

How Accurate is Egypt's Consumer Price Index?

Policy Viewpoint is intended to contribute to the discussion of ideas and policy options for enhancing economic development in Egypt. The series is based on research conducted by ECES. The content and recommendations are endorsed by the Center's Board of Directors.

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There is no question that policy makers, producers, workers and consumers care about the accuracy and reliability of the consumer price index (CPI), the most common measure of inflation. This is true in developed and developing countries both for very good reasons. Inaccurately reporting high inflation could, among other things: cause central banks to impose tighter than necessary monetary policies in an effort to maintain low interest rates and encourage investment; lead to a devaluation of currency in an effort to maintain a competitive exchange rate and improve a country's exports; and trigger a higher increase in wages than justified by productivity to prevent erosion in the cost of living. Inaccurately reporting low inflation could similarly lead to unjustified policy change. In short, an inaccurate CPI complicates macroeconomic management and distorts the decision making process of economic actors.

In Egypt, controversy has surrounded the accuracy and reliability of the CPI figure, leading some to wonder if the figure is undervalued. *Policy Viewpoint* addresses this concern and recommends how to improve the way the CPI is compiled in Egypt. It shows that there are well established procedures for compiling the CPI in Egypt. However, the reported figure may be inaccurate because the outlets surveyed do not reflect consumers' true buying habits. Moreover, there may be some downward bias due to the way housing is priced.

Sources of Inaccuracy and "Best Practice" Solutions

The CPI is not calculated for all the goods and consumed by the entire population, in all locations, by every income group, and at all times. Rather, it is based on a sample of the average consumer, covering a typical basket of goods and services, on a periodic basis. Accordingly, biased sample techniques may distort the CPI figure. Inaccuracies can occur in the process of: identifying the typical basket of goods and services; assigning the relative weights to each item; selecting the outlets where prices are collected periodically; treating seasonal products; and adding new basket items.

Recognizing the possibility for such mishaps, countries around the world have devised measures to ensure the accuracy, timeliness and cost effectiveness of their CPIs. A review of the way Chile, Japan, Korea, Egypt, Mexico, the United Kingdom, and the United States derive their CPI is instructive for assessing the method Egypt employs for deriving its CPI. The procedures used by these countries are summarized as follows.¹

Starting with data gatherings; most countries rely on household surveys to determine the typical basket of goods and services purchased by the target consumer. Surveys are conducted regularly to ensure that the CPI reflects

How Accurate is Egypt's Consumer Price Index?

the changes in consumer preferences as they shift from one product to another. The United Kingdom and Japan revise the CPI basket annually. On the other hand, the United States revises its basket every 10 years, leading to criticism of its CPI figure.

Once the typical basket of goods and services is chosen and weights are assigned according to the relative importance of these items, a representative sample of outlets is selected from which to periodically collect the prices of selected goods and services. Prices are usually collected monthly, except for some items, such as school fees, whose prices are relatively stable. To ensure that the sample is a true reflection of consumer buying habits (in terms of location and type of retail trade), countries survey their consumers' buying preferences. If a majority of consumers use department stores, then more department stores are chosen from which to collect periodic prices.

The frequency of updating the outlet survey to determine changes in consumer buying habits varies from country to country. In the United States, the survey is conducted annually.² This frequency is justified because US markets are dynamic and sophisticated. In less developed countries, it may be too costly and unnecessary to conduct the survey

frequently. In this respect, Chile is a good example as it determines consumers' buying preferences while conducting its household survey by asking the consumers where they shop for certain products. In addition, Chile conducts an outlets census to identify the most representative outlets carrying and selling different items.

Because of the relatively high percentage of household income expended on housing, countries often treat this separately. They rely on the household survey to derive the relative weight of housing expenditure in the basket. However, specific surveys are conducted to select an appropriate sample of dwellings for which prices are collected periodically. The sample typically reflects the housing market structure, which includes rented, publicly owned and owner-occupied dwellings.

In the process of deriving the CPI, statistical agencies must also deal with the seasonal items in the basket, such as fruits and vegetables. In addition, the question of CPI basket items that disappear from the market and those that replace them must be addressed. With respect to seasonality, Japan draws a map for the monthly consumption of important seasonal products, such as fish, fresh fruits and vegetables, and makes the necessary adjustment to its CPI. Most countries also predetermine procedures for replacing products that disappear from the market. For example, if the difference between two products is only a matter of size, the price of the new item is adjusted by a factor corresponding to the price change. If the difference is in quality, then specialists in that product field are consulted about the value of the quality change, an appropriate adjustment is made and the new product replaces the old.

Finally, countries use collected information to calculate the CPI using the so-called Laspeyres formula.³ Besides producing a CPI for the entire basket of goods and services during a given period, other indices are also reported, usually by geographic location and product group, such as food, entertainment, and clothing. Some countries, such as Mexico and Japan, also produce indices for different income groups (high, medium and low), as well as for product groups (such as durables versus non-durables, goods versus services).

How Does Egypt Compare with the Best Practice?

Egypt fundamentally follows appropriate procedures to derive its CPI, although there is room for improvement. CAPMAS is the only agency that produces a comprehensive CPI figure in Egypt. It produces a monthly urban sector index and a rural sector index every two months. It also produces specific indices for specific governorates and categories of products (food and beverage, clothing, housing, education, health). Finally it produces information about the price movements of some 28 commodities (including rice, wheat, poultry, meat, tea, and electricity).

Like other countries, Egypt relies on its household survey to derive the average consumer basket of goods and services. This survey is conducted usually every 10 years, but recently CAPMAS has decided to carry it out every 5 years and to expand the range of goods and services covered. This will allow more frequent revisions of the basket and better coverage, which will increase the reliability of the CPI.⁴ Egypt also follows appropriate procedures in the selection and assignment of weights to the basket items, the adjustment of quality changes, the periodic collection of prices and the computation of the CPI using the Laspeyres formula.⁵ Meanwhile, Egypt has devised its own way of handling seasonality. The basic assumption of this treatment is that the majority of consumers in Egypt are more concerned with household budget than with food product preference. Peak prices of items newly introduced to the market are therefore excluded. While this procedure involves some error, statistical tests show that the CPI series in Egypt for the last 25 years has been free of seasonable bias.⁶

Despite these favorable features, several deficiencies remain. These deficiencies are important enough to raise concerns about the accuracy of the CPI. The first significant deficiency questions the selection of outlets chosen for collecting prices, which does not reflect true buying habits of the target consumers. The current procedure is as follows: prices for each CPI item are collected monthly from a sample of three outlets (one public sector, one private, and a common market such as Boulaq) in every governorate. The collected prices are then averaged without attaching any weights to them to reflect consumers buying habits. The selection of the three outlets is not based on a survey of consumers to determine the best sources for price collection. The choice of outlets, therefore, reflects a geographic representation, but it assumes that different types of shops carry equal weights or that all households equally favor the three sources chosen. Moreover, three outlets per location are not enough. The effect of the problems surrounding this procedure on the CPI is difficult to assess since it could either inflate or deflate the figure.

The second primary deficiency concerns the treatment of housing. Put simply, Egypt does not conduct any housing surveys. The cost of housing is assumed to be fixed, and allowance is only made for changes in the maintenance and water charges. This procedure may have been appropriate in the past when rent control was the rule for all types of shelter arrangements. But that has changed significantly in recent years. Consumers now face a variety of housing options, with very wide variations in their cost (from controlled rent, to freely set rent, to owner-occupied housing, to informal communities). Given that the cost of housing in the basket of goods and services is relatively high (about 10 percent), and given the upward trend in the cost of housing, the reported CPI underestimates actual inflation in Egypt.

Finally, Egypt could do better when it comes to the variety of CPI it produces. As already indicated, CAPMAS produces price indices for the urban and rural population, as well as specific indices at the level of governorates, for certain product categories, and information about the price movements of some 28 commodities. These indices are useful in detecting the source of inflation in the economy, but may be a poor guide for policy makers to target support for low-income groups or for the business sector to market their products to certain income groups.

Toward a More Accurate CPI in Egypt

To ensure that the CPI in Egypt is an even more accurate measure of inflation, a number of improvements could be made. The most important improvements would entail the following.

Better selection of the sample of outlets from which prices are collected periodically to more accurately reflect the buying preferences of consumers. This can be achieved by adding a question to the household survey asking consumers about the places where they usually purchase certain items in the basket. The sample of outlets should be selected based on survey answers, so that the most often used type of outlets carry higher weights. The sample of outlets could be drawn from the Outlets Census of 1996.

How Accurate is Egypt's Consumer Price Index?

A new and better way of pricing housing.
Keeping the index of the cost of housing fixed is a practice divorced from reality. The cost of housing services should also reflect the change in the prices of different types of housing. This requires collecting prices for housing at least twice a year for a representative sample of all housing forms. The sample could be drawn from the 1996 census of housing, which identifies the share of each type of housing in the market, rent controlled, rent free, furnished dwellings, informal communities, and owner-occupied.

The production of additional price indices, using available information. The indices now produced by CAPMAS are useful in providing basic information about the general price level and in identifying the sources of inflation in the economy. But given the available information on income groups from the household survey, a price index for different income groups could easily be developed. Similarly, more indices could be derived by type of product, (such as durables versus non-durables, imported versus domestic, tradables versus non-tradables, basic versus luxury). These indices will provide more insight for decision makers, (whether consumers, in business sector, or in government). For example, the CPI for income groups and for basic versus luxury items could help the government better ration its subsidies; the index on tradables and non-tradables could help in making decisions about exchange rates; and for the business sector, an index by income group could help in targeting consumers.

In short, the good news is that CAPMAS seems to follow appropriate procedures in deriving the CPI. The additional good news is that there is no sign of seasonality in the index. However, there are reasons to believe that the accuracy of the CPI could be improved, especially with respect to the outlets from which prices are collected and the way the cost of housing is priced. Such improvements are critical for policy makers, the business sector and citizens at large as their roles become increasingly more important in a dynamic economy.

1 The detailed comparison can be found in Hala Fares (forthcoming), "Cross-Country Comparison of Constructing the Consumer Price Index (CPI)," Working Paper Series, Cairo: The Egyptian Center for Economic Studies.

2 The US conducts annually what is called Continuous Point of Purchase Survey (CPOPS). This survey provides information about retail outlets from which urban households make purchases of pre-defined groups of commodities and services. The survey covers approximately 20 percent of the primary sampling units (PSUs).

3 The Laspeyres mathematical formula is a weighted aggregative index, based on a fixed base-year expenditure, the numerator of the ratio being the base year expenditure using current prices, and the denominator is the base-year expenditure using base-year prices.

4 The current CPI basket is based on the 1990/91 household survey. A new survey has been conducted (1995/96), and the information will be used to compile the CPI in 1997/98.

5 Currently, the base year of expenditures and of prices differs, which could reduce the accuracy of the CPI figure. However, the 1997/98 figure will have a common base year (1995/96).

6 For further details, see: Mohieldin and Ismail (forthcoming). "Consistency of Egypt's CPI Series", Working Paper Series, ECES.

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