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## **Confinement, Food security and consumption of subsidized products in Tunisia: Worsening trade deficit**

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**Abstract.** The present paper attempts to know if the confinement in Tunisia has an impact on the consumption of subsidized products and in turn on food security and on the trade balance or not. Firstly, by analyzing the place of subsidized products in Tunisian economy. Then via the determination of limits of confinement in Tunisia specially trade deficit. Finally through the analysis of different problems given by confinement on food security and increased of percentage of cancer. According to our analysis, confinement of COVID-19 pandemic has caused an unprecedented economic, food security and financial crisis in Tunisia especially on the trade deficit witch is suffer before of various difficulty. The confinement can be considred a good solution for COVID but it have many limits on food security for Tunisian and on increased of consumption of subsidized products in Tunisia.

**Keywords.** COVID 19, confinement, Trade balance, food security, health care

### **1- Introduction**

The covid-19 crisis occurred in an already fragile economic context in Tunisia. As the pandemic weighs down the health system, Tunisians are suffering the consequences of an endless economic crisis. Eating, dressing and taking care of yourself is a daily challenge. Firstly, we will present the place of subsidized products in Tunisian economy. In a second part, we will present the limits of confinement in Tunisia specially on trade deficit. In a third part, we will present the analysis of different problems given by confinement on food security.

### **2- The limits of confinement in Tunisia specially on trade deficit**

#### **a- The place of subsidized products in Tunisian economy**

In Tunisia, as in the other Maghreb countries, the issues related to cereals are considerable because of their weight in the diet of the population, in the agricultural and agro-food production and throughout the economy, a generally. This is why state intervention has always been important in the cereals sector. The cereal policy pursued since independence presents a evolution, moving from a state voluntarism aiming at the intensification and modernization of production and control of the sector, to a distributive economy in favor of consumers, then to a "protectionist liberalism" whose regulation of the sector is still largely managed by the state. Tunisia has entered the already very fragile health crisis, handicapped by

many structural obstacles. The issue of food security is strongly linked to the development of cereal sector insofar as cereals are a commodity of the diet of Tunisians by providing them with 52% of total calories and 53% of total protein. Tunisians remain a major consumer of cereals with a national average of 184Kg / person / year (INS, 2015).

#### **b- Food security and cereal deficit**

Cereals are the staple food of the Tunisian population, whose diet is a Mediterranean diet characterized by a high consumption of products vegetables, particularly cereals which provide 49.2% of calories, 50.9% of protein, 42.5% of iron and 19% of calcium (INS, 2015). According to the latest INS survey in 2015, food expenditure on cereals are of the order of 149,192 TD / person / year representing about 4% of expenditure overall household expenditure and 13% of total food expenditure. The consumption household is estimated at 174.3 kg / inhabitant, / year varying from 164.6 kg in urban to 195kg in rural areas.

**Table 1: Evolution of the consumption of products derived from cereals in Kg / person / year \* (1985-2015)**

<b>Products</b>	<b>1985</b>	<b>1995</b>	<b>2005</b>	<b>2015</b>
<b>Total cereals</b>	204,4	187,00	182,6	174,3
<b>Semolina</b>	47,20	42,50	28,1	15,5
<b>Industrial couscous</b>	13,30	10,60	11,1	11,0
<b>Mhammas</b>	3,00	2,10	1,7	1,4
<b>Pasta</b>	14,60	12,30	11,9	12,4
<b>Flour</b>	5,00	4,50	4,3	4,3
<b>Bakery bread</b>	65,70	65,30	69,8	73,0
<b>Barley of which : Frik, Malthouth</b>	7,40	2,90	2,2	2,0
	4,60	1,80	1,30	1,2
<b>Other cereals of which : Sorghum, rice</b>	2,40	3,50	4,9	6,1
	1,20	1,70	2,1	2,7
<b>Other grain products of which : Biscuits, cakes</b>	5,20	6,40	13,9	17,6
	2,60	3,20	4,7	6,8

Source: INS data

Soft wheat is mainly consumed in bread and flour. Since 1985, the consumption of bakery bread increased from 65.7 kg / person / year to 73kg / person / year in 2015, an increase of 11% over the period, while the consumption of flour has remained almost stable around 5 kg / person / year.

Tunisia is therefore faced with a problem of external dependence which comes with heavy bills and high uncertainties in market conditions global. The value of grain imports represent on average 45% of the value agro-food imports. A notable increase was noticed in 2007 linked to the volatility of world prices.

**Table 2: Price list of subsidized products**  
**Evolution of the Public Selling Prices of Subsidized Products**

	Unit:Dt									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Big bread (400grs)	0,2300	2300	2300	2300	2300	2300	2300	2300	2300	230
Baguette (220 grs)	0,1900	1900	1900	1900	1900	1900	1900	1900	1900	190
Semolina(kg)	0,4500	4500	4500	4500	6400	6400	6400	6400	7900	790
pasta(kg)	0,8050	8050	8050	8050	8050	8050	8050	8050	8050	805
couscous (kg)	0,7950	7950	7950	7950	7950	7950	7950	7950	7950	795
sugar(kg)	0,9700	9700	9700	9700	9700	9700	9700	9701	0501	150
Semi-skimmed milk in bottle (L)	1,0201	0201	0201	0701	0701	0701	0701	0701	2001	200
semi-skimmed milk in UHT (L)	1,0601	0601	0601	1201	1201	1201	1201	1201	2501	250
Vegetable oil in glass bottle (L)	0,9000	9000	9000	9000	9000	9000	9000	9000	9000	900

**Source: INS data**

### **3- How confinement affected food security in Tunisia**

#### **a-Affected the food security in quantity: Pauvrety results of confinement**

Due to the coronavirus which has claimed more than 25,000 victims since its appearance in the country in March 2020, more than 600,000 Tunisians have fallen into poverty. According to World Bank estimates for June 2021, Tunisia's poverty reduction strategy is based on short-term financial aid and only vaguely addresses the real causes of poverty. Programs aimed at combating poverty have multiplied without focusing on the root of the problem. In total more than 2,500,000 Tunisians now live below the poverty line. Living on less than 5 dinars a day, mapping poverty in Tunisia. In several delegations of the governorate of Kasserine, one inhabitant in two lives below the poverty line. In El Menzah (Tunis), an upscale suburb of Tunis, out of a group of 500 individuals, only one person is considered poor. How to

explain such differences? To understand, we analyzed and mapped the poverty data in Tunisia. Through these figures, it is possible to establish a distribution of inequalities within the population. These inequalities can be caused by other indicators, such as unemployment, educational level or access to public services. Inkyfada has thus identified significant correlations by comparing the different data.

### **b-Affected the food security in quality: obesity and cancer**

Food insecurity can translate into deterioration of the quality of food and by therefore increase the risk of various forms of malnutrition, which can lead to undernutrition or overweight and obesity. The nutritional status of the most vulnerable are at risk of further deterioration due to the health consequences and socioeconomic aspects of the covid-19 pandemic. Low-income countries consume more staple foods and fewer fruits, vegetables and animal source foods than income countries raised. Only the countries of Asia and, in the world, upper middle income countries, have enough fruits and vegetables to human consumption in order to be able to respect recommendation made by FAO and WHO to consume a minimum of 400 g / person / day. Healthy food is unaffordable for many many people, especially for the poor, whatever the region of the world. The most prudent shows that it is unaffordable for more than 3 billion people in the world. It is estimated that a healthy diet is, on average, five times more expensive than a starchy diet that does not meet than for dietary energy needs.

The cost of healthy eating is higher than the international poverty line, set at US \$ 1.90 at purchasing power parity (PPP) per person per day, making it unaffordable for the poor. This cost also exceeds the average amount of food expenditure in most countries of the South: in sub-Saharan Africa and South Asia, at least 57 percent of the population cannot enable healthy eating. All diets have hidden costs that you need to know well to be able to identify the trade-offs and synergies that impact the achievement of other SDGs. The two hidden costs more critical of our food choices and systems the underlying food costs are the cost of care (SDG3) and climate-related costs (SDG 13). If current food consumption patterns continue, health-related costs, in terms of mortality and noncommunicable diseases, are expected exceed USD 1.3 trillion per year by 2030; and the social cost of greenhouse gas emissions related to current eating habits should to exceed USD 1.7 trillion per year by 2030.

Switching to a healthy diet could help reduce by 2030 the costs related to health and climate change, because the hidden costs of healthy eating habits are inferior to those of current food consumption. The adoption of healthy diets would, by 2030, lead to up to 97 percent cost reduction direct and indirect health-related and a reduction in social cost of greenhouse gas emissions in a range of 41 to 74 percent. So that healthy diets are more affordable, the cost of nutritious foods must be decrease. The cost factors of these plans are observable throughout the food chain, in the food environment and the economy policy that shapes trade, spending

public and investment. To tackle these factors, it will be necessary to transform in depth the food systems, on a case-by-case basis and in seeking balances and synergies which will differ depending on the country. Countries will need to rebalance, throughout the food chain, agricultural policies and incentives for investments and actions. more nutrition-oriented, to reduce waste of food and improve efficiency at all stages. He they will also need to put in place policies of social protection focused on nutrition if they want increase the purchasing power of the populations most vulnerable and their financial possibility of accessing healthy diets. Will also be necessary policies which, in a more general, encourage changes in healthy eating behaviour.

### **c-Food consumption and the quality of food, an essential link between safety food and nutritional outcomes**

Food quality includes four key aspects: variety / diversity, suitability, moderation and general balance. According to WHO, a healthy diet protects against malnutrition in all its forms, as well as against non-communicable diseases such as diabetes, heart disease the strokes and cancer. It contains a balanced, diversified choice and adapted from foods consumed on a certain period. In addition, a diet healthy way to meet the needs of macronutrients (proteins, fats and carbohydrates, including dietary fiber). and essential micronutrients (vitamins and minerals) of a person, depending on their sex, age, level of activity physical and physiological state. In healthy diet, less than 30 percent of total energy intake comes from fat, with a modification of the consumption of these to go from saturated fat to unsaturated fat and the elimination of industrial trans fats; less than 10 percent of energy intake total comes from free sugars (preferably less than 5 percent); consumption of fruits and vegetables is at least 400 g per day; and the consumption of salt (which must be iodized) not exceed 5 g per day. If the exact composition of a healthy diet depends on individual characteristics, as well as cultural context, available foods locally and eating habits, basic principles of what constitutes a diet healthy food are the same. A global assessment of consumption food and diet quality presents many difficulties. Nowadays, there is no single composite index and validated which allows to measure the multiples dimensions of diet quality for all countries. Data relating to availability food at the national level show, for what is food availability by living for the different food groups, large disparities between countries according to their income level Low-income and lower middle income heavily dependent on staple foods like grains, roots, tubers and plantains. Overall, the availability in staple foods in the world have little changed between 2000 and 2017. Availability in roots, tubers and plantains increased. in middle-income countries of the lower bracket, under the effect of an increase in Africa, while they have decreased in countries high income. In low-income countries, grains, roots, tubers and plantains in 2017 accounted for nearly 60 percent of foods available. This percentage decreases gradually as you go up in the income scale of the countries, to settle at 22 percent in high income countries.

### **d-Effects of COVID-19 on alcohol consumption**

The COVID-19 pandemic and the measures that have been taken by states to deal with it and limit travel have had an impact on the patterns and locations of alcohol consumption. While the road to recovery is still long and difficult, this crisis also increases the risk of drinking excessively to cope with stress. Since the start of the pandemic, domestic violence - for which harmful alcohol consumption is a risk factor - has increased. The harmful use of alcohol harms health, causes illness and injury, weakens measures to combat COVID-19, and carries significant economic and social costs.

### **4- Conclusion**

This paper was dedicated a theoretical study to know if the confinement in Tunisia has an impact on the consumption of subsidized products and in turn on food security and on the trade balance or not. The results clearly show that confinement of COVID-19 pandemic has caused an unprecedented economic, food security and financial crisis in Tunisia especially on the trade deficit witch is suffer before of various difficulty. The confinement can be considered a good solution for COVID but it have many limits on food security for Tunisian and on increased consumption of subsidized products in Tunisia. During the pandemic and the ensuing containment, including guidelines on "staying at home". People with obesity, diabetes. This

further emphasizes the importance of healthy eating as a first line defense for disease prevention and other noncommunicable diseases (NCDs) are among the population at high risk for covid-19 home ", the risk of unhealthy eating increases. It is therefore essential that governments raise awareness and advise all segments of the population to maintain a healthy and nutritious diet. Those recommendations could include, among others, the adoption of the following: Balance diets by introducing healthy options. Enrich meals with legumes, as a source of protein. Pay special attention to children, pregnant women and nursing mothers. Also pay special attention to the elderly and chronically ill, Finally, personal hygiene and food safety practices are essential to stay in good health.

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