

**PROSPECTS FOR  
WORLD AGRICULTURAL MARKETS**



## 1. Introduction

This chapter is aimed at giving an overall picture of the long-term prospects of world markets for some key agricultural products. While the Commission has developed its own set of market projections for the EU and the CEECs countries, the outlook of world markets is mainly assessed on the basis of reports and projections released by different international organisations, experts and foreign institutions, and in particular on the basis of three main sets of medium-term projections for international agricultural markets.

The first comes from the US Department of Agriculture through its interagency World Agricultural Outlook Board (USDA Baseline), the second from the Food and Agricultural Policy Research Institute (FAPRI), with units at the University of Missouri-Columbia and Iowa State University, which provides analysis and economic forecasts to the US Congress (FAPRI Outlook). The third set of projections consists of the medium-term outlook from the Organisation for Economic Co-operation and Development (OECD) which reflects information provided by its members as well as independent analysis by the OECD Secretariat. It should be noticed that the latter set of information consists of the preliminary projections established by the OECD Secretariat whose final results were scheduled to be declassified after discussion by the OECD Working Party on Agricultural Policies and Markets at its meeting on 21 and 22 May 2002. These final projections which should be published in the OECD Agricultural Outlook, may have been subject to some modifications in the light of the discussion by the Working Party.

These forecasts constitute the most recent and comprehensive set of long-term agricultural projections available to date. However, it should be stressed that these forecasts were carried out at the end of 2001 and/or at the beginning of 2002 on the basis of information available at the end of 2001. Therefore, they do not all take full account of the most recent developments in the general economic situation and on agricultural markets, notably the devaluation and float of the Argentinean peso and the accession of China to the WTO. Furthermore, they assume the mere continuation of the FAIR Act in the US (cf. Chapter III, section 4.3). In this perspective, some issues related to key underlying assumptions and forecast results will be briefly addressed in the light of the latest information available and our own assessment.

## 2. Overview of main trends

The FAPRI, OECD and USDA provide for a short-term outlook marked by the continuous, albeit slow, recovery of agricultural markets after a longer than expected downturn. The medium-term prospects for agricultural markets would be mainly driven by an improved macro-economic environment with more broadly based, robust and sustainable growth. Combined with higher population, urbanisation and changes in dietary pattern, particularly in many emerging economies, these prospects for stronger economic growth would support a steady increase in food demand.

World trade in agricultural commodities would demonstrate strong growth, as demand for food products would outpace production in many developing countries. The tightening of the stock-to-use ratio would in turn sustain commodity prices over the medium term. Most of the growth would come from the non-OECD regions, which would constitute the main driving force behind these relatively favourable perspectives.

Notwithstanding the relative improvement in the market fundamentals of most agricultural sectors that is projected over the medium term, a prudent interpretation of these

favourable perspectives is deemed necessary. These projections remain subject to many uncertainties that can be expected to moderate the positive pattern forecasted for future trade and price growth. The most important include the future course of agricultural policy in many regions (notably the recently approved US Farm Security and Rural Investment Act of 2002), the new round of multilateral trade negotiations, the future macro-economic perspectives and the scope for further productivity growth in some regions.

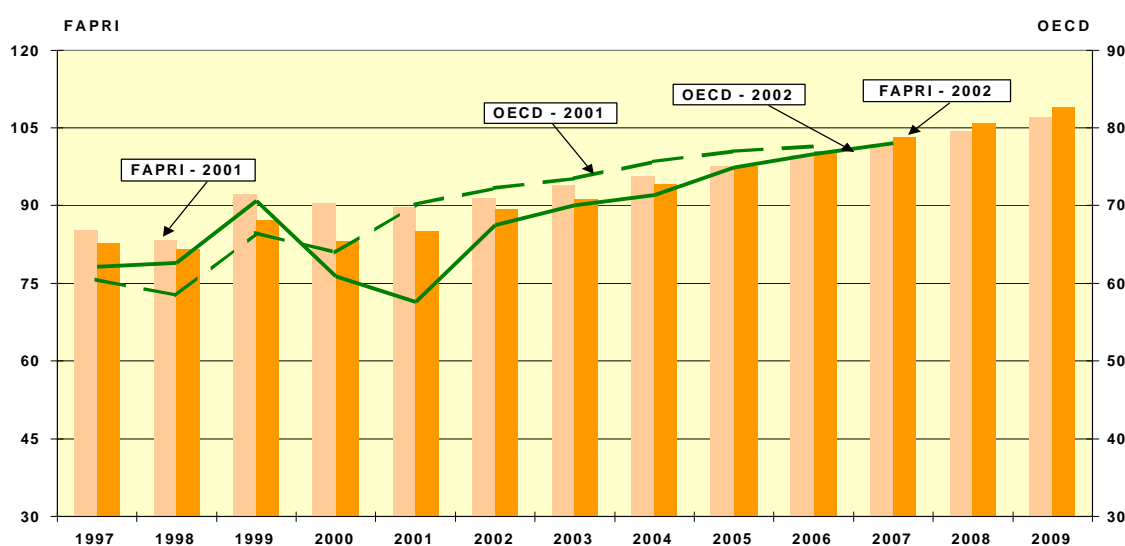
## 2.1 Overview per sector

The main features of the medium-term prospects per main agricultural commodity can be summarised as follows:

### Cereals

The world cereal markets are anticipated to slowly emerge from a prolonged downturn. An improved economic environment, population growth as well as changes in the dietary pattern in some major importing countries are foreseen to generate a strengthening of world demand and a tightening of stock-to-use ratios. Higher demand would outpace domestic supply in many developing countries, including China, North Africa and Latin America, and trigger a sustained expansion in global cereal trade. Total cereal trade would increase by between 40 and 47 mio t by 2009/10, i.e. at a much quicker pace than in the 1980s and 1990s.

**Graph 3.1 Outlook for wheat net imports – comparison with the 2001 outlook, 1997 – 2009 (mio t)**



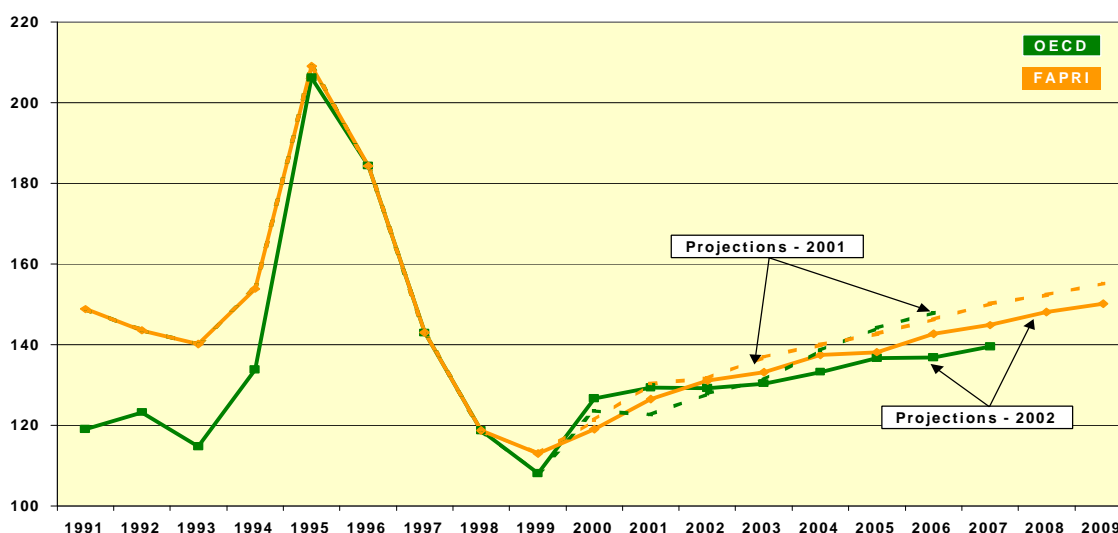
Ref.: FAPRI (world net imports) and OECD (OECD zone).

Global trade in wheat would strengthen with annual growth averaging about 2.3 %-3.1 %, whereas coarse grain trade would exhibit a similar pattern with an annual average ranging between 2.0 % and 3.1 % over the 2001/02-2009/10 period.

After having bottomed out at the turn of the century, world prices are projected to display a slow and moderate recovery over the medium term as supply adjusts and global demand strengthens. HRW wheat prices would reach approximately 145-150 \$/t by 2009/10

according to the OECD and FAPRI projections<sup>59</sup>. Maize prices would exhibit a similar trend, standing at 110-111 \$/t at the end of the projection period. Barley prices would also trend upwards, rising from 121\$/t in 2000/01 (Portland reference) to 139 \$/t in 2009/10 in FAPRI projections and from 96 \$/t to 100 \$/t in 2007/08 in the OECD outlook. A similar outlook is projected for durum wheat prices that would rise from 175 \$/t in the short-term to around 180 \$/t by 2009/10.

**Graph 3.2 Outlook for wheat world prices – comparison with the 2001 outlook, 1991 – 2009 (\$/t)**



Ref.: US FOB Gulf, HRW.

## Oilseeds

If the short term developments of the oilseed sector are expected to continue to be affected by policy and macro-economic factors, the medium-term prospects are foreseen to demonstrate a relatively moderate recovery. The vigorous growth in demand for oilseed and oilseed products anticipated over the medium term by most agencies is forecast to contribute to the gradual restoration of market balance as supply exhibits more moderate increases. Global demand would benefit from the recovery in world economic growth which is projected to generate increased human consumption of vegetable oils as well as higher use of oilseed meals for the livestock sector. Trade in oilseeds is anticipated to increase faster over the projection period than in the 1980s, but more slowly than in the early 1990s.

The prices of oilseeds would display a continuous recovery over the next seven years driven by long-term demand growth. However, several factors including the sustained yield growth, the large production potential in South America and the continuation of a production-inducing policy in the US are expected to moderate future price trends. The OECD projections provide for average oilseed prices (i.e. soybean, rape seed and sunflower seed) at 237 \$/t by 2007/08, whereas the FAPRI forecasts soybean prices at 229 \$/t in 2009/10. Rape seed and sunflower seed would benefit from more favourable long-term vegetable oil demand -in comparison to meal- and would accordingly exhibit a stronger price pattern than soybean, with prices at 240 \$/t and 271 \$/t in 2009/10 respectively in the FAPRI projections.

<sup>59</sup> The SRW wheat, which broadly corresponds to EU wheat quality, generally quotes around 10 % below the HRW wheat reference.

Oilseed meal prices are expected to weaken in the short term on account of strong production growth, before increasing slowly over the rest of the period supported by an expanding consumption, and ranging between 178 \$/t and 214 \$/t.

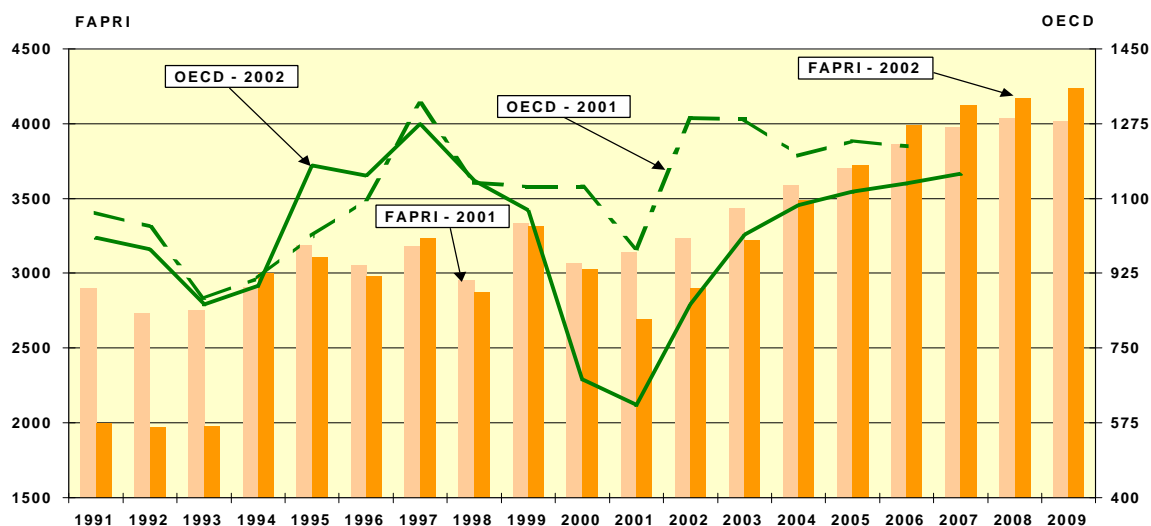
Prospects of rising incomes drive the solid expansion in vegetable oil consumption. Palm oil and soybean oil would capture the greatest share of an expanding demand for and trade of vegetable oil. Growth in oilseed oil trade would average between 1.7 % and 2.8 % per annum, i.e. a much lower rate than in the 1990s. The strong dependence of trade in vegetable oil from developing countries, notably China and India, makes the outlook very sensitive to the economic prospects in these countries.

## Meat

The medium-term perspectives for the meat markets would exhibit higher production, consumption and trade. The increase in meat consumption would be mainly supported by a favourable macro-economic environment of sustained income growth, in particular in the emerging economies of Asia and Latin America, and by changes in dietary pattern in many regions. As higher meat demand would take place in many net importing countries, world trade would rise and world prices would show moderate strength. The FAPRI and USDA projections exhibit a sustained rise in beef trade ranging between 1.2 mio t and 1.5 mio t over the 2001-2009 period (i.e. some 30 %), with most of the growth from Asia, Russia and Mexico. After a short-term fall due to lower availability, weaker economies and animal health crises, the medium-term outlook for pig meat trade is projected to display a renewed and marked expansion over the same period (by between 0.75 to 1.15 mio t), driven by strong import demand from Japan, China, Mexico and Russia.

Poultry meat would capture the largest proportion of the increased global meat demand thanks to low production costs (relative to beef and pig meat) and consumer preferences in many parts of the world. Trade in poultry meat is also projected to trend upwards, with increases in the range of 1.3 to 1.8 mio t. Much would depend on the prospects for import demand from China and Russia. On the export side, a weak currency, large availability of cheap feed grains and strong investments in the meat sector are all anticipated to enhance Brazil's market share over the medium term.

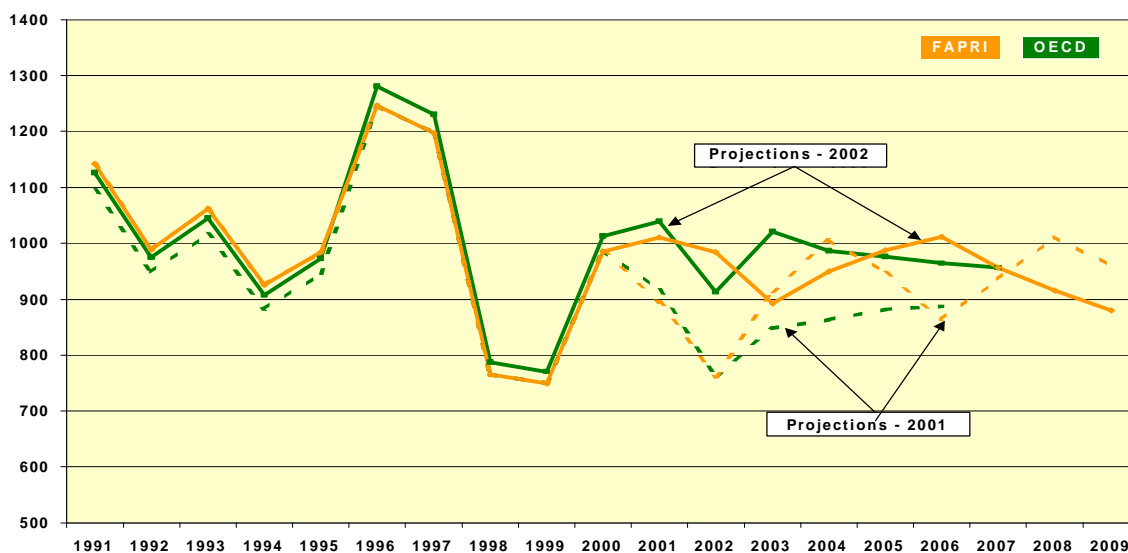
**Graph 3.3 Outlook for beef net imports – comparison with the 2001 outlook, 1991-2009 ('000 t cwe)**



Ref.: FAPRI (world net imports) and OECD (OECD zone trade).

Beef prices would be supported over the medium term by a strong import demand, although the changing structure of the world beef market, the emergence of new exporting countries and the increasing competition from other meats should restrain upward beef price tendencies. Poultry and pig meat prices would display modest gains over the projection horizon as the continued improvement in feed efficiency, structural changes and the swift emergence of low-cost producers would maintain world market prices under pressure.

**Graph 3.4 Outlook for pig meat prices – comparison with the 2001 outlook, 1991 – 2009 (\$/t)**



Ref.: Iowa and Southern Minnesota barrow and gilt, lw.

These perspectives rely heavily on the assumption that the recovery from the recent economic downturn will turn into sustained economic growth over the medium term. They also assume that the recent disruptions in world meat markets caused by sanitary issues will not occur over the projection period as they could trigger higher market segmentation and limit market access for some potential meat exporters.

### Milk and dairy products

The OECD and FAPRI foresee that the medium-term outlook for the dairy sector would remain dominated by a strong expansion in global demand for dairy products. The latter would reflect not only income growth in many regions of the world, but also changes in consumer preferences towards dairy products (as meat substitutes). Demand growth is projected to be strongest in the non-OECD zone, notably in Asia, Latin America and the Middle East.

World milk production would grow at the sustained pace of between 1.2 % and 1.9 % on annual average over the 2001-2007 period, supported by higher demand and price rises in a number of countries, mainly outside the OECD area and in those OECD countries not subject to production quotas.

If dairy consumption in the OECD area is not expected to demonstrate significant changes over the medium-term (with the exception of cheese and –to a lower extent- whole milk powder), solid and sustained growth in the demand for dairy products is projected in developing countries fuelled by growing population, rising disposable income, urbanisation and changing dietary pattern.

Although a significant part of this increasing demand is expected to be met by domestic production, scope for additional, albeit increasingly regionalized, trade is foreseen in Asia, the Middle East and the FSU. The structural change in world trade of dairy products from bulk dairy products (SMP and butter) towards higher value-added products (such as cheese and whey powder) that has been observed since the mid 1980s would consolidate over the next seven years according to the OECD outlook (although trade in butter and SMP would still remain substantial). Technological advances are also projected to stimulate a rapid development in milk components.

The perspectives of stronger economic growth and a strengthening demand for dairy products are projected to generate a sustained recovery in world market prices of dairy products over the medium term. However, the rapid expansion of milk production in low-cost producing regions (such as Oceania) is expected to moderate this price pattern. In spite of a short-term weakening, cheese prices should display the strongest pattern among the prices of dairy products. In contrast, the pace of price increase is forecast to be more moderate for milk powder, notably for SMP, which should face greater competition from WMP and whey powder. Butter prices would recover modestly and gradually, benefiting also from the expected rise in vegetable oil prices.

These medium-term perspectives remain strongly dependent on the future development in some key (existing or emerging) markets such as Russia and East Asia as the world dairy market is foreseen to remain relatively thin. Furthermore, the trend towards further concentration and globalisation of the dairy industry, and greater differentiation of dairy products is expected to make trade projections for dairy products increasingly complex and dependent on dairy firms' cost structure, production and marketing strategy.

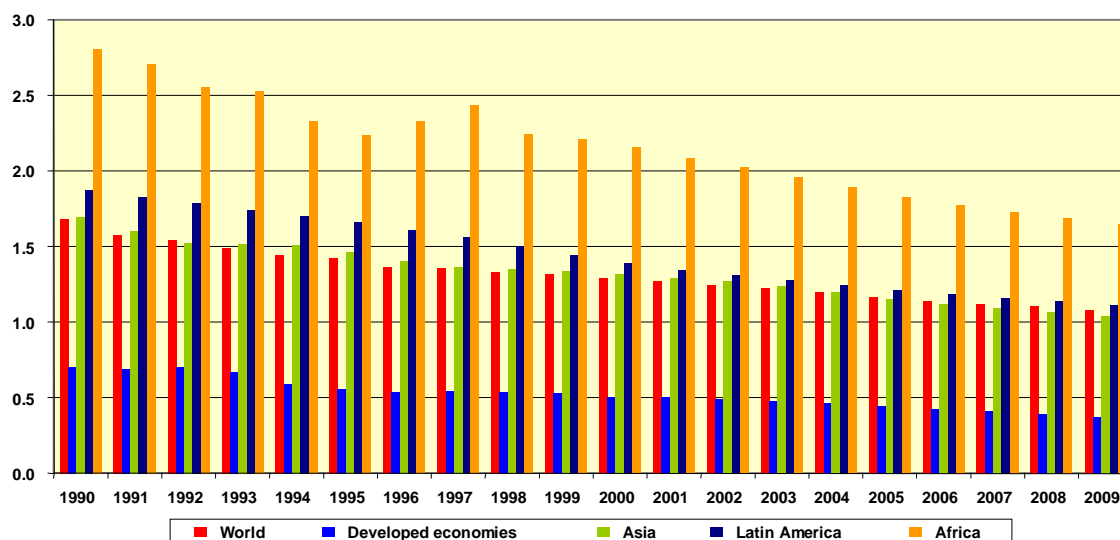
## 2.2 Underlying factors

Five main factors can be identified to explain these developments:

### (1) Population growth

Population growth constitutes a traditional determinant for food demand. Global annual population growth has been steadily declining since the second half of the 1960s, falling from 2.1 % in the 1960s to 1.3 % in 2000.

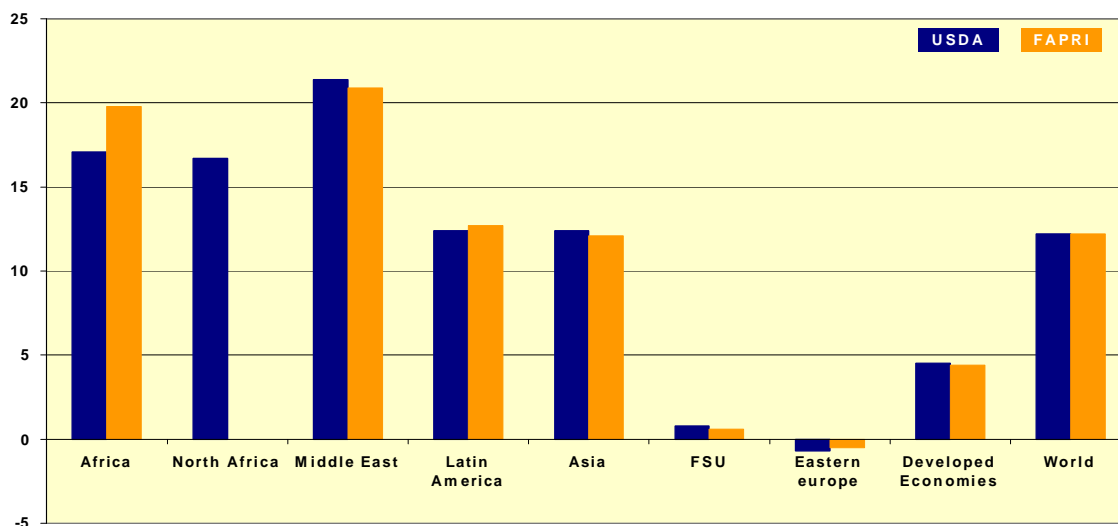
**Graph 3.5 Annual growth rate in population growth, 1990 – 2009 (in %)**



Source: FAPRI

This pattern is estimated to continue over the next seven years and overall world population is expected to increase by between 1.1 % and 1.2 % per year by the end of the decade. However, the decade is expected to witness some of the highest absolute annual increments in world population history. It is estimated that the world population will increase every year by some 75 to 80 mio persons over the decade. The pattern of population growth will differ widely between regions, with Africa and the Middle East demonstrating the strongest increase of around 20 % over the next seven years.

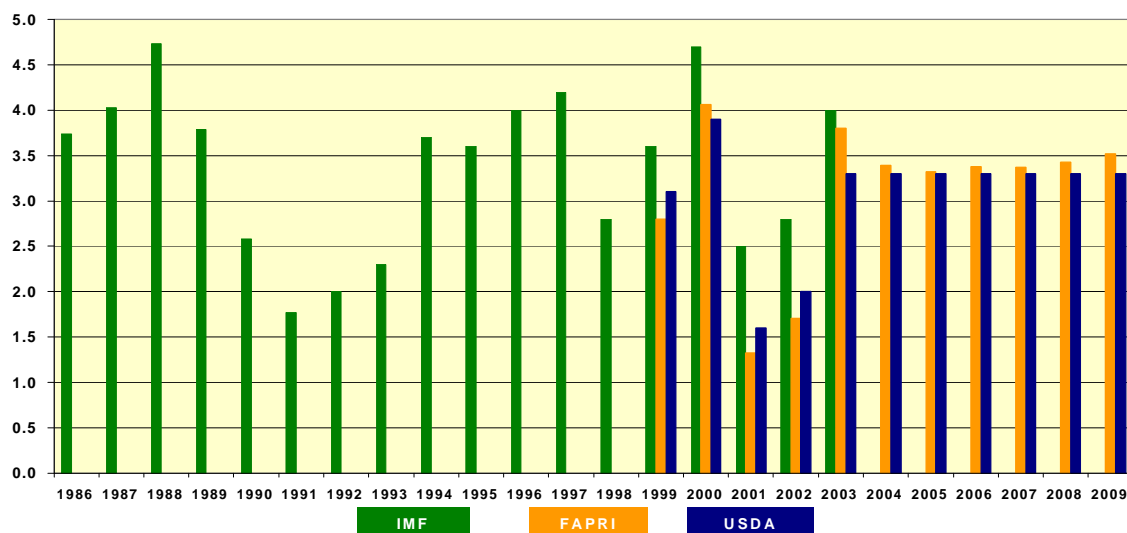
**Graph 3.6 Cumulative population growth, 2001 – 2011 (in %)**



The strongest growth is expected in the Middle East where population would expand by around 2.0 % per annum in 2009. Africa's population growth would stand at around 1.5 %-1.6 % per year by 2009 in the USDA and FAPRI projections. This would constitute a sharp downwards revision from last year's USDA baseline where Africa's population was projected to expand at a steady 2.2 % per year at the end of the decade. The next fastest growing regions are Latin America and Asia, averaging between 1.0 % and 1.1 % per annum by 2009. More than 90 % of the increase in world population would take place in developing countries, with more than half in Asia. By contrast, transition economies are projected to exhibit a fall in their overall population.

## (2) Strong rebound in world economic growth

The main contributing factor to the improvement in the medium-term outlook of agricultural markets in all baseline projections lies in the prospects for a favourable macro-economic environment based on sustained and balanced growth across most countries. The short-term economic outlook should remain dominated by the continuation of the marked slowdown that affected the world economy in 2001 and the subsequent recovery. Over the medium and long term, most agencies anticipate that long-term structural reforms and robust productivity growth should set the stage for a renewed sustained economic growth in most economies, with economic expansion above long-term averages in most regions. If Asia is foreseen to remain the major force in the expansion of the world economy, strong growth is expected in the transition economies of Eastern Europe and Russia, Africa and Latin America, leading to a significant narrowing of the growth differential between these regions. This broadly-based economic growth could then have major implications for global food demand as it could trigger significant changes in the food consumption pattern in many developing countries.

**Graph 3.7 Outlook for world real GDP annual growth, 1986 – 2009 (in %)**

Weakened by the global downturn in 2001, world GDP growth is forecast to grow by only around 2 % in 2002 according to the USDA, OECD and FAPRI projections. From 2003 onwards, the FAPRI and the USDA anticipate that economic growth would stabilise at approximately 3.3-3.4 % per year. If much of this growth is expected to be fuelled by emerging economies, the slow implementation of much awaited structural reforms -that would provide the fundamentals for long-term sustained economic development- should constrain growth prospects below the rates recorded during the 1990s in some of these countries.

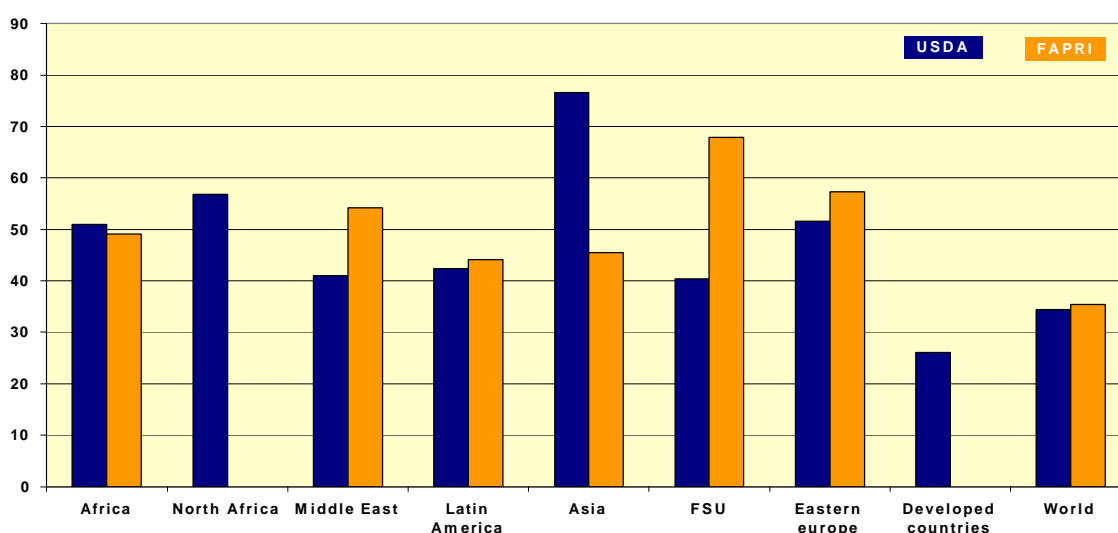
According to the USDA projections, Asian developing countries would exhibit a GDP growth averaging around 6 % per year (led by China that would display an annual growth rate slightly below 8 %), i.e. somewhat lower than in the 1990s. In the face of the severe drop in GDP growth recorded in 2001 and 2002 -below 2 %- Asian economies are only projected to rebound to a moderate growth pattern from 2003 onwards according to FAPRI. By contrast, the performance of Latin American economies is foreseen to be more mixed, with strengthening economic growth that would reach approximately 4.5 % a year on average over the medium term. In the short-term, these favourable perspectives would mainly rely on Brazil as Argentina is currently facing a severe financial and economic crisis partly caused by its currency peg to the dollar. If the situation is forecast to improve over the medium term, these countries would continue to rely heavily on foreign capital.

The moderate developments in oil prices that are assumed in the baseline projections provide the basis for an average economic growth at or above 4 % per year for Middle East countries, i.e. around the performance of the 1990s. In spite of some politically troubled countries which could drag overall growth down, Africa is forecast to display a healthy economic pattern, with GDP growth estimated above 4 % over the medium term. However, GDP growth per capita in Africa and the Middle East would continue to be outperformed by those of Asia and Latin America by a larger margin than given by their GDP growth rate differentials owing to their higher population prospects (cf. section (1) above).

Russia weathered the slow down in the world economy in 2000 and 2001 when it experienced high GDP growth thanks to a large depreciation of its currency, a significant improvement in its terms of trade and prudent fiscal policy. Over the medium term, the

USDA, OECD and FAPRI baselines foresee the continuation of the expansion of the economy, albeit at lower level for the former agencies. This performance would in any case constitute a substantial increase from the negative growth recorded in the 1990s (around -4 % per year). These prospects depend critically on the implementation of structural reforms towards the establishment of a market-based economy and the continuation of the integration of Russia into the global economy in terms of trade, foreign investment and currency convertibility. In that respect, the medium-term economic and financial prospects in that region constitute a major uncertainty for the future prospects of agricultural markets. Central and Eastern European countries are projected to exhibit solid growth over the medium term, in particular countries where market reforms and increased openness to trade and competition have already been implemented (such as Poland and Hungary). The FAPRI and the USDA forecast average growth in these countries between 4 % and 5 % per annum over the medium term.

**Graph 3.8 Outlook for real GDP growth per region, 2001 - 2011 (cumulative growth in %)**



After the worst economic downturn in over a decade, the economic situation in developed countries is foreseen to start improving in 2002 and to fully recover from 2003 onwards. Over the medium term, GDP growth is estimated to reach between 2.5 % and 3.0 %, i.e. above the rates achieved in the 1990s as structural adjustments undertaken throughout the second half of the 1980s and into the past decade created a foundation for growth. However, the path to recovery is forecast to show significant differences. After a marked slowdown in 2001, the US would, according to the three agencies, return to a long-term sustainable rate significantly above 3.0 % on average over the rest of the outlook period. Significant structural problems are still expected to constrain the Japanese economy on a modest growth path over the medium term at around 2.0 % per year. Owing to a milder slowdown, economic growth in the EU would show a more modest rebound and less robust medium-term growth perspectives than the US, with GDP stabilising at between 2.5 % and 3.0 % on annual average.

Whereas strong economic growth in the developed world should only have minor direct implications for the global demand for agricultural products<sup>60</sup>, it is expected to have a

<sup>60</sup> However, economic growth in developed countries is crucial for spurring growth at world level, which would then translate into higher food demand and global trade.

much stronger effect on food consumption in the non-OECD zone owing to higher per capita-income elasticity.

This environment of steady medium-term growth is foreseen to take place without significant inflationary pressures thanks to moderate oil prices over the medium term - combined with a lower dependence of the economy on energy- and to a significant productivity growth.

Exchange rate fluctuations have constituted a major factor affecting agricultural trade flows and prices over the recent past, notably the depreciation of the Euro and the Brazilian Real. The three sets of baseline projections differ significantly regarding their assumptions on currency prospects over the next seven years. The USDA baseline assumes no major change in relative exchange rates, with nevertheless a short-term appreciation of the euro in real terms up to 2004 before a slow depreciation over the longer run. The OECD baseline also assumes stable exchange rates in real terms. Accordingly, the US dollar would remain stable against the euro and weaken against the yen. Some depreciation of the Chinese and Russian currencies would also be projected. In contrast, the FAPRI baseline anticipates an appreciation of the Japanese yen, a short-term increase and a subsequent stabilisation of the euro at parity from 2004 onwards, and a drastic fall in the value of the Brazilian and Argentinean currencies over the whole outlook period. The Chinese and Russian currencies would also deteriorate somewhat over the short term before stabilising at a later stage.

### **(3) Change in dietary pattern**

Higher per capita income is foreseen to have profound repercussions on the nature and the composition of global food demand on account of the direct correlation between per capita growth in income and diet diversification. Demand for meat products, processed food and beverages is expected to rise in developing countries in line with wealth. A higher degree of urbanisation and openness to trade would also translate into a shift in demand for wheat-based products and meat (with the ensuing increase in demand for coarse grains and other feedingstuffs as it takes more cereals and oilseeds to produce a unit of calories from meat than through the direct human consumption of these crops).

### **(4) A differentiated pattern of food production and consumption should lead to some regional imbalance and increase trade**

The prospects for trade over the medium term depend heavily on the differentiated pattern in domestic production and consumption at regional level. Although agricultural production is expected to increase in developing countries, the annual rate of increase of production in these countries is still projected to be lower than the increase in domestic consumption. This would result from the combined impact of the limited potential of available land and water (due to urbanisation and pressure on agricultural resources and environment) and under-investment in agriculture (as compared to the more profitable manufacturing sector), despite the scope for further productivity gains. This would lead to the emergence of some large countries and regions (such as China, South Korea, Indonesia and Middle East) as important and increasingly significant importers of agricultural products.

## **(5) Continuing trends towards market-oriented policy reform and trade liberalisation**

The implementation of the Uruguay Round Agreement on Agriculture (completed in 2000 by OECD countries and due by 2004 for developing countries) and further trade liberalisation in the framework of the new multilateral trade negotiations launched in Doha in 2001 may be expected to lower barriers and boost the demand for food imports over the medium term. The pace of economic reform towards greater liberalisation of markets and integration into the global economy (in terms of trade, investment flows and currency convertibility) in many regions, such as the transition economies, the FSU and China should also have a significant impact on international trade over the medium term.

### **3. Prospects per sector**

This section is based on the projections<sup>61</sup> of some prominent forecasting organisations (OECD<sup>62</sup>, FAPRI, USDA) and the Commission's internal assessment of possible development in world agricultural markets over the medium term. Its main objective is not to compare these different estimates or to give the most realistic levels of global supply, demand and trade of the different commodities at a given time, but only to assess the possible development of world markets over the next seven years. As a consequence, the absolute levels of the different variables considered must be interpreted with caution, and should be seen as providing an order of magnitude instead of a precise estimate of the level of these variables<sup>63</sup>.

#### **3.1 Cereals**

The OECD, USDA and FAPRI foresee that the cereal sector will continue to recover after its prolonged weakness characterised by large availability, ample stocks and weak demand. Widespread economic growth, the expansion of the livestock sector and the gradual adjustment of supply to low prices are projected to combine to set the stage for a strengthening of world demand and a tightening of stock-to-use ratios. Limited production potential should generate a broad based expansion of cereal trade, particularly in developing economies, driven by rising income, diet diversification and higher demand

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<sup>61</sup> It is important to mention that these projections are not always directly comparable. They sometimes differ as regards their geographical coverage, the precise nature of the commodity concerned, the price variables used and the historical reference period. Despite these divergences, it is possible to point out some main trends that are presented hereafter.

<sup>62</sup> In drafting this market analysis, the Commission had access to preliminary projections established by the OECD Secretariat in the context of its medium term outlook for the period 2002 to 2007. The final results were scheduled to be declassified after discussion by the OECD Working Party on Agricultural Policies and Markets at its meeting on 21 and 22 May 2002 and to be published in the OECD Agricultural Outlook. The discussion by the Working Party may have led to modifications in the preliminary projections used in this report.

<sup>63</sup> These projections are not intended to forecast what the future will be, but instead describe what may happen under a specific set of assumptions and circumstances. The projections represent one plausible long-run scenario that presumes a continuation of the current agriculture and trade policies, with no major weather or political shocks, and with specific assumptions regarding the global macro-economy, international developments, productivity growth and other factors affecting food production, consumption and trade. It is obviously impossible to give a comprehensive view of all macroeconomic and policy assumptions adopted by each analyst. These can be found in the documents mentioned in references.

for livestock products and feeds. These factors would fuel a gradual, albeit moderate, price recovery over the medium term.

#### *Short-term developments*

The short-term estimates from the International Grains Council (IGC<sup>64</sup>) for the 2001/02 marketing year indicate a wheat crop at 580 mio t. The 2001 harvest would thus constitute the fourth consecutive fall in world wheat production from the 1997 record of 610 mio t. Significantly lower supply is found in the EU, India, China and North America. In contrast, wheat production increased mainly in the CEECs and the FSU (mainly Russia and Ukraine). By contrast, coarse grain production rose sharply to 891 mio t, i.e. some 23 mio t higher than the 2000 harvest<sup>65</sup>. Large crops were harvested in the CEECs, the FSU and China. First estimates for 2002/03 show a sharp rebound in world wheat production at 596 mio t, driven by large increases in the EU and India, whereas lower crops are foreseen in the CEECs and the FSU.

World demand for wheat in 2001/02 resumed increasing after three years of relative stagnation. Driven by food use in developing countries and feed usage in industrialised economies, total wheat consumption would reach 596 mio t in 2001/02, i.e. an increase of around 5 mio t as compared to 2000/01. As consumption is forecast to exceed production for the fourth year running, wheat stocks would fall further to 136 mio t in 2001/02 (i.e. a stock-to-use ratio of 15.6 %). Moreover, wheat stocks in the five major exporting countries would drop by 8 mio t to 44 mio t, their lowest level since 1996/97. Total wheat trade is set to rise in 2001/02 to 107 mio t, with the bulk of this increase taking place in the EU. Coarse grain consumption is estimated to increase by 14 mio t in 2001/02, leading to a renewed decline in total ending stocks of 160 mio t (69 mio t in the five major exporters). Total coarse grain trade would slightly fall to 107 mio t<sup>66</sup>.

#### *Supply*

World wheat production is forecast to increase substantially faster over the medium term than in the 1990s, albeit at a significantly lower rate than during the two decades before. Wheat availability would grow at a sustained pace that ranges from 1.5 % on annual average in the FAPRI forecasts (i.e. 75 mio t over the 2001-2009 period) to 2.0-2.1 % in the USDA and OECD projections (i.e. around a 100 mio t increase by 2009/10). Transition economies and developing countries are foreseen by all major organisations to account for most of the increase in production. Total wheat production would thus reach between 653 and 680 mio t in 2009 as compared to 609 mio t in 1997 (an historical high).

As in recent decades, most of the growth in production would be generated from higher yields as wheat area would only expand moderately. The FAPRI and the USDA estimate that wheat yields would rise by an anticipated 1.4 % on annual average. These wheat productivity growth rates represent a marked slowdown as compared to the previous

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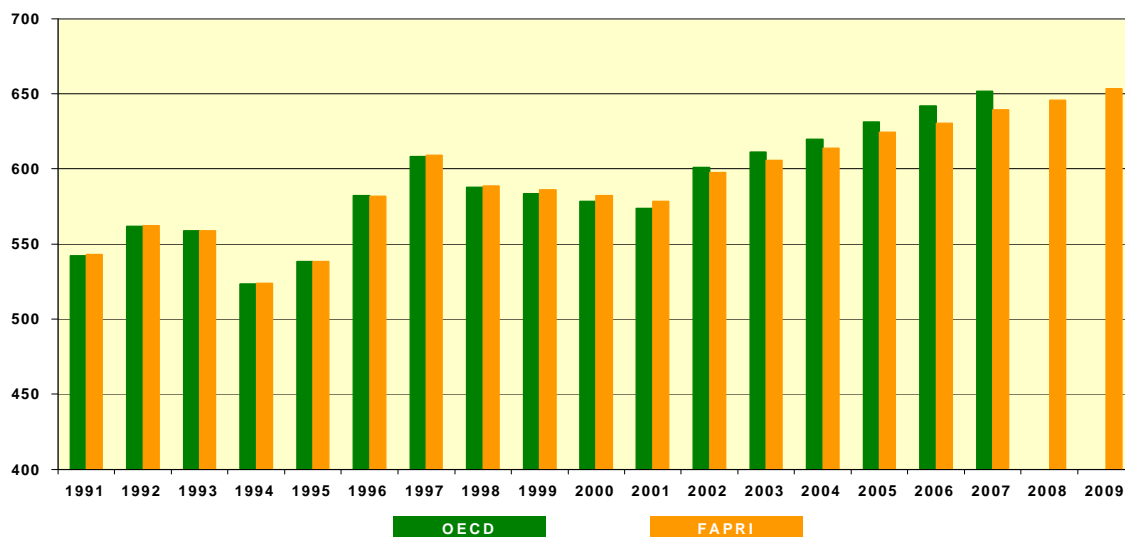
<sup>64</sup> The short-term estimates from the IGC allow to throw some light on the most recent developments in the world cereal markets. In that context, they may display some differences with the medium and long-term projections available in the first quarter of 2002 from the OECD, FAPRI and USDA.

<sup>65</sup> Higher coarse grain production would mainly result from a sharp recovery in barley and maize production that reached around 141 mio t and 595 mio t respectively.

<sup>66</sup> Short-term forecasts from the IGC for the 2002/03 marketing year were only available for wheat production.

decades<sup>67</sup> but an improvement in comparison with the 1990s. On the contrary, the OECD foresees that yield growth rates for wheat would be comparable to those of the last decade, i.e. at around 0.8 % and 1.2 % per year on average in the OECD and non-OECD zone respectively.

**Graph 3.9 Outlook for world wheat production, 1991 – 2009 (mio t)**



World wheat area, which has been declining since its record level in 1996 in line with the market and policy environment in some countries, is foreseen to bounce back in 2002 and to expand by some 11 mio ha in the USDA outlook over the whole 2001-2009 period supported by strengthening prices. The OECD projects that the total land allocated to wheat production in the OECD area and the non-OECD area would increase by some 2.4 % and 6 % respectively over the most recent years. However, land and water constraints in many countries (linked to urbanisation and climatic conditions) as well as sustained competition from other crops are expected to limit wheat area development over the medium term<sup>68</sup>. In that context, the FAPRI only foresees a very modest recovery in wheat area after 2001, with wheat area reaching 217 mio ha by 2009/10.

If information on total coarse grain is not fully comparable as the definition of this group differs across projections, some important trends can be identified. The two major coarse grains, i.e. maize and barley, are projected to exhibit an outlook characterised by a development in production stronger than over the most recent decade in the USDA and OECD projections. As for wheat, these organisations foresee that the majority of production growth would originate from yield growth, although scope would exist for a significant increase in total coarse grain area. FAPRI expects that the rise in coarse grain production would be mainly generated by increased productivity<sup>69</sup>, as total coarse grain

<sup>67</sup> The slowdown in yield growth is attributed by some analysts to the lower quality of soils being brought into production and reduced budgets for research and development. The OECD (2001) argues that the combination of stricter environmental restrictions on the use of inputs, higher costs of fertilisers and agro-chemical inputs and increasingly tighter water supply for irrigation may significantly contribute to this anticipated reduction in yield growth.

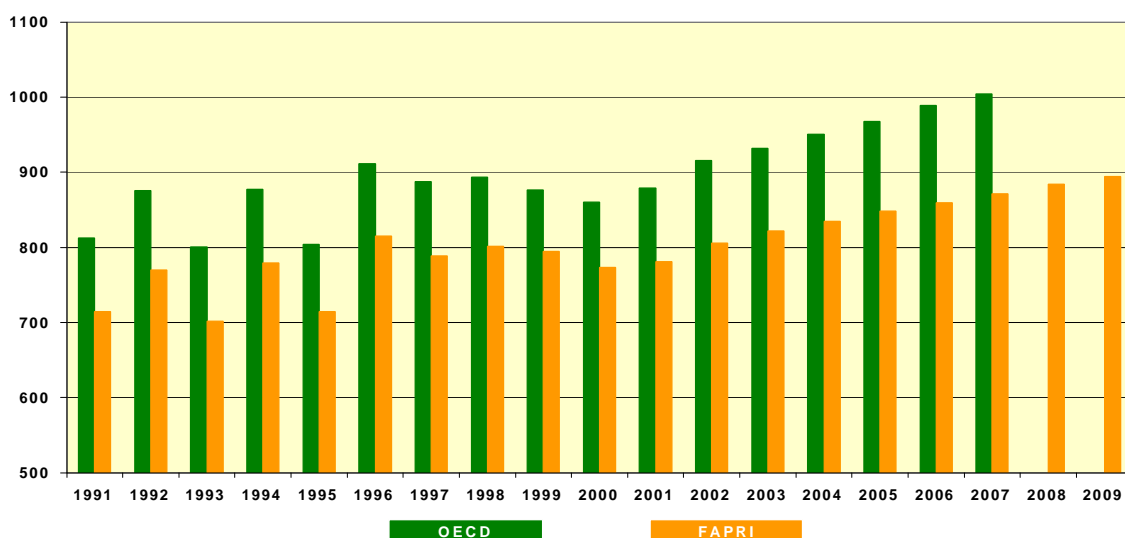
<sup>68</sup> It should be noted that land idling programmes in the EU and US have been set at or close to their maximum or reference base in most projections.

<sup>69</sup> Over the next seven years, productivity growth in maize production is expected to reach 1.1 % and 1.6 % per annum in the USDA and FAPRI projections respectively, whereas barley yields would rise by approximately 1.5 %, i.e. a significant increase compared to the 1980s and 1990s. The OECD provisional baseline depicts a more modest pattern at around 1.1 % for total coarse grains.

area would only grow by slightly more than 3 mio ha from 2001/02 to 2009/10, the decline in barley area partially offsetting the projected increase in maize area.

In the OECD projections, coarse grain production would rise by 125 mio t from 2001 to 2007 (i.e. 2.2 % per year). Growth in coarse grain production would be mainly driven by the expansion in maize production that would range over the 2001-2009 period between 99 mio t (FAPRI) and 140 mio t (USDA) (i.e. 2.0 % to 2.7 % per annum respectively). A growing demand for malting barley and sustained prices would support gains in barley production. Growth in barley production would reach between 8.5 mio t (FAPRI) and 17 mio t (USDA) from 2001 to 2009 (i.e. around 0.7 % and 1.5 % per year respectively). These growth rates would constitute a significant increase when compared to the 1980s and 1990s, though lower than during the 1970s.

**Graph 3.10 Outlook for world coarse grain production, 1991 – 2009 (mio t)**



### *Demand*

After a marked slowdown in the 1990s, growth in wheat demand is forecast to gather pace over the 2001/02-2009/10 period and reach on average an annual rate ranging from 1.3 % (FAPRI) to 1.6 % (OECD and USDA), i.e. an increase of between 64 and around 85 mio t over the whole period. As most developed countries have already relatively high levels of per capita wheat consumption and only limited scope to increase it, developing countries would account for most of projected increase (although transition economies are also foreseen to show important gains). The USDA expects world per capita wheat consumption to increase slowly from 94 kg per year in 2000 to about 97 kg in 2009/10 driven by higher feed wheat demand in the EU, the FSU and the CEECs and by increased food use in Asia and the Middle East. Nevertheless, if projected growth rates in global wheat use are significantly higher than those observed in the 1990s, they would still fall short of the levels recorded in the 1970s and 1980s.

Total coarse grain consumption would follow a stronger pattern with a robust growth supported by widespread economic growth and expanding meat production estimated on annual average between 1.3 % (FAPRI) and 2.0 % (USDA, with the OECD at 1.7 %), i.e.

an increase of between 89 and 135 mio t respectively over the forecast period. Demand for coarse grains would thus grow faster than during the 1980s and 1990s, but much slower than during the 1970s. Maize would constitute the main driving force behind this rise in demand, due to the expansion of livestock production<sup>70</sup>, with an annual increase forecast between 1.4 % and 2.1 % respectively (corresponding to 71 and 111 mio t from 2001/02 to 2009/10), whereas barley consumption would rise by 1.0 % and 1.6 % respectively on annual average (i.e. 12-19 mio t over the whole period).

This strong development in demand for cereals would be mainly derived from non-OECD (importing) countries, in relation to rising real incomes (and the associated gain in per capita meat consumption), population growth and continued urbanisation (changes in diet with increased meat demand and further diversification towards more wheat-based food). Developing countries –notably China, Latin America, North Africa and Middle East- and transition economies would exhibit significant growth in total cereal demand (for feed, food and industrial purposes) over the medium term as the consequences of the recent economic slowdown fade and their economies recover towards a more stable and sustainable path.

### Trade

As domestic supply is not projected to meet the pace of a rapidly expanding demand in many regions of the world, this growth in world cereal consumption is foreseen to boost global trade. World cereal trade is projected to grow sharply higher than in the 1980s and 1990s. Unlike previous sets of baseline projections, the FAPRI and the USDA foresee that wheat trade would exhibit the strongest increase in grain trade over the medium term.

**Table 3.1 Outlook for total imports in cereals, 2001 – 2009 (mio t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Wheat</b>	106.7	85.1	128.1	108.9	21.4	23.8
<b>Coarse grains</b>	101.9	84.0	120.1	107.3	18.2	23.4
<b>Maize</b>	74.2	60.8	87.0	80.3	12.8	19.5
<b>Barley</b>	16.8	15.2	20.5	18.2	3.7	2.9
<b>Total cereals</b>	208.6	169.1	248.2	216.2	39.6	47.1

USDA figures include intra-FSU trade. FAPRI: net trade

Both FAPRI and USDA foresee a steady expansion in cereal trade from 2001/02 to 2009/10 ranging between 20 and 28 % for wheat (i.e. 21-24 mio t) and between 18 and 28 % for coarse grains (i.e. 18-23 mio t). The OECD outlook expects net exports from the OECD area to rise by 22 % for wheat and to decline by –9.9 % for coarse grains by 2007, as compared to the 1996-2000 average.

When looking at the regional breakdown of cereal net imports, most analysts expect that developments in cereal imports would be mainly driven by income growth and its associated impact on per capita meat consumption, and urbanisation with its effect on dietary pattern in some lower and middle-income regions, including China and South East Asia, Latin America, North Africa and Middle East. In contrast, the role of the FSU, one of the world's largest grain importers during the 1980s, is expected to remain limited over

<sup>70</sup> About two thirds of global coarse grain production are used as animal feed.

the medium term, with import demand at low levels over the projection period. However, if all organisations agree on the level and the driving forces underlying global trade growth, some significant differences exist on the distribution of medium-term import demand and export supply.

**Table 3.2 Outlook for wheat net imports for major importing countries, 2001 – 2009 (mio t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Total Asia</b>	15.8	22.2	25.9	36.1	10.1	13.9
<b>China</b>	1.0	0.5	8.0	5.1	7.0	4.6
<b>Indonesia</b>	4.2	-	5.2	-	1.0	-
<b>Japan</b>	5.8	5.2	5.8	5.3	0.0	0.1
<b>Africa &amp; M. East</b>	42.9	41.2	44.7	46.9	1.8	5.7
<b>North Africa*</b>	13.8	14.6	13.8	17.6	0.0	3.0

\* Morocco, Algeria, Tunisia, Egypt

Net cereal imports from China are forecast to increase over the next seven years: Chinese wheat net imports would grow between around 5 mio t (FAPRI and OECD) and 7 mio t (USDA) from 2001/02 to 2009/10. In spite of further yield increases, China's wheat production is not expected to keep pace with domestic demand. FAPRI –that takes account of China's accession to the WTO- projects that in-quota imports should boost total wheat imports and exert pressure on domestic production, while stimulating domestic consumption. China would also turn from being a net exporter of coarse grains to become a net importer over the medium term. The FAPRI expects net coarse grain imports to reach 11 mio t by 2009/10. In their outlook, growth in coarse grain imports (mainly maize) would be gradually driven by the rapid expansion of China's livestock sector in response to sustained meat demand and by a feed demand that would outpace domestic production by the end of the projection period. The USDA foresees a similar, though slightly more modest pattern for Chinese cereal imports, with net wheat and coarse grain imports standing at some 6 to 7 mio t by 2009/10. Rising imports to meet an expanding livestock and higher feed demand are also projected by the OECD, although China would only exhibit a net coarse grain deficit of less than 1 mio t by 2007/08.

Besides China, other Asian countries that are expected to exhibit some increases in wheat import include the South East Asian countries, Pakistan and India. The latter, that has been a wild card player over the last few years alternating as an importer or an exporter of wheat depending on domestic availability, is foreseen to become a steady net wheat exporter by the USDA, whereas the FAPRI anticipates a declining export surplus over the whole projection period.

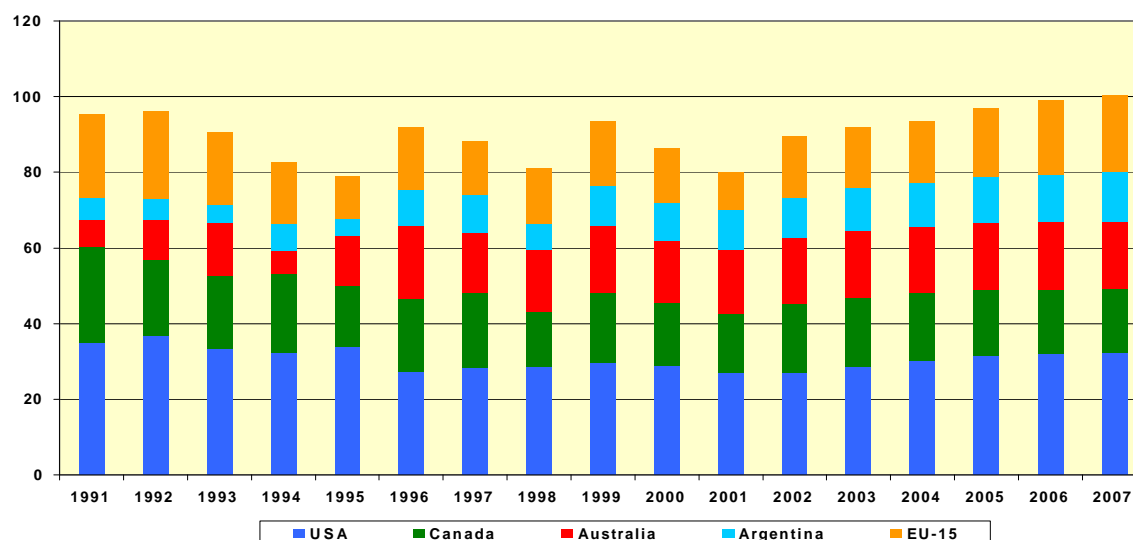
Cereal imports in Africa and the Middle East are expected to rise in response to sustained GDP expansion, high population growth and limited production potential. The FAPRI and the USDA projections show a 9 mio t increase in net cereal imports from 2001/02 to 2009/10, although with inverse trends between wheat and coarse grains. Mexico and other Latin American countries are also expected to be a source of import growth throughout the whole period as rising income boosts meat demand. Finally, growth in world barley trade of around 3 to 4 mio t is foreseen to take place mainly in China for malting barley and North Africa-Middle East (mainly Saudi Arabia) for feed barley. However, malting barley markets are anticipated to exhibit higher growth potential, as feed barley would face strong competition from other feed grains.

**Table 3.3 Outlook for coarse grains net imports for major importers, 2001 – 2009 (mio t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Total Asia</b>	34.6	36.2	41.2	52.0	6.6	15.8
<b>China</b>	2.8	0.5	8.9	11.4	6.1	10.9
<b>Indonesia</b>	1.5	1.4	2.1	1.7	0.6	0.3
<b>Japan</b>	19.6	19.2	19.0	19.3	-0.6	0.1
<b>Mexico</b>	10.8	11.0	12.5	12.5	1.7	1.5
<b>Other Lat. America*</b>	10.5	7.2	13.2	8.8	2.7	1.6
<b>Africa &amp; M.East</b>	26.0	24.9	32.9	27.7	6.9	2.8
<b>North Afr.** &amp; M.East</b>	24.5	20.2	30.9	22.6	6.4	2.4

\* excluding Argentina; only Algeria and Egypt in FAPRI

The USDA and FAPRI expect that these prospects for higher world wheat trade would mainly benefit the EU, the FSU and Argentina. Whereas Canada's market share in the global wheat trade would broadly stagnate, Australia's would exhibit a decline owing to limited yield growth and increased domestic demand. The OECD anticipates similar trends, although more favourable for the US at the expense of the EU. If Argentina is foreseen to benefit from an expanding production through area and yield increases and the devaluation of the peso, the EU is expected to gain from an enhanced competitiveness and abundant supply that would boost total wheat exports beyond the WTO limits on subsidised exports<sup>71</sup>.

**Graph 3.11 Outlook for wheat exports for the major wheat exporters, 1991 – 2007 (mio t)**

Source: OECD

If Russia is foreseen to resume being a net wheat importer of some 2-3 mio t over the medium term on account of additional food demand for wheat, the USDA and OECD expect Ukraine and Kazakhstan to turn the FSU as a growing wheat producer and net exporter (for about 3 to 4 mio t). The FAPRI anticipates similar trends, albeit more

<sup>71</sup> These prospects would result from the implementation of Agenda 2000 (notably the cut in the cereal support price), favourable currency developments (in particular the \$/€ exchange rate) and the moderate recovery in world market prices.

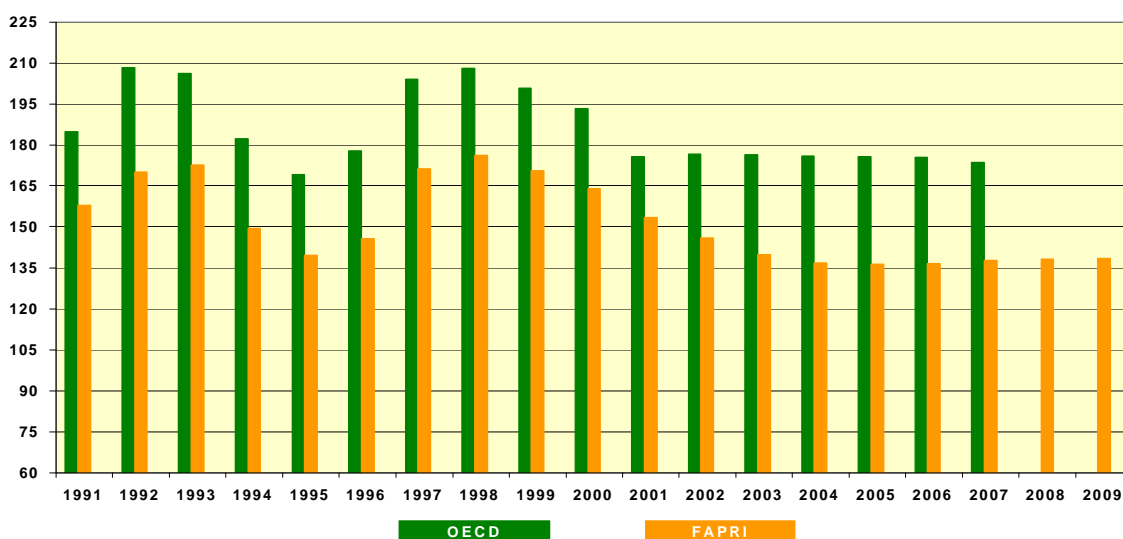
favourable for Russia's net exports as they foresee a more modest pattern for wheat domestic demand. The sluggish recovery in the FSU's livestock industry is expected by all agencies to generate moderate net exports of coarse grains over the next seven years. The latter would mostly concern barley and reach between 3-4 mio t in the USDA and FAPRI baselines and more than 9 mio t in the OECD projections (with the respective trends of Russia and Ukraine differing significantly across projections).

Additional maize import demand is expected to be met by the US, Argentina and –to a lesser extent- the CEECs and South Africa, as China would reduce its exports over the projection period. The EU is foreseen to capture a large part of the growth in barley trade at the expense of Canada and Australia (even if increased exports from the FSU and CEECs are also projected). According to the USDA, FAPRI and the OECD, a favourable exchange rate<sup>72</sup> and rising projected world prices should enable the EU to export significant quantities of barley without subsidies over the medium term.

### *Stocks and prices*

After some strong rebuilding in 1997 and 1998, cereal stocks declined sharply over the last three years. Most organisations foresee that low cereal stock levels should be a feature of cereal markets over the medium term as total stocks are projected to recover only slowly from their current levels. Combined with a projected global increase in cereal demand, the stock-to-use ratio is expected to decline and maintain an upward pressure on world cereal prices over the medium term.

**Graph 3.12 Outlook for world wheat stocks, 1991 – 2009 (mio t)**



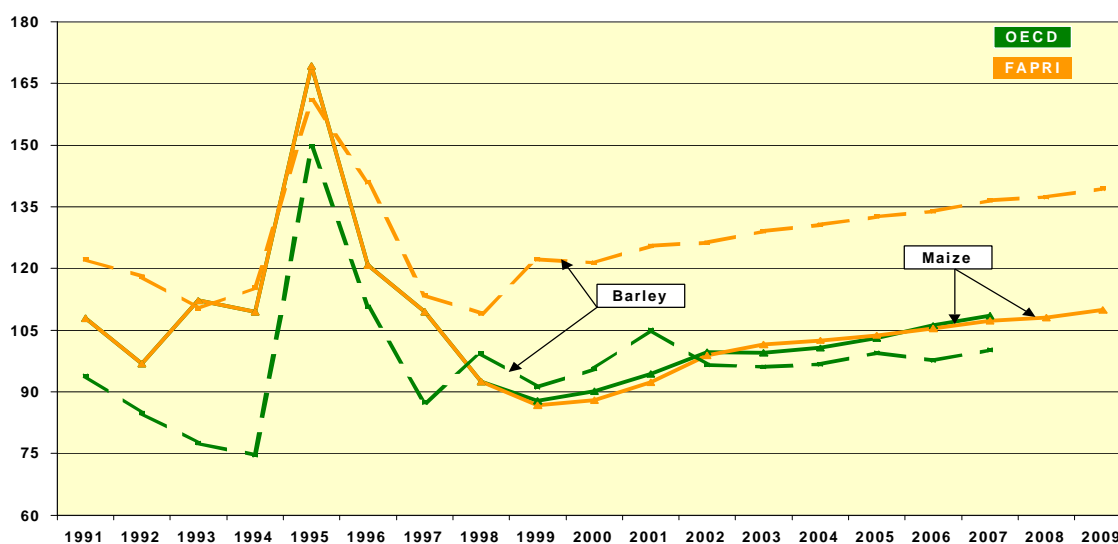
After bottoming out by the turn of the century, cereal prices are foreseen to recover slowly over the medium term from the current low levels as supply adjusts and global demand strengthens. According to the OECD and FAPRI projections, prices of common wheat (HRW, fob US Gulf) are projected to range around 140 and 145 \$/t in 2007/08 respectively and 145-150 \$/t by 2009/10 (SRW wheat, that broadly corresponds to EU

<sup>72</sup> In their analysis, the USDA assumes that the euro will strengthen slightly against the dollar from 2002 to 2004, and then weaken somewhat through the remainder of the projection period. The FAPRI assumes that the € would strengthen in nominal terms in the short-term and reach parity from 2004 onwards. By contrast, in the OECD projections, the \$/€ exchange rate would remain stable at 0.9 throughout the period.

common wheat quality, would quote around 10 % below these HRW wheat price projections).

Prices of coarse grains should follow a similar moderate trend, with maize prices (fob US Gulf) projected at about 110-111 \$/t at the end of the period by the FAPRI and the OECD. Durum wheat prices would stabilise at high levels, weakening slightly in the short-term from around 175 \$/t in 2001/02 (for EU durum wheat quality) before rising slowly to approximately 180 \$/t by 2009/10.

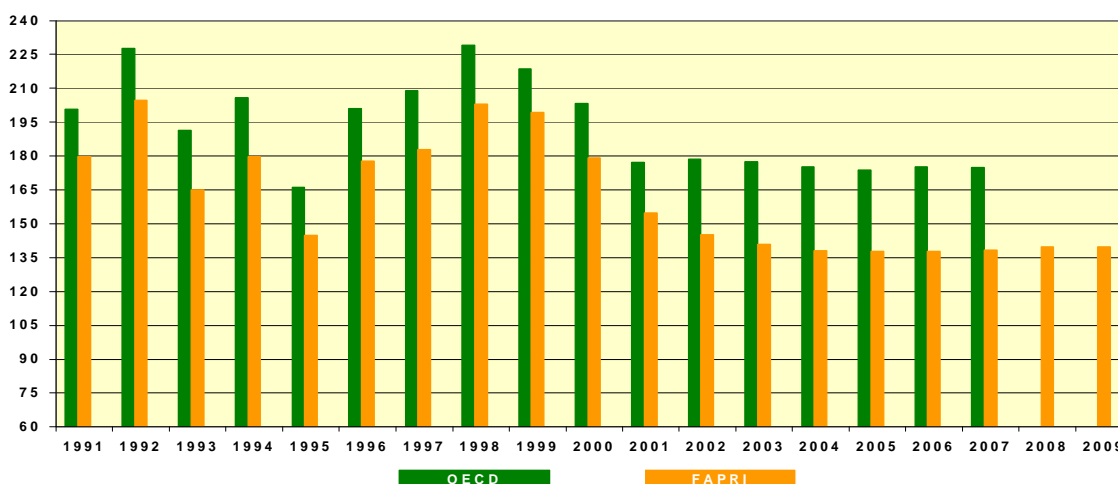
**Graph 3.13 Outlook for world coarse grains prices, 1991 – 2009 (\$/t)**



Ref.: Maize: US yellow corn FOB Gulf; Barley: OECD-No.1 CW barley St Lawrence since 1995, Thunder Bay before; FAPRI Portland.

After falling sharply from their peak in 1995/96, barley prices are projected to recover gradually over the rest of the period, from 121 \$/t in 2000/01 (Portland reference) to 139 \$/t in 2009/10 in the FAPRI projections and from 96 \$/t in 2000/01 to 100 \$/t in 2007/08 (St Lawrence reference<sup>73</sup>) in the OECD outlook.

**Graph 3.14 Outlook for world coarse grain stocks, 1991 – 2009 (mio t)**



<sup>73</sup> The St Lawrence quotation for barley prices constitutes the appropriate reference for EU barley qualities and trade destinations.

## 3.2 Oilseeds and oilseed products

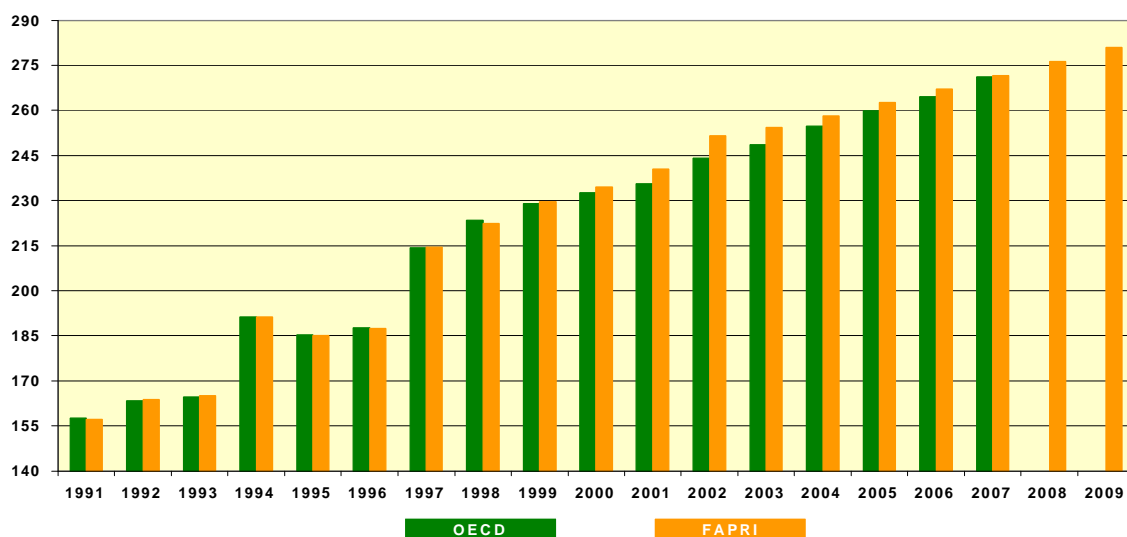
The medium-term prospects for the oilseed sector are expected to display a relatively moderate recovery. Short term developments are still foreseen to exhibit a slow and gradual supply adjustment in the oilseed sector owing to a combination of policy and macro-economic factors. However, the vigorous growth in demand anticipated over the medium term, notably from developing countries, for oilseed and oilseed products -in the form of vegetable oil for human consumption and oilseed meal from an expanding livestock sector- is forecast to sustain further growth in the oilseed sector, gradually restore market balance and support prices by the end of the outlook horizon. Rape seed and sunflower seed are foreseen to benefit from more favourable long-term vegetable oil demand -in comparison to meal- and would accordingly exhibit a stronger price pattern than soybean.

### 3.2.1 Oilseeds and oilseed meals

#### *Production*

According to the FAPRI and the OECD, total oilseed production is forecast to increase between 2001/02 and 2009/10 at an annual rate ranging between 2.0 % and 2.4 % (i.e. between 41 and 48 mio t), a significant slow down in comparison to the 1990s. Similar perspectives are projected for soybean by the FAPRI, whereas the USDA predicts a 3.2 % annual growth in supply up to 2009/10. Oilseed production is expected to remain relatively concentrated as most of the increase in oilseed production would concern soybean and would take place in the US, Brazil, Argentina and China. Production growth is foreseen to result from both area expansion and yield improvement (except in the US where oilseed area is projected to remain close to its 2001/02 level).

**Graph 3.15 Outlook for world oilseed production, 1991 – 2009 (mio t)**

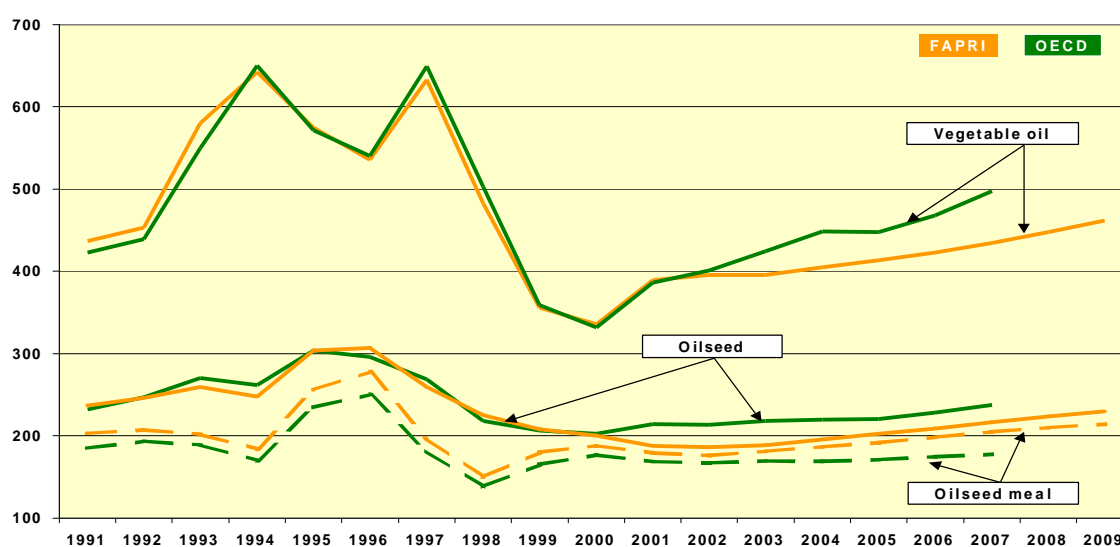


The continuous expansion in oilseed output would be supported in FAPRI projections by a strong increase in oilseed area, that would grow by 7 mio ha -split between around 75 % for soybean, 14 % for sunflower seed and 11 % for rape seed- to stand at 129 mio ha by 2009/10 and further yield gains that would reach 10 % over the 2001/02-2009/10 period (i.e. 1.3 % per annum on average). A very similar pattern for area and yield growth is predicted by the OECD. Yet, all projections appear to indicate a relative stabilisation in the oilseed area in the OECD zone (notably the US). In spite of relatively low world

market prices in the early part of the projection period, most of additional area allocated to oilseed production would be found in the low-cost exporting countries of South America (Brazil and Argentina).

In spite of the drop in sunflower and rape seed production in several countries in 2001 that boosted market prices, short term and medium-term developments would exhibit a slow and gradual supply adjustment in the oilseed sector as a combination of policy and macro-economic<sup>74</sup> factors is anticipated to make oilseed supply not fully responsive to market signals, notably in the US<sup>75</sup>. If many developing countries would see their oilseed sector constrained by low prices in the short run, the continued expansion in oilseed demand would favour some moderate recovery in market prices and -combined with modest increases in the price of competing crops- support production developments through productivity gains and additional land.

**Graph 3.16 Outlook for world prices in the oilseed complex, 1991 – 2009 (\$/t)**



Ref.: Oilseed CIF Rotterdam; oilseed meal CIF Rotterdam; vegetable oil Fob Rotterdam. Provisional OECD: average oilseeds; FAPRI: soybean and soybean products.

### *Demand*

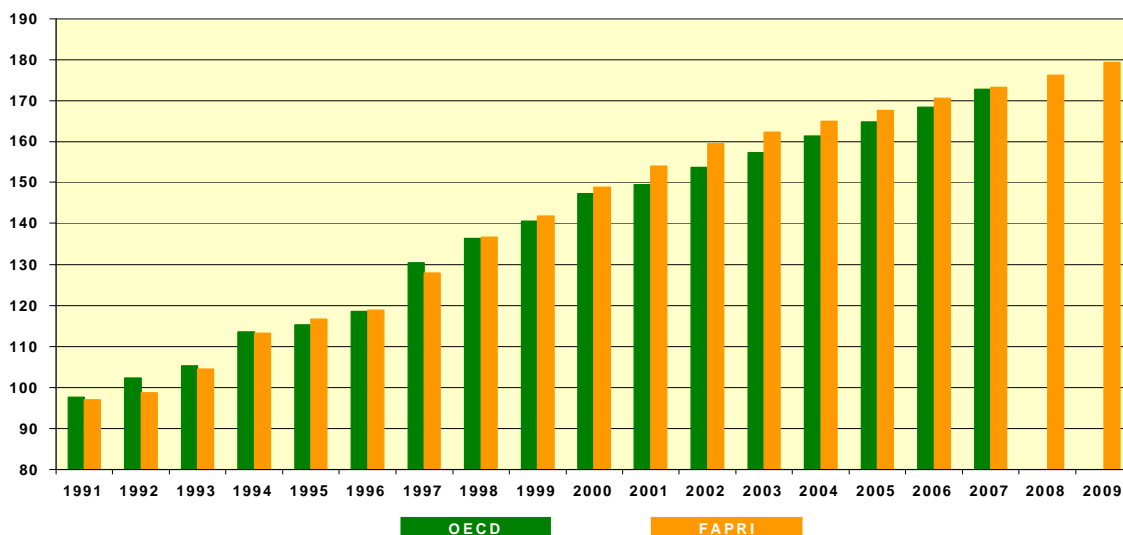
The expected economic recovery over the medium term is foreseen to stimulate global demand for oilseeds and oilseed meals, notably in developing countries where income and population growth are likely to generate higher demand for livestock products, notably for poultry and pig meat. The shift in consumer preferences in these countries towards white meat and away from red meat, and the consequent large feed requirements would become the main driving force underlying the strong growth in global oilseed meal consumption. Oilseed meal consumption is estimated to rise by around 20 % over the whole period, i.e. between 25 and 32 mio t. This strong pattern constitutes nonetheless a significant slowdown as compared to the 1990s. Although the pace of growth is now slower in

<sup>74</sup> Mainly weak exchange rates in some major oilseed producing countries (especially in South America).

<sup>75</sup> The importance of the US policy for the oilseed sector is foreseen to decline over the medium term as market prices recover. Whereas the OECD and the USDA projections assume that the loan rate would follow the FAIR Act formula or legislated minimum, the FAPRI baseline keeps the soybean loan rate constant at its 2001 level. Yet, they all foresee that the role of these payments will only cease towards the end of the projection period.

developed countries<sup>76</sup> than in emerging economies, the former still make up for some 60 % of world oilseed meal use. Moreover, OECD countries would still account for the largest share of oilseed and oilseed meal import demand during most of the period, especially the EU and Japan.

**Graph 3.17 Outlook for world oilseed meal consumption, 1991 – 2009 (mio t)**



### Trade

Total trade in oilseeds is anticipated to increase faster over the projection period than in the 1980s, but much more slowly than in the 1990s. Trade growth in oilseed meals is foreseen to be relatively steady but still slower than over the last fifteen years. Soybean is forecast to account for most of the growth in oilseed and oilseed meal trade over the medium term. According to the FAPRI and USDA projections, soybean trade would rise at annual rates ranging between 2.8 % and 3.3 % respectively over the next seven years, whereas soybean meal imports would grow by between 1.5 % and 2.4 % per year respectively. The combined exports of soybeans and soybean meals, on a soybean-equivalent basis, would thus grow according to the USDA from 109.7 mio t in 2001/02 to an estimated 145.3 mio t in 2010/11<sup>77</sup>.

**Table 3.4 Outlook for total imports in soybean and soybean products, 2001 - 2009 (mio t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Soya bean</b>	56.9	52.1	73.7	65.1	16.8	13.0
<b>Soya bean meal</b>	42.1	35.9	50.8	40.3	8.7	4.4
<b>Soya bean oil</b>	8.3	7.0	10.9	8.0	2.6	1.0

USDA figures include intra-FSU and intra-EU trade. FAPRI: net trade

Notwithstanding some differences in the strength of world trade expansion, the FAPRI and USDA projections fundamentally converge on the overall medium-term prospects for

<sup>76</sup> However the OECD markets are starting to mature in contrast to those of developing countries that now represent just over half the world consumption of oilseeds and over 65 % of vegetable oils.

<sup>77</sup> Whether oilseeds or oilseed products are imported depends on each importer's domestic policies and crushing capacity.

a sustained growth in oilseed and oilseed meals. However, they differ substantially over the future trade perspectives for China.

China's domestic grain policy and recent shift towards maximising its large domestic crushing industry is forecast to translate into greater imports of oilseeds (rather than oilseed meals and oil). However, lower tariffs on soybean oil –following China's WTO accession- are projected by FAPRI to favour oil imports, thus exerting pressure on domestic crush margins and hindering the development of the crushing industry. Driven by strong oil consumption and increased demand for oilseed meals from the livestock industry (mainly for pig and poultry), China is foreseen by the FAPRI and the USDA to account for 46 % and 80 % respectively of the world's growth in soybean imports over the next seven years.

Whereas the USDA expects China to double its current level of soybean imports by 2009/10 (from 13.8 mio t in 2001/02 to 27.1 mio t in 2009/10), the FAPRI projections indicate a more moderate pattern with an additional 5.9 mio t of soybeans imported by 2009/10<sup>78</sup>. China's soybean meal imports are also projected much higher in the USDA baseline than in FAPRI's. The OECD projections are rather similar to FAPRI's with total oilseed and oilseed meal imports rising by 4.6 mio t and 1.8 mio t respectively by 2007/08<sup>79</sup>.

**Table 3.5 Outlook for soybean net imports for major importing countries, 2001-2009 (mio t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>European Union*</b>	18.3	18.5	17.9	19.0	-0.4	0.5
<b>Japan*</b>	4.9	5.0	4.7	5.1	-0.2	0.1
<b>China</b>	13.8	13.8	27.1	19.7	13.3	5.9
<b>South Korea*</b>	1.5	1.5	1.5	1.5	0.0	0.0
<b>Mexico*</b>	4.6	-	6.0	-	1.4	-
<b>Taiwan*</b>	2.4	2.3	2.6	2.3	0.2	0.0

\* 'USDA: gross trade figures; include intra-EU trade.

The USDA, FAPRI and OECD baselines exhibit modest developments for EU imports. The USDA expects a very slight decline in EU soybean and soybean meal imports as lower prices of domestic feed grain due to the implementation of Agenda 2000 and abundant supplies would combine to reduce the level of import demand for oilseeds and oilseed products. By contrast, the OECD and FAPRI baselines project a small increase of less than 1 mio t for both oilseeds and oilseed meals. Besides the EU and China, the medium-term outlook for global oilseed import demand is projected to remain dominated by Japan, Mexico and South East Asia.

On the export side, Brazil, Argentina and the US are forecast to benefit from this growth in soybean and soybean meal trade, while Canada would maintain its predominance in the rape seed market. If the US are expected to capture a large share of the additional import demand in the short term as a favourable oilseed policy maintains US domestic production at high levels relative to other major exporters, firmer prices in ensuing years should help

<sup>78</sup> These USDA projections constitute a major upwards revision from last year's baseline.

<sup>79</sup> It should be acknowledged that China's recent accession to the WTO –that could significantly impact these global perspectives- has only been accounted for in the FAPRI baseline.

Brazil and, to a lesser extent, Argentina to increase supply and restore their export competitiveness. Brazil is projected in the FAPRI baseline to continue to expand its soybean production by more than 30 % by 2009/10 through both higher yields (8 %) and increased area (22 %). As this fast output expansion would outpace Brazil's processing infrastructure, most of exported oilseed products would be unprocessed (following also some major importer's preference for oilseeds over meals). By the end of the decade, Brazil is forecast to account for the largest share of the projected oilseed trade expansion and would almost catch up with the US on the export market.

If global import demand in soybean meal trade is forecast in the long run to be mainly driven by the EU, China and South East Asia (notably South Korea), a growing share of this demand would emerge widespread across many developing countries (from Africa and Latin America) and transition countries. According to the FAPRI and USDA outlook, Brazil and Argentina would capture 80 % of the expansion in world soybean meal trade between 2001/02 to 2009/10.

**Table 3.6 Outlook for soybean meal net imports for major importing countries, 2001-2009 (mio t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>European Union</b>	15.1	14.7	14.6	15.4	-0.5	0.7
<b>Eastern Europe*</b>	2.9	2.9	3.6	3.3	0.7	0.4
<b>China*</b>	0.3	0.2	4.5	1.0	4.2	0.8
<b>South Korea*</b>	-	1.1	-	1.6	-	0.5

\* USDA: Gross trade

### *Prices*

Oilseed prices are foreseen to display a continuous recovery over the next seven years driven by long-term demand growth. However, this rise in oilseed prices would only be moderate owing to several factors, including sustained yield growth, a strong production potential in South America, the continuation of a policy favouring oilseed production in the US and uncertainties regarding world economic prospects. Oilseed meal prices are expected to weaken in the short term on account of strong production growth, before increasing slowly over the rest of the period supported by an expanding consumption.

The FAPRI foresees that prices of soybean and soybean products would bottom out around 2002/03 and recover slowly over the rest of the outlook period, with soybean and soybean meal prices reaching 229 \$/t and 214 \$/t respectively by 2009/10. The OECD outlook displays relatively similar price trends, although they relate to average oilseed prices (i.e. including rape seed and sunflower seed prices), with oilseed and oilseed meal prices at 237 \$/t and 178 \$/t respectively by 2007/08. However, the different price levels may also reflect the underlying assumption concerning the soybean loan rates in the US: the FAPRI assumes a continuation of the 2001/02 loan rate at 193 \$/t throughout the whole projection period whereas the latter is set at 181 \$/t in the OECD baseline from 2002/03 onwards.

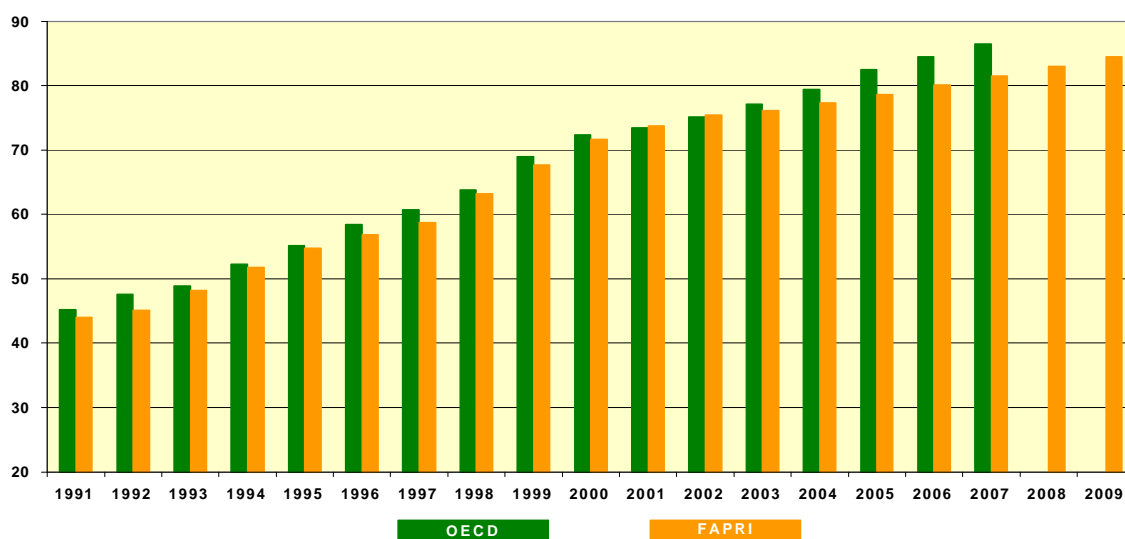
According to the FAPRI and OECD projections, rape seed and sunflower seed prices are foreseen to benefit from more favourable long-term vegetable oil demand -in comparison to meal- and would accordingly exhibit a stronger pattern than soybean prices. After a short-term drop associated with high world production stimulated by the recent price

increases, rape seed and sunflower prices would trend upwards and reach 240 \$/t and 271 \$/t respectively in the FAPRI projections.

### 3.2.2 Vegetable oils

Vegetable oil has been the agricultural commodity with one of the most significant and continued growth rates over the last thirty years. Increasing income prospects are expected to maintain vegetable oil on its expansionary path, albeit at a more modest pace. The FAPRI and OECD project that growth in vegetable oil consumption would average 1.7 % and 2.8 % per year respectively over the medium term<sup>80</sup>. Most of this additional consumption (of more than 11 mio t) is expected to be found in Asia and in Latin America, whereas slower growth is anticipated in Western Europe, the US and Japan.

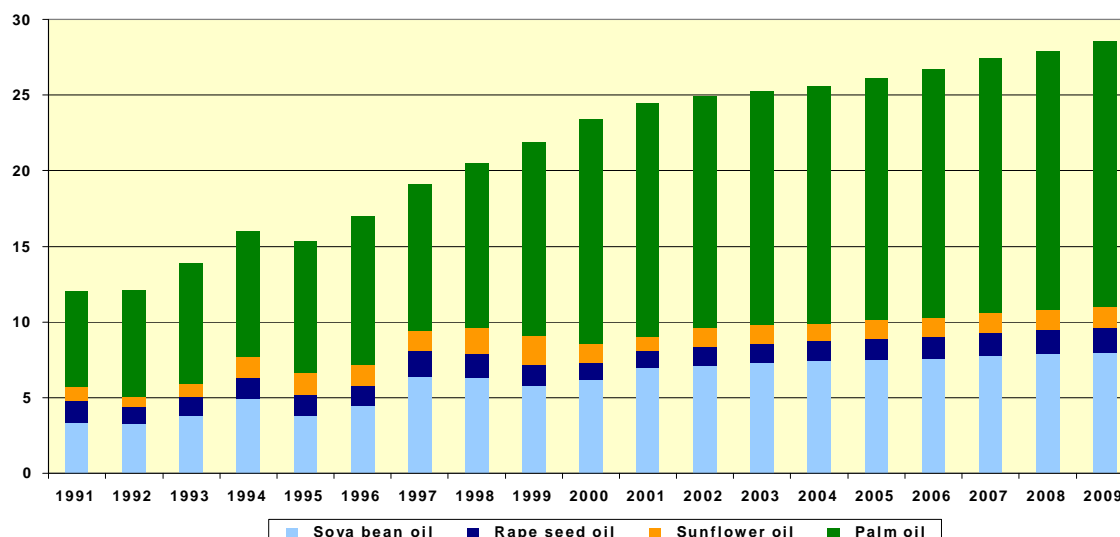
**Graph 3.18 Outlook for world oilseed oil and palm oil consumption, 1991 – 2009 (mio t)**



Income and population increases in China and India, which together account for more than a third of total world population, are expected to drive trade growth in vegetable oil from 2001/02 to 2009/10. Palm oil and soybean oil should absorb the largest share of additional consumption and trade. Palm oil trade is forecast to expand by 2.1 mio t (i.e. 1.6 % per year over the 2001/02-2009/10 period as compared to an average annual growth of about 9 % in the 1990s). China, the EU and India would remain the major palm oil importing countries. Malaysia and Indonesia constitute the two largest suppliers of palm oil (accounting for more than 80 % of world production and 95 % of world trade). These two countries are forecast to increase domestic supply of palm oil by 3 mio t over the next seven years (or 15 %).

Growth in world soybean oil trade is projected by the FAPRI and USDA to slow on annual average to 1.7 % and 3.5 % respectively over the next seven years, i.e. a much lower rate than those achieved in the 1980s and the 1990s, as additional demand stimulates domestic production in importing countries. Notwithstanding the diverse composition of global import demand, Chinese net imports, totalling more than 1 mio t by 2009/10, and, to a lesser extent, Indian imports would constitute the main driving force behind the growth in soybean oil trade.

<sup>80</sup> The USDA outlook only provides for soybean oil consumption, for which it expects an annual increase of about 3.6 % on average.

**Graph 3.19 Outlook for world oilseed oil and palm oil trade, 1991 – 2009 (mio t)**

Source: FAPRI.

The stronger growth in oilseed oil consumption and trade relative to meals would entail an expected recovery in oil prices that is forecast to create incentives for increased production in high-oil content oilseeds (such as rape and sunflower seeds in the EU as compared to soybeans)<sup>81</sup>. The FAPRI and OECD projections provide for medium-term prospects of vegetable oil prices rising to 435 \$/t (soybean oil) and 498 \$/t (average price of oilseed oils and palm oil) respectively by 2007/08 (fob Rotterdam). Palm oil prices would display a similar pattern with prices falling to a low in 2000/01 at around 272 \$/t cif Rotterdam, before recovering gradually to 430 \$/t and 498 \$/t by the end of the projection period<sup>82</sup> in the OECD and FAPRI baseline respectively. However, the strong dependence of the global vegetable oil market on imports from developing countries makes these trade and price projections very sensitive to the macro-economic outlook in these countries.

### 3.3 Meat

The medium-term perspectives for meat focus on the three types of meat for which the EU is a net exporter (i.e. beef, pig meat and poultry meat). Most international organisations provide an outlook characterised by growing production, consumption and trade as well as world meat prices showing moderate strength. Prospects for rising meat demand would mainly emerge from a favourable macro-economic environment of sustained income growth, notably in Asia and Latin America.

World meat trade would increase and prices strengthen over the medium term as growing consumption is mostly expected to take place in countries that are net importers with limited possibilities to proportionally and competitively increase domestic supply (in

<sup>81</sup> In the FAPRI projections, demand for rape seed and sunflower oil is forecast to grow over the medium term by 16 % and 20 % respectively, in line with rising incomes and population, notably in China, India and other developing countries. After recovering in the short term from a sharp drop in 2001/02, trade in rape seed oil and sunflower oil is foreseen to display modest growth over the medium term.

<sup>82</sup> Owing to their lower cost structure, major producing countries of palm oil would be relatively less affected by the low price level foreseen in the short term.

quantity and quality). Recovering meat demand and strengthening feed prices would support world meat prices.

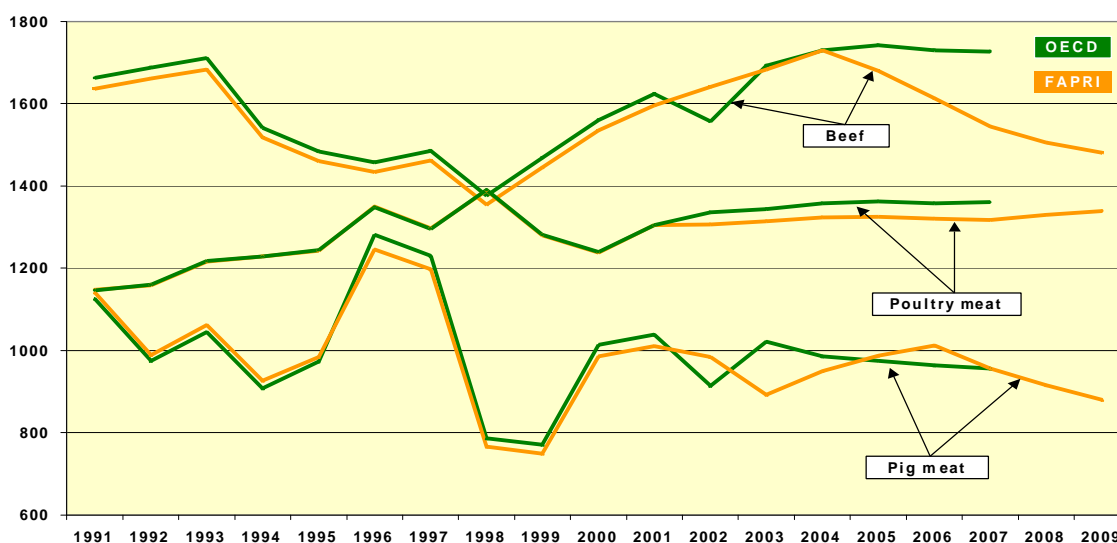
**Table 3.7 Outlook for world meat imports, 2001 – 2009 ('000 t cwe)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Beef</b>	4660	2693	5886	4232	1226	1539
<b>Pork</b>	2885	2258	3635	3414	750	1156
<b>Poultry</b>	4546	4984	5869	6797	1323	1813

FAPRI net trade

These projections rely heavily on the assumption that the recovery from the recent economic downturn will turn into sustained economic growth over the medium term. They also assume that disruptions in world meat markets caused by sanitary issues like those that have affected the meat markets in Japan, South Korea, Brazil, Argentina and the EU over the most recent years, will not occur over the projection period. The occurrence of sanitary and/or food safety crises could significantly alter future trends in international meat markets by increasing market segmentation and limiting market access for some potential meat exporters.

**Graph 3.20 Outlook for world meat prices, 1991 – 2009 (\$/t lw)**



### 3.3.1 Beef and veal

Contrary to most recent trends, the animal disease outbreak -notably in the EU and Argentina- reinforced in 2001 the traditional split between the Pacific and the Atlantic markets, with major market and policy consequences.

According to the USDA and FAPRI projections, world beef production is foreseen to increase strongly over the 2001-2009 period. The OECD and FAPRI anticipate an annual average growth ranging between 0.7 % for the OECD zone to 1.8 % for the whole world. Contrary to the non-OECD area, developed countries would only display an overall moderate beef production increase. Nevertheless, at country level substantial changes in beef production are projected by the OECD. They include strong rises in Canada and Mexico, more modest developments in Australia and the EU and a fall in US production. As regards prospects for the US beef sector, the USDA and the FAPRI projections seem

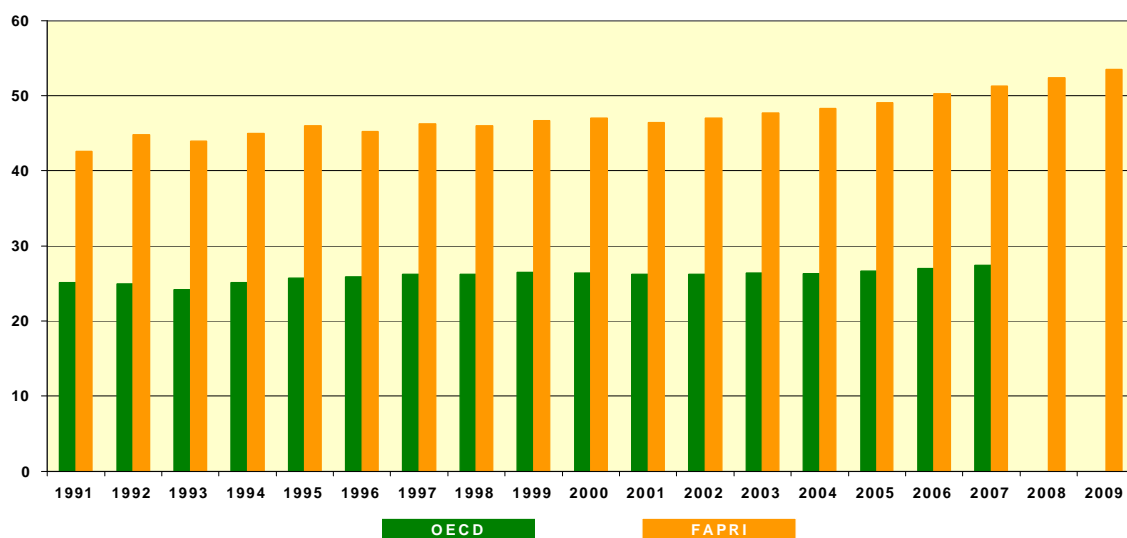
to display similar trends in production growth but with different magnitude. If both agencies foresee a moderate expansion in the next US cattle cycle after a marked decline through 2004, the pace of recovery is much more robust in the FAPRI projections than in the USDA baseline.

As regards the non-OECD zone, all projections show a steady increase in beef production in China (at more than 4 % per year on average over the next seven years), in Brazil and Argentina (between 1-2 % and 2-3 % on annual average respectively). Prospects for Russia are rather mixed as the OECD projects a modest 2 % increase over the next five years whereas the FAPRI foresees a slight decrease.

Global beef consumption is expected to rise gradually between 1% and 1.7 % per year on average in the OECD and FAPRI projections respectively, in relation to income growth notably in emerging economies. In many developed countries, per capita consumption of beef is expected to stagnate or to fall, since consumers continue to substitute pig meat and poultry meat for beef. This development is particularly marked in the countries -such as the EU and Japan- that have been affected by animal health crises and where the breath and pace of the recovery in domestic beef demand remain a major source of uncertainty.

In contrast, after a short-term decline at the end of the nineties linked to the deterioration of the economic situation, beef demand is likely to increase in Asian countries (mainly China) and Latin America (led by Brazil, Argentina and Mexico) over the projection horizon. In Asia, beef consumption should increase gradually from relatively low current levels, in response to population growth, economic development and higher disposable income that should lead to changes in food habits toward more western style.

**Graph 3.21 Outlook for world beef production, 1991 – 2009 (mio t cwe)**



Ref.: OECD – data for OECD zone; FAPRI: data for selected countries.

The USDA and OECD do not expect that the growth in beef demand in China will generate significant import growth as they foresee that most additional beef consumption would be met by higher domestic production owing to China's trade policy. On the contrary, the FAPRI anticipates a small increase in China's net beef imports towards the end of the projection period (115 000 t) on account of some cuts in Chinese high meat tariffs in the wake of China's accession to the WTO. By contrast, additional beef consumption is projected to create additional market outlets for major beef exporters as

limitations on feed production capacity (in terms of land and forage area) in many Asian countries are projected to constrain domestic production growth.

**Table 3.8 Outlook for beef net imports for major importing countries 2001 – 2009 ('000 t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Russia *</b>	600	592	904	768	304	176
<b>Japan</b>	940	940	1132	1082	192	142
<b>South Korea</b>	230	230	417	349	187	119
<b>Philippines*</b>	70	70	187	148	117	78
<b>USA</b>	381	440	-34	-239	-415	-679
<b>Mexico *</b>	430	422	730	546	300	124

USDA: \* Gross trade

The USDA and FAPRI predict that total trade in beef should increase by between 1.2 mio t to 1.5 mio t (i.e. some 30 %) respectively over the 2001-2009 period. Much of the growth in imports is expected to come from Asia, Russia and Mexico. After their recent fall in the wake of the economic downturn, beef imports from Asia (in particular Japan, South Korea, Taiwan and the Philippines) are expected to resume growing over the next decade. Beef imports in Japan are projected to weaken in the short-term in the wake of the BSE scare in 2001. They would increase more substantially over the medium term when the recovery in consumption outpaces domestic production growth. Growth in South Korean beef imports would be supported by the liberalisation of the beef import market in 2001 and possible changes in its beef retail distribution system, which the WTO found discriminated in favour of domestic beef.

Beef imports are forecast to grow substantially in Mexico over the 2001-2009 period fuelled by economic, population growth and tariffs elimination under NAFTA. The USDA and OECD projections show that the lack of efficiency and competitiveness of Russia's livestock sector would not enable domestic production to respond to the overall increase in domestic consumption, thus generating additional imports. FAPRI foresees in turn that the gradual increase in Russian beef imports would be linked to the slow and modest recovery in beef consumption over the medium term and to the declining domestic production.

Rising import demand is expected to mainly benefit the US according to the USDA and FAPRI projections<sup>83</sup>. According to the FAPRI projections, other low-cost producers such as Australia, New Zealand and Canada would also exhibit export gains in the short run thanks to substantial and timely herd rebuilding, whereas Argentina, Brazil and the EU would lose some market share owing to sanitary problems. Over the medium term, Argentina and Brazil would resume increasing their beef exports thanks to improved productivity and currency devaluation. In contrast, the USDA forecasts a more moderate pattern for Argentina and Brazil with beef exports largely constrained by sanitary problems and for Australian exports affected by the country's important herd rebuilding.

<sup>83</sup> With a 50 % rise in US exports by 2008, FAPRI expects the US to become the world's largest exporter and net exporter. The USDA foresees similar developments for US exports, with the US becoming net exporter by 2009.

As in last year's baseline, the OECD outlook displays a different picture with Canada, Argentina, Australia and Brazil projected to become the main beneficiaries of the expansion in the world beef market. The OECD is also far less optimistic about US export prospects –in the face of greater competitiveness and favourable exchange rates from other exporters- and foresees that US beef imports would remain at high levels over the next seven years.

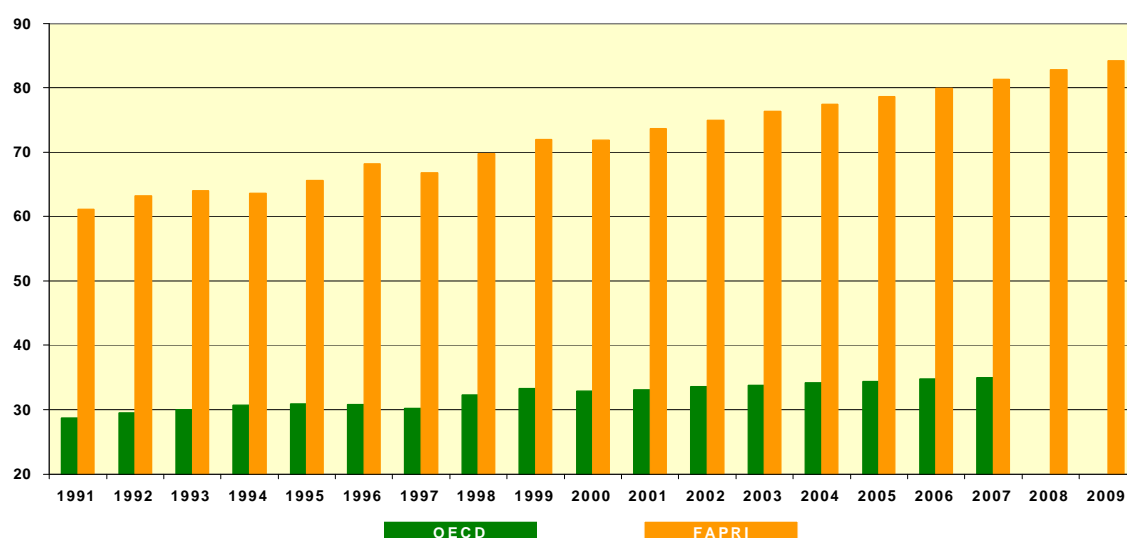
If some factors may be expected to exert some downward pressure on beef prices (including the changing structure of the world beef market, the emergence of new major exporters and the increasing competition from other meats), a sustained import demand - notably in the Pacific market- combined with limited growth in beef production should contribute to support market price developments over the medium term.

### 3.3.2 Pig meat

The pig meat sector is foreseen by all agencies to display a continuing increase in both production and consumption, driven by population and income growth in Asia and Latin America. After a short-term drop linked to lower availability, weaker economies and animal health crises, the medium-term outlook is expected to be characterised by a renewed and marked expansion in world trade. However, strong competition between exporters, sustained productivity growth and large supplies should prevent pig meat prices to rise substantially.

World pig meat production is projected by the OECD and FAPRI to continue to increase moderately over the medium term by between 7 and 15 %, i.e. a slower rate than in previous decades. The pig meat sector recently displayed an expansion of productive capacity and increased productivity. Higher concentration of production in some exporting countries is projected to raise productivity further and reduce production costs. However, pig meat expansion would remain constrained in some regions by greater competition from competitively priced poultry meat as well as by environmental and animal welfare standards.

**Graph 3.22 Outlook for world pig meat consumption, 1991 – 2009 (mio t cwe)**



Ref.: OECD: data for OECD zone; FAPRI: data for selected countries.

According to FAPRI, USDA and OECD projections, most of world production growth (i.e. between 7 and 11 mio t over the next seven years) is likely to occur in China (for

more than 50 % of total world growth for FAPRI and the OECD). The prospects for production expansion in the other major pig meat producing countries differ widely across projections. Nevertheless, the US, EU, Brazil, Mexico, Poland and Canada are all foreseen to show significant production increase reaching in the OECD and FAPRI projections 150-747 000 t, 978-544 000 t, 513 000 t, 478-321 000 t, 200 000 t and 180 000 t respectively by 2007/08. Pig meat production in Japan is projected to decline, but at a much slower rate than in the previous decade.

The mature pig meat markets in the EU, US, Canada and Japan are expected to record moderate demand growth in line with income prospects and population. Slow consumption growth in these countries would be partially compensated by a stronger increase in Asia and Latin America (notably in China, Brazil and Mexico where per capita pig meat consumption is set to rise by 14 %, 16 % and 22 % respectively between 2001 and 2009 in the FAPRI projections), driven by population growth, low price expectations and the improvement in the general economic conditions.

**Table 3.9 Outlook for pig meat net imports for major importing countries, 2001–2009 ('000 t cwe)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Japan</b>	920	920	1099	1181	179	261
<b>Russia *</b>	600	599	775	612	175	13
<b>South Korea *</b>	120	65	155	105	35	40
<b>Mexico</b>	240	240	311	485	71	245
<b>China Mainland</b>	10	10	111	209	101	199
<b>Hong Kong *</b>	335	270	428	332	93	62

USDA: \* Gross trade

Global trade in pig meat is forecast to increase further over the medium term with average annual growth rates ranging from 2.9 % in the USDA outlook to 5.3 % in the FAPRI projections (i.e. by 750 000 t and 1 150 000 t of additional imports from 2001 to 2009). Over the forecasting horizon, growth in pig meat trade would be mainly driven by strong demand from the major importing countries of Asia (notably Japan, China, Hong-Kong), Mexico and Russia.

Prospects for the pig meat sector in Russia are difficult to assess both on the supply side, where the pace of production recovery is foreseen to be closely linked to economic reforms, and on the demand side, with consumption growth associated with a still uncertain economic outlook and income distribution issues. Notwithstanding greater availability of cheap feed grains, the OECD and USDA foresee an expansion in Russia's import demand for pig meat as domestic production would remain hindered by inefficiencies associated with structural problems, insufficient capital investment and low infrastructure and management. In contrast domestic demand would continue growing as economic prospects improve. According to the USDA baseline, pig meat net imports would rise over the whole projection period to reach 775 000 t by 2009, i.e. a 175 000 t increase. The OECD similarly projects net imports to stand at 840 000 t in 2007, i.e. 360 000 t above their 2001 level. On the contrary, FAPRI expects that a recovery in domestic production will reduce total pig meat imports at approximately 600 000 t by the end of the period

Japan would remain the largest pig meat importer over the outlook horizon, with net imports amounting to more than 1.1 mio t. In spite of a strong short-term increase in the wake of the BSE scare, import growth should significantly decline as compared to the previous decade owing to the slowdown in the contraction of domestic output. Income and population growth should boost Mexico's import demand according to the FAPRI outlook as domestic production would be constrained by infrastructure and distribution problems. Conversely, the USDA and OECD projections suggest that the pig meat sector in Mexico should provide for stronger production growth, reducing the development in net imports to 71 000 t and -60 000 t respectively.

The USDA and FAPRI foresee that the increasingly export-oriented and low-cost producing pig meat industry of Brazil and Canada should capture most of the sustained rise in world pig meat trade. Brazil competitiveness is foreseen by FAPRI to benefit from further improvement in productivity (breeding and feeding programmes), domestic fiscal policies, favourable conditions for credit and investment in infrastructure, and a weakening currency. Significant restructuring, through concentration and vertical integration, and improved productivity in the production, marketing and processing sectors of the pork industry is expected to continue to boost Canadian competitiveness. Prospects are more mixed for the EU (the world's largest pig meat exporter that is expected to show moderate export growth) and the US which are foreseen to exhibit some market share loss due to increased competition from Brazil, Canada and emerging exporters such as Poland and Hungary.

Continued efficiency and productivity gains in feeding practices, stiffer competition from other meats and the swift emergence of low-cost exporting countries supported by weak currency should prevent pig meat prices to rise substantially over the medium term.

### 3.3.3 Poultry

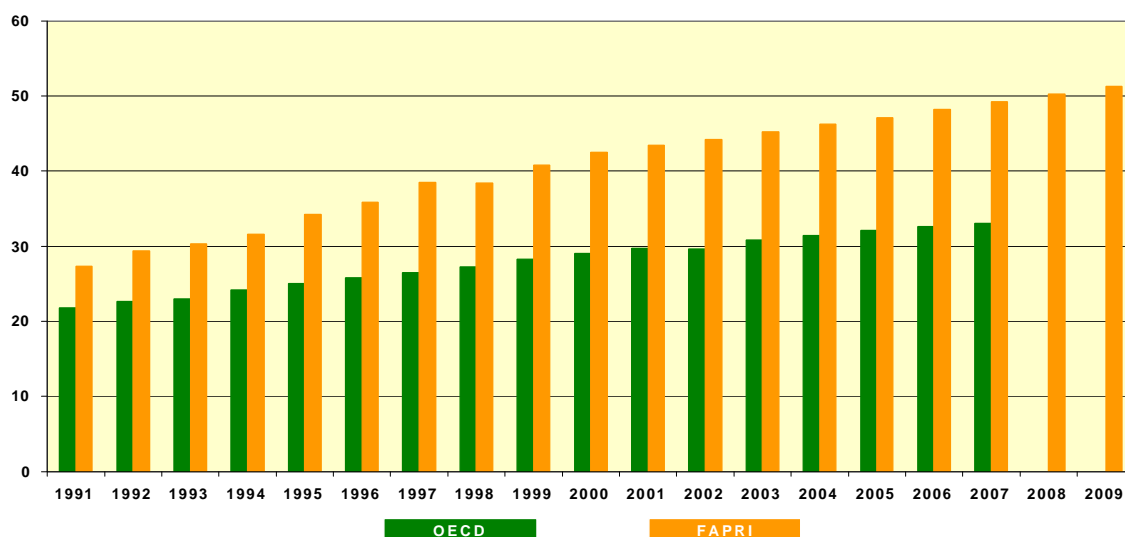
Over the 2001-2009 period, the outlook for poultry meat is projected to remain favourable, as all market fundamentals would demonstrate solid growth. If short-term developments have been marked by a series of disease crises in a number of regions, poultry meat has generally benefited from the BSE and FMD outbreaks. World production and consumption are forecast to continue to expand over the medium term at rates above those for beef and pig meat, albeit somewhat lower than during the 1990s. This expansion of the poultry meat sector would remain mainly driven by its low production cost (relative to beef and pig meat) and consumer preferences in many parts of the world (in line with changing diets towards western lifestyle and health considerations).

Poultry meat production and consumption are predicted by the OECD and FAPRI to increase sharply over the next seven years by slightly less than 20 %, i.e. an average annual growth of approximately 2.0 %. Production in the large producer countries (such as the US, China, EU, Brazil and Mexico) should continue to expand as domestic and global demand increase. Overall, most of the growth in production and consumption is to be found in the developing countries.

In most countries, poultry meat is foreseen to increase its share of meat consumption over the medium term driven by its price advantage relative to beef and pig meat, rising incomes and changing food demand pattern in many countries. Therefore, in many countries with a relatively low per capita consumption (China, Mexico, Russia and Eastern Europe), the expected improvement of the economic situation is anticipated to

favour first the poultry sector. In addition, consumption should also increase, though more moderately, in countries with a relatively high per capita consumption due to a continuing shift in consumer preferences<sup>84</sup>.

**Graph 3.23 Outlook for world poultry meat consumption, 1991 – 2009 (mio t cwe)**



Ref.: OECD: data for OECD zone; FAPRI: data for selected countries.

Since production in many of the countries with expected rapid growth in consumption (China, Middle East etc.) is only projected to expand at slower rates, increased demand is expected to generate a strong rise in trade (estimated at between 3 % and 4 % on annual average by the FAPRI and the USDA respectively over the 2001-2009 period). Most of the growth in trade is likely to take place in poultry cuts as opposed to whole birds.

China is expected to demonstrate a sustained rise in consumption which would outpace the growth in production, generating an increase in import volumes<sup>85</sup>. Net imports are foreseen at around 569 000 t in the USDA outlook by the end of the projection period, whereas the OECD and FAPRI<sup>86</sup> foresee a stronger pattern for Chinese imports over the medium term (at 741 000 t and 1 041 000 t respectively). Chinese imports would reflect consumer preferences for various low-value poultry products (notably for chicken feet, wings and offal) which are complementary to the demand for poultry meat products in many countries. Further trade liberalisation is foreseen by the USDA and FAPRI to boost net imports from Mexico, whereas the OECD projects a mere stagnation in Mexican net imports owing to falling domestic production costs associated with vertical integration in the poultry sector.

<sup>84</sup> A strong rise in US per capita consumption of poultry meat ranging between 3 % and 8 % is projected by the OECD, FAPRI and the USDA for the next seven years. Chicken consumption would approach and sometimes exceed consumption of the traditional meat product, such as beef in the American continent.

<sup>85</sup> Even if poultry meat exports from China mainland are also expected to grow according to the OECD and USDA, notably for bone-less leg meat and processed poultry products.

<sup>86</sup> FAPRI projections take account of further liberalisation of the Chinese poultry market in the wake of China's accession to the WTO.

**Table 3.10 Outlook for poultry meat net imports for major importing countries, 2001–2009 ('000 t)**

	2001		2009		Change in trade	
	USDA	FAPRI	USDA	FAPRI	USDA	FAPRI
<b>Russia *</b>	1300	1073	1764	1192	464	119
<b>China mainland</b>	430	429	569	1041	139	612
<b>Hong Kong</b>	262	240	299	271	37	31
<b>Mexico *</b>	375	230	573	327	198	97
<b>Japan</b>	684	663	850	803	166	140
<b>Saudi Arabia</b>	400	380	482	549	82	169
<b>South Korea</b>	100	78	132	117	32	39

USDA: \* Gross trade

Russia constitutes another large export market. A renewed increase in poultry meat consumption is projected to be met by increased imports as domestic production would only display slow growth due to a lack of investment and remaining inefficiencies. The USDA and OECD foresee higher imports of some 500 000 t whereas the FAPRI projections suggest a more modest pattern for poultry meat consumption, resulting in net imports increasing by less than 120 000 t by 2009. The economic and political prospects over the medium term in this region constitute a source of uncertainty since they should impact not only the size of poultry meat imports in Russia but also global poultry trade.

All organisations foresee that Brazil and –to a lesser extent- the US and Thailand would strongly benefit from this projected rise in poultry meat trade. FAPRI expects Brazil exports to be supported by new large investments in broiler production in the Center-West region encouraged by fiscal and subsidies incentives as well as by the availability of large source of cheap feed grains. Brazil would also gain from currency depreciation which is anticipated to enhance Brazil's share of the world market. US exports would continue to benefit from a competitive production structure through vertical integration, high technology levels, access to low-cost feed products and efficient transport and storage infrastructure. Competition from these countries is anticipated to reduce export growth prospects for the other major exporters, such as the EU.

Poultry prices are expected to rise slightly over the medium term, supported by a strong demand. However, the emergence of low-cost exporters combined with the rapid growth in poultry meat production supported by moderate feed prices, continuous structural changes of the poultry sector and further productivity gains should combine to alleviate pressure on world prices and moderate future price trends over the next seven years.

### 3.4 Milk and dairy products

This outlook for the world milk and dairy products market focuses on milk production in some selected countries and on some dairy products, notably butter, cheese and milk powder, since only limited quantities of fresh milk are traded. Compared to other agricultural products, projections for the dairy sector are more limited as only few organisations establish long-term prospects for this sector<sup>87</sup>.

<sup>87</sup> The USDA for example focuses only on the US dairy market in its most recent publication on long-term projections.

According to the FAPRI and OECD projections, the medium-term outlook for the dairy sector is expected to remain dominated by a strong expansion in global demand for dairy products. The latter would reflect not only income growth in many regions of the world, but also changes in consumer preferences towards dairy products (as meat substitutes). Demand growth is projected to be strongest in the non-OECD zone, notably in Asia, Latin America and the Middle East. Stronger demand would trigger further price rises for dairy products over the medium term. In many developed countries dairy products constitute a fundamental component of the diet with relatively high consumption levels. Accordingly, no major changes in the demand for dairy products (with the noticeable exception of cheese) are foreseen in these regions. In contrast, population growth, changing diet towards more “western” style, urbanisation and rising disposable income are forecast to stimulate the consumption of dairy products in many developing countries, in particular in Asia and Latin America.

A significant part of the increased demand in developing countries is forecast to be met by domestic production. If some countries of the non-OECD zone (in particular from South America) may become net exporter, most developing countries would however remain net importers of dairy products with most imports originating from developed countries.

The OECD and FAPRI projections depict a medium-term situation in which traditional major exporters, such as the EU, New Zealand and Australia will keep dominating the world market for dairy products thanks to technology-driven improved efficiency, geographical proximity to growing import markets as well as domestic policy changes (notably in the EU from 2005 onwards).

As increased demand for dairy products would be mainly driven by improved income levels, these medium-term projections appear highly dependent on the future economic and financial situation of many developing countries. In particular, any economic, financial or policy developments that would alter the pace of recovery in Russia could have major implications for future developments in world trade volume and prices given Russian share in the world dairy market.

### **3.4.1 Milk production**

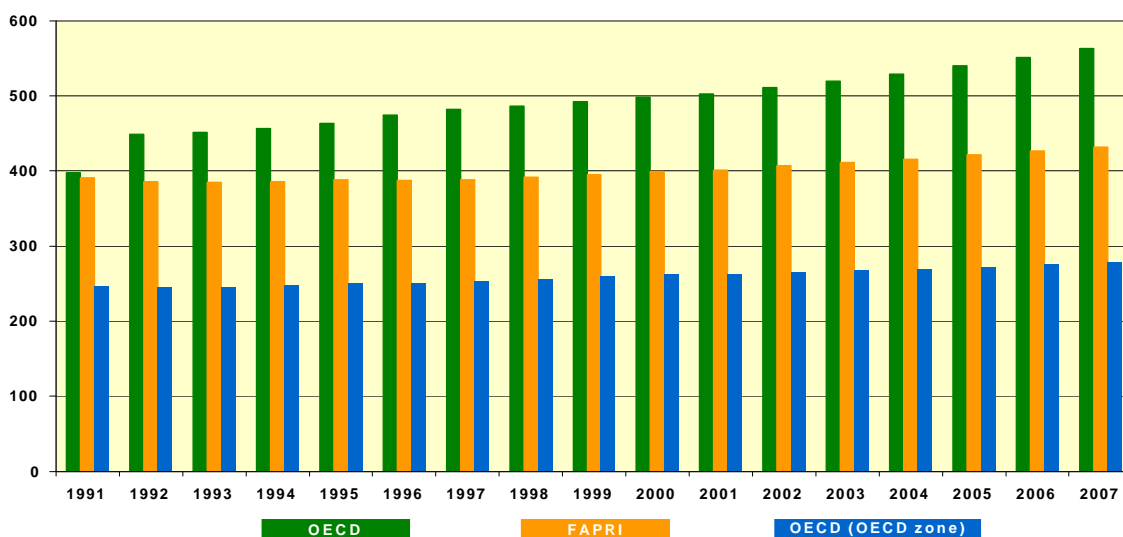
World milk production is foreseen by the FAPRI and the OECD to grow at the sustained pace of 1.2 % and 1.9 % on annual average respectively over the 2001-2007 period. After a relative slow down in 2001 estimated by the OECD and FAPRI in some major producing countries (EU, US and some Eastern European countries), milk production would resume expanding supported by increasing demand and price rises in a number of countries, mainly outside the OECD area and in those OECD countries not subject to production quotas.

The OECD baseline shows an increase in world milk production of 61 mio t (+12 %) from 2001 to 2007. Most of additional milk production would originate from the non-OECD area where milk output would grow by more than 18 % over the medium term. The greatest increase in milk output is forecast in China, India, Brazil and Argentina. As a

consequence, the share of developing countries in world milk production is expected to rise significantly<sup>88</sup>.

The OECD and the FAPRI display diverging prospects for Russia's dairy sector. The FAPRI outlook provides for a 14% increase in Russian milk production owing to improved productivity that would outweigh the impact of a slightly declining dairy herd. On the contrary, the OECD projections suggest a relative stabilisation of the Russian milk sector in the short run after the break-up of collective farms. A modest recovery would later take place thanks to higher investment in the sector and further structural adjustment.

**Graph 3.24 Outlook for world milk production, 1991 – 2007 (mio t)**

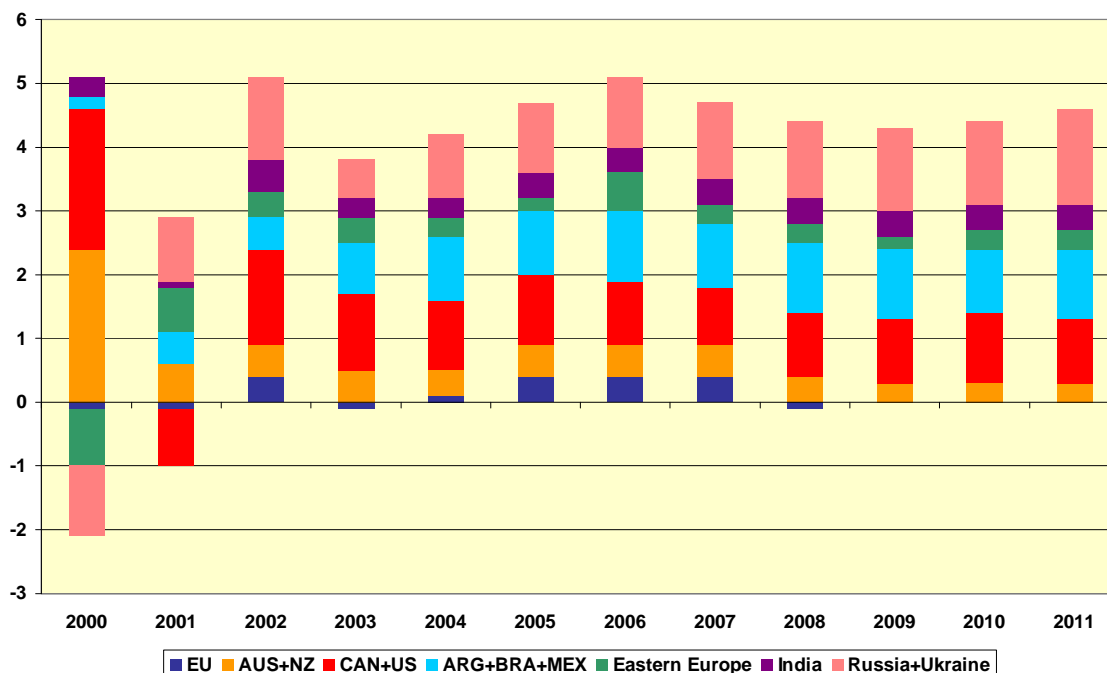


Ref.: OECD: data for total world and for the OECD zone; FAPRI: data for selected countries.

The OECD foresees that milk production in the OECD area should grow at a similar pace to that during the 1990s. Yet, the share in world output from developed countries operating under constraining dairy policies, in particular production quotas, would shrink. EU production would only increase when higher milk quotas are implemented in 2005. Australia and New Zealand, two major exporters of dairy products, are anticipated to benefit from increased demand in Asia to substantially increase milk production, albeit at a slower pace than in the 1990s. Whereas the OECD foresees that the dynamic expansion of milk production is to continue over the medium term at the substantial rate of 15 % and 30 % for these two countries, the FAPRI outlook appear more moderate with increases limited to 10 % and 15 % respectively.

A 9 % increase in milk production over the 2001-2007 period is forecast for the US driven by productivity growth (associated with better management, improved genetic potential and cheap feed grains). Thanks to continuing restructuring and quality improvement, milk production in the CEECs is expected to increase over the medium term (in particular Poland and the Baltic States), although growth rates should differ across countries.

<sup>88</sup> The OECD predicts that the non-OECD share of world milk production would reach around 51 % by the end of the projection period. One consequence is that the share of milk from animals other than cows is also forecast to expand (a significant share of milk produced in developing countries come from buffaloes, goats, sheep and camels).

**Graph 3.25 Outlook for world milk production, annual changes, 2000 – 2011 (mio t)**

Source: FAPRI (selected countries)

### 3.4.2 Dairy products

As fluid milk consumption should only exhibit a modest growth over the medium term, most of the milk production increase would be processed into dairy products. Global dairy consumption in the OECD area is not projected to demonstrate significant changes over the 2001-2007 period according to the OECD baseline. However, differentiated patterns are provided across the various types and forms of dairy products with, in particular, a strong increase in cheese (+10 %, i.e. +6.2 % per capita) and to some extent for whole milk powder consumption (+5.1 %, i.e. +1.5 % per capita), a mere stagnation in the consumption of butter (+1.0 %, i.e. -2.5 % per capita) and a marked decline for skimmed milk powder (-2.6 %, i.e. -5.9 % per capita).

On the contrary, the non-OECD area is expected to demonstrate marked increases in the overall consumption of dairy products (notably in Asia, Latin America and the Middle East). According to the OECD outlook, solid growth in dairy products consumption should concern all products, albeit to a lesser extent for skimmed milk powder. Whereas SMP demand would rise by 12.8 % (i.e. +1.5 % per capita) from 2001 to 2007, consumption of WMP, butter and cheese would exhibit a stronger pattern with growth of more than 20 % (i.e. more than 10 % per capita) from 2001 to 2007<sup>89</sup>. Growing population, improved economic conditions, increasing urbanisation and a shift towards “western” diet would constitute in these countries the main factors underpinning the rise in dairy products consumption.

The structural change in world trade of dairy products from bulk dairy products (SMP and butter) towards higher value-added products (such as cheese and whey powder) that

<sup>89</sup> The OECD outlook suggests that SMP, butter and cheese consumption would increase in the non-OECD zone by 22.8 %, 25 % and 25.6 % from 2001 to 2007 respectively (i.e. 10.4 %, 12.4 % and 13.0 % per capita).

has been observed since the mid 1980s would seem to consolidate over the next seven years according to the OECD outlook (although trade in butter and SMP would still remain substantial). Technological advances are also projected to stimulate a rapid development in milk components.

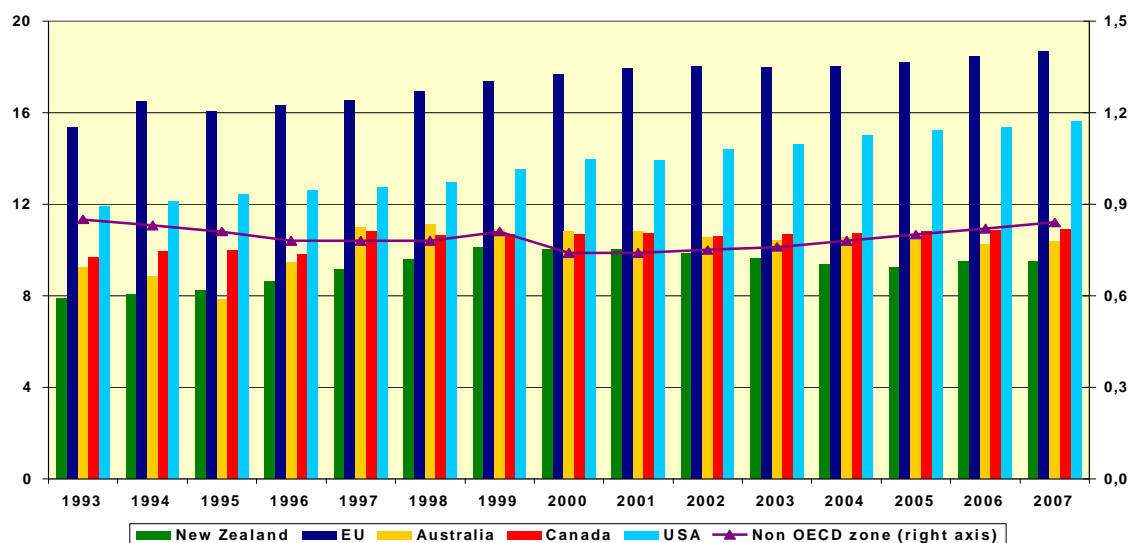
**Table 3.11 Outlook for total imports for major dairy products, 2001 – 2009 ('000 t)**

	2001		2009		Change in trade	
	OECD	FAPRI	OECD	FAPRI	OECD	FAPRI
<b>Butter</b>	466	612	630	700	164	88
<b>SMP</b>	642	941	809	1010	167	69
<b>WMP</b>	1089	1218	1339	1377	250	159
<b>Cheese</b>	317	839	517	1016	200	177

OECD: Net imports from the non-OECD zone for 2001 and 2007; FAPRI: net trade from major countries.

The strongest increase in global world consumption of dairy products is predicted for cheese in the OECD projections with a cumulative 13 % growth over the 2001-2007 period (i.e. 2.1 % per year on average). Most of the increase in consumption (around 60 %) would take place in OECD countries, which accounted for 80 % of total world consumption in 2001, and be met by increased domestic supply. The US and the EU would account for more than 80 % of this additional cheese demand. Total cheese exports and imports of the OECD countries are expected to rise by 24 % and 9 % respectively over the 2001-2007 period.

**Graph 3.26 Outlook for world cheese per capita consumption, 1993 – 2007 (kg/capita)**



Source: OECD

Net imports of cheese from the non-OECD area would grow by 63 % or 8.5 % annually until 2007. The OECD outlook shows that increasing cheese consumption in the Asian region would be mainly satisfied by imports (particularly in Japan<sup>90</sup>, China and South Korea where domestic production is not foreseen to keep pace with rising consumption), largely from Australia and New Zealand, and to a lower extent from the EU. The increasing demand projected in Latin America should be supplied either by domestic production or by the expanding production in Argentina. After their sharp drop in 1998

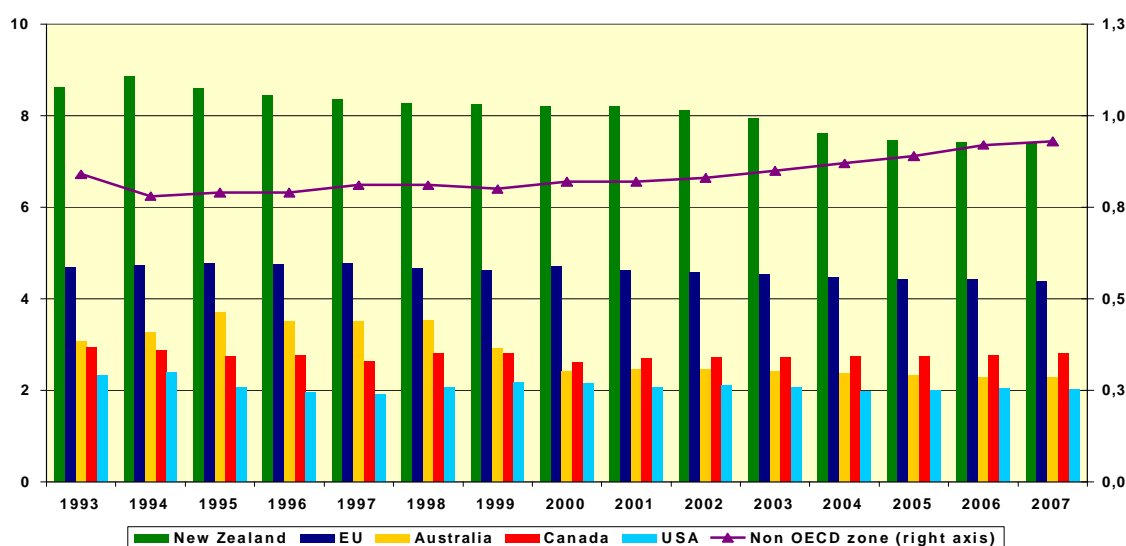
<sup>90</sup> The FAPRI baseline displays a declining Japanese cheese production.

and 1999 in the wake of the economic turmoil, Russian imports are anticipated to grow at a rather sustained pace over the medium term driven by an expanding consumption and modest increases in domestic production. Whereas the OECD baseline anticipates net cheese imports from Russia at 84 000 t in 2007, FAPRI displays more pronounced diverging patterns for domestic consumption and production, with net imports reaching 140 000 t by 2007. Most of these additional imports would be supplied by the EU and the CEECs.

World butter production and consumption are forecast to increase by between 1.8 % (FAPRI) and 2.3 % (OECD) on annual average over the next seven years. Nevertheless, the OECD foresees that most –more than 80 %- of the growth in butter production and consumption would take place in the non-OECD area, since they would remain fairly stable in the OECD zone. In the non-OECD area, total butter consumption is likely to increase by 25 % from 2001 to 2007 (i.e. 3.7 % per year).

Since the growth in domestic production is projected to be outweighed by the expansion of demand in some of these countries (in particular Russia, Mexico and India), scope for additional exports from the main OECD producer countries may be expected. The bulk of the growth in butter trade is foreseen to be captured by the EU, New Zealand<sup>91</sup> and, to a lesser extent, Australia. These perspectives for the world butter market would however remain strongly dependent on the Russian market. The FAPRI and OECD projections anticipate a rather modest import growth from this country (some 50 000 t increase from 2001 to 2007) by historical standards. Yet, given Russian's share of the world market in the most recent years, any change in import levels from Russia could have a significant impact on the future development in the size and price of the world butter market.

**Graph 3.27 Outlook for world butter per capita consumption, 1993 – 2007 (kg/capita)**



Source: OECD

The FAPRI and OECD baselines provide for similar perspectives for milk powder. Whereas they foresee sustained growth in world WMP consumption ranging between 1.6 % and 2.5 % per annum respectively, SMP would exhibit a more modest growth

<sup>91</sup> The FAPRI projections suggest that New Zealand additional milk production would be mainly exported as cheese and WMP.

pattern of between 1.0 % and 1.3 % per year, owing to the projected decline in SMP demand in the OECD area<sup>92</sup>. If the future growth perspectives for milk powder trade are broadly consistent in showing a steady rise in milk powder trade, their magnitude and pace differ significantly across the FAPRI and OECD projections. Furthermore, they significantly contrast from last year's projections where SMP trade was foreseen to decline over the medium term.

FAPRI expects that, after a short-term steep increase in 1999, SMP imports from Russia would drop back to low levels as production is foreseen to recover. Developing countries of Asia, Latin America and Africa would demonstrate a sharp reduction in their overall growth in import demand as total SMP imports from these countries would only increase by some 50 000 t by 2009/10. After several years of continuous decline, SMP imports from Japan and Mexico would increase slightly. EU SMP exports would rise rather slowly and modestly over the medium term, whereas the US –after an initial releasing of public stocks- would exhibit a declining trend in SMP exports. Greater profitability in other dairy markets (cheese and WMP) is foreseen to constrain the development in export supply from other traditional exporters (such as New Zealand and Australia). FAPRI foresees the overall growth in WMP trade to reach 13 % over the 2001-2009 period (as compared to a 7 % rise for SMP). Additional WMP import demand would be broadly spread over the non-OECD area and mainly draw on additional exports from New Zealand (70 % of the total growth), Argentina and Australia. By contrast, EU exports would stagnate at 480 000 t over the medium term.

After a significant drop in 2001, SMP exports from the OECD zone are foreseen to rebound and display a 26 % increase for the 2001-2007 period, with New Zealand and -to a much lower extent- Poland capturing the lion's share of this additional trade. Total WMP exports from the OECD area are expected to continue growing over the medium term, after a sharp increase observed in 2001. The growing demand in Latin America, North Africa and Asia is projected to outpace domestic production potential and to generate a significant expansion in trade between the OECD area and the rest of the world of some 23 % from 2001 to 2007. Like in the FAPRI projections, New Zealand and Australia would capture the bulk of the additional trade to the detriment of the EU.

### 3.4.3 Dairy prices

The perspectives of stronger economic growth and a strengthening demand for dairy products are projected by the OECD and FAPRI to generate a sustained recovery in world market prices of dairy products over the medium term. However, the rapid expansion of milk production in low-cost producing regions (such as Oceania) is expected to moderate this price pattern.

Cheese prices would display the strongest pattern among the prices of dairy products. After a short-term weakening, they would recover rapidly supported by the steady rise in global consumption<sup>93</sup>. In contrast, the pace of price increase is forecast to be more modest for milk powder, notably for SMP, which should face greater competition from WMP and

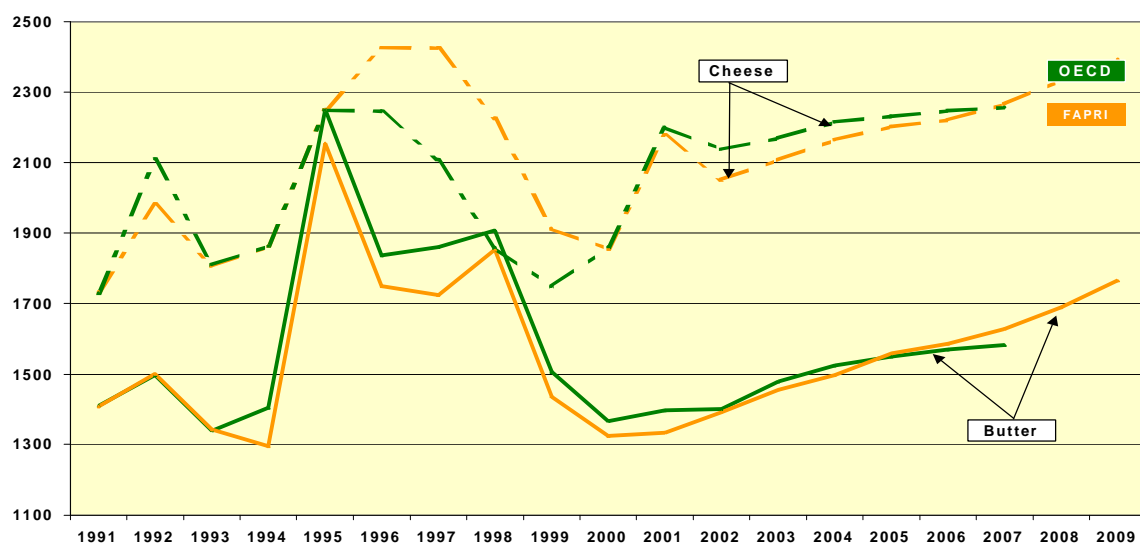
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<sup>92</sup> Additional WMP consumption would be used for milk reconstitution, displacing SMP and condensed milk. In turn, SMP would also face competition from whey powder in animal feed and food processing.

<sup>93</sup> World market prices for cheddar should remain below EU domestic prices over the medium term, even if the gap is forecast to diminish somewhat. However, cheddar cheese is not fully representative of EU cheese production.

they powder. Having reached high levels in 2000 and 2001, milk powder prices would fall in 2002 before recovering from 2003 onwards. Butter prices would recover modestly and gradually, benefiting also from the expected rise in vegetable oil prices.

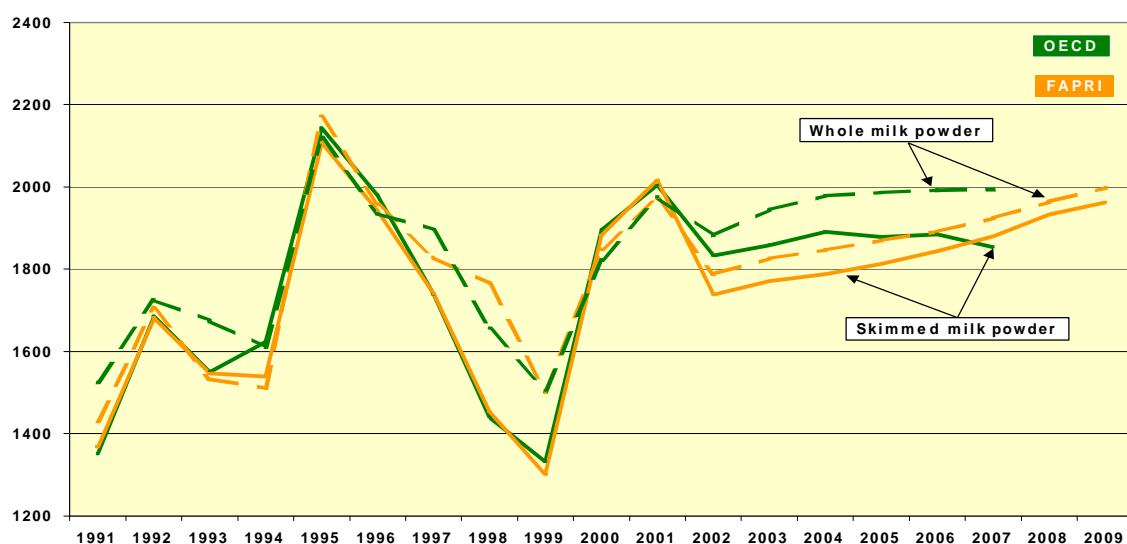
**Graph 3.28 Outlook for world market prices for butter and cheese, 1991 – 2009 (\$/t)**



Ref.: Cheese: FOB export price cheddar cheese 40lb blocks, Northern Europe; butter: FOB export price Northern Europe.

These medium-term perspectives remain strongly dependent on the future development in some key (existing or emerging) markets such as Russia and East Asia as the world dairy market is foreseen to remain relatively thin. Furthermore, the trend towards further concentration and globalisation of the dairy industry, and greater differentiation of dairy products is expected to make trade projections for dairy products increasingly complex and dependent on dairy firms' cost structure, production and marketing strategy.

**Graph 3.29 Outlook for world market prices for whole milk powder and skimmed milk powder, 1991 – 2009 (\$/t)**



Ref.: FOB export price Northern Europe.

#### 4. Key issues

If the outlook for agricultural markets over the next seven years appears relatively favourable, as agricultural markets would gradually emerge from a prolonged downturn, it

clearly remains subject to some uncertainties. In this respect, three main areas of uncertainty can be identified:

- the economic prospects
- the scope for production growth
- the policy and trade environment

#### 4.1 Economic prospects

The medium-term projections from the FAPRI, OECD and USDA presented in this chapter depend heavily and critically on the robust and sustainable economic growth which is expected over the medium term in many developing regions (in particular China, South East Asia, Latin America, North Africa and the Middle East). Strong and sustainable economic expansion, population growth, urbanisation and dietary changes in these regions seem to constitute the main driving force behind the projected recovery in most agricultural markets as they are all foreseen to lift global food demand and stimulate solid growth in world trade. An outlook of strong and broadly based growth in developed countries would combine with a rapid recovery in many emerging economies towards sustained expansion to set the stage for a prolonged high-growth period in almost all regions of the world without significant inflationary pressures (cf. table 3.12).

**Table 3.12 USDA assumptions in real GDP annual growth, 2000 – 2011 (%)**

	2000	2001	2002	2003	2004	2005	Average		
							1991-2000	2001-2005	2006-2011
World	3.9	1.6	2.0	3.3	3.3	3.3	2.7	2.7	3.3
Developed economies	3.4	1.2	1.5	2.7	2.6	2.6	2.3	2.1	2.6
Transition economies	5.1	3.4	3.5	3.9	3.9	3.8	-2.9	3.7	3.7
Eastern Europe	3.7	3.1	3.7	4.7	4.6	4.5	1.3	4.1	4.4
FSU	5.9	3.5	3.5	3.5	3.5	3.5	-4.4	3.5	3.4
Developing countries	5.6	2.6	3.5	4.9	5.1	5.1	4.9	4.2	5.2
East and Southeast Asia	7.4	4.2	4.9	6.2	6.3	6.3	7.3	5.6	6.4
China	8.0	7.5	7.3	7.8	7.8	7.8	10.1	7.6	7.8
Korea	8.8	2.5	3.5	5.4	5.2	5.0	6.3	4.3	5.0
Indonesia	4.8	2.0	2.5	4.0	5.0	5.0	4.4	3.7	5.0
Thailand	4.3	1.2	3.0	4.0	4.9	5.3	4.6	3.7	5.6
Latin America	3.9	0.7	1.4	3.6	4.3	4.3	3.3	2.9	4.3
Mexico	6.9	0.0	1.5	4.7	4.7	4.7	3.6	3.1	4.7
Brazil	4.5	1.2	2.0	3.8	4.4	4.5	2.7	3.2	4.5
Middle East	6.0	1.0	2.6	3.7	3.9	4.0	4.1	3.0	4.0
North Africa	3.4	3.5	3.7	5.2	5.1	5.0	3.0	4.5	4.7

Source: USDA.

However, significant sources of risks to the sustainability and durability of the economic recovery remain. They concern notably the imbalances that developed in the late 1990s in the US and the global economy, with the large US current account deficit and the surpluses in other countries, the low US personal savings rate, the apparent overvaluation of the US dollar and undervaluation of the euro, and relatively high levels of corporate and household indebtedness in a number of countries (IMF, 2002). These imbalances have been fuelled to a large extent by the relatively rapid growth in the US relative to other countries. There also remains concerns about the financial markets, that may still embody relatively optimistic expectations for corporate profitability and the pace of recovery, and about Japan where the economic situation continues to represent a source of serious concern.

Moreover, specific risks still exist for the medium-term outlook. The volatility of oil prices may become a potential risk to the recovery, especially if the security situation in the

Middle East were to deteriorate further. Recent developments in Argentina show that considerable downside risks still exist in this country, with possible contagion to other emerging countries of Asia and Latin America. Moreover, significant changes in relative exchange rates could still significantly affect agricultural trade and markets. The orderly reduction in the global imbalances and a supportive macro-economic policy framework would thus appear necessary to ensure investor confidence and the maintenance of a steady and sustainable growth over the coming years.

A slower pace and strength in the emerging economic recovery could lead in the short term to weaker demand and lower food trade and consequently lower world price prospects. The largest adverse impact would likely concern higher value-added agricultural products, such as meat, dairy products and processed food that are directly and indirectly sensitive to changes in income. Lower demand for these products could in turn put downward pressure on feed grain prices.

#### **4.2 Growth potential in agricultural supply**

The projected moderate increase in trade and prices over the medium term, one of the major outcomes of the projections, remains strongly conditioned by the slow adjustment of agricultural supply to the rapid expansion of food demand in some regions of the world. Yet, the extent to which production would become outpaced by a rising domestic consumption remains unclear as the scope for further production increase in some major importing regions constitutes a key uncertainty for the medium-term outlook, notably for crop products.

Like in the most recent decades, much of the growth in grain production is projected to be driven by productivity increase as the potential for additional land is foreseen to be limited in most regions -with the noticeable exception of Argentina, Australia, Hungary, Mexico and Russia- due to the expansion of urban areas, pressure on agricultural resources and environment, and climatic limitations. The projected price increases would not appear sufficient to reverse this trend.

If total cereal productivity growth is forecast to be broadly comparable over the next seven years to that of the 1990s, it should remain significantly lower than in the previous decades<sup>94</sup>. However, prospects for more favourable price levels and increased reliance on food imports in some regions may be expected to generate further research for renewed gains in productivity (in terms of wider adoption of improved varieties and farming methods, increased investment in agricultural structure, storage, transport and marketing systems).

In this context, policy management and development in some major producing countries - such as China<sup>95</sup>, Russia and India- and exporting countries -such as the EU and the US with the land set-aside instrument- could also have far reaching implications for the future level of world agricultural supply.

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<sup>94</sup> The extent to which future prospects for yield trends will be influenced by the development and diffusion of genetically modified organisms is still an open question.

<sup>95</sup> Uncertainties still exist also regarding the current level of grain stocks (as well as their marketability) in China and India. Recent information about a substantial upward revision of grain stocks in these countries tends to indicate higher than expected domestic availability and could hinder future trade prospects.

### 4.3 Policy and trade environment

Future changes in agricultural and trade policies as well as the new round of multilateral trade negotiations may have important implications for the medium-term outlook for agricultural production, consumption, trade and prices as well as the functioning of agricultural markets. They include:

- the recently approved US Farm Security and Rural Investment Act of 2002: although preliminary analysis tends to indicate moderate downwards impact on US prices, further in-depth economic and trade analysis is needed, notably with respect to its repercussions for international trade and prices. The economic (mainly price-depressing) impact of the new counter-cyclical payments are of specific interest –as the main thrust of the subsidy regime- since they have the effect of reducing market signals, thus leading farmers to over-produce in times of surplus.
- the EU Mid-term review of the Agenda 2000 CAP reform planned in 2002 and 2003;
- the enlargement of the EU to the candidate countries of Central and Eastern Europe;
- as regards trade policy, the outcome of the new trade round at the WTO, the recent accession of China and Chinese Taipei to the WTO, the adoption of the so-called “double-profit” agreements with the CEECs candidate countries and the EBA initiative of the European Union;
- the emergence of new issues related to food safety, food quality and the environment.

## *Impact of the new US farm bill on world market outlook*

### *A preliminary qualitative assessment*

#### **1. Introduction**

The new US farm bill, the Farm Security and Rural Investment Act of 2002 (FSRIA), was approved in May 2002. This six-year farm bill (covering 2002-2007 crops) replaces the FAIR Act of 1996 and continues or modifies various agricultural programmes under 10 titles regarding notably farm income and commodity price support (title I), conservation and environment (title II) and foreign trade and food aid (title III).

According to the US Congress, the FSRIA is estimated to represent a total budgetary cost of some 296.5 bio \$ over six years (the term of the new law). This constitutes an additional spending of 51.7 bio \$. Most of the new spending is concentrated on the Title I commodity programmes and, to a lesser extent, on Title II (conservation). The average increase in commodity spending in the 2003-07 period above that foreseen at the end of the Fair Act is 79%, an increase from \$9.3 billion per year to \$16.9 billion. By 2007, Title II conservation programmes are expected to have increased by 100% from \$ 2 billion foreseen under Fair to \$ 4 billion.

However, since a significant part of the aid is linked to market price developments and given the price-depressing effect of the FSRIA, these budgetary estimates may underestimate the real budget cost of the new US farm bill.

#### **2. The major characteristics of FSRIA**

The commodity title of FSRIA marks a reversal of policy under the FAIR Act of 1996, which to an extent sought to decouple farm subsidies from market prices and yields. However, from 1998 the US introduced successive *ad hoc* supplementary payments designed to counteract low prices on crop commodity markets. In addition, the US relied increasingly on deficiency payments (under the loan programme) as market prices fell below the loan rate.

With the passing of FSRIA, the US has consolidated its abandonment of FAIR Act policy for farm support. Subsidies are to be based on current cropping patterns and/or current prices and yields, via the three basic mechanisms of support (marketing loans, direct payments, counter-cyclical).

The most important provisions can be summarised as follows:

- In the **arable crop sector** (cereals, oilseeds, protein crops and cotton), three basic programmes apply:
  - *Marketing Assistance Loans* (and *Loan Deficiency Payments*) are continued at rates fixed for the whole 2002-2007 period and set higher than in the FAIR Act, except for rice where they remain constant and soybean for which they drop by 5 %. For soybeans, the newly introduced fixed payment exceeds the drop in loan rate. Crop coverage benefits from these loans has been extended to grazing cereals and pulse crops (chickpeas, dry peas and lentils);

- *Fixed payments*, which replace the FAIR Act's PFC payments, are extended to soybeans and granted for each eligible crop in a reference period, irrespective of the current price and area planted. Unlike PFC payments which were reduced in annual steps, the new fixed payments remain constant over the whole 2002-2007 period at a higher rate than under the FAIR Act. They are paid on 85 % of the base area (this base area can be updated) and for the reference yields used in the FAIR Act;
- *Counter-cyclical payments* are a new price-linked payment made to producers on the basis of yields and crops grown in a base period. In detail, they are granted to producers when the "effective price" (the sum of the fixed payment and the official average market price or loan rate if the average market price is below the loan rate) is below a "target price". This payment is made on the basis of what the producer had grown in the reference period, irrespective of what he currently produces. These payments are calculated for the same base area as for the fixed payments. Producers can update their base area and can also update their reference yields for counter-cyclical payments.

#### Loan rates, fixed payments and target prices (\$/t)

	Loan rate			Fixed payment		Counter-cyclical payment	
	2001	2002-2003	2004-2007	2001	2002-2007	Target price	
	2001	2002-2003	2004-2007	2001	2002-2007	2002-2003	2004-2007
<b>Wheat</b>	94.8	102.9	101.1	16.9	19.1	141.8	144.0
<b>Maize</b>	74.4	78.0	76.8	10.2	11.0	102.4	103.5
<b>Barley</b>	75.8	86.4	85.0	9.2	11.0	101.5	102.9
<b>Oats</b>	83.4	93.0	91.6	1.4	1.7	96.5	99.2
<b>Sorghum</b>	67.3	78.0	76.8	12.2	13.8	100.0	101.2
<b>Rice</b>	143.3	143.3	143.3	45.2	51.8	231.5	231.5
<b>Soybean</b>	193.3	183.7	183.7	NA	16.2	213.1	213.1
<b>Minor oilseeds</b>	205.0	211.6	205.0	NA	17.6	216.1	222.7

*In italics*: levels under FAIR Act; NA = not applicable

- A new **peanut program** is implemented, similar to arable crops with fixed payments, marketing loan assistance, a target price and counter-cyclical payments. In addition, transitional payments for the phasing-out of the quota are provided.
- Support to the **sugar sector** continues largely unchanged with the no-net-cost rule re-established, the marketing assessment and loan forfeiture penalty eliminated, and sales of domestic sugar subject to marketing allotments;
- The **dairy sector** continues to be supported through the dairy price support programme with intervention buying of butter, skimmed milk powder and cheese in order to support farm milk prices at 218 \$/t (for 3.67 % fat content). A new counter-cyclical payment is introduced under a 3 ½ year National Dairy Market Loss Payment programme to make up 45 % of the difference between the market price in Boston for Class I milk and a target price set at 373 \$/t. All producers are allowed to receive this payment on up to 1 089 t per producer and per year (corresponding approximately to a dairy herd of 140 animals).

**Conservation and environment programs** are reinforced with increased funding, expansion of existing programs and new incentive programs. Areas under the Conservation Reserve Program, the Wetland Reserve Program are increased. Annual

funding for the Environmental Quality Incentives Program is raised from 200 mio \$ to 1.3 bio \$ (with 60 % for livestock producers). New Conservation Security Program and Grassland Reserve Program are introduced with funding over the 6-year period totalling 2 bio \$ and 254 mio \$ respectively.

As regards **foreign trade and food aid**, the FSRIA maintains the major foreign food aid and agricultural export programs, notably the Export Enhancement Program and the Export Credit Guarantees. The funding for promotion programs designed to aid in the creation, expansion and maintenance of foreign markets for US agricultural products is increased (the Market Access Program and the Foreign Market Development Program from 90 mio \$ and 27 mio \$ in 2001 to 200 mio \$ and 34.5 mio \$ in 2007 respectively). Two new programs are introduced: the Technical Assistance for Speciality Crops and a Biotechnology and Agricultural Trade Program. Funding and programme flexibility for food aid under the Food for Progress, Food for Peace and Bill Emerson Humanitarian Trust is also increased.

### 3. The potential impact of FSRIA on world markets

The impact of FSRIA on world markets is expected mainly to come through the implemented changes in US commodity programmes. Thus the focus of this preliminary assessment of the potential impact of FSRIA on world markets will be exclusively on commodity programmes (title I of FSRIA).

A first quantitative assessment will follow once more information on the impact of the new US farm bill becomes available (FAPRI is currently finalising such an analysis). Without prejudging the results of an in-depth quantitative analysis of the medium-term impact of the FSRIA, some **qualitative assessment** can already be put forward:

- The increased level of support under the FSRIA with respect to the FAIR Act implies higher production levels than what market prices would generate and should thus exert further downward pressure on market prices. This could enhance the competitiveness of the US farm sector in the short term, and stimulate internal and external demand, while reducing imports of agricultural products. However, in the long-term, the capitalisation of support in land prices should increase production costs, and could lead to a deterioration of the financial situation of the US farm sector, thus generating an **ever increasing need for additional support**;
- The **downward pressure on world market prices** should be expected to affect agricultural producers around the world, with the noticeable exemption of US farmers. The latter, by remaining cushioned by deficiency payments (including the counter cyclical payments), would keep their level of production higher than what market prices would normally imply. The greatest impact would be felt in the **cereal sector** where the FSRIA is expected to increase the competitiveness of US products and entail higher production levels than what the continuation of the FAIR Act would generate. In contrast, oilseed production may be foreseen to decrease somewhat, thus releasing some pressure from market prices;
- For the European Union, the largest impact is to be expected on the **wheat sector**, and, to a lower extent, on coarse grains and meat production;

In analysing the real impact the FSRIA on world markets, special consideration should be given to the following factors:

- The precise degree of de-coupling of the counter-cyclical payments and their influence on land allocation (with strong incentives for producers to follow their historical pattern) both in order to minimise financial risk and because production conditions which favoured crop selection in the reference years are unlikely to alter significantly);
- The full extent of the adjustment of the base area and the reference yield;
- The lack of potential adjustment in the setting of loan rates;
- The full extent of the extension of the loan and LDP programmes to other crops;
- The relationship between target prices and projected medium-term price levels.

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**References**

- European Commission, 2001. *Prospects for Agricultural Markets 2001 - 2008*. Brussels.
- FAPRI, 2002. *World Agricultural Outlook*. Iowa State University – University of Missouri-Columbia.
- FAPRI, 2001. *World Agricultural Outlook*. Iowa State University – University of Missouri-Columbia.
- International Monetary Fund, April 2002. World Economic Outlook. *World Economic and Financial Surveys*. Washington.
- OECD, 2002. *Preliminary information on the Agricultural Outlook, 2002-2007*. Paris. (Unpublished document).
- OECD, 2001. *The OECD Agricultural Outlook, 2001-2006*. Paris.
- USDA, 2002. *Agricultural Baseline Projections to 2011*. Washington D.C.

**Statistical annex****1. Medium-term outlook for cereals****1.1 *Wheat*****Table A.1 Outlook for world wheat production, 2001 – 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	573,7	600,9	611,2	619,9	631,2	641,8	651,8		
<b>FAPRI</b>	578,5	597,7	605,6	613,8	624,2	630,5	639,5	645,8	653,5

**Table A.2 Outlook for world wheat consumption, 2001 – 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	591,1	600,1	611,3	620,2	631,6	641,9	653,8		
<b>FAPRI</b>	588,9	605,3	611,7	616,8	624,6	630,4	638,4	645,3	653,2

**Table A.3 Outlook for world wheat stocks, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	175,7	176,5	176,3	176,0	175,6	175,5	173,5		
<b>FAPRI</b>	153,4	145,9	139,8	136,8	136,4	136,5	137,7	138,2	138,4

**Table A.4 Outlook for world wheat market prices, 2001 - 2009 (\$/t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	129,3	129,2	130,3	133,2	136,6	136,8	139,5		
<b>FAPRI</b>	126,5	131,0	133,1	137,4	138,1	142,7	144,8	148,1	150,1

US FOB Gulf, HRW

**1.2 *Coarse grains*****Table A.5 Outlook for world coarse grain production, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	879,2	915,9	931,4	950,2	967,5	988,8	1004,3		
<b>FAPRI</b>	780,8	805,4	822,1	834,7	848,0	859,6	871,2	884,3	894,0

**Table A.6 Outlook for world coarse grain consumption, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	905,4	914,4	932,7	952,5	968,8	987,3	1004,6		
<b>FAPRI</b>	805,4	814,9	826,5	837,5	848,3	859,7	870,6	882,9	893,9

**Table A.7 Outlook for world coarse grain stocks, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	177,1	178,7	177,5	175,1	173,8	175,3	175,0		
<b>FAPRI</b>	154,7	145,2	140,9	138,1	137,8	137,7	138,3	139,7	139,8

**Table A.8 Outlook for world coarse grain market prices, 2001 - 2009 (\$/t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	94,4	99,7	99,5	100,7	103,1	106,1	108,5		
<b>FAPRI</b>	92,3	98,9	101,5	102,5	103,8	105,4	107,3	108,1	109,9

US yellow maize, fob Gulf

## 2. Medium-term outlook for oilseeds

### 2.1 *Oilseed beans*

**Table A.9 Outlook for world oilseed production, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	235,6	244,1	248,6	254,8	259,9	264,6	271,1		
<b>FAPRI (world)</b>	240,5	251,5	254,3	258,2	262,6	267,2	271,6	276,2	281,0

Oilseeds = rape seed, soya bean and sunflower seed.

**Table A.10 Outlook for world oilseed consumption, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	235,5	242,8	248,7	254,8	260,1	265,3	271,5		
<b>FAPRI (world)</b>	241,5	250,5	254,4	258,6	263,0	267,5	272,0	276,5	281,2

Oilseeds = rape seed, soya bean and sunflower seed.

**Table A.11 Outlook for world oilseed stocks, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	17,4	18,7	18,7	18,7	18,4	17,7	17,3		
<b>FAPRI (world)</b>	17,5	18,5	18,4	18,0	17,7	17,3	17,0	16,6	16,4

Oilseeds = rape seed, soya bean and sunflower seed.

**Table A.12 Outlook for world oilseed market prices, 2001 - 2009 (\$/t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	214,1	213,2	217,9	219,4	220,3	228,5	237,2		
<b>FAPRI</b>	188,0	186,0	188,9	195,9	202,1	209,0	216,8	223,5	229,5

OECD: average oilseeds, cif Rotterdam; FAPRI: US soyabeans, cif Rotterdam

## 2.2 Oilseed meals

**Table A.13 Outlook for world oilseed meal production, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	149,4	153,7	157,3	161,3	164,7	168,4	172,8		
<b>FAPRI (world)</b>	154,6	160,4	163,0	165,6	168,3	171,1	174,0	176,9	180,0

Oilseeds = soya bean, sunflower and rapeseed

**Table A.14 Outlook for world oilseed meal consumption, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	149,5	153,7	157,3	161,3	164,7	168,4	172,7		
<b>FAPRI (world)</b>	153,9	159,5	162,3	164,9	167,6	170,5	173,3	176,2	179,3

Oilseeds = soya bean, sunflower and rapeseed

**Table A.15 Outlook for world oilseed meal market prices, 2001 - 2009 (\$/t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	168,6	167,2	169,4	168,9	171,1	174,5	177,5		
<b>FAPRI</b>	179,0	176,0	181,3	186,8	191,9	198,2	204,8	210,0	214,2

OECD: average oilseed meals, cif Rotterdam; FAPRI: US soybean meals, cif Rotterdam

## 2.3 Oilseed oil

**Table A.16 Outlook for world oilseed oil production, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	73,1	75,3	77,2	79,5	82,7	84,5	86,6		
<b>FAPRI (world)</b>	73,5	75,7	76,5	77,7	79,1	80,6	82,0	83,5	84,9

Oilseed oil = soya bean oil, sunflower oil, rapeseed oil and palm oil

**Table A.17 Outlook for world oilseed oil consumption, 2001 - 2009 (mio t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	73,5	75,1	77,2	79,4	82,5	84,5	86,5		
<b>FAPRI</b>	73,7	75,4	76,1	77,3	78,6	80,1	81,5	83,0	84,5

Oilseed oil = soya bean oil, sunflower oil, rapeseed oil and palm oil

**Table A.18 Outlook for world oilseed oil market prices, 2001 - 2009 (\$/t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	386,7	401,1	424,4	448,9	447,5	467,7	497,7		
<b>FAPRI</b>	389,0	395,3	395,5	404,8	413,6	422,6	434,6	447,7	461,6

OECD: average oilseed oil, fob Rotterdam; FAPRI: soybean oil, fob Rotterdam.

### 3. Medium-term outlook for meat

#### 3.1 *Beef*

**Table A.19 Outlook for world beef production, 2001 - 2009 (mio t, cwe)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD (OECD zone)</b>	26,2	26,2	26,4	26,3	26,6	27,0	27,4		
<b>FAPRI (selected countries)</b>	46,4	47,0	47,7	48,3	49,1	50,2	51,3	52,4	53,5

**Table A.20 Outlook for world beef consumption, 2001 - 2009 (mio t, cwe)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD (OECD zone)</b>	24,8	25,3	25,4	25,3	25,6	25,9	26,3		
<b>FAPRI (selected countries)</b>	46,1	46,7	47,3	48,0	48,8	49,6	50,7	51,8	52,9

**Table A.21 Outlook for world beef prices, 2001 - 2009 (\$/t lw)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	1624,6	1556,3	1693,0	1730,1	1742,4	1730,7	1727,4		
<b>FAPRI</b>	1596,6	1640,7	1683,6	1729,9	1680,6	1613,5	1545,2	1506,0	1481,2

Nebraska Direct Fed Steer price.

#### 3.2 *Pig meat*

**Table A.22 Outlook for world pig meat production, 2001 - 2009 (mio t, cwe)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD (OECD zone)</b>	34,2	34,7	35,0	35,4	35,6	36,0	36,2		
<b>FAPRI (selected countries)</b>	73,4	74,8	76,2	77,4	78,6	79,9	81,4	82,9	84,3

**Table A.23 Outlook for world pig meat consumption, 2001 - 2009 (mio t, cwe)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD (OECD zone)</b>	33,1	33,6	33,8	34,2	34,4	34,8	35,0		
<b>FAPRI (selected countries)</b>	73,6	74,9	76,3	77,4	78,6	79,9	81,3	82,8	84,2

**Table A.24 Outlook for world pig meat prices, 2001 - 2009 (\$/t lw)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	1039,1	913,3	1021,1	986,0	975,7	964,1	955,9		
<b>FAPRI</b>	1009,9	983,7	892,3	950,0	987,0	1011,8	956,7	915,1	879,5

US price Iowa-Souther Minnesota, barrow and gilt price.

### 3.3 Poultry meat

**Table A.25 Outlook for world poultry meat production, 2001 - 2009 (mio t, cwe)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD (OECD zone)</b>	32,3	32,3	33,5	34,1	34,8	35,4	35,9		
<b>FAPRI (selected countries)</b>	45,3	46,1	47,2	48,3	49,3	50,4	51,4	52,5	53,6

**Table A.26 Outlook for world poultry meat consumption, 2001 - 2009 (mio t, cwe)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD (OECD zone)</b>	29,7	29,6	30,8	31,4	32,1	32,6	33,0		
<b>FAPRI (selected countries)</b>	43,4	44,2	45,2	46,2	47,1	48,2	49,2	50,2	51,3

**Table A.27 Outlook for world poultry meat prices, 2001 - 2009 (\$/t)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>OECD</b>	1304,0	1335,8	1343,3	1357,4	1362,4	1358,4	1360,3		
<b>FAPRI</b>	1304,0	1306,1	1314,8	1323,1	1324,5	1320,3	1317,2	1329,5	1339,0

Wholesale weighted average broiler price US 12 cities

## 4. Medium-term outlook for milk and dairy products

**Table A.28 Outlook for world production of dairy products, 2001 - 2009 (mio t)**

		2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Milk</b>	<b>OECD</b>	502,1	510,7	519,3	528,9	540,1	551,5	562,7		
	<b>FAPRI</b>	401,3	407,0	411,2	415,9	421,0	426,4	431,6	436,2	441,1
<b>Butter</b>	<b>OECD</b>	6,7	6,8	6,9	7,1	7,3	7,5	7,7		
	<b>FAPRI</b>	6,3	6,4	6,5	6,6	6,7	6,8	7,0	7,1	7,2
<b>SMP</b>	<b>OECD</b>	3,4	3,3	3,3	3,3	3,3	3,3	3,4		
	<b>FAPRI</b>	3,3	3,3	3,3	3,3	3,3	3,3	3,3	3,4	3,4
<b>WMP</b>	<b>OECD</b>	2,6	2,6	2,6	2,7	2,8	2,8	2,9		
	<b>FAPRI</b>	3,0	3,1	3,1	3,2	3,2	3,3	3,3	3,3	3,4
<b>Cheese</b>	<b>OECD</b>	15,7	16,1	16,3	16,7	17,0	17,4	17,8		
	<b>FAPRI</b>	13,7	14,0	14,3	14,5	14,8	15,0	15,3	15,5	15,7

FAPRI: data for selected countries

**Table A.29 Outlook for world consumption of dairy products, 2001 - 2009 (mio t)**

		2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Butter</b>	<b>OECD</b>	6,8	6,9	7,0	7,2	7,4	7,6	7,8		
	<b>FAPRI</b>	6,0	6,1	6,1	6,2	6,3	6,5	6,6	6,8	6,9
<b>SMP</b>	<b>OECD</b>	3,2	3,4	3,4	3,3	3,3	3,4	3,4		
	<b>FAPRI</b>	2,7	2,8	2,8	2,9	2,9	2,9	3,0	3,0	3,0
<b>WMP</b>	<b>OECD</b>	2,5	2,5	2,6	2,6	2,7	2,8	2,9		
	<b>FAPRI</b>	2,0	2,0	2,1	2,1	2,1	2,2	2,2	2,3	2,3
<b>Cheese</b>	<b>OECD</b>	15,8	16,1	16,4	16,7	17,1	17,5	17,9		
	<b>FAPRI</b>	13,5	13,8	14,0	14,3	14,5	14,8	15,0	15,3	15,5

FAPRI: data for major countries

**Table A.30 Outlook for world dairy products prices, 2001 - 2009 (\$/t)**

		2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Butter</b>	<b>OECD</b>	1397	1400	1478	1524	1550	1570	1583		
	<b>FAPRI</b>	1334	1393	1456	1498	1559	1585	1629	1690	1765
<b>Cheese</b>	<b>OECD</b>	2200	2138	2170	2215	2231	2247	2256		
	<b>FAPRI</b>	2178	2051	2108	2165	2202	2221	2266	2334	2392
<b>SMP</b>	<b>OECD</b>	2004	1833	1858	1891	1878	1884	1854		
	<b>FAPRI</b>	2017	1739	1772	1788	1813	1843	1880	1932	1963
<b>WMP</b>	<b>OECD</b>	1975	1881	1945	1979	1987	1992	1994		
	<b>FAPRI</b>	1973	1788	1826	1847	1870	1892	1924	1964	1998

Ref: Cheese: FOB export price cheddar cheese 40lb blocks, Northern Europe; others: FOB export price Northern Europe