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WIDER Working Paper 2015/138

**Compilation of annual mini SAMs for South  
Africa 1993-2013 in current and constant prices**

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December 2015

**Abstract:** We describe the construction of a series of mini Social Accounting Matrices (SAMs) for the period 1993-2013 in current and constant prices. A key feature of these SAMs is that they are all in exactly the same format across years as well as in terms of current and constant prices. In order to keep the dataset manageable while offering some level of detail that is meaningful for policy purposes, we adopt a disaggregation of 15 activities and commodities. Current price mini SAMs are converted into constant price mini SAMs using deflators that are derived from official data sources such as Statistics South Africa Quarterly GDP series and the South African Reserve Bank's Quarterly Bulletin.

Current price and Constant price SAMs can be used for investigations into structural change and for back-casting/calibration of Computable General Equilibrium (CGE) models.

**Keywords:** social accounting matrix, national accounts, supply table, use table, cross-entropy SAM estimation

**JEL classification:** E16

[Link to the Mini SAMs data sheet.](#)

**Acknowledgements:** Valuable inputs from and discussions with Rob Davies are acknowledged, errors and omissions remain those of the author.

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This study has been prepared within the UNU-WIDER project 'Regional Growth and Development in Southern Africa'.

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ISSN 1798-7237 ISBN 978-92-9256-027-0 <https://doi.org/10.35188/UNU-WIDER/2015/027-0>

Typescript prepared by Leslie O'Brien for UNU-WIDER.

UNU-WIDER acknowledges specific programme contribution from the National Treasury of South Africa to its project 'Regional Growth and Development in Southern Africa' and core financial support to its work programme from the governments of Denmark, Finland, Sweden, and the United Kingdom.

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## 1 Introduction

Over the past 20 years or so, the South African economy has undergone significant structural change (see for example Black and Gerwel 2014; Kaplan 2015). Structural change can be examined in various ways. Often, such analysis focusses on time series of selected macroeconomic variables or the changing shares of industries in value added or trade. A more comprehensive approach could involve decomposition analysis such as Edwards (2001a, 2001b) or Davies and van Seventer (2004). While the latter is of a macroeconomic nature, the former tries to capture the structure of the South African economy by means of Input-Output Tables (IOTs) for selected years deflated by domestic and import prices.

Following the introduction of the 1993 SNA, Statistics South Africa has replaced IOTs with Supply Tables (STs), Use Tables (UTs), and Social Accounting Matrices (SAMs). In order to build on the earlier work to examine structural change in the South African economy, this paper describes the construction of a series of Social Accounting Matrices (SAMs) for the period 1993-2013 in current and constant prices. The time series of SAMs can also be used to support back-casting/calibration of Computable General Equilibrium (CGE) models.<sup>1</sup>

SAMs are usually presented in current prices but for our purposes, they have to be deflated and presented in constant prices. The following series have been constructed:

1. Current price mini SAMs with 15 activities and 15 commodities: 1993-2013.
2. Constant price mini SAMs with 15 activities and 15 commodities: 1993-2013.

A key feature of the mini SAMs is that they are all in exactly the same format across years, as well as in terms of current and constant prices. In order to keep the dataset manageable while offering some level of detail that is meaningful for policy purposes, we adopt the following disaggregation of 15 activities and commodities in Table 1.

Table 1: Industries and commodities identified in the mini SAMs

	Code	Description
1	agr	Agriculture, hunting, forestry, and fishing
2	min	Mining and quarrying
3	fbt	Manufacturing of food products, beverages, and tobacco products
4	lmf	Manufacturing of textiles, clothing, leather, footwear, wood, paper & printing
5	chm	Manufacturing coke, refined petroleum products, chemicals, rubber, plastic
6	mme	Manufacturing non-met min, basic & fabricated metals, machinery & equipment
7	emc	Manufacturing of electrical machinery and apparatus n.e.c.
8	tre	Manufacturing of transport equipment
9	elg	Electricity, gas, and water supply
10	cns	Construction
11	tra	Wholesale & retail trade, repair, hotels & restaurants
12	trp	Transport, storage, and communication
13	fib	Financial intermediation, insurance, real estate, and business services
14	gvt	Public administration and defence activities
15	osv	Other services

Source: Author's labels derived from aggregation of various Stats SA SAMs.

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<sup>1</sup> The structural change analysis and back-casting/calibration of CGEs is described elsewhere as part of the UNU-WIDER Project '[Regional Growth and Development in Southern Africa](#)' in Davies et al. (2016, forthcoming).

The SAMs identify one labour type and one type of household. The following accounts, additional to the activities/commodities in Table 1 are identified in Table 2.

Table 2: Other accounts identified in the mini SAMs

Code	Description	
1	Trc	Trade and transport margins
2	flab	Labour (wages & salaries)
3	fcap	Capital (gross operating surplus)
4	ent	Enterprises
5	hhd	Households
6	gov	Government
7	atax	Activity taxes
8	dtax	Direct taxes
9	mtax	Import duties
10	stax	Sales taxes
11	s-i	Accumulation account (savings & investment)
12	dstk	Changes in stocks
13	row	Rest of the world

Source: Author's labels derived from aggregation of various Stats SA SAMs.

## 2 Current price mini SAMs with 15 activities and 15 commodities: 1993-2014

We distinguish the following two periods when constructing current price mini SAMs: 2006-13 and 1993-2005.

### 2.1 Period: 2006-13

For the period 2006-13, we use large scale Supply Tables (STs) and Use Tables (UTs) from Stats SA that are available for the period 2007-13. All STs and UTs are in the same format as described in van Seventer et al. (2016, forthcoming). The STs and UTs are combined at the highest level of activity and commodity detail that is available in the underlying data and matched to the March Year-End National Accounts for the relevant years using the same entropy balancing method that is used by van Seventer et al. 2016, forthcoming. The result is a set of balanced SAMs with detailed activities and commodities but only one labour type and one type of household (known as SUTSAMs). These SAMs are aggregated up to the 15 activities and commodities according to the schedule reported in Appendix A. Since there are no STs and UTs for the years 2006, we use the 2007 data for structure.

### 2.2 Period: 1993-2005

The period 1993-2005 is covered by Stats SA STs and UTs at various levels of disaggregation and for selected years. These years are: 1993, 1998, 1999, 2000, 2002, 2004, and 2005. For reasons of convenience, the STs and UTs are first aggregated to the 15 activity and commodity levels after which they are matched to the relevant March Year-End National Accounts using the same entropy balancing method as for the period 2006-14. The key difference here is that balancing is undertaken at the aggregate (15 activity/commodity) level. The aggregation mappings vary across the years for which STs and UTs are available but generally follow the patterns of Appendix A. A number of ad hoc adjustments were necessary, which are discussed in turn below.

1. National Account for years 1993 and 1994 are pre-1993 SNA, as this was only introduced by Stats SA from 1995 onwards. For these earlier years, a more relaxed macro SAM balancing process is followed, which ignores a number of transfers amongst the

typical institutions of a SAM. However, the main income and expenditure items are matched to the National Accounts.

2. The years 1994 and 1995 are based on the structure of the 1993 ST and UT.
3. The years 1996 and 1997 are based on the structure of the 1998 ST and UT.
4. The year 2001 is based on the structure of the 2000 ST and UT.
5. The year 2003 is based on the structure of the 2002 ST and UT.
6. Due to a higher level of aggregation in the underlying data, the year 2004 ‘borrows’ some shares from the 2005 SAM.

### **2.3 Note on gross value added (1993-2013)**

We benchmark on the gross value added (GVA) for the 15 activities in current and constant prices. We use Stats SA data from the third quarter 2014 GDP publication that reports for the full period (1993-2013). For current prices, these benchmarks have been added to the entropy balancing of all SAMs (including the 2006-13 SAMs) as an additional constraint. In doing so, we are able to create a series of SAMs of which activity level GVA is consistent with Stats SA right across the full period. However, this also implies that there is a slight difference between the 2012 SAM (van Seventer et al. 2016, forthcoming) where this particular benchmark is not applied due to Stats SA data revision between the third quarter 2014 and later quarterly GDP publications.

In the Stats SA publication, GVA is available at one digit level for the following variables: wages and salaries, gross operating surplus, net indirect taxes, intermediate consumption, and gross value of production (GVP). The SAMs have been adjusted to reflect these series.

Net indirect taxes (NIT) at the one digit activity level as well as in the UT can be positive or negative. Proportional scaling to a new benchmark can lead to excessive variation. To avoid this, we incorporate an optimization routine that finds a common factor that adjusts positive values up and negative values down respectively.

A second level of benchmarking was applied to ensure consistency with Stats SA’s GVA for two digit activities that is also available for the full 1993-2013 period. We aggregate two digit activities up to the 15-activity level of the mini SAMs. Thus, one digit manufacturing is broken down into six sub-activities identified in the two digit Stats SA GVA series of the third quarter 2014 data release.

GVA for two digit (and therefore the 15 activities of the mini SAMs) is, however, only available from the Stats SA data release at factor costs and for the total value, i.e. there is no breakdown into labour and capital, nor is NIT, intermediate consumption, or GVP reported. Further scaling was required to ensure that the one-digit benchmarks for manufacturing as a whole were met.

Finally, the results were scaled to the National Accounts. Note that:

1. The Stats SA one digit and two digit activity series in the third quarter 2014 release are close but not quite consistent with the SARB one digit series of the first quarter 2015. We use the Stats SA series as they contain more detail, either in terms of variables (one digit) or in terms of activities (two digit).
2. The Stats SA one digit and two digit activity series as well as the SARB one digit series treat the informal sector differently to the Stats SA UT. While the latter aggregates all informal activity into ‘Non-observed, informal, non-profit, households’ (I062), in the Stats SA and SARB series, the informal sector activities have been distributed across a

range of activities. To detect which activities are subject to this statistical redistribution, we compare the Stats SA third quarter 2014 release and the Stats SA UT GVA for common industries in the next table.

Table 3: Comparing the Stats SA Q32014 release and the Stats SA UT GVA at basic Rmillion prices (2013)

Two Digit Activity Description	SSA2D@BP 2013	UseTbI@BP 2013	per cent diff	abs diff
Agriculture	62,826	62,678	0.2	148
Forestry	7,319	7,319	0.0	0
Fishing	3,313	3,313	0.0	0
Coal	63,998	63,998	0.0	0
Gold	52,676	52,676	0.0	0
Platinum group metals	129,350	129,350	0.0	0
Other mining and quarrying 1/	38,778	38,339	1.1	439
Food, beverages, and tobacco	101,094	101,094	0.0	0
Textiles, clothing, and leather goods	13,257	13,257	0.0	0
Wood and paper; publishing and printing	50,148	50,148	0.0	0
Petroleum products, chemicals, rubber, and plastic	93,695	93,695	0.0	0
Other non-metal mineral products	16,477	16,477	0.0	0
Metals, metal products, machinery, and equipment	74,557	74,557	0.0	0
Electrical machinery and apparatus	6,648	6,648	0.0	0
Radio, TV, instruments, watches, and clocks	6,163	6,163	0.0	0
Transport equipment	27,230	27,230	0.0	0
Furniture; other manufacturing 1/	30,662	20,240	51.5	10,421
Electricity and gas	92,398	92,398	0.0	0
Water	25,068	25,068	0.0	0
Construction	126,435	105,124	20.3	21,311
Wholesale trade	155,599	155,599	0.0	0
Retail trade; repair of household goods 1/	214,459	122,125	75.6	92,334
Motor trade; repair of motor vehicles	72,517	72,517	0.0	0
Catering and accommodation	28,433	28,433	0.0	0
Transport 1/	252,187	224,188	12.5	27,999
Communication	65,787	65,787	0.0	0
Finance and insurance	298,890	298,890	0.0	0
Real estate	184,224	184,224	0.0	0
Business services 1/	160,052	131,787	21.4	28,265
General government services	532,122	532,122	0.0	0
Personal services 1/	186,599	367,517	-49.2	-180,918
Total	3,172,961	3,172,961		

Note: 1/ includes estimates of the informal sector.

Source: Author's aggregations based on Stats SA third and fourth Quarter 2014 GDP release.

It can be seen that the informal sector is distributed across a range of activities. We aim for consistency with the Stats SA/SARB GVA series and the entropy system will rebalance the SUTSAMs accordingly.

Total Import duties are made consistent with the national government tax revenue as reported in the Public Finance Statistics of the SARB Quarterly Bulletin. Commodity level import duties collected were obtained from Stats SA for the years 2007-12. Closer examination reveals that the distribution of import duties collected across commodities is identical across this period. We use the same distribution for the periods 1993-2006.

In conclusion, the result is a set of mini SAMs for 15 industries that will deviate for the year 2012 from the detailed 2012 SAM that was prepared for general CGE modelling purposes (see van Seventer et al. 2016, forthcoming). The difference is due to the treatment of the informal sector, as well as the benchmarking on the Stats SA/SARB one and two digit series. An attempt to adjust the large scale 2012 SAM for the activity specific informal sector treatment has not

been considered at this stage, as this would require further information (or assumptions) to disaggregate informal sector across activities beyond two-digit detail.

We present, by way of illustration, the current price SAMs for the years 1993, 2003, and 2013 in Appendix B (Tables B1-B3).

### **3 Deflating mini SAMs**

The entries in the current price mini SAMs that represent values (price x quantity and ignoring taxes, transfers, and savings for the moment) can be turned into constant prices using appropriate deflators. It could be argued that, each such entry has its own deflator. At the relatively high level of aggregation used here, it is conceivable that for example the average wage (price of labour) deflator of each industry is different due to the underlying occupational composition of the labour employed. Likewise, but for other reasons, the price of a relatively homogenous intermediate commodity such as electricity may vary across users. The availability of such detail is in practice, as is in our case, often not available.

A number of price series were explored. Stats SA releases Producer Price Indices (PPIs) for

- Domestic output of South African industry
- Exported commodities according to groups
- Imported commodities according to groups
- Materials used in certain industries
- Selected materials
- Commodities for South African consumption
- Output of SA Industry groups—for SA consumption

Without going into detail, these series have a patchy coverage for the period 1993-2012 and have been replaced with new series from 2013 onwards with different commodity and/or activity coverage. Attempts to match them up to the 15 commodities and activities of the mini SAMs reveal signs of breaks in trends or series are discontinued altogether. Moreover, the level of detail is in many cases more detailed than the activities and commodities identified in the mini SAMs. This would require deriving weighted averages based on quantity series such as Stats SA's Mining Physical Volume series and Manufacturing Sales series but these series do not go back far enough.

A more simplified approach is adopted for our purposes here and is outlined by means of a matrix that broadly represents the framework of the relevant components of a SAM (without the taxes, transfer, and savings entries).

Table 4: Broad outline mini SAM deflation approach

	Activities	Commodities	Domestic Final Demand	Investment	Inventory Changes & Residual	Exports	Total
Activities		4) Derived from 1a					3) Derived from 1a
Commodities	1) Stats SA Intermediate Consumption & SARB Final Demand Commodities followed by scaling		7) SARB Final Demand Commodities	8) SARB Asset Commodities	10) Residual	9) SARB Exports	6) Derived from 2a
Value Added	2) Stats SA/SARB GVA						
Imports		5) SARB Imports					
Total	3) Derived from 1a	6) Derived from 2a					

Source: Author's workings.

Discussion of the deflation process for each numbered cell in the matrix above is presented in turn below.

1. Stats SA offers series for intermediate consumption in constant and current prices for one digit activities in the GDP release of third quarter 2014. The implicit intermediate inputs deflators can be interpreted as constituting a weighted average deflator for all intermediate goods and services demanded by the relevant activity. They can be used to deflate the column totals of the intermediate input matrix. Manufacturing sub-activities are all deflated by the same one digit manufacturing deflator due to lack of more detail in the data. The original shares of the current price SAMs' intermediate inputs are initially applied to the deflated column totals.

Next, the row totals of the intermediate matrix represent intermediate sales. The current price values are deflated by implied deflators that can be derived from SARB final expenditures of selected goods demanded by households both of which are presented in current and constant prices in their Quarterly Bulletin. A mapping of the SARB commodities to the mini SAM commodities is presented in Appendix C. Note that the building construction asset type deflator is used for the sales of construction (by assuming that this is for building maintenance).

Total intermediate sales must equal total intermediate inputs. Since the latter is considered to be derived in a more robust manner, the total intermediate sales derived above are scaled to match the total of intermediate inputs. The entries in the intermediate matrix, which are initially arrived at using current price shares, are then adjusted by means of bi-proportional scaling. This method broadly follows what has been proposed by Dietzenbacher and Hoen (1998).

2. Gross value added (GVA) for the 15 activities in the mini SAMs at constant prices are benchmarked on the constant price counterpart of the Stats SA current price series described in the previous section with the current price discussion.



Nevertheless, the breakdown of GVA for each of the 15 mini SAM activities in wages and salaries, gross operating surplus, and activity tax are not available in constant prices and therefore derived by applying fixed current price value added shares.

3. Gross value of production (GVP) in constant prices is derived as the column sum of intermediate consumption and GVA in constant prices (as described in the previous two points). Comparison with GVP at current prices developed in the previous section allows for the implied GVP deflator to be derived.
4. The supply matrix of the SAM is deflated using the implied activity level GVP deflators mentioned in the previous point. In doing so, the same deflator is used across each element in a supply matrix row. This means that the various commodities produced by an activity are deflated by the same rate. Since a domestically supplied commodity can be produced by more than one activity, total domestic supply of a commodity is converted to constant prices by the implied weighted average of the relevant activity GVP deflators.
5. SARB reports imports for goods and services separately in both current and constant prices. The implicit deflators can be used to deflate trade for the 15 commodities in a crude way, i.e., one for goods and one for services. Import price index series by Stats SA were considered but the scope of the series has changed recently while they do not go back far enough.
6. Total supply of commodities in constant prices is the sum of locally supplied and imported commodities with commodity taxes and transaction margins being derived using current price ratios.
7. Next, we move to final demand. SARB reports household expenditure for a range of goods and services that can reasonably be associated with our 15 mini SAM commodities (see Appendix C). As discussed earlier, it is easier to match SARB derived commodity deflators than to use the detailed Stats SA PPIs since that would require finding associated weights based on quantities. Note that as mentioned in 1 above, these deflators have also been used as an initial proxy for total intermediate sales.
8. Since government expenditure involves only a single commodity (government services), the constant price value from the National Accounts can be used.
9. SARB for implicit deflators of investment goods by asset type can be applied to deflate investment expenditure. The mapping is shown in Appendix C. The deflator for construction can also be considered for deflating household expenditure on construction (as was done with intermediate sales of construction), by assuming that this is a reasonable deflator for construction maintenance.
10. SARB reports exports for goods and services separately in both current and constant prices. The implicit deflators can be used to deflate exports for the 15 commodities in a crude way. Export price index series by Stats SA have been considered but the scope of the series has changed recently while they do not go back far enough.
11. Similar to the current price SAMs, we aim to match the macro expenditure National Accounts totals, now in constant prices. Moreover, in 6 above, we had derived total (constant price) supply for each commodity and this must now also serve as the benchmark for total commodity demand. In order to balance demand for each

commodity with total supply, we load the residual balance for each commodity into the ‘change in inventories / residual’ (dstk) column. This implies that the control totals for dstk will not match the constant price SARB change in stocks/residual National Accounts benchmark.

12. Finally, transfers amongst institutions, direct taxes, and savings are added to the constant price SAMs by taking selected ratios to current price values and multiplying them with matching constant values. Additional residuals are created where necessary, such as for institutional savings. For calibration/back casting purposes (discussed elsewhere, see for example Davies et al. 2016, forthcoming), this part of the constant price SAMs is less important.

We present by way of illustration the constant price SAMs for the years 1993, 2003, and 2013 in Appendix D (Tables D1-D3).

#### 4 Next steps

For further improvement of the above-described framework of mini SAMs for the period 1993-2013 in current and constant prices, the following can be considered.

1. Disaggregating labour and households:
  - a. Disaggregation of labour income by activity and highest level of education can be obtained from DataFirst data for the period 1994-2012. The DataFirst data covers the October Household Survey (OHS 1994-99), the bi-annual Labour Force Survey (LFS 2000-07), and the quarterly Labour Force Survey (LFS 2007-12). More than 20 categories of highest level of education are identified across the three sources for all years of observation, while three digit SIC industry detail is available from 1996 onwards. However, on average, about 41 per cent of all industries are unspecified. Both earnings and number of workers are available. The latter may be converted to full time equivalent (FTA) using the ‘hours worked in last 7 days’ variable.
  - b. Disaggregation of household income by source and by income group and expenditure by commodity and income group can best be obtained from the various SAMs that have been published for base years since 1998. The following years are available from Stats SA: 1998, 2002, and 2005. The recently estimated 2009 SAM (Davies and Thurlow 2013) and the 2012 (van Seventer et al. 2016, forthcoming) can be used for the last part of the period of observation. A Stats SA Income and Expenditure Survey is available from DataFirst for the year 1990 but would need to be explored to ensure relevant data is available. The level of income group detail depends on the availability of data in the underlying SAMs. A common disaggregation appears to be along the lines of income deciles with the highest earning group broken down further into subgroups. Shares across income groups would need to be interpolated for those years not covered by the benchmark SAMs.
  - c. Disaggregation of the constant price SAMs with the above detail for labour income and household expenditure can be based on the existing approach described in the previous section. Labour income by activity and level of education can be deflated using the GVA deflator for the relevant activity. Household expenditure can be deflated with the household expenditure deflators for the relevant commodities. After deflation, constant price household income and expenditure by income group could be matched by deflated household income from various sources initially

assuming the current price ratios to already deflated benchmark totals and income distribution shares, followed by a bi-proportional scaling routine.

2. Further disaggregation of SAMs to match the high level of commodity and activity detail in the SUTSAMs for the period 2007-13 will require considerably more investigation. STs and UTs are available at varying levels of commodity and activity detail for the following years: 1993, 1998, 1999, 2000, 2002, 2004, and 2005. A common set of activities and commodities across the full period will have to be established. Disaggregating labour and households can follow the same approach as described in the previous section for the 15Ind framework. This may require the use of common distributions; in particular, across expenditure commodities as the detail in the benchmark Stats SA SAMs is not as high as in the UTs.

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## Appendix A: Industries and commodities identified in the SUTSAMs and their mapping to mini SAM activities and commodities

SUTSAM Code	SUTSAM Description	Calib SUTSAM Code	Calib Code	SIC	Description
aagri	Agriculture	01_aagr	cc01	1	Agriculture, hunting, forestry, and fishing
afore	Forestry	01_aagr	cc01	1	Agriculture, hunting, forestry, and fishing
afish	Fishing	01_aagr	cc01	1	Agriculture, hunting, forestry, and fishing
acoal	Mining of coal and lignite	02_amin	cc02	2	Mining and quarrying
agold	Mining of gold and uranium ore	02_amin	cc02	2	Mining and quarrying
amore	Mining of metal ores	02_amin	cc02	2	Mining and quarrying
aomin	Other mining and quarrying	02_amin	cc02	2	Mining and quarrying
afood	Food	03_afbt	cc03	30	Mfg of food products, beverages, and tobacco products
abevt	Beverages and tobacco	03_afbt	cc03	30	Mfg of food products, beverages, and tobacco products
aweav	Spinning, weaving, and finishing of textiles	04_almf	cc04	31	Mfg of textiles, clothing, and leather goods
aknit	Knitted, crouched fabrics, wearing apparel, fur articles	04_almf	cc04	31	Mfg of textiles, clothing, and leather goods
aleat	Tanning and dressing of leather	04_almf	cc04	31	Mfg of textiles, clothing, and leather goods
afoot	Footwear	04_almf	cc04	31	Mfg of textiles, clothing, and leather goods
awood	Sawmilling, planing of wood, cork, straw	04_almf	cc04	32	Mfg wood, cork, straw, paper, printing, media/reproduction of media
apapr	Paper	04_almf	cc04	32	Mfg wood, cork, straw, paper, printing, media/reproduction of media
aprint	Publishing, printing, recorded media	04_almf	cc04	32	Mfg wood, cork, straw, paper, printing, media/reproduction of media
apetr	Coke oven, petroleum refineries	05_achm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
abchm	Nuclear fuel, basic chemicals	05_achm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
aochm	Other chemical products, man-made fibres	05_achm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
arubb	Rubber	05_achm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
aplas	Plastic	05_achm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
aglass	Glass	06_amme	cc06	34	Mfg of other non-metallic mineral products
Anmml	Non-metallic minerals	06_amme	cc06	34	Mfg of other non-metallic mineral products
Abisc	Basic iron and steel, casting of metals	06_amme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
Anfme	Basic precious and non-ferrous metals	06_amme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
Afabm	Fabricated metal products	06_amme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
Amach	Machinery and equipment	06_amme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
Aemch	Electrical machinery and apparatus	07_aemc	cc07	36	Mfg of electrical machinery and apparatus n.e.c.
Ardtv	Radio, television, communication equipment, and app	07_aemc	cc07	37	Mfg radio, television, communication equip, medical, optical, watches, etc.
Amopt	Medical, precision, optical instruments, watches, and clocks	07_aemc	cc07	37	Mfg radio, television, communication equip, medical, optical, watches, etc.
Amtvp	Motor vehicles, trailers, parts	08_atre	cc08	38	Mfg of transport equipment
aotrp	Other transport equipment	08_atre	cc08	38	Mfg of transport equipment
afurn	Furniture	04_almf	cc04	39	Mfg of furniture, recycling and manufacturing n.e.c.
aomnf	Manufacturing n.e.c., recycling	04_almf	cc04	39	Mfg of furniture, recycling and manufacturing n.e.c.
aelcg	Electricity, gas, steam, and hot water supply	09_aelg	cc09	4	Electricity, gas, and water supply
awatd	Collection, purification, and distribution of water	09_aelg	cc09	4	Electricity, gas, and water supply
acnst	Construction	10_acns	cc10	5	Construction
awtrd	Wholesale trade, commission trade	11_atra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants
artrd	Retail trade	11_atra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants

SUTSAM Code	SUTSAM Description	Calib SUTSAM Code	Calib Code	SIC	Description
amtvs	Sale, maintenance, repair of motor vehicles	11_atra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants
aacct	Hotels and restaurants	11_atra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants
altrp	Land transport, transport via pipe lines	12_atrp	cc12	7	Transport, storage, and communication
awtrp	Water transport	12_atrp	cc12	7	Transport, storage, and communication
aatrp	Air transport	12_atrp	cc12	7	Transport, storage, and communication
atrps	Auxiliary transport	12_atrp	cc12	7	Transport, storage, and communication
apost	Post and telecommunication	12_atrp	cc12	7	Transport, storage, and communication
afins	Financial intermediation	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
ainsp	Insurance and pension funding	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
aofin	Activities to financial intermediation	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
areal	Real estate activities	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
arent	Renting of machinery and equipment	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
acomp	Computer and related activities	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
arsea	Research and experimental development	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
aobus	Other business activities	13_afib	cc13	8	Financial intermediation, insurance, real estate, and business services
apuba	Government	14_agvt	cc14	91	Public Administration and defence activities
aeduc	Education	15_aosv	cc15	92	Education
aheal	Health and social work	15_aosv	cc15	93	Health and social work
awast	Sewerage and refuse disposal	15_aosv	cc15	94	Other community, social, and personal service activities
amorg	Activities of membership organizations	15_aosv	cc15	95	Activities of membership organizations N.E.C.
arecr	Recreational, cultural, and sporting activities	15_aosv	cc15	96	Recreational, cultural, and sporting activities
aoact	Other activities	15_aosv	cc15	99	Other service activities
anobs	Non-observed, informal, non-profit, households,	15_aosv	cc15	99	Other service activities
cagri	Agriculture	16_cagr	cc01	1	Agriculture, hunting, forestry, and fishing
clani	Live animal	16_cagr	cc01	1	Agriculture, hunting, forestry, and fishing
cfore	Forestry	16_cagr	cc01	1	Agriculture, hunting, forestry, and fishing
cfish	Fishing	16_cagr	cc01	1	Agriculture, hunting, forestry, and fishing
ccoal	Coal and lignite	17_cmin	cc02	2	Mining and quarrying
cmore	Metal ores	17_cmin	cc02	2	Mining and quarrying
comin	Other minerals	17_cmin	cc02	2	Mining and quarrying
celcg	Electricity and gas	24_celg	cc09	4	Electricity, gas, and water supply
cwatr	Natural water	24_celg	cc09	4	Electricity, gas, and water supply
cmeat	Meat	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cpfis	Fish	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cvege	Vegetables	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cfroi	Fruit and nuts	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cfats	Oils and fats	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cdair	Dairy products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cgrai	Grain mill products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cstar	Starches products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cafee	Animal feeding	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cbake	Bakery products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
csuga	Sugar	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products

SUTSAM Code	SUTSAM Description	Calib SUTSAM Code	Calib Code	SIC	Description
cconf	Confectionary products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cpast	Pasta products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
cofoo	Food n.e.c.	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
calcb	Alcohol, beverages	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
csftd	Soft drinks	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
ctoba	Tobacco products	18_cfbt	cc03	30	Mfg of food products, beverages, and tobacco products
ctexf	Textile fabrics	19_clmf	cc04	31	Mfg of Textiles, clothing and Leather Goods
ctexm	Made-up textile, articles	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
ccarp	Carpets	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
cotex	Textile n.e.c.	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
cknit	Knitting fabrics	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
cwear	Wearing apparel	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
cleat	Leather products	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
cfoot	Footwear	19_clmf	cc04	31	Mfg of textiles, clothing and leather goods
cwood	Wood products	19_clmf	cc04	32	Mfg wood, cork, straw, paper, printing, media / reproduction of media
cpapp	Paper products	19_clmf	cc04	32	Mfg wood, cork, straw, paper, printing, media / reproduction of media
cpmnt	Printing	19_clmf	cc04	32	Mfg wood cork, straw, paper, printing, media / reproduction of media
cpetr	Petroleum products	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
cbchm	Basic chemicals	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
cfert	Fertilizers, pesticides	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
cpain	Paint, related products	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
cphar	Pharmaceutical products	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
csoap	Soap, cleaning, perfume	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
coche	Chemical products, n.e.c.	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
ctyre	Rubber tyres	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
corub	Other rubber products	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
cplas	Plastic products	20_cchm	cc05	33	Mfg coke, refined petroleum products, nuclear, chemicals, rubber, plastic
cglas	Glass products	21_cmme	cc06	34	Mfg of other non-metallic mineral products
ccera	Non-structural ceramic	21_cmme	cc06	34	Mfg of other non-metallic mineral products
cclay	Structure non-refractory clay	21_cmme	cc06	34	Mfg of other non-metallic mineral products
ccmnt	Plaster, cement	21_cmme	cc06	34	Mfg of other non-metallic mineral products
cconc	Articles of concrete	21_cmme	cc06	34	Mfg of other non-metallic mineral products
conmp	Non-metallic products n.e.c.	21_cmme	cc06	34	Mfg of other non-metallic mineral products
cfurn	Furniture	19_clmf	cc04	39	Mfg of furniture, recycling, and manufacturing n.e.c.
cjewl	Jewellery	19_clmf	cc04	39	Mfg of furniture, recycling, and manufacturing n.e.c.
comnf	Manufactured products n.e.c.	19_clmf	cc04	39	Mfg of furniture, recycling, and manufacturing n.e.c.
cwast	Wastes, scraps	19_clmf	cc04	39	Mfg of furniture, recycling, and manufacturing n.e.c.
cirst	Iron, steel products	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cnfme	Non-ferrous metals	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cstrm	Structural metal products	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
ctank	Tanks, reservoirs	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cofbm	Other fabricated metal	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cengt	Engines, turbines	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip

SUTSAM Code	SUTSAM Description	Calib SUTSAM Code	Calib Code	SIC	Description
cpump	Pumps, compressors	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cgear	Bearings, gears	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
clift	Lifting equipment	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cgenm	General machinery	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cspcm	Special machinery	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
cdoma	Domestic appliances	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
coffm	Office machinery	21_cmme	cc06	35	Mfg basic + fabricated metals, machinery, equipment, computing equip
celcm	Electrical machinery	22_cemc	cc07	36	Mfg of electrical machinery and apparatus n.e.c.
crdtv	Radio, television	22_cemc	cc07	37	Mfg radio, television, communication equip, medical, optical, watches, etc.
cmeda	Medical appliances	22_cemc	cc07	37	Mfg radio, television, communication equip, medical, optical, watches, etc.
cmvtp	Motor vehicles, parts	23_ctre	cc08	38	Mfg of transport equipment
cship	Ships and boats	23_ctre	cc08	38	Mfg of transport equipment
crail	Railway and trams	23_ctre	cc08	38	Mfg of transport equipment
cairc	Aircrafts	23_ctre	cc08	38	Mfg of transport equipment
coteq	Other transport equipment	23_ctre	cc08	38	Mfg of transport equipment
ccnst	Construction	25_ccns	cc10	5	Construction
ccsrv	Construction services	25_ccns	cc10	5	Construction
ctrad	Trade services	26_ctra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants
cacco	Accommodation	26_ctra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants
ccats	Catering services	26_ctra	cc11	6	Wholesale and retail trade; repair etc.; hotels and restaurants
cptrp	Passenger transport	27_ctrp	cc12	7	Transport, storage, and communication
cftrp	Freight transport	27_ctrp	cc12	7	Transport, storage, and communication
ctrps	Supporting transport services	27_ctrp	cc12	7	Transport, storage, and communication
cpost	Postal, courier services	27_ctrp	cc12	7	Transport, storage, and communication
celcd	Electricity distribution	24_celg	cc09	4	Electricity, gas, and water supply
cwatd	Water distribution	24_celg	cc09	4	Electricity, gas, and water supply
cfins	Financial services	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
cinsp	Insurance, pension	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
cofin	Other financial services	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
creal	Real estate services	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
crent	Leasing, rental services	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
crsea	Research, development	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
clacc	Legal, accounting	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
cobus	Other business services	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
ctelc	Telecommunications	27_ctrp	cc12	7	Transport, storage, and communication
csupp	Support services	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
cmnfs	Manufactured services n.e.c.	28_cfib	cc13	8	Financial intermediation, insurance, real estate, and business services
cpuba	Public administration	29_cgvt	cc14	91	Public Administration and defence activities
ceduc	Education services	30_cosv	cc15	92	Education
cheal	Health, social services	30_cosv	cc15	93	Health and social work
cosrv	Other services n.e.c.	30_cosv	cc15	99	Other service activities

Source: Author's mappings.

## Appendix B: Selected mini SAMs for South Africa in current prices

Table B1: A South African mini SAM for 1993 in Rbillion current prices

	aagr	amin	afbt	almf	achm	amme	aemc	atre	aelg	acns	atra	atrp	afib	agvt	aosv	cagr	cmin	cfbt	clmf	cchm	cmme	cemc	ctre	celg	ccns	ctra	ctrp	cfib	cgvt	cosv	trc	flab	fcap	ent	hhd	gov	atax	dtax	mtax	stax	s-i	dstk	row	total						
aagr																29																														29				
amin																	49																																51	
afbt																0		49																																53
almf																																																	66	
achm																																																46		
amme																																																65		
aemc																																																10		
atre																																																27		
aelg																																																21		
acns																																																	43	
atra																																																102		
atrp																																																	59	
afib																																																	99	
agvt																																																	91	
aosv																																																	34	
cagr	1	0	18	3	0	0	0	0	0	0	0	0	0	0	0																																35			
cmin	0	0	0	2	6	5	0	0	2	1	0	0	0	0	0																																	60		
cfbt	2	0	7	1	0	0	0	0	0	0	3	0	0	1	0																																	81		
clmf	1	1	2	17	1	0	0	0	0	0	2	7	1	3	1	2																																96		
cchm	4	3	1	5	12	2	1	1	0	2	2	7	2	4	2																																81			
cmme	1	3	2	3	2	21	2	4	0	10	1	1	1	3	0																																90			
cemc	0	0		0	0	1	2	0	0	3	0	1	1	2	1																																25			
ctre	0	0																																														45		
celg	0	3	0	1	1	2	0	0	3	0	2	1	1	1	1																															21				
ccns	0	0																																														46		
ctra	0	0	0	0	0	0	0	0	0	0	4	2	2	2	1																																105			
ctrp	2	5	1	1	3	2	0	0	0	0	8	2	3	1	1																																62			
cfib	1	1	2	4	3	3	0	1	1	3	14	4	24	5	4																																109			
cgvt																																																	91	
cosv	0	3	4	6	4	6	1	2	0	1	1	1	1	1	1																																49			
Trc																																																	89	
flab	5	16	7	14	7	11	2	5	4	10	30	18	21	55	15																																	220		
fcap	13	14	8	10	8	10	1	3	10	4	28	19	37	7	6																																	178		
ent																																																	169	
hhd																																																	321	
gov																																																	91	
atax	-1	0	0	0	0	0	0	0	0	0	1	0	3	0	1																																6			
dtax																																																	50	
mtax																																																5		
stax																																																	30	
s-i																																																	63	
Dstk																																																	-6	
Row																																																		87
Total	29	51	53	66	46	65	10	27	21	43	102	59	99	91	34	2	6	5	9	11	16	7	10	0	0	2	5	2	0	1	89	2	9	1																







## Appendix C: Mapping of SARB implied commodity deflators to SAM commodities and final demand components

In order to deflate final demand, the following implied deflators are extracted from the SARB Quarterly Bulletin and allocated to the 15 commodities of the mini SAMs. All series labelled in the first two columns of the table in this appendix are available in constant and current prices. In some cases, a series is used for more than one final demand category (see columns with headings ‘Secondary FD’) and/or for a secondary commodity (see columns with headings ‘Secondary Comm’). For example, in the first row of the table, it can be seen that the first series is used to deflate government expenditure (since government only spends on one single commodity group) and this is used to deflate household expenditure on this commodity group. The deflator of final household expenditure on food beverages and tobacco (KPB6062J) is also used for household expenditure on agriculture, forestry, and fishing.

For exports and imports, we use only two implied deflators, one for goods, and one for services. More detailed deflators can be extracted from the Stats SA Export Price and Import Price Indices but they don’t go back farther than 1999. Due to lack of data, the implied household expenditure deflators are also used to deflate total intermediate sales.

Code	Label	Primary FD	Secondary FD	Primary Comm	Secondary Comm
KBP6008J	Final consumption expenditure by general government	Govt	HH	Public Administration	
KBP6051J	Final consumption expenditure by households: Furniture household appliances etc.	HH		Mfg of Electrical Machinery etc	
KBP6052J	Final consumption expenditure by households: Personal transport equipment	HH		Mfg of Transport Equipment	
KBP6053J	Final consumption expenditure by households: Durable goods - Recreational and entertainment goods	HH		Mfg of Wlge Goods	
KBP6054J	Final consumption expenditure by households: Other durable goods	HH		Mfg of Metals & Machinery	
KBP6056J	Final consumption expenditure by households: Clothing and footwear	HH		Mfg of Wlge Goods	
KBP6057J	Final consumption expenditure by households: Household textiles, furnishings, glassware etc.	HH		Mfg of Wlge Goods	
KBP6058J	Final consumption expenditure by households: Motorcar tyres, parts and accessories	HH		Mfg of Transport Equipment	
KBP6059J	Final consumption expenditure by households: Semi-durable goods - Recreational and entertainment goods	HH		Mfg of Wlge Goods	
KBP6060J	Final consumption expenditure by households: Miscellaneous goods	HH		Mfg of Wlge Goods	
KBP6062J	Final consumption expenditure by households: Food, beverages and tobacco	HH		Mfg of Food, Beverages and Tobacco Products	Agriculture, Forestry and Fishing
KBP6063J	Final consumption expenditure by households: Household fuel power and water	HH		Electricity, Gas and Water	Mining and Quarrying
KBP6064J	Final consumption expenditure by households: Household consumer goods	HH	GFCF	Mfg of Wlge Goods	
KBP6065J	Final consumption expenditure by households: Medical and pharmaceutical products	HH	GFCF	Mfg of Chemicals	
KBP6066J	Final consumption expenditure by households: Petroleum products	HH		Mfg of Chemicals	
KBP6067J	Final consumption expenditure by households: Recreational and entertainment goods	HH		Mfg of Wlge Goods	
KBP6069J	Final consumption expenditure by households: Rent	HH		Financial and Business Services	
KBP6070J	Final consumption expenditure by households: Miscellaneous services, including domestic servants	HH		Other Services	
KBP6071J	Final consumption expenditure by households: Medical services	HH		Other Services	
KBP6072J	Final consumption expenditure by households: Transport and communication services	HH	GFCF	Transport, Storage & Communication	
KBP6073J	Final consumption expenditure by households: Services - Recreational entertainment and educational services	HH		Other Services	
KBP6074J	Final consumption expenditure by households: Miscellaneous services	HH	GFCF	Other Services	
KBP6075J	Final consumption expenditure by households: Computers and related equipment	HH		Mfg of Metals & Machinery	
KBP6099J	Gross fixed capital formation: Computers and related equipment - Total	GFCF		Mfg of Electrical Machinery etc	
KBP6110J	Gross fixed capital formation: Residential buildings - Total (Investment)	GFCF	HH	Construction	
KBP6114J	Gross fixed capital formation: Non-residential buildings - Total (Investment)	GFCF		Construction	
KBP6118J	Gross fixed capital formation: Construction works - Total (Investment)	GFCF		Construction	
KBP6122J	Gross fixed capital formation: Transport equipment - Total (Investment)	GFCF		Mfg of Transport Equipment	
KBP6126J	Gross fixed capital formation: Machinery and other equipment - Total (Investment)	GFCF		Mfg of Metals & Machinery	
KBP6130J	Gross fixed capital formation: Transfer costs (Investment)	GFCF		Financial and Business Services	
KBP6608J	Exports of goods free on board	Exp			
KBP6609J	Exports of services	Exp			
KBP6610J	Imports of goods free on board	Imp			
KBP6611J	Imports of services	Imp			
KBP6191J	Gross fixed capital formation: Research and development - Total	GFCF		Financial and Business Services	
KBP6195J	Gross fixed capital formation: Computer software - Total	GFCF		Financial and Business Services	
KBP6199J	Gross fixed capital formation: Mineral exploration & evaluation	GFCF		Mining and Quarrying	
KBP6159J	Gross fixed capital formation: Cultivated biological resources	GFCF		Agriculture, Forestry and Fishing	

Source: SARB ‘Quarterly Bulletin’ (n.d.).

## Appendix D: Selected mini SAMs for South Africa in constant prices

Table D1: A South African mini SAM for 1993 in Rbillion 2010 constant prices

	aagr	amin	afbt	almf	achm	amme	aemc	atre	aelg	acns	atra	atrp	afib	agvt	aosv	cagr	cmin	cfbt	clmf	cchm	cmme	cemc	ctre	celg	ccns	ctra	ctrp	cfib	cgvt	cosv	trc	flab	fcap	ent	hhd	gov	atax	dtax	mtax	stax	s-i	dstk	row	total				
aagr																81									1																				83			
amin																	368	0		1					12	0		1																				383
afbt																0		154		1						3	3		5																		166	
almf																			165	2	0	0	0			1	3	4																			176	
achm																		0	1	119		0	0			3	2	4																		130		
amme																					178	0	0			1	4	4																		187		
aemc																						25				0	0	0																		27		
atre																			0				65			2	1	1																		70		
aelg																								85	2	0																				88		
acns																									127	0	2																			128		
atra																										306	0	13																		319		
atrp																										0	152	0																		153		
afib																												0	4																	320		
agvt																													390																390			
aosv																														122															122			
cagr	5	0	56	13	1	0	0	0	0	0	1	0	0	1	0																														99			
cmin	0	2	0	7	19	27	0	0	12	6	0	0	0	0	0																														420			
cfbt	7	0	24	3	1	0	0	0	0	0	8	0	0	2	1																														257			
clmf	1	5	2	32	1	1	1	0	0	3	9	2	3	2	2																														268			
cchm	14	29	4	20	39	10	4	4	1	12	8	22	4	14	7																													239				
cmme	2	13	3	4	2	37	4	5	1	18	1	1	1	4	0																													273				
cemc	0	1		0	0	1	4	0	1	4	0	1	0	2	1																														273			
ctre	1	5						37	0		1	7	0	15	1																														273			
celg	1	23	1	3	2	10	0	1	13	1	4	3	2	2	2																													273				
ccns	0	4							4	24	3	1	2	5	1																														273			
ctra	0	1	0	1	0	1	0	0	0	0	9	4	2	5	2																													273				
ctrp	3	24	1	3	4	5	0	0	1	1	12	3	3	2	1																													273				
cfib	3	15	9	21	13	20	3	6	6	18	63	18	69	22	17																														273			
cgvt									0			0	0	13	0																															273		
cosv	1	19	9	15	9	16	3	3	0	2	1	2	2	2	1																														273			
Trc																9	13	62	63	48	32	20	22																							271		
flab	13	126	26	30	19	31	5	8	14	27	99	44	80	266	59																														848			
fcap	34	113	30	22	21	29	2	5	34	12	94	45	139	33	24																														638			
ent																																														734		
hhd																																														1,177		
gov																																														334		
atax	-2	2	1	0	0	0	0	0	1	0	5	1	13	2	2																													23				
dtax																																														193		
mtax																																													15			
stax																																														103		
s-i																																														248		
Dstk																																														47		
Row																																															319	
Total	83	383	166	176	130	187	27	70	88	128	319	153	320	390	122	99	420	257	268	239	273	77	128	87	148	329	170	351	390	170	271	848	638	734	1,177	334	23	193	15	103	248	47	319					

Note: Empty cells are zero values while the 0 represents a value between 0 and R1 billion.

Source: Author's calculation.

Table D2: A South African mini SAM for 2003 in Rbillion 2010 constant prices

	aagr	amin	afbt	almf	achm	amme	aemc	atre	aelg	acns	atra	atrp	afib	agvt	aosv	cagr	cmin	cfbt	clmf	cchm	cmme	cemc	ctre	celg	ccns	ctra	ctrp	cfib	cgvt	cosv	trc	flab	fcap	ent	hhd	gov	atax	dtax	mtax	stax	s-i	dstk	row	total							
aagr																117																														119					
amin																	386																															400			
afbt																0		217																															235		
almf																		16	209																													240			
achm																		0	3	265																												295			
amme																			0	1	283																											304			
aemc																			0	0	0	40																										43			
atre																			1	0	4	1	149																									164			
aelg																																															126				
acns																																																185			
atra																																															511				
atrp																																																381			
afib																																																	651		
agvt																																																454			
aosv																																																218			
cagr	6	0	54	17	3	0	1	1	0	0	2	0	0	1	1																																144				
cmin	1	2	1	16	54	80	0	2	18	6	0	1	0	1	1																																451				
cfbt	12	0	57	5	2	0			0		15	0	1	1	1																																369				
clmf	2	6	5	63	2	2	1	8	1	7	18	11	13	6	7																																345				
cchm	23	30	12	38	111	18	10	22	3	11	12	43	17	17	20																																441				
cmme	3	14	4	10	7	71	7	15	2	27	3	4	4	3	1																																451				
cemc	0	3		0	0	3	9	6	3	9	1	9	5	5	5																																145				
ctre	3	6	2	1	1	1	0	86	0		1	17	1	16	5																																269				
celg	1	12	3	2	8	8	0	0	22	1	6	6	4	1	2																																127				
ccns	1	4	0						6	47	6	2	9	3	1																																206				
ctra	1	1	1	1	1	1	0	0	0	0	18	16	12	2	5																																533				
ctrp	6	51	3	2	11	12	0	0	2	3	44	46	27	8	9																															403					
cfib	4	13	23	19	21	24	4	2	8	21	103	46	179	24	33																															709					
cgvt									0			0	1	45	3																																	457			
cosv	2	17	8	6	8	6	1	0	0	2	2	4	9	5	2																															301					
Trc																12	11	88	86	65	56	26	29																										372		
flab	19	100	24	30	27	35	6	12	25	27	123	58	132	261	80																																	964			
fcap	37	139	37	29	40	44	3	9	33	24	152	115	220	51	41																																1,003				
ent																																																	1,232		
hhd																																																1,844			
gov																																																	806		
atax	0	3	0	0	0	0	0	0	0	1	6	2	19	5	2																																39				
dtax																																																	284		
mtax																																																11			
stax																																																	158		
s-i																																																	340		
Dstk																																																	13		
Row																																																			594
Total	119	400	235	240	295	304	43	164	126	185	511	381	651	454	218	144	451	369	34																																

Table D3: A South African mini SAM for 2013 in Rbillion 2010 constant prices

	aagr	amin	afbt	almf	achm	amme	aemc	atre	aelg	acns	atra	atrp	afib	agvt	aosv	cagr	cmin	cfbt	clmf	cchm	cmme	cemc	ctre	celg	ccns	ctra	ctrp	cfib	cgvt	cosv	trc	flab	fcap	ent	hhd	gov	atax	dtax	mtax	stax	s-i	dstk	row	total					
aagr																178																														180			
amin																	377							10																									390
afbt																		251	1	1	0																												253
almf																		6	245	7	1	1	0																									260	
achm																		2	1	321	2	0	0					16																			342		
amme																		0	3	2	425	0	3					0	0																		432		
aemc																		0	0	0	1	61	0					0	0																		63		
atre																			1	2	3	0	160					0	0																		166		
aelg																				1	2	3	0	160				0	0																		139		
acns																								139																								139	
atra																								4	250				88																		342		
atrp																			0							661	0	42	12																		715		
afib																							9						12																		524		
agvt																										0	503	12																			1,102		
aosv																												1,100	2																		666		
cagr	5	0	62	19	1	0	0	0	0	0	0	0	0	0	0	2	0	0	5	5	0	0	0		25	41	20	38	1	180															666				
cmin	4	3	1	6	78	50	1	2	19	12	0	3		2	4																																315		
cfbt	10	1	52	1	3	0			0				6	4	7																															224			
clmf	4	4	11	98	10	11	0	7	1	8	52	11	41	9	13																														224				
cchm	34	21	11	18	106	25	3	5	4	21	24	76	25	14	11																														224				
cmme	16	39	3	10	6	199	20	49	7	119	16	13	24	14	16																														224				
cemc	0	4		1	0	6	16	12	8	21	4	6	7	25	15																														224				
ctre	4	6	1	1	0	1	0	49	0		17	25	5	18	10																														224				
celg	4	17	3	3	12	13	0	1	21	1	6	3	13	1	2																													224					
ccns	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0																														224				
ctra	0	0	0	0	0	0	0	0	0	1	3	9	10	1	1																														224				
ctrp	16	37	9	9	9	12	1	3	2	7	39	34	38	26	8																														224				
cfib	10	23	17	16	18	13	3	5	8	50	126	78	314	49	58																														224				
cgvt																																															224		
cosv	5	3	6	7	5	8	2	3	0	1	2	9	36	8	5																														224				
Trc																28	19	117	100	213	113	29	93																								224		
flab	21	96	48	48	46	61	11	23	19	45	164	74	239	390	95																															224			
fcap	46	133	30	23	47	31	3	7	50	55	236	171	318	56	61																														224				
ent																																															224		
hhd																																															224		
gov																																															224		
atax	0	2	1	1	0	1	0	0	0	1	7	3	24	5	3																														224				
dtax																																															224		
mtax																																														224			
stax																																															224		
s-i																																															224		
Dstk																																															224		
Row																																																224	
Total	180	390	253	260	342	432	63	166	139	342	715	524	1,102	666	315	224	475	480	461	739	789	195	409	160	283	735	577	1,366	669	236	711	1,388	1																