

Changes to the calculation of clothing and footwear inflation in the South African CPI

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1. Introduction

Clothing and footwear has a combined weight of 4,07% in the CPI basket. As a group, its annual inflation rate registered 6,2% in November 2014. There are currently 40 different clothing items in the CPI basket, which can be grouped into men's, women's and children's clothing. There are a further 14 footwear products. In total, Stats SA collects approximately 7 500 clothing prices across 330 stores each month.

Around the world, clothing is recognised for the difficulty involved in collecting prices for CPI purposes. Because clothing is sensitive to seasonal and fashion changes, clothing items are rapidly replaced in retail stores. As the essence of the CPI pricing method is to track changes in the prices of identical items from month to month, clothing raises particular challenges. Typically, fashion and seasonal clothing items come onto the racks at a particular price, and then remain at that price level until they go on 'sale' at a reduced price at the end of the season. The cycle then restarts with the new items possibly being introduced at a higher price.

As a result of this pattern the clothing index showed annual deflation from 2005 to 2007. In 2008 Stats SA changed its measurement of clothing prices. At the time, Stats SA announced it would stop pricing clothing items as they went on sale, and instead would immediately initiate a replacement item.

However, in line with the standard CPI index calculation method, no link is currently made between the old and new items, and so any price changes introduced at the time the new item enters the store are not recorded. Consequently, the aggregate index contains two divergent trends. Items which are less susceptible to fashion and seasonal changes (such as underwear) show relatively high rates of inflation, whereas fashion and seasonal items have relatively low rates of inflation.

2. International practice

There are various approaches recommended in the international literature to deal with the clothing problem. Stats SA's current methodology is in compliance with these, but, as always, there is room for improvement. Stats SA is looking at two changes to its methodology that would improve the responsiveness of the clothing index to inflationary pressures. The first concerns quality adjustments, while the second relates to substitution procedures.

3. Quality adjustments

Quality adjustments involve making an alteration to the price change of an item to account for changes in its quality. There are various methods available for executing quality adjustments. Stats SA currently uses hedonic regressions for making quality adjustments for cell phones, motor vehicles, decoders, DVD players and TVs.

Another recognised method is class mean imputation. Class mean imputations calculate the mean price of all observations for a specific product group. This is calculated for the current month and the previous month. The change in these averages is applied to the new product to create an imputed price for the previous month. For example if a particular pair of men's jeans which was being priced is no longer available, the price collector will substitute it with a new pair. In order to create a continuous series of prices, the new pair is provided with an imputed (average) price for the previous month.

Stats SA will introduce class mean imputation quality adjustments for clothing and footwear from January 2015.

No adjustments (special linking) will be made to the indices in January 2015. Rather, it is at the level of individual price observations where the quality adjustments are executed when required. The full effect of the changes on the year-on-year rates for clothing will only be seen in January 2016. No revisions will be made to the published CPI data.

4. Substitution procedures

The second area of improvement planned for clothing is a relaxation of the rules regarding substitution. In line with the methods for collecting prices of most items in retail stores, any change in the characteristics of a clothing item are currently viewed as a quality change. This means no link is made between the prices of the two versions of the item. So, if a particular store previously stocked jeans with a skinny leg and then replaced these with jeans with a flared leg (but with no other changes), their prices are not regarded as comparable.

Stats SA is currently finalising new rules for fieldworkers to deal with changes of this nature. The new rules will guide the field workers on which changes in characteristics can be overlooked as a quality change so that prices are then deemed comparable and can be

included in the index calculation. These rules will be tested during 2015 with the aim of introducing them into the published indices in January 2016.

5. Conclusion

In future then, it will be possible to distinguish and deal with two scenarios when clothing items change their characteristics.

- Those that are seen as quality changes where class mean imputation adjustments will be applied between replacement products as from January 2015, and
- Those that are not seen as quality changes (e.g. style changes) and which are planned to be substituted using the more relaxed rules from January 2016.

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