

Economic analysis of the olive sector

1. Situation in the sector

1.1. Production characteristics

Olive growing has several key specificities:

- It is an perennial Mediterranean crop, meaning that there is rigidity in farm adaptation to economic trends. A plantation takes between five to seven years to become fully productive;
- Production varies greatly and depends on the biological alternation of the olive tree (a good harvest followed by a poor one), farming methods (use of irrigation), olive varieties and the soil and climate conditions;
- There are few alternatives to olive trees in marginal regions with poor productivity (mountainous or hilly areas); they can grow in poor, stony soil which it would be difficult to put to other crop uses. Consequently they play an important environmental role (fixing soils, biodiversity, landscape);
- The peak in activity occurs in winter, which makes it compatible with other agricultural and non-agricultural activities. With traditional growing methods, labour represents over half of production costs; and therefore olive growing plays an important role in society;
- The structure of production is typically very fragmented (small holdings);
- Olive growing is a major feature of the heritage and socio-cultural life of Mediterranean regions.

In the EU, olive trees are grown in Spain, Italy, Greece, Portugal, France, Cyprus, Slovenia and Malta.

1.2. Production systems

Broadly speaking, there are two main methods of olive growing: *traditional* processes, generally in mountainous or hilly areas which are not irrigated, and *modern* processes which involve irrigation and mechanisation. However, there are a number of production systems, such as dry, irrigated, mechanised, non-mechanised, intensive and highly intensive.

Production costs in modern olive groves are lower than in traditional ones. Moreover, the mechanisation and scheduling of operations allows producers to minimise the time between harvesting and pressing of the olives, which has a positive impact on the quality.

1.3. Structure of farms

Eurostat reports that in 2007 there were 1.9 million farms with olive groves in the EU. The olive sector is characterised by a large number of small operations. Olive oil production in Spain (413 000 holdings with an average size of 5.3 ha) seems to be relatively less fragmented than in Greece (531 000 holdings with an average size of 1.6 ha) or in Italy, which has the highest number of holdings (776 000, with an average size of 1.3 ha).

The largest holdings are in Andalusia (8 ha/holding on average) and Alentejo (7.2 ha/holding), while the smallest are located in Cyprus (0.5 ha/holding), Apulia and Crete (1.7 ha/holding).

Around half the olive oil operations in the EU producer countries specialise in olive oil production. However, there are major disparities among EU regions: in Andalusia and Apulia, between 65% and 80% of farms are specialised. In contrast, in Portugal, Cyprus and Slovenia, the majority of holdings do not specialise in olive growing.

In small farms, olive oil production may be a secondary, traditional and family activity: oil is produced for personal consumption and only a small amount may be marketed for direct sale.

1.4. Area, yields, production

Olive growing produces two main products, namely table olives and olive oil. This report focuses on olive oil.

Area

The available data for 2010 indicate that olive groves account for close to 5 million hectares in the EU. They are concentrated in Spain (50%), Italy (26%) and Greece (22%).

	Spain*	Italy**	Greece**
(in hectares)			
Non irrigated	1 800 000	1 069 444	852 204
Irrigated	700 000	280 556	307 796
Total area	2 500 000	1 350 000	1 160 000

Source: E.M; * data 2011; ** data 2008

The olive is primarily grown in southern areas: Andalusia, Calabria, Apulia, Crete and Peloponnese. In Spain, over 80% of production is based in Andalusia. There is a predominance of non-irrigated olive groves in this region, although an increasing area is irrigated.

The proportion of groves located in disadvantaged zones (mountainous areas and areas with specific disadvantages) is significant: representing 88% of total area in Portugal, 71% in Greece, 60% in Spain and 51% in Italy.

Yield

National statistical data show that yields vary significantly depending on the year, operating system, planting density, growing practices, climate conditions and the biological alternation of the olive tree: in 2009 and 2010, average national yield was 2.67 t/ha of olives in Spain and 2.92 t/ha in Italy. To calculate oil production, the olives' oil yield must be taken into account – this is approximately 20% depending on a number of factors. In 2010 oil yield in Spain was 0.56 t/ha and in Italy 0.44t/ha.

Production

Average olive oil production in the EU in recent years has been 2.2 million tonnes, representing around 73% of world production. Spain, Italy and Greece account for about 97% of EU olive oil production, with Spain producing approximately 62% of this amount.

In terms of oil quality, in 2009 Spain produced 35% extra virgin oil, 32% virgin oil and 33% lampante oil. The respective figures for Italy in relation to these three categories of oil are 59%, 18% and 24%. These percentages change year on year, notably because of climate conditions.

1.5. Consumption

The EU is the world's biggest consumer (66% share).

Spain, Italy and Greece account for around 80% of EU consumption, i.e. 1 900 000 t. Consumption seems to be stable in the producer countries, whereas it is increasing in France and in the non-producer Member States.

Consumption models differ in the EU's three main producer countries. In Italy and Greece, the majority of oil consumed is extra virgin, whereas in Spain this category represents less than half of consumption. The general trend is towards the consumption of extra virgin oils.

1.6. Trade

Two thirds of EU production is traded internationally (within and outside the EU).

Trade within the EU is considerable and continues to rise steadily. In 2010/11 it was around 1 000 000 t, i.e. 45% of EU production. Spain is the biggest supplier with 655 000 t, while Italy is the biggest buyer with 533 000 t.

EU exports represent approximately 66% of world exports. In 2010/11, exports to third countries amounted to 447 000 t, of which Spain sold 225 000 t and Italy 160 000 t. The biggest markets are the USA, Brazil, Japan, Australia, Russia and China.

In 2010/11, imports accounted for 115 000 t, of which the majority is traditionally under inward processing rules and the remainder within the framework of tariff-free quotas with the Mediterranean countries, primarily Tunisia. The new agreement with Morocco has fully liberalised imports from this country.

1.7. Stocks

EU stocks represent approximately 70% of world stocks.

At the start of the marketing year (1 October 2011), stocks from the three main producer countries were approximately 630 000 t, of which 75% belonged to Spain. This level of stock represents a little more than three months of EU needs (domestic consumption + exports).

1.8. Organisation of the olive industry

The degree of organisation differs greatly from one Member State to another. According to an ongoing study on cooperatives in the European Union¹, the level of organisation is 70% in Spain, 60% in Greece, 30% in Portugal and only 5% in Italy. Nonetheless, in general these producer organisations are too small to have any weight in the face of industry concentration and the retail chains.

In Spain, a few big groups control the majority of the olive oil market. Upstream there are 1 740 processing businesses (mills), including some 950 cooperatives, that produce olive oil, although the majority do not bottle or market oils.

In Italy, there are some 5 000 mills, whereas downstream the industry is very concentrated with the major bottlers controlling almost half the virgin olive oil market (80% of domestic consumption). Some Italian commercial brands have been bought by Spanish groups over the past decade. In Italy and Greece, the producer customarily retains ownership of the oil after its extraction in the mill, placing some production on the market via short distribution channels.

In Greece there are approximately 2 200 mills. The majority of the oil put on the market is owned by a few large companies.

In view of this, producers and primary processors lack the means to adapt supply to demand and consequently to properly benefit from the full value of their production.

1.9. Qualitative aspects, PDO/PGI, integrated production

Olive oil has a positive image and the product's nutritional and health qualities are some of the sector's strengths. It is in the interests of the different categories of olive oil to highlight the value of their specific attributes, notably through the EU certification systems: geographical indications or organic farming.

The marketing strategy and profitability for *protected designations of origin/protected geographical indication (PDO/PGI)* vary across the board: some PDOs opt for strategies that allow for high market prices and volumes, whereas others place only a small volume of PDO oil on the market at prices comparable to standard oils. On average from 2006 to 2008, the production value of the olive oil marketed using a protected designation of origin or protected geographical indication was EUR 215 million per year².

Organic production receives funding from the second pillar (between EUR 270 and EUR 700 per hectare depending on the Member State). Its development is dependent on the opening of specific production lines in the mills and the development of short distribution channels (bottling and marketing by producers).

¹ Support for farmer's cooperatives in the EU. LEI Institut, Wageningen University, The Netherlands.

² According to a 2009 DG AGRI study on the value of PDO and PGI agricultural production.

The development of *integrated production* is linked to measures put into place within the framework of rural development and/or Article 68 of the Regulation on direct payments. The latter was used in Portugal and Greece at the time of the 2006 reform. Funding to Portugal has the twin objective of quality and marketing, and aid is per tonne. Consequently it gives greater assistance to very productive systems in comparison to less productive PDOs. The funds to Greece are intended to support quality productions through funds per hectare to encourage organic, PDO/PGI and integrated farming. However, the measure seems to be mainly resulting in the development of the cheaper integrated production, which is less attractive in quality terms.

In 2011 in Spain around 57 000 ha were in integrated production as part of a programme to improve the quality of olive oil and table olive production (Rural Development Regulation).

1.10. Price

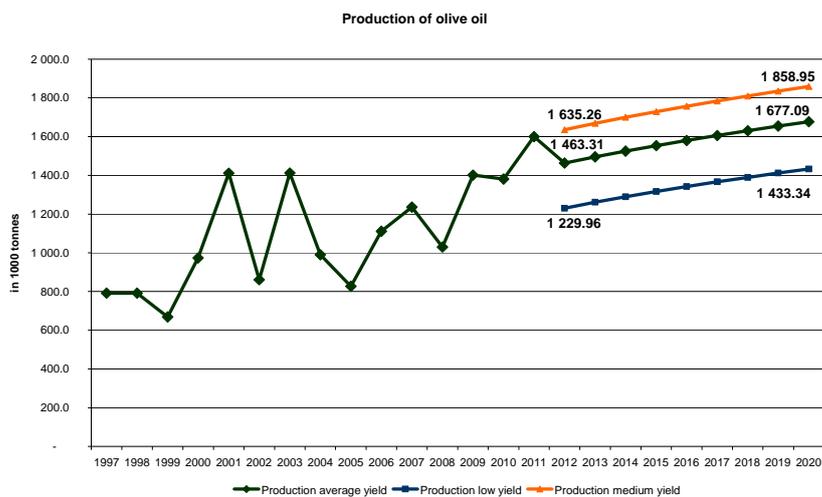
Producer prices vary according to supply and demand. As a result, prices are higher in deficit markets (Italy) than in surplus markets (Spain and Greece). Prices differ for various reasons, and particularly reflect the quality of olive oil. The market sets a price for each category of virgin olive oil (extra virgin, virgin and lampante). The biggest price differences in the oil categories are on the Italian and Greek markets. In Spain the prices of the different oil categories are fairly similar.

2. Analysis of supply/demand based on a medium-term view of oil production in the EU

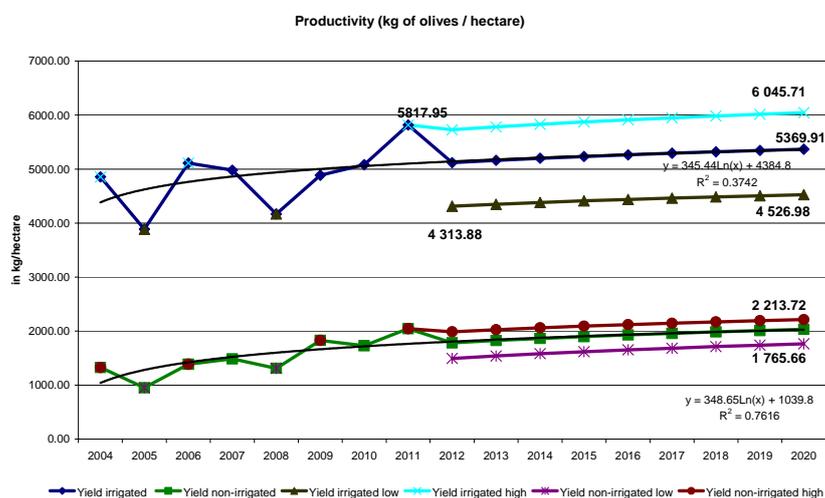
Spain

During the marketing year 2011/12 the production of olive oil in Spain is expected to reach 1.6 million tonnes, of which irrigated olive plantations would provide around 52%. The contribution of irrigated olive plantations to the total production of olives has gradually increased over the last years, from 33% in 2004 to 52% in 2011.

The projection for 2020 shows that production could reach 1.433 million tonnes of olive oil in a low-yield season, 1.677 million tonnes of olive oil for an average-yield season and 1.86 million tonnes for a high-yield season. The irrigated land area could increase by 90 000 hectares (from 681 000 hectares in 2011 to 771 000 hectares by 2020), whereas non-irrigated land could decrease by around 20 000 hectares (from 1.78 million hectares in 2011 to 1.76 million hectares by 2020).



The yields could slightly improve for both irrigated and non-irrigated olive groves and for the three scenarios (high-yield, medium-yield and low-yield).



Total exports from Spain doubled over the period 1999-2010 (from 367 000 tonnes to 824 000 tonnes). The projection for 2020 shows a further increase in the total exports by more than 180 000 tonnes.

For the period 2012-20 (9 marketing years in total) and on the basis of historical data, it has been projected that there will be 3 high-yield marketing years, 3 average-yield and 3 low-yield. According to this assumption, the following is projected for the period 2012-20:

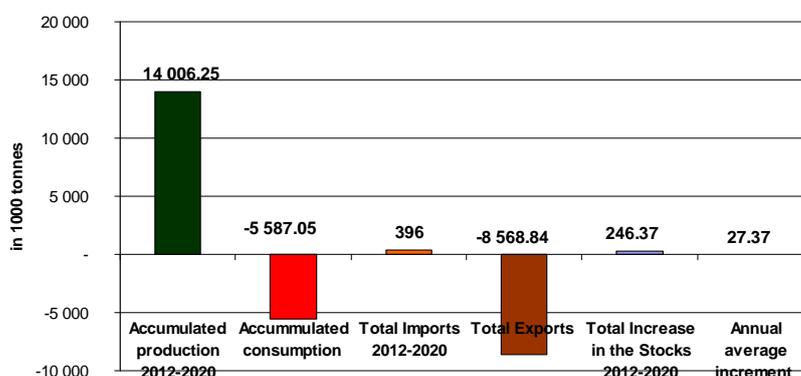
total production of 14 million tonnes;

consumption of olive oil approximately 5.6 million tonnes;

imports of 396 000 tonnes;

exports increasing continuously, with the total cumulative figure reaching 8.6 million tonnes.

Based on the above assumption, this would lead to a total increment in the level of stocks of 246 000 tonnes or an average annual increment of 27 000 tonnes. According to current Spanish forecasts, the final stocks at the end of the current marketing year 2011/12 would reach 635 000 tonnes. Consequently, the final stocks by 2020 are expected to reach 881 000 tonnes.



3. Analysis of the economic situation of olive farms

DG AGRI analysed developments in farms specialising in olive oil production from 2000 to 2010. Structures, production costs, margins and income indicators were studied. The aim is to identify structural developments and to characterise farms in economic difficulty and those in better economic shape. The main source used in this study is the FADN database (Farm Accounting Data Network), supplemented by Eurostat data and information provided by national authorities. The study covers the three main Member State olive oil producers.

The specialist farms in the FADN represent 53% of the EU's total olive growing area and 73% of total olive oil production. There is a possibility that the major holdings in Spain are not fully represented because often they are not sufficiently specialised to be included in the sample studied. Farms are classified according to the type of product they produce: olives for oil production, olive oil or both. Spain has mainly olive producers, whereas Greece has mainly olive oil producers and Italy has both types of production.

Labour is the most costly factor in olive growing: the family work force accounts for 43-57% of the total cost and paid labour for 10-17%. Other significant factors relate to specific costs (10-16%) and depreciation (6-17%).

In **Spain**, olive farms are on average bigger and work productivity is higher. Farms produce olives which are sold to other operators (mills). From 2000 to 2010, olive farms in Spain have on average showed a downward trend in respect of margins and income indicators, with an approximate one-third drop in nominal terms (-38% in family income per work unit). In comparison to other agricultural holdings, olive farms have shown the worst income trend for the period 2000-09: -30% compared to an average of +9% for Spain. This is due to

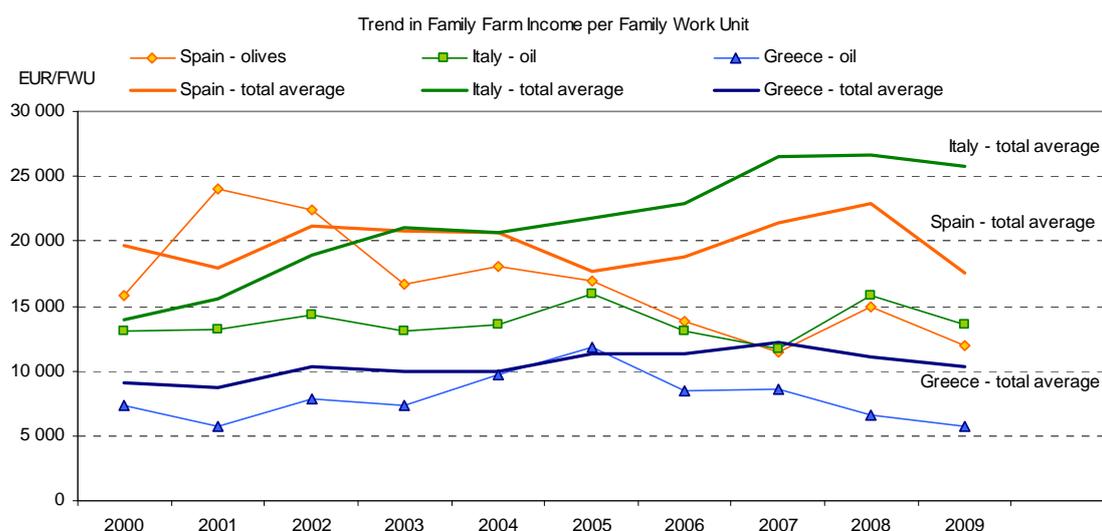
the lack of gains in work productivity, economies of scale and the downward trend in prices.

In **Italy**, farmers produce olives for oil, olive oil on site and mixed production (olives and oil). The price of olives and oil are on average notably higher in this Member State. Costs are also higher. Nonetheless, developments in relation to olive producers and mixed producers are fairly similar when compared to those for Spanish olive producers.

The income of Italian olive oil producers has shown the best trend of all the types of producers in the Member States studied. In the period 2000-09, a clear increase in margins was observed, whereas income indicators remained relatively stable. The main reasons for this are the significant rise in prices, with total costs per tonne characterised by relative stability.

In **Greece**, the share of the family work force in costs is very high, indicating both a high number of very small family farms and the lack of marketing/professional guidance. In this Member State, olive oil farms are characterised by a significant increase in margins and income indicators over the 2000-05 period but by an inverse trend from 2005 to 2009. This development is the result of changes in price, work productivity and cost per tonne. In comparison to other types of holdings, income trends for olive oil farms are the worst for the period 2005 to 2009.

In the three Member States, the general trend in olive oil farm income between 2000 and 2009 was worse than the national agricultural average, including the lowest figures. Nonetheless, the average situation and the changes observed can differ greatly at regional level: in the majority of regions, the drop in income has generally been drastic. In Extremadura and Sicily, on the other hand, the trend was positive over the period studied.



Source: EU FADN, DG AGRI

Individual situations also contrast sharply. In the period from 2006 to 2009, 25% of olive farms in Spain earned less than EUR 5 000 of family income per family work unit, rising to 30% in Italy and 37% in Greece. Some 11% of Spanish olive oil farms earned over EUR 30 000 per family work unit, with 10% in Italy and 30% in Greece.

All three Member States show that high incomes can be linked to the following factors: larger-scale olive groves, smaller share of family work in total or overall work and, above all, high work productivity expressed in quantities of olives or quantity of oil produced by farm and by work unit. Higher productivity is very probably linked to mechanisation and higher production intensity. In Italy, higher income is also linked to better yield while in Greece it is linked to higher yields and prices. Conversely, low income reflects small-scale farms, a high proportion of family work force, fewer direct payments and lower productivity. These farms may carry out other non-agricultural activities with the aim of augmenting their low agricultural income.

For the period 2006-09, total direct payments and subsidies represented on average and as percentage of income (net value added per work unit):

- 22% in Spain,
- 48% in Greece,
- 22%, 25% and 50% respectively for olive producers, oil producers and mixed producers (olives and olive oil) in Italy.

In short, the economic situation of olive farms has significantly worsened over the years (since 2005 or 2007 depending on the Member State in question and the type of production).