

## The Egyptian Price Subsidy Policy: Modification and Implications

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**Abstract:** The study tended to predict the impact of the price subsidies budget reduction in Egypt upon household consumption. Estimates of price elasticity of demand coefficients were deployed. The price rise of consumable goods was estimated in range of 25-40% and costs of transports and electric power services in range of 40-50%, in average. In response, the household budget would need to increase by about 22% in average, such as to face the price increases and maintain the initial consumption standards. An adjusted tax system in favor of the poor would partially confront the problem, especially for ration books non-holders of the lowest income strata as the most suffering.

**Key words:** Price subsidies • Price-demand elasticity • Household budget • Ration books holders

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### INTRODUCTION

Despite domination of privatization and liberal economy worldwide, price subsidies are still widely practiced. For example, nearly 30% of farmers' income in EU is in form of subsidies. Likewise, food stamps budget in USA approaches \$100 billion/year. As for Egypt, the program of price subsidies began in the early 1960s for staple foods and production requisites with a budget reaching LE60 million/year [1] Such budget gradually increased to reach LE 55 billion in 2005 and up to almost LE 160 billion in (2013-14) [2] despite abolishing the subsidies for agricultural production requisites by the early 1990s with adoption of the economic reform and privatization policies. Such policies' strategy was set to enable governmental gradual retreat from all sorts of intervention in economic activities. Nevertheless, due to domestic social and political considerations, reducing price subsidies undertook the slowest pace. It began by eliminating price subsidies for agrochemicals, except for periods of dramatic drop of supply where governmental provision of chemical fertilizers at subsidized prices was reapplied. However, partial removal of price subsidies took place since 2014, basically focused upon energy sources, where subsidies on fuel declined by nearly 30% in a single year. Additionally, limits were imposed on purchased price subsidized bread. In general, the governmental intention for gradual elimination of all sorts of price subsidies is clearly announced. Leverages

within the price subsidy system beside public budget debt and growing deficit are the main causes of such tendency.

**Problem:** The recent cut-down and modifications of the price subsidies would intuitively reflect upon the governmental expenditure. However, the resulted prices rise has direct immediate impact on households' budget and peoples' cost of living which are not yet examined and assessed.

**Objectives:** The study aims to investigate the impact of changes made on the price subsidy system in Egypt on prices of necessary goods and services and assess their implications with respect to consumers' behavior and eventually upon their cost and standard of living.

### MATERIALS AND METHODS

Estimated price elasticity of demand coefficients shall be used to forecast the consumers' response, in both quantities demanded and expenditure on variant daily purchased consumption goods and services, to expected price changes due to price subsidies adjustments. Subsequently, required rise in average per capita income to maintain the current standard of living shall be estimated considering each expenditure item's share of the total household annual expenditure serving as proxy of income.

## RESULTS AND DISCUSSION

**Development of Price Subsidies:** The budget of price subsidies which was around LE60 million/year during the 1960s experienced a drastic jump with adoption of the Open Door Economic System in 1974 [1]. That was mostly due to a dramatic leap of major food commodities imports, such as wheat, corn and edible oil to 5, 3 and 20 folds, respectively in less than 9 years. Accordingly, the subsidies budget rose to nearly LE2 billion/year by the early 1980s [2, 3, 4]. Afterwards, the budget experienced wide leaps reaching LE23 billion in 2002/03. As the official exchange rate of the USA dollar almost doubled, so was the subsidies budget in only 3 years, reaching LE49 billion by 2005/06 as shown in Table 1 and further to nearly LE 160 billion in 2013-14 and share of the public budget rose from about 12.9% in 2000-01 to nearly 29.6% in 2012-13. However, it is worth mentioned that almost 45% of the budget is accounted as the difference between domestic and international prices for exportable goods. This relies on a debatable hypothetical assumption of ability to export all what is produced of such goods. However, certain exportable goods, petrol in particular are actually price subsidized since all Egypt's share is exported and domestic needs are purchased from the foreign partner at the international price level. As for food share of the subsidies' budget, it is almost 25%, among which bread shares about 12.5% (2015).

Recently (2015), a remarkable subsidies reduction has been executed, especially for energy resources, i.e. fuel and electric power. Such cut-down brought the subsidy budget to 60% of its initial sum of nearly LE 160 billion in 2014. Several factors triggered such action of which the principal cause was devaluation of the Egyptian pound to almost two-thirds of its former value in American dollars. In response, the cost of living increased by almost 40%, mostly in form of increases in food expenditure, electric power bills and transport costs. The system modifications involved also confinement of price subsidized bread to holders of rations books at a daily quota of 5 loaves per caput. Holders of rations books are provided with an average according to revealed income strata of about LE 15 /month worth of sugar, rice and edible oil, beside any grocery commodity worth savings of bread purchases below the determined quota at a rate of LE 1/ 10 loaves [5]. According to the new system, the consumer is not bound by specific quota of each ration book item. Although non-holders of rations books were encouraged to enroll, around 50% of the population, mostly located in rural areas, is still deprived of price subsidized commodities.

### **Impact of the Price Subsidies' System Modifications:**

The main effect of the price subsidies' system modifications is the price rise which in turn reflects upon goods and services demand and household expenditure. That is in addition to fulfillment of the principal purpose, which is reducing the price subsidies budget. Table 2 presents the shares of foods, energy sources and transports of households' budget, in addition to estimates of demand price elasticity coefficients serving as basis for price rise impact upon households' expenditure on price subsidized items. On the other hand, Table 3 shows both demand and expenditure responses to price subsidies budget decline of either domestic prices or transports and electric power. It should be considered that for price-subsidized bread and items included in ration books non-holders of rations books would suffer the total price rise.

### **Demand on Food Commodities**

**Bread:** Confinement of price-subsidized bread allowances to holders of rations books implies the reliance of almost half the population on free price markets, at five times the subsidized price. And since the price elasticity coefficient for bread is about 0.12 in average about 88% of the price raise is reflected on procurement costs for non-holders reaching almost 4.4 folds its initial level. As an expected implication, bread's percentage share of income for the stratum below poverty line would rise to nearly 12% compared to an average for all strata not exceeding 1% before system modifications.

**Other Foods:** As shown in Table 2, estimates of price elasticity coefficients range between 0.3 and 1.2 according to consumption necessity. The lowest estimates concern cereals, starchy foods, edible oil and most vegetables, while highest occur for animal origin foods and most fruits. Accordingly, as shown in Table 3, per capita consumption of rice and macaroni would decline by nearly 16% and about 12% for edible oil with price rise of 40%, while the corresponding estimate for dairy products, vegetables, fruits and meats would fall by almost 8%, 6%, 11% and 12%, respectively. Although the last four groups are not price subsidized their price is supposed to reflect the transports and electric power cost increase due to subsidies cut which would reach 25% enhanced by the monopolistic nature of their domestic trade. As such household expenditure would rise by nearly 18%, 23%, 14%, 10%, 8% and 7% on rice and macaroni, edible oil, dairy products, vegetables, fruits and meats, respectively.

Table 1: Price subsidies budget in Egypt (2009 -13) (LE billions)

Year	Food		Other (*)		Total direct		Total indirect		Gross total
	Value	%	Value	%	Value	%	Value	%	
2009/10	13.8	22.5	13.9	22.6	27.7	45.1	33.7	54.9	61.4
2010/11	31.0	25.0	11.5	9.3	42.5	34.3	82.1	65.7	124.2
2011/12	20.1	15.3	15.1	11.5	35.2	26.8	95.5	73.2	131.7
2012/13	26.6	23.6	16.3	14.4	42.9	38.0	70.0	62.0	112.9

(\*) Farmers support, public transports, medicines, baby food, credit for popular housing, electric power and crops' price subsidies.

Source: Ministry of Finance – Annual Public. Budget –final accounts report.

Table 2: Percentage expenditure shares for foods and other price-subsidized items and demand price elasticity coefficients

Item	% of total annual expenditure (1)	Price elasticity of demand coefficients estimates (2)
Foods and beverages	37.6	0.6
Bread and cereals	5.0	0.1 - 0.4
Meat	11.0	0.9
Fish and sea foods	2.5	1.2
Milk, cheese and eggs	4.9	0.7
Oils and fats	2.5	0.3 – 0.8
Fruits	2.6	1.1
Vegetables	5.5	0.6
Sugar and sweet stuff	1.4	0.1 – 0.4
Electricity, gas and other fuels	2.5	0.2
Transports	3.2	0.1

Source: (1) Ref. [6] (2) Average estimates from: Refs. [7], [8], [9] & [10].

Table 3: Cost rise for major items of household consumption due to subsidies cut-down

Item	Price rise (%)	Demand decline (%)	Cost rise (%)
Bread "baladi" (*)	200	6	220
Rice, macaroni	40	16	18
Edible oil	40	12	23
Dairy products	25	8	14
Vegetables	25	6	10
Fruits	25	11	8
Meats	25	12	7
Transports	40	0	40
Electric power	50	0	50

(\*) only 50% of the bread price increase since reflected upon non-holders [4] of rations books representing nearly half the population.

Source: Study analysis

In view of such expected price changes combined with the respective shares in household budget, given in Tables 2 and 3, food share would increase by about 8%, bringing it up to nearly 46% of total expenditure. That is combined by a dramatic fall of per capita consumption of semi-necessities, e.g. meats and fruits, which are already of very low levels.

**Transports and Electric Power:** As for transports, household demand is almost perfectly inelastic with respect to fees change. Hence, all cost increase would reflect on expenditure. As such, its share of total

expenditure reaching 3.2% would rise to almost 4.3%. Considering the electric power, the bill has increased for household use by an average of 50%. This implies a rise in its share of the household budget to nearly 3.8%.

**Household Budget Adjustments:** In view of the estimation given above, facing the price increases caused by the subsidies' reduction would require an increase in household budget by about 11% such as to maintain amount of expenditure on other items. However, to offset the expected decline in per capita consumption an additional increase of total expenditure by about 11% is

required bringing the total needed increase to almost 22%. It is worth mentioned that a further increase is required to cover the increases of medical care costs which share nearly 9.1% of the households' budget. Such increase is difficult to estimate as the subsidies cut are not clearly stated for this area.

### CONCLUSIONS

The study revealed that the subsidies budget cut-down put into effect 2015 would raise the Egyptian household budget immediately by no more than 11% in average. However, despite the low price elasticity of demand for most price subsidized items, average per capita consumption is expected to decline with high rates for items not directly price-subsidized, but those of which transport and storage costs are expected to increase, e.g. vegetables, fruits and animal origin foods. The study estimated the additional increase in budget such as to maintain the initial consumption standards would be no less than 11%, adding up the required budget increase to almost 22%. Further increases are expected due to growing demand pressure and other causes of the annual inflation trend. Such problem may be partially treated by increasing the percentage of ration books holders and taxes relief for the lower income strata compensated by taxes imposed on the highest income strata. Finally, it should be mentioned that the new system does not impose specific quotas of each of the rations book's items allowing the holder's free choice of quantities.

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