

National Accounts



Satellite Accounts

Information and Communication Technology satellite account
for South Africa, 2006 – 2011

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account for South Africa, 2006 - 2011

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Abbreviations

AFS	Annual Financial Statistics
CPC	Central Product Classification
DoC	Department of Communications
DST	Department of Science and Technology
GFCF	Gross fixed capital formation
GDP	Gross domestic product
GHS	General Household Survey
GPRS	General packet radio service
GVA	Gross value added
HS	Harmonised System
HFCE	Household Final Consumption Expenditure
ICT	Information and Communication Technology
IEA	Integrated Economic Accounts
IES	Income and Expenditure Survey
ISIC	International Standard Industrial Classification of all Economic Activities
IT	Information Technology
LFS	Labour Force Survey
LSS	Large Sample Survey
Nr	Number
OECD	Organisation for Economic Cooperation and Development
QLFS	Quarterly Labour Force Survey
SARB	South African Reserve Bank
SARS	South African Revenue Service
SIC	Standard Industrial Classification of all Economic Activities
SITA	State Information Technology Agency
SNA	System of National Accounts
Stats SA	Statistics South Africa
SU-tables	Supply and Use tables
the dti	Department of Trade and Industry
USAASA	Universal Service and Access Agency of South Africa

Preface

The Information and Communication Technology (ICT) satellite account covers the reference years 2006 - 2011. It provides an overview of the role that ICT plays in the South African economy and provides information on the ICT sector's contribution to the South African economy both in terms of expenditure and output.

The ICT satellite account for South Africa is compiled and published by Statistics South Africa (Stats SA) according to a framework based on recommendations from the Organisation for Economic Cooperation and Development (OECD) and after examining other countries' experiences. The ICT satellite account is, together with various ICT indicators, one element of a planned compendium of ICT statistics. These will provide for the understanding and monitoring of the impact of ICT and the ICT sector on the South African economy over time.

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Statistician-General
Pretoria
March 2014

Key findings

The key findings of the Information and Communication Technology satellite account for South Africa for 2006 - 2011¹ are:

	2006	2007	2008	2009	2010	2011
Information and Communication Technology (ICT) contribution to gross domestic product (GDP) (R million)	70 458	74 009	74 947	77 181	85 039	92 557
Information and Communication Technology (ICT) contribution to gross domestic product (GDP) (%)	4,0	3,7	3,3	3,2	3,2	3,2
Information and Communication Technology (ICT) contribution to gross value added (GVA) (R million)	65 229	67 739	68 957	71 153	78 747	85 064
Total domestic output at basic prices of the ICT sector (R million)	164 895	177 622	188 754	197 268	210 085	229 058
Estimated ICT taxes (R million)	5 229	6 269	5 990	6 028	6 292	7 493
ICT imports (R million)	57 225	66 853	82 367	62 616	73 251	62 066
ICT exports (R million)	15 101	16 636	19 467	15 551	19 049	20 146
ICT trade balance (deficit/surplus) (R million)	-42 124	-50 217	-62 900	-47 065	-54 202	-41 919
Compensation of employees paid by the ICT sector (R million)	20 024	22 328	24 240	25 469	28 217	31 583
Household final consumption expenditure (HFCE) on ICT products (R million)	50 698	56 785	61 429	58 780	61 569	63 670
Household final consumption expenditure (HFCE) on ICT products compared with total spend (%)	4,5	4,5	4,4	4,0	3,9	3,7

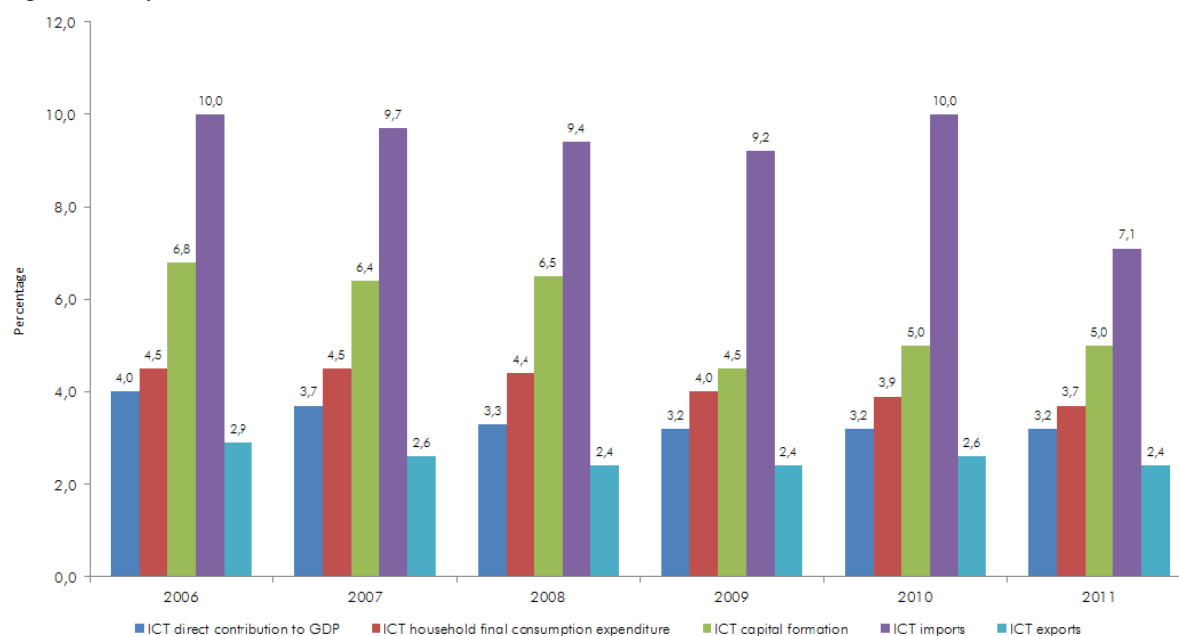
¹The Draft Information and Communication Technology satellite account for South Africa, 2005 (discussion document no D0405.3.1) is included as a reference

The direct contribution of the Information and Communication Technology (ICT) sector to the gross domestic product (GDP) of South Africa was R70 458 million (or 4,0% of total GDP) in 2006, R74 009 million (or 3,7% of total GDP) in 2007, R74 947 million (or 3,3% of total GDP) in 2008, R77 181 million (or 3,2% of total GDP) in 2009, R 85 039 million (or 3,2% of total GDP) in 2010 and R92 557 million (or 3,2% of total GDP) in 2011.

In 2011, telecommunication services was estimated to have contributed 2,3 percentage points toward the total ICT sector contribution to GDP (3,2% of total GDP), followed by computer services and activities (contributed 0,3 percentage points) and manufacturing, trade, and content and media (contributed 0,2 percentage points respectively).

Figure 1 shows the changes in the key variables for the ICT satellite account between 2006 and 2011.

Figure 1: Key variables for the ICT satellite account, 2006 – 2011



Source: Statistics South Africa

Total domestic output at basic prices² of the ICT sector in 2006 was R164 895 million (with telecommunication services making the largest contribution (R120 804 million or 73,3%)). Total domestic output at basic prices of the ICT sector in 2011 was R229 058 million (with telecommunication services making the largest contribution (R160 603 million or 70,0%)).

The ICT sector paid taxes of R5 229 million in 2006 and R7 493 million in 2011 (2,5% and 2,4% of the total tax for the economy respectively).

²Excludes trade margins, transport margins and net taxes and subsidies on products.

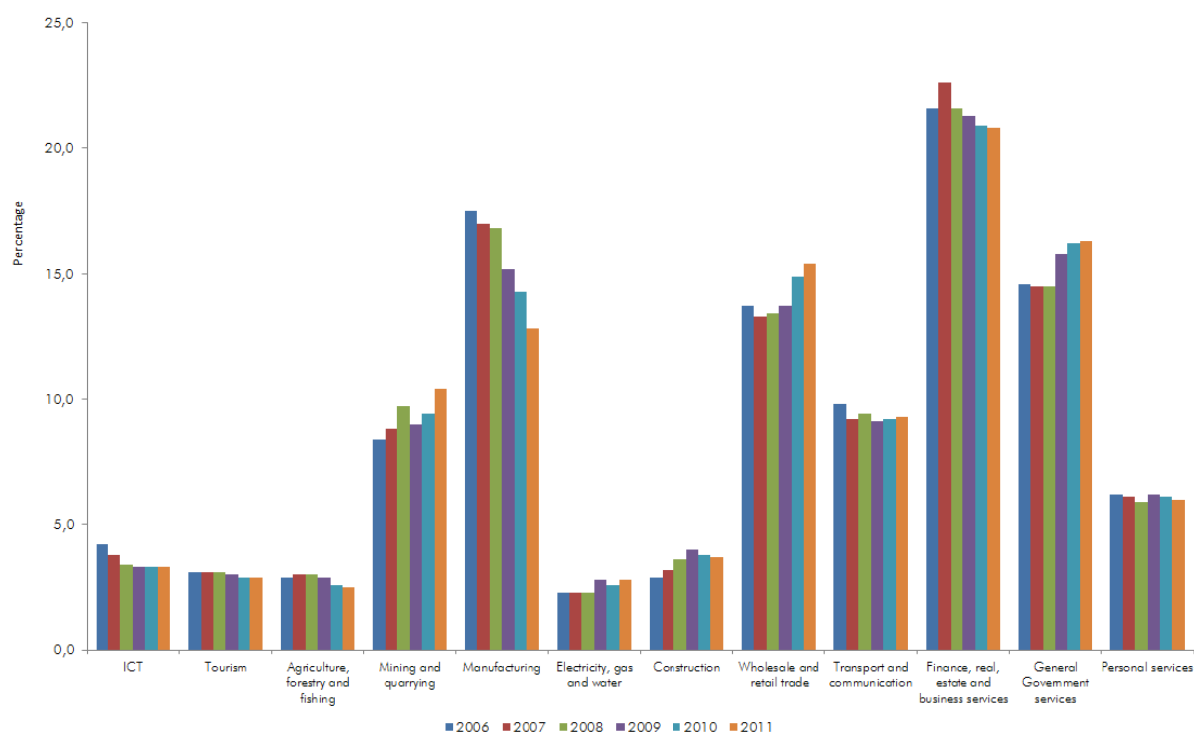
South Africa imported a total of R57 225 million worth of ICT products³ in 2006 (which was 10,0% of the total imports⁴ for South Africa for 2006). The ICT trade deficit was R42 124 million for 2006. ICT products exported in 2006 were worth R15 101 million (or 2,9% of total exports⁵). ICT products imported in 2011 amounted to R62 066 million (or 7,1% of total imports), with ICT exports estimated at R20 146 million (or 2,4% of total exports). The ICT trade deficit for 2011 was R41 919 million.

The compensation of employees paid by the ICT sector in 2006 totalled R20 024 million, with telecommunication services making the largest contribution to compensation of employees (R12 023 million). In 2011, compensation of employees paid by the ICT sector totalled R31 583 million, with telecommunication services making the largest contribution (R18 625 million).

Household final consumption expenditure (HFCE) on ICT products was R50 698 million in 2006 (or 4,5% of the total HFCE for 2006). Telecommunications, broadcasting and information supply services was the major expenditure item (R32 872 million or 65,0% of the total ICT HFCE). In 2011, HFCE on ICT products was R63 670 million (or 3,7% of the total HFCE in 2011). Telecommunications, broadcasting and information supply services was still the major expenditure item (R40 324 million or 63,0% of the total ICT HFCE).

Figure 2 shows the contribution of the ICT sector to gross value added as compared to other industries within the economy

Figure 2: ICT sector contribution to gross value added compared to other industries in the economy, 2006 - 2011



Source: Statistics South Africa

³Includes both goods and services.

⁴Includes both goods and services.

⁵Includes both goods and services.

Chapter 1: Introduction

Information and Communication Technology (ICT) is at the forefront of the modern economy. Computer processing power is increasing exponentially, with technology giving rise to a cultural, social, and productivity shock. Communication has been completely transformed. Cellular telephones and other mobile devices connect individuals and businesses in a way that is not only fast, but accessible. Data are transferred between individuals and businesses seamlessly⁶. Businesses, countries and people are connected like never before and communication has been totally reshaped with email systems and online messaging that deliver instant responses.

The ICT sector in South Africa is an important component of the national economy. Technology is involved in almost every facet of the economy – from telecommunications to increasing productivity in manufacturing with robots, and more efficient computer hardware and software. Despite the importance of the ICT sector in South Africa's and the world's economy, it is not a clearly defined industry, as classified by the International Standard Industrial Classification of all Economic Activities (ISIC). ICT instead is a component of multiple industries throughout the economy, including manufacturing, business services, trade and telecommunications.

There are multiple components to the ICT sector; however, they are measured through either ICT indicators (which measure the educational part and the socio-economic part) or the ICT satellite account (which measures the economic activity through National Accounts data). Statistics South Africa (Stats SA), along with other governmental stakeholders, is working towards creating a compendium of ICT statistics which will include both ICT indicators and the ICT satellite account.

This report updates the draft ICT satellite account for South Africa, 2005 with the reference years 2006 - 2011. Please consult the discussion document: '*Draft Information and Technology satellite account for South Africa, 2005*' (discussion document no: D0405.3.1) for the draft ICT satellite account for South Africa, 2005.

The purpose of this report is to update the existing discussion documents with the following information:

- The ICT satellite account for South Africa, 2006 - 2011; and
- The future development of the ICT satellite account for South Africa.

⁶Organisation for Economic Cooperation and Development – Guide to Measuring the Information Society (DSTI/ICCP/IIS(2005)6)

1.1 Why a satellite account

In order to measure the ICT sector in an economy from National Accounts data, a satellite account is required. The System of National Accounts (SNA) recommends the development of satellite accounts for the measurement of economic phenomena that are not explicitly shown in the core set of accounts. A satellite account is an extension of the SNA that allows a component of the national framework to be examined with greater flexibility than the framework of the National Accounts typically allows. The advantage of a satellite account is that it can isolate the ICT supply and demand in various industries. It will define which industries and products⁷ are ICT specific and related and which industries and products are not ICT related.

Another feature of an ICT satellite account is that it combines monetary aggregates with non-monetary data while still conforming to the SNA standards for the monetary aggregates. There are no recommended guidelines and frameworks for an ICT satellite account. The Organisation for Economic Cooperation and Development (OECD) released guidelines proposing a conceptual model for the information economy⁸. They form the basis for the recommended ICT industries and ICT products used in the draft ICT satellite account for South Africa.

The advantage of a completed ICT satellite account is that ICT data included within the National Accounts framework are explicitly estimated. The production, output, GVA and taxes paid by the ICT sector, the GDP contribution of the ICT sector, ICT employment, imports and exports of ICT products, household consumption of ICT products, and investment in ICT products within the economy are attainable values from an ICT satellite account. These values are important to policy-makers, investors and line ministries.

1.2 Information and Communication Technology satellite account methodology

The ICT satellite account framework forms the foundation of the ICT satellite account. The ICT framework allows for the compilation of the ICT satellite account by confronting supply and demand. It is highly recommended that the previous discussion documents are read in conjunction with this report (consult the discussion documents⁹: '*The status of the Information and Communication Technology satellite account for South Africa*', discussion document number: D0407; and '*Draft Information and Technology satellite account for South Africa, 2005*' [discussion document no: D0405.3.1], both available online at www.statssa.gov.za).

⁷Products include both goods and services.

⁸Organisation for Economic Cooperation and Development – Guide to Measuring the Information Society (DSTI/ICCP/IIS(2005)6).

⁹There have been three discussion documents published (March 2011, 2012 and 2013) both detailing the progress and development of the Information and Communication satellite account.

The identification of the ICT sector was a fundamental step in developing the ICT satellite account. The ICT sector definitions and classifications adopted by Stats SA conform to the OECD international standards and thus maintain international comparability. The ICT definitions used for the ICT satellite account are as follows¹⁰:

- ICT products must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display;
- For the ICT sector, the production (goods and services) of a candidate industry must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display;
- For the 'content and media' sector, the production (goods and services) of a candidate industry must primarily be intended to inform, educate and/or entertain humans through mass communication media. These industries are engaged in the production, publishing, and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organised message intended for human beings; and
- 'Content' corresponds to an organised message intended for human beings published in mass communication media and related media activities. The value of such a product to the consumer does not lie in its tangible qualities but in its information, educational, cultural or entertainment content.

The supply and use tables (SU-tables), which form the foundation of the ICT satellite account, are classified according to the Central Product Classification (version 2) and the Standard Industrial Classification of all economic activities, 5th edition (SIC). While the SIC has not yet been updated to conform to the ISIC (4th revision), the CPC used within the SU-tables allows a direct link to OECD ICT product recommendations. There are industries classified under the SIC which are no longer directly linked to the newer ISIC (4th revision).

Research was undertaken to identify these industries, based on whether they comply with the ICT sector definition or not. The identification of ICT-specific industries consisted of two stages. Firstly, the ICT products were identified within the SU-tables (any industry producing more than 50,0%¹¹ ICT products was regarded as an ICT-specific industry). The second stage was a filtering process, and this examined each identified industry and determined whether it met with the OECD definition of an ICT industry. If the industry did not, it was excluded from the ICT sector. The same process was undertaken for the content and media¹² sector.

¹⁰Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

¹¹Please see previous discussion documents no (D0407) for how this percentage was derived.

¹²Content and media is included as a single line item within the ICT satellite account for South Africa.

The SU-tables are classified according to the CPC (version 2) mostly at a two-digit level. The OECD guidelines¹³ classify all ICT products at a five digit level (this implies that products on the SU-tables are substantially aggregated when compared with the classifications put forward by the OECD; this is mainly due to product data limitations for South Africa, and is a phenomenon not isolated to the ICT sector). The implication of this is that certain non-ICT products are classified within the same CPC product code as ICT products (due to the aggregation).

In order to extract ICT products from the aggregated data, certain assumptions are made in the treatment of ICT products:

- It is assumed that ICT products are only produced (in volume) within identified ICT industries that make up the ICT sector. There might be production of ICT products outside the ICT sector, produced as secondary output in other industries. This production is assumed to be very small in volume, and at this stage¹⁴ it cannot be accurately calculated;
- Certain industries meet the OECD ICT sector definition but the volume of ICT products produced is less than 50,0% of total output. These industries are regarded as ICT related, and while they fall outside the ICT sector, they are included within the GDP calculation. An example of such an industry is trade services;
- In calculating ICT GDP and ICT GVA for the related industries, it is assumed they have a fixed-cost structure, and this implies their cost of output is the same regardless of the product mix produced; and
- In calculating the net taxes and subsidies and margins, it is assumed that the taxes are distributed evenly within an aggregated CPC code and, as a result of this, ICT and non-ICT products are taxed at the same rate.

In order to calculate the estimates of ICT products that were imported and exported, data supplied by the South Africa Revenue Service (SARS) were used to generate ratios that allowed the extraction of import and export data from the aggregated CPC product codes. The same import ratios were used in estimating ICT capital formation¹⁵ (these ratios were chosen because it was assumed that investment formed part of gross fixed capital formation, and as such, most capital goods are imported into South Africa). This is in line with South Africa being a net technology importer and until more detailed data are available, this assumption will be used to estimate ICT capital formation.

Household final consumption expenditure (HFCE) on ICT products was calculated using a weighted ratio between ICT imports and ICT product output from the ICT sector. This ratio was then used to extract the ICT products from aggregated CPC codes. It was assumed that most households purchase a mix of locally produced and imported ICT products. The weighted ratio attempts to estimate this mix of products. Unfortunately at this stage¹⁶ there are insufficient data at a disaggregated level to link household expenditure to the individual ICT products and their origin of production.

The cornerstone of the ICT framework is the production account. The production account is used to confront supply and demand data. It identifies the ICT sector and isolates it from the rest of the economy, allowing for the calculations of ICT domestic output, ICT GDP, ICT GVA and ICT taxes and subsidies. The production account supplies the data to populate the ICT tables (excluding the employment, imports and exports, and

¹³Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

¹⁴As of September 2013.

¹⁵Equivalent to gross fixed capital formation.

¹⁶As of September 2013.

final household consumption expenditure tables). The condensed production account is available as Annexure A (refer to the Excel sheets for the detailed production accounts).

The ICT products included within the draft ICT satellite account, along with the identified industries making up the ICT sector, are included in Annexure B. These ICT products and industries were identified and examined in the previous published discussion documents (discussion document no: D0407).

Chapter 2: The Information and Communication Technology satellite account for South Africa, 2006 - 2011

This section includes the ICT satellite account for South Africa for the reference years 2006 - 2011.

This section provides the nine tables within the ICT satellite account for South Africa for each of the reference years. The individual tables will be supplied in Microsoft Excel¹⁷ format (Share of GDP, Domestic output, Imports and Exports, Income components, Supply and Use, Investment in ICT, HFCE in ICT and Production accounts) for a more detailed analysis, available at www.statssa.gov.za.

The SU-tables form the basis for the ICT satellite account. Additional data sources that have been used in the compilation of the ICT satellite account are:

- Large Sample Survey (LSS);
- Annual Financial Statistics (AFS);
- General Household Survey (GHS); and
- Income and Expenditure Survey (IES).

2.1 Information and Communication Technology Table 1: Information and Communication Technology share of gross domestic product

ICT Table 1: ICT share of GDP is the headline table of the ICT satellite account for South Africa. It contains the calculated values for the ICT contribution to the economy in terms of contribution to the GDP and the ICT gross value added. The primary data source is the ICT SU-tables. Table 1 shows the GDP and GVA at an aggregated level of the ICT sector for 2006 - 2011.

The ICT GVA and the GDP are the two economic aggregates that are important for explaining ICT in the economy. The SNA defines GVA as the value of output less the value of intermediate consumption. It measures the value created by production and is measured before the deduction of consumption of fixed capital¹⁸.

ICT GVA is therefore the value of output of ICT products minus the value of intermediate consumption used while producing ICT products¹⁹. ICT GVA can be directly compared with other industries, for example agriculture. ICT GDP measures ICT GVA at purchaser's prices, as opposed to basic prices for ICT GVA. It allows for comparing with the national GDP as well as a comparison with other countries' ICT GDP figures.

¹⁷Microsoft Excel 2007.

¹⁸System of National Accounts.

¹⁹Australian Bureau of Statistics – Information and Communication Technology satellite account, 2002.

Table 1: Information and Communication Technology share of gross domestic product by Information and Communication related activity, 2006 - 2011

Activities	ICT industry output (Rand million)	ICT gross value added	Share of ICT gross value added (%)	Share of total gross value added	ICT GDP (Rand million)	Share of ICT GDP (%)	Share of GDP
2006							
ICT-specific activities							
Manufacturing	13 985	3 727	6,0	0,2	3 941	6,0	0,2
Telecommunication services	120 804	52 163	80,0	3,3	55 160	78,0	3,1
Computer services and activities	14 031	3 680	6,0	0,2	3 891	6,0	0,2
Content and media	10 363	3 319	5,0	0,2	3 510	5,0	0,2
ICT-related activities							
Trade	5 541	2 316	4,0	0,2	3 596	5,0	0,2
Related industries	171	24	0,0	0,0	360	1,0	0,0
Total	164 895	65 229	100,0	4,2	70 458	100,0	4,0
2007							
ICT-specific activities							
Manufacturing	14 970	4 002	6,0	0,2	4 264	6,0	0,2
Telecommunication services	128 553	52 936	78,0	3,0	56 399	76,0	2,8
Computer services and activities	16 046	4 337	6,0	0,2	4 620	6,0	0,2
Content and media	11 820	3 946	6,0	0,2	4 204	6,0	0,2
ICT-related activities							
Trade	6 045	2 492	4,0	0,1	4 077	6,0	0,2
Related industries	187	27	0,0	0,0	444	1,0	0,0
Total	177 622	67 739	100,0	3,8	74 009	100	3,7
2008							
ICT-specific activities							
Manufacturing	18 125	4 141	6,0	0,2	4 387	6,0	0,2
Telecommunication services	130 884	52 741	76,0	2,6	55 877	75,0	2,5
Computer services and activities	18 808	4 833	7,0	0,2	5 121	7,0	0,2
Content and media	13893	4 289	6,0	0,2	4 544	6,0	0,2
ICT-related activities							
Trade	6 844	2 924	4,0	0,1	4 588	6,0	0,2
Related industries	200	29	0,0	0,0	430	1,0	0,0
Total	188 754	68 957	100,0	3,4	74 947	100,0	3,3
2009							
ICT-specific activities							
Manufacturing	18 021	4 274	6,0	0,2	4518	6,0	0,2
Telecommunication services	137 414	53 466	75,0	2,5	56510	73,0	2,4
Computer services and activities	20 420	5 722	8,0	0,3	6048	8,0	0,3
Content and media	13 758	4 429	6,0	0,2	4681	6,0	0,2
ICT-related activities							
Trade	7 464	3 236	5,0	0,2	4970	6,0	0,2
Related industries	191	26	0,0	0,0	456	1,0	0,0
Total	197 268	71 153	100,0	3,3	77 181	100,0	3,2

Table 1: Information and Communication Technology share of gross domestic product by Information and Communication related activity, 2006 - 2011 (concluded)

Activities	ICT industry output (Rand million)	ICT gross value added	Share of ICT gross value added (%)	Share of total gross value added	ICT GDP (Rand million)	Share of ICT GDP	Share of GDP
2010							
ICT-specific activities							
Manufacturing	18 200	4 391	6,0	0,2	4 619	5,0	0,2
Telecommunication services	145 751	58 380	74,0	2,4	61 411	72,0	2,3
Computer services and activities	22 381	6 934	9,0	0,3	7 294	9,0	0,3
Content and media	14 950	5 010	6,0	0,2	5 271	6,0	0,2
ICT-related activities							
Trade	8 602	4 000	5,0	0,2	5 895	7,0	0,2
Related industries	200	31	0,0	0,0	550	1,0	0,0
Total	210 085	78 747	100,0	3,3	85 039	100,0	3,2
2011							
ICT-specific activities							
Manufacturing	19 435	4 674	5,0	0,2	4 941	5,0	0,2
Telecommunication services	160 603	63 343	74,0	2,4	66 960	72,0	2,3
Computer services and activities	23 857	7 517	9,0	0,3	7 946	9,0	0,3
Content and media	15 736	5 120	6,0	0,2	5 412	6,0	0,2
ICT-related activities							
Trade	9 219	4 378	5,0	0,2	6 663	7,0	0,2
Related industries	207	32	0,0	0,0	635	1,0	0,0
Total	229 058	85 064	100,0	3,3	92 557	100,0	3,2

*Data in this table are considered experimental in nature.

**Individual figures may not add up to stated totals due to rounding.

In 2006, the contribution to the economy (GDP) from the ICT sector²⁰ was R70 458 million (or 4,0% of total GDP in 2006). Telecommunication services contributed the most to the ICT share of GDP (3,1 percentage points). This makes telecommunication services the largest ICT industry by some margin. The ICT GVA in 2006 was R65 229 million (or 4,2% of GVA).

In 2011, the contribution to the economy (GDP) from the ICT sector²¹ was R92 557 million (or 3,2% of GDP). Telecommunication services contributed the most to the ICT share of GDP (2,3 percentage points). Telecommunication services was still the largest ICT industry in 2011, but its contribution was 0,8 percentage points lower than in 2006. The ICT GVA in 2011 was R85 064 million (or 3,3% of GVA).

²⁰Including related industries.

²¹Including related industries.

2.2 Information and Communication Technology Tables 2 and 3: Domestic output of Information and Communication Technology products

The domestic output of ICT products provides a supply perspective. ICT Table 2 shows domestic output of ICT by industry for 2006 - 2011. Industries are grouped at an aggregated level.

Table 2: Domestic output of Information and Communication Technology products by industry, 2006 - 2011

Activities	(Rand million)
2006	
ICT-specific activities	
Manufacturing	13 985
Telecommunication services	120 804
Computer services and activities	14 031
Content and media	10 363
Total ICT-specific activities	159 183
ICT-related activities	
ICT wholesale trade	5 146
ICT retail trade	396
Other manufacturing	167
Related content and media	4
Total ICT-related activities	5 713
Total ICT domestic output	164 895
2007	
ICT-specific activities	
Manufacturing	14 970
Telecommunication services	128 553
Computer services and activities	16 046
Content and media	11 820
Total ICT-specific activities	171 390
ICT-related activities	
ICT wholesale trade	5 610
ICT retail trade	435
Other manufacturing	182
Related content and media	5
Total ICT-related activities	6 232
Total ICT domestic output	177 622
2008	
ICT-specific activities	
Manufacturing	18 125
Telecommunication services	130 884
Computer services and activities	18 808
Content and media	13 893
Total ICT-specific activities	181 710
ICT-related activities	
ICT wholesale trade	6 375
ICT retail trade	469
Other manufacturing	195
Related content and media	5
Total ICT-related activities	7 043
Total ICT domestic output	188 754

Table 2: Domestic output of Information and Communication Technology products by industry, 2006 - 2011 (concluded)

Activities	(Rand million)
2009	
ICT-specific activities	
Manufacturing	18 021
Telecommunication services	137 414
Computer services and activities	20 420
Content and media	13 758
Total ICT-specific activities	189 613
ICT-related activities	
ICT wholesale trade	6 954
ICT retail trade	509
Other manufacturing	186
Related content and media	6
Total IC- related activities	7 655
Total ICT domestic output	197 268
2010	
ICT-specific activities	
Manufacturing	18 200
Telecommunication services	145 751
Computer services and activities	22 381
Content and media	14 950
Total ICT-specific activities	201 282
ICT-related activities	
ICT wholesale trade	8 008
ICT retail trade	595
Other manufacturing	193
Related content and media	6
Total ICT-related activities	8 802
Total ICT domestic output	210 085
2011	
ICT-specific activities	
Manufacturing	19 435
Telecommunication services	160 603
Computer services and activities	23 857
Content and media	15 736
Total ICT-specific activities	219 632
ICT-related activities	
ICT wholesale trade	8 567
ICT retail trade	653
Other manufacturing	200
Related content and media	7
Total ICT-related activities	9 426
Total ICT domestic output	229 058

*Trade data are an estimate based on National Accounts data.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

Total ICT domestic output of the ICT sector at basic prices was R164 895 million in 2006. ICT-specific industries produced domestic output of R159 183 million and ICT-related industries (including trade) contributed R5 713 million. The largest industry was telecommunication services (domestic output of R120 804 million). The domestic output of trade services is an estimated ICT output²².

Total ICT domestic output of the ICT sector at basic prices was R229 058 million for 2011. ICT-specific industries produced domestic output of R219 632 million and ICT-related industries (including trade) contributed R9 426 million. The largest industry was telecommunication services (domestic output of R160 603 million).

ICT Table 3 offers an alternate format of ICT domestic output which is grouped by producing industry for the years 2006 - 2011. The largest ICT product is telecommunications, broadcasting and information supply services, produced exclusively within the telecommunication services industry. This is applicable to all the reference years.

²²This is applicable to all domestic output tables.

Table 3: Domestic output of Information and Communication Technology products by producing industry, 2006 - 2011

Products	Manu- facturing	Telecom- munication services	Computer	Content	ICT related industries	Total
			services and activities	and media		
(Rand million)						
2006						
ICT products						
Office, accounting and computing machinery	2 566	0	0	0	0	2 566
Radio, television and communication equipment	7 249	0	0	139	43	7 431
Miscellaneous ICT components and goods	1 838	0	0	0	0	1 838
Leasing or rental services without operator	11	9	526	1 822	799	3 167
Other professional, technical and business services	594	0	12 528	1 208	720	15 050
Telecommunication, broadcasting and information supply services	0	120 639	0	0	0	120 639
Content and media	1 370	0	109	7 072	4 151	12 702
Non-specific products	356	156	867	122	N/A	1 502
Total	13 985	120 804	14 031	10 363	5 713	164 895
2007						
ICT products						
Office, accounting and computing machinery	2 822	0	0	0	0	2 822
Radio, television and communication equipment	7 709	0	0	162	47	7 918
Miscellaneous ICT components and goods	1 972	0	0	0	0	1 972
Leasing or rental services without operator	11	9	542	2 060	872	3 495
Other professional, technical and business services	625	0	14 386	1 368	785	17 165

Table 3: Domestic output of Information and Communication Technology products by producing industry, 2006 - 2011 (continued)

Products	Manu- facturing	Telecom- munication services	Computer	Content	ICT-related industries	Total
			services and activities	and media		
(Rand million)						
2007						
Telecommunication, broadcasting and information supply services	0	128 378	0	0	0	128 378
Content and media	1 451	0	126	8 088	4 528	14 193
Non-specific products	379	166	992	141	N/A	1 679
Total	14 970	128 553	16 046	11 820	6 232	177 622
2008						
ICT products						
Office, accounting and computing machinery	3 434	0	0	0	0	3 434
Radio, television and communication equipment	9 312	0	0	190	50	9 552
Miscellaneous ICT components and goods	2 387	0	0	0	0	2 387
Leasing or rental services without operator	14	9	691	2 427	985	4 126
Other professional, technical and business services	757	0	16 812	1 611	886	20 065
Telecommunication, broadcasting and information supply services	0	130 706	0	0	0	130 706
Content and media	1 761	0	147	9 501	5 122	16 530
Non-specific products	460	169	1 159	165	N/A	1 953
Total	18 125	130 884	18 808	13 893	7 043	188 754
2009						
ICT products						
Office, accounting and computing machinery	3 433	0	0	0	0	3 433
Radio, television and communication equipment	9 258	0	0	185	48	9 491
Miscellaneous ICT components and goods	2 366	0	0	0	0	2 366

Table 3: Domestic output of Information and Communication Technology products by producing industry, 2006 - 2011 (continued)

Products	Manu- facturing	Telecom- munication services	Computer	Content	ICT-related	Total
			services and activities	and media	industries	
(Rand million)						
2009						
Leasing or rental services without operator	14	10	728	2 420	1 075	4 246
Other professional, technical and business services	758	0	18 286	1 603	960	21 606
Telecommunication, broadcasting and information supply services	0	137 227	0	0	0	137 227
Content and media	1 737	0	160	9 390	5 572	16 859
Non-specific products	456	178	1 247	160	N/A	2 040
Total	18 021	137 414	20 420	13 758	7 655	197 268
2010						
ICT products						
Office, accounting and computing machinery	3 418	0	0	0	0	3 418
Radio, television and communication equipment	9 347	0	0	196	50	9 593
Miscellaneous ICT components and goods	2 451	0	0	0	0	2 451
Leasing or rental services without operator	14	10	785	2 647	1 239	4 695
Other professional, technical and business services	761	0	20 063	1 752	1 101	23 676
Content and media	1 749	0	175	10 176	6 412	18 512
Non-specific products	460	188	1 358	179	N/A	2 187
Total	18 200	145 751	22 381	14 950	8 802	210 085

Table 3: Domestic output of Information and Communication Technology products by producing industry, 2006 - 2011 (concluded)

Products	Manu- facturing	Telecom- munication services	Computer	Content	ICT-related	Total
			services and activities	and media	industries	
(Rand million)						
2011						
ICT products						
Office, accounting and computing machinery	3 643	0	0	0	0	3 643
Radio, television and communication equipment	10 062	0	0	202	52	10 315
Miscellaneous ICT components and goods	2 549	0	0	0	0	2 549
Leasing or rental services without operator	15	12	837	2 822	1 329	5 014
Other professional, technical and business services	812	0	21 374	1 860	1 178	25 224
Telecommunication, broadcasting and information supply services	0	160 384	0	0	0	160 384
Content and media	1 861	0	187	10 679	6 868	19 594
Non-specific products	493	208	1 460	174	N/A	2 334
Total	19 435	160 603	23 857	15 736	9 426	229 058

*Data in this table are considered experimental in nature.

**Individual figures may not add up to stated totals due to rounding.

The largest ICT product is telecommunications, broadcasting and information supply services, produced exclusively within the telecommunication services industry.

2.3 Information and Communication Technology Table 4: Imports and exports of Information and Communication Technology products

Imports and exports of ICT products are reflected in ICT Table 4 for years 2006 - 2011. The data were sourced from the ICT SU-tables (supplemented with additional data from alternate sources including SARS). The import and export data are traditionally classified according to the Harmonised System (HS) classification, and the HS classification has been linked to CPC (version 2).

Table 4: Imports and exports of Information and Communication Technology products by type of product, 2006 - 2011

Products	(Rand million)
2006	
Imports of ICT products	
Office, accounting and computing machinery	18 997
Radio, television and communication equipment	29 068
Miscellaneous ICT components and goods	297
Leasing or rental services without operator	0
Other professional, technical and business services	710
Telecommunications, broadcasting and information supply services	5 266
Content and media	2 887
Total Imports of ICT products	57 225
Percentage of ICT imports (against total imports) (%)	10,0
Exports of ICT products	
Office, accounting and computing machinery	1 576
Radio, television and communication equipment	3 080
Miscellaneous ICT components and goods	261
Leasing or rental services without operator	0
Other professional, technical and business services	664
Telecommunications, broadcasting and information supply services	8 165
Content and media	1 355
Total exports of ICT products	15 101
Percentage of ICT exports (against total exports) (%)	2,9
ICT trade surplus/deficit	-42 124
2007	
Imports of ICT products	
Office, accounting and computing machinery	22 242
Radio, television and communication equipment	33 732
Miscellaneous ICT components and goods	332
Leasing or rental services without operator	0
Other professional, technical and business services	889
Telecommunications, broadcasting and information supply services	6 393
Content and media	3 264
Total imports of ICT products	66 853
Percentage of ICT imports (against total imports) (%)	9,7
Exports of ICT products	
Office, accounting and computing machinery	1 305
Radio, television and communication equipment	3 963
Miscellaneous ICT components and goods	313
Leasing or rental services without operator	0

Table 4: Imports and exports of Information and Communication Technology products by type of product, 2006 - 2011 (continued)

Products	(Rand million)
2007	
Other professional, technical and business services	742
Telecommunications, broadcasting and information supply services	8 890
Content and media	1 423
Total exports of ICT products	16 636
Percentage of ICT exports (against total exports) (%)	2,6
ICT trade surplus/deficit	-50 217
2008	
Imports of ICT products	
Office, accounting and computing machinery	28 111
Radio, television and communication equipment	41 282
Miscellaneous ICT components and goods	460
Leasing or rental services without operator	0
Other professional, technical and business services	1 016
Telecommunications, broadcasting and information supply services	8 067
Content and media	3 430
Total imports of ICT products	82 367
Percentage of ICT imports (against total imports) (%)	9,4
Exports of ICT products	
Office, accounting and computing machinery	1 576
Radio, television and communication equipment	4 475
Miscellaneous ICT components and goods	446
Leasing or rental services without operator	0
Other professional, technical and business services	970
Telecommunications, broadcasting and information supply services	10 250
Content and media	1 750
Total exports of ICT products	19 467
Percentage of ICT exports (against total exports) (%)	2,4
ICT trade surplus/deficit	-62 900
2009	
Imports of ICT products	
Office, accounting and computing machinery	21 370
Radio, television and communication equipment	31 382
Miscellaneous ICT components and goods	350
Leasing or rental services without operator	0
Other professional, technical and business services	773
Telecommunications, broadcasting and information supply services	6 134
Content and media	2 607
Total imports of ICT products	62 616
Percentage of ICT imports (against total imports) (%)	9,2

Table 4: Imports and exports of Information and Communication Technology products by type of product, 2006 - 2011 (continued)

Products	(Rand million)
2009	
Exports of ICT products	
Office, accounting and computing machinery	1 260
Radio, television and communication equipment	3 576
Miscellaneous ICT components and goods	357
Leasing or rental services without operator	0
Other professional, technical and business services	775
Telecommunications, broadcasting and information supply services	8 167
Content and media	1 418
Total exports of ICT products	15 551
Percentage of ICT exports (against total exports) (%)	2,4
ICT trade surplus/deficit	-47 065
2010	
Imports of ICT products	
Office, accounting and computing machinery	23 414
Radio, television and communication equipment	36 058
Miscellaneous ICT components and goods	342
Leasing or rental services without operator	0
Other professional, technical and business services	884
Telecommunications, broadcasting and information supply services	9 410
Content and media	3 144
Total imports of ICT products	73 251
Percentage of ICT imports (against total imports) (%)	10,0
Exports of ICT products	
Office, accounting and computing machinery	2 478
Radio, television and communication equipment	2 439
Miscellaneous ICT components and goods	325
Leasing or rental services without operator	0
Other professional, technical and business services	1 063
Telecommunications, broadcasting and information supply services	11 945
Content and media	799
Total exports of ICT products	19 049
Percentage of ICT exports (against total exports) (%)	2,6
ICT trade surplus/deficit	-54 202
2011	
Imports of ICT products	
Office, accounting and computing machinery	27 690
Radio, television and communication equipment	20 469
Miscellaneous ICT components and goods	402
Leasing or rental services without operator	0
Other professional, technical and business services	1 104
Telecommunications, broadcasting and information supply services	8 976
Content and media	3 425
Total imports of ICT products	62 066
Percentage of ICT imports (against total imports) (%)	7,1

Table 4: Imports and exports of Information and Communication Technology products by type of product, 2006 - 2011 (concluded)

Products	(Rand million)
2011	
Exports of ICT products	
Office, accounting and computing machinery	2 593
Radio, television and communication equipment	2 445
Miscellaneous ICT components and goods	411
Leasing or rental services without operator	0
Other professional, technical and business services	1 119
Telecommunications, broadcasting and information supply services	12 711
Content and media	867
Total exports of ICT products	20 146
Percentage of ICT exports (against total exports) (%)	2,4
ICT trade surplus/deficit	-41 919

*Data in this table are considered experimental in nature.

**Individual figures may not add up to stated totals due to rounding.

In the year 2006, South Africa was a net importer of ICT products and services with an estimated ICT trade deficit of R42 124 million. South Africa imported ICT products and services of R57 225 million and exported ICT products and services of R15 101 million. ICT imports contributed 10,0% to total imports into the economy, whilst ICT exports contributed only 2,9% of total exports. The largest imported ICT product was radio, television and communication equipment (R29 068 million). The largest exported ICT product was telecommunications, broadcasting and information supply services (R8 165 million).

In the year 2011, South Africa was a net importer of ICT products and services with an estimated ICT trade deficit of R41 919 million. South Africa imported ICT products and services of R62 066 million and exported ICT products and services of R20 146 million. ICT imports contributed 7,1% to total imports into the economy, whilst ICT exports contributed only 2,4% of total exports. The largest imported ICT product was office, accounting and computing machinery (R27 690 million). The largest exported ICT product was telecommunications, broadcasting and information supply services (R12 711 million).

2.4 Information and Communication Technology Table 5: Income components of Information and Communication Technology industries

ICT Table 5 shows the income components of the ICT industries for years 2006 - 2011. The data were sourced from the ICT SU-tables.

Table 5: Income components of Information and Communication Technology industries, 2006 - 2011

Activities	Compensation of employees	Gross operating surplus/Gross mixed income	Other net taxes on production	ICT gross value added
(Rand million)				
2006				
ICT-specific activities				
Manufacturing	2 272	1 446	9	3 727
Telecommunication services	12 023	40 163	-23	52 163
Computer services and activities	2 973	612	95	3 680
Content and media	2 756	422	142	3 319
Total ICT-specific activities	20 024	42 643	223	62 890
ICT related activities				
Trade	N/A	N/A	N/A	2 316
Related industries	N/A	N/A	N/A	24
Total ICT activities				65 229
2007				
ICT-specific activities				
Manufacturing	2 547	1 439	16	4 002
Telecommunication services	13 101	39 847	-12	52 936
Computer services and activities	3 532	715	89	4 337
Content and media	3 147	638	161	3 946
Total ICT-specific activities	22 328	42 640	253	65 220
ICT-related activities				
Trade	N/A	N/A	N/A	2 492
Related industries	N/A	N/A	N/A	27
Total ICT activities				67 739
2008				
ICT-specific activities				
Manufacturing	2 847	1 290	3	4 141
Telecommunication services	13 688	39 096	-43	52 741
Computer services and activities	3 948	785	100	4 833
Content and media	3 757	383	149	4 289
Total ICT-specific activities	24 240	41 554	210	66 004
ICT-related activities				
Trade	N/A	N/A	N/A	2 924
Related industries	N/A	N/A	N/A	29
Total ICT activities				68 957

Table 5: Income components of Information and Communication Technology industries, 2006 - 2011
(concluded)

Activities	Compensation of employees	Gross operating surplus/Gross mixed income	Other net taxes on production	ICT gross value added
	(Rand million)			
2009				
ICT-specific activities				
Manufacturing	2 842	1 434	-2	4 274
Telecommunication services	14 407	39 120	-61	53 466
Computer services and activities	4 325	1 298	99	5 722
Content and media	3 895	371	163	4 429
Total ICT-specific activities	25 469	42 224	198	67 891
ICT-related activities				
Trade	N/A	N/A	N/A	3 236
Related industries	N/A	N/A	N/A	26
Total ICT activities				71 153
2010				
ICT-specific activities				
Manufacturing	3 172	1 206	14	4 391
Telecommunication services	16 280	42 130	-31	58 380
Computer services and activities	4 702	2 142	91	6 934
Content and media	4 064	749	197	5 010
Total ICT-specific activities	28 217	46 227	271	74 715
ICT-related activities				
Trade	N/A	N/A	N/A	4 000
Related industries	N/A	N/A	N/A	31
Total ICT activities				78 747
2011				
ICT-specific activities				
Manufacturing	3 386	1 267	20	4 674
Telecommunication services	18 625	44 742	-24	63 343
Computer services and activities	5 103	2307	108	7 517
Content and media	4 469	420	231	5 120
Total ICT-specific activities	31 583	48 736	335	80 654
ICT-related activities				
Trade	N/A	N/A	N/A	4 378
Related industries	N/A	N/A	N/A	32
Total ICT activities				85 064

*Data in this table are considered experimental in nature.

**Individual figures may not add up to stated totals due to rounding.

In the year 2006, the total GVA of the ICT sector was R65 229 million (the bulk of this from telecommunication services). The estimated net taxes on production for the ICT sector was R223 million. The estimated gross operating surplus for the ICT sector was R42 643 million. The compensation of employees for the ICT sector was R20 024 million, with the largest contributor being telecommunication services (R12 023 million).

In the year 2011, the total GVA of the ICT sector was R85 064 million (the bulk of this from telecommunication services). The estimated net taxes on production for the ICT sector was R335 million. The estimated gross operating surplus for the ICT sector was R48 736 million. The compensation of employees for the ICT sector was R31 583 million, with the largest contributor being telecommunication services (R18 625 million).

2.5 Information and Communication Technology Table 6: Supply and use of Information and Communication Technology products

ICT Tables 6a to 6f shows the supply and use of ICT products and the flow of ICT products through the economy for the years 2006 - 2011. ICT Table 6 is derived from the SU-tables, but lacks the detail and disaggregation to calculate ICT value added and GDP. The major purpose of ICT Table 6 is to highlight the flow of the ICT products, and this includes:

- Intermediate consumption;
- Capital formation;
- Household consumption;
- Domestic output; and
- Imports and exports.

Table 6a: Supply and use of Information and Communication Technology products, 2006

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
	(Rand million)									
ICT supply										
Domestic output	2 566	7 431	1 838	3 167	15 050	120 639	12 702	1 502	5 843	170 738 ²³
Imports	18 997	29 068	297	0	710	5 266	2 887	N/A	-	57 225
Margins	1 024	1 844	464	-	-	-	2 464	48	-5 843	0
Net taxes on products	732	754	375	219	270	1 713	998	169	-	5 229
Total supply	23 319	39 097	2 974	3 386	16 030	127 618	19 051	1 719	-	233 193
ICT use										
Intermediate consumption	1 979	22 824	2 157	2 873	15 267	86 582	11 967	1 719 ²⁴		145 366
Household final consumption expenditure	1 410	10 055	224	513	99	32 872	5 525	N/A		50 698
Capital formation	18 354	3 138	332	0	0	0	204	N/A		22 028
Exports	1 576	3 080	261	0	664	8 165	1 355	N/A		15 101
Total use	23 319	39 097	2 974	3 386	16 030	127 618	19 051	1 719	-	233 193

*Estimated intermediate consumption of ICT products.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

²³ This figure is not at basic prices, but includes trade and transport margins.

²⁴ There are no data on non-specific products produced within the ICT sector; a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

Table 6b: Supply and use of Information and Communication Technology products, 2007

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
(Rand million)										
ICT supply										
Domestic output	2 822	7 918	1 972	3 495	17 165	128 378	14 193	1 679	6 388	184 010 ²⁵
Imports	22 242	33 732	332	0	889	6 393	3 264	N/A	-	66 853
Margins	1 108	2 006	503	-	-	-	2 720	51	-6 388	0
Net taxes on products	842	848	428	241	322	2 216	1 182	190	-	6 269
Total supply	27 014	44 503	3 236	3 737	18 376	136 987	21 360	1 919	-	257 132
ICT use										
Intermediate consumption	2 436	24 490	2 317	3 176	17 544	92 271	13 565	1 919 ²⁶		157 718
Household final consumption expenditure	1 604	12 366	230	561	90	35 826	6 108	N/A		56 785
Capital formation	21 670	3 684	376	0	0	0	265	N/A		25 994
Exports	1 305	3 963	313	0	742	8 890	1 423	N/A		16 636
Total use	27 014	44 503	3 236	3 737	18 376	136 987	21 360	1 919	-	257 132

*Estimated intermediate consumption of ICT products.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

²⁵ This figure is not at basic prices, but includes trade and transport margins.

²⁶ There are no data on non-specific products produced within the ICT sector, a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

Table 6c: Supply and use of Information and Communication Technology products, 2008

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
	(Rand million)									
ICT supply										
Domestic output	3 434	9 552	2 387	4 126	20 065	130 706	16 530	1 953	6 998	195 752 ²⁷
Imports	28 111	41 282	460	0	1 016	8 067	3 430	N/A	-	82 367
Margins	1 209	2 201	555	-	-	-	2 977	57	-6 998	0
Net taxes on products	840	904	461	254	333	1 816	1 182	199	-	5 990
Total supply	33 593	53 939	3 864	4 380	21 415	140 589	24 119	2 209	-	284 109
ICT use										
Intermediate consumption	2 462	30 380	2 658	3 776	20 348	92 288	15 128	2 209 ²⁸		169 248
Household final consumption expenditure	1 833	13 677	270	604	97	38 052	6 895	N/A		61 429
Capital formation	27 722	5 408	489	0	0	0	346	N/A		33 965
Exports	1 576	4 475	446	0	970	10 250	1 750	N/A		19 467
Total use	33 593	53 939	3 864	4 380	21 415	140 589	24 119	2 209	-	284 109

*Estimated intermediate consumption of ICT products.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

²⁷ This figure is not at basic prices, but includes trade and transport margins.

²⁸ There are no data on non-specific products produced within the ICT sector, a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

Table 6d: Supply and use of Information and Communication Technology products, 2009

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
(Rand million)										
ICT supply										
Domestic output	3 433	9 491	2 366	4 246	21 606	137 227	16 859	2 040	7 427	204 695 ²⁹
Imports	21 370	31 382	350	0	773	6 134	2 607	N/A	-	62 616
Margins	1 301	2 319	607	-	-	-	3 141	59	-7 427	0
Net taxes on products	722	846	453	235	317	2 091	1 173	191	-	6 028
Total supply	26 825	44 038	3 775	4 481	22 696	145 452	23 781	2 290	-	273 338
ICT use										
Intermediate consumption	2 277	28 481	2 740	3 847	21 802	99 259	14 893	2 290 ³⁰		175 589
Household final consumption expenditure	1 951	10 668	257	634	119	38 026	7 126	N/A		58 780
Capital formation	21 337	1 314	422	0	0	0	345	N/A		23 418
Exports	1 260	3 576	357	0	775	8 167	1 418	N/A		15 551
Total use	26 825	44 038	3 775	4 481	22 696	145 452	23 781	2 290	-	273 338

*Estimated intermediate consumption of ICT products.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

²⁹ This figure is not at basic prices, but includes trade and transport margins.

³⁰ There are no data on non-specific products produced within the ICT sector, a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

Table 6e: Supply and use of Information and Communication Technology products, 2010

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
	(Rand million)									
ICT supply										
Domestic output	3 418	9 593	2 451	4 695	23 676	145 552	18 512	2 187	8 679	218 764 ³¹
Imports	23 414	36 058	342	0	884	9 410	3 144	N/A	-	73 251
Margins	1 495	2 662	706	-	-	-	3 746	69	-8 679	0
Net taxes on products	847	895	489	258	336	2 017	1 243	206	-	6 292
Total supply	29 174	49 208	3 988	4 953	24 897	156 980	26 645	2 462	-	298 306
ICT use										
Intermediate consumption	3 424	32 940	2 951	4 196	23 638	106 100	17 779	2 462 ³²		193 489
Household final consumption expenditure	2 011	11 626	302	757	196	38 935	7 741	N/A		61 569
Capital formation	21 261	2 204	410	0	0	0	325	N/A		24 200
Exports	2 478	2 439	325	0	1 063	11 945	799	N/A		19 049
Total use	29 174	49 208	3 988	4 953	24 897	156 980	26 645	2 462	-	298 306

*Estimated intermediate consumption of ICT products.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

³¹ This figure is not at basic prices, but includes trade and transport margins.

³² There are no data on non-specific products produced within the ICT sector, a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

Table 6f: Supply and use of Information and Communication Technology products, 2011

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
	(Rand million)									
ICT supply										
Domestic output	3 643	10 315	2 549	5 014	25 224	160 384	19 594	2 334	9 725	238 783 ³³
Imports	27 690	20 469	402	0	1 104	8 976	3 425	N/A	-	62 066
Margins	1 648	2 974	767	-	-	-	4 262	75	-9 725	0
Net taxes on products	1 039	1 075	588	308	395	2 366	1 485	237	-	7 493
Total supply	34 020	34 833	4 306	5 322	26 723	171 726	28 765	2 646	-	308 342
ICT use										
Intermediate consumption	3 786	19 516	3 118	4 464	25 337	118 691	19 006	2 646 ³⁴		196 563
Household final consumption expenditure	2 978	10 405	338	859	267	40 324	8 499	N/A		63 670
Capital formation	24 663	2 468	439	0	0	0	393	N/A		27 963
Exports	2 593	2 445	411	0	1 119	12 711	867	N/A		20 146
Total use	34 020	34 833	4 306	5 322	26 723	171 726	28 765	2 646	-	308 342

*Estimated intermediate consumption of ICT products.

**Data in this table are considered experimental in nature.

***Individual figures may not add up to stated totals due to rounding.

³³ This figure is not at basic prices, but includes trade and transport margins.

³⁴ There are no data on non-specific products produced within the ICT sector, a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

2.6 Information and Communication Technology Table 7: Capital formation in Information and Communication Technology products

ICT Table 7 shows capital formation (mainly investments) in ICT products for the years 2006 - 2011. Capital formation within the ICT satellite account does not include changes in inventories and as such it is equivalent to gross fixed capital formation (GFCF). GFCF data are contained within the use side of the ICT SU-tables and are considered as mainly investments. The AFS provides business expenditure and investment data. At this stage³⁵ the disaggregated industry information only provides aggregated capital expenditure on new and existing capital per industry. Unfortunately, the AFS does not provide a detail level as to what that capital investment consisted of. The expansion of this table to include capital formation per industry is a planned future development.

Capital formation in ICT products is estimated using import ratios as it is assumed the majority of GFCF is imported, in line with South Africa being a technology importer. Only the total ICT capital formation can be shown as there are currently no data to show the per industry capital formation of ICT products.

Table 7: Capital formation in Information and Communication Technology products, 2006 - 2011

Products	(Rand million)
2006	
Office, accounting and computing machinery	18 354
Radio, television and communication equipment	3 138
Miscellaneous ICT components and goods	332
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	204
Total ICT capital formation	22 028
Total capital formation	324 083
ICT capital formation as a proportion of total capital formation (%)	6,8
2007	
Office, accounting and computing machinery	21 670
Radio, television and communication equipment	3 684
Miscellaneous ICT components and goods	376
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	265
Total ICT capital formation	25 994
Total capital formation	406 258
ICT capital formation as a proportion of total capital formation (%)	6,4
2008	
Office, accounting and computing machinery	27 722
Radio, television and communication equipment	5 408
Miscellaneous ICT components and goods	489
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	346
Total ICT capital formation	33 965
Total capital formation	520 723

³⁵As of September 2013.

Table 7: Capital formation in Information and Communication Technology products, 2006 - 2011 (concluded)

Products	(Rand million)
2008	
ICT capital formation as a proportion of total capital formation (%)	6,5
2009	
Office, accounting and computing machinery	21 337
Radio, television and communication equipment	1 314
Miscellaneous ICT components and goods	422
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	345
Total ICT capital formation	23 418
Total capital formation	518 784
ICT capital formation as a proportion of total capital formation (%)	4,5
2010	
Office, accounting and computing machinery	21 261
Radio, television and communication equipment	2 204
Miscellaneous ICT components and goods	410
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	325
Total ICT capital formation	24 200
Total capital formation	514 004
ICT capital formation as a proportion of total capital formation (%)	5,0
2011	
Office, accounting and computing machinery	24 663
Radio, television and communication equipment	2 468
Miscellaneous ICT components and goods	439
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	393
Total ICT capital formation	27 963
Total capital formation	553 313
ICT capital formation as a proportion of total capital formation (%)	5,0

*Data in this table are considered experimental in nature.

**Individual figures may not add up to stated totals due to rounding.

In the year 2006, office, accounting and computing machinery is the largest contributor to ICT capital formation (R18 354 million). The total estimated ICT capital formation in the economy was R22 028 million (6,8% of the total capital formation³⁶ in the economy).

In the year 2011, office, accounting and computing machinery is the largest contributor to ICT capital formation (R24 663 million). The total estimated ICT capital formation in the economy was R27 963 million (5,0% of the total capital formation³⁷ in the economy).

³⁶Gross fixed capital formation.

³⁷Gross fixed capital formation.

2.7 Information and Communication Technology Table 8: Household final consumption expenditure³⁸ of Information and Communication Technology products

The consumption expenditure of households is an important value, as it allows for various trends to be explored within household expenditure. Table 8 below shows HFCE on ICT products and services for the years 2006 - 2011.

Table 8: Household final consumption expenditure of Information and Communication Technology products, 2006 - 2011

Products	ICT product expenditure		
	Value	Percentage of ICT expenditure	Percentage of total expenditure
	Rand million	%	
2006			
ICT products			
Office, accounting and computing machinery	1 410	2,8	0,1
Radio, television and communication equipment	10 055	19,8	0,9
Miscellaneous ICT components and goods	224	0,4	0,0
Leasing or rental services without operator	513	1,0	0,1
Other professional, technical and business services	99	0,2	0,0
Telecommunications, broadcasting and information supply services	32 872	64,8	2,9
Content and media products	5 525	10,9	0,5
Total ICT products	50 698	100,0	4,5
Total Household Final Consumption Expenditure	1 116 316		
2007			
ICT products			
Office, accounting and computing machinery	1 604	2,8	0,1
Radio, television and communication equipment	12 366	21,8	1,0
Miscellaneous ICT components and goods	230	0,4	0,0
Leasing or rental services without operator	561	1,0	0,0
Other professional, technical and business services	90	0,2	0,0
Telecommunications, broadcasting and information supply services	35 826	63,1	2,8
Content and media products	6 108	10,8	0,5
Total ICT products	56 785	100,0	4,5
Total Household Final Consumption Expenditure	1 264 726		
2008			
ICT products			
Office, accounting and computing machinery	1 833	3,0	0,1
Radio, television and communication equipment	13 677	22,3	1,0
Miscellaneous ICT components and goods	270	0,4	0,0
Leasing or rental services without operator	604	1,0	0,0
Other professional, technical and business services	97	0,2	0,0
Telecommunications, broadcasting and information supply services	38 052	61,9	2,7
Content and media products	6 895	11,2	0,5
Total ICT products	61 429	100,0	4,4
Total Household Final Consumption Expenditure	1 392 982		

³⁸HFCE

Table 8: Household final consumption expenditure of Information and Communication Technology products, 2006 - 2011 (concluded)

Products	ICT product expenditure		
	Value Rand million	Percentage of ICT expenditure %	Percentage of total expenditure
2009			
ICT products			
Office, accounting and computing machinery	1 951	3,3	0,1
Radio, television and communication equipment	10 668	18,2	0,7
Miscellaneous ICT components and goods	257	0,4	0,0
Leasing or rental services without operator	634	1,1	0,0
Other professional, technical and business services	119	0,2	0,0
Telecommunications, broadcasting and information supply services	38 026	64,7	2,6
Content and media products	7 126	12,1	0,5
Total ICT products	58 780	100,0	4,0
Total Household Final Consumption Expenditure	1 460 743		
2010			
ICT products			
Office, accounting and computing machinery	2 011	3,3	0,1
Radio, television and communication equipment	11 626	18,9	0,7
Miscellaneous ICT components and goods	302	0,5	0,0
Leasing or rental services without operator	757	1,2	0,1
Other professional, technical and business services	196	0,3	0,0
Telecommunications, broadcasting and information supply services	38 935	63,2	2,5
Content and media products	7 741	12,6	0,5
Total ICT products	61 569	100,0	3,9
Total Household Final Consumption Expenditure	1 584 264		
2011			
ICT products			
Office, accounting and computing machinery	2 978	4,7	0,2
Radio, television and communication equipment	10 405	16,3	0,6
Miscellaneous ICT components and goods	338	0,5	0,0
Leasing or rental services without operator	859	1,4	0,1
Other professional, technical and business services	267	0,4	0,0
Telecommunications, broadcasting and information supply services	40 324	63,3	2,3
Content and media products	8 499	13,4	0,5
Total ICT products	63 670	100,0	3,7
Total Household Final Consumption Expenditure	1 743 990		
ICT as a percentage of total HFCE (%)	3,7		

*Data in this table are considered experimental in nature.

**Individual figures may not add up to stated totals due to rounding.

In the year 2006, the estimated HFCE for ICT products was R50 698 million (4,5% of the total HFCE). Telecommunications, broadcasting and information supply services had the largest HFCE of R32 872 million (64,8% of the total ICT HFCE), followed by radio, television and communication equipment (R10 055 million or 19,8% of the total ICT HFCE) and content and media products (R5 525 million or 10,9% of the total ICT HFCE).

In the year 2011, the estimated HFCE for ICT products was R63 670 million (3,7% of the total HFCE). Telecommunications, broadcasting and information supply services had the largest HFCE of R40 324 million (63,3% of the total ICT HFCE), followed by radio, television and communication equipment (R10 405 million or 16,3% of the total ICT HFCE) and content and media products (R8 499 million or 13,4% of the total ICT HFCE).

Chapter 3: The future development of the Information and Communication Technology satellite account for South Africa

South Africa joins a small group of countries, which includes Chile and Australia, which have compiled ICT satellite accounts for public scrutiny. While many countries have detailed ICT data, ICT satellite accounts, based on the National Accounts, data are still quite rare despite the richness of data they provide.

The ICT satellite account for South Africa is aimed at being a component in a larger compendium of ICT statistics. The long-term goal is to produce a system of ICT statistics that contains two major components:

1. The ICT satellite account; and
2. The ICT indicators.

The way forward in the financial year 2014/2015 for Stats SA in the development and improvement of the ICT satellite account for South Africa is as follows:

1. Address any comments, and/or suggestions received from stakeholders;
2. Compile the ICT satellite account for South Africa for the reference year 2012;
3. Further research into a more detailed ICT capital formation table;
4. Improvement of data within the ICT framework and ensure the quality thereof;
5. Investigate a more accurate recording of software with SARB; and
6. Further investigation into the labour/employment in the ICT sector as well as employment of ICT professionals.

Stats SA will continue to develop the ICT satellite account for South Africa, and during the process, the organisation will continue to examine alternative data sources to improve any data weaknesses.

Stats SA values your feedback on this document. If you have any comments and/or suggestions, please contact Riaan Grobler (RiaanG@statssa.gov.za) on or before 30 June 2014.

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Annexures

Annexure A: The condensed production accounts for the Information and Communication Technology satellite account for South Africa

Table 9a to 9f below shows the condensed production account for the ICT sector for South Africa for the 2006 – 2011 reference year.

Table 9a: A condensed production account for the Information and Communication Technology sector in South Africa, 2006

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	13 629	120 648	13 164	10 241	157 681	5 713	444 590
1. Office, accounting and computing machinery	2 566	0	0	0	2 566	0	2 718
2. Radio, television and communication equipment	7 249	0	0	139	7 388	43	12 757
3. Miscellaneous ICT components and goods	1 838	0	0	0	1 838	0	36 292
4. Leasing or rental services without operator	11	9	526	1 822	2 368	799	19 145
5. Other professional, technical and business services	594	0	12 528	1 208	14 330	720	140 223
6. Telecommunications, broadcasting and information supply services	0	120 639	0	0	120 639	0	120 639
7. Content and media	1 370	0	109	7 072	8 552	4 151	112 816
B. Non-specific products	356	156	867	122	1 502	62 990	3 204 410
Goods	154	0	0	75	229	13 080	1 399 352
Services	202	156	867	48	1 273	49 909	1 805 058
Total output (at basic prices)	13 985	120 804	14 031	10 363	159 183	68 702	3 649 000
Total intermediate consumption (at purchasers' prices)	10 257	68 641	10 351	7 044	96 293	40 567	2 076 681
Total gross value added of industries (at basic prices)	3 727	52 163	3 680	3 319	62 890	28 135	1 572 319
Compensation of employees	2 272	12 023	2 973	2 756	20 024	17 446	777 552
Other taxes less subsidies on production	9	-23	95	142	223	384	24 587
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	1 446	40 163	612	422	42 643	10 305	770 180

*Individual figures may not add up to stated totals due to rounding.

Table 9b: A condensed production account for the Information and Communication Technology sector in South Africa, 2007

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	14 591	128 387	15 054	11 679	169 711	6 232	482 132
1. Office, accounting and computing machinery	2 822	0	0	0	2 822	0	2 985
2. Radio, television and communication equipment	7 709	0	0	162	7 871	47	13 683
3. Miscellaneous ICT components and goods	1 972	0	0	0	1 972	0	39 127
4. Leasing or rental services without operator	11	9	542	2 060	2 623	872	21 593
5. Other professional, technical and business services	625	0	14 386	1 368	16 380	785	151 381
6. Telecommunications, broadcasting and information supply services	0	128 378	0	0	128 378	0	128 378
7. Content and media	1 451	0	126	8 088	9 665	4 528	124 984
B. Non-specific products	379	166	992	141	1 679	69 458	3 672 268
Goods	167	0	0	87	254	14 253	1 601 520
Services	212	166	992	54	1 425	55 205	2 070 749
Total output (at basic prices)	14 970	128 553	16 046	11 820	171 390	75 690	4 154 400
Total intermediate consumption (at purchasers' prices)	10 968	75 617	11 710	7 875	106 170	45 092	2 362 326
Total gross value added of industries (at basic prices)	4 002	52 936	4 337	3 946	65 220	30 598	1 792 075
Compensation of employees	2 547	13 101	3 532	3 147	22 328	19 096	882 379
Other taxes less subsidies on production	16	-12	89	161	253	485	27 986
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	1 439	39 847	715	638	42 640	11 017	881 710

*Individual figures may not add up to stated totals due to rounding.

Table 9c: A condensed production account for the Information and Communication Technology sector in South Africa, 2008

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	17 665	130 715	17 649	13 727	179 757	7 043	550 086
1. Office, accounting and computing machinery	3 434	0	0	0	3 434	0	3 632
2. Radio, television and communication equipment	9 312	0	0	190	9 502	50	16 499
3. Miscellaneous ICT components and goods	2 387	0	0	0	2 387	0	47 006
4. Leasing or rental services without operator	14	9	691	2 427	3 141	985	26 166
5. Other professional, technical and business services	757	0	16 812	1 611	19 179	886	184 717
6. Telecommunications, broadcasting and information supply services	0	130 706	0	0	130 706	0	130 706
7. Content and media	1 761	0	147	9 501	11 409	5 122	141 360
B. Non-specific products	460	169	1 159	165	1 953	75 827	4 199 940
Goods	203	0	0	102	305	15 262	1 872 802
Services	257	169	1 159	64	1 648	60 565	2 327 137
Total output (at basic prices)	18 125	130 884	18 808	13 893	181 710	82 871	4 750 025
Total intermediate consumption (at purchasers' prices)	13 984	78 143	13 975	9 604	115 706	48 126	2 722 274
Total gross value added of industries (at basic prices)	4 141	52 741	4 833	4 289	66 004	34 745	2 027 751
Compensation of employees	2 847	13 688	3 948	3 757	24 240	20 930	991 881
Other taxes less subsidies on production	3	-43	100	149	210	338	25 710
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	1 290	39 096	785	383	41 554	13 477	1 010 161

*Individual figures may not add up to stated totals due to rounding.

Table 9d: A condensed production account for the Information and Communication Technology sector in South Africa, 2009

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	17 565	137 236	19 173	13 598	187 573	7 655	579 410
1. Office, accounting and computing machinery	3 433	0	0	0	3 433	0	3 627
2. Radio, television and communication equipment	9 258	0	0	185	9 443	48	16 611
3. Miscellaneous ICT components and goods	2 366	0	0	0	2 366	0	45 603
4. Leasing or rental services without operator	14	10	728	2 420	3 171	1 075	28 216
5. Other professional, technical and business services	758	0	18 286	1 603	20 646	960	202 248
6. Telecommunications, broadcasting and information supply services	0	137 227	0	0	137 227	0	137 227
7. Content and media	1 737	0	160	9 390	11 287	5 572	145 877
B. Non-specific products	456	178	1 247	160	2 040	81 509	4 439 097
Goods	199	0	0	97	296	14 548	1 866 235
Services	257	178	1 247	63	1 745	66 961	2 572 862
Total output (at basic prices)	18 021	137 414	20 420	13 758	189 613	89 164	5 018 507
Total intermediate consumption (at purchasers' prices)	13 747	83 948	14 698	9 329	121 722	51 168	2 840 186
Total gross value added of industries (at basic prices)	4 274	53 466	5 722	4 429	67 891	37 996	2 178 321
Compensation of employees	2 842	14 407	4 325	3 895	25 469	22 229	1 081 639
Other taxes less subsidies on production	-2	-61	99	163	198	317	27 920
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	1 434	39 120	1 298	371	42 224	15 450	1 068 762

*Individual figures may not add up to stated totals due to rounding.

Table 9e: A condensed production account for the Information and Communication Technology sector in South Africa, 2010

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	17 740	145 563	21 023	14 771	199 096	8 802	625 100
1. Office, accounting and computing machinery	3 418	0	0	0	3 418	0	3 631
2. Radio, television and communication equipment	9 347	0	0	196	9 543	50	17 126
3. Miscellaneous ICT components and goods	2 451	0	0	0	2 451	0	47 257
4. Leasing or rental services without operator	14	10	785	2 647	3 456	1 239	30 117
5. Other professional, technical and business services	761	0	20 063	1 752	22 575	1 101	221 635
6. Telecommunications, broadcasting and information supply services	0	145 552	0	0	145 552	0	145 552
7. Content and media	1 749	0	175	10 176	12 100	6 412	159 782
B. Non-specific products	460	188	1 358	179	2 187	92 668	4 817 492
Goods	202	0	0	110	312	15 133	1 967 865
Services	258	188	1 358	69	1 874	77 535	2 849 627
Total output (at basic prices)	18 200	145 751	22 381	14 950	201 282	101 470	5 442 592
Total intermediate consumption (at purchasers' prices)	13 809	87 372	15 447	9 940	126 567	54 999	3 035 328
Total gross value added of industries (at basic prices)	4 391	58 380	6 934	5 010	74 715	46 471	2 407 264
Compensation of employees	3 172	16 280	4 702	4 064	28 217	24 704	1 211 560
Other taxes less subsidies on production	14	-31	91	197	271	540	34 255
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	1 206	42 130	2 142	749	46 227	21 227	1 161 449

*Individual figures may not add up to stated totals due to rounding.

Table 9f: A condensed production account for the Information and Communication Technology sector in South Africa, 2011

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	18 942	160 396	22 397	15 562	217 297	9 426	676 192
1. Office, accounting and computing machinery	3 643	0	0	0	3 643	0	3 877
2. Radio, television and communication equipment	10 062	0	0	202	10 264	52	18 357
3. Miscellaneous ICT components and goods	2 549	0	0	0	2 549	0	50 225
4. Leasing or rental services without operator	15	12	837	2 822	3 686	1 329	32 042
5. Other professional, technical and business services	812	0	21 374	1 860	24 045	1 178	239 265
6. Telecommunications, broadcasting and information supply services	0	160 384	0	0	160 384	0	160 384
7. Content and media	1 861	0	187	10 679	12 726	6 868	172 042
B. Non-specific products	493	208	1 460	174	2 334	98 681	5 193 021
Goods	217	0	0	102	319	15 663	2 080 395
Services	276	208	1 460	72	2 015	83 018	3 112 626
Total output (at basic prices)	19 435	160 603	23 857	15 736	219 632	108 107	5 869 213
Total intermediate consumption (at purchasers' prices)	14 761	97 260	16 340	10 616	138 978	57 527	3 247 834
Total gross value added of industries (at basic prices)	4 674	63 343	7 517	5 120	80 654	50 579	2 621 379
Compensation of employees	3 386	18 625	5 103	4 469	31 583	26 780	1 329 370
Other taxes less subsidies on production	20	-24	108	231	335	675	40 205
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	1 267	44 742	2 307	420	48 736	23 124	1 251 804

*Individual figures may not add up to stated totals due to rounding.

Annexure B: List of Information and Communication Technology industries and products

Tables 10 and 11 show the ICT products recommended by the OECD. Tables 12 and 13 list the industries included within the ICT sector for South Africa.

Table 10: Information and Communication Technology products³⁹

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Computers and peripheral equipment			
45142	2620	8472.90	Point-of-sale terminals, ATMs and similar machines
45221	2620	8471.30	Portable automatic data processing machines weighing not more than 10 kg, such as laptop and notebook computers
45222	2620	8471.30	Personal digital assistants and similar computers
45230	2620	8471.41	Automatic data processing machines, comprising in the same housing at least a central processing unit and an input and output unit, whether or not combined
45240	2620	8471.49	Automatic data processing machines presented in the form of systems
45250	2620	8471.50	Other automatic data processing machines whether or not containing in the same housing one or two of the following types of units: storage units, input units, output units
45261	2620	8471.60	Input peripherals (keyboard, joystick, mouse etc.)
45262	2620	8471.60	Scanners (except combination of printer, scanner, copier and/or fax)
45263	2620	8443.32	Inkjet printers used with data processing machines
45264	2620	8443.32	Laser printers used with data processing machines
45265	2620	8443.32	Other printers used with data processing machines
45266	2620	8443.31	Units performing two or more of the following functions: printing, scanning, copying, faxing
45269	2620	8471.90	Other input or output peripheral devices
45271	2620	8471.70	Fixed media storage units
45272	2620	8471.70	Removable media storage units
45289	2620	8471.90	Other units of automatic data processing machines
45290	2620	8473.50	Parts and accessories of computing machines
47315	2620	8528.61	Monitors and projectors, principally used in an automatic data processing system
Communication equipment			
46921	2630	8531.10	Burglar or fire alarms and similar apparatus
47211	2630	8525.60	Transmission apparatus incorporating reception apparatus
47212	2630	8525.50	Transmission apparatus not incorporating reception apparatus
47213	2630	8525.80	Television cameras
47221	2630	8517.11	Line telephone sets with cordless handsets
47222	2630	8517.12	Telephones for cellular networks or for other wireless networks
47223	2610, 2630	8517.69	Other telephone sets and apparatus for transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network)
47401	2630	8517.70	Parts for the goods of subclasses 47221 to 47223
47550	2620	8523.51	Solid-state non-volatile storage devices

³⁹Not all CPC (version 2) classification codes can be directly linked to the ISIC or to the HS 2007 classifications; in such cases they are left blank.

Table 10: Information and Communication Technology products (continued)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Consumer electronic equipment			
38581	2640	9504.10	Video game consoles
47214	2640	8525.80	Video camera recorders
47215	2670	8525.80	Digital cameras
47311	2640	8527.99	Radio broadcast receivers (except of a kind used in motor vehicles), whether or not combined with sound recording or reproducing apparatus or a clock
47312	2640	8527.29	Radio broadcast receivers not capable of operating without an external source of power, of a kind used in motor vehicles
47313	2640	8528.73	Television receivers, whether or not combined with radio-broadcast receivers or sound or video recording or reproducing apparatus
47314	2640	8528.69	Monitors and projectors, not incorporating television reception apparatus and not principally used in an automatic data processing system
47321	2640	8519.89	Sound recording or reproducing apparatus
47323	2640	8521.90	Video recording or reproducing apparatus
47330	2640	8518.50	Microphones and stands therefore; loudspeakers; headphones, earphones and combined microphone/speaker sets; audio-frequency electric amplifiers; electric sound amplifier sets
47402	2640	8522.90	Parts for the goods of subclasses 47321, 47323 and 47330
Miscellaneous ICT components and goods			
45281	2610	8517.69	Sound, video, network and similar cards for automatic data processing machines
47130	2610	8534.00	Printed circuits
47140	2610	8540.89	Thermionic, cold cathode or photo-cathode valves and tubes (including cathode ray tubes)
47150	2610	8541.60	Diodes, transistors and similar semi-conductor devices; photosensitive semi-conductor devices; light-emitting diodes; mounted piezo-electric crystals
47160	2610	8542.39	Electronic integrated circuits
47173	2610	8542.90	Parts for the goods of subclasses 47140 to 47160
47403	2630, 2640, 2651	8529.90	Parts for the goods of subclasses 47211 to 47213, 47311 to 47315 and 48220
47540	2680	8523.40	Optical media, not recorded
47590	3290	8523.80	Other recording media, including matrices and masters for the production of disks
47910	2680	8523.21	Cards with a magnetic stripe
47920	2610	8523.52	'Smart cards'
48315	2610, 2670	9013.80	Liquid crystal devices n.e.c.; lasers, except laser diodes; other optical appliances and instruments n.e.c.
48354	2610, 2670	9013.90	Parts and accessories for the goods of subclass 48315
Manufacturing services for ICT equipment			
88741	2610		Electronic component and board manufacturing services
88742	2620		Computer and peripheral equipment manufacturing services
88743	2630		Communication equipment manufacturing services
88744	2640		Consumer electronics manufacturing services
88749	2680		Magnetic and optical media manufacturing services

Table 10: Information and Communication Technology products (continued)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Business and productivity software and licensing services			
47811	5820	8523.40	Operating systems, packaged
47812	5820	8523.40	Network software, packaged
47813	5820	8523.40	Database management software, packaged
47814	5820	8523.40	Development tools and programming languages software, packaged
47821	5820	8523.40	General business productivity and home use applications, packaged
47829	5820	8523.40	Other application software, packaged
73311	5820		Licensing services for the right to use computer software
83143	5820		Software originals
84341	5820		System software downloads
84342	5820		Application software downloads
84392	5820		On-line software
Information technology consultancy and services			
83117	7020		Business process management services
83131	6202		IT consulting services
83132	6202		IT support services
83141	6201		IT design and development services for applications
83142	6202		IT design and development services for networks and systems
83151	6311		Website hosting services
83152	6311		Application service provisioning
83159	6311		Other hosting and IT infrastructure provisioning services
83161	6202		Network management services
Telecommunications services			
84110	6110, 6120		Carrier services
84121	6110		Fixed telephony services – access and use
84122	6110		Fixed telephony services – calling features
84131	6120, 6130		Mobile telecommunications services – access and use
84132	6120, 6130		Mobile telecommunications services – calling features
84140	6110, 6120, 6130, 6190		Private network services
84150	6110, 6120, 6130, 6190		Data transmission services
84190	6110, 6120, 6130, 6190		Other telecommunications services
84210	6110		Internet backbone services
84221	6110, 6120, 6130, 6190		Narrowband Internet access services
84222	6110, 6120, 6130, 6190		Broadband Internet access services
84290	6110, 6120, 6130, 6190		Other Internet telecommunications services
83162	6202		Computer systems management services

Table 10: Information and Communication Technology products (concluded)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Leasing or rental services for ICT equipment			
73124	7730		Leasing or rental services concerning computers without operator
73125	7730		Leasing or rental services concerning telecommunications equipment without operator
73210	7729		Leasing or rental services concerning televisions, radios, video cassette recorders and related equipment and accessories
Other ICT services			
83325	7110		Engineering services for telecommunications and broadcasting projects
87130	9511		Maintenance and repair services of computers and peripheral equipment
87153	9512		Maintenance and repair services of telecommunications equipment and apparatus
87331	3320		Installation services of mainframe computers
87332	6209		Installation services of personal computers and peripheral equipment
87340	3320		Installation services of radio, television and communications equipment and apparatus

Source: Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

Table 11 shows the ICT products that are defined according to the 'content and media' definition.

Table 11: Information and Communication Technology 'content and media' products⁴⁰

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Printed and other text-based content on physical media, and related services			
32210	5811	4901.99	Educational textbooks, in print
32220	5811	4905.91	General reference books, in print
32230	5812	4901.99	Directories, in print
32291	5811	4901.99	Professional, technical and scholarly books, in print
32292	5811	4903.00	Children's books, in print
32299	5811	4901.99	Other books n.e.c., in print
32300	5813	4902.10	Newspapers and periodicals, daily, in print
32410	5813	4902.90	General interest newspapers and periodicals, other than daily, in print
32420	5813	4902.90	Business, professional or academic newspapers and periodicals, other than daily, in print
32490	5813	4902.90	Other newspapers and periodicals, other than daily, in print
32511	5811	4905.99	Maps and hydrographic or similar charts (including wall maps, topographical plans and maps for globes), printed, other than in book-form
32530	5819	4909.00	Printed or illustrated postcards; printed cards bearing personal greetings or messages, with or without envelopes or trimmings
32540	5819	4911.91	Printed pictures, designs and photographs
32620	5819	4911.10	Trade advertising material, commercial catalogues and the like
32630	5819	4910.00	Transfers (decalcomanias) and printed calendars
47691	5811	8523.40	Audio books on disk, tape or other physical media
47692	5811, 5812, 5813	8523.40	Text-based disks, tapes or other physical media
83631	5812, 5813		Sale of advertising space in print media (except on commission)
38950	5911	3706.90	Motion picture film, exposed and developed, whether or not incorporating sound track or consisting only of sound track
47620	5911	8523.40	Films and other video content on disks, tape or other physical media
83632	6010, 6020		Sale of TV/radio advertising time (except on commission)
84611	6010		Radio broadcast originals
84612	6020		Television broadcast originals
84621	6010		Radio channel programmes
84622	6020		Television channel programmes
84631	6010, 6020		Broadcasting services
84632	6010, 6020		Home programme distribution services, basic programming package

⁴⁰Not all CPC (version 2) classification codes can be directly linked to the ISIC or to the HS 2007 classifications; in such cases they are left blank.

Table 11: Information and Communication Technology `content and media' products (continued)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Motion picture, video, television and radio content, and related services			
84633	6010, 6020		Home programme distribution services, discretionary programming package
84634	6010, 6020		Home programme distribution services, pay-per-view
96121	5911, 6020		Motion picture, videotape and television programme production services
96122	5920, 6010		Radio programme production services
96123	5911, 5920		Motion picture, videotape, television and radio programme originals
96131	5912		Audiovisual editing services
96132	5912		Transfers and duplication of masters services
96133	5912		Colour correction and digital restoration services
96134	5912		Visual effects services
96135	5912		Animation services
96136	5912		Captioning, titling and subtitling services
96137	5920		Sound editing and design services
96139	5912		Other post-production services
96140	5913		Motion picture, videotape and television programme distribution services
96150	5914		Motion picture projection services
Music content and related services			
32520	5920	4904.00	Music, printed or in manuscript
47610	5920	8523.80	Musical audio disks, tapes or other physical media
96111	5920		Sound recording services
96112	5920		Live recording services
96113	5920		Sound recording originals
Games software			
38582	5820	9504.10	Software cartridges for video game consoles
47822	5820	8523.40	Computer game software, packaged
84391	5820		On-line games
73312	5812		Licensing services for the right to use databases
83633	5813, 5819, 6311, 6312		Sale of Internet advertising space (except on commission)
84311	5811		On-line books
84312	5813		On-line newspapers and periodicals
84313	5812		On-line directories and mailing lists
Online content and related services			
84321	5920		Musical audio downloads
84322	5920		Streamed audio content
84331	5911		Films and other video downloads
84332	5911		Streamed video content
84393	5819		On-line adult content
84394	6312		Web search portal content
84399	5819		Other on-line content n.e.c.

Table 11: Information and Communication Technology 'content and media' products (concluded)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Other content and related services			
47699	5920	8523.40	Other non-musical audio disks and tapes
73320	5811, 5813, 5911, 5912, 5920, 9000		Licensing services for the right to use entertainment, literary or artistic originals
83611	7310		Full service advertising
83620	7310		Purchase or sale of advertising space or time, on commission
83639	5811, 5812, 7310		Sale of other advertising space or time (except on commission)
83812	7420		Advertising and related photography services
83940	5812		Original compilations of facts/information
84410	6391		News agency services to newspapers and periodicals
84420	6391		News agency services to audiovisual media
85991	6399		Other information services
89110	5811, 5812, 5813, 5819, 5820, 5920		Publishing, on a fee or contract basis
96330	9000		Original works of authors, composers and other artists except performing artists, painters and sculptors

Source: Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

Table 12: Industries conforming to the Information and Communication Technology sector definition available in the benchmarked supply and use tables, 2005

ISIC (Rev. 4)	SIC (5 th level)	SIC grouping on the SU-tables	Description of industry grouping
ICT manufacturing industries			
5820	32600	SIC_3260	Reproduction of recorded media
2610	37100	SIC_3710	Manufacture of electronic components and boards
	37200	SIC_3720	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
2620	35900	SIC_3590	Manufacture of computers and peripheral equipment
2630	37420	SIC_3742	Manufacture of communication equipment
2640	37300	SIC_3730	Manufacture of consumer electronics
	39240	SIC_3924	Manufacture of games and toys (video games)
2680	33599	SIC_3359_60	Manufacture of magnetic and optical media ⁴¹
ICT trade industries⁴²			
4651	61501	SIC_6150	Wholesale of computers, computer peripheral equipment and software
4652	61509	SIC_6150	Wholesale of electronic and telecommunications equipment and parts
	62393	SIC_6239	Retail trade in sports goods and entertainment requisites
Telecommunications			
6110	75200	SIC_7520	Wired telecommunications activities
6120	75200	SIC_7520	Wireless telecommunications activities
6130	75200	SIC_7520	Satellite telecommunications activities
6190	75200	SIC_7520	Other telecommunications activities
Computer programming, consultancy and related activities			
	85230	SIC_8523	Renting of office machinery and equipment
	86100	SIC_8610	Hardware consultancy
6201	86200	SIC_8620	Computer programming activities
6202	86300	SIC_8630	Computer consultancy and computer facilities
6209	86900	SIC_8690	Other information technology and computer service activities
Data processing, hosting and related activities, web portals			
6311		SIC_8630	Data processing, hosting and related activities
		SIC_8640	
6312			Web portals
Repair of computers and communication equipment			
9511	86500	SIC_8650	Repair of computers and peripheral equipment
9512	86500	SIC_8650	Repair of communication equipment

Source: Statistics South Africa – Supply and use tables, 2005.

⁴¹ICT-related

⁴²ICT-related

Table 13: Industries conforming to the Information and Communication Technology ‘content and media’ definition available in the benchmarked supply and use tables, 2005

ISIC (Rev. 4)	SIC (5 th level)	SIC grouping on the SU-tables	Description of industry grouping
Publishing of books, periodicals and other publishing activities			
5811	32410	SIC_3241	Book publishing
5812			Publishing of directories and mailing lists
5813	32420	SIC_3242	Publishing of newspapers, journals and periodicals
	32430	SIC_3243	Publishing of recorded media
5819	32490	SIC_3249	Other publishing activities
	39220	SIC_3922	Manufacture of musical instruments
Motion picture, video and television programme activities			
5911	96130	SIC_96	Motion picture, video and television programme production activities
5912			Motion picture, video and television programme post-production activities
5913	96112	SIC_96	Motion picture, video and television programme distribution activities
5914	96122	SIC_96	Motion picture projection activities
Sound recording and music publishing activities			
5920	96490	SIC_96	Sound recording and music publishing activities
Programming and broadcasting activities			
6010	96130	SIC_96	Radio broadcasting
6020	96130	SIC_96	Television programming and broadcasting activities
Other information service activities			
6391	96200	SIC_96	News agency activities
6399			Other information service activities n.e.c.

Source: Statistics South Africa – Supply and use tables, 2005.

Glossary

Capital formation	Gross fixed capital formation in a particular category of fixed asset consists of the value of producers' acquisitions of new and existing products of this type less the value of their disposals of the fixed assets of the same type. Capital formation within the ICT satellite account does not include changes in inventories and as such capital formation is equivalent to gross fixed capital formation and not gross capital formation.
Central product classification	A classification based on the physical characteristics of goods or the nature of the services rendered. It covers products that are an output of economic activities, including transportable goods, non-transportable goods and services.
Gross domestic product	The total value of goods and services produced within the geographic boundaries of a country for a specified period.
Gross value added (at basic prices)	The output valued at basic prices less intermediate consumption valued at purchaser's prices.
Household final consumption expenditure	Includes all consumption expenditure made by households from their own cash resources (including all income in cash received), as well as all the counterpart of income in kind (except social transfers in kind) that those households might have received, such as remuneration in kind and other transfers in kind. Note: It also includes the value of all consumption of output for own final use, such as those provided by second homes on own account used for tourism purposes or what it can have received through barter transactions.
Industry	Groups of establishments engaged in the same or similar kinds of activity. Note: The definition of industries is based on the SNA and is in line with that contained in the Standard Industrial Classification of all Economic Activities, fifth edition, Report No. 09-90-02 of January 1993 (SIC).
Intermediate consumption	Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets. Consumption of fixed assets is recorded as consumption of fixed capital.
International Standard Industrial Classification of all Economic Activities	The United Nation's version of a classification system used to classify businesses according to their economic activity.
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.

Production	A process, carried out under the responsibility, control and management of an institutional unit, in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services. All goods and services produced as outputs must be such that they can be sold on markets, or at least be capable of being provided by one unit to another, with or without charge.
Standard Industrial Classification of all Economic Activities	A South African version of a classification coding system used to classify an enterprise according to its economic activity. Note: It is based on United Nations ISIC with a number of adaptations for local conditions.
Supply table	Consists of a rectangular matrix with the rows corresponding to the same groups of products as the matching use tables and columns corresponding to the supply from domestic production valued at basic prices plus columns for imports and the valuation adjustments necessary to have total supply of each.
System of national accounts	An internationally-agreed standard system for macro-economic accounts. The latest version is described in the System of National Accounts 2008.
Use table	Consists of a set of product balances covering all products available in an economy arranged in the form of a rectangular matrix with the products, valued at purchasers' prices, appearing in the rows and the columns indicating the disposition of the products to various types of uses.

Related Information and Communication Technology satellite account publications

Statistics South Africa, 2011, *The status of the Information and Communication Technology satellite account for South Africa*, Discussion document (D0407), Pretoria.

Statistics South Africa, 2012, *The status of the Information and Communication Technology satellite account for South Africa*, Discussion document (D0407), Pretoria.

Statistics South Africa, 2013, *Draft Information and Communication Technology satellite account for South Africa, 2005*, Discussion document (D0405.3.1), Pretoria.