortage areas and then ensuring that action is taken to decrease these shortages. The government introduced B-BBEE through AA and EE. Different industries have modified the B-BBEE to accommodate for specific individual needs such as AgriBEE. AsgiSA was introduced as an initiative with the focus on lowering unemployment and alleviating poverty.

These new policies, initiatives and strategies have created a strong need for socio-economic statistics that highlight both the economic affects of policy changes as well as the social implications. Economic statistics are not sufficient to provide a clear picture of the effects on different groups of the population. The SAM provides the link between social and economic statistics and will provide the necessary tools to analyse the success of government policies and strategies. The interdependence between a wide spectrum of economic sectors and industries, as well as a wide variety of information about employment, capital, households and population groups is illustrated in the SAM. This will provide Government with better overall measurement of a wide variety of strategic issues that have both a social and an economic impact on the country

The SAM can be used to evaluate the progress of initiatives such as AsgiSA or policies such as B-BBEE. It can also be used as base for models like the CGE model that can to be used by the SARB and National Treasury for monetary and fiscal policy decisions. The DoE will also be informed on the success of their various educational policies and skills development initiatives.

The inclusion of the labour accounts in the 2002 SAM has made the SAM even more beneficial to policy-makers and users as the implications of various policies on the labour force can now be monitored. The labour accounts provide valuable data on the labour force and level of education, both of which play pivotal roles in achieving government's main goals of AsgiSA which are poverty alleviation and halving unemployment. The labour accounts also provide sufficient information on the progress on skills development and the state of education and the success of the DoE programmes.

The SAM is beneficial as it can be used in conjunction with other source data to obtain a fuller and more detailed analysis and measurement of current situations for different population groups, on a gender basis, and by different industries.

Detail on income and expenditure in the main SAM as well as the external submatrices makes the SAM invaluable as a tool to evaluate and inform government on the various acts, policies and initiatives. It provides a tool for both policy-makers and other users to evaluate and measure the ultimate success of policies and strategies introduced within the South African economy.

Recommendations for the compilation and use of future SAMs are:

- Since the coverage of the SAM is very broad, it should be integrated at both policy and action levels among the various levels of government departments and it should also be involved in all spheres of policy-making and evaluation;
- Data from the SAM should be used by government to provide quantitative estimates for measuring the effects of policies or of social developments in a wide variety of industries covering both social and economic fields;
- Research into the possibility of regional SAMs for South Africa should continue. Regional SAMs will benefit policy-makers and other users significantly as they will be informed on the success of policies in individual provinces. The regional SAMs will also create an opportunity for policy-makers to cater policies for specific areas that need attention;
- Although the SAM offers many advantages in its current state, it does not provide any information on sustainability and environmental issues. Potential future research could be focused on analysis of the possibility of expanding the SAM to include these issues;
- Research should be done on the possibility of compiling SAMs more frequently than is currently the case. This will allow policy-makers to obtain a clearer, more up to date picture of the conditions occurring fairly recently in the economy and not conditions that prevailed in the past; and
- Regular 'road shows' to different provinces with the focus of reaching a wide range of policy-makers should be undertaken on a continuous basis. These should explain how SAMs work and how they can be used to inform government strategies. These road shows will also be able to assist policy-makers if the users do not understand how to use the SAM to its full potential.

Please send any comments and/or suggestions on this discussion document to Riaan Grobler (riaang@statssa.gov.za).

6 Glossary

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.
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.
Compensation of employees	The total remuneration, in cash or kind, payable by an employer to an employee in return for work done by the latter during the accounting period.
Gross Domestic Product (GDP)	The total value of goods and services produced within the geographic boundaries of a country for a specified period of time.
Income (Individual)	All money received from salary, wages or own business; plus money benefits from employer, such as contributions to medical aid and pension funds; plus all money from other sources, such as additional work activities, remittances from family members living elsewhere, state pension or grant, other pensions or grants, income from investments, etc.
Labour Accounts	Labour accounts are a statistical system of core variables and consists of a set of tables providing a systematic and consistent overview, mutually and over time, of the core variables.
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.
Occupation	The type of work a person does according to the South African Classification of Occupations (SASCO), irrespective of the industry.
Remuneration	Remuneration is a major part of income from employment which also contains the income from self-employment.
Salaries and wages	Regular payments for work performed.

Social Accounting Matrix	Presentation of a SNA account in a matrix form, which elaborates on the linkages between SU-tables and institutional sectors accounts.
Supply and Use Table	Are sometimes referred to as rectangular input-output tables, make and use tables, supply and disposition of commodities tables.
Supply Table	Table gives information about the resources of goods and services.
Unemployed person (official or strict definition)	<p>Person within the economically active population who</p> <ul style="list-style-type: none"> (a) did not work in the seven days prior to the reference point, (b) wants to work and are available to start work within two weeks* of the reference point, and (c) has taken active steps to look for work or start some form of self-employment in the four days prior to the reference point. <p>(* availability period changed from one week to two weeks in July 2004).</p>
Unemployment	<p>People within the economically active population, who:</p> <ul style="list-style-type: none"> (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.
Use Table	The use table gives information on the uses of goods and services, and also on cost structures of the industries.
Work	Any activity carried out by an individual, and whose product contributes to the national output, irrespective of whether the person doing it is paid (cash or in kind) or not paid.

Annexures

Annexure 1: Percentiles and annual household expenditure, 2002

Percentile	Annual household expenditure R	% of population
P1	1 – 3 492	0 – 5
P2	3 493 – 7 536	6 – 10
P3	7 537 – 9 072	11 – 20
P4	9 073 – 11 304	21 – 30
P5	11 305 – 12 936	31 – 40
P6	12 937 – 14 808	41 – 50
P7	14 809 – 17 298	51 – 60
P8	17 299 – 23 364	61 – 70
P9	23 364 – 33 348	71 – 80
P10	33 349 – 56 700	81 – 90
P11	56 701 – 70 116	91 – 95
P12	70 116+	96 – 100

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Annexure 2: Occupation descriptions and South African Standard Classification of Occupation (SASCO) groups, 1998 and 2002

SAM description (skill level)	Corresponding South African Standard Classification of Occupation (SASCO) groups
Legislators (4)	Legislators; senior government officials; traditional chiefs and heads of villages; senior officers of special-interest organisations; legislators and senior officers not elsewhere classified; corporate managers, directors and chief executives; production and operation managers/ department managers; other managers/ department managers; corporate managers not elsewhere classified; general managers; general managers not elsewhere classified
Professionals (4)	Physicists, chemist and related professionals; mathematicians, statisticians and related professionals; computing professionals; architects, engineers and related professionals; physical sciences technologists; physical, mathematical and engineering science professionals not elsewhere classified; life science professionals; health professionals; nursing and midwifery professionals; life science and health professionals not elsewhere classified; college, university and higher education institutions teaching professionals; secondary education institutions teaching professionals; primary and pre-primary education teaching professionals; special education institutions teaching professionals; other teaching institutions teaching professionals; other education professionals not elsewhere classified; business professionals; legal professionals; archivists, librarians and related information professionals; social science and related professionals; writers and creative or performing artists; religious professionals; other professionals not elsewhere classified

Annexure 2: Occupation descriptions and South African Standard Classification of Occupation (SASCO) groups, 1998 and 2002 (continued)

SAM description (skill level)	Corresponding SASCO groups
Technicians (3)	Natural and engineering science technicians; optical and electronic equipment operators, ship and aircraft controllers and technicians; physical engineering science associate professionals not elsewhere classified; life science technicians and related associate professionals; modern health associate professionals (except nursing); nursing and midwifery associate professionals; traditional medicine practitioners and faith healers; life science and health professionals not elsewhere classified; primary education teaching associated professionals; pre-primary education teaching associate professionals; special education teaching associate professionals; other teaching associate professionals; teaching associate professionals not elsewhere classified; finance and sales associate professionals; business services agents and trade brokers; administrative associate professionals; customs, tax and related government associate professionals; police inspectors and detectives; social work associate professionals; artistic, entertainment and sports associate professionals; religious associate professionals; other associate professionals not elsewhere classified
Clerks (2)	Secretaries and keyboard operating clerks; numerical clerks; material-recording and transport clerks; library, mail and related clerks; other office clerks and clerks not elsewhere classified (except customer services clerks); cashiers, tellers and related clerks; client information clerks; customer services clerks not elsewhere classified
Service workers (2)	Travel attendants and related workers; housekeeping and restaurant services workers; personal care and related workers; other personal services workers; astrologers, fortune tellers and related workers; protective services workers; personal and protective service workers not elsewhere classified; fashion and other models; shop salesperson and demonstrators; stall and market salesperson; models, salesperson and demonstrators not elsewhere classified

Annexure 2: Occupation descriptions and South African Standard Classification of Occupation (SASCO) groups, 1998 and 2002 (concluded)

SAM description (skill level)	Corresponding SASCO groups
Plant and machine operators (2)	Mining and mineral processing plant operators; metal processing plant operators; glass, ceramics and related plant operators; wood-processing and papermaking plant operators; chemical processing plant operators; power-production and related plant operators; automated assembly-line and industrial-robot operators; stationary-plant and related operators not elsewhere classified; metal and mineral-products machine operators; chemical-products machine operators; rubber and plastic products machine operators; rubber and plastic products machine operators; wood products machine operators; printing, binding and paper products machine operators; textile, fur and leather products machine operator; food and related products machine operators; assemblers; other machine operators and assemblers not elsewhere classified; locomotive engine drivers and related workers; motor vehicle drivers and related workers; agricultural and other mobile plant operators; ships' deck crews and related workers; drivers and mobile plant operators not elsewhere classified
Elementary occupations (1)	Street vendors and related workers; shoe-cleaning and other elementary street services occupations; cleaners and launderers; building caretakers and window and related cleaners; messengers, porters, doorkeepers and related workers; garbage collectors and related workers; elementary sales and services occupations not elsewhere classified; agricultural, fishery and related labourers; agricultural, fishery and related labourers not elsewhere classified; mining and construction labourers; manufacturing labourers; transport labourers and freight handlers; labourers in mining, construction, manufacturing and transport not elsewhere classified
Domestic workers (1)	Domestic and related helpers
Occupation unspecified (1)	Armed forces, occupations unspecified; unemployed persons, occupations unspecified; occupations in the informal sector not elsewhere classified; occupations not elsewhere classified; occupations not adequately defined; homemakers; children, not scholars or students (less than 15 years old); scholars, students; pensioners and other not economically active (65 years and older) and labour-disabled (15 to 64 years old) persons; not economically active persons not elsewhere classified; foreign visitors

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Annexure 3: Link between the 27 SAM industries and SIC, 1998 and 2002

Industry code	Industry category in SAM	SU-tables industry description
I1100	Agriculture	1110; 1120; 1130; 1140; 1150; 1160; 1210; 1220; 1310; 1320
I2100	Coal	2100
I2300	Gold	2300
I2500	Other mining	2210; 2410; 2420; 2510; 2520; 2530; 2900
I301-6	Food	3011; 3012; 3013; 3014; 3020; 3031; 3032; 3033; 3041; 3042; 3043; 3044; 3049; 3051; 3052; 3053; 3060
I311-316	Textiles	3111; 3112; 3121; 3122; 3123; 3129; 3130; 3140; 3150; 3161; 3162
I317	Footwear	3170
I331-338	Petroleum	3310; 3321; 3322; 3323; 3324; 3325; 3329; 3330; 3341; 3342; 3343; 3360; 3351; 3352; 3353; 3354; 3359; 3371; 3379; 3380
I341-342	Other non-metallic mineral industries	3411; 3421; 3422; 3423; 3424; 3425; 3426; 3429
I351-359	Basic iron/steel	3510; 3531; 3520; 3532; 3541; 3542; 3543; 3551; 3552; 3553; 3559; 3561; 3562; 3563; 3565; 3564; 3569; 3571; 3572; 3574; 3575; 3573; 3576; 3577; 3579; 3580; 3590
I36	Electrical machinery	3610; 3620; 3630; 3640; 3650; 3660
I371-376	Radio	3710; 3720; 3730; 3741; 3742; 3743; 3750; 3760
I381-387	Transport equipment	3810; 3820; 3830; 3841; 3842; 3850; 3860; 3871; 3872; 3879
I321-6, 391-5	Other manufacturing	3210; 3221; 3222; 3223; 3229; 3231; 3232; 3239; 3241; 3242; 3249; 3251; 3252; 3243; 3260; 3910; 3921; 3922; 3923; 3924; 3929; 3951; 3952
I4100	Electricity	4110; 4120; 4130
I4200	Water	4200
I5	Construction	5021; 5024; 5031; 5032; 5033; 5039; 5041; 5049; 5010; 5022; 5023; 5050
I6100	Trade	6110; 6120; 6130; 6140; 6150; 6190; 6210; 6220; 6230; 6240; 6250; 6260; 6310; 6320; 6330; 6340; 6350
I64	Hotels and restaurants	6410; 6420
I7100	Transport services	7110; 7120; 7130; 7210; 7220; 7300; 7410

**Annexure 3: Link between the 27 SAM industries and SIC, 1998 and 2002
(concluded)**

I7500	Communications	7510; 7520
I81-83	Financial intermediation	FISM; 8110; 8190; 8210; 8310; 8320
I84	Real estate	8410; 8420
I85-88	Business activities	8510; 8520; 8530; 8610; 8620; 8630; 8640; 8650; 8690; 8710; 8720; 8810; 8820; 8830; 8890
I91&94	General government	9110; 9120; 9130; 9400
I9300	Health and social work	9311; 9312; 9319; 9320; 9330
I92/5/6/9	Other activities/services	9200; 9500; 9600; 9900; 0200; 0900

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Annexure 4: Major occupational groups and skill levels, 1998 and 2002

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

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Annexure 5: Description of products used in the SAM, 1998 and 2002

Product code	Product category in SAM	SU-tables product description
P1100	Agriculture	Agricultural, forestry and fishing products
P2100	Coal	Coal and lignite products
P2300	Gold	Gold and uranium ore products
P2500	Other mining	Other mining products
P301-6	Food	Meat products; Fish products; Fruit and vegetables products; Oils and fats products; Dairy products; Grain mill products; Animal feeds; Bakery products; Sugar products; Sugar confectionery; Other food products; Beverages and tobacco products
P311-316	Textiles	Textile products; Made-up textile products; Carpets and rugs; Other textiles products; Wearing apparel; Leather products; Handbags
P317	Footwear	Footwear
P331-338	Petroleum	Fuel products; Basic chemical products; Fertilizers; Primary plastic products; Pesticides; Paints; Pharmaceutical products; Soap products; other rubber products; Plastic products
P341-342	Other non-metallic mineral products	Glass products; Non-structural ceramics; Structural ceramic products; Cement; Other non-metallic
P351-359	Basic iron/steel	Iron and steel products; Non-ferrous metals; Structural metal products; Treated metal products; General hardware products; Other fabricated metal products; Engines; Pumps; Gears; Lifting equipment; General machinery; Agricultural machinery; Machine tools; Mining machinery; Other special machinery; Household appliances; Office machinery
P36	Electrical machinery	Electric motors; Electricity apparatus; Wire and cable products; Accumulators; Lighting equipment; Other electrical products
P371-376	Radio	Radio and television products; Optical instrument

**Annexure 5: Description of products used in the SAM, 1998 and 2002
(concluded)**

Product code	Product category in SAM	SU-tables product description
P381-387	Transport equipment	Motor vehicles; Motor vehicle parts; Other transport products
P321-6, 391-5	Other manufacturing	Wood products; Paper products; Containers of paper; Other paper products; Published and printed products; Recorded media products; Furniture; Jewellery; Manufactured products n.e.c
P4100	Electricity	Electricity
P4200	Water	Water
P5	Construction	Building construction; Other construction
P6100	Trade	Trade services
P64	Hotels and restaurants	Hotel and restaurant services
P7100	Transport services	Transport services
P7500	Communications	Communications
P81-83	Financial intermediation	FSIM; Insurance services
P84	Real estate	Real estate services
P85-88	Business activities	Other business services
P91&94	General government	General government services
P9300	Health and social work	Health and social work
P92/5/6/9	Other activities/services	Other activities/services

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Annexure 6: Highest level of education, 2002

SAM category	Highest level of education
No schooling	No schooling
Primary school	Grade 1, grade 2, grade 3, grade 4, grade 5, grade 6 and grade 7
Secondary school	Grade 8, grade 9, grade 10, grade 11, grade 12, NTC I, NTC II and NTC III
Higher	Certificate without grade 12, certificate with grade 12, diploma without grade 12 and diploma with grade 12, degree and postgraduate degree
Unspecified	Labour force who did not specify their highest level of education

Source: Statistics South Africa SAM 2002 (Report No. 04-03-02) 2002

Annexure 7: Area of study, 2002

Area of study
Communication studies and language
Education training and development
Manufacturing, engineering and technology
Human and social studies
Law, military science and security
Health science and social science
Agriculture and nature conservation
Culture and arts
Business, commerce and management science
Physical, mathematical, computer and life sciences
Services
Physical planning and construction

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