

# **South Africa's national accounts 1946 – 2009**

**An overview of sources and methods**

**Supplement to the South African Reserve Bank  
Quarterly Bulletin March 2010**

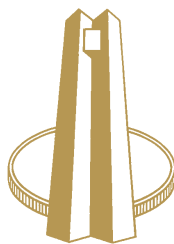


**South African Reserve Bank**

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# South Africa's national accounts 1946–2009

## An overview of sources and methods

### 1 Introduction

This supplement to the March 2010 *Quarterly Bulletin* provides revised statistical and methodological information, following the eighth comprehensive revision of South Africa's national accounts estimates and the change in the base year of constant price estimates from 2000 to 2005.<sup>1</sup> Revised annual national accounts data are now available from 1946 to 2009, with quarterly data from 1960 onwards.

<sup>1</sup> The outcome of the previous comprehensive revision was released in December 2004.

The South African Reserve Bank (the Bank) and Statistics South Africa (Stats SA) are collectively responsible for compiling the national accounts in South Africa. Stats SA is responsible for calculating the gross domestic product according to the production and income approaches, while the Bank is responsible for compiling the expenditure side of the national accounts. In addition, the Bank compiles institutional sector accounts, which include estimates of national saving; household debt; and net lending or borrowing among institutional sectors and to, and from, the rest of the world. Stats SA and the Bank co-operate closely in compiling national accounts estimates at current as well as constant prices, and in undertaking benchmark revisions.

Benchmark or comprehensive revisions have as cornerstone the determination of the absolute nominal value of economic activity in the base year, and differ from the annual national accounts revisions because of the scope of the changes and the number of years subject to revision. Comprehensive revisions of national accounts estimates are necessary in order to incorporate four major types of improvements:

- Changes in definitions and classification to portray developments in the South African economy more accurately.
- Statistical changes to reflect the introduction of new and improved methodologies, and the incorporation of newly available and revised source data.
- Changes in presentation to reflect the changes in definitions and the statistical changes.
- Rebasing the estimates at constant prices, by moving the base period to a more recent year so that volume indicators reflect the current structure of the economy more accurately.

The compilation and dissemination of the national accounts in South Africa are broadly in accordance with the recommendations of the *1993 System of National Accounts (SNA)*, published by the United Nations in co-operation with other international organisations comprising the Organisation for Economic Co-operation and Development (OECD), the Statistical Office of the European Communities, the International Monetary Fund (IMF) and the World Bank. As economies and societies change over time, past conventions sometimes become inappropriate, methodological and theoretical developments take place, and users' needs change. The national accounts standards therefore require regular updating to ensure that the system does not become obsolete. A comprehensive update of the *1993 SNA* was recently completed, resulting in the release of Volume I of the *2008 SNA* in August 2008, followed by Volume II in February 2009.

Section 2 of this supplement reviews the major changes brought about by the revisions, while section 3 provides an overview of the principal data sources and calculation

methods. Section 4 briefly describes the institutional sector accounts of South Africa followed by a conclusion in section 5.

## 2 Major changes brought about by the revisions

The latest revisions draw on information from all relevant and available source data, most notably various large sample surveys, a number of smaller surveys, specific sectoral surveys and technical reports that were released between 2002 and 2008. Particularly important data sources included the 2007 Census of Agriculture and the 2006 Large-scale Agricultural Survey; the 2005/06 Income and Expenditure Survey of Households; the 2005 General Household Survey; the 2004/05 Economic Activity Survey; the 2006, 2007 and 2008 Annual Financial Statistics surveys; and the 2006 Electricity, Gas and Water Supply Report. In addition, large sample surveys of the following industries were also used: the 2004 Survey of the Mining Industry; the 2005 Survey of the Manufacturing Industry; the 2007 Survey of the Construction Industry; the 2005 surveys of the Wholesale and Retail Trade Industries; the 2004 and the 2007 Survey of the Accommodation Industry; the 2006 Survey of Transport, Posts and Telecommunications; the 2006 Survey of Real-estate and Business Services; and the 2004 Survey of Personal Services. Over and above revisions stemming from more up-to-date source data, the most profound methodological and technical changes include the following:

- The value added by the finance subsector was adjusted to include estimates of output by services auxiliary to financial intermediation, primarily brokers active in the bond and derivatives markets. These services were not explicitly included in previous estimates.
- Value added by the banking sector, particularly the component “other” income, was revised as further detail on income items became available following more comprehensive reporting by banks after the adoption of the Basel II guidelines.
- The estimates of financial intermediation services indirectly measured (FISIM) were broadened with the incorporation of data on interest paid and received from the Land and Agricultural Bank of South Africa. In addition, the classification of FISIM paid and received by the institutional sectors and the distribution of FISIM to industries were refined, in keeping with more detailed data obtained from banks since the banking sector’s adoption of the Basel II guidelines.
- Final expenditure by households per product group was expanded. Expenditure on durable goods was disaggregated to show expenditure on privately owned computers and related equipment separately. In addition, households’ expenditure on security services was separately identified and explicitly estimated, and is now shown separately under expenditure on services as an identified part of miscellaneous services.
- Gross fixed capital formation on machinery and equipment was disaggregated to show capital expenditure on computers and related equipment separately. Consequently, the classification of gross fixed capital formation by type of asset was brought in line with the recommendations of the 1993 SNA.
- New price indices reflecting the results of the revision of the consumer and producer price indices were used from 2002 for the deflation of nominal values. Furthermore, where appropriate, deflation of components of household consumption expenditure was introduced at a more disaggregated level, which enhanced the reliability of the series on real final consumption expenditure by households.

## 2.1 Revision of gross domestic product

The nominal value of gross domestic product at market prices in the benchmark year 2005 was revised upwards by an amount of R27,1 billion or by 1,7 per cent, and the contributions of the various economic subsectors to total gross value added at basic prices changed notably from 2000 to 2005 (see Table 1).

**Table 1 Contribution of gross value added by kind of economic activity to total gross value added at basic prices**

Per cent

Sectors	1950	1960	1970	1980	1990	2000*	2005**	2009
<b>Primary sector .....</b>	<b>28,8</b>	<b>23,6</b>	<b>15,9</b>	<b>26,8</b>	<b>13,8</b>	<b>10,8</b>	<b>10,2</b>	<b>12,8</b>
Agriculture, forestry and fishing.....	16,0	11,2	7,2	6,2	4,6	3,3	2,7	3,0
Mining and quarrying.....	12,7	12,4	8,8	20,6	9,2	7,6	7,6	9,7
<b>Secondary sector .....</b>	<b>23,0</b>	<b>25,5</b>	<b>29,4</b>	<b>27,8</b>	<b>30,9</b>	<b>24,2</b>	<b>23,6</b>	<b>21,4</b>
Manufacturing .....	18,2	20,1	22,8	21,6	23,6	19,0	18,5	15,1
Electricity, gas and water.....	1,7	2,4	2,5	3,0	4,0	2,7	2,4	2,4
Construction.....	3,1	3,0	4,1	3,2	3,3	2,5	2,8	3,9
<b>Tertiary sector .....</b>	<b>48,3</b>	<b>50,9</b>	<b>54,7</b>	<b>45,4</b>	<b>55,3</b>	<b>64,9</b>	<b>66,2</b>	<b>65,8</b>
Wholesale, retail and motor trade, catering and accommodation .....	14,5	13,9	14,4	11,6	14,3	14,6	13,9	13,3
Transport, storage and communication.....	9,1	9,9	9,4	8,5	8,2	9,6	10,0	9,5
Finance, insurance, real-estate and business services .....	9,3	10,6	14,3	10,9	13,7	18,6	21,1	21,7
Community, social and personal services .....	15,4	16,5	16,6	14,4	19,1	22,0	21,2	21,3
General government .....	7,4	8,9	10,0	10,0	14,3	15,9	14,9	15,4
Other .....	8,0	7,6	6,5	4,5	4,8	6,1	6,3	5,9
<b>Gross value added at basic prices .....</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* Previous benchmark year

\*\* Current benchmark year

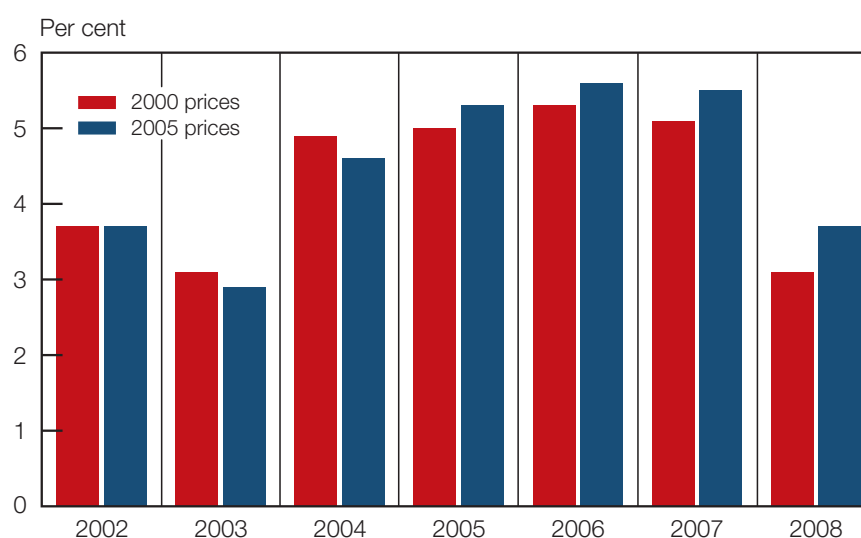
As shown in Table 1, the primary sector's contribution to nominal gross value added at basic prices declined from 10,8 per cent in 2000 to 10,2 per cent in 2005. This was due to a decline in the contribution of the agricultural sector, while the relative size of the mining sector remained unchanged at 7,6 per cent. The relative decline in value added by the agricultural sector in 2005 could partly be attributed to rising intermediate input cost, leading to a deterioration in the terms of trade for agriculture and to net income in the sector coming under pressure. In the case of the mining sector its contribution to total value added at basic prices remained stable despite an acceleration in growth in gross value added by the sector in 2005.

The secondary sector's share of total value added shrank from 24,2 per cent in 2000 to 23,6 per cent in 2005, reflecting declines in the contribution to value added by two of the three subsectors (i.e., manufacturing and electricity, gas and water). The manufacturing sector's relative importance declined from 19,0 per cent in 2000 to 18,5 per cent in 2005. This decline implies that in 2005 manufacturing forfeited its status as the most important contributor to gross value added in the economy, to the finance,

insurance, real-estate and business services sector. The relatively weaker output of the manufacturing sector in 2005 can partly be ascribed to strong international competition faced by exporting and import-competing manufacturers alike.

By contrast, the contribution of the tertiary sector to total value added at basic prices increased from 64,9 per cent in 2000 to 66,2 per cent in 2005. The main contributor to this change was the finance, insurance, real-estate and business services sector, as its share in gross value added rose from 18,6 per cent in 2000 to 21,1 per cent in 2005. Higher levels of output recorded by this sector reflected the positive impact of an increase in real personal disposable income and a rising number of middle-class citizens with an increasing demand for business services, the drive to render banking services to that part of the South African population that did not previously have access to banking services, and the property and lending boom that boosted the value added by the real-estate subsector.

### Growth in real gross domestic product at market prices



The revised estimates of real gross domestic product for 2002 and subsequent years display growth rates that deviate somewhat from the previously published numbers.

Annual growth in real gross domestic product was revised downwards in 2003 and 2004, but upwards by on average half-a-percentage point per year from 2005 onwards. This increased the average real annual growth rate for the period 2002 to 2008 to 4,6 per cent at 2005 prices, from 4,4 per cent at 2000 prices.

The compound annual rate of growth in the primary sector was revised downwards from 1,0 per cent to 0,5 per cent for the period 2002 to 2008, with growth estimates for both the agricultural and mining sectors being lowered.

The average annual growth rate in the secondary sector from 2002 to 2008 was revised upwards to 4,7 per cent, compared with a growth rate of 4,2 per cent registered in the corresponding period prior to the revisions. Stronger average growth in the manufacturing sector and the sector supplying electricity, gas and water more than neutralised lower growth recorded in the construction sector. The last-mentioned moderation stemmed from a revised methodology and new weights used in the calculation of real value added by the construction sector.

**Table 2 Percentage change in gross value added by kind of economic activity, 2002 to 2008**

	Compound annual rates at 2000 prices	Compound annual rates at 2005 prices
	Per cent	Per cent
<b>Primary sector</b> .....	<b>1,0</b>	<b>0,5</b>
Agriculture, forestry and fishing.....	2,9	2,1
Mining and quarrying.....	0,1	-0,1
<b>Secondary sector</b> .....	<b>4,2</b>	<b>4,7</b>
Manufacturing.....	3,1	3,9
Electricity, gas and water.....	1,9	3,8
Construction.....	12,4	10,4
<b>Tertiary sector</b> .....	<b>5,0</b>	<b>5,2</b>
Wholesale, retail and motor trade, catering and accommodation.....	5,4	4,6
Transport, storage and communication.....	5,3	5,3
Finance, insurance, real-estate and business services.....	6,0	7,1
General government.....	3,1	3,4
Personal services.....	4,1	4,2
<b>Gross value added at market prices</b> .....	<b>4,4</b>	<b>4,6</b>

The average annual growth rate in the tertiary sector from 2002 to 2008 was revised upwards from 5,0 to 5,2 per cent. This was due to a strong increase in the growth rate of real value added by the finance and business services sector, supported by increases in the growth rates of the sectors providing personal services and general government services. By contrast, the compound annual growth rate in the trade sector moderated, while the growth between 2002 and 2008 in the transport and communication sector remained unchanged.

## 2.2 Revision of gross domestic expenditure

Aggregate final consumption expenditure amounted to 82,6 per cent of gross domestic product in the 2005 base year, compared with 81,5 per cent in 2000. Government raised its final consumption expenditure relative to gross domestic product while that of households declined (see Table 3).

The contribution of gross capital formation rose from 15,7 per cent in 2000 to 18 per cent in 2005, reflecting increases in both fixed capital formation and in inventory accumulation relative to total gross domestic product.

By contrast, the contribution of exports of goods and services to gross domestic product declined slightly from 27,9 per cent in 2000 to 27,4 per cent in 2005. However, the relative share of imports of goods and services rose from 24,9 per cent to 27,9 per cent of gross domestic product in the corresponding period. This increase in imports mainly reflected increased consumption and investment demand in the South African economy in the advanced stages of a protracted upward phase of the business cycle.



**Table 3 The contribution of expenditure components to gross domestic product at market prices**

Per cent

Sectors	1950	1960	1970	1980	1990	2000*	2005**	2009
Final consumption expenditure.....	74,3	73,2	73,3	65,0	81,2	81,5	82,6	81,6
Household.....	64,6	63,7	60,5	50,7	61,5	63,4	63,1	60,8
General government.....	9,7	9,5	12,8	14,3	19,7	18,1	19,5	20,8
Gross capital formation.....	21,2	21,8	27,7	29,4	17,6	15,7	18,0	19,3
Fixed capital formation.....	21,2	19,6	24,3	25,9	19,2	14,9	16,8	22,4
Change in inventories.....	0,0	2,2	3,4	3,5	-1,6	0,8	1,2	-3,1
Residual item.....	1,2	-0,1	2,5	-2,5	-4,2	-0,2	-0,1	0,0
Gross domestic expenditure.....	96,6	94,9	103,5	92,0	94,5	97,0	100,5	100,9
Exports of goods and services...	31,3	30,4	21,8	35,4	24,2	27,9	27,4	27,1
Imports of goods and services...	28,0	25,3	25,3	27,3	18,8	24,9	27,9	28,0
Gross domestic product at market prices.....	100	100	100	100	100	100	100	100

\* Previous benchmark year

\*\* Current benchmark year

Revisions of the components of gross domestic expenditure were benchmarked individually in accordance with the relevant data sources mentioned. The revised estimates of consumption expenditure by households were based on data obtained from

- the 2005/06 Income and Expenditure Survey of Households and the 2005 General Household Survey, both conducted by Stats SA;
- a study conducted by the Bureau of Market Research at the University of South Africa, entitled *Total household expenditure in South Africa by province, population group and product, 2005*; and
- the findings of special research projects such as those on the security industry, on imputed rent for owner-occupied dwellings, and on expenditure on narcotics and personal care services, including services provided by sex workers.

Although final consumption expenditure by households as a percentage of gross domestic product decreased only slightly from 63,4 per cent in 2000 to 63,1 per cent in 2005, there were significant shifts between components within aggregate consumption expenditure. Final expenditure on durable goods relative to total final consumption expenditure by households increased from 8,6 per cent in 2000 to 10,4 per cent in 2005, primarily driven by the surge in outlays on new motor vehicles. Final expenditure on semi-durable goods relative to total expenditure by households declined from 9,8 per cent in 2000 to 9,4 per cent in 2005 due to relatively lower outlays on clothing and footwear. At the same time, the share of non-durable goods declined from 39,2 to 38,1 per cent, brought about by relatively lower outlays on mainly food, beverages and tobacco. Expenditure on services relative to total expenditure declined from 42,4 to 42,0 per cent. Stronger increases in expenditure on rent and communication services were more than neutralised by declines in expenditure on domestic services, medical services and miscellaneous services.

Final consumption expenditure by general government was revised in accordance with changes made by the Public Finance Division in the Research Department of the Bank as obtained from financial reports released by the Auditor-General from 2002/03 onwards. In addition, up-to-date information on national, provincial and local government as published by Stats SA was also incorporated.

Estimates of final consumption expenditure by general government as a ratio of gross domestic product rose from 18,1 per cent in 2000 to 19,5 per cent in 2005 as government expenditure on goods and services, and on compensation of employees rose relative to

total gross domestic product. These increases were mainly the result of substantial outlays related to the defence procurement programme, and the gradual increase in the employment levels of general government between 2000 and 2005.

Revisions to gross fixed capital formation and the book value of inventories were based on data obtained from the large sample surveys for the different industries in the base year; for the other years the *Annual Financial Statistics* survey of Stats SA was used for the appropriate industries.

Gross fixed capital formation as a percentage of gross domestic product increased from 14,9 per cent in 2000 to 16,8 per cent in 2005. Rising capital formation by the private sector and public corporations more than offset subdued investment expenditure by general government on infrastructure between the two base-year periods. The last-mentioned type of capital expenditure was especially held back at the local authority level. In the private sector, fixed capital formation was boosted by capital outlays made by the sector commerce, transport and communication and the financial services sector. In the case of public corporations, increases in gross fixed capital formation stemmed mainly from the sectors supplying electricity, gas and water, transport and communication services.

### Capital formation by type of asset: Methodological changes

Gross fixed capital formation by kind of asset was expanded to separately show the capital expenditure on computers and related equipment which was previously implicitly part of machinery and other equipment. Apart from growing in importance, the difference in the service life of computers relative to other machinery and equipment made it necessary to estimate spending on computer equipment separately. For a more detailed description see the "Note on the separate identification of computer equipment in the analysis of gross fixed capital formation", published in the December 2009 *Quarterly Bulletin*.

The substitution of construction industry censuses with large sample surveys led to a loss of information regarding various types of building material used in the construction of residential and non-residential buildings and construction works. Without a breakdown by type of material, the use of different price indices for different kinds of material as was done previously was no longer feasible for deflation. Alternative price indices compiled by the Joint Building Contracts Committee (JBCC) were accordingly introduced to deflate the nominal values of gross fixed capital formation for *residential* and *non-residential* buildings. The difference between the Bank's weighted asset price indices for these types of assets and the JBCC price indices proved to be negligible.

To obtain a price index to deflate capital investment in *construction works* proved to be more problematic. Discussions held with the South African Federation of Civil Engineering Contractors (SAFCEC) and the Steel and Engineering Industries Federation of South Africa (SEIFSA) confirmed that there was no single appropriate index available as deflator for capital formation of construction works and that a combination of relevant price indices would be the best alternative.

Subsequently, price indices obtained from SAFCEC that are related to labour, materials, plant and fuel; Stats SA's producer price indices related to building and construction, electrical and mechanical engineering; and JBCC indices for earthworks, concrete, form work, reinforcement, road work and mechanical services were combined to construct an average weighted price index to deflate investment in construction works. The new indices for residential buildings, non-residential buildings and construction works were linked to the old Bank indices from September 2009 onwards.

Estimates of capital expenditure on additions and alterations to residential buildings were improved by adding expenditure on, *inter alia*, swimming pools, security and irrigation systems sourced from the 2005/06 Income and Expenditure Survey of Households to the estimates based on data provided by local authorities.

Fixed capital formation estimates of the public corporations were revised as new data on capital formation from *SA Forestry* and The South African National Roads Agency (SANRAL) were incorporated. Furthermore, capital expenditure estimates for the community, social and personal

services sector were revised and improved according to new survey results obtained from the Annual and Quarterly Financial Statistics Survey, as compiled by Stats SA.

### Average contribution by type of asset to gross fixed capital formation

Per cent

Assets	1950–59	1960–69	1970–79	1980–89	1990–99	2000	2005	2009
Residential buildings .....	17,0	14,5	12,4	12,7	9,7	9,6	12,7	8,4
Non-residential buildings.....	15,2	14,6	15,2	13,3	12,4	11,3	10,1	10,2
Construction works .....	23,4	23,7	23,6	18,8	16,0	14,6	15,4	32,1
Transport equipment.....	11,9	11,7	12,1	12,1	14,4	13,0	13,2	12,6
Computers and related equipment .....	–	1,0	1,3	3,2	4,7	6,6	6,4	4,9
Machinery and other equipment .....	29,7	31,8	33,3	37,5	39,6	42,2	37,9	30,3
Transfer costs .....	0,0	2,6	2,1	2,5	3,2	2,7	4,3	1,6
<b>Total gross fixed capital formation .....</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The collective contribution of transport equipment, computers and related equipment, and machinery and other equipment to overall gross fixed capital formation increased over time from 44,5 per cent in the 1960s to 57,5 per cent in 2005. The need to enhance South Africa's competitiveness and economic growth performance contributed to the modernisation and expansion of the country's fixed capital assets.

Although compound annual growth in aggregate real gross domestic expenditure remained unchanged at 6,2 per cent for the period 2002 to 2008, the growth rates registered by some of the components changed notably.

**Table 4 Average real growth: Components of gross domestic expenditure and gross domestic product aggregates, 2002 to 2008**

	Compound annual rates at 2000 prices	Compound annual rates at 2005 prices
	Per cent	Per cent
Final consumption expenditure by households .....	5,7	5,2
Final expenditure by general government .....	5,4	5,2
Gross capital formation .....	10,1	10,3
Gross fixed capital formation.....	11,3	12,0
<b>Gross domestic expenditure.....</b>	<b>6,2</b>	<b>6,2</b>
Exports of goods and services .....	4,3	4,5
Imports of goods and services .....	10,6	10,4
<b>Expenditure on gross domestic product</b>		
<b>GDP(E) at market prices .....</b>	<b>4,7</b>	<b>4,5</b>
GDP(P) at market prices.....	4,4	4,6
GDP(I) at market prices .....	4,6	4,5
GDP(A) at market prices.....	4,6	4,5

GDP(E) is gross domestic product estimated from the expenditure components

GDP(P) is gross domestic product estimated from the production base

GDP(I) is gross domestic product estimated from the income components

GDP(A) is the average measure of GDP(E), GDP(P) and GDP(I)

Estimates of real final consumption expenditure by households and general government were revised slightly downwards; in the period 2002 to 2008, the average annual growth in real outlays on final consumption expenditure by households moderated from 5,7 to 5,2 per cent. Likewise, in the case of general government the average annual rate of growth in real final consumption expenditure slowed from 5,4 to 5,2 per cent.

Real outlays on gross fixed capital formation were revised substantially upwards and in the period 2002 to 2008 the average annual rate of increase rose from 11,3 to 12,0 per cent. The annual growth in real capital expenditure was revised higher in all the years from 2002 to 2008 except in 2006. By contrast, the average annual growth for real exports and imports of goods and services remained virtually unchanged.

## 2.3 Revision of gross saving

Changes were made to the level of gross saving in response to new benchmarked data on output, intermediate consumption and compensation of employees. The primary and secondary income levels (i.e., property income, social contributions and benefits, current taxes on income and wealth, and current transfers for all institutional sectors) were also revised according to more complete data sources. The main sources to benchmark non-financial corporations were the *Annual Financial Statistics* survey of various industries published by Stats SA, while the financial sector's revisions were based on data obtained from consolidated income statements of the banking sector and up-to-date information from the surveys conducted by the Capital Market and Flow of Funds Division of the Bank's Research Department. The McGregor BFA database, the various exchanges and the general government financial statistics provided additional inputs.

Gross saving as a percentage of gross domestic product declined from 15,8 per cent in 2000 to a new benchmarked ratio of 14,5 per cent in 2005. This was slightly higher than the original estimate of 14,3 per cent for 2005, mainly due to the marginal improvement in the general government's gross saving ratio that increased from 1,1 per cent in 2005 before benchmarking to 1,5 per cent after benchmarking. Households' gross saving ratio deteriorated from 1,8 to 1,7 per cent after benchmarking in 2005, while the saving ratio of the corporate sector remained unchanged at 11,3 per cent.

**Table 5** Gross saving as a percentage of gross domestic product

	2000	2005	
		Before revision	After revision
Household saving .....	2,5	1,8	1,7
Corporate saving .....	13,4	11,3	11,3
Non-financial corporate sector .....	10,7	9,5	9,3
Financial corporate sector .....	2,7	1,8	2,0
General government .....	-0,2	1,1	1,5
<b>Total saving.....</b>	<b>15,8</b>	<b>14,3</b>	<b>14,5</b>

### 3 Principal data sources and calculation methods

#### Gross domestic product according to the production and income methods <sup>1,2</sup>

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
Agriculture, forestry and fishing	Agriculture	<p><b>Benchmark year:</b> Periodic censuses of commercial agriculture conducted by Stats SA on behalf of the National Department of Agriculture. GDP estimates compiled by the National Department of Agriculture in collaboration with Stats SA.</p> <p><b>Other years:</b> Annual survey of agriculture conducted by Stats SA (census of commercial agriculture 2007 was also used). GDP estimates are compiled by the National Department of Agriculture in collaboration with Stats SA.</p> <p><b>Note:</b> Estimates from the census and survey results are verified against quarterly source data collected by the National Department of Agriculture. Estimates include the value of farm produce consumed by farmers for own account.</p>	Information obtained from various marketing agents and other agriculture-related organisations in respect of the value of production of field crops, horticulture and livestock. Expenditure data on intermediate goods are collected by the National Department of Agriculture from a number of manufacturers and associations for, <i>inter alia</i> , farm feed dips and sprays, and fuel.	Nominal values of production and intermediate inputs are divided by appropriate price indices, compiled by the National Department of Agriculture.
Mining and quarrying		<p><b>Benchmark year:</b> Periodic large sample surveys and Annual Financial Statistics Surveys (AFSSs) of mining conducted by Stats SA.</p> <p><b>Other years:</b> AFSSs and monthly data on production and sales for the various sectors of the mining industry and quarterly surveys of financial and labour statistics conducted by Stats SA, supplemented by working results of the Chamber of Mines in respect of the gold-mining industry, information from the Department of Minerals and Energy and sample surveys conducted by the SARB.</p>	Same as for annual estimates for other years.	Base-year estimates are extrapolated using appropriate indices of output quantities of various sectors of mining. Information obtained from the Mineral Bureau, the Department of Mineral and Energy, Stats SA and the Chamber of Mines.
Manufacturing		<p><b>Benchmark year:</b> Periodic large sample surveys and AFSSs of manufacturing conducted by Stats SA.</p> <p><b>Other years:</b> AFSSs and monthly data on production and sales, and quarterly surveys of financial and labour statistics conducted by Stats SA, supplemented by sample surveys conducted by the SARB.</p>	Same as for annual estimates for other years.	Base-year estimates are extrapolated using appropriate indices of output quantities based on manufacturing sales at constant prices for the various subsectors of manufacturing.
Electricity, gas and water		<p><b>Benchmark year and other years:</b> Annual statistics and financial statements obtained from Eskom, the Water Board and annual censuses of local government institutions.</p>	Monthly survey on generation and consumption of electricity conducted by Stats SA, supplemented by a quarterly survey conducted by the SARB.	Base-year estimates are extrapolated using appropriate indices of output quantities.
Construction		<p><b>Benchmark year:</b> Periodic large sample survey and AFSSs of construction conducted by Stats SA.</p> <p><b>Other years:</b> AFSSs conducted by Stats SA.</p>	Extrapolation of benchmark year according to the trend in gross fixed capital formation of residential and non-residential buildings and construction works as compiled by the SARB. Labour remuneration is extrapolated according to the quarterly labour statistics of Stats SA. Aggregate estimates are verified with Stats SA's monthly survey of building statistics.	Base-year estimates are extrapolated using the trend in real gross fixed capital formation of residential and non-residential buildings and construction works verified by cement sales and a monthly survey of building statistics by Stats SA.

\* See end of table for footnotes and list of abbreviations

Gross domestic product according to the production and income methods <sup>1,2</sup>

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
Wholesale and retail trade, catering and accommodation	Wholesale and retail trade (including motor trade)	<b>Benchmark year:</b> Large sample surveys for wholesale, retail and motor trade and annual AFSs conducted by Stats SA.  <b>Other years:</b> AFSs and monthly surveys of turnover statistics of wholesale, retail and motor trade and quarterly labour statistics conducted by Stats SA, supplemented by financial statistics and sample surveys conducted by Stats SA and the SARB.	Same as for annual estimates for other years.	Base-year estimates are extrapolated using indices for wholesale, retail and motor sales quantities.
	Catering and accommodation	<b>Benchmark year:</b> Large sample surveys and AFSs of catering and accommodation services.  <b>Other years:</b> Extrapolation according to the trend of retail trade sales and trading statistics for hotels, conducted by Stats SA.	Same as for annual estimates for other years.	
Transport storage and communication		<b>Benchmark year and other years:</b> Financial reports of Transnet, Telkom, SA Post Office, and annual census of local authorities conducted by Stats SA. Private transport benchmark estimates are obtained from large sample surveys and AFSs of transport and communication. Estimates for in-between years of private transport are extrapolated according to the monthly surveys of road and rail transport of passengers and goods, supplemented by individual studies such as for the taxi industry, the cellular networks and Internet service providers.	Same as for annual estimates obtained quarterly from the various institutions, supplemented by surveys conducted by the SARB.	Base-year estimates are extrapolated using appropriate indices of the volume of services rendered by the various institutions.
Financial intermediation, insurance, real-estate and business services	Financial intermediation and insurance	<b>Benchmark year and other years:</b> Annual and quarterly surveys conducted by the SARB among the various institutions in the private sector and information reported by public authorities and public corporations.	Same as for annual estimates.	Base-year estimates are extrapolated using appropriate indices, verified by nominal transactions divided by appropriate price indices.
	Real-estate (including imputed rent on residential buildings) and business services	<b>Benchmark year and other years:</b> Large sample surveys and AFSs of business services, supplemented by individual studies such as for car rentals and the security industry.	Monthly survey by Stats SA of buildings completed and price indices of rent. Judgemental estimates for business services; trends in related aggregates for final consumption expenditures by households.	Base-year estimates are extrapolated using real capital stock of residential buildings.
Community, social and personal services	Other services and producers	<b>Benchmark year and other years:</b> Periodic large sample surveys and AFSs of social services conducted by Stats SA, and annual reports of non-profit institutions concerned.	Estimates are extrapolated using relevant items of final consumption expenditure by households.	Nominal values are divided by relevant components of the CPI and verified by the GDP deflator.
	General government services	<b>Benchmark year:</b> GFS analyses.  <b>Other years:</b> Main budget and annual reports of provincial and local authorities, and extra-budgetary accounts. Gross operating surplus equals consumption of fixed capital at replacement value.	Quarterly surveys by Stats SA of employment, salaries and wages in the public sector. Gross operating surplus is the same as for annual estimates for other years.	Base year estimates are extrapolated using an index of employment by general government.

## Gross domestic expenditure

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
Final consumption expenditure by households	Durable, semi-durable and non-durable goods:			
	Most goods (except sub-components listed separately)	<p><b>Benchmark year:</b> Five-yearly survey of income and expenditure of households conducted by Stats SA and intermittent surveys of household expenditure by Bureau of Market Research at the University of South Africa. Estimates of main aggregates are compiled by the SARB using the average expenditure per household, population group and province multiplied by the number of households verified by supply and use estimates.</p> <p><b>Other years:</b> Annual information is equal to the sum of the quarterly estimates, verified against appropriate annual data sources available.</p>	Base-year estimates are extrapolated using retail sales from monthly surveys by Stats SA, the Retail Liaison Committee and data from other sources.	Nominal expenditure is divided by relevant components of the CPI or base-year estimates, which are extrapolated using quantities purchased. (Deflators verified against the relevant CPI components.)
	<b>Personal transport equipment:</b>  New motor cars and minibuses	<p><b>Benchmark year and other years:</b> Annual information on physical quantity of new motor vehicles sold multiplied by average retail price. Estimates are verified by registrations of new motor vehicles according to registrations among private consumers and other purchases. Source of basic data is National Association of Automobile Manufacturers of South Africa (NAAMSA).</p>	Same as for annual estimates.	Base-year estimates are extrapolated using appropriate indices of motor vehicles registered.
	Used cars	<p><b>Benchmark year and other years:</b> Value added by used-car trade estimated for GDP, verified by registrations of used cars and trade margins provided by motor trade.</p>	Same as for annual estimates.	Nominal values are divided by relevant components of the CPI.
	<b>Food beverages and tobacco:</b>  All components	<p><b>Benchmark year:</b> Estimated by the five-yearly survey of income and expenditure of households, survey of retail sales, verified by the supply and use framework. Estimates include farm produce consumed by farmers for own account.</p> <p><b>Other years:</b> Estimated according to monthly surveys of retail trade sales by Stats SA.</p>	Information obtained from the National Department of Agriculture, retail trade sales by Stats SA and relevant sources.	Nominal expenditure is divided by relevant components of the CPI.
	<b>Petroleum products:</b>  Petrol, diesel and oil	<p><b>Benchmark year:</b> Quantities supplied by petroleum companies, purchased and allocated among consumers and other purchasers, multiplied by an average retail price, verified by the five-yearly survey of income and expenditure of households and supply and use estimates.</p>		Base-year estimates are extrapolated using physical quantities purchased. (Deflator verified by the appropriate CPI component.)



## Gross domestic expenditure

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
	Services:  Rent: Space for owner-occupied and tenant-occupied dwellings	<b>Benchmark year:</b> Population estimates and average annual rental obtained from Stats SA.  <b>Other years:</b> Capital stock of residential buildings and average annual rental values.	Same method as annual; housing stock extrapolated by residential capital stock and average rental values.	Base-year estimates are extrapolated using real capital stock of residential buildings.
	Domestic services	<b>Benchmark year:</b> Remuneration and weekly hours multiplied by the number of workers, using Stats SA's sample survey of dwellings and information obtained from the five-yearly survey of income and expenditure of households as well as LFS results for domestic workers.  <b>Other years:</b> Sum of quarterly estimates	Extrapolation of benchmark figures with a volume index of dwellings adjusted with the CPI component of domestic workers.	Base-year estimates are extrapolated using the volume index of dwellings. (Deflator verified by the appropriate CPI component.)
	Doctors, dentists, and other medical and professional services	<b>Benchmark year:</b> Five-yearly survey of income and expenditure of households and the annual report of Registrar of Medical Schemes, verified by independent studies on medical costs.  <b>Other years:</b> Various indicators; retail trade sales of pharmaceuticals, patents and other medicines, population growth.	Same as for annual estimates.	Nominal expenditure is divided by components of the CPI for medical and pharmaceutical products, hospitals and doctors' services.
	Transport and communication	<b>Benchmark year:</b> Expenditure on transport of passengers and goods obtained from Transnet and Metrorail; expenditure on telephones, postage and other postal services supplied by Telkom and SA Post Office. Expenditure on insurance from short-term insurers, according to the quarterly survey of insurers conducted by the SARB. This was verified by the five-yearly survey of income and expenditure of households.  <b>Other years:</b> Base-year estimates are extrapolated using information from Transnet, Metrorail, Telkom and SA Post Office, and quarterly survey of short-term insurers, and judgemental trend on taxis.	Same as for annual estimates.	Base-year estimates are extrapolated using an index of number of passengers, a volume index of telephone and postage services and judgement on taxis and other transport, verified by petroleum sales. (Deflators verified by relevant CPI components.)
	Entertainment, cultural and educational services	<b>Benchmark year:</b> Entertainment and recreational services: Expenditure on admission fees to theatres, cinemas, sports events, museums, etc. obtained from miscellaneous publications and other sources of information. This is verified and supplemented by the five-yearly survey of income and expenditure of household for, inter alia, hiring of television sets, video machines and other recreational equipment, film development and photographic services, and veterinarian and other services for pets and television licences paid annually, obtained from the SABC and SA Post Office.	Various indicators and information obtained from educational institutions, Telkom and SA Post Office as well as judgement.	Nominal expenditure is divided by relevant elements of the educational components of the CPI.



## Gross domestic expenditure

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
		<p><b>Education:</b> Fees to schools, universities, etc. from published information on financial statistics at universities and technikons.</p> <p><b>Other years:</b> Base-year estimates are extrapolated using GDP estimates and available quarterly data of certain services.</p>		
	<p><b>Miscellaneous services:</b></p> <p>Restaurants, cafés, hotels and lodging</p>	<p><b>Benchmark year:</b> Five-yearly survey of income and expenditure of households, verified by monthly surveys of food and beverages and tourist accommodation conducted by Stats SA.</p> <p><b>Other years:</b> Adding of quarterly estimates.</p>	Extrapolation of benchmark figures with information obtained from surveys published by Stats SA on hotels and hospitality. Judgement verified by relevant economic indicators.	Nominal expenditure on food and beverages is divided by relevant components of the CPI and extrapolation of accommodation, using the number of room nights sold at registered hotels.
	Personal care services by barbers, beauty shops, etc.	<p><b>Benchmark year:</b> Five-yearly survey of income and expenditure of households</p> <p><b>Other years:</b> Adding of quarterly estimates.</p>	Extrapolation of benchmark figures with information obtained from surveys published by Stats SA and the Retail Liaison Committee.	Nominal expenditure is divided by the CPI for hairdressing services.
	<b>Financial services</b>	<b>Benchmark year:</b> Derived from financial intermediation services indirectly measured and estimates of other service charges made to calculate output for financial intermediation and long-term insurance services.	Same as for benchmark estimates.	Nominal expenditure is divided by the CPI for services.
	Other services	<p><b>Benchmark year:</b> Five-yearly survey of income and expenditure of households.</p> <p><b>Other years:</b> Adding of quarterly figures.</p>	Judgement verified by relevant economic indicators.	Nominal expenditure is divided by the CPI for services.
	Consumption expenditure by non-residents in domestic market	Balance-of-payments data regarding travel costs, tourist expenditure and remuneration of contract workers.	Same as for annual estimates.	Nominal expenditure is divided by the CPI.
	Direct purchases by resident households abroad	Balance-of-payments data regarding expenditure by resident households abroad.	Same as for annual estimates.	Nominal expenditure is divided by a weighted average price index of South Africa's major trading partners.
Final consumption expenditure by general government	Expenditure on non-wage goods and services	<p><b>Benchmark year:</b> GFS analyses and Stats SA government publications.</p> <p><b>Other years:</b> GFS analyses and information on the general government, received from Stats SA.</p>	Using information obtained from GFS analyses.	Nominal values are divided by a weighted average of relevant components of the PPI.
	Compensation of employees	<b>Benchmark year and other years:</b> Same as for non-wage goods and services.	Using information obtained from GFS analyses and quarterly information received from Stats SA.	Base-year estimates are extrapolated according to employment data obtained from Stats SA for central government provincial governments, local authorities, and other statutory institutions.

## Gross domestic expenditure

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
	Consumption of fixed capital	<b>Benchmark year and other years:</b> Allowances for depreciation of general government's non-financial fixed assets estimated by the SARB.	Same as for annual estimates.	Allowance for depreciation of the real non-financial fixed capital stock.
	Sales of government services	<b>Benchmark year and other years:</b> Same as for non-wage intermediate goods and services.	Using information obtained from GFS analyses.	Nominal values are divided by price deflator of intermediate inputs.
Gross fixed capital formation	Private sector: Most fixed capital formation (except sub-components listed separately)	<b>Benchmark year:</b> AFSs and large sample surveys conducted by Stats SA for the various sectors of the economy, verified by supply and use estimates.  <b>Other years:</b> Extrapolated or interpolated according to the results of quarterly sample surveys by the SARB and Stats SA of financial statistics of business enterprises, supplemented by annual reports of different companies.	Extrapolated using information from quarterly sample surveys of Stats SA, SARB surveys, information collected by the National Department of Agriculture and judgemental projections based on relevant time series.	Nominal values of fixed capital formation by type of asset are divided by appropriate price indices. Residential and non-residential buildings are divided by separated indices comprising relevant components of JBCC indices as published by Stats SA in the statistical release P0151. For construction works, an average of appropriate indices obtained from the PPI, SAFCEC and JBCC are used. Transport equipment, and machinery and other equipment are divided by weighted indices of relevant components of the PPI. Capital formation in agriculture is divided by weighted price indices obtained from relevant time series supplied by the National Department of Agriculture.
	Private residential buildings	<b>Benchmark year and other years:</b> Stats SA's information on building plans passed and buildings completed.	Extrapolated using the results of the monthly sample survey of buildings completed conducted by Stats SA.	
	Leasing contracts	<b>Benchmark year and other years:</b> The SARB's survey of financial institutions.	Same as for annual estimates.	
	Transfer costs	<b>Benchmark year and other years:</b> The sum of quarterly estimates of the transfer fees paid to general government, plus the agent and legal fees calculated as a percentage of the value of transactions, in real estate.	Same as for annual estimates.	Nominal values are divided by the price index for residential buildings.
	Public corporations	<b>Benchmark year and other years:</b> Annual survey of the corporations conducted by the SARB.	Same as for annual estimates.	Same as for private sector.
	General government	<b>Benchmark year and other years:</b> Information obtained from GFS analyses, verified by the statistical survey on actual and expected capital expenditure of the public sector and expenditure of the general government, conducted by Stats SA.	Same as for annual estimates.	Same as for private sector.

## Gross domestic expenditure

Sector	Subsector	Annual estimates	Quarterly estimates	Constant-price estimates
	General government	<b>Benchmark year and other years:</b> Information obtained from GFS analyses, verified by the statistical survey on actual and expected capital expenditure of the public sector and expenditure of the general government, conducted by Stats SA.	Same as for annual estimates.	Same as for private sector.
Change in inventories	Industrial and commercial inventories and other non-farm industries	<b>Benchmark year:</b> Book value of inventories (adjusted by inventory revaluation) obtained from the AFSs of Stats SA and surveys conducted by the SARB among public corporations and business enterprises of general government.  <b>Other years:</b> Stats SA and SARB quarterly surveys. Livestock and gold require no valuation adjustment; changes are calculated from physical quantities and average current prices.	Same as for annual estimates; based on information obtained from quarterly financial surveys conducted by Stats SA and the SARB.	Book value of inventories is divided by the PPI, or specific price indices such as for diamond stocks-in-trade.
	Agricultural stocks-in-trade	Quarterly statistics from the various marketing agents and SAGIS.	Same as for annual estimates.	Base-year values are extrapolated using the quarterly change in physical quantities.

1. For gross domestic product according to the production and income methods, the production approach is applied annually; the gross domestic product is estimated as the difference between real output and intermediate consumption. For quarterly estimates a combination of the production approach and the income method is used. For the income method a distinction is made between compensation of employees and gross operating surplus. The estimates for the gross domestic product by kind of economic activity at constant prices, using the extrapolation method of base-year estimates (utilising appropriate volume indices), have been supplemented by deflating output and intermediate input for the different sectors annually. In addition, the supply-and-use framework has been utilised to benchmark levels in the base year, 2005.
2. Estimates are extended annually and quarterly to incorporate the activities of the informal sector.

## Abbreviations used in Section 3

AFS	–	Annual Financial Statistics survey
BMR	–	Bureau of Market Research
CPI	–	consumer price index
GDP	–	gross domestic product
GFS	–	Government Finance Statistics
JBCC	–	Joint Building Contracts Committee
LFS	–	Labour Force Survey
NAAMSA	–	National Association of Automobile Manufacturers of South Africa
PPI	–	producer price index
SABC	–	South African Broadcasting Corporation
SAFCEC	–	South African Federation for Civil Engineering Contractors
SAGIS	–	South African Grain Institute
SARB	–	South African Reserve Bank
Stats SA	–	Statistics South Africa

## 4 Institutional sector accounts of South Africa

The set of Integrated Economic Accounts (IEAs) captures transactions in the South African economy undertaken by the five main institutional sectors, namely (1) financial corporations; (2) non-financial corporations; (3) general government; (4) households (including non-profit institutions serving households); and (5) the rest of the world. A total economy table is also compiled in the same format.

**Table 6 Balancing items of the institutional sectors as a percentage of the balancing items for the total economy**

Sectors	1995	2005	2006	2007	2008	Average before bench- marking*	Average after bench- marking*
<b>Gross value added at basic prices</b>							
Non-financial corporations .....	52,5	55,1	54,6	54,3	55,0	54,4	54,2
Financial corporations .....	6,6	8,8	9,3	10,3	9,7	7,9	8,1
General government .....	17,3	15,9	15,7	15,2	15,3	16,6	16,5
Households and NPISHs .....	23,6	20,2	20,5	20,2	20,0	21,2	21,1
<b>Gross operating surplus/ mixed income</b>							
Non-financial corporations .....	54,5	57,5	56,5	55,8	57,2	55,7	55,6
Financial corporations .....	7,1	8,7	9,4	11,2	10,4	8,8	8,7
General government .....	5,4	4,5	4,5	4,2	4,4	4,8	4,8
Households and NPISHs .....	33,0	29,3	29,6	28,8	28,0	30,8	30,9
<b>Gross balance of primary income</b>							
Non-financial corporations .....	14,7	14,8	14,3	13,2	14,6	14,7	14,3
Financial corporations .....	3,9	3,8	4,6	5,3	5,4	4,4	4,5
General government .....	7,3	11,9	12,3	12,7	11,5	9,5	9,4
Households and NPISHs .....	74,1	69,5	68,8	68,8	68,4	71,4	71,8
<b>Gross disposable income</b>							
Non-financial corporations .....	12,6	9,6	8,2	6,8	7,4	10,5	10,2
Financial corporations .....	7,6	5,8	6,6	7,0	8,7	6,7	6,8
General government .....	16,4	21,6	23,0	23,5	22,7	19,8	19,8
Households and NPISHs .....	63,4	63,0	62,2	62,7	61,2	63,0	63,3
<b>Gross saving</b>							
Non-financial corporations .....	75,3	64,3	55,8	46,2	48,6	66,2	65,3
Financial corporations .....	17,4	13,7	18,1	21,2	25,6	17,2	18,1
General government .....	-13,8	10,1	18,5	24,7	17,6	1,1	1,9
Households and NPISHs .....	21,2	11,8	7,7	7,9	8,1	15,4	14,7

Individual shares may not add to 100 due to rounding  
NPISH stands for Non-profit institutions serving households

\* Average for the period 1995–2008

Balancing items, introduced by the 1993 SNA, represent more than a mere method to ensure that institutional sector accounts balance. They also represent important economic variables and, as such, are useful to gain an understanding and perspective of the structure of an economy. Table 6 shows selected balancing items of the institutional sectors (as reflected in the IEAs) as percentages of the balancing items of the total economy.

The corporate sector is generating the major share of gross value added. Its contribution over the 14 years from 1995 to 2008 amounted to 62,3 per cent, with the non-financial corporate sector accounting for 54,2 per cent of total gross value added. The share of financial corporations increased on average to 8,1 per cent from an average of 7,9 per cent before benchmarking. Relative to total gross value added, general government's share remained around 16,5 per cent and the share of the household sector declined somewhat from 21,2 per cent to 21,1 per cent.

The gross operating surplus of the non-financial sector remained the largest, registering an average share of 55,6 per cent over the period under review. It declined slightly from an average of 55,7 per cent before benchmarking. The household sector also commanded a large share, amounting to 30,9 per cent of the total gross operating surplus and mixed income in the economy.

The gross balance of primary income's largest contributor is salaries and wages. On average households received 71,8 per cent of all compensation over the past 15 years. This share decreased from a high of 74,1 per cent in 1995 to a low of 68,4 per cent in 2008, as gross operating surpluses increased relatively faster than compensation of employees.

The household sector is the largest contributor to gross disposable income. Its share on average amounted to 63,3 per cent over the period 1995 to 2009, followed by general government with 19,8 per cent. Most of the disposable income accruing to both these sectors is allocated to consumption, as their average shares in gross saving amounted to 14,7 per cent and 1,9 per cent respectively. Behind the average contribution to saving recorded by government, significant swings were recorded over shorter periods. A large positive contribution was, for instance, registered from 2006 to 2008, but was followed by a negative contribution in 2009 when tax collections were subdued. The non-financial sector's share in gross saving was no less than 65,3 per cent.

## 5 Conclusion

The compilation of reliable and accurate national accounts estimates necessitates a continuous evaluation of existing data sources and the development of new and alternative sources of information. These processes culminate in significant improvements effected when the national accounts are revised comprehensively.

The data contained in the accompanying statistical tables are the official estimates of South Africa's national accounts, benchmarked to the latest and most comprehensive data sources available and rebased to 2005 prices.

Future work in the national accounts area include the alignment of national accounts estimates with the guidelines of the latest *Standard Industrial Classification of Economic Activities*, the *2008 System of National Accounts* as well as the latest *Balance of Payments and International Investment Position Manual*.

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