

Monetary policy and the measurement of inflation: prices, wages and expectations – a South African perspective

South African Reserve Bank

1. Introduction

The successful conduct of monetary policy in any country is subject to the availability of appropriate and sound measures of inflation, be it in producer prices, the prices of consumer goods and services, labour costs, or asset prices. In recent years, South Africa has made significant progress in the improvement of measurement practices related to the compilation of these inflation indicators. Over and above the aforementioned advances made in the measurement of inflation, expectation surveys concerning various aspects of the domestic economy have also become part and parcel of the suite of economic indicators available to policymakers.

Not only has the South African economy progressed from having political and economic sanctions imposed on it during much of the 1980s and early 1990s due to its undesirable political dispensation at the time, but the country has also adopted far-reaching changes in the way it conducts monetary policy, among other things. In February 2000, the so-called eclectic approach to monetary policy formulation made way for the adoption of an inflation targeting monetary policy framework. The adoption of this framework necessitated the development of a suite of inflation forecasting models by the South African Reserve Bank (the Bank), supplemented by information obtained from an Inflation Expectations Survey commissioned by the Bank.

In terms of methodological improvements that were made in the measurement of price change in the economy in recent years, the abandoning of the postal survey method for the compilation of the consumer price index in favour of a direct price collection approach, as propagated in the ILO Prices Manual, has brought price collection procedures in South Africa in line with international best practice. The application of the direct price collection method was rolled out to all metropolitan areas during 2005. Furthermore, the classification system for the Consumer Price Index (CPI) sub-indices was changed from the International Trade Classification (ITC) approach to the Classification of Individual Consumption by Purpose (COICOP) in January 2009, which is the preferred classification internationally.

Labour market statistics collection has also improved considerably during the past couple of years. The coverage of an enterprise-based employment statistics publication, the *Quarterly Employment Statistics* survey, has been expanded meaningfully during recent years. The household-based *Labour Force Survey* has been re-engineered, and changed from a semiannual survey to a quarterly survey from August 2008.

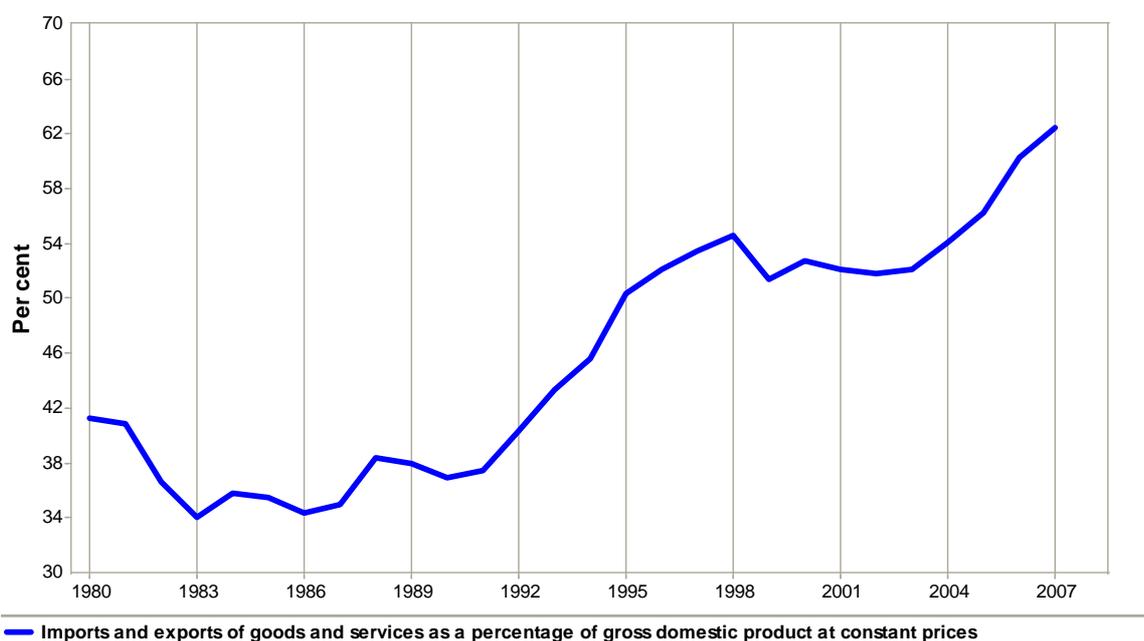
This paper provides information on structural changes in the economy and their impact on inflation measurement and outcomes. It also addresses measurement of wage changes in the economy, with supplementary comments regarding real wage growth and unit labour cost developments in the economy. Monetary policy challenges imposed by factors such as productivity changes and terms-of-trade shocks are discussed. The CPI is analysed as an expenditure-based price indicator, with specific reference to the distinction between core and headline measures of price change, the assessment of inflation persistence, administered prices, the compilation and coverage of the new 2009 CPI, and possible effects on the measured level of consumer price change. The interaction between price developments, inflation expectations and wage settlement rates is discussed, supplemented by a description of practices the Bank is pursuing to improve its communication channels to various constituencies in the economy in an effort to enhance transparency and influence inflation expectations. The paper concludes with an explanation of measurement biases in the CPI and steps taken by Statistics South Africa (Stats SA) in dealing with these biases.

2. Structural changes in the South African economy

The transition of the South African economy from being relatively closed to relatively open (the openness indicator being the sum of imports and exports of goods and services expressed as a percentage of gross domestic product, as shown in graph 1) resulted primarily from the implementation of a process of trade liberalisation that took place during the 1990s and into the new millennium. The degree of openness hovered around 37% on average during the 1980s, picking up to 54.6% in 1998. After remaining roughly at this level for the next couple of years, the degree of openness of the South African economy increased meaningfully during the period 2005–2007 alongside rapid advances in world growth. At 63.0% in 2007, the degree of openness of the South African economy was almost double that in the 1980s.

Graph 1

Openness indicator of the South African economy



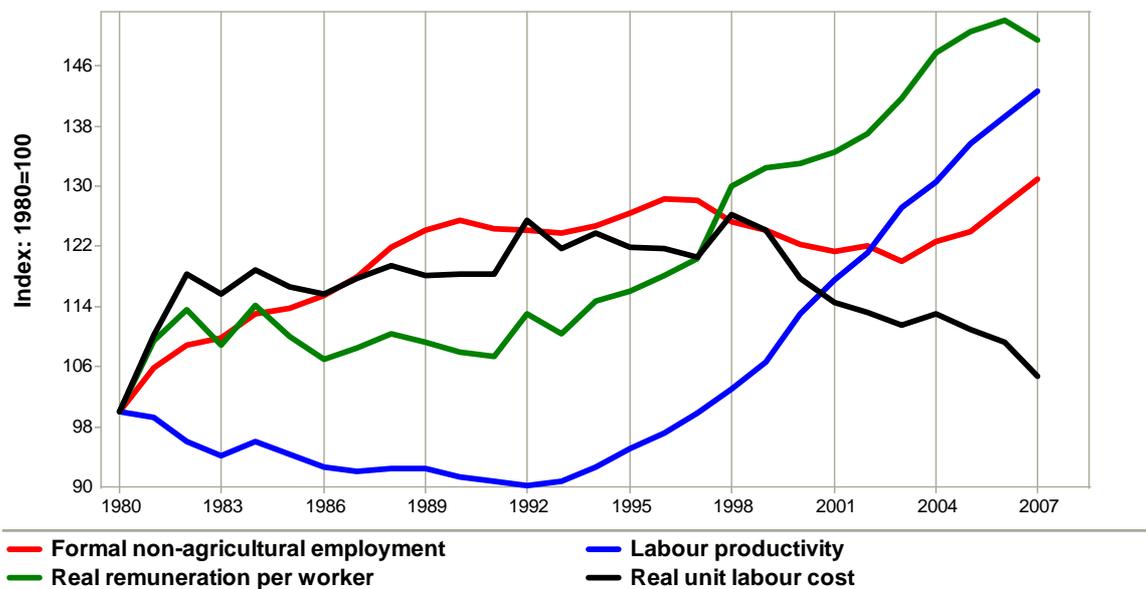
As a consequence of the higher degree of openness of the economy in recent years, the economy has also become more vulnerable to the international business cycle, with associated terms-of-trade shocks occurring from time to time. Accurate measurement of inflation statistics under such circumstances poses a real challenge to statistical agencies, as the exercise to change the weights and composition of price index baskets should preferably be synchronised with structural changes taking place in the real economy.

This process of trade liberalisation, as already mentioned, initially produced in substantial employment losses in various sectors in the economy. Consequently, the measured level of productivity growth, ie production increases per worker, advanced at a rapid pace from the latter half of the 1990s up to around 2003 at rates generally in excess of 5%, as jobs were shed. However, official labour market statistics overaccentuated the decline in employment during that period, as employment migration generally took place from the formal and well-surveyed sectors of the economy to the informal and less accurately surveyed sectors. As a consequence, labour productivity growth rates, ie increases in production per worker, incorporated some upward bias since employment losses may have been overstated to some extent. Despite these biases, rapid labour productivity growth suppressed nominal unit labour cost increases, affording a steady rise in real remuneration increases for people who were gainfully employed. This structural rise in the level of real remuneration had a direct bearing on inflation dynamics in the economy, pushing real disposable income levels higher.

As graph 2 shows, a structural downward drift in real unit labour cost started from 1999 alongside further advances in labour productivity. Since 2004, labour productivity advances have no longer been made at the expense of job losses, but were made possible by production increases in excess of employment growth.

Graph 2

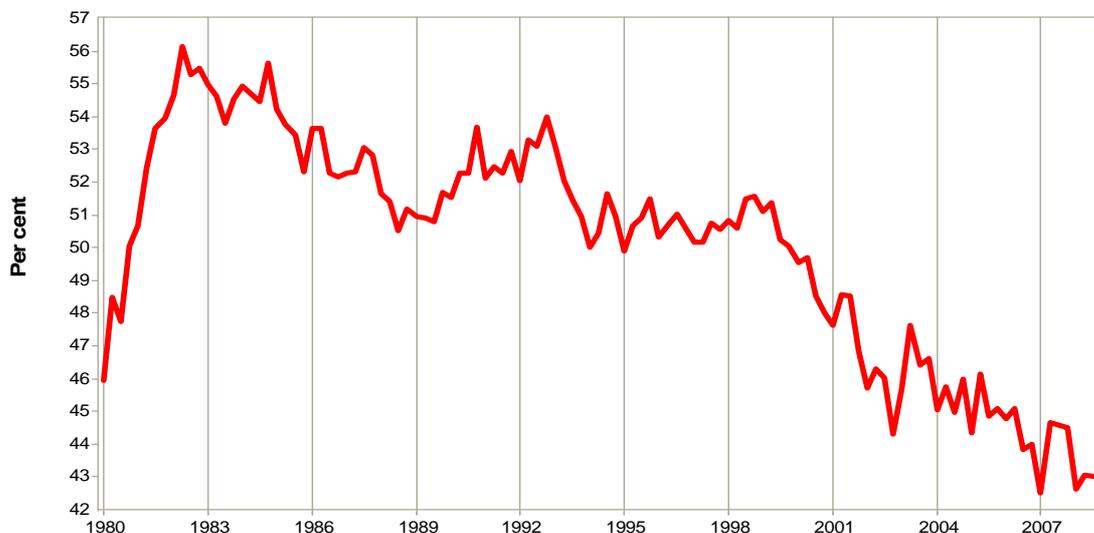
Formal non-agricultural employment, labour productivity, real wage growth and real unit labour cost



The structural downward drift in real unit labour cost since 2000 was assisted by the fact that the nominal compensation of employees as a share of gross national income dropped substantially from 1999, from a share of 51.6% in the fourth quarter of 1998 to 41.9% in the second quarter of 2008, as shown in graph 3.

Graph 3

Nominal compensation of employees as a share of gross national income at market prices



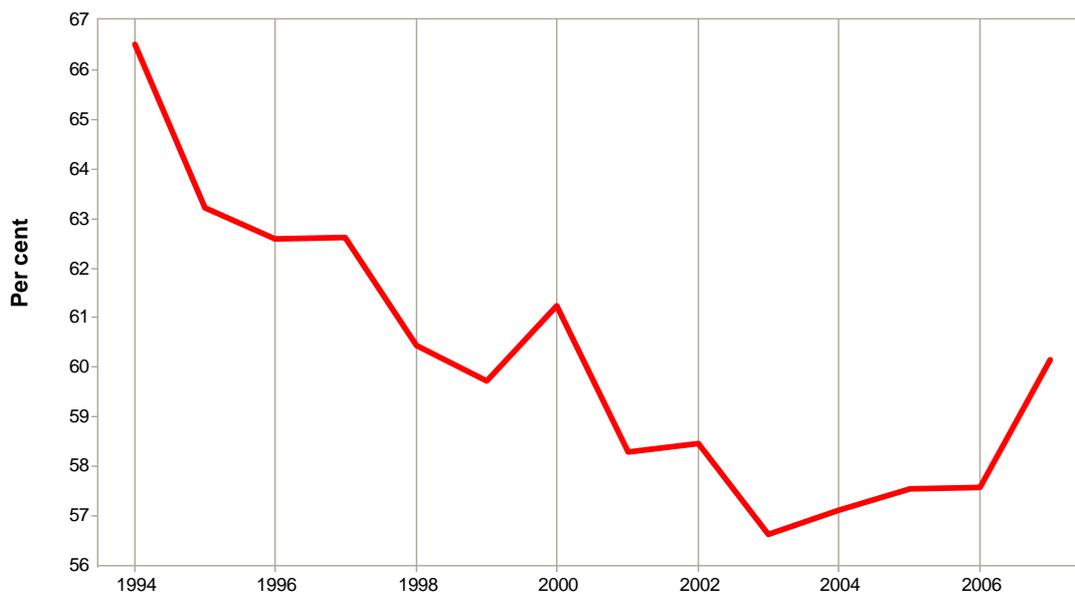
Statistical agencies should always be cognisant of the occurrence of structural changes in an economy and make provision for this accordingly in their survey and statistics compilation procedures, to capture these dynamics as they evolve. In times of change, there should be a more regular adjustment schedule of weights applied in the compilation of indicators, to reduce measurement biases, not only in prices statistics, but economic statistics in general as well.

3. The effects of terms-of-trade shocks on price indices

The share of total mining and agricultural product exports in total merchandise exports drifted steadily downward from around 66.5% in 1994 to 56.6% in 2003, but subsequently rose to 60.2% in 2007. This reversal in the downward trend occurred alongside the international commodity price boom during that period and the higher import propensity of the economy. The vulnerability of the South African economy to commodity price cycles and shocks, whether sharp price rises or declines, is obvious from the high share that commodities comprise in total goods exports.

Graph 4

Total exports of mining and agricultural products as a percentage of total goods exports



The dramatic rise in commodity prices from 2003 to early 2008, as shown in graph 5, had a major impact on the South African economy, not only via export revenue gains, but also through its effect on the exchange rate of the rand. The abrupt fall in commodity prices since their peak in early 2008 certainly contributed to the marked depreciation in the exchange rate of the rand in the fourth quarter of 2008, within an environment of risk aversion brought on by international financial market turmoil.

Graph 5

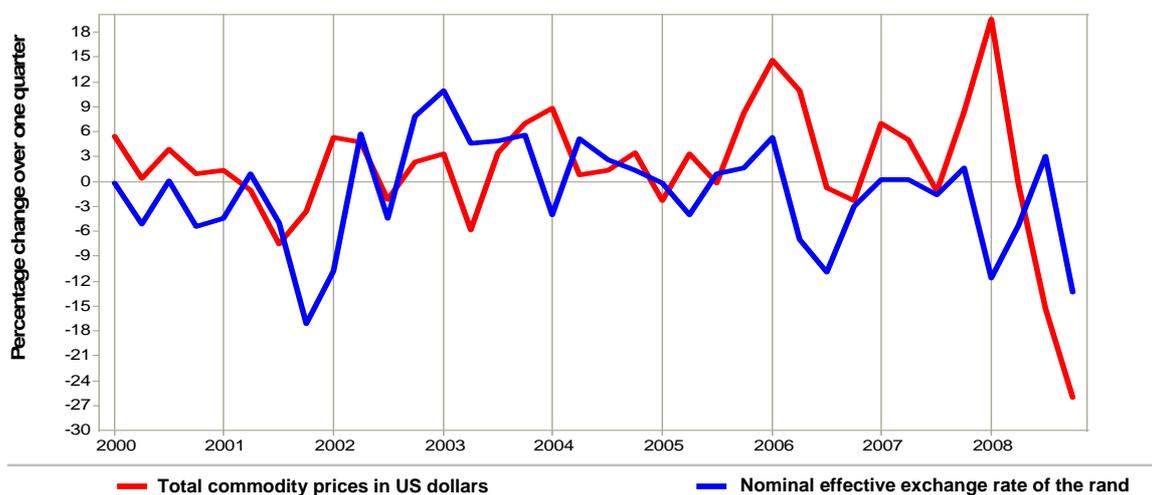
Prices of South Africa's 12 main exported mining and agricultural commodities



When quarter-to-quarter changes in commodity prices are plotted alongside those in the nominal effective exchange rate of the rand, a certain degree of co-movement is noticeable. Lags play an important role in import and export transaction flows, and both leads and lags can be important in financial flow as recorded in the financial account of the balance of payments. It is therefore incorrect to assume a one-on-one causal relationship between commodity price changes and exchange rate movements of the rand. Nevertheless, judging from the following graph, a certain degree of relationship does exist, indicating that commodity price changes do play a role in the exchange rate of the rand.

Graph 6

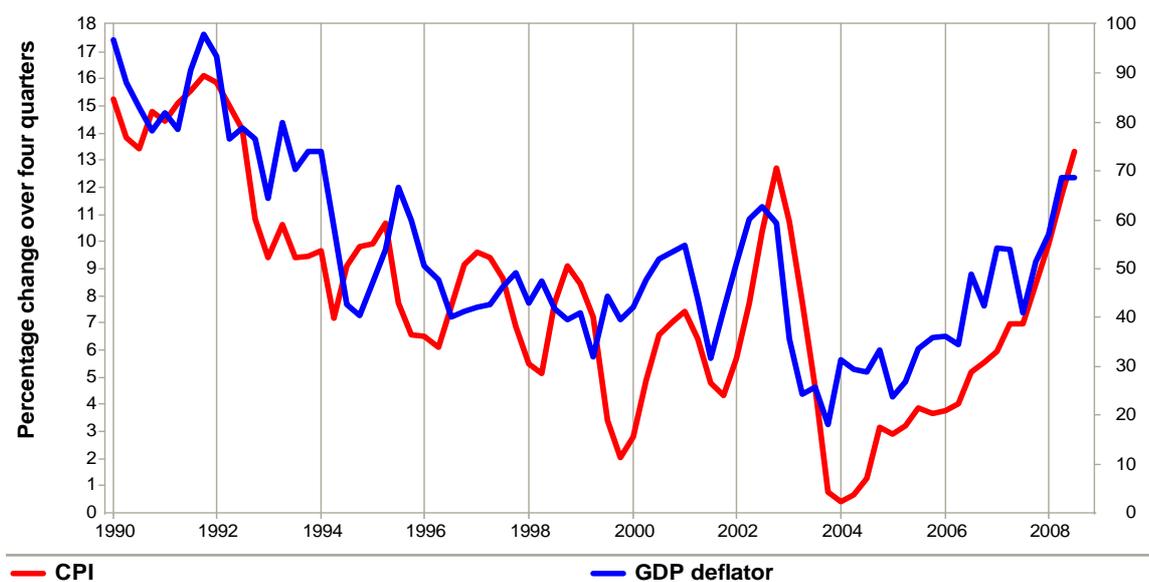
Commodity prices and the exchange rate of the rand



In ascertaining the price effects of such exchange rate changes, two sets of price indicators may be applied: expenditure-based price indices such as the consumer price index, and output-based measures such as the gross domestic product deflator. Due to the different measurement points and compilation procedures being applied in calculating these different sets of price indices, they respond differently to excessive price swings imposed by abrupt exchange rate changes. This leads to some divergence and therefore warrants closer analysis. Policymakers should be cognisant of the reasons why such gaps develop between various sets of price indicators, and be able to interpret such divergences correctly.

Graph 7

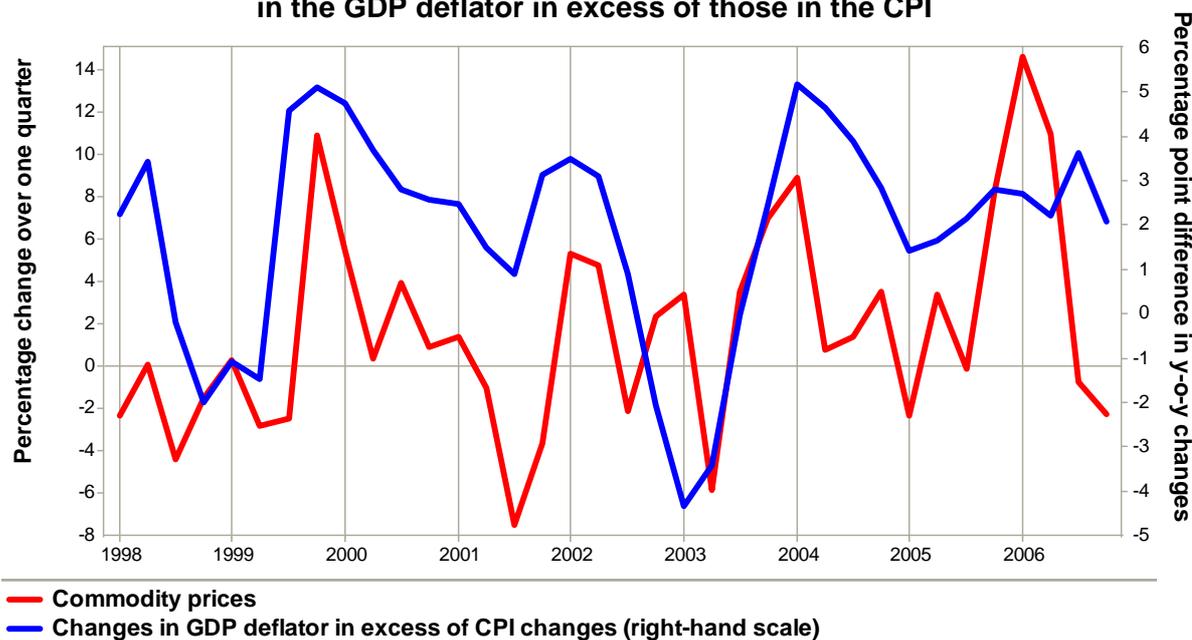
Consumer price index and gross domestic product deflator



Graph 7 attempts to explain the different responses of an expenditure-based price index and a consumption-based price index to commodity price changes. When the quarter-to-quarter changes in commodity prices are plotted alongside annual changes in the GDP deflator in excess of CPI changes, some consistency in their co-movement is observable. An interpretation of this phenomenon requires technical knowledge about the compilation of these different price indices. The GDP deflator indicates changes in the level of nominal GDP in excess of real GDP. In determining real GDP, a combination of volume indicators, producer and consumer price indices is applied to deflate the level of nominal GDP. The structure of an economy will determine which price indicator – the PPI or the CPI – will be more prominent in the calculation of real GDP. In an economy where the services sector comprises a larger share of total activity, the CPI will be applied to a greater extent compared to the PPI, for deflation purposes. In commodity-producing countries such as South Africa, the PPI will have a greater bearing on the outcome of real GDP, which partly serves as an explanation of why the GDP deflator is more sensitive to commodity price changes than the CPI. Changes in the PPI normally lead changes in the CPI as price pressures work their way through price formation processes in an economy.

Graph 8

Changes in commodity prices and increases in the GDP deflator in excess of those in the CPI

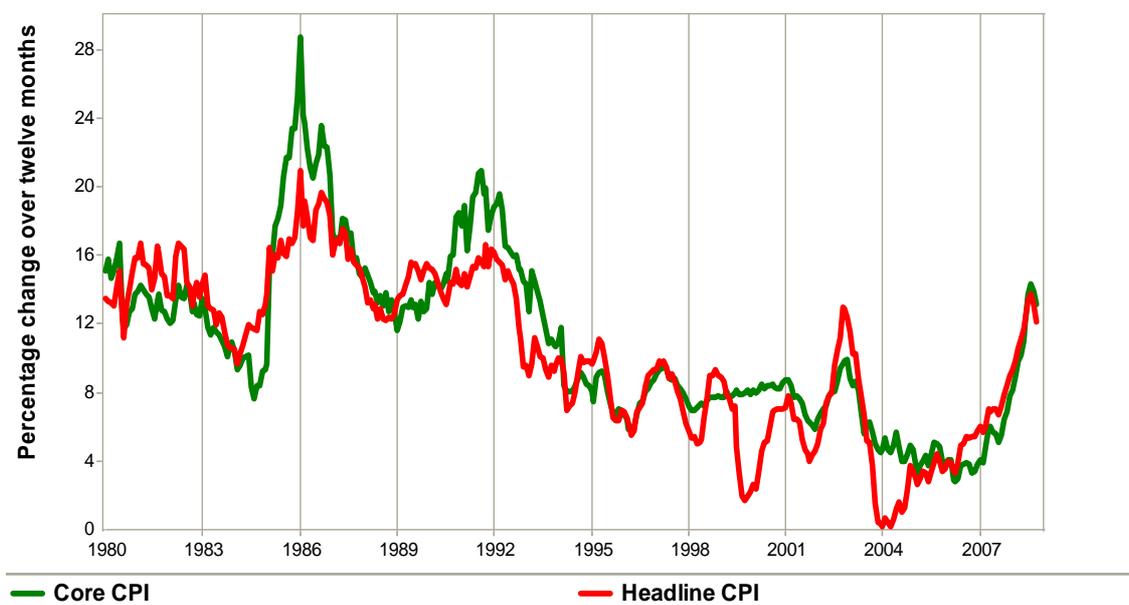


4. The consumer price index as an expenditure-based price indicator

4.1 The distinction between core and headline measures of price change

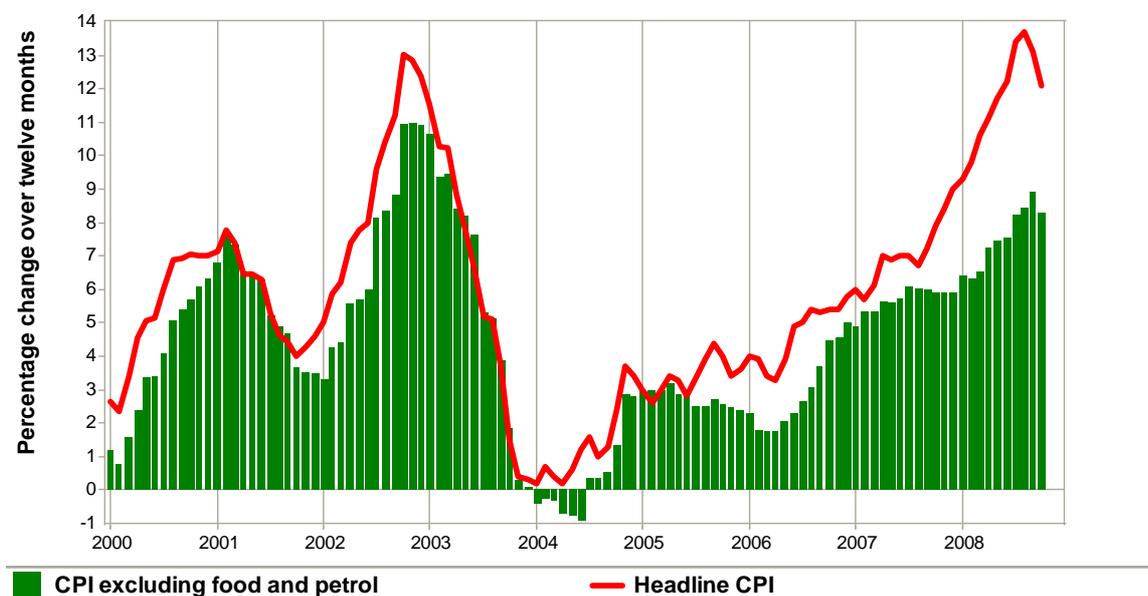
It is of paramount importance to policymakers to have a clear indication not only of changes in the headline consumer price index, and even more, of the evolution of underlying or more broad-based price pressures in an economy. To this end, the South African monetary authority also monitors price changes in the economy by means of a core measure of price change as published by Stats SA, the national statistics agency. This core measure of price change excludes certain volatile food items, assessment rates and value added tax, but does not omit petrol prices. As a consequence, the use of an indicator that excludes both food and petrol prices from the CPI has gained popularity in recent years.

Graph 9
Core CPI and headline CPI



Graph 10 shows that price pressures in the economy started to mount in the middle of 2004, indicated by both the headline measure of price change and the underlying measure of price change, ie the CPI excluding food and petrol prices (the main driver of consumer price inflation during that period). In September 2008, the year-on-year rate of increase in the headline CPI was as much as 32% higher than that in the underlying measure. This divergence in the indication of price pressures in the economy is indicative of the necessity to consider core or underlying inflation measures as well, when deciding on policy intervention in the price formation process. The Bank also considers an inflation measure that excludes food, petrol and *electricity* due to the exceptional price increases foreseen for electricity due to the expansion programme by Eskom (the state's power utility). A trimmed mean inflation rate is furthermore calculated to assist monetary policy formulation.

Graph 10
CPI excluding food and petrol and headline CPI



4.2 Assessment of inflation persistence

When considering the persistence of inflationary pressures in an economy, the framework under which price inflation is being assessed will have to be brought into the discussion. As already mentioned in the introduction to this paper, South Africa adopted an inflation targeting monetary policy framework in 2000, and therefore inflation persistence in the domestic economy will have to be assessed in terms of the inflation target range of 3–6%.

After remaining within the inflation target range for a period of three and a half years, CPIX inflation accelerated beyond the upper limit of the range in April 2007. Year-on-year CPIX inflation consistently remained outside the target range for the remainder of 2007 and the whole of 2008, and is only projected to return to the target range in the second quarter of 2010, and to an average of 5.5% in the final quarter of that year.

Inflation persistence will be determined by the effectiveness of the monetary and fiscal policy response to mounting inflationary pressures in an economy. Policy measures should therefore promptly address second-round price effects before they take hold. The structure of the economy in terms of the relative consumption of goods and services will also help determine the persistence of inflation, as services price inflation normally lag goods price inflation; but it is also less likely to be moderated after inflationary pressures have gained momentum.

Inflation persistence in a more technical sense refers to the degree of inflation inertia present in the inflation process, where previous inflation pressures feed into subsequent inflation outcomes. Similar to other emerging market economies, the inflation process in South Africa is largely subject to inflation inertia or persistence, which aggravates the containment of inflation.

4.3 Administered prices

An administered price can be defined as the price of a product or service that is set consciously by an individual producer or group of producers, and/or any price that can be determined or influenced by government, either directly, or through one or other government agency without reference to market forces.

Price indices for administered prices were first officially published by Stats SA in June 2005 for the May 2005 data point. Prior to this date, administered price indices were constructed by the Bank by applying appropriate sub-indices from Stats SA's database. Goods and services with prices that are administered comprise 17.89% of the headline CPI basket.

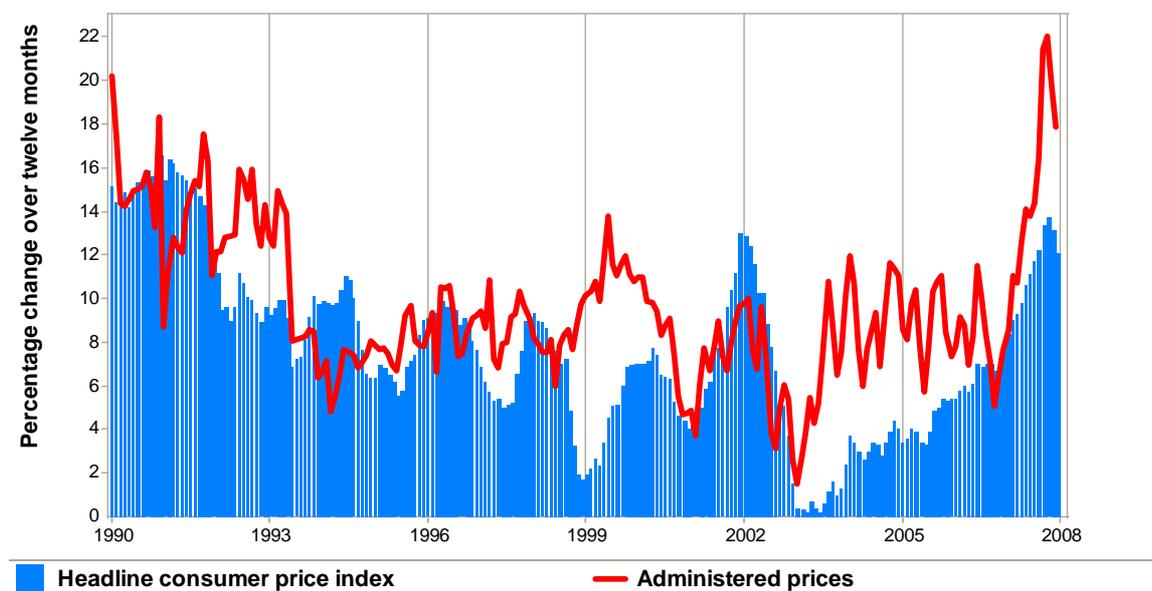
The following administered prices are included in the CPI basket:

- Housing (sanitary fees, refuse removal, assessment rates, water and university boarding fees)
- Fuel and power (electricity and paraffin)
- Medical care (public hospitals)
- Communication (telephone calls, telephone rental and installation, postage, cell phone connection fees and calls)
- Education (school fees and university, technicon and college fees)
- Transport (petrol, public transport – municipal buses and trains, motor licences and registration)
- Recreation and entertainment (television licence)

The effectiveness of monetary policy is partly subject to the extent to which price changes are being administered in an economy. In South Africa, with a prevalence rate of close to

18%, or almost one fifth of the headline CPI basket being administered, policymakers should pay close attention to the evolution of administered price inflation. As graph 11 shows, administered price increases generally remained in excess of headline CPI inflation during the period being covered.

Graph 11
Headline CPI and administered prices



In addressing administered price increases, monetary authorities may endeavour to achieve a “buy-in” from other entities in the economy to try and avert unwarranted administered price increases. Not only does the Bank voice its opinion on administered price increases in its official Monetary Policy Statements, but joint meetings between officials of the Bank and other role players take place on a regular basis to assess the validity of certain administered price increases. The only “instrument” immediately at the disposal of the monetary policy authority in dealing with administered price adjustments is moral persuasion. The effectiveness of such intervention is subject to the political will of all concerned. In most instances, however, economic realities will dictate the outcome of administered price adjustments. An example of such an outcome is the most recent round of electricity price increases in South Africa, which were deemed necessary to sustain and increase electricity generation in the country.

4.4 **Compilation and coverage of the new CPI and possible effects on the measured level of consumer price inflation**

In 2005, Stats SA embarked on a process to revamp the CPI through an extensive review of weights, composition and method of calculation. The previous rebasing of the CPI occurred in January 2002, but no significant changes were made to the composition of the CPI basket at that time. A thorough review of the CPI was thus deemed necessary to ensure that the figures provide a more accurate picture of inflationary pressures in the economy. The new methodology will apply to the January 2009 CPI inflation figures, being released in February 2009.

The new CPI series will differ from the old series in the following ways:

- The old CPI series was based on the International Trade Classification (ITC) system, while the new series is based on the Classification of Individual

Consumption by Purpose (COICOP). COICOP is the preferred classification internationally

- Interest rates will no longer be used as a measure of housing costs in the headline CPI measure and will be replaced with a measure of owner's equivalent rent
- The CPI will undergo reweighting with the introduction of new expenditure weights based largely on the Household Income and Expenditure (IES) Survey of 2005/06
- The CPI will be rebased so that the average index for 2008 will equal 100

The new index will be calculated from January 2008, which will make it possible to calculate consistent year-on-year and month-on-month inflation rates from January 2009, based on the newly defined index. Stats SA started to collect price data based on the new basket of goods (COICOP) in January 2008 while continuing to collect price data for the old basket of goods (ITC).

There will be no revisions to historical inflation data. However, the break in the series between December 2008 and January 2009 will pose some challenges for time series analysis and Stats SA will therefore publish COICOP-consistent historical price series where the data allow.

One of the major methodological changes in the calculation of the CPI is that mortgage interest rates will no longer be used as a measure of housing costs in the new headline CPI; a measure of owner's equivalent rent will be used instead. This is in line with international best practice and should be seen as an improvement in the CPI methodology. Mortgage interest costs were previously excluded from the target measure of inflation (CPIX) because of the perverse relationship between headline CPI and monetary policy. However, this problem will not occur with the new headline CPI measure.

The weights of the CPI represent the proportions of consumption expenditure by households in a specific period, obtained primarily from the IES 2005/06, but also from other sources. In the following table, the existing CPIX weights are compared with the new CPI weights for total country and for primary and secondary urban areas (previously referred to as metropolitan and other urban areas). The major difference in the new CPI weights between total country and primary and secondary urban areas is a result of the fact that food carries a higher weight and housing a lower weight in the total country CPI than in the primary and secondary urban areas' CPI. This should be expected since the total country includes rural areas. In the discussion below, the existing CPIX weights are compared with the CPI weights for total country only.

The weight of food and non-alcoholic beverages falls by nearly 7.0 percentage points from 26.9% to 20.2% in the new CPI when including restaurants. The drop in the food weight is in line with the increase in per capita GDP. As income per capita increases, the proportion of income spent on food declines relative to expenditure on services like transport and housing. Importantly, however, a comparison of the food groups between 2000 and 2006 shows that there has not been a major change in the *distribution* of food expenditure.

The weight of food is significantly higher than was suggested by the IES (15.6%). Stats SA has indicated that certain categories, like food, were underreported in the IES. Stats SA consulted and used a range of additional data sources (national accounts data, industry sources) in finalising these weights. Due to systematic underreporting, changes to the weights for personal care and alcoholic beverages and tobacco were also made. It is widely known that respondents in the household expenditure surveys underreport their actual purchases of alcohol and tobacco. In order to get a more realistic level of expenditure for these items, Stats SA utilised data on excise taxes and volume sales data from producer organisations.

Table 1
Comparison of the old CPIX weights and the new CPI weights¹

COICOP category	2000 weights CPI metro areas (headline CPI)	2000 weights CPIX metro and other urban areas	2006 weights (CPI primary and secondary urban areas) ²	2006 weights CPI total country
Food and non- alcoholic beverages	22.09	26.92	15.68 (17.53 incl. restaurants)	18.28 (20.19 incl. restaurants)
Alcoholic beverages and tobacco	2.54	3.05	5.58	5.56
Clothing and footwear	3.25	4.06	4.11	4.42
Housing	22.14	15.85	25.5	23.66
<i>Actual rental for housing</i>	4.56	4.76	3.49	3.2
<i>Mortgage interest costs</i>	11.43	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Owners' equivalent rent</i>	<i>n/a</i>	<i>n/a</i>	12.21	11.25
<i>Maintenance and repair</i>	1.42	1.43	1.68	1.55
<i>Water and other services (incl. insurance)</i>	4.73	5.38	6.25	5.48
<i>Electricity and other fuels</i>	3.49	4.28	1.87	2.18
Household contents, equipment and maintenance	8.13	9.24	5.86	6.14
<i>Furniture</i>	2.53	3.15	3.22	3.57
Health (incl. medical aid)	7.15	7.70	5.15	4.85
Transport (incl. insurance)	14.84	15.30	19.34	18.26
<i>Vehicles</i>	5.95	5.69	11.25	10.23
<i>Running costs (excl. petrol, incl. insurance)</i>	2.13	2.24	1.43	1.35
<i>Public transport</i>	1.84	2.29	2.73	3.07
<i>Petrol</i>	4.92	5.08	3.93	3.61
Communication	2.98	3.19	3.22	3.13
Recreation and entertainment	3.31	3.39	4.19	3.93
Education	3.48	3.77	2.19	2.15
Restaurants and hotels	<i>n/a</i>	<i>n/a</i>	2.78 (0.93 excl. restaurants)	2.78 (0.87 excl. restaurants)
Personal care	3.67	4.37	1.99	1.97
Miscellaneous (excl. insurance)	3.32	3.63	5.34	5.74

¹ Due to rounding, the contribution of some sub-components may not add up to the weight of the component.

² The previous term, *metropolitan and other urban areas*, has been replaced by the term *primary and secondary urban areas*.

Sources: Stats SA, NT own calculations

The transport component increased its share significantly from 15.3% to 18.3% as high income per capita led to increases in purchases of vehicles over the IES period. Interestingly, the share of petrol declined from 5.08% to 3.6%. Stats SA compared the IES petrol weights with petrol sales, showing that the latter have increased by only 7.0% since 2000, consistent with a decrease in the importance of petrol as a consumption item (and with the improved fuel efficiency of vehicles).

The housing component share rose to 24.0% from 15.9% previously and is now the single largest component. The newly introduced subcomponent, owners' equivalent rent, accounts for 11.3%, just less than half of the total housing share. Fuel and power, which comprised a separate category under the ITC classification, and which includes electricity, gas, petroleum products etc., will now fall under the housing component. Its weight has almost halved to 2.2%, which will lower the impact of the future electricity price increases on the outcome of the measured level of consumer price inflation.

The downward bias in the new inflation figures – at least initially – results from the following:

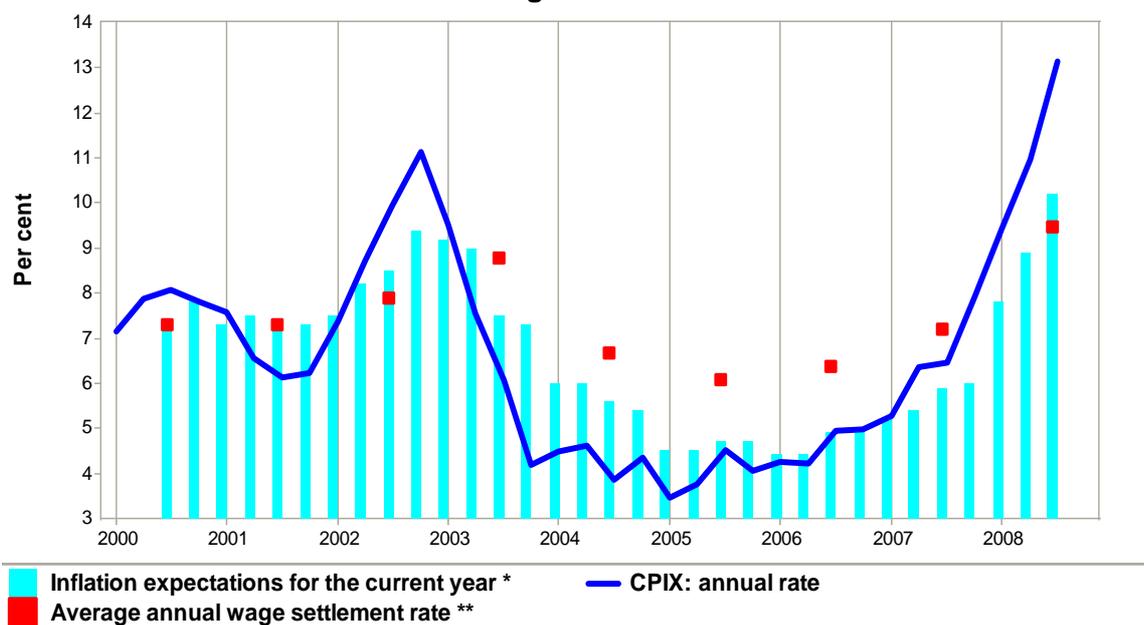
- Lower weights for current (2008) high-inflation items like food, petrol and electricity;
- The impact of rebasing. Over time a substitution bias creeps into a fixed-weight methodology, where high inflation items have higher *effective* weights over time.

At the same time when Stats SA introduces the new methodology for the CPI, it will rebase the series to 2008 = 100. If an index is not regularly rebased when a fixed-weight methodology is used, a substitution bias will emerge where high inflation items have a higher *effective* weight over time, which places an upward bias on inflation. This means that simply rebasing the CPI series (without changing the weights or basket of goods) should have a downward impact on overall inflation. Based on May 2008 inflation numbers, it is estimated that the **rebasing** of the index alone can reduce total inflation by about 1.2 percentage points. Estimates show that the **reweighting** exercise has reduced overall inflation further by about 2.0 percentage points at current levels of food and petrol price inflation, at the time of analysis in May 2008. However, even if we assume a lower rate of inflation for these components by the end of 2008, it is still likely that the new weights will reduce inflation by about 1.0 percentage point between December 2008 and January 2009.

5. Interaction between price developments, inflation expectations and wage settlement rates

Inflation expectations provide a key link between wage and price developments in an economy. As depicted in graph 12, average annual wage settlement rates fell short of consumer price inflation in 2002 and 2008 (periods of accelerating inflation), while consistently exceeding it during t2003–07 (a period of moderating or contained rates of inflation). From this observation, it is clear that wage settlement rates generally tend to undercompensate for inflationary effects during periods of high and rising inflation, while the inverse applies during periods of moderating and relatively contained rates of consumer price inflation. Furthermore, actual inflation outcomes seem to lead inflation expectations, followed by movements in the average wage settlement rate.

Graph 12
**Consumer price inflation, inflation expectations
and wage settlement rates**



Sources: * Bureau for Economic Research, Stellenbosch ** Andrew Levy Employment Publications

The graph shows that inflation expectations are of paramount importance to the outcome of wage settlement rates, with wage growth in turn contributing to secondary inflationary pressures being encapsulated in future inflation outcomes, if not compensated for by productivity gains. Policymakers should therefore be cognisant of the crucial role that inflation expectations play in the evolution of price change in an economy. The accurate measurement of all three indicators should not be compromised, as a full understanding of their interrelationships is crucial to sound policymaking.

Central bank communication to the public has a crucial role to play in the formation of inflation expectations and should therefore be managed in such a way that it is in full support of actual monetary policy steps being taken to contain inflationary pressures in an economy. To this end, the Bank has set up semiannual Monetary Policy Forum meetings across the country, where members of the Monetary Policy Committee, assisted by other Bank staff, explain policy actions, and also solicit inputs from various constituencies. To coordinate information flow, all external communication from the Bank is being channelled through the office of the Governor of the Bank. While the minutes of the MPC meetings are not being published, a full Monetary Policy statement, explaining the Committee's policy actions, is published after each MPC meeting. To supplement information flow from the Bank further, over and above information disseminated in various official publications of the Bank, senior Bank officials regularly address audiences across the country on various pertinent issues concerning the state of the economy. The structured approach to information flow from the Bank to help shape inflation expectations, as well as to raise economic literacy levels, is commendable and contributes to the effectiveness of monetary policy.

6. Inflation measurement biases

The elimination of biases in the calculation of the CPI should remain the priority of any statistical agency in its effort to produce accurate data on the evolution of price change in an economy. Due to the intricate nature of various biases associated with prices statistics, statistical agencies find it extremely difficult to address and measure many of these biases;

this is also the case in South Africa. Many of the same obstacles that prevent the elimination of biases in the calculation of the CPI also stand in the way of estimating biases. These include the lack of complete data on product-level consumer preferences and spending behaviour, and the inability to observe and value all differences in quality between items in the marketplace. Without such information it is impossible to calculate a true cost of living index, and similarly impossible to measure the divergence between its rate of growth and the growth rate of the consumer price index.

In order to ensure public confidence in a consumer price index, a detailed and up-to-date description of the methods and data sources should be published. The document should include, among other things, the objective and scope of the index, details of the weights, and last but not least, a discussion of the accuracy of the index, with specific reference to the existence of biases in its calculation. A description of the sources and magnitude of the sampling and non-sampling errors (coverage, non-response rates etc.) in the CPI, provides users with valuable information on the limitations that might apply to their uses of the index. To this end, at the time of writing of this paper in late 2008, Stats SA was in the process of completing such a manual, which will give a clearer indication of the compilation of the CPI and certain limitations originating from the existence of biases present in the CPI numbers.

To address substitution bias in the calculation of the CPI, Stats SA would start to price a fairly similar product when an outlet no longer carries the specific product. No account is taken of buying power moving from, for instance, red meat to fish, over and above the five-yearly weight changes being implemented to the whole CPI basket, based primarily on the outcome of the Household Income and Expenditure Survey. When outlets refuse to partake in the CPI price collection process, another willing outlet in the same area will be used for price collection purposes. No account is being taken in the CPI of buying power moving from one outlet to another. Stats SA does not cater for new products and services on an ad hoc basis, but incorporates them only during the five-yearly composition and weight change exercise. Stats SA takes little account of changes in the quality of goods and services, but such an intervention is being contemplated for later implementation.

7. Conclusion

The effectiveness of monetary policy intervention in an economy is directly related to the quality of statistics being made available to policymakers. Their ability to interpret such data is of equal importance and requires a sound knowledge of the informational strengths and limitations of available data. Data outcomes should always be interpreted in context, with due consideration being given to structural changes taking place in an economy and their effect on the appropriateness and quality of available data. The existence of interrelationships between various economic processes has a direct bearing on economic indicator outcomes and should be taken note of in the policy decision-making process. The elimination of biases in data being made available to policymakers should always receive the highest priority, to facilitate optimal policy formulation.

References

Andrew Levy Employment Publications, *Wage Settlement Survey*.

International Labour Organisation, 1989, *Expanded version of the Consumer price index manual*.

Statistics South Africa, *Consumer Price Index*. Statistical release P0141.

Statistics South Africa, *Quarterly Labour Force Survey*. Statistical release P0211.