IUF Dairy Division

European Union Dairy Sector

Abstract

Accounting for approximately 13% of the turnover in the EU and providing around 10% in the Food and Drink Sector in 2010, the EU dairy sector is in steady state at the moment. However, while the rhetoric associated with the sector is broadly positive, it is a sector seen to face challenges on a number of fronts, including its structure, competitiveness, trade and wider political issues, and R&D. The overarching EU strategy for the diary sector has been to maintain stability in the sector by targeted interventions. At present, the EU milk marketing system is complex. Milk is generally sold to dairy processors. While some milk goes direct to consumers, farm consumption is still a significant factor. Processing varies between farmer-owned cooperatives and private sector operations. In the contemporary EU dairy sector, the process of mergers and acquisitions has produced a core of large processing companies and "fringe" of smaller operations. Concentration has been greater in the Northern economies with the exception of Germany. In general, the biggest companies are getting far more from assets than others in the sector, reflecting returns to scale.

Factors that can influence the competitiveness of the EU dairy sector range from the abolition of the EU milk quota, higher productivity, full liberalization, to product development and innovation. Assessing the current EU dairy sector, key contextual factors include expected continuing strong milk prices and high milk production, greater impact of market pricing on the volume of outputs, existing milk quotas that are hampering some countries in a rising market, improvements in the fresh product market, high cheese exports performance, expectations of improved milk powder exports, and a consequent reduction in SMP stocks. While the policy environment facing EU dairy farmers is uncertain at present, it can be assumed that the level of market support and management in particular will be significantly reduced. It is anticipated that EU dairy prices will, in turn, more closely align with world prices. World prices are both lower and more volatile than EU prices and it is further assumed that this increased volatility will also be transmitted to EU prices. This increased price volatility is a concern as it brings major new challenges to farm business planning, debt repayment, and, in some cases, solvency. Lower prices will require dairy farmers to increase scale in order to maintain income. In many instances this increase in scale will need to be swift and dramatic thus creating the potential for increased risk as farm enterprises specialize. While it is currently possible for EU farmers to manage some of their input price risks through energy and feed price futures and options, they may be more inclined to hedge their output price risk. These trends and outlook are acknowledged by the European Commission, which now has an opportunity to put in place and facilitate instruments that will help ensure the long run competitiveness of this most important agricultural sector. Such changes will, inevitably, play long-term into the hands of the larger private sector businesses in the processing sector. They are likely to have the dominant power in the global supply chains, and will seek to maximize their commercial advantage from increased market-based pricing of milk, and accompanying price volatility, across the EU.

Introduction: basic data

The EU dairy industry in 2010 was:

- Approximately 13% of the Food and Drink Sector turnover in the EU (€117 billion of €900 billion)
- Approximately 10% of employment in that sector (about 400,000 of 4 million)
- based on 24 million cows
- in approximately 1 million farms
- producing 150 billion litres of milk,
- of which 138 billion litres was delivered to dairies
- 34 billion litres went to liquid consumption
- 2 billion litres went into butter
- 9.5 billion litres went into cheese
- 1 billion litres went into skim milk powder (SMP)
- 820 million litres went into whole milk powder (WMP)
- 1 billion litres went into condensed milk
- 4 billion litres went into skim milk , used for Casein production

In 2010, EU dairy exports performed relatively strongly and included:

- 378,0000 tonnes of SMP
- 387,0000 tonnes of whey powder
- 669,000 tonnes of cheese
- 444,000 tonnes of WMP
- 150,000 tonnes of butter/butter oil
- 239,000 tonnes of condensed milk

In general terms, these production data have been even for the past five years, suggesting that the sector is in steady state at the moment. Whilst the rhetoric associated with the sector is broadly positive, it is a sector seen to face challenges on a number of fronts – for example, structure, competitiveness, trade and wider political issues, and R&D.

Background: Food and Drink industry

The food and drink industry is one of Europe's most important and dynamic industrial sectors. It is made up of about 310 000 companies, and provides jobs for more than 4 million people.

With an annual turnover in excess of €900 billion, this diverse sector is a strong exporter and is responsible for countless end products in extremely competitive domestic and international markets. But room for improvement still exists.

Excess red tape, finance shortages, a lack of R&D opportunities and difficulties to access raw materials are some of the main obstacles which must be cleared if the EU is to position itself more strongly in world markets.

Since 2009, the EU has been looking at 30 key initiatives to upgrade the Food and Drink Sector They cover[1]:

- a sector wide EU c-ordination, including improved and easier access to finances, greater integration into, and control of, the global supply chain, improved logistics, better "food education" for consumers,
- a market-driven CAP (but with provisos)
- competitive pricing of raw materials and reduced price volatility
- sustainability
- improved technology and R&D
- better impact assessments for changes that might have consequences for the sector
- better harmonization of sectoral regulation in the EU
- improved management of food safety issues and risks
- improved support for SMEs in the sector
- improved export strategy and support
- improve the sector's human capital, including amore developed social dialogue
- a successful (favourable) conclusion to the Doha Round of the WTO and any bilateral trade deals, including improved phyto-sanitray arrangements, improved customs practices nd rule of origin, and monitoring of other countries to see that stick to agreed rules
- a Europe-wide SWOT analysis of the sector

The general perspective is that the food and drink sector is vital for EU economic performance, performs well but can be improved in numerous ways, and must, in particular compete effectively in global markets, in part by controlling key elements of global value chains. Dairy plays an important role in the wider sector.

The Structure of the EU Dairy Industry[2] [3]

The overarching EU strategy for the diary sector has been to maintain stability in the sector by targeted interventions. This remains the case, even after the CAP reforms of 2003. Dairy farming is structured differently from Member State to Member State. Farm and dairy herd sizes vary enormously, as do yields (particularly following the May 2004 EU enlargement that brought ten new Member States into the EU). However, as the dairy sector develops throughout the EU, so variations in yield and other technical factors are being reduced – less developed dairy producers are rapidly catching up with those who had restructured and modernized. There is no 'typical' European dairy cow breed, though the Friesian-Holstein is the most prevalent.

The EU milk marketing system is complex. Milk is generally sold to dairy processors. Some milk goes direct to consumers, whilst, especially in the new EU members, farm consumption is still a significant factor. Processing varies between farmer-owned cooperatives and private sector operations. There has been a growth in trans-border farming and processing operations, but, equally many operations are still nationally-based. The value of milk production in total agricultural production varies. In southern countries, it tends to be lower (below 10%); in northern countries it is higher, reaching as much as 34%.

The driving factor behind milk production in Europe has been the milk quota system (first introduced in 1984). Under the system, farmers producing more than their quota could be penalized financially (by the payment of a "super levy". The quota system acted to limit milk production across Europe.

The milk quota system is to be removed. Quota prices are already low in many countries, zero in some and are destined to be zero everywhere by 2015. For example, they no longer determine production levels, especially in the new member states. The end of the quota system in 2015 does not find favour everywhere. For example, the European Milk Board[4] (representing particular dairy interests) argues for continuing supply controls as a protection against increased production and reduced prices. Against this there is a widely held view that these consequences will not follow, mainly because of the increasing impact of world dairy prices in EU producers and processors.[5]

Broad trends in the milk sector include:

- Declining butter consumption
- Increasing cheese consumption: 40% of EU milk is consumed as cheese, with 75% of cheese production concentrated in Germany, France, Italy and the Netherlands.
- Declining milk powder consumption
- Growth in other areas (e.g. cream, specialized milk proteins and dairy ingredients)

Milk prices are determined by market forces to a greater extent today as a result of changes to the CAP in 2003. Factors influencing milk prices include:

- Supply and demand in the EU
- World dairy prices
- Currency rate fluctuations
- Quality shifts

- Developments in the food chain
- Impact of the CAP and support systems for farmers

Business structure [6]

The contemporary EU dairy sector has been described as an "oligopolistic market with fringes", meaning that a process of mergers and acquisitions has produced a core of large processing companies and "fringe" of smaller operations. Concentration has been greater in the Northern economies (with, interestingly, the exception of Germany).

Studies of EU business demography in the dairy industry suggest in general: [7]

- Declining numbers of processing firms
- The mean age of firms is 26 years (higher for small and medium-sized companies)
- A steady rate of entry of new firms into the processing sector, with more new entrants in Italy and France, but bigger new entrants in the UK and Germany
- Exit rates are low in some countries (e.g. Netherlands and Germany) but higher in others (e.g. France, Italy, UK). Exits tend to be relatively small employers.
- High industry concentration is found in some countries (e.g. Netherlands is the highest, Germany and France follow, with Italy at the low end).
- Company size is high in the Netherlands and the UK, Italy has smaller firms, and France comes in between
- Measured against turnover, total assets, employment and value-added, micro-size operations are falling in size, small and medium-sized operations are growing marginally, whilst big companies display cyclical behavior, dependent on international market trends.
- In terms of employment micro-sized operations are employing fewer people at the mean, small and medium operations about the same, which is also true for big companies.

Tacken et al (2009, p.50) [8]provides an overall structure of the sector in Europe in 2005:

	No of Firms	% share National turnover 2005	Firm Entry 1996-2005	Firm Exit
France	579	41	159	30
Germany	92	48	13	
Italy	1427	41	458	99
Netherlands	50	94	14	
UK	299	91	18	27
Poland	188	66	144	16
Total	2635	N/A	806	172

Tacken et al (2009, p50) note the following:

……the population of firms is substantially declining for Italy, the UK, and Poland while the change for France is only slight. In contrast, the number of firms in the Netherlands is increasing. This is a surprising result, given the well-known dairy companies have gone through a series of mergers. Most

likely these Eurostat data reflect the development by some farmers and traders of new dairy or ice-cream companies (Heida zuivel, among others). For Germany, it is difficult to determine the trend but it is increasing if we smooth out the fluctuations.

Firm size

Tacken et al (2009, p.54) provides mean company data:

Variable (1000€)	France	Germany	Italy	Neth'lands	Poland	UK
Operating Revenues	40,641	213,27	9,471	2,084,139	21,240	210,231
Employees	94	370	24	996	215	870
Total Asset	17,561	67,369	8,128	92,121	8,934	119,760
Added Value	5,704	23,232	1,372	272,146	3,173	45,569

Generally, the larger scale of operations in the Netherlands (in particular), the UK, Poland and Germany compare markedly with France, Italy and Poland.

Profitability [9]

In general, the biggest companies are getting far more from assets than others in the sector, reflecting returns to scale. Looking at profitability in more detail:

- UK companies do well in terms of profit margin, return on total assets and on the EBITDA measure (which adjusts for tax and capital structure effects)
- France does well across all measures, but particularly the EBITDA measure, where it is very successful
- Italy does relatively poorly except on the EBITDA measure
- Germany performs better in terms of returns to total assets and EBITDA
- The Netherlands also performs better in the EBITDA measure

Overall, the UK seems to be the most profitable across all measures, France the second best performer, Germany the third, Netherlands fourth and Italy fifth (when looking at the major countries in the region).

In the major country players, debts to asset ratios are positive (that is, assets are greater than debts). Larger firms finance themselves more frequently from internal resources; smaller firms tend to have higher debts, as one might expect. Using the current asset ratio as assign of company resilience, Dutch companies are in the strongest position, with UK, Italian, German and French companies following. Financially, the sector in general seems to perform soundly, especially in the larger country players.

The Competiveness of the European Dairy Industry

There are major debates around the competitiveness of the EU dairy sector. One major study concludes as follows. These are summarized in Tacken et al (2009, p.7):

The local consumption of milk products is increasing slightly due to increased consumption of cheese and yoghurts. Milk consumption is slightly decreasing in most countries. In the EU-12 the dairy industry is growing in importance in the total food industry.

The EU dairy industry is very dominant in the world market. The EU-25 exports amount €21 bn worth to other countries, while Oceania exports amount to €3.8 bn and NAFTA to €1.1 bn. Although the export value is increasing the world market share of the EU is decreasing, since the world market is growing faster than the EU can meet. New Zealand profits most from the increasing world market demand. Brazil is still an unimportant player in the world market but in the local food industry the importance of the dairy industry is increasing very fast. Due to increasing competition of especially New Zealand in the milk powder market the EU specialises more in cheese.

Within the EU the companies innovate mostly on products and less in marketing, organisation and process. Product innovations are mostly done on varieties, but also very important are innovations on new ingredients (in functional foods). SMEs as well as large companies, including the packaging and ingredients industry, all contribute to innovation. In north-western Europe the dairy industry is dominated by large firms. In the Netherlands the dairy industry is most concentrated. France and Germany have a small number of large firms and quite a large number of medium and small firms. Italy has a high number of medium and small firms and the highest number of new entrants. The turnover of the top 10 dairy companies has increased between 2004 and 2006. In the large majority of countries labour productivity has improved. In conclusion, the EU dairy industry can be characterised as innovative and a global player, but it is losing market share. The competitive position is just below average, mainly due to the loss in world market share. The world market is growing faster than European exports…….the improvement in labour productivity and the growth in value added compensate for the loss in market share. New Zealand performs well because of the high increase in world market share.

Looking at Tacken et al (2009) in more detail, they note the following:

- Key areas of innovation include:

- milk, non-dairy milk and yoghurt drinks had the largest share (one third) in product releases in 2006, more than other dairy categories;

- new product development in milk concentrated on healthier milks addressing fat and cholesterol; organic milk with low fat varieties, new flavourings and single-serve products were also important;

- for cheese the orientation of innovation was on health and convenience (functional cheese, individually wrapped portions, new blends, long-life packaging, table-ready packaging);

- new yoghurt products comprise mainly new flavours (wintery flavours such as plum, cinnamon, American heritage flavours and exotic fruits); there is also intense competition to differentiate between health benefits;

- the most innovative category of 2006 was margarine, butter and spreads with new flavourings, more convenient packaging, long-life and healthier butters; strawberry remains the most common flavour, mango the fastest growing;

- the role of functional foods is increasing, now that they have also become incorporated in more indulgent categories; the three key trends of ethical, health and indulgence are increasingly combined in one product;

- emphasis on brain health is gaining momentum (omega-3);

- 'natural' is an important trend for the future with lower tolerance for artificial preservatives, sweeteners and flavourings;

- low-fat and wellbeing products are becoming an up-market trend; - premium trends are on the rise, particularly foods which have a strong regional or local identity;

- gourmet is becoming a mass market with real gourmet producers introducing even more unusual flavourings (Italian/French cooking flavours such as truffles, spicy Indian or Hispanic flavours);

- the convenience trend is likely to expand with several innovations in the area of portability, based on new technology that allows for extendend, unrefrigerated storage.

(Tacken et al, 2009, p.38)

- The UK, France, Denmark, Netherlands Germany and Sweden are the most innovative countries in terms of the dairy sector, with the UK's dramatically better performance driven by the retail sector;
- Some European firms are high performers in terms of innovation – Arla, Danone, Nestle, Valio, for example – but onlt Arla is seen as having any superior innovative qualities over Fonterra;

Tacken et al (2009) also offer a GTAP assessment of the competiveness of the EU dairy industry across a range of scenarios. That assessment impinges on a number of related and important factors. Its key conclusions are:

- abolition of the EU milk quota effect has appositive impact on the EU dairy sector output, but full liberalization would have a negative effect. In other words, the EU dairy sector would face serious competition from elsewhere in a liberalized environment. New Zealand and Australia benefit under the full liberalization model;
- Higher productivity in the EU sector brings competitive advantage, including developments in the processing sector;
- All scenarios modelled give the EU an important role in processed foods, but challenges arise in terms of relative position, unless, for example, productivity improvements are achieved;
- Again, for EU food exports, full liberalisation is disadvantageous because of its impact inter alia on dairy exports;
- Full liberalization will have adverse employment effects in the dairy industry. It would, for example lead to a 3.2% employment decrease in milk processing, whilst competitors see significant rises in employment (up to 44% in New Zealand);
- Increased productivity in the dairy sector will, as might be expected also lead to a small decline in dairy sector employment;
- Value added in the sector remains stable across all scenarios, that is, although there may be declining employment, productivity increases couple to produce development and innovation, maintains the level of value added

Tacken et al (2009) concludes its analysis as follows:

Europe is the largest exporter of dairy products in the world, even excluding intra-EU trade. World trade in dairy products is concentrated in cheese, butter and milk powder. In growth of exports New Zealand surpasses the EU. Within the New Zealand food industry dairy is much more important than in the EU, Australia and the USA. The world market growth in combination with the CAP quota restrictions, mainly benefits New Zealand. Over the last years the European Union has quickly lost market share in the world trade.

For milk products the EU has met more competition from Oceania and Asia since 1999. Milk powder production in New Zealand already approaches the total EU production. The EU reacts to this development by specialising on cheese, another strong product in international trade. Of total world trade in cheese 45% originates from France, the Netherlands and Germany. The USA and Canada choose to maintain their position on all products. In world trade this strategy is reflected by a detoriating position for Canada.

On the basis of the publicly available sources, like the e-newsletter Food Navigator and the professional magazine Dairy Innovation, insight has been gained into innovation in the dairy industry. Most innovations are product innovations and marketing innovations. The product innovations are mainly line extensions:

- *new sizes or flavors in the existing product category. But innovations in*
- *new ingredients are also very numerous.*

The main innovators in the European dairy industry are the large dairy companies (e.g. Arla, Danone, Müller, BSA Lactalis, Dairy Crest or Campina), suppliers of ingredients (Danisco, Chr Hansen, DSM) and packaging (Tetra Pack) in Europe. The large firms have a share of over 60% in the industry's total turnover and employment and a share of over 50% in innovations. This implies that innovations are proportionally distributed over smaller and larger companies. Arla presented the highest number of innovations, Fonterra (New Zealand) ranks number 2.

A fair amount of the mainly large corporations works closely together in innovation with research institutes. This cooperation turns out to be a major part of organisational innovations. This suggests an open innovation model where promoting innovation benefits from the promotion of cooperation between partners in the food chain (Tacken et al, 2009, p.90).

The 2009 Crisis and Recovery

In 2009, there was a severe drop in milk prices across the EU, primarily as an effect of the 2007 global crisis. Things improved:

The German butter price is now back to the level of 2002 before the cuts in intervention prices. The recovery in SMP prices has not been as strong, but even so these are now comfortably above intervention levels. EU dairy farmers also benefit from an additional €5 billion per year in the form of direct payments (3.5c/kg milk) to compensate for the reductions in intervention prices.

Farm prices are responding to the better prices for dairy products, although with some lag. The average EU price for standardised 4.2% fat milk has risen to €27.06/100kg in October 2009 from its lowest point of €23.74/100kg in April. It is now back at the levels of Spring 2007, before the big run-up in prices in 2008.[10]

The EU responded as follows:

- *Export refunds for dairy products were introduced in January 2009.*
- *The intervention period has been extended until February 2010. Normally, intervention buying is limited to 30,000 tonnes of butter and 109,000 tonnes of SMP and is only open between 1 March and 31 August each year. The Commission has already bought butter and SMP well beyond these limits (approximately 83,000 tonnes of butter and 283,000 tonnes of SMP).*
- *Adjustments to the quota/superlevy system to exclude quota bought-in by member States and kept in the national reserve from the superlevy calculation.*
- *Incorporation of the dairy sector into Article 186 of the Single Common Market Organisation (the so-called disturbance clause), which allows the Commission to take temporary action quickly, under its own powers, during times of market disturbance.*
- *Reinforcement of the School Milk Programme by extending the range of products and the age groups of children covered by the scheme. A new round of promotional measures for dairy products was also opened by the Commission.*

In total, the Commission expects to spend up to €600 million on market measures this year.
Among the income support measures were:

- *70 percent of direct payments could be paid 6 weeks earlier than usual (from 16 October).*
- *An additional aid package of €280 million for dairy farmers was agreed in October 2009, under pressure from the Group of 21. The division of these payments between Member States was agreed in November, and the money must be paid out by June 2010. For the record, the agreed aid allocation is: Belgium, €7.21m, Bulgaria €1.84m, Czech Republic €5.79m, Denmark €9.86m, Germany €61.20m, Estonia €1.30m, Ireland €11.50m, Greece*

€1.58m, Spain €12.79m, France €51.13m, Italy €23.03m, Cyprus €0.32m, Latvia €1.45m, Lithuania €3.10m, Luxembourg €0.60m, Hungry €3.57m, Malta €0.08m, Netherlands €24.59m, Austria €6.05m, Poland €20.21m, Portugal €4.08m, Romania €5.01m, Slovenia €1.14m, Slovakia, €2.03m, Finland €4.83m, Sweden €6.43m, UK €29.26m.

- *Under the Health Check and the Economic Recovery Package, an extra €4.2 billion is available to address 'new challenges', including dairy restructuring, although the outgoing Commissioner has tartly noted that some of the most vocal advocates of EU aid have made relatively little use of their own allocations to help dairy farmers.*

- *Member States were allowed to make a one-off payment to farmers of up to €15,000 in state aid until the end of 2010 under the Temporary Crisis Framework, adopted by the Commission in January 2009. While aid schemes put in place under this instrument had to be open to all primary producers, the primary intention was to provide assistance to dairy farmers.*[11]

Recovery was helped, of course by the global recovery in commodity prices, including that of milk.

Current EU Sectoral Assessment (2010-2011)

Key contextual factors include:

- Expected continuing strong milk prices
- Continuing high milk production (deliveries up 1% between 2010 and 2011)
- Greater impact of market pricing on the volume of outputs since EU regulatory changes in the early 2000s
- Existing milk quotas will hamper some countries in a rising market
- Improvements in the fresh product market
- Cheese exports are expected to continue very high performance (cheese production up 100,000 tonnes 2009-2010, and exports passing 600,000 tonnes for the first time in 2010)
- High process may cause an adverse shift to vegetable oil products in the butter market
- Expectations of improved milk powder exports, and a consequent reduction in SMP stocks

Overall:

In 2011, it is likely that milk prices will remain stable or increaseslightly. At the end of 2010, both producers and users had only small stocks of dairy products. Orders for exports in the first few months of 2011 are looking positive, particularly for milk powder. For most products, longer-term contracts contain higher prices than last year. There is no reason to believe that demand on the international market for dairy products will fall away. It is also thought that demand on markets which are important for the European Union, such as Russia and Algeria, will remain stable. The additional quantities of milk which are expected this year will most probably be able to be exported. Many milk-producing regions of the world were faced with unfavourable weather conditions in 2010 which curbed production. At the same time, demand was stimulated by economic recovery in many countries. China's increasing need for imports, which was a result of the melamine crisis and which will probably continue, also contributed to this trend. However, export opportunities are key to market development, as consumption.[12]

Conclusion

A recent study, talking about an era of unprecedented change for the EU dairy sector concludes as follows:

While the policy environment facing EU dairy farmers is uncertain at present, it appears reasonable to assume that the level of market support and management in particular will be significantly reduced. It is anticipated that in turn EU dairy prices will more closely align with world prices. World prices are both lower and more volatile than EU prices and it is further assumed that this increased volatility will also be transmitted to EU prices. Increased price volatility is a concern for a number of reasons as it adds major new challenges for farm business planning, debt repayment, and, in some cases, solvency. Lower prices will require dairy farmers to increase scale in order to maintain income. In many instances this increase in scale will need to be swift and dramatic thus creating the potential for increased risk as farm enterprises specialize. While it is currently possible for EU farmers to manage some of their input price risks through energy and feed price futures and options, they may be more inclined to hedge their output price risk…….the potential for increased risk is acknowledged by the European Commission which now has an opportunity to put in place and facilitate instruments which will help ensure the long run competitiveness of this most important agricultural sector.[13]

Such changes will, inevitably, play long-term into the hands of the larger private sector businesses in the processing sector. They are likely to have the dominant power in the global supply chains, and will seek to maximize their commercial advantage from increased market-based pricing of milk, and accompanying price volatility, across the EU.

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