

10.7251/AGSY1303047C

## WHEN ECONOMICS MATTERS IN MEETING FOOD SECURITY CHALLENGE: FOOD AFFORDABILITY AND ACCESSIBILITY IN THE MEDITERRANEAN

Roberto CAPONE<sup>1</sup>, Hamid EL BILALI<sup>1\*</sup>, Philipp DEBS<sup>1</sup>, Gianluigi CARDONE<sup>2</sup>

<sup>1</sup>Department of Sustainable Agriculture, Food and Rural Development

<sup>2</sup>Department of Mediterranean Organic Agriculture; Mediterranean Agronomic Institute of Bari; International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), Italy;

(Corresponding author: elbilali@iamb.it)

### Abstract

Food security is built on four pillars: availability, access, utilization and stability. For most Mediterranean people affordability is a key factor determining access to food. This is dependent not only on food cost but also on the disposable income that can be spent on food. The paper aims at analysing food accessibility in the Mediterranean region. Secondary data from different sources (*e.g.* FAO, World Bank) were used to analyse the trends of different indicators: food affordability; food consumer price index; household food expenditure; and cereals imports dependency. According to the Global Food Security Index, food affordability is still a challenge in the Mediterranean. In March 2013, food affordability score ranged from 34.8 in Syria to 86.5 in France. The share of food consumption expenditure in total household expenditure is high; 67.3% and 43.9% in Albania and Algeria, respectively. FAO food price index increase was higher than consumer price index increase in the period 2000-2011. During the period 2005-2011, the highest increase of the food consumer price index was recorded in Egypt followed by Turkey and Algeria. FAO consumer cereal price index increased more than meat price index in the period 2004-2012. Cereals import dependency is high in all Mediterranean Arab countries; up to 80% in drought years in Algeria. Accessible and affordable diets should not be taken for granted in the Mediterranean. Adequate and consistent economic access to safe, nutritious and high quality food, even in times of crisis, is a prerequisite for achieving sustainable food and nutrition security in the Mediterranean.

**Keywords:** *food affordability, food security, Mediterranean region*

### Introduction

Recent debates on food security, nutrition and health have contributed to moving these topics higher up in the list of development programme priorities (Hassan-Wassef, 2012).

The 1996 World Food Summit definition of Food security was reaffirmed and amended officially in the 2009 Declaration of the World Summit on Food Security: “*Food security exists when all people at all times have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.*” (CFS, 2009 in CFS, 2012). Food and Nutrition Security is a term that has been used more frequently during the past years to emphasise the need for greater integration of nutrition into food security policies and programmes (CFS, 2012). Food security is built on four pillars (CFS, 2012): (i) Food availability: sufficient quantities of food available on a consistent basis; (ii) Food access: having sufficient resources to obtain appropriate foods for a nutritious diet; (iii) Food use: appropriate use based on knowledge of basic nutrition and care; and (iv) Stability in food availability, access and utilization. Food security - including food availability, food affordability and food quality and safety - is still a challenge in many Mediterranean countries especially southern and eastern ones (The Economist, 2012).

For most people a key factor determining access to food is its affordability (Ingram, 2011). The accessibility dimension embraces Sen’s core thesis that food availability does not

guarantee that everyone is free from hunger (Sen, 1981). Affordability is dependent not only on food cost but also on the disposable income that can be spent on food (Ingram, 2011). Access to food is primarily determined by incomes, food prices and the ability of households and individuals to obtain access to social support (FAO, 2013b). For many Mediterranean consumers, income is a major barrier to freedom of nutritious and sustainable food choice. The present food economy does not deliver enough food to major parts of the population while market prices do not remunerate the costs that farmers should support to implement sustainable practices (Kickbusch, 2010).

The paper aims at analysing food affordability and financial accessibility in the Mediterranean region.

### **Material and methods**

Secondary data from different sources (*e.g.* FAO, World Bank, ILO) were used to analyse the trends of different indicators: food affordability score, food consumer price index, household food expenditure, and cereals imports dependency. The geographical coverage of this study is similar to that of the Mediterranean Strategy for Sustainable Development including 11 Northern Mediterranean and Balkan countries (Albania, Bosnia and Herzegovina, Cyprus, Spain, France, Greece, Croatia, Italy, Montenegro, Malta and Slovenia) and 10 Southern and Eastern Mediterranean countries (Algeria, Egypt, Israel, Lebanon, Libya, Morocco, Palestinian territories, Syria, Tunisia and Turkey).

The food consumer price index aims to measure the change in food and non-alcoholic beverages consumer prices over time (ILO, 1992). Data are available from LABORSTA database of the International Labour Organisation (ILO).

Food affordability score is one of the three scores used to calculate the Global Food Security Index elaborated by The Economist. Affordability category measures the ability of consumers to purchase food, their vulnerability to price shocks, and the presence of programmes and policies to support consumers when shocks occur (The Economist, 2012).

The Cereals imports dependency (CIDR) allows knowing how much of the available domestic cereal supply has been imported and how much comes from the country's own production (FAO, 2001). Data are available from FAOSTAT.

Household expenditure dedicated to food assesses the percentage of household annual income that is spent for buying food and non-alcoholic beverages (ILO, 2003). Data source is the Food security indicators (FAO, 2013a) based on elaboration of original LABORSTA data.

### **Results and discussion**

For a comprehensive and accurate assessment of food affordability and economic accessibility both micro- (household) and macro-levels (country) should be considered. At the macro-level some useful insights about food affordability are provided by cereals imports dependency ratio while food affordability score, food consumer price index and household food expenditure share allow a good appraisal of economic access to food at household level.

#### *A. Cereals imports dependency ratio*

Cereals imports dependency ratios give an idea about the level of exposure to global food price changes, which is strongly linked to food affordability and accessibility. Cereals imports dependency ratios are high especially in southern and eastern Mediterranean countries. In fact, the average cereals imports dependency ratio in the Mediterranean countries was 61% in the period 2007-09; that is much higher than the world average in the same period (15.7%). In the period 1990-92/ 2007-09 the ratio ranged between 1.6% recorded in Croatia (1990-92) and 107.7% recorded in Malta (2007-09). Cereals imports dependency ratios are particularly high in North Africa (49.9%), with respect to a developing countries average of 15.5% in the period 2007-09.

The Middle East and North Africa (MENA) region is the most food import–dependent region in the world, and net food imports are projected to rise even further in the future. With less than 5% of world population, the region accounts for more of 12% of cereal global trade (Rastoin and Cheriet, 2010). This high reliance on imported food can be attributed to both demand- and supply-side factors. Demand-side factors include rising population and changing consumption patterns due to higher income, whereas supply-side factors include limited natural resources such as land and water (Breisinger *et al.*, 2010).

What is more alarming is the fact that cereals imports dependency ratios are increasing in the majority of Mediterranean countries. The ratio increased 10.4% in the target Mediterranean countries in the period 1990-92/2007-09. The only exceptions are the Occupied Palestinian Territories, Egypt and Lebanon, where the ratios slightly decreased in the same period. Nevertheless, these results should be taken with caution as the cereals import dependency ratios remain high to very high in these three countries (35.5% in Egypt, 88.5% in Lebanon, and 96.1% in the Occupied Palestinian Territories in the triennium 2007-09). Increases were higher than 20% in Spain, Tunisia, Morocco and Portugal. Cereals, especially wheat, prices increase can have dramatic impacts on southern and eastern Mediterranean consumers as cereals per capita consumption is significant (Fig. 1).

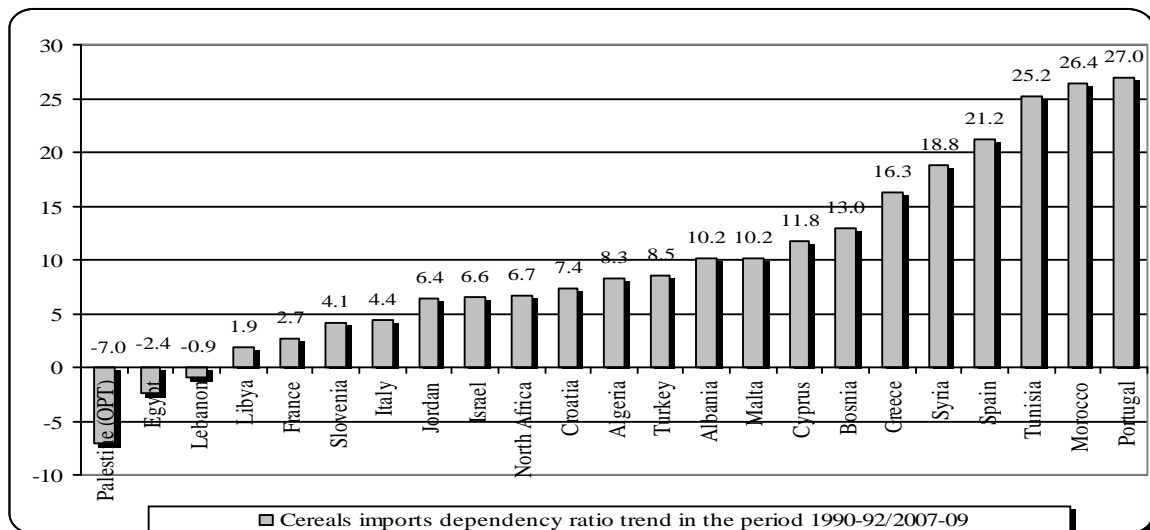


Fig. 1. Cereals imports dependency ratios trend in the period 1990-92/2007-09. Trend in Bosnia and Slovenia refers to the period 1994-96/2007-09 (Source: Authors' elaboration based on FAOSTAT data).

### B. Food consumer price index

Changes in food consumer price indices are significant among Mediterranean countries. According to LABORSTA data, taking 2000 as indices base, the increase of the consumer price indices for food was higher in North African countries (*i.e.* Algeria and Tunisia) and Turkey with respect to North Mediterranean and Balkan ones. This means that food is becoming less affordable and accessible in North Africa.

Comparing the trend of FCPI in relative terms during the period 2005-2011, it can be noticed that the highest increase was recorded in Egypt followed by Turkey and Algeria. The lowest increase was recorded in North Mediterranean countries especially Spain and Portugal, which can be due also to the effect of the financial and economic crisis on these countries (Fig. 2).

### C. Food affordability score

As of March 2013, all northern Mediterranean countries plus Israel have a very good food affordability. Food economic accessibility in the other Eastern and Southern Mediterranean countries is good to moderate. The only exception is Syria where an urgent improvement is needed in order to ensure an adequate economic access to food. That is certainly due to the civil war and unrest situation in the country.

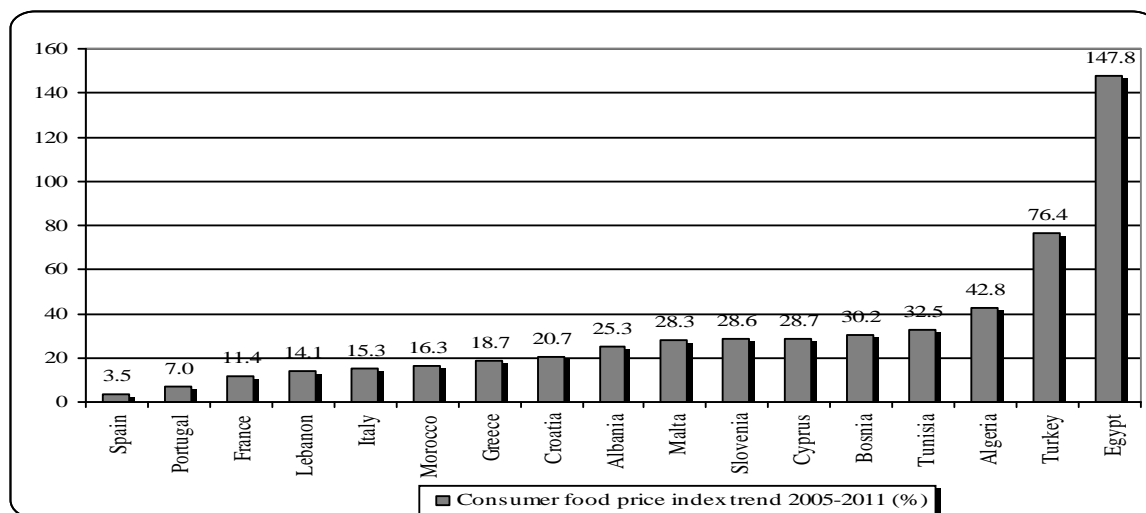


Fig. 2. Trend of consumer food price indices in selected Mediterranean countries in the period 2005-2011 (Source: Authors' elaboration based on LABORSTA data).

Considering June 2012-March 2013 period, food affordability deteriorated in most of the target Mediterranean countries especially in the PIGS countries (Portugal, Italy, Greece and Spain), that were severely affected by the global financial and economic crisis, as well as in Egypt, that was affected by the economic effects of the Arab Spring. A very low improvement was recorded in Tunisia, Israel and Algeria as well as Morocco (Table 1).

Tab. 1. Food affordability scores in selected Mediterranean countries. The score ranges between 0 and 100, where 100 = most favourable.

Country	June 2012	March 2013	Affordability change: June 2012-March 2013	Country	June 2012	March 2013	Affordability change: June 2012-March 2013
Syria	36.8	34.8	-2.0	Israel	81.2	81.4	0.2
Algeria	38.7	38.8	0.1	Greece	81.7	77.7	-4.0
Egypt	39.3	37.6	-1.7	Spain	85.7	84.0	-1.7
Morocco	50.9	51.5	0.6	Italy	85.6	84.3	-1.3
Tunisia	54.3	54.5	0.2	Portugal	82.0	80.5	-1.5
Turkey	60.1	58.6	-1.5	France	86.7	86.5	-0.2
Jordan	55.8	54.7	-1.1				

Source: After the Economic Intelligence Unit, *The Economist*.

#### D. Household food expenditure

Many poor consumers spend up to 70% of their incomes on food (Rajiv, 2010). For them, there is little latitude to offset the price rise simply by spending more (von Braun, 2008). According to Engel's law, the share of food expenditure in disposable income is expected to

decline as income levels rise. This means that poor households spend a relatively high share of their disposable incomes on food, making them vulnerable to sudden increases in food prices or losses of income (FAO, 2013b).

The highest shares of food expenditure in total consumption expenditure are recorded in Balkan and southern and eastern Mediterranean countries while the lowest ones are recorded in northern Mediterranean countries and Israel. In fact, Albanian consumers spend more than a half of the household budget for buying food products while French and Spanish consumers dedicate less than a quarter of the budget to food consumption expenditure (Fig. 3).

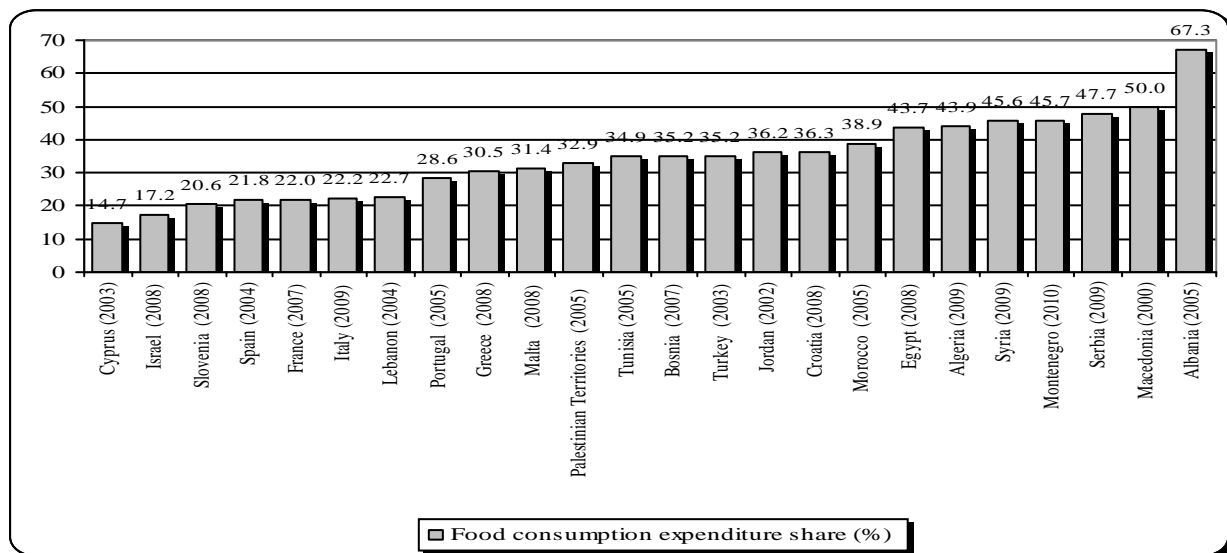


Fig. 3. Food consumption expenditure in selected Mediterranean countries (%) (Source: FAO elaboration based on ILO, LABORSTA data).

A decrease of the share of food consumption expenditure is noticeable in many Mediterranean countries: Croatia, Cyprus, Israel, Italy, Lebanon, Malta, Portugal, Slovenia, Spain, Tunisia and Turkey. The highest decrease was recorded in Balkan and southern and eastern Mediterranean countries. However, a high decrease was recorded also in Spain after joining the EU. That is probably due to the increase of income and the improvement of living conditions in the country. However, the food consumption expenditure share increased in some northern Mediterranean countries such as France and Greece.

Cereal imports and high prices are calling the socio-economic and environmental sustainability of the Mediterranean diet in question (in terms of purchasing power and food miles), particularly in certain southern and eastern Mediterranean countries. According to the World Bank (2012), higher prices particularly hurt consumers with high shares of household expenditure on food. High and volatile international food prices continue to be a big concern in the Mediterranean. Some have even cited the food price developments since 2007 as a contributing factor in the Arab Spring (Breisinger *et al.*, 2011).

### Conclusions

Food security is built on availability, access, utilization, and stability pillars. For most people a key factor determining food access is its affordability. Food affordability is still a challenge in all southern and eastern Mediterranean countries. Paradoxically, these are also the countries where there was some improvement during the last months while the situation is getting worse in most northern Mediterranean countries where consumers were badly affected by the economic crisis. Income growth and exposure to global food price changes

drive changes in affordability. Food price indices increased in the Mediterranean area in general and North Africa in particular. This puts at risk food accessibility especially for those households dedicating a large share of their consumption expenditure to food. The lowest shares of food consumption expenditure in total household consumption expenditure are recorded in northern Mediterranean while the highest ones are recorded in Balkan countries. Consumers in some Mediterranean countries still dedicate about a half of their household budget to food consumption expenditure especially in the Balkans and southern and eastern Mediterranean countries. High cereals imports dependency ratios, especially in MENA, make these countries more exposed to global food price changes and volatility. Cereals imports dependency ratios are increasing in most of the Mediterranean countries, including northern ones. Sustainable diets should be economically accessible and affordable but the presented data show that that should not be taken for granted in the Mediterranean. Adequate and consistent economic access to safe, nutritious and high quality food, even in times of crisis, is a prerequisite for achieving sustainable food and nutrition security in the Mediterranean region.

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