Decentralised implementation of the 1993 system of national accounts: South Africa's experience

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The main theme of the article is the role that co-operation between the South African Reserve Bank (SARB) and Statistics South Africa (Stats SA) has played in the past and continues to play in the development of national accounts in South Africa. The article shows how this co-operation has evolved over a lengthy period in which national accounts were developed in the country and further adapted as new policy-analysis needs arose, while making optimal use of the expertise available in each of the two institutions. Finally it explains how the 1993 System of National Accounts (SNA), which is being implemented conceptually both at the SARB and Stats SA, is again changing the parameters of the co-operation. In particular, the introduction by Stats SA of a Supply and Use Table (SUT), which establishes detailed data links between gross domestic product (GDP) by economic activities and expenditures, requires that the distribution of data responsibilities between the two institutions should be reviewed again. Taking this into account and using the elements of a discussion held in 1999 between the two institutions, the article concludes with a proposal for a further adaptation of the SNA data co-operation arrangements.

Shared responsibilities by the South African Reserve Bank and Statistics South Africa

The national accounts in South Africa have a long history, dating back for some of the time series to 1910, though most of the time series are available from 1946 onwards. The SARB and Stats SA have also divided the work on the national accounts uniquely between them.

From 1946/47 the SARB, along with Stats SA, assumed a major responsibility for the compilation of South Africa's national accounts. However, there was always a clear distinction between the areas concentrated on by the SARB and Stats SA. The SARB is mainly responsible for the bulk of the quarterly estimates, whereas Stats SA is mainly responsible for the annual estimates and the quarterly estimates of GDP by kind of economic activity. This division of responsibilities is essentially similar to the practice in some of the large statistical offices abroad, where different divisions concentrate "independently" on the compilation of the quarterly and annual estimates of the national accounts. The SARB focuses on short-term estimates and on reconciling the core accounts on a quarterly basis because of the need, from a monetary policy point of view, to have access as soon as possible to data on short-term changes in real economic activities. The SARB does this mainly through the expenditure approach and compares the results with the quarterly estimates of GDP that Stats SA compiles by using the production and income approaches. Stats SA publishes these estimates of gross domestic product approximately sixty days after the end of the quarter and they represent the country's official GDP estimates.

Furthermore, in addition to the quarterly GDP estimates by kind of economic activity (by industry), Stats SA concentrated on historical input-output tables, social accounting matrices and regional GDP estimates at current prices. In accordance with the latest developments in national accounting, Stats SA has undertaken to compile the SUTs on an annual basis.

The National Department of Agriculture has also been a major player in the field of the national accounts. The department is mainly responsible for annual and quarterly

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estimates of the components of value added by the agricultural sector at current and constant prices. The National Department of Agriculture also assists Stats SA with the compilation of an input-output analysis for the agricultural sector, and aids the Bank in the calculation of household expenditure on food, beverages and tobacco by estimating the expenditure on these aggregates on a quarterly basis at current and constant prices.

In addition to national accounts, the Bank is also responsible for the compilation of the balance-of-payments statistics, consisting of the current account, the capital account, the financial account and the international investment position. This task was officially given to the Bank in 1956 in accordance with *Government Notices* 702 and 703 of that year. The Balance of Payments Division of the Research Department is in charge of the compilation of these accounts. In June 1999, revised estimates of South Africa's balance-of-payments statistics were published, to comply with the fifth edition of the International Monetary Fund's (IMF's) *Balance of Payments Manual* (BOPM5) issued in September 1993. In addition, a section of the Capital Market Division of the Research Department is also responsible for the national financial accounts. These accounts are available on an annual basis from 1971, whereas the quarterly accounts from 1992 onwards were published for the first time in a supplement to the *Quarterly Bulletin* of the SARB in December 1994. In terms of government statistics, the National Accounts Division draws information from the Public Finance Division in the Research Department. This division is responsible for the compilation of information about the income, expenditure, financing and debt of the non-financial public sector according to the guidelines of the IMF, as contained in *A Manual on Government Finance Statistics.*

Although this practice of shared responsibilities in the compilation of the national accounts is unique compared with international practices, it has served South Africa well over the past 50 years. South Africa's national accounts and the database supporting them are well established and certainly represent one of the most comprehensive systems in sub-Saharan Africa. Annual data for all the major aggregates (see list on pages 6 and 7) are available from 1946, though quarterly data series (with a lag of one quarter) are available from 1960.

Co-operation between the SARB and Stats SA in the compilation of the national accounts has been a great success in the past and will continue to have great value in the future. The success lies in teamwork towards a common goal, though both institutions have to acknowledge each other's independence, as well as a degree of interdependence, to ensure the reliability of the figures produced. Although certain problems may arise on account of this divided responsibility, there is the major advantage of a wider resource pool of economists and statisticians and the opportunity for cross-checking, since officials with different backgrounds in the two institutions work towards the timely production of reliable national accounts statistics, in accordance with international best practices.

The national accounts economists of the SARB have easy access to the detailed changes in the balance-of-payments statistics, government finance results, labour and price movements (including the exchange rate and international commodity prices) and a comprehensive short-term database for financial institutions as well as the short-term changes in the money and capital markets. This access helps considerably in assessing the basic data and estimating changes in the real economy on a quarterly basis. Likewise, Stats SA has the advantage of more direct contact with respondents, the details of unpublished survey results, early access to survey results and the fact that its long-term orientation enables it to include more comprehensive short-term surveys and census results when finalising the estimates of various aggregates on an annual basis.

The present division of work between the SARB and Stats SA on the national accounts, as described above, is summarised in the following table:

Table 1: The persent co-ordination of the compilation of South Africa's national accounts between the SARB and Stats SA

SNA segments		Institutional sectors					Integration
		FC	NFC	HH	GOV	ROW	
GDP by industries		SARB	Stats SA	Stats SA	SARB	SARB	Stats SA
IEA*	Income and use of income accounts	SARB	SARB	SARB	SARB	SARB	SARB
	Capital and financial accounts	SARB	SARB	SARB	SARB	SARB	SARB

* Integrated Economic Accounts

The columns in the table refer to the sectors and the rows to the accounting segments of the SNA that are currently included in South Africa's national accounts, namely gross value added by industries, the income and use of income accounts, and the capital and financial accounts. The columns include the five institutional sectors of South Africa's national accounts, namely the Financial Corporate Sector (FC), the Non-financial Corporate Sector (NFC), the Household Sector (HH), which includes the sector Non-profit Institutions Serving Households (NPISHs), the General Government (GOV) and the Rest of the World (ROW). The cells indicate which parts of the national accounts system the SARB and Stats SA respectively compile at present.

Stats SA is responsible for the basic data supporting the compilation of gross value added of industries belonging to the household and non-financial corporate sectors. In the case of the gross value added by industries, the emphasis has shifted towards the production approach although estimates of the income components, namely compensation of employees and operating surpluses, are also calculated. The last column shows that Stats SA integrates the data into final estimates of GDP.

The SARB compiles almost all the data on the financial corporate sector, the general government sector and the rest of the world. In addition, it also develops the income, use of income, capital and financial accounts of the household sector and the non-financial corporate sector. Within the context of these accounts, the SARB also compiles data on all final demand components, i.e. final consumption expenditure by households and the general government, gross fixed-capital formation, change in inventories, and exports and imports. The income and use of income accounts are linked to a flow-of-funds analysis for the institutional sectors, also done by the SARB.

In addition, the SARB is responsible for the integration of the accounts across institutional sectors, as is reflected in two of the three segments of the last column.

The two approaches to GDP by Stats SA from the production side and by the SARB from the expenditure side have not yet been fully integrated. GDP estimated from the production side by Stats SA is on average about 0,5 per cent lower than GDP by expenditure as estimated by the SARB. The main reason for the difference may partly be the informal-sector activities that are reflected in the SARB estimate of household consumption, but underestimated in the Stats SA estimates of GDP activities. By contrast, the SARB estimate does not account for final consumption by NPISHs, but the Stats SA estimate of GDP by activities does cover to a large extent the value added by NPISHs.

The way that the co-operation between the SARB and Stats SA on national accounts evolved, is presented in the next section in a historical perspective, up to the time when the two institutions adopted the 1993 SNA.

Historical development of South Africa’s national accounts

The development of the national accounts in South Africa dates back to the 1920s when estimates by R A Lehfelt of South Africa's national income for 1917/18 and 1922/23 were published in 1922 and 1925, respectively. With these estimates South Africa became, in those years, one of the first few countries to produce national income estimates.

In the late 1930s these estimates were followed by new calculations and the classification of the national income by C G W Schumann according to kind of economic activity for selected years from 1910/11 to 1934/35. In addition, S H Frankel in the early 1940s produced estimates of GDP for 1910/11 and from 1917/18 to 1945/46. His work also includes estimates of gross investment from 1922/23 to 1945/46. However, it was not until 1946/47 that the former Bureau of Census and Statistics (at present Stats SA) started making official estimates of South Africa's Domestic Product and National Income.[2]

2 Domestic product less factor income paid abroad, plus factor income received from abroad equals national income.

The National Income and Domestic Product concepts used in the first publications of national accounts were partly a development phenomenon related to the establishment of the national accounts during the 1940s and 1950s in many African countries. Some of the African countries that have developed national accounts after World War II, use the National Income and others the Domestic Product concepts. The first official national accounts estimates of South Africa adhere in principle to the National Income concepts. For measuring the concept of National Income, South Africa and a few other African countries made separate estimates of the aggregate earnings of migrant labour. These estimates showed migrants’ earnings as a payment to the rest of the world, and their purchases within the country were treated as exports.

Shortly after these developments the SARB, in the implementation of monetary policies, used the Bureau of Census and Statistics' estimates of GDP and its own expenditure estimates to establish a set of annual national accounts. These estimates, from 1946 onwards, were published for the first time in the December 1951 *Quarterly Bulletin of Statistics* of the SARB. This set of accounts, "The Union's National Accounts", compiled on the basis of a calendar year, compares with the Net National Income estimates produced by the Bureau of Census and Statistics for the twelve months ended 30 June. Five types of accounts were included, all based in principle on the standard system of national accounts of the Statistical Office of the United Nations, called *A System of National Accounts and Supporting Tables, Studies in Methods*, Series F, No 2 published in 1953 and generally referred to as the 1953 SNA.

The tables also included additional data breakdowns for private final consumption by durable and non-durable goods and gross fixed-capital formation by type of capital goods, which were introduced into South Africa's national accounts in the 1950s and 1960s.

"The Union's National Accounts" included the following tables:
- Gross national product
- National income and expenditure
- Private income and expenditure
- Consolidated current account of public authorities
- Net savings and investment

The national accounts were instrumental in identifying the effects of the abnormal conditions that characterised the post-war phase of the economic cycle in South Africa for the period 1946-1950. Though income and expenditure aggregates showed a pronounced upward trend throughout this period, substantial shifts occurred in constituent items such as consumption expenditure by households, private saving and foreign investment.

Two main factors account for the marked changes in the composition of the income and expenditure aggregates between 1946 and 1950. As a result of the enforced curtailment of consumers' expenditure and outlays on capital formation for non-war purposes during World War II, the war ended with a substantial backlog of demand for consumer goods. The pent-up demand for imported durable consumer goods and depleted industrial and commercial inventories was particularly strong. In addition, there was an unprecedented range of investment opportunities in the mining sector, construction, manufacturing, transport services, electricity and communication facilities, and agricultural development. These developments led to a sharp increase in the real outlays by South African residents on consumption and capital equipment. The influence of these expansionary forces predominated up to the end of 1948 and contributed to a steady deterioration in private saving and South Africa's balance-of-payments position.

Towards the end of 1948 the authorities decided to address these problems by introducing measures such as import controls, which curbed the expansion of outlays on consumer goods and at the same time increased personal saving. The higher level of personal saving, in turn, offset the effect of the decline in foreign saving inflows (i.e. the balance on the current account) between 1949 and 1950. The net result of these developments was that the high level of fixed-capital formation of more than 20 per cent of GDP could be maintained, despite the paucity of foreign funds.

Following the greater demand by the monetary and fiscal institutions for policy formulation and by private-sector analysts for more up-to-date information about domestic economic developments, the SARB began the development of national accounts estimates from the expenditure side on a quarterly basis in the early 1960s. After extensive research on and development of these aggregates, the SARB published the national accounts for South Africa on a quarterly basis in the

March 1971 issue of the *Quarterly Bulletin*. The SARB was similarly also responsible for calculating the quarterly estimates of the GDP at factor cost by kind of economic activity for the period 1960 to 1968. From the first quarter of 1969, the former Department of Statistics (at present Stats SA) took over this task.

In addition to these developments, the national accounts statistics were revised further in order to align the compilation and classification of the figures with the revised standard international principles given in the United Nations' "new" manual *A System of National Accounts, Studies in Methods,* Series F, No 2, Rev. 3 New York, 1968, generally referred to as the 1968 SNA. These adjustments were made at the beginning of 1971.

Around the same time, the national accounts data were adjusted to exclude the data relating to Botswana, Lesotho and Swaziland from the national accounts of South Africa. Nearly twenty years later the independence of the Republic of Namibia in 1990 again necessitated major adjustments to South Africa's national accounts. The exclusion of Namibia from the national accounts statistics means that the accounts now consist of production, expenditure and saving accounts for the Republic of South Africa, including the former self-governing states, and the former Republics of Transkei, Bophuthatswana, Venda and Ciskei. In fact, these territories had always been included in the national accounts estimates of South Africa. After the exclusion of Namibia, all historical national accounts data were revised accordingly, so that comparable time series were available.

The exclusion of Namibia from the aggregate national accounts estimates produced somewhat lower absolute values for virtually all major components of income, expenditure and saving. However, the cyclical trends in the major national accounts aggregates on an annual basis were not affected to any significant degree by the exclusions.

Estimates of the various macroeconomic aggregates of Namibia, relative to the size of these aggregates in South Africa, ranged from a maximum of nearly 5 per cent in respect of real consumption expenditure by general government to not more than 4 per cent in respect of real gross capital formation, 3 per cent in respect of real GDP and only 2 per cent in the case of final consumption expenditure by households.

After a process of evaluation, revision and development, the following tables comprising data in current prices, constant prices and seasonally adjusted time series, are currently published in the *Quarterly Bulletin* of the SARB:
- National income and production accounts of South Africa
- Gross value added by kind of economic activity
- Expenditure on GDP
- Final consumption expenditure by households
- Final consumption expenditure by households according to purpose
- Gross fixed-capital formation
- Fixed-capital stock
- Change in inventories
- Gross and net capital formation by type of organisation
- Financing of gross capital formation
- National disposable income, saving and net borrowing
- National income and saving
- Account with the rest of the world

- Current income and expenditure of incorporated business enterprises
- Current income and expenditure of households
- Current income and expenditure of general government

In the June 1999 *Quarterly Bulletin* of the SARB, these tables were adjusted to accommodate the suggestions of the 1993 SNA. A preliminary set of integrated economic accounts was also developed and published in a Supplement to the June 1999 *Quarterly Bulletin* of the SARB. Although South Africa's national accounts are generally consistent with the principal guidelines and recommendations contained in the 1993 SNA, there are a number of areas where South Africa's national accounts do not fully adhere to the SNA specifications.[3] In general, differences are encountered where data limitations prevent the SNA recommendations from being adopted or where an alternative treatment is deemed more appropriate to South African circumstances. In addition, the degree of disaggregation or, in some cases, aggregation, of sectors or activities corresponds with particular economic and statistical realities.

3 For a more detailed discussion, see South Africa's national accounts 1946-1998. An overview of sources and methods, Supplement to the South African Reserve Bank's Quarterly Bulletin, *June 1999, Pretoria.*

The implementation of the 1993 System of National Accounts

The implementation of the 1993 SNA in South Africa has impacted in two ways on the co-operation between Stats SA and the SARB in the area of the national accounts. One is that Stats SA has started work on a detailed Supply and Use Table (SUT) and has therefore integrated into its work the link between GDP estimates by activities and expenditures, which had until that time been split between the work programmes of the two institutions. As a consequence, co-operation between the two institutions is shifting from their independent compilation of GDP by activities and expenditures, to the compilation of the SUT by Stats SA and the Integrated Economic Accounts (IEA) by the SARB. As the SUT and IEA compilations interact with each other in a more detailed manner than the previous GDP compilation by activities and expenditures, the second effect has been a more urgent need for the co-ordination of concepts between the two institutions.

This need was highlighted in a discussion in March 1999,[4] in which the SARB and Stats SA agreed on adjustments to the SNA concepts used by the South African institutions, to meet the requirements of the 1993 SNA. The following are examples of the adjustments to the concepts and classifications that were adopted and that have an impact not only on the product and production analysis of the SUT managed by Stats SA, but also on the income and expenditure analysis of the IEA carried out by the SARB. Most of these follow the 1993 SNA recommendations, but in a few instances deviations from the 1993 SNA recommendations were adopted, mainly owing to data limitations. The most important decisions taken are as follows:

4 The above material is based on a report of a mission to South Africa by Jan W van Tongeren from 20-24 March 1999, unpublished document, Statistics Division, United Nations, New York.

- The 1993 SNA value concepts were adopted, notably the valuation of value added at basic prices and, in line with that, taxes and subsidies on production and imports were split between taxes/subsidies on production and products.

- Introduced into the accounts were the concepts of final consumption expenditure and actual consumption, including the related concepts of individual and collective consumption.

- The treatment of expenditure on selected durable goods for defence purposes as gross fixed-capital formation was adopted.

- The calculation of consumption of fixed capital for structures such as roads, dams and bridges was introduced into the accounts.

- The concepts of fixed assets and gross fixed-capital formation were broadened in the 1993 SNA to include selected intangible assets, namely mineral exploration, computer software and original artistic and literary works. The South African national accounts had already capitalised mineral exploration cost in past practices. However, the extension of the concepts to the other categories was not possible, owing to the lack of basic data. Furthermore, the asset category of valuables and the associated category of capital formation will currently not be applied in South Africa.

- The calculation of the output of insurance companies was revised to be in keeping with the definitional changes according to the 1993 SNA. However, for life assurance and pension funds, the SARB would continue to treat net premiums and benefit payments as saving and dissaving, and to reflect those in the changes in net equity in the financial account of households and financial corporations. For the time being, the SARB has not implemented the 1993 SNA treatment of also showing the net premiums and payments as social transfers and including an adjustment item in the use of (adjusted) disposable income account(s).

- The output of Financial Intermediation Services Indirectly Measured (FISIM) will be imputed and allocated to users, in line with the 1993 SNA recommendations. However, it was decided that FISIM should only be calculated for deposit-taking institutions, namely banks, and distributed on the basis of a reference rate. The output of these banks would be the sum of FISIM plus explicit service charges. FISIM would not be calculated for the central bank and development banks, as these banks are not regarded as purely financial intermediaries. Their output is equal to cost and any explicit charges are assumed to be included in the output thus measured. The explicit charges are to be separately allocated to the appropriate sectors and industries, and the remaining output – i.e. total output at cost minus explicit charges – will be allocated to government in the case of the central bank, and to the financial corporate sector in the case of other banks. The latter allocation will avoid the inclusion of a nominal industry. It was also agreed that FISIM would not be applied to microlenders, which generally charge extremely high interest rates and operate mainly by using their own funds accumulated from such charges. Instead, output would be calculated at cost, including a normal profit mark-up. This treatment would allocate most of the high-interest payments to net interest in the allocation of the primary income account, so that the high-interest rates would be reflected in the balance of primary income, not in output and value added.

- With regard to medical insurance, it was agreed, in line with 1993 SNA recommendations, that the final consumption of households should include two groups of expenditure. The first group comprises all expenditures on medicines, doctor’s visits and hospital treatment, which are channelled to household final consumption by imputing social transfers for reimbursements or direct payments by the medical insurance schemes. The second component is the service charges of the medical insurance, which are added to medical expenditures as insurance schemes facilitate households' payments of medical cost by redistributing them among households.

- Some extra-budgetary institutions of general government (unincorporated enterprises) increasingly tend to make explicit charges for their services; they are progressively becoming market producers. This will be reflected in the future accounts, by shifting some of these institutions to the corporate sector as quasi-corporations. Examples of these types of institutions are government research organisations, the South African Bureau of Standards, and government armament corporations. The same treatment will not be accorded to universities, which until now have been included in the household sector. As this treatment affects the analysis of the household sector, it was decided they would be reallocated to the government sector. This classification was deemed appropriate, as universities cannot be treated as market producers, even though they do sell some of their services by charging tuition fees to students. However, most of them receive the bulk of their income from government.

- It was decided that the SNA recommendations regarding output in agriculture based on the growth of agricultural crops would not be implemented, even though this may result in distortions, when distributing agricultural output over the years and establishing a relation between agricultural output and cost. The SNA recommendations were found difficult to implement, because early estimates of production of agricultural output based on growth estimates are highly inaccurate. If implemented, the SNA recommendations would require frequent revisions of the value added by agriculture, which would be confusing and inconvenient. However, the growth of trees could be used to calculate forestry output in each year, as forestry growth is a much longer-term and smoother growth process. Consequently it was decided that expert knowledge of forestry should be used to determine the annual growth curve of a tree in terms of the volume of timber, and based on that, to distribute over the years such growth in physical terms. Accordingly, changes in inventories would reflect the growth of trees, but not the growth of agricultural crops.

- In the compilation of the supply and use tables by Stats SA, it was decided that the trade and transport margins should be jointly distributed to the products on which they are levied. This implies that transport services for goods would be allocated to the intermediate consumption of the trade industry, which would increase the output of that industry by the same amount. The total output of trade therefore corresponds to the combined trade and transport margin, which is to be distributed to products.

In addition to conceptual changes, the 1993 SNA revision was also an opportunity to revise the national accounts compilation practices used in South Africa's national accounts. These were mainly new benchmark revisions and a rebasing of figures from 1990 to 1995 in terms of the constant price estimates. Most of these revisions were carried out during 1998 and the first half of 1999, and then officially published in the respective reports of Stats SA and the SARB. In addition, the scope of the national accounts has been widened to accommodate specific areas emphasised by the 1993 SNA, notably regular SUTs and IEAs disaggregated by institutional sectors.

In the *Quarterly Bulletin* of the SARB the original national accounts were adapted to the revised concepts and terminology of the 1993 SNA. Likewise Stats SA accommodated similar changes, where relevant, in its estimates.

The implementation of the 1993 SNA recommendations as described above brought about an upward adjustment of about 2 per cent in the level of South Africa's GDP in the base year, 1995. This was broadly in keeping with the experience of other countries that apply the 1993 SNA recommendations, where the range of adjustments varies between an increase of 2 to 4 per cent, compared with the former estimates.

Proposed restructuring of the division of work between the South African Rerserve Bank and Statistics South Africa

The introduction of the SUT by Stats SA and the adaptation of SNA concepts used in the national accounts of South Africa may require a review of the co-ordination arrangements between the two institutions. A proposal appears below, indicating how the division of work could be changed, taking into account the data sources that each institution manages, the priorities of policy analysis in each of the institutions, and the corresponding specialisations available in each.

The proposed restructuring of the division of work is schematically represented in Table 2, which is a revised version of the present division of work shown in Table 1. The proposed changes are indicated in the table by shading the segments of the SNA that might be added in future compilations or might be redistributed between the SARB and Stats SA. Each of these proposed changes is briefly reviewed in the following paragraphs.

Table 2: Proposed division of work between the SARB and Stats SA regarding future SNA implementation activities

SNA segments		Institutional sectors						Integration
		FC	GOV	ROW	NFC	NPISH	HH	
SUT		SARB	SARB	SARB	Stats SA	Stats SA	Stats SA	Stats SA
CCIS		SARB	SARB	SARB	Stats SA	Stats SA	Stats SA	Stats SA
IEA*	Income and use of income accounts	SARB	SARB	SARB	Stats SA	Stats SA	Stats SA	SARB
	Capital and financial accounts	SARB	SARB	SARB	Stats SA			SARB
	Balance sheets	SARB	SARB	SARB	Stats SA			SARB

* Integrated Economic Accounts

The "independent" compilation of GDP, which is done separately by the SARB for the expenditure aggregates and by Stats SA for the production and income components, may be combined in the compilation of a SUT in which output information is compared with expenditure data at the product level. The benefit of such a development, which is already in use, would be the elimination of the present statistical discrepancies between the GDP compiled from the expenditure side by the SARB, and the GDP by industries based on the production approach presented by Stats SA. At present these estimates are compared at the aggregate level and are not fully reconciled, as mentioned above.

A further integration may be needed between the industry and sector data through the Cross-Classification by Industries and Sectors (CCIS) of production and value-added data. This would require in particular a breakdown of production by industries between the NFC and HH sectors. Key elements are available for such a breakdown, as the SARB already distributes operating surpluses between sectors. In addition, data is available about the NFCs' main activities, which consist of data that could be compared with the establishment data also classified by activities.

Independent and integrated compilations of NFC, HH and NPISH accounts may be initiated in future. The integrated accounts of NFCs would establish an important link between production analysis and financial analysis, as the NFC sector is a large contributor to production and at the same time may be important as the sector that attracts investment, including foreign direct investments. Likewise, the independent compilation of the household sector would facilitate analysis by household subsectors and provide a link between economic and social analysis. In addition, the compilation of the NPISH sector would be a necessary supplement to developing independent household-sector accounts, which would free this sector of the non-profit institution elements that are traditionally included in it. The household sector and NPISH accounts might only be compiled up to saving, because capital, financial accounts and balance sheets may be more difficult to compile on the basis of the existing data sources. This would deviate from the present practice of compiling some of the components of the household financial account residually – this is an option that would no longer be available when household and NPISH sectors are distinguished separately.[5]

5 South Africa was recently included in a project initiated by the Institute for Policy Studies at the Johns Hopkins University regarding the identification of and reporting on non-profit institutions (NPIs). The compilation of a Handbook on Non-Profit Institutions, which is done in co-operation with the United Nations Statistics Division, is also in an advanced stage. These developments may place new emphasis on the importance, for policy analysis, of separating NPIs from the statistical reporting of the institutional sectors.

Balance sheets can currently be derived for at least two sectors, namely NFC and FC, and "financial balance sheet data (excluding stocks of non-financial assets)" can be derived for the government and the external sector. Consequently, it is suggested that the compilation should be extended to balance sheets for those sectors. Even though the "milestone guidelines" of the Inter-Secretariat Working Group only accorded a last priority to balance sheets, the SARB may consider this extension because its financial analysis is not only focused on changes in financial assets and liabilities, but also includes their stocks, for example external debt, government debt and money supply.

Another valuable extension, also related to the SARB analyses, would be to consider making explicit the price data used in the compilation of the national accounts. These would be data on the wage rates used in converting or comparing employment data with data on the compensation of employees and also the price indices used to arrive at flows in constant prices. As "price" data are used jointly with national accounts data in macroeconomic analyses, it would be useful if analysts and researchers were more explicitly aware of the implicit "price" information of the national accounts.

Instead of the present functional division of work, the compilation activities might be split up along sectoral lines. Stats SA might be responsible for the integrated sector accounts of NFC, HH and NPISH, and the SARB might concentrate on the sector accounts of GOV, FC and the external sector. Furthermore, Stats SA might deal with the reconciliation of product balances and the conversion of industry data to sectors in the framework of the CCIS, and the SARB might reconcile the integrated accounts across sectors. As it would be difficult, given the current status of data available, to compile capital and financial accounts and balance sheets for households and NPISH sectors, the reconciliation by the SARB across sectors for these accounts might only be done for NFC, FC, GOV and the external sector.

However, it would be no easy task to accomplish the "paradigm" shift needed for the proposed restructuring of the compilation of the national accounts and the refinement of the division of work between the SARB and Stats SA. Furthermore, the aim should be to establish competent structures to compile the national accounts of the country on a comprehensive, reliable and internationally competitive basis. As these changes, if fully implemented, would require highly-skilled human resources in conjunction with the expansion and improvement of existing data sources, the implementation should be evolutionary and pragmatic.

From a more practical point of view, the way forward might be to develop and refine the relevant components falling naturally inside the operational boundaries of the two institutions, or those that could easily be transferred between the two organisations by mutual agreement. It should be possible to bridge the gap along these lines between the existing structures and procedures, and restructure comprehensively the responsibilities described above.

A first step might be for Stats SA to concentrate on the compilation of annual supply and use tables. The demand-side components would be done in collaboration with the SARB. This would ensure that the components could be compared at a more detailed and lower level, which would enhance the consistency of the accounts. In addition, Stats SA, in close co-operation with the SARB, could consider the further integration of the industry and sector data through the CCIS of the production and value-added data. Any analyses that would require the development of Social Accounting Matrices (SAMs) and Satellite Accounts while remaining the responsibility of Stats SA, should be done in close co-operation with the SARB, as the SAMs include institutional sector data.

During the implementation of the 1993 SNA the SARB took the initiative of compiling the IEA for four institutional sectors, namely households, the government, financial corporations and non-financial corporations. Currently the SARB compiles these accounts on an annual basis, up to and including the capital account. The compilation and integration of these accounts should be further developed by the SARB, including the possible incorporation of balance sheets, as previously discussed. However, on account of the current lack of data sources, the suggested split between the activities of the household sector and NPISH is unlikely to be implemented in the near future (see Footnote 5).

In the compilation of the quarterly accounts, Stats SA and the SARB might co-operate more closely in making the estimates for the GDP from the production side and the expenditure estimates, as the SARB has a well-developed infrastructure for dealing with quarterly estimates. In addition, the SARB might consider the possibility of developing, on an aggregated level, a quarterly supply and use table to improve the consistency checks for the quarterly estimates. The disaggregation of the components of the demand side should remain the responsibility of the SARB as this information is currently published in the *Quarterly Bulletin* of the SARB.

Summary and concluding remarks

South Africa's official national accounts, developed since the early 1940s, currently consist of a comprehensive framework of accounts at current and constant prices, which fully comply with the Special Data Dissemination Standard (SDDS) of the IMF. In addition, the recent revisions took into account the implementation of important recommendations contained in the 1993 SNA. These adjustments also provided a platform for improving the detail and accuracy of estimates and widening the scope of the accounts. Some of the important areas identified for further development and research are to integrate fully the compilation of supply and use matrices with the estimates of GDP by activity and by expenditure; to refine the cross-classification of institutional sectors by industries; to expand the details and scope of the IEA and to improve the relationship between the annual and quarterly estimates. It would certainly be an improvement if the compilation of the quarterly national accounts were closely co-ordinated with the annual accounts, so that when the annual estimates become available, the quarterly estimates could be revised accordingly.

Finally, the present co-operative arrangements between Stats SA and the SARB regarding the compilation of the national accounts are interesting, as they may be used as a model for the member states of the Southern African Development Community and other countries where such a division of work exists or is needed. It is quite possible that the need for such an inter-institutional division of work may increase in future, given the comprehensiveness of the SNA and the global demand for timely, reliable and comprehensive macroeconomic statistics. Therefore, in order to make progress with implementing the scope and details of the SNA in future, more resources and also the expertise of different disciplines and institutions may be required. These kinds of developments could only be successful with results that would meet the highest standards if there were the type of inter-institutional co-operation currently existing between the SARB and Stats SA in South Africa.

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