

# Competitiveness of the European Food Industry

## An economic and legal assessment

J.h.M. Wijnands  
B.M.J. van der Meulen  
K.J. Poppe (eds)

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### Executive Summary

#### **Main conclusion: European food industry weak**

The competitiveness of the European food industry is weak compared to the US and Canada and at approximately the same level as the Australian and Brazilian industry. Scenarios show that unless the productivity growth in the EU is higher than in the rest of the world, EU competitiveness remains weak. Despite the weak competitive performance, a fair number of world leading food enterprises are located in the EU. Moreover the importance of the food industry in total manufacturing is growing, and the sub-sectors value added is higher than that of most other sub-sectors in manufacturing. The impact of food legislation does not seem to affect EU competitiveness negatively compared to the US. In general, EU companies' view on the food legislation is positive. EU authorities can increase their support for the European industry by engaging in export negotiations. This study is one of the few or maybe even the first one, which included all sub-sectors of the food industry and benchmarked these with important non-EU countries.

## Research outline

### Aim

The EU took several institutional initiatives which affect also the food industry. Important initiatives are: CAP reform, including implementing WTO-agreements and *the Lisbon Agenda* (2000), which aims to make the EU the most dynamic, innovative and competitive economy in the world by 2010. These initiatives are incentives for The European Commission, DG Enterprise to commission a study to assess:

- the actual competitiveness of the EU food industry compared to other leading countries;
- the impact of the European food legislation on the competitiveness;
- the impact of economic and institutional constraints, as well as (agricultural trade) policies on the competitiveness based on model simulations.

### Competitiveness indicators

Assessing the competitiveness is based on the theory of international economics. This concept, widely used by governments, is more focussed on the overall position of countries and regions and less on strategies of enterprises. The competitiveness is presented by 5 indicators:

1. Growth real value added of a specific industry in the total food industry. This reflects the competition for production factors between different industries within a country;
2. Growth of Balassa index. This index reflects the export specialisation level in one category of goods from one country;
3. Growth of the export share (absolute deviation) on the world market. This performance indicator reflects the outcome of the competitive process. The extra-trade determines this growth for the EU;
4. Growth of the real labour productivity. This affects the unit labour costs and in this way the relative prices;
5. Growth of real value added reflects the industrial dynamism.

These indicators have an external and an internal dimension. A profitable gain of market shares is aiming at the external market and highest rent on production factors is aiming at the internal economy. Next to these indicators the description of the sub-sector are enriched with other information: self-sufficiency, information on products produced by the sub-sector as well as on enterprises.

### Impact of food legislation on the competitiveness

Due to the implementation of the Commission White paper on Food Safety EU Food legislation developed to respond to growing concerns as regard food safety, consumer information and the functioning of the internal market. The study focuses on the impact of Food legislation on the industry in terms of current competitiveness and its potential to innovate (cost assessment and benchmarking).

### Impact of structural change: a model approach

The impact of economic and institutional constraints, as well as (agricultural trade) policies on the competitiveness is based on the GTAP-model. The advantage of this model is its availability and proven value in research for governments. It recognises that changes in the competitiveness determinants of one industry can influence other industries, trade flows between countries and the position of the food industry in the economy.

### Data and selection of benchmark countries

Main data sources used are from official statistics: Eurostat (Structural business statistics), the UN (Comtrade), FAO (supply and utilisation accounts) and from abroad e.g. the US Census Bureau.

The selection of global competitors is based on an analysis of the export market shares. The chosen benchmark countries are US, Australia, Brazil and Canada. China, as an important emerging food exporter, is not taken into account due to lacking enterprise statistics.

As the EU-25 started in 2005 and data are available until 2004, the EU-15 is used as the EU region. This choice is supported by the dominating position of the EU-15. Over 90% of the export value as well as of the production value of the EU-25 originates from the EU-15.

### **Competitiveness of the EU food industry**

The competitiveness of the EU food industry is weak, as is shown in figure 1. The EU is the largest exporter and importer of food products, even if intra-communitarian trade is excluded. The imports as well as the exports of the selected countries grew in the period 1996 till 2004. The growth of the share of the value added of the food industry in total manufacturing is the highest in the US and second in the EU. The growth of the Balassa index (export specialisation index) indicates that the food exports have grown more in importance in Australia and Brazil than in the EU, US or Canada. The importance of the EU decreases whereas it increased in all other countries. The production value of the EU food industry is much higher than in the benchmark countries: 150% the US value and 10 till 20 times the values of other countries. The competitiveness is illustrated in Figure 1, which shows a weak competitive position for the EU and a stronger position for the US and Canada. The reason behind this might be the smaller scale of the enterprises, the restricted availability of raw materials due to quota system (e.g. milk and sugar) and a lower growth of the population which determines the quantity demanded.

### Food industry in economy

The European food industry has a share of 1.9% in the value added of the total economy and 2.2% of the employment, often in rural areas. The food industry is, with 11% of the value added in 2003 of the manufacturing industries, important. The value added of the food industry grew faster than that of total manufacturing. The EU is also the largest exporter and importer of food products.

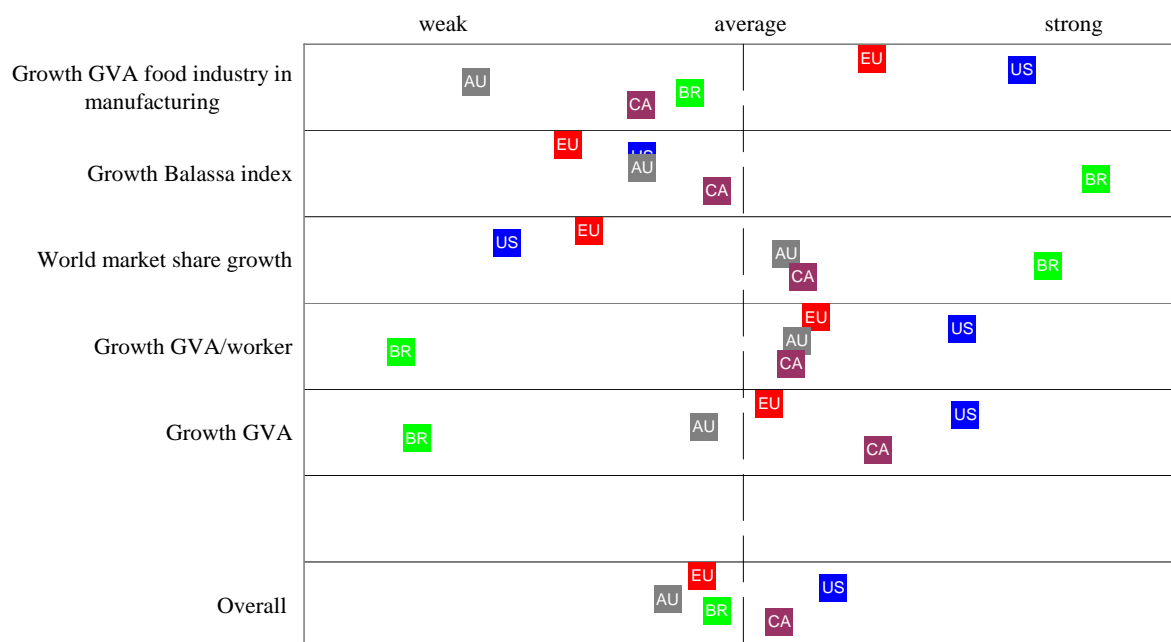


Figure 1 Competitiveness of the EU food industry

SWOT: Strengths - Weaknesses - Opportunities - Threats

The European food industry is weak in economies of scale and in labour productivity. However it showed it strengths in attracting sufficient capital and labour, has an openness to the world market (export and import grew simultaneously) and is in an open competition (many enterprises). The cultural difference between regions and specialised SMEs enable to exploit 'Economies of scope'. Full exploiting the economies of scale is also an opportunity. New technologies (micro-machine processing) and consumer preferences for differentiated and healthy products enhance exploiting the economies of scope. The low population growth is a major threat: a lower increase in the quantity demanded. The increasing scale of the retail chain will also be a threat, if the food industry scale isn't at the same level. Policy threats are: restriction on raw material production and competitiveness hampering enterprise policies.

Scenarios

The effects of different developments of the productivity growth and trade policy on the competitiveness are illustrated by scenarios. In all scenarios the value added share of the food industry in the total economy decreases for all countries, except for the scenario Liberalise. In the latter case in Brazil and Australia and New Zealand the value added of food industry grows faster than of the whole economy. The competitiveness of the EU food industry will deteriorate further in scenarios with developments that are reasonable certain to happen: the Continued reform and in the Liberalise scenario. Other regions will improve their relative position compared to the EU. In scenarios with an Enhanced productivity growth in the EU food industry compared to the rest of the world, the competitiveness of the EU food industry improves and the value added increases. Higher productivity at farm level improves the position of the food industry, even without an enhanced growth of the productivity in the food industry. The improvement of the competitiveness of food industry will be slightly higher if only the EU food industry has higher productivity level. Despite the weak competitiveness the value added and export volumes grow, but slower than of the competitors.

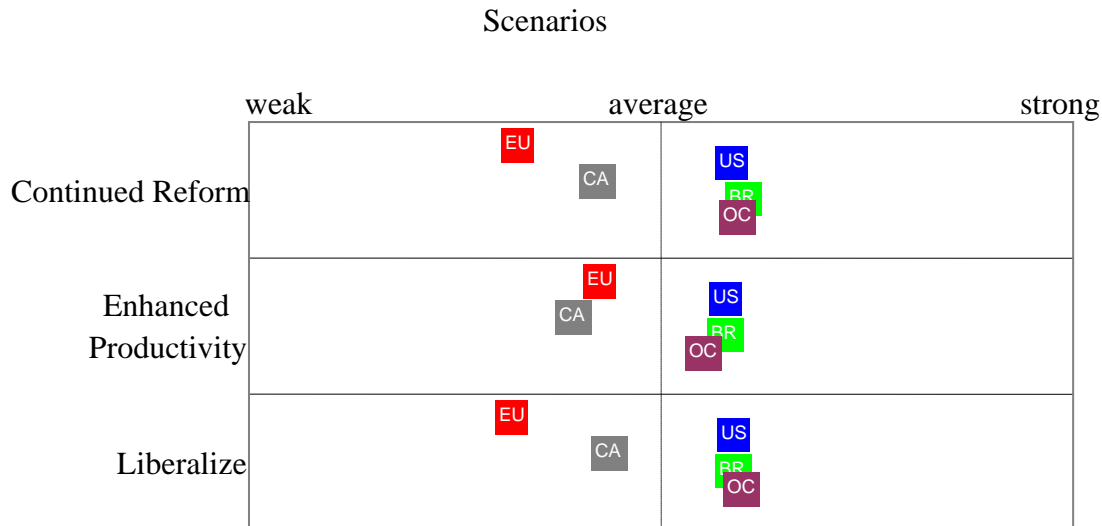


Figure 2 Competitiveness under different scenarios (OC= Australia and New Zealand)

The employment in the EU food industry will decrease with 2 till 3% and 4.5% in the case of full trade liberalisation. Enhanced productivity increases the competitiveness of the food industry, but does affect the employment negatively. Not surprising, because the assumption is a higher labour productivity. In all non-EU regions the employment will increase. In the North American region with 3 till 7%, in Brazil, 4 till 6% and in Australia and New-Zealand region even between 8 and 13%.

## External environment of the food industry

### External drivers of the food industry

Developments which shape the food industry are:

- a lower growth of the population in the EU (0.2% annually) than in the benchmark countries (between 0.9 and 1.2% annually) This results in a lower growth of demand for processed food in the EU;
- consumers prefer more convenient and healthy food and ethical issues (such as animal welfare) are becoming more important - both in relation to higher levels of income and wealth;
- technology development increases the efficiency and efficacy of raw material use, biotechnology enables production of functional food but is controversial in the EU;
- innovation (including micro-machine processing) stimulates product differentiation. Market responsive food chain stimulates this process.

### Trade and enterprise policies

EU agriculture policies and the agricultural sector are influenced by international policy developments: WTO in particular. The philosophy of the CAP changed fundamentally due to international pressure and internal policy and budgetary reasons: a shift from market price support to income support decoupled from production but coupled to public goods. As a result, product price gaps between EU and world market levels have declined substantially, yet not for all agricultural products. EU performs less than the US on several issues related to the (general) enterprise policies among others: access to finance, improvement of the Regulatory administrative environment, human capital and R&D expenditures.

### Retailers, wholesalers and foodservice

Wholesalers, retailers and foodservice firms are an important link between the food industry and the consumers as final customers. In 2003 consumers spend €1,028 billion at the retailers and foodservices: the market share of retailers is 66%. The concentration is high and still increasing: the top-5 supermarkets have a market share of around 70% in most EU countries. The top-25 global supermarkets, of which 60% with a European headquarter, are active in several countries and even at several continents.

Small scale firms with less than 5 employees are the prevalent wholesaling firms: around 70 to 80% in the EU. However over 50% of the turnover is achieved by a small number of wholesalers with 20 and more employees.

Food services are of growing importance: in the US consumers spend almost 50% of their food purchases in foodservices outlets and in the EU one third. The major channels are restaurants and fast food outlets. Catering has a market share below 20% in the US and even lower in the EU. Retailers spend 80% of the turnover on purchases of goods, food services only 30%. Consumers buy therefore five times as much quantity in the supermarkets than in food services outlets.

### Innovation and R&D

The level of R&D expenditures in the food industry is rather low compared to total manufacturing. The levels are comparable low in the textiles sector, the wood and pulp as well as the basic metal industry. High levels are achieved in the sectors of machinery and equipment. Denmark and the Netherlands score above the US in the R&D expenditures in the food industry.

It should be recognised that R&D is important in the food industry, but has a different character than in e.g. telecommunications. New products in a market are mainly variation of older ones. Innovation is more process, marketing and management oriented and less a technology-push based on basic science. Agriculture and the food industry (at least in some countries) are well known for the high speed with which it implements basic innovations from other industries (like ICT, logistics, marketing). Technology transfer to the mass of SMEs is a challenge due to limited management capacity and demanding management tasks in several fields. Small and medium sized enterprises (SMEs) that make up more than 50% of the food industry enterprises are even more challenged than the large international companies. The headlines although will be dominated by the large companies, which have more funds and more possibilities to exploit innovations.

### **EU food legislation positively perceived**

The findings of this research are surprisingly positive for the system of EU food legislation in general. It is not considered as a major factor hampering competitiveness, nor is the EU system seen as inferior to the US-system. Criticism focuses on details. Quite a few improvements are possible. Improvements would be welcomed in stability, clarity and accessibility of both legislation and authorities. The biggest burdens for SMEs are experienced from food hygiene and labelling legislation.

Pre-market approval procedures are for the happy few. Due to the costs and time involved, it is very hard for a regular food business to bring a new additive, novel food, GMO or health claim to the market. For those who are in a position to follow such a procedure, it is not always clear precisely which procedure applies, what requirements must be met, how long the procedure will take and if a favourable outcome may be expected.

A pro-active role of EU and national authorities in assisting companies to negotiate EU procedures and to comply with legal requirements would be most welcome. On the global market, EU authorities can increase their support for the European industry by engaging in

export negotiations and by recognising scientific assessments performed under the jurisdiction of well-equipped foreign authorities.

Very recently the European Commission undertook to reduce administrative costs by 25%. To achieve this ambition, audacious and radical steps are called for. Improvements are possible on the EU system of legislation as such and on EU food legislation in particular. An example is fatal deadlines: legally missing the deadline has the same effect as the decision to grant pre-market approval. Another example is clear responsibilities: the current situation with regard to GMOs where responsibility to decide shifts between the Commission and the Council depending on the content of the decision to be taken, the advice of EFSA and the meeting of deadlines is deplorably unclear.

### Competitiveness of sub-sectors food industry

The largest sub-sectors are meat, dairy, cereal-based industries and beverages. Table 1 presents the export values and the production values. A description of the industries can be found in section 4.1.

*Table 1 Exports and production value of the EU food industry*

Branch	Exports (average 2002-2004)			Production value 2003	
	EU-25 (incl. intra trade) €billion	EU-15 (incl. intra trade) €billion	EU-15 to third countries €billion	EU-25 €billion	EU-15 €billion
Meat	25.5	24.0	4.1	146.8	137.3
Fish	12.4	11.8	2.3	17.6	16.8
Fruit and vegetables	14.9	13.6	2.9	45.5	42.4
Oils and Fats	11.7	11.1	3.2	28.1	26.5
Dairy	22.6	21.5	4.7	107.9	101.9
Cereal based	15.3	14.8	4.2	108.4	102.2
Beverages	25.3	24.8	12.3	115.3	106.1
Sugar	3.6	3.3	1.3	11.7	10.4
Food industry	131.7	124.7	34.9	785.2	729.6

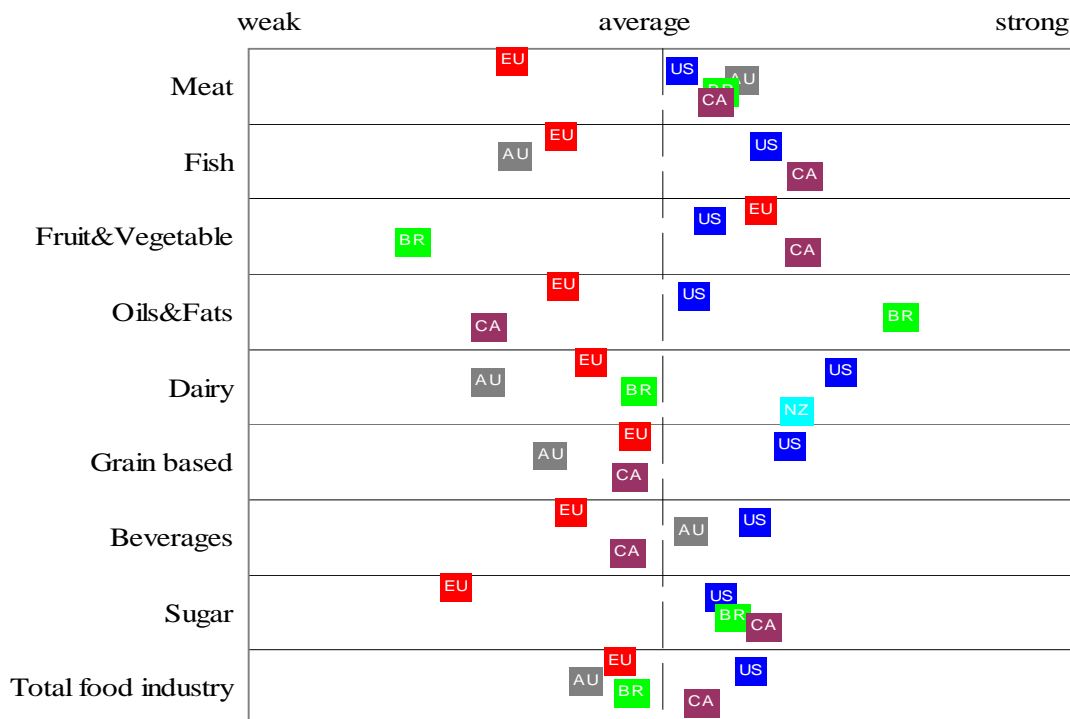


Figure 3 Competitiveness of the sub-sectors

The EU competitiveness of all sub-sectors is weaker than that of the US, except for processed fruit and vegetables (figure 3). Brazil is relatively strong compared to the EU in meat, oils and fats and sugar. The different sub-sectors are discussed briefly below.

Meat products: competition from low cost countries

The EU is a leading exporter of meat: net exporter for pork and poultry and net importer for beef. Major flows are trade between EU countries. The trade balance in meat for the EU developed negatively: the surplus decreased. The EU has a negative trade balance for beef. International trade is mainly based on frozen, cooked or further processed meat products. The EU industry should focus on the production of fresh products for the demanding European customer. In this market segment the local industry has an advantage over third countries.

The competitiveness of the EU meat industry is weak. Third countries like Brazil and Argentina have competitive advantages. Large and reliable livestock supplies, low costs of labour and feed (abundance of land) combined with economies of scale are key factors contributing to the competitiveness of the Brazilian meat industry. Due to higher labour costs, the US has these advantages to a limited extent. The need for consolidation will be a key issue in the meat industry mergers to achieve economies of scale. Only bigger companies with an adequate scale can exploit the opportunity to cater for the various preferences for particular meat cuts between countries. The competitors are not consistently strong in all competitiveness indicators. The Brazilian meat industry is of growing importance within their food industry and on the export market. The Brazilian growth of real value added and labour productivity, however, is weak. The opposite applies to the US. On average all competitors are stronger than the EU-15.

Fish and Seafood industry: consolidation and outsourcing of processing

The seafood sector remains very fragmented, in particular markets for fresh seafood, but is in a process of consolidation and globalisation. With 4 of the top 10 seafood companies, the EU still has a modest position in global perspective. Cross border consolidations that give access

to global sources, low costs of processing and access to markets is expected. The companies that take the initiative are likely to become industry leaders and the ones that define and shape the industry for the future. Seafood is one of the fast growing segments of the food industry. Buying power is increasing, in particular in emerging seafood markets like China and Russia. The European seafood industry faces competition with other main developed economies like Japan and US in terms of access to the sources and (labour) costs of processing. The EU-15 is the largest exporter with 23% of the total world exports. The trade to non-EU member states is a mere 4%, below China (9%), Thailand (7%), Norway (6%), US (6%) and Canada (6%). All indicators show weak competitiveness of the EU seafood industry compared to US and Canada. Spain and Belgium are the most competitive of the EU countries with the largest exports; Denmark and Germany are weaker.

*Processed fruit and vegetables: faster growth export to third countries*

Less than 5% of global production (1.7 billion tons) of fruit and vegetables (F&V) is traded between countries: over 95% is consumed locally. F&V are generally consumed fresh, although in high income countries over 50% of consumption is related to processed fruit and vegetables (including juices). China is the largest producer of F&V with a market share of one third. Processed F&V has a share of 43% in the exports of all F&V. Leading countries in the trade of processed F&V are EU (Netherlands and Belgium), China, US, Canada and Brazil. The largest importers are EU (Germany and the UK), US, Japan and Canada. The leading export product group of processed F&V is canned vegetables, accounting for 36%, followed by fruit juice concentrate (29%), frozen vegetables (14%), a considerable part of which is processed potatoes, canned fruit (9%) and frozen fruit (6%). The EU-15 competitiveness is stronger than that of the US and Brazil, but weaker than Canada. The export to third countries is growing faster than intra communitarian trade and the importance of F&V in the food industry is increasing. Germany, Spain and Belgium are relatively strong, France as large producer is weak in competitiveness.

*Oils and fats industry: Brazil is running up, EU strong in value added*

The US exports of edible oils and fats are larger than the exports of the EU to third countries. The EU processing industry has a larger turnover. The competitiveness of the US and Brazil is stronger, while that of Canada is weaker. Spain appears to be strong as one of the European countries with a substantial production. The EU competitiveness is weak compared to the US with regard to the production of crude oils and fats. However, Europe produces more refined oil and fat products compared to the US, which are products that can be marketed against higher values. The US and Brazil are the main producers of crude oils and fats, mainly soybeans. However, the European countries produce more refined oil and fat products. The EU-25 is the world's largest margarine producer and accounts for 54% of the world's margarine production. Europe is therefore the major world player in the production of refined and consumer end products. The EU-15 growth of real value added is lower than that of the US and Brazil. Labour productivity growth in the US is much higher than in Europe. Three of the nine biggest oil and fat companies in the world come from the EU.

*Dairy products: EU Cap enables growth for competitors*

The dairy industry plays a more important role in the food industry in the EU than in the US. This is expressed by the share of turnover, value added and personnel costs in the whole of the food industry. The average turnover of US firms is four times the EU average. The US has a production value which is only 60% of the EU-25. Despite this difference, the value added is larger in the US than in the EU-25. Australia and New Zealand are relatively small producers. Even with half of the world's top 20 dairy companies being European, EU

competitiveness is weak compared to the US due to the slower growth of labour productivity, real value added and also the growth of the value added compared to the total food industry. The EU milk quota system restricts growth in the EU, whereas the production in New Zealand, for example, is not restricted. Austria and Italy are fairly strong in competitiveness, while Ireland is weak. The weak or strong performance of a country does not say much about individual enterprises. France is valued overall as almost EU average whereas French company Danone is known to be very competitive.

#### Grain-based and starch products dominated by a few key players

Almost 90% of the global cereal production is locally consumed either by humans or animals. The global trade of grain mill products totalled 2.98 billion Euros in 2004, divided over 68% flours and 32% starches. The global trade of bread and bakery products and pasta is far more important and amounted to 29.8 billion Euros in 2004, divided over bread and bakery 86% and pasta 14%. The EU has a share of 47% in the world export share in grain-based products. The EU exports 13% of the total world exports to third countries. Important non-EU exporters are: the United States of America (15%), Canada (9%) and Australia (7%). The EU grain-based industry had a production value of 108 billion Euros in 2003, almost 40% above the US production value. Canada and Australia are relatively small producers. However, the scale of the grain-based enterprises in the EU is much smaller than in the US and Canada as indicated by the lower production value and number of employees per enterprise. Consolidation, internationalisation and specialisation will continue, also resulting in a more concentrated grain-based industry in Europe. The EU competitiveness is weak as compared to the US, but equally strong as Canada and stronger than Australia. Austria, Belgium and Germany are relatively strong within the EU. The extra communitarian trade grew less than the intra communitarian. The weak EU performer in competitiveness - France - has several companies in the global top companies. World leading companies like Danone and Kraft foods are also leading in other food segments.

#### Beverage industry: small scale in wine, large in beer and spirits

The beverage industry produces a wide range of products: wine, beer, spirits and soft drinks. The industry structure depends on the product: many small producers in wine, some large breweries next to many small ones especially in Germany and large scale spirit producers. The overall competitiveness of the EU is slightly lower than the competitors. EU competitiveness is low due to the slower growth of labour productivity and real value added. The development of the share in the total food industry and export specialisation is positive. Five European brewers are in the top 10; in the spirits production they are at number 1 and 10 and in wine the highest ranked of the four in the top 10 is number 6. Within Europe Austria, Belgium and Denmark are strong in competitiveness, whereas UK, France and Portugal are weak.

#### Sugar: EU competitiveness lagging far behind

The worldwide production of sugar amounted to 148.4 million tons in 2003, whereas the worldwide trade only accounted for 35.7 million tons. This means that around 75% of the global production is consumed locally. EU-15 countries play an important role on the world sugar market with an export share of 34%. However, two thirds of these exports are destined for other EU countries. Over the last decade, Brazil has become the world's leading sugar exporter by far with an export share of 22%. Another important non-EU exporter is Thailand with a share of 9%. The sugar export of the US is of minor importance with a share of only 4%. The EU sugar industry had a production value of almost 12 billion Euros in 2003. This is 70% above the US and 125% above Brazil's production in 2002 or 2003. However, the

production value in the EU decreased in five years' time, whereas the production value in the US and Brazil increased. Nevertheless, the sugar industry in Brazil is more important than in the EU and the US, expressed as share of turnover, value added and employment in the total food industry. EU competitiveness is weak compared to the US and Brazil. The largest producers, France and Germany, reflect the weak competitiveness of the EU-15. Spain and Belgium are strong.

**Competitiveness of EU Member States**

Assessing the competitiveness of the EU as a whole region compared to the US and some other countries is the main aim of the research.

T= total; S= growth share food industry in total manufacturing;  
 B= growth Balassa; W= growth world share;  
 L= labour productivity; G=growth value added.

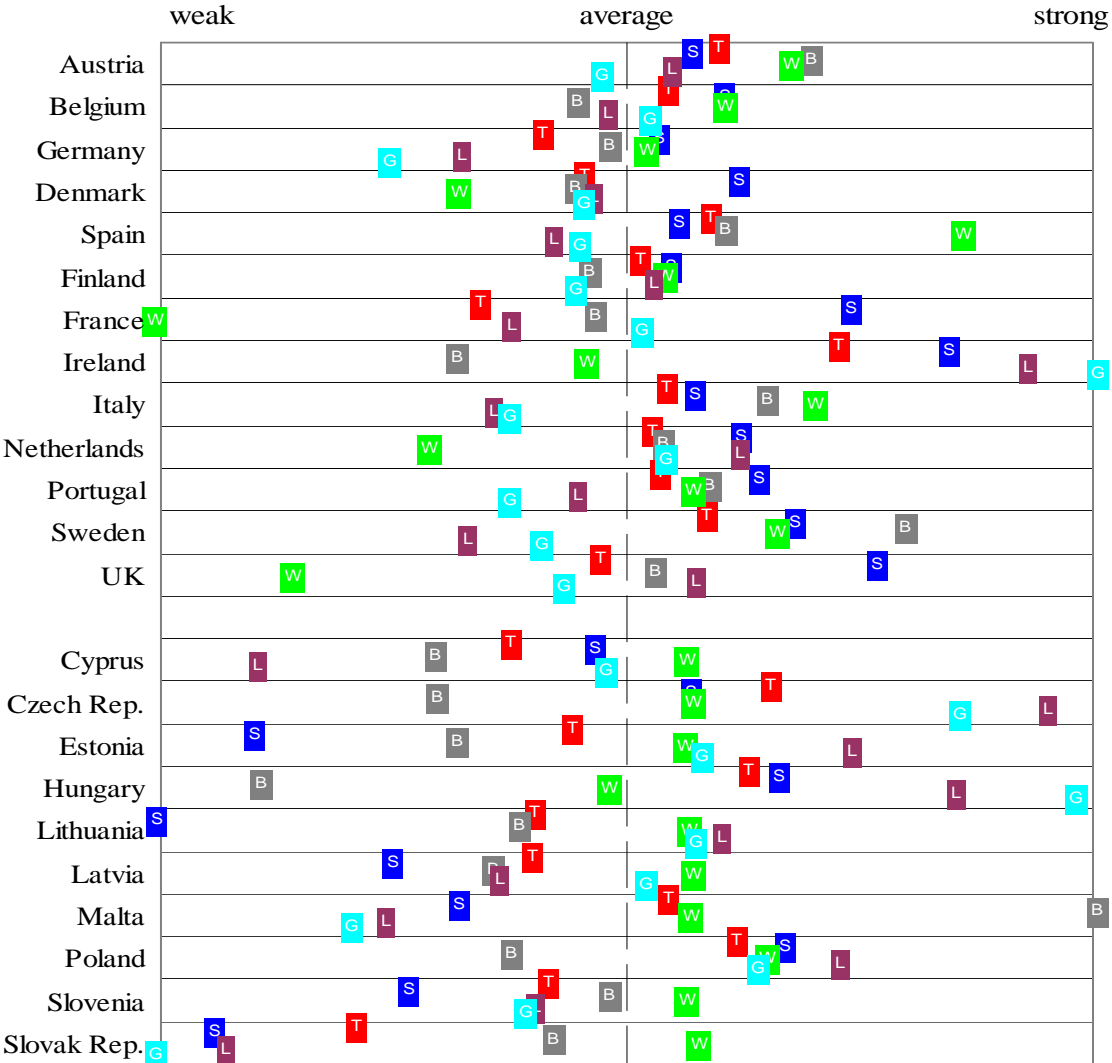


Figure 4 Competitiveness of EU member states (Value out of boundaries is put at border value)  
 Figure 4 presents the position of the individual countries. The exports of individual countries are all exports: intra and extra communitarian trade. At EU level, only the extra communitarian trade is considered. Figure 4 therefore also reveals the competitiveness on the internal market.

Ireland and new member states e.g. the Czech Republic, Hungary and Poland have a stronger competitiveness. Poland is strong in all indicators, except the Balassa index; the export of the overall economy performs even better. Large exporting countries like Spain, the Netherlands, Belgium and Italy also perform rather well. Weak in competitiveness are large EU countries: France, Germany, UK and Denmark.

## Recommendations

The recommendations are directed to enterprises, government and researchers. Enterprises are recommended to exploit economies of scale, economies of scope (differentiation) based on cultural differences in Europe and try to be an innovator in the use of new technologies (micro-machine processing). Research initiated by policy makers can contribute to understanding the driving forces of competitiveness, to innovation, to institution building with regard to property rights and supporting the availability of up-to-date databases.

### Action plan for EU: 'Transition agenda to the new food economy'

Several of the policy recommendations addressed to national and regional governments follow from this study. At EU level, the following recommendations are made:

- the *agricultural policy and trade policy* should support the food industry by creating (cheap) access to more abundant raw materials. Trade promotion in rich target markets overseas could be beneficial. In word processing to mitigate the effects of CAP reform to a more liberalised trade policy, might be an option to explore;
- *Enterprise policy* should support cross border mergers and acquisitions (foreign direct investment) more easily. There should be a true common market for services. The use of ICT should be promoted, also adopting e-government at EU level. E-business chain supply systems are particularly important to the food industry;
- *Better and simplified (food) legislation* is needed and the European Commission should pursue the action it has already announced: impact assessments with independent quality control, reduction of administrative costs, technical simplification and co-regulation: using existing independent standards instead of new EU standards. A public-private initiative on reducing and standardising the large number of self-control systems and recognising them in public control systems might be beneficial;
- for the *R&D policy* there is a large list of topics for innovation. These include health issues, micro-machine processing, food chain management ('fork-to-farm approach') and issues on food and the consumers. More important than the topics are access by SME and bringing SMEs into contact with other players in tomorrow's food economy like pharmacy, services and ICT. Food Valley approaches might enhance knowledge transfers from Universities to SMEs;
- concerning *statistics* and monitoring there is a need to concentrate on better data, at least at EU level, on innovation and more micro economic data. This study should not be the last study on this topic in this sector. It's only the beginning;
- the government policies could be directed to *harmonisation of legislation* within the EU as well as worldwide, to supporting advance industry standards of the future and to enterprises and trade policies which will not weaken the competitiveness.