

## Why Did Consumer and Wholesale Prices Diverge in Egypt Recently?

*Policy Viewpoint reflects the views of ECES on key policy issues in Egypt. Its content and recommendations, which are based on research findings, are endorsed by the Center's Board of Directors.*

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Consumer and wholesale prices trended downward in Egypt in the period 1991-2001 due mainly to tight monetary and fiscal policies, and fixed exchange rate. Since then, the two indicators have been rising in the context of a more relaxed macroeconomic policy and falling value of the Egyptian pound. Moreover, the change in wholesale prices significantly exceeded that in consumer prices, with the gap widening from 3.7 percent in 2002 to 10.1 percent in 2003.

The increase and divergence of the two measures of inflation raise a host of questions. For example, while the two indicators were expected to exhibit an upward trend in the wake of exchange rate deterioration, the question is: why did they behave so differently? More importantly perhaps, does the divergence between the two measures reflect low pass-through from exchange rate to consumer prices because of policy intervention (e.g., subsidy)? If so, does this mean, other things being equal, that future consumer prices are likely to be higher than observed currently? This *Policy Viewpoint* attempts to answer these questions.

The bottom line is that the recent divergence between the changes in consumer and wholesale prices can be traced to the interaction between the way each indicator is constructed (especially in terms of scope, weights and prices), and policy shifts (e.g., exchange rate and subsidies). More concretely, wholesale prices reflected the fall in the exchange rate quickly and significantly because of the high weight of tradable goods in their construction. By comparison, consumer prices were less responsive to the fall in exchange rate because subsidies

were increased, and administered prices, especially of non-tradable goods, were not revised to reflect cost escalation. In the future, as subsidies become untenable, the pass-through from exchange rate to the non-tradable sector is complete, and the economy recovers, the cost of living is bound to rise, even if nothing else changes. In a sense, the low cost of living now is traded for higher cost of living later.

The above conclusions have important policy implications, especially for the conduct of monetary policy. To elaborate them more fully, the remainder of this edition of *Policy Viewpoint* is organized as follows. Section I presents the recent trends in consumer and wholesale prices. Section II explains the factors underlying their divergence, focusing on the way they are calculated. Section III further explores the divergence in light of recent policy shifts, especially regarding the exchange rate and subsidies. Section IV concludes and offers a number of policy implications.

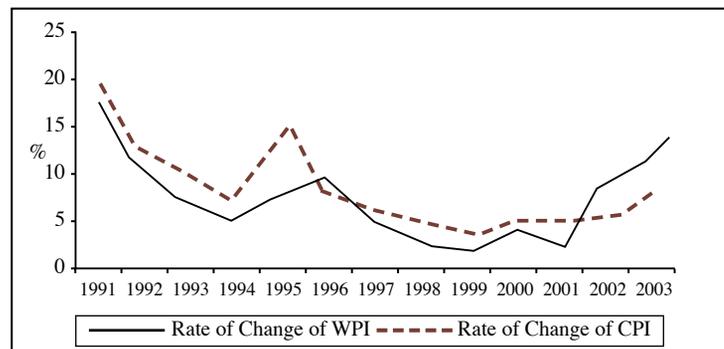
### I. Recent Trends in Consumer and Wholesale Prices

With the initiation of Egypt's stabilization and structural adjustment programs in 1991, both consumer and wholesale prices exhibited a downward trend that continued until 2001 (Figure 1). Inflation, measured by the change in consumer prices, declined from 19.8 percent in 1991 to 2.3 percent in 2001, while that measured by wholesale prices declined from 17.9 percent to 1.0 percent. Moreover, the two measures moved in tandem throughout that interval, with the changes in consumer prices exceeding those in wholesale prices due to the markup charged by retailers

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on top of wholesale prices. Since 2001, however, both rates have been on the rise, with that of wholesale prices increasing even more. By 2003, the change in wholesale prices stood at 14.4 percent, compared with 4.3 percent for consumer prices. The gap between the two indicators increased from 3.7 percent in 2002 to 10.1 percent in 2003.

**Figure 1. The Evolution of Consumer and Wholesale Prices in Egypt, 1991-2003**



Source: IMF, *International Financial Statistics*, online database, 2004.

The recent increase in both indicators is not surprising. The exchange rate deterioration was expected to increase the prices of imports and reduce the prices of exports, both of which have direct and indirect inflationary effects (as discussed below). What is less obvious is why the two indicators have behaved so differently.

### II. Explaining Divergence Through Measurement Differences

Although consumer and wholesale price indices (CPI and WPI, respectively) are designed to measure inflation using the same formula (i.e., Laspeyres), both differ in the scope, weights and prices used to construct them.<sup>1</sup> These differences may have contributed to the recent divergence between consumer and wholesale prices in Egypt, as elaborated below.

#### Scope

The CPI and WPI do not always cover the same goods. The former reflects changes in the prices of goods and services, while the latter reflects changes in the prices of goods only. In addition, the change in consumer prices reflects movements in the prices of goods and services of final products, while the change in wholesale prices also reflects changes in the prices of intermediate inputs. Not surprisingly, each indicator reflects movement in prices of some items that are not reflected by the other. For example, the goods covered by the WPI and not by the CPI include leather, paper and printing, chemicals and byproducts, fuel and byproducts, rubber

and plastic, nonmetallic mining products, metals, metal products, machinery and equipment, and transportation equipment. Similarly, the CPI covers a range of goods that are not covered by the WPI. These include durables, medical services, housing, transportation and communications, and other personal expenses.

Differences in scope lead to differences in trends. A higher rate of change in the CPI compared to the WPI could mean that the goods and services that go into the construction of the CPI witnessed a higher rate of change in prices compared to those that go into the construction of the WPI.

#### Weights

Even if both indices were to cover the same categories of goods, they could still diverge because of the different weights assigned to their components. These differences can be large, as can be seen from Tables 1 and 2, even for the same product. To cite but one example, food and beverages are included in both measures of inflation, but carry a weight of 56.3 percent in calculating the changes in the CPI, compared to a weight of 24.7 percent in the WPI.

Differences in weights and their origin are consistent with the purpose of each indicator. The CPI measures the change in prices paid by consumers, which is why the weights are derived from income and expenditure surveys of households. In contrast, the WPI measures movement in the prices of manufacturing and agricultural products, which is why the weights are derived from the components of total output of both sectors.

**Table 1. Relative Weights of Goods and Services Used in the Construction of the CPI in Egypt (Percent)\***

Goods and Services	Weights
Food & Beverages	56.3
Clothing	9.0
Housing	10.4
Furniture & Durables	4.4
Medical services	3.8
Transportation & Communications	4.2
Education, Culture & Entertainment	7.2
Personal expenses	4.7

\* The weights were last revised in 1995/1996.

Source: Central Agency for Public Mobilization and Statistics, *Monthly Bulletin, Consumer Price Index*, December 2003.

#### Prices and Markups

The final difference between CPI and WPI is related to the prices used in their calculation. More specifically, changes in

**Table 2. Relative Weights of the Products Used to Calculate the WPI in Egypt (Percent)\***

Products	Weights
Farm products	34.98
Food stuffs	19.66
Beverages & Tobacco	4.51
Yarn & Textiles	4.07
Wearing apparel	2.60
Leather & Footwear	1.71
Wood & its products	1.70
Paper & Printing	1.95
Chemicals & its products	5.86
Fuel & related products	4.77
Rubber & Plastic Products	1.59
Non-metallic mineral products	3.53
Metals	4.78
Metallic prods., Machinery & Equipment	5.89
Transportation equipment	1.73
Other manufacturing products	0.67

\* The weights are based on the average of manufacturing and agricultural output in 1986/1987 and 1987/1988.

Source: Central Bank of Egypt, *Monthly Statistical Bulletin*, February 2004.

the CPI are calculated using retail prices, which are collected at the points of sale to consumers. Changes in the WPI are calculated using wholesale prices, which are defined by the Central Agency for Public Mobilization and Statistics (CAPMAS) as the selling prices of goods before wholesale merchants or retailers introduce any changes to their shape or nature. Wholesale prices are collected at the shop-gate. Retail prices are typically higher than wholesale prices due to the markup added by retailers.

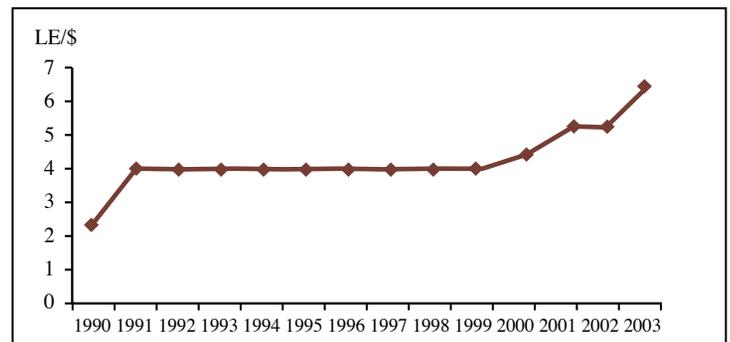
When all the methodological differences between the CPI and WPI are put together, it is tempting to conclude that the divergence between the two measures of inflation is due to these differences. This conclusion may not hold, however, given that the divergence can also follow from shifts in policies like the exchange rate or subsidies. Understanding the way these policy shifts impact inflation is important, at least in order to form well-reasoned expectations about inflation. This point is discussed in the next section.

### III. Explaining Divergence Through Policy Shifts

From the perspective of changes in prices, the two most relevant policy shifts in Egypt in recent years concern the exchange rate and subsidies. The exchange rate witnessed successive nominal devaluations prior to the floatation of the pound in January 2003, and subsequent depreciations since

then. Cumulatively, the value of the pound declined by 66.7 percent in the period 2000-2003 (Figure 2). The second shift is related to subsidies, which were increased from LE 6.9 billion in 2002/2003 to LE 10.3 billion in 2003/2004 in an attempt to keep the prices of basic commodities within the reach of the poor. Both issues are elaborated below as they impact the CPI and WPI differently.

**Figure 2. Evolution of the Nominal Exchange Rate of the Egyptian Pound, 1990-2003**



Source: IMF, *International Financial Statistics*, online database. At: [http://ifs.apdi.net/imf/output/6E399C47-6CD4-41D0-B0C4-956EAEDD43DA/IFS\\_Table\\_12630.7645625.xls](http://ifs.apdi.net/imf/output/6E399C47-6CD4-41D0-B0C4-956EAEDD43DA/IFS_Table_12630.7645625.xls)

### Exchange Rate Pass-through

In principle, a fall in the exchange rate increases the prices of imports and reduces the prices of exports. Both effects have the potential of increasing domestic inflation, either directly or indirectly. Directly, the exchange rate affects the prices of imported goods (measured in domestic currency). Indirectly, the real exchange rate affects the relative prices of domestic and foreign goods. In turn, this affects domestic and foreign demand of domestically-produced goods and thus aggregate demand and the rate of inflation (Svensson 1998).

The question here is why should the recent deterioration of the Egyptian pound impact the changes in the CPI and WPI differently? The key to the answer lies in the composition of each index. More specifically, the WPI is vulnerable to movements in the exchange rate because it is derived essentially from changes in the prices of tradable goods. In contrast, the CPI is derived additionally from changes in the prices of non-tradable goods, which in Egypt account for 30.3 percent of all goods and services used to construct this index. The impact of exchange rate movement on the prices of tradables is direct and immediate, while its impact on the prices of non-tradables is indirect and takes time to materialize. In both instances, the exchange rate pass-through is weakened by sluggish economic activity, witnessed in Egypt in the past few years, because producers tend to respond to increased demand at home and abroad

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by utilizing existing capacity more fully rather than by increasing prices.

### *Subsidy Policy*

In principle, domestic prices would not rise in response to a decline in the exchange rate if, among other things, prices were administered and kept below market clearing values, and/or if the government were to increase the subsidy of consumer goods. Both factors played a role in the price formation in Egypt recently, with different implications for the changes in the CPI and the WPI.

With respect to administered prices, both the CPI and WPI cover goods whose prices are set below market levels and are revised infrequently (e.g., subsets of foodstuffs and pharmaceuticals). However, the CPI covers items with administered prices that are not covered by the WPI (e.g., non-tradable goods like housing, medical services, transportation and communications, education, culture and entertainment, and personal expenses). As a result, the changes in consumer prices were lower than those in wholesale prices.

A similar observation applies to direct subsidies. Here too, both indices include commodities that receive direct subsidies (e.g., bread, flour, sugar, tea and oil), which were increased in the wake of the fall in the exchange rate. But the weight of the category of food products is higher in the CPI (56.3 percent) than in the WPI (19.7 percent). This may also explain why observed changes in the CPI were lower than those in the WPI.

Administered prices and direct subsidies are intended to protect low income groups from high inflation. However, these policies effectively lead to suppressed inflation, rather than to its elimination. In the future, if the budget deficit reaches an unsustainable level, subsidies may become untenable. Hence, prices may have to be revised upward and explicit subsidies phased out, both of which would lead to higher consumer prices. In that sense, observed changes in the WPI may approximate future trends in the CPI more than observed changes in the CPI itself.

### **IV. Policy Implications**

It is not surprising that changes in the CPI and WPI have trended upward in Egypt in recent years, given the significant fall in the exchange rate. What is surprising is that changes in the two indices have widely diverged to the point of reaching a gap of 10 percent in 2003. The explanation offered in this *Policy Viewpoint* is that there are major methodological differences in the way the two indicators are constructed,

which cause policy shifts in the exchange rate and subsidies to impact them differently. When these changes also occur at a time of economic slowdown, the divergence is made more pronounced.

Beyond explaining what happened in the past, it was argued that consumer prices are likely to be higher in the future, other things being equal. This is partly because the pass-through from exchange rate to inflation was not allowed to fully take its course by means of policy intervention (i.e., administered prices and increased subsidies). This process was aided by sluggish economic activity. In the future, the pressure to restore fiscal balance could lead to an upward revision of administered prices and/or a reduction in subsidies, both of which would lead to higher consumer prices.

Given that inflation is currently suppressed, a number of policy implications follow. Most importantly, monetary policy targets should be revised in light of the expectation of higher inflation. This revision may involve higher interest rate and/or lower exchange rate than pursued currently so as to keep inflation in check. Similarly, fiscal adjustment is needed sooner rather than later to avoid inflationary pressures. Finally, alternative policy instruments other than direct subsidies and administered prices need to be found. One viable option is direct income support to those most in need.

### **Note:**

<sup>1</sup> The Laspeyres Index is expressed as a weighted average of changes in goods prices between some base year and current year using the following formula:

$$L_t = \frac{\sum_i p_{it} q_{i0}}{\sum_i p_{i0} q_{i0}}$$

$$L_t = \sum w_{i0} (p_{it}/p_{i0}), \quad w_{i0} = p_{i0} q_{i0} / \sum_i p_{i0} q_{i0}$$

Where  $p_{it}$  is the price of good  $i$  in period  $t$ ,  $q_{i0}$  is quantity of good  $i$  in some base period 0 and  $w_{i0}$  is the weight of good  $i$  in the base period 0. For further elaboration and assessment of the methodology in Egypt, see Fares (1997).

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This *Policy Viewpoint* was written by Abeer El Shennawy and Ahmed Galal, ECES.

### **For more information about ECES contact:**

The Egyptian Center for Economic Studies  
Nile City Building, North Tower, 8<sup>th</sup> Floor  
Corniche El Nil - Cairo 11221 - Egypt.  
Tel.: (202) 461 9037 Fax.: (202) 461 9045  
E-mail: [ecses@ecses.org.eg](mailto:ecses@ecses.org.eg) URL: [www.ecses.org.eg](http://www.ecses.org.eg)