

EU Milk Margin Estimate up to 2013

An overview of estimates of costs of production and gross margins of milk production in the EU

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Need for monitoring milk margin

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In the current market and policy context, tracking the margin of farmers is essential for policy makers and stakeholders. DG AGRI has built a tool for the monitoring of milk production costs and margins.

The milk margin monitoring tool is based on the Farm Accountancy Data Network (FADN) and overcomes the time-lag in its data availability by using price-trend information from DG AGRI and Eurostat. Given the delay in the availability of some information, the tool provides estimates within two months of the end of the reporting quarter (see methodology in Annex).

This brief presents the most recent estimates of EU milk production costs and margin up to the last quarter of 2013. After falling in 2009, milk production costs increased progressively and continuously afterwards. They reached their peak in the last quarter of 2012 and first quarter of 2013, before falling abruptly in the second quarter of 2013. They have since slightly increased, back to the level of 2011. Developments in milk production costs per tonne are mainly driven by changes in the cost of purchased feed and energy. The seasonality of milk production also plays a role in quarterly trends: milk yield is higher after calving in the second quarter, which results in lower production costs per tonne.

Between 2007 and 2009, the average EU milk margin dropped by 45 % due to the milk-price fall. It recovered afterwards in spite of rising operating costs thanks to the continuous increase in milk price. However, the last five years have been characterised by big variations from one year to another, and even from quarter to quarter. The year 2013 exemplifies this phenomenon: in the first quarter, gross margin was 30 % below the average level of the last five years. Then, driven by first a decrease in operating costs and later the upward milk price trend, gross margin reached record levels towards the last quarters of 2013.

Margin developments in the coming quarters will be made available through the Milk Market Observatory website.

1. Production costs: a continuous rise since 2009, although at a lower level since the second quarter of 2013

EU¹ milk production costs² per tonne increased by 8 % between 2007 and 2008 (Figure 1). This was mainly driven by a rise in feed cost, and more particularly in purchased feed. Costs then dropped by 10 % in 2009. Again mostly driven by purchased feed, they have been steadily increasing since, at the pace of +5 % per year, with the exception of 2011 when they rose by 8 %. As a result, production costs per tonne were more than 20 % higher in 2013 than in 2007.

Figure 2 shows the quarterly trends in the last two years. After a decrease in the second quarter of 2012, costs increased steeply in the third quarter of 2012, to peak in the fourth quarter of 2012 and the first quarter of 2013, when they were 20 % higher than the average level observed in the last seven years. They decreased sharply in the second quarter of 2013, thanks mostly to a significant decrease in the price of purchased feed and to higher milk production.³ They have since been increasing again at a pace of +2% per quarter, so that in the first quarter of 2014, they are expected to be 14% higher than the average level observed in the last seven years.

The methodology applied to estimate costs and margin is explained in the annex.

Figure 1 EU Milk operating costs 2007-2013

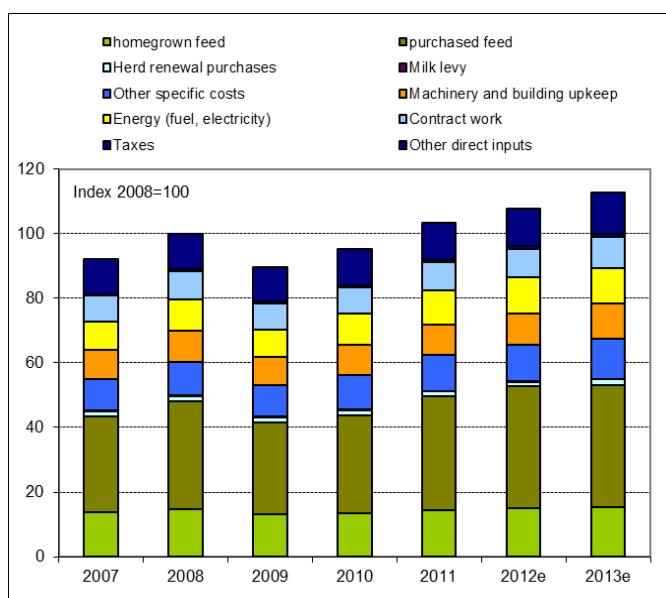
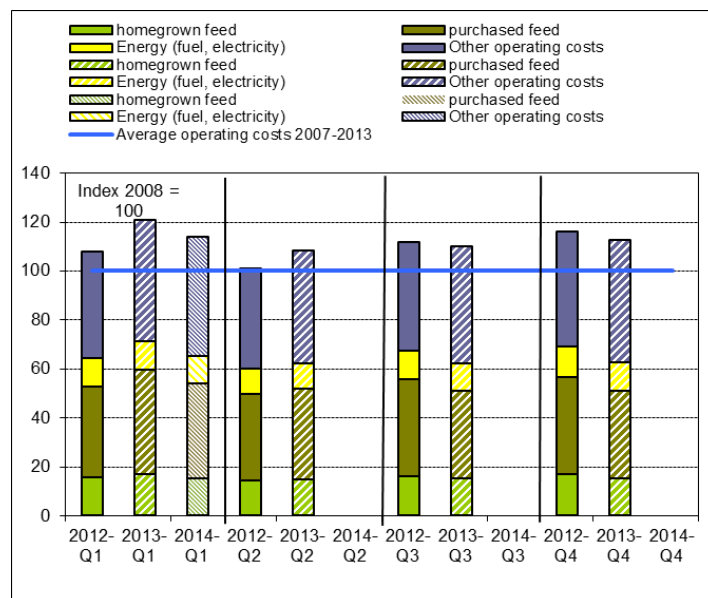


Figure 2 EU Milk operating costs quarters 2012, 2013 & 2014 (estimates)



Source: DG AGRI (EU FADN, Model of allocation of costs for milk, Information from market units) and ESTAT price indices. e: estimate.

¹ "EU" refers to the EU-27 aggregate. Data for Croatia will be available in the FADN from the 2013 accounting year onwards.

² In this brief, production costs refer to operating costs. They include feed, veterinary costs, upkeep of machinery, energy, contract work, taxes on land and buildings. They do not include depreciation, wages, rent and interests paid, nor opportunity costs for family labour and assets. .

³ The seasonality of milk production plays a role in the development by quarter: milk production is higher in the second quarter and makes production costs per tonne lower.

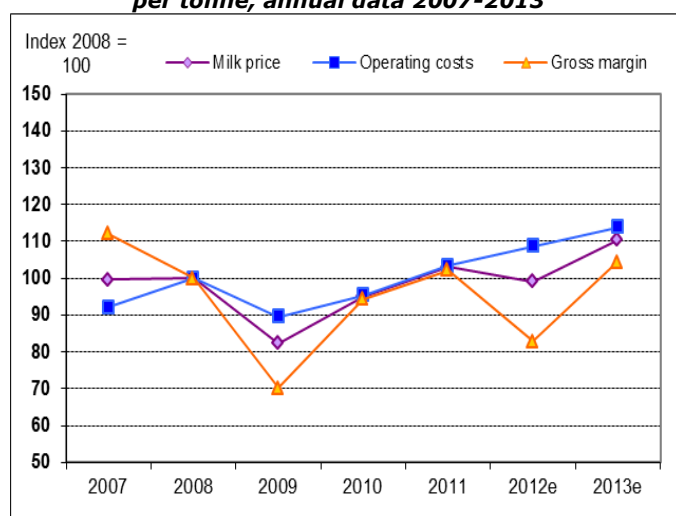
2. Gross margins: a lot of instability over the past years and record margins at the end of 2013

As highlighted above, the last five years have been characterised by a steady increase in costs of production. Likewise, after the dramatic drop of 2009, milk price has generally been trending upwards and, in terms of annual average, is above its 2007 level since 2011.

However, as these developments did not always happen at the same pace, **EU** milk gross margin (see Box 1 in Annex) experienced a lot of variations over the past seven years, with significant lows in 2009 and 2012, followed by subsequent recoveries, although never at the level of 2007 (Figure 3)

When looking more closely at the development of gross margin during the quarters of 2012 and 2013, it appears contrasted (Figure 4a).

Figure 3 EU Milk price, operating costs and margin per tonne, annual data 2007-2013



Decreasing milk price during the second quarter of 2012 triggered a decrease in gross margin, in spite of lower costs of production per tonne. As these increased from the third quarter of 2012 onwards, both in absolute terms and due to the lowering milk production, gross margin fell sharply in the third quarter of 2012. Improving milk prices helped it recover in the fourth quarter of 2012 but the sustained increase in costs of production caused a new decrease in the first quarter of 2013. The decrease in operating costs observed in the second quarter of 2013 – even once the seasonality effect taken into account (Figure 4b) – provided for a steep increase of gross margin. This upward trend was confirmed in the second half of 2013, when gross margin reached record levels driven by high milk prices.

These developments show that there can be a lot of variation from one quarter to another.

Figure 4a EU Milk price, operating costs and margin per tonne, quarterly data 2012-2013 (estimates)

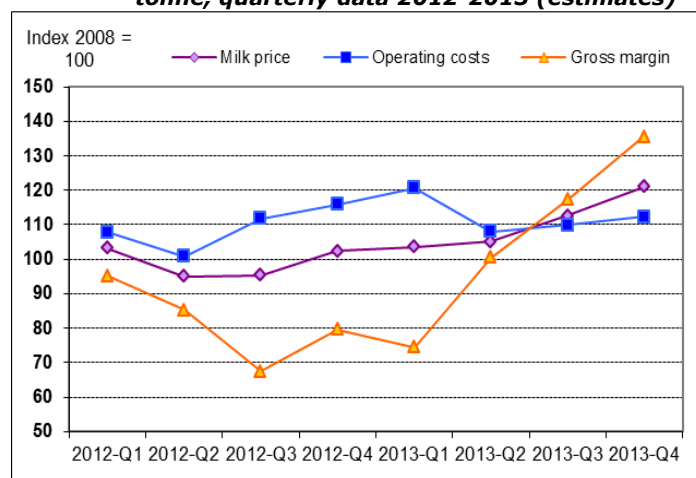
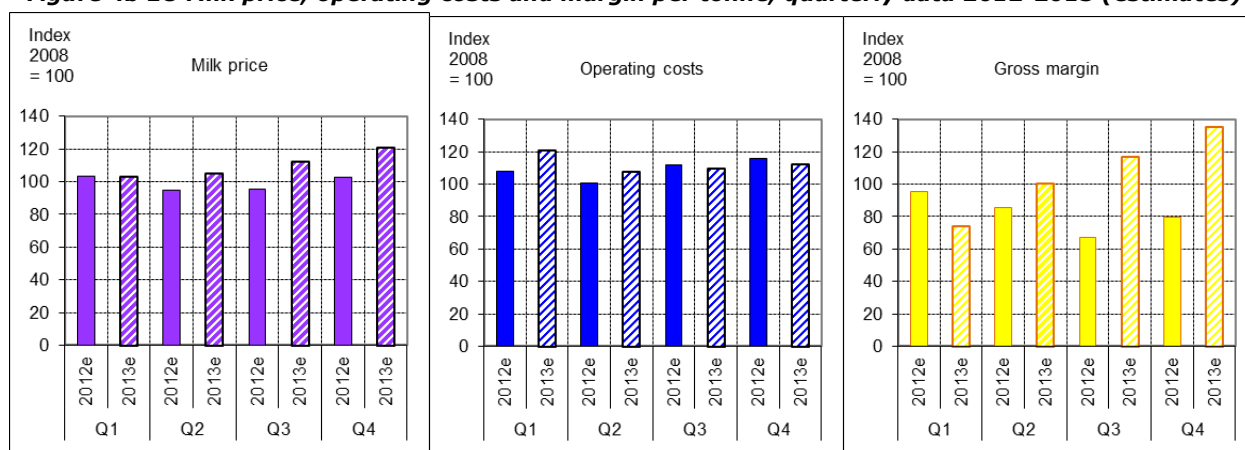


Figure 4b EU Milk price, operating costs and margin per tonne, quarterly data 2012-2013 (estimates)



Source: DG AGRI (EU FADN, Model of allocation of costs for milk, Information from market units) and ESTAT price indices. e: estimate.

Annex

Box 1: Milk gross margin: definition

In this exercise, we focus on the gross margin, which correspond to milk revenues minus operating costs, defined as follows:

- Revenues: milk and milk products revenues exclusively
- Operating costs: specific costs (feed, veterinary ...) and other non-specific operating costs (upkeep of machinery, energy, contract work, taxes on land and buildings ...)

The reader should keep in mind that labour, land and capital costs still have to be paid out of the remaining amount. Likewise, it should be noted that neither receipts from 'by-products' of milk production (calf, cull dairy cow) nor subsidies (except coupled ones) are taken into account on the revenue side. More information on these aspects and on income of dairy producers can be found in the EU dairy farms report (FADN website).

Box 2: Principles of the method

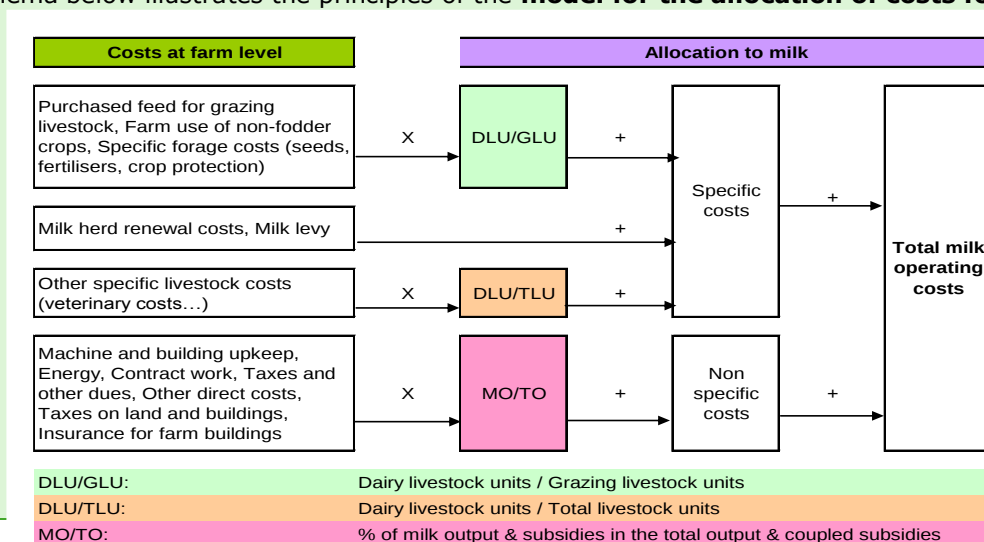
The milk margin follow-up tool built by DG AGRI aims to monitor the trend of the EU milk margin up to the most recent possible market situation. It is based on FADN data and price and yields indices from different sources (market units of DG AGRI, EUROSTAT).

FADN (Farm Accountancy Data Network) is a European system of sample surveys that take place each year and collect structural and accountancy data relating to the farms. Costs are given for the farm as a whole, not by enterprise. Therefore, in order to calculate milk production costs and margins, it is necessary to allocate part of the farm costs to the milk enterprise (see Box 3).

Furthermore, because of the time needed to collect, check and correct the data from all the EU Member States, data are available with a time-lag: the most recent FADN data available at the time of drafting this brief were for the 2011 accounting year. That is why, for the purpose of the tool, it is necessary to estimate the years 2012, 2013 and the quarters of 2013 and 2014 (most recent indices information available at the time of creating the tool) (see Box 4 and Box 5).

Box 3: The allocation of costs to the milk enterprise

The EU FADN unit has created several models to estimate costs and margins for the various products: arable crops, milk and beef, and permanent crops. These models allocate farm costs to a particular product using different ratios. The schema below illustrates the principles of the **model for the allocation of costs for milk**.



To obtain reliable estimates of production costs and margins, it is necessary to focus on specialised dairy farms. To qualify as such, a farm has to dedicate more than 40 % of its production *potential* to milk production. On top of this main criterion, an *actual* specialisation rate of more than 35 % is required. In FADN 2011, 15 028 sample farms fulfilled these criteria. The total number of dairy cows represented by these FADN farms corresponds to 86 % of the total number of dairy cows (Eurostat Cattle Survey 2011).

Box 4: The estimates for the years 2012 and 2013

The yield, output, operating costs and gross margin for 2012 and 2013 are estimated on the basis of milk yield indices, milk price indices and detailed input price indices. Specific indices for each Member State are used. In the Member State where the accounting year does not correspond to the calendar year, the underlying data are adjusted using the same methodology (indices) to fit the calendar year (which is not the case in the EU dairy farms report). It is assumed that structures (number of cows per farm, input quantities) remain unchanged as compared to the base year (2011). The sources of the indices used are the following:

- For milk price: DG AGRI
- For milk yield: EUROSTAT databases
- For purchased feed: EUROSTAT databases when available, DG AGRI – FEEDMOD (adjusted) otherwise
- For other inputs: EUROSTAT databases (Agricultural prices and price indices).

These estimates are calculated at individual farm level using FADN information system. This allows distribution analysis.

Box 5: The quarterly estimates in 2012, 2013 and 2014 (to come)

The estimates of the 2013 and 2014 quarters seek to closely monitor the situation for dairy farmers. The estimates of 2013 quarters are made to enable comparison of each quarter of 2014 with its equivalent the year before. The output, operating costs and gross margin for quarters are estimated at aggregate level (EU groups and Member State level) on the basis of milk yield indices, milk price indices and simplified input price indices for feed and energy. The aggregate level and the simplified indices make it possible to obtain quick results.

For milk price and purchased feed, we use the same source as mentioned above. The milk yield is taken from the Medium Term Outlook done by DG AGRI. For energy, after investigating the available data, we used the EU weighted average of the 'Consumer prices of Heating gasoil inclusive of duties and taxes', after having adjusted it to better fit our historical data series.

For home-grown feed, the oil price index has been applied to the fodder produced on the farm (to reflect the trend in seeds, fertilisers, crop protection costs to produce the fodder) and the purchased feed index has been applied to the grain part of the feed (the grains are valued at market price in FADN so that is the best index).

The seasonality of milk production is taken into account:

- For 2013, the actual fluctuations of milk production during the year have been applied (average share of milk production by quarter at national level).
- For 2014, the average 2008-2013 shares of milk production by quarter at national level will be used to estimate 2014 seasonality.

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http://ec.europa.eu/agriculture/analysis/markets/index_en.htm

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