

## SUBSIDIZING BREAD IN ALGERIA? YES, BUT...

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**ABSTRACT:** In Algeria, bread subsidy is one of the priorities of public authorities' policies. However, there is currently a significant and unprecedented waste of the famous French baguette. Our study has been oriented to see how bread grant should be applied in Algeria in order to reduce waste and so minimize costs that it generates. To do so, we proceeded to a study of the Algerian consumer behavior towards this product and the social constitution of the Algerian population to determine the advantages and limits of this subsidy. Bread subsidy in Algeria is not applied in a rational way; it should be targeted and rather reasoned.

**Key words:** Administrated price, Bread grant, Grant policy, Poverty line, Production cost, Waste

### 1. INTRODUCTION

In Algeria, after the first economic crisis in 1986 (Benderra, 2002), many important food products such as cooking oil sugar, coffee and barley stopped being subsidized. Only wheat and milk resisted to the liberalization of prices (Talamali, 2000) according to the reforms of structural adjustment decided by the authorities and imposed by the international monetary fund in 1994 (Benderra, 2002). Indeed, wheat derivative products prices knew a very slow growth since 1989 till now. However, nowadays, we attend to significant price differentiation for some of these products such as pasta and couscous but insignificant one mostly for bread, the most omnipresent food in the Algerian table (Bouchafaa and Kherchi, 2014).

In order to insure the accessibility of bread to the whole population, Algerian authorities are obliged to regulate its price so that the difference of subsidy is assumed by the public treasure (Bouchafaa and Kherchi, 2014). In 2015, wheat belt was estimated at 1.85 billion USD and on the other side, we attend to a terrible wasting of this product at national scale (Capone et al, 2016) ; that's why it would be better to review bread subsidy in Algeria.

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In this way, we must define if subsidy is rationally applied in Algeria. So we must study the social constitution of the Algerian population and the limits and costs of bread grant policy. But first, let's fix the characteristics of bread as an economic good in Algeria by studying its demand.

## **2. PLACE OF BREAD IN ALGERIA**

Algerians ingest bread under its whole forms; they eat "matloué", "Kesra" and love French baguette which is the most consumed in the Algerian diet.

According to FAO statistics, in collaboration with the World Federation of bakers, Algerians consume 48'600'000 French baguettes daily, therefore occupying, the first place of bread consumers in the world (Fedala et al, 2015)

Let's note that French baguette is produced and sold in different categories. We can find "normal bread" made of normal flour, "improved bread" with improved flour and "semolina bread" which is a baguette made of semolina. These products aren't sold at the same price, but subsidized by Algerian State. Indeed, since 13/04/1996 the price has been fixed at 7.5 DZD for the 250 g baguette of "normal bread" and at 8.5 DZD for "improved bread" (JORADP, 1996). The "semolina baguette" has been recently introduced by the 2000's, its price is fixed at 15 DZD. Actually, these prices are not respected by bakers because they estimate the baguette's cost is higher, especially for "normal bread", so they buy it at 12 DZD on average. (Rastoin and Benabderrazik, 2014). In spite of that, these prices are still considered very low because the Algerian purchasing power increased in the decade 2005-2014 (Rastoin and Benabderrazik, 2014).

We cannot say, a priori, that the low prices of bread are the cause of the high demand and waste of this product. First, we must classify it as economic good by studying the behavior of the Algerian consumer facing its price variation.

## **3. CLASSIFICATION OF BREAD AS AN ECONOMIC GOOD**

We all agree that bread is considered all over the world, as a necessary good, consumed by all and must be accessible for everybody. That is why, it is subsidized in Algeria.

We just want to see if the applied prices are reasonable and are not the cause of bread waste. So we have to study the effect price-elasticity and income-elasticity of this good in Algeria, in order to classify it and say if it is effectively a Giffen good. Let's remind that a Giffen good is «A good where higher price causes an increase in demand (reversing the usual law of demand). The increase in demand is due to the income effect of the higher price outweighing the substitution effect » (Marshall, 1895). To achieve our goal, the first step is to study the constitution of Algerian population.

### **3.1. Social constitution of Algerian population:**

The most recent general survey made about household spending and salaries, goes back to 2011 by National Statistical Office (ONS), the results were made public in November 2015. The table1 below gives the distribution of salaries workforce in Algeria.

**Table 1** : The distribution of salaries workforce in Algeria in 2011

Wage groups in DZD	Workforce	%
Less than 15'000	1'043'371	15.6
15'000 – 25'000	2'424'687	36.2
2'5000 - 40'000	2'001'193	29.8
40'000 – 50'000	590'438	8.8
50'000 and more	644'848	9.6
Whole	6'704'536	100

**Source:** ONS, 2015

This table shows that an important part of employees (15.6%) are paid below the SMIC (Minimum wages) which equals 15'000 DZD (ONS, 2015). The most important part is paid between 15'000 and 40'000 DZD. The median salary is estimated at 24'468 DZD (ONS, 2015). This means that the resulting relative poverty line is about 14'681 DZD, very close to SMIC. So, 15.6% of Algerian employees may live in poverty!

It should also be noted that the largest tranche concerns wages between 15'000 and 25'000 DZD neighboring the SMIC, so it is also threatened with poverty. It represents 36.2% of workforce.

Overall, a proportion of about 52% of population on average risks poverty. This proportion of population and subordinates, without forgetting the part of the population completely destitute, can barely provide daily bread. Subsidy, in this case, becomes imperative. This also means that 48% of population may not need subsidy.

A brief outline of the social state of the Algerian population shows that an important part lives below or comes close to poverty line. This leads authorities to try to insure essential goods to population by making use of the grant. In Algeria bread is one of the rare subsidized goods. But its price is estimated to be very low (Restoin and Abderrazik, 2014). Moreover, bread subsidy is called into question because its waste that is increasingly being felt in Algeria (Capone et al., 2016).

Before formulating any opinion, we must first define the real place of this food in the daily life of the Algerian. To do so, we first considered the place of cereals in the Algerian diet. Then, we detailed the cereal consumption to locate the bread in this food category.

### 3.2. Importance of bread in Algerian diet

The ONS' survey gave details about Algerians food expenditure. It revealed that cereal goods take the greatest part of the Algerian budget with 17.5%. It should be noted

that these products display the lowest prices in Algeria (Rastoin and Abderrazik, 2014). The detailed expenditure for cereal products is given in Table n°2 below

**Table 2 :** Distribution and structure of average per capita annual food expenditure Cereal products

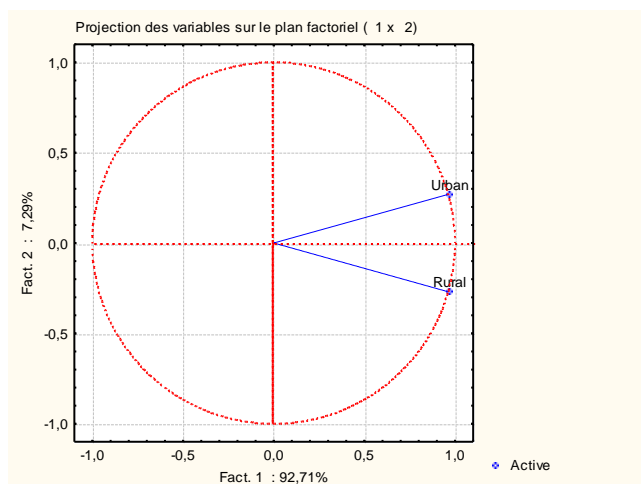
(Unit : DZD)

Products	Urbain	%	Rural	%	Total	%
Bread	2179	25.3	1499	15.7	1950	21.9
Four	866	10.1	1582	16.6	1108	12.4
Semolina	2449	28.5	3527	37.0	2813	31.5
Couscous	389	4.5	306	3.2	361	4.0
Pasta	530	6.2	364	3.8	474	5.3
Other cereal products	672	7.8	956	10.0	768	8.6
Unprocessed cereals	115	1.3	400	4.2	211	2.4
Rice	161	1.9	127	1.3	149	1.7
Cakes & pastries	1244	14.5	772	8.1	1085	12.2
Total	8 605	100	9 533	100	8918	100

Source : ONS, 2015

A principal component analysis (CPA) shows there is no difference between urban and rural household Cereal products expenditure. The figure n°1 below confirms similitude of these two variables.

**Figure 1:** Presentation of Rural and urban expenditure foods by PCA

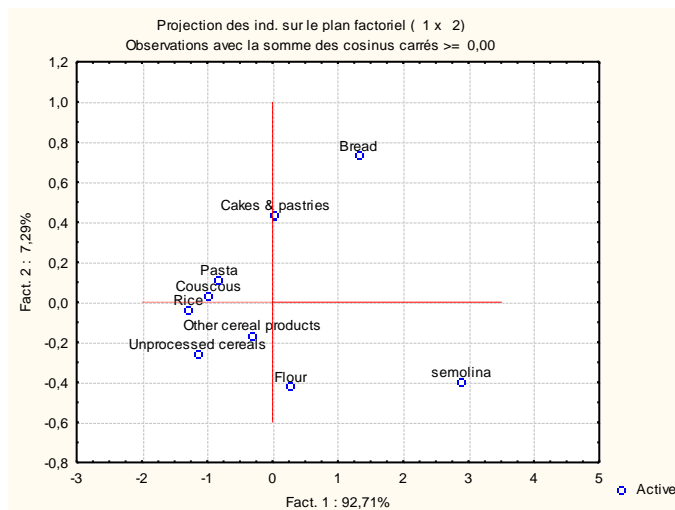


**Source:** established by ourselves from ONS' data, 2015

According to this figure, we can clearly see that both “Rural” and “Urban” variables are equally correlated to the first principal axis. So, we can say that rural and urban households expend for cereal food in the same way. Algerians seem having the same behavior regarding cereal food consumption.

In this way, we can follow how cereal food expenditures are distributed by exploring the figure n°2 below, presenting the projection of the different cereal goods on the first main plan.

**Figure 2 :** Detail of cereal goods expenditure of Algerian consumer



**Source:** established by ourselves from ONS' data, 2015

If we consider monetary value, semolina requests the biggest part of budget of Algerian consumer with 2813 DZD/capita, which is equivalent to 74 Kg/year/capita (Rastoin and Abderrazik, 2014). The second place is occupied by “Bread” with 1950 DZD/capita and this means than one Algerian consume 162.5 baguettes/year/capita! So, considering quantities, bread is the most consumed cereal good in Algeria.

Bread outlay is about 3% of total food expenditure in Algeria (estimated at 51'076 DZD/year/capita) and according to ONS' survey, households with none active persons have the highest food expenditure with 55'221 DZD/year/capita. So they have no income and must pay only food expenditure per year and per capita more than national average. Subsidy or even aid must be applied for this tranche of population.

An overview of food spending revealed that bread is almost the number one item among the food products of the Algerian consumer. However, the worry of waste persists.

In this way, we will try to evaluate the cost imposed by such a problem on the public treasure

#### **4. COST OF BREAD WASTE:**

Bread is a subsidized good in Algeria. This means that with or without waste, Public treasure must support the difference between real and administrative price. Subsidy is applied from upstream to downstream of the bread-making process. Indeed, the Algerian public treasure supported in 2010 about 40 billion DZD, the equivalent of US \$ 537 million for the soft wheat, the main input of the bread (Bouchafaa and Kherci-Medjden, 2013).

According to the Vice-President of the National Bakers' Commission affiliated to the General Union of Algerian Traders and Artisans (UGCAA), the baguette actually costs 12.40 DZD and the administrative price is fixed at 8.50 DZD for normal bread. So, he estimates that The price of the baguette should be 15 DZD, otherwise bakers could be in deficit.

Let's remind that actually normal bread is bought at 10 DZD, improved and semolina bread at 15 DZD without an official consensus of the State. However, this has never been considered as a violation.

So the difference between the baguette cost and its effective price (for normal bread), is 2.40 DZD. If a bread crumb of a bread stick (estimated at 1/100) is wasted per person every day, it would cost 350'400'000 DZD, the equivalent of about US \$ 3 million a year to the public treasure.

In Ramadhan 2015, Algerians threw 120 millions bread stick (Capone et al., 2016), which means that public treasure supported a waste with the value of 288 million DZD, the equivalent of about US \$ 2.5 million only for the month of Ramadhan.

A simple calculation shows the unfortunate cost generated waste bread. Bakers are still considering that they are in deficit even they applied new prices. And if they judge it necessary, new consent prices could be applied since other inputs prices are increasing because we are attending to a terrible inflation in Algeria at the moment. This would reduce the difference between prices and waste cost would be shared between State and consumer who would reflect at least once before throwing bread in the trash.

#### **5. CONCLUSION:**

Bread has a particular place in Algerian consumer diet. It constitutes 3% of the daily food expenditure. It is so considered as the most consumed food in Algeria. However, some Algerian people can't get daily this commodity although necessary. These are people living below or neighboring poverty line. That is why subsidy should be applied. In Algeria about 52 % of population must be subsidized concerning bread. On other side, the generalization of bread subsidy can lead to waste. It is the case observed in Algeria. Indeed, In Ramadhan only, waste bread cost can reach or even exceed US \$ 2.5 million.

Finally, we can say for subsidizing bread in Algeria, yes but:

- 1 – Bread prices mustn't be underestimated;
- 2- Grant policy must be modified by targeting persons who must be subsidized
- 3 – Estimating the real bread consumption of Algerians;
- 4 - Sensitization of the population

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