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Information note on reweighting, rebasing and linking the Consumer Price Index (CPI)

21 January 2013

Introduction

Changes in the CPI represent a weighted average of price changes. Revisions to the weights, which are based on consumer buying patterns, can have a significant effect on the level of the indices. Therefore the periodic introduction of new weights is viewed as the introduction of a new index series. In order to construct a continuous price series it is necessary to link together the old and new sets of indices. The aim of rebasing to an index level of 100 in a common period (known as the price reference period), and linking the old and new series, is to ensure continuity and comparability of the indices following the introduction of a new basket of items and weights.

The new CPI weights to be introduced in 2013 are derived primarily from Stats SA's household expenditure survey. Detailed information on the new weights is available at: www.statssa.gov.za/cpi/index.asp. The weights will be price-updated to December 2012 (known as the weights reference period) in line with the new price reference period. The final set of new weights will be published on 4 February 2013.

When rebasing the CPI and linking the new index to the old there are a number of features of the indices to be considered. These are:

- Preserving the historical rates of change;
- Deciding on an appropriate base period (i.e. when all indices equal 100);
- Ensuring the comparability of price movements before and after the linking period; and
- Maintaining additivity of indices through all levels of aggregation.

Method of linking and rebasing

There are many different methods of linking indices. The method that will be followed for the CPI in 2013 is as follows.

All indices will be rebased so that December 2012 equals 100. All new product indices will be started at 100 in December 2012. This is a departure from previous practice where the average of the index for a year was set equal to 100.

Since all elementary (lowest-level) indices will equal 100 in December 2012, all aggregations using the new weights will also equal 100 in December 2012. The index levels for January 2013 will be calculated in the normal manner (the sum of lower-level indices multiplied by their weights). This will ensure that all month-on-month percentage changes from December 2012 to January 2013 are driven by price changes and the relative importance of each price change as determined by the new weights.

Similarly, the CPI for February and all subsequent months will be calculated in the normal way.

This method satisfies the following criteria:

- The historical, published rates of change in the CPI are retained;
- There is a base period in which all indices equal 100 (in this case December 2012);
- All monthly changes in the CPI from January 2013 are a true reflection of underlying price movements; and
- All indices are calculated in the normal fashion and additivity through all aggregation levels is ensured.

Table 1 shows the respective indices that will be used to calculate the month-on-month and year-on-year percentage changes for the first two months of 2013.

Table 1: Calculating monthly and annual percentage changes for the CPI

	January 2013	**February 2013**
Month-on-month	Jan-13 (new weights) Dec-12 (rebased to 100)*	Feb-13 (new weights) Jan-13 (new weights)
Year-on-year	Jan-13 (new weights) Jan-12 (old weights, rebased)	Feb-13 (new weights) Feb-12 (old weights, rebased)

* Dec-12 = 100 at all levels of aggregation

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