

MAP

Monitoring Agri-trade Policy

Directorate-General for Agriculture and Rural Development



The state of play and outlook for world agricultural commodity markets

CONTENTS

Editorial

1. The macroeconomic setting
2. The cereal sector
3. Rice
4. Oilseeds
5. Sugar
6. Cotton
7. Meats
8. Milk & dairy products
9. Conclusions

Annexes

Graphs

1. The share of India & China in world population & GDP
2. Wheat net trade (main players)
3. Sources of growth in soybean production
4. What drives world sugar prices?
5. What drives cotton markets?
6. Growth in meat per capita consumption
7. World milk production
8. World total harvested area - cereals (annex)
9. World total harvested area - selected crops (annex)
10. World net trade in soybeans & products - selected countries (annex)
11. World beef trade - selected countries (annex)
12. World pork net trade - selected countries (annex)
13. World poultry net trade - selected countries (annex)

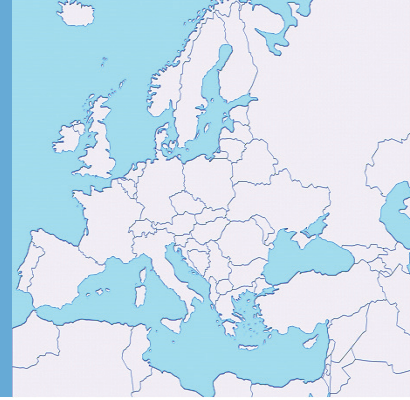
Year after year, the outlook for world agricultural markets is described with a variation of the following phrases: "the medium-term prospects for agricultural markets would be mainly driven by an improved macro-economic environment with more broadly based, robust and sustainable growth. Combined with 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."

The inescapable caveat follows: "notwithstanding the relative improvement in the market fundamentals of most agricultural sectors that is projected over the medium term, a prudent interpretation of these perspectives is deemed necessary. These projections remain subject to many uncertainties that can be expected to moderate the relatively positive pattern forecasted for future trade and price growth."

Since such uncertainties invariably include multilateral trade negotiations (usually lasting a decade), potential changes in agricultural policies in many regions, future macro-economic perspectives and the scope for further productivity growth, the projected outlook of world agricultural markets is guaranteed not to materialise. But does this fact render these exercises a meaningless annual ritual?

Despite the often expressed (and more often held) view to this effect, this newsletter starts from the opposite assumption. Instead of shooting the messenger, one should look more closely at the message! Projections, forecasts, outlook or whatever other name is hesitantly used to describe them, these exercises carry a much deeper wealth of information about the factors that affect world market developments that is generally attributed to them. And the differences that often characterise them, sometimes significant, provide an additional set of useful parameters that could help policy makers, if properly analysed.

A much more detailed report, to be published soon on our website, will look at developments in world agricultural markets over the last 25 years, describe their expected outlook during the next decade, and examine differences in this outlook (and their underlying factors) in more depth. This newsletter aims to summarise these conclusions, and to focus on the main developments per sector and major player. It thus hopes to contribute to the better understanding of agriculture, often described as the "engine" of the Doha Round of multilateral negotiations, in a manner that is based on facts instead of arbitrary abstractions.



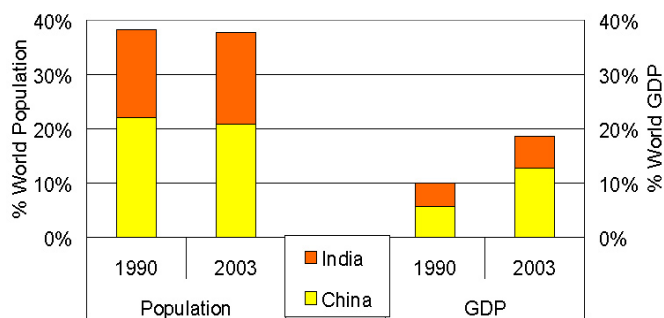
1. The macroeconomic setting

From the many macroeconomic factors that impact on the outlook of world agricultural markets, three variables are of particular importance: population, exchange rates and Gross Domestic Product (GDP) growth. These affect developments in a complex and varied way by region and by country.

Of the above variables, population has followed the most predictable pattern. GDP growth is more variable, but in the longer term its path is more easily assumed than predicted. The same applies for exchange rates that enhance or impede the competitiveness of one or other exporter: they are impossible to predict with a reliable degree of certainty.

We have opted therefore not to enter into any detail on the macroeconomic variables here. Instead, we have chosen to graphically depict the factor that stands out as one of the most significant developments since 1990, that is the increasing role of China and India (graph 1).

Graph 1: The share of China and India in world population and GDP.



The above graph compares the combined share of China and India in world population, which has slightly declined since 1990, with their rapidly increasing share of world GDP. The fact that their share of world GDP has almost doubled in less than 15 years means their increasing weight can be felt in every sector.

This factor has had a smaller effect so far on world agricultural markets than in other sectors, but it is expected to exert more pressures in the future, as what follows in this report will indicate.

2. The cereal sector

With normal levels of consumption and production between 1.3 and 1.4 billion metric tonnes (mt), cereals (excluding rice) represent the most important commodity sector in terms of area harvested, and of quantities produced and traded. Two crops in particular, wheat and maize, account for 90 % of this.

Maybe as a result of its size, the cereal sector seems to be static. The annual growth in consumption slowed down from 1.2 % between 1980 - 92 to 0.8 % between 1992 - 2002, while per-capita consumption declined, especially in the later period. Such levels of growth are below world population growth rates.

Cereal production generally follows consumption patterns, and yield growth has outpaced consumption growth to compensate for a slow but steady area decline in most regions, especially in the countries of the Former Soviet Union (FSU) (graph 8).

Significant differences in productivity continue to exist, and have increased recently. For example, cereal yields were 3 times higher in North America/ Europe than Africa in 1980, now they are 5 times higher!

Trade in cereals is volatile fluctuating around 200 million (mio) mt, with no clear trend. The most important exporter, the U.S., has been losing market share in recent years, while EU market share has declined even more. Other traditional exporters such as Argentina, Canada, and Australia gained, while new exporters also emerged from the FSU.

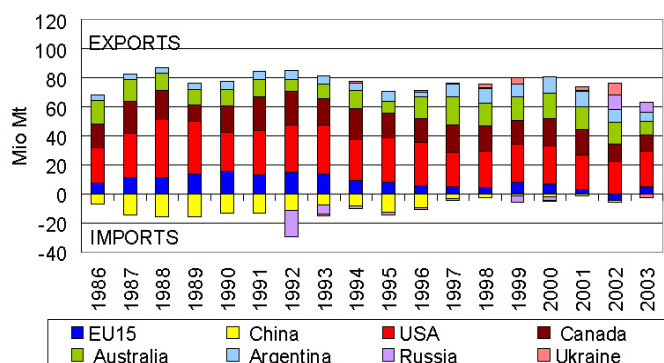
Wheat

Wheat accounts for about 45 % of normal levels of cereal consumption and production (currently at around 600 mio mt). Wheat per-capita consumption, increased between 1980 - 92 then declined between 1992 - 2002. This decline would have been more marked had it not been for EU wheat consumption, whose annual growth, driven by strong feed demand, increased from 1.1 % in 1980 - 1992 to 3.8 % in 1992 - 2002.

Annual growth in wheat production also slowed down, from 2.6 % in 1980-92 to 1.1 % between 1992 - 2004, and area declined, especially in the latter period, in North America, FSU, and China (graph 8). This was compensated by the annual growth in yields, which outpaced consumption growth.

The share of wheat traded (17 %) is higher than the corresponding figure for all other cereals, and the trend in wheat trade is characterised by a slight increase. The most significant change in wheat trade is the loss of market share of both the EU and the US, and the emergence of new exporters (though their pattern is somewhat unstable) from the Black Sea (graph 2).

Graph 2: Wheat net trade (main players)



Maize

Maize consumption and production in normal years currently fluctuates between 620 and 650 mt, making it – in terms of quantity – a slightly more important crop than wheat.

However, unlike wheat, per-capita consumption in maize has increased over the 1980 – 2002 period, with growth observed all over the world. Even in the EU, where annual maize consumption fell in the first sub-period (– 2.8 %), it subsequently experienced strong growth between 1992 and 2004 (3.7 %).

Continued successful plant breeding resulted in higher yield growth rates, especially in 1992 – 2004, and the massive adoption of cost-saving genetically modified maize strains made maize relatively cheaper in comparison to other feed grains. However, yield growth did not keep pace with consumption growth, and area has constantly expanded. The strongest production growth occurred in Latin America and Asia.

Trade in maize exhibited a full-cycle swing between 1980 – 2004 from 80 to 60 and back to 80 mio mt. Its traded share is only about 12 %, low compared to wheat, with the US the dominant exporter (with a highly fluctuating share in global exports from 50% to 75 %). Argentina follows a clear second, while other maize exporting countries (China, South Africa and Brazil) have longer or shorter periods when they do not export, or when they even import maize. This switch in trading status is particularly pronounced in the case of China.

Barley

The most important of other cereals is barley, highly volatile with specific characteristics in demand (from malt to feed demand). In the early 1980s, world production and consumption stood at roughly 160 mio mt, peaked at almost 180 mio mt in 1986 – 87 after a steady rise, and then followed a continued decline. But the shrinking of the world barley sector (graph 8) seems to have bottomed out in 1999 – 2000 at about 130 mio mt and at least production figures point to a strong recovery since then.

After a considerable and continued cut-back until 1999, per-capita consumption stabilized again at a much lower level. But with world barley yields steadily increasing at 1.2 % annually, production adjustment to a decreasing consumption was implemented through a substantial reduction in area in the two main barley-producing regions, the EU (where barley lost competitiveness to wheat) and Russia (effect of transition).

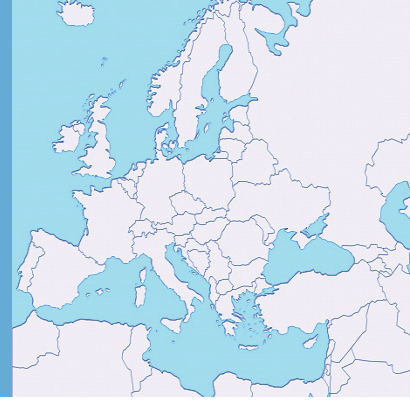
Cereal Outlook

Both FAPRI and OECD agree that world wheat trade will grow faster than production and consumption, and thus the share of wheat traded will increase. The OECD outlook for the world wheat sector in terms of production and consumption is more dynamic than that of FAPRI, but under both forecasts, price prospects for wheat at the end of the coming decade are only slightly higher than the level seen in the recent past.

While OECD sees U.S wheat exports growing from their present level of 25 mio mt to 33 mio mt by 2014, FAPRI sees U.S exports remain stagnant and closer to 26 mio mt. But both agree on the picture of the other main exporters. Australia is seen as becoming by far the second most important player in the world wheat market, with its exportable surplus at 22 – 23 mio mt in 2014, up from 18 – 19 mio mt in 2004 / 05. Canada is expected to step up exports marginally from the current 16 – 17 mio mt to about 18 mio mt. Argentina's wheat exports are projected to exhibit a comparatively steep rise from 9 – 10 mio mt in 2004 / 05 to 14 – 15 mio mt in 2014 / 15, while the EU is expected to export only 10 – 12 mio mt over the entire forecast period.

Russia became a wheat net exporter only four years ago, but both institutions foresee Russia establishing itself as a persistent wheat exporter, exporting about 7 – 8 mio mt (OECD), or 5 – 6 mio mt (FAPRI). Ukraine and other Eastern Europe are seen remaining at current levels (in the 3 – 4 mio mt range). The picture for India, currently a minor wheat net exporter of around 1 – 1.5 mio mt, is mixed. OECD considers it increasingly difficult for India to maintain this trade status, while FAPRI even sees exports increasing towards the end of the forecast period.

Half of the expected increase in Argentina's wheat exports could be absorbed by Brazil's import demand, which could increase from its current level of 4.8 mio mt to 6.8 mio mt in 2014 / 15 according to FAPRI, or from 4.5 mio mt to 7.7 mio mt, respectively, according to OECD. Mexico is also likely to step up its wheat imports from the present level of 3.5 mio mt to 4.5 mio mt (FAPRI) or even 5.5 mio mt (OECD) in 2014. China's wheat net imports are expected by FAPRI to average about 7 mio mt annually over the 2005 – 14 period, while OECD sees them higher at 8.5 mio mt.



For coarse grains, the OECD outlook is more favourable than FAPRI (and more comprehensive). OECD expects world coarse grain consumption and production to grow at 1.5% and 1.4%, and world coarse grain trade at a strong 3.0% annual rate (or by 27 mio mt). Respective figures for FAPRI are 1.2%, 1.1%, and 2.1% (or 21 mio mt). However, the outlook for world market prices for coarse grains is seen stable.

The US is expected to maintain its dominant position in world coarse grain trade, and increase its exports considerably. However, the OECD forecast of U.S coarse grains net trade by the end of the forecast period (66 mio t) is almost 10 mio mt lower than the 75 mio mt of FAPRI. For Argentina, OECD and FAPRI agree it will likely net export about 15 – 16 mio mt in ten years and establish itself as the clear world's second largest coarse grain exporter.

But when it comes to Brazil, OECD and FAPRI have completely different views not only on Brazil's future trade status, but even also on past net trade. Whereas FAPRI follows Brazil's official statistics and sees it as a net exporter since 2000, OECD continues to register Brazil as a net importing country. As a result, both forecasts predict a continuation of the respective observed trade status. The gap is as large as about 3 mio mt and results in a big difference in Latin America's projected coarse grain surplus.

The outlook for EU coarse grain net exports differs substantially. This difference can only partially be explained by the different aggregation of coarse grains (FAPRI coarse grains do not contain rye and oats). Mainly it is driven by two contrasting views on the EU's capacity to export coarse grains. OECD sees EU net exports in the range of 8–10 mio mt, whereas FAPRI expects combined net exports of the enlarged EU not to exceed 3 mio mt.

Australia, could increase its exportable surplus from its present level of 4–5 mio mt to 5–6 mio mt, with the OECD being more optimistic than FAPRI on the potential increase over the next decade. South Africa's coarse grains surplus could amount to just 1 mio mt in 2014.

On Ukraine and "Other Eastern Europe" (or "Other Europe" for OECD), FAPRI expects a consolidation of its position as a net coarse grain exporting region at just below 7 mio mt, (or exports of about 8.5 mio mt for the region for OECD). Russia's picture is mixed – a net importer of about 1.5 mio mt coarse grains according to OECD, a net exporter of 2 mio mt according to FAPRI.

OECD and FAPRI agree on the direction of the outlook for China's coarse grain net trade. China, a large coarse grain net exporter in recent years, with an export peak of 13.5 mio mt in 2002, is expected to become a major coarse grain importer very soon. OECD sees net imports stabilising at about 5 mio mt, while FAPRI projects the import deficit to increase to 8 mio mt by 2014.

For other major importers, a slight decline in Japan and slight increase in South Korea leave their combined total at present levels. FAPRI expects Mexico to increase coarse grains imports from their current level of almost 10 mio mt to about 14 mio mt, but the OECD sees its imports peaking at 12 mio mt by 2010.

3. Rice

Although a major grain, rice receives less attention in world markets because trade represents a small share of world production and the main producing and consuming countries are in one region, Asia. The large gap between Asia and rest of the world is marked by differences in per capita consumption; 140 kg / capita in Asia, 20 kg / capita in the US, less than 10 kg / capita in the EU.

Annual growth in consumption has declined from 2.7 % in 1980 – 92 to only 1.2 % recently, a slowdown observed in each continent. In Asia, where the biggest consumers (China, India, Indonesia) are located, growth is below the world average. In China and Thailand consumption, both total and per capita, declined, but consumption is still increasing in India (2.1 %) and Indonesia (1.7 %).

Africa still exhibits significant annual consumption growth of 3 %, but when adjusted for population, its per capita consumption growth is only 0.5 %. In Latin America, stability in Brazil determines the overall trend, while in North America, per capita use increases, but at a lower pace since 1992. Finally, in the EU, total and per capita use grew at 2% annually between 1992 and 2002.

In rice, leading consumers are also leading producers (same top 5 countries in both categories). Globally, production is characterised by the same annual growth profile as consumption, but at a slightly lower pace; a slowdown from 2.4 % over 1980 – 1992 to 1.1 % recently. The increase in production is the result of improvements in yields, especially between 1980 – 1992, while area has significantly declined over the same period, mainly in China (graph 9).

Contrasting developments are observed among the leading world producers. Sustained annual growth in Thailand, modest increase in India and Indonesia, and a decrease in China (as a result of a reduction in areas) and Japan. In Africa, annual production still grows by 3 %, but yields have not improved since 1992. In Latin America, Brazil achieved a stronger annual growth rate in 1992 – 2004 than over the 12 previous years, both in production and yields, despite a decline in area since 1980.

In the US, annual production growth slightly increased in the 1992 – 2004 period compared to the previous 12 years, mainly as a result of enhanced growth in yields since 1998. In the EU, on the other hand, the annual rate of growth fell below 2 %.



Trade significantly increased in the mid-nineties and has expanded even further in recent years. Still, this only represents 7% of production as production more or less matches consumption in the top 5 countries. On the export side, Asia is dominating, but the U.S is also a significant exporter. Thailand brought its exports up to a record 10 mio mt (milled) in 2003, reinforcing its position as leading exporter.

India and Vietnam became net exporters in the late eighties/early nineties. Yet, while Indian exports fluctuate between 1 to 6 mio mt, Vietnam reached 4 mio mt in recent years. China became a significant net exporter of 2 to 3 mio mt after 1997, but its exports have recently dropped to minor levels. U.S exports remained stable at around 3 mio mt, as did those of Pakistan at around 2 mio mt.

On the import side, only one of the top-5 importers is not in Asia (Nigeria). Indonesia has been the leading importer for some years, but its imports are extremely variable, oscillating between 0.7 mio and 6 mio mt during the last decade. Nigerian imports have been steadily rising since the mid-nineties, approaching 2 mio mt and resulting in Nigeria overtaking the Philippines as the second world importer. Saudi Arabia, Iraq and Iran imported the same amount of rice in recent years, close to 1 mio mt.

Rice Outlook

FAPRI considers that the recent decline in rice per capita consumption will continue, driven by urbanisation, income growth and diversification of diets in Asian countries. However, overall consumption would still increase, as a result of population growth. Production is expected to meet world demand, and exports to expand.

Main growth in exports is expected to come from Thailand and Vietnam, while India is expected to resume growth. The U.S and Pakistan are expected to remain close to their current export level, but China, although expected to remain a net exporter, is not expected to reach the level of exports achieved in the late nineties again.

On the import side, Indonesian imports are forecast to boom, coming close to 4 mio mt at the end of the projection period. Nigerian imports are expected to resume growth, and Bangladesh to show a steady increase, with both countries reaching import levels above 2 mio mt at the end of the projection period. Philippines and the above three Middle East importers are each forecast to import more than 1.5 mio mt by 2014.

4. Oilseeds

Driven by a steady annual growth in demand, the oilseed sector (excluding palm oil) has shown robust growth rates over the last 25 years, and no signs of a slow-down. Consumption growth has accelerated in recent years from 2.9 % between 1980 and 1992 to 3.6 % between 1992-2004, with the highest growth rates observed in Latin America and Asia, where per-capita consumption increased substantially over the last 20 years.

Production has followed consumption with both higher productivity and an increase in area recorded, partly as a result of the reduction in cereals (and other crops) and partly, especially in South America, through the expansion of agricultural land. But whereas improvements in yields accounted for a major part of the rise in production in the first half of the period, area expansion was the major driving growth factor in the second half of the period.

Soybeans

The largest share in oilseeds harvested is accounted for by soybeans, whose level of production and consumption currently stands at 200 mio mt. Demand for soybeans has been increasing at such pace that annual consumption growth accelerated from 2.3 % in 1980 -1992 to 5.2 % in 1992 - 2002, and per capita consumption, stable until the early 1990s, rose steeply between 1992 and 2002. This increase was mainly driven by growth in Latin America, Asia and North America. In 1980, consumption in Asia and South America was comparable to that in Europe and about half that consumed in North America. Today, both Asia and South America have overtaken North America.

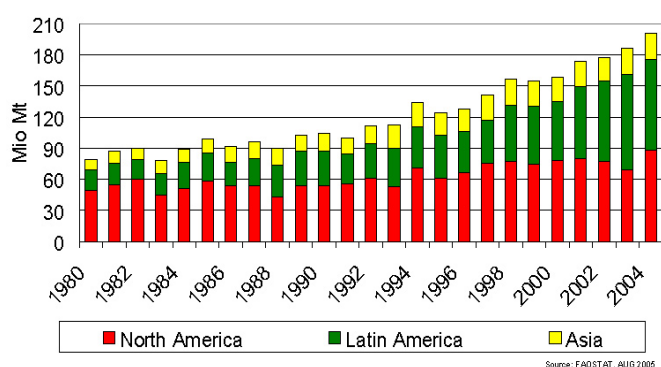
To catch up with consumption, soybean production grew by almost 4 % annually over the 1980 - 2004 period (5 % in 1992 - 2004), and has more than doubled in 25 years (see graph 3). Annual increases in the area planted (up 2.5% - see graph 9) and yields (1.4 %) contributed to this robust growth .

And, while in the early 1980s North America accounted for roughly two thirds of world production, with the remainder taking place in South America and Asia, today's picture is rather different: South America and North America occupy a similarly large share of world production, while Asia has fallen far behind to account for only about one tenth of global production.

Due to its geographical concentration of production, world soybean trade, as a share of world soybean consumption, is much higher than for grains. World soybean trade now stands at more than 60 mio mt, double that of ten years

ago, and accounts for an average of over 30% of world consumption (graph 10).

Graph 3: Sources of growth in soybean production



Most of exports still originate from the U.S, whose soybean area, having shrunk from 27 - 28 mio ha in the early '80s to about 23 mio ha by 1993, has recovered and now seems to have stabilised at above 29 mio ha. Combined with improvements in yields, this development contributed to a production increase of 20 mio mt over the last decade, to roughly 80 mio mt, with exports oscillating between 27 - 30 mio mt.

Soybean area in Argentina has also exhibited a very strong increase, now standing at around 15 mio ha, up from just under 6 mio ha ten years ago. Production grew from 12 to 32 mio mt in the same time, but since crushing capacity did not keep pace with production growth, the share of soybean exports in total production has risen to about one quarter.

But the biggest change came from Brazil. Although its soybean area was already increasing at a robust pace by the end of the '90s, it has literally exploded since then from 13 - 14 mio ha to 22 mio ha by 2004. Production increased accordingly from 30 mio mt to about 50 mio mt. Soybean consumption grew at 5 % annually between 1992 - 2002, more than double that of 1980 - 1992, to reach 27 mio mt.

On the other side of this coin is China whose domestic demand for soybeans has increased at such pace that imports shot from almost zero ten years ago to over 20 mio mt in 2004. Former number one importer, the EU, now imports about 17 - 18 mio tons and Japan roughly 5 mio mt annually. Mexico comes a close fourth, importing more than 4 mio mt.

Rapeseed

Of the other oilseeds, rapeseed is the most significant with world consumption now exceeding 40 mio mt, having grown at an impressive annual rate of growth of 5.8 % over the last 25 years. Unlike soybeans however, growth has recently slowed down. World per capita consumption has also been rising strongly, largely due to Asia, and to a lesser extent Europe.

Rapeseed production growth has followed strong demand, driven by impressive gains in productivity (2.5 % annually over the whole 1980 - 2004 period). The area under rapeseed has expanded to meet increasing demand and world rapeseed trade is currently estimated at more than 5 mio mt. By far the most important exporter is Canada, followed by Australia. Japan, China, Pakistan and Bangladesh are the major importers. The EU changes net trading status according to its own domestic production.

Sunflower seed

Finally, the sunflower seed sector is highly unstable and rather static. World sunflower seed consumption stands at about 26 mio mt, with a stagnation of growth over the last decade that brought the sunflower seed sector pretty much to a halt between 1992 - 2002. Current per capita consumption is only slightly higher than in 1980. This occurred in all regions, with the exception of consumption in Eastern Europe (Russia, Ukraine) which still grew substantially between 1992 - 2002 (whereas it declined significantly in the EU). Yields, despite their considerable improvement in the 1980s, have stagnated recently, and as a result, sunflower seed production lost out to other crops.

Sunflower seed trade is marginal and accounts for less than one tenth of world production and consumption. Argentina, after a peak in production in the late 1990s, when production reached more than 7 mio mt, has since decreased production to between 3.5 and 4 mio mt. Its exports of sunflower seed are of minor importance. Other exporters are Russia and Ukraine, together with other Eastern European countries. The EU is by far the most important importer, followed by Turkey and Mexico.

Oilseed outlook

FAPRI and OECD are almost identical in their outlook for oilseeds. Both forecast production and consumption to increase to 340 - 350 mio mt by 2014, up from 270 - 280 mio mt (consumption) and 280 - 300 mio mt (production) in 2004, and trade to increase by half its current level to almost 100 mio mt in 2014.

Oilseed area is likely to expand further, although at a more moderate annual pace of 1 % and oilseed consumption, driven by rising income and growing population, is expected to increase by over 2 % annually. Production is expected to follow consumption growth due to increases in productivity and area.



Oilseed trade is expected to grow by about 3.5 % annually over the next ten years. These forecasts imply the need to find an additional 13 mio ha of oilseed acreage, mainly new soybean area in South America. Thus the oilseed sector will significantly step up its demand for bulk transport capacity (by 2 – 3 mio mt annually) and investments in the oilseed processing sector should continue at a robust pace.

As far as the U.S is concerned, FAPRI is clearly less optimistic on its export potential than OECD, expecting U.S net exports to slightly decline in the future to close to 25 mio mt. OECD on the other hand sees a steady increase in U.S exports to 33 mio mt by 2014 / 15. Argentina's oilseed exports are also expected to rise either to 18 mio mt (OECD), double its current level, or 14 mio mt (FAPRI) by 2014 / 15.

This difference is continued (albeit the other way round) to Brazil. FAPRI is far more optimistic than OECD, anticipating Brazilian exports to double from their current level and reach 45 mio mt by 2014 / 15; OECD predicts a more moderate increase to 36 mio mt. However, both forecasts agree that Brazil will overtake the USA as the most important oilseed exporter.

When this will happen is unclear – FAPRI thinks it will be soon (under normal conditions), while the OECD doesn't expect it to happen until the second half of the forecast period. They also differ on Brazil's share in world exports – FAPRI thinks in the region of 50 %, while the OECD opts for a more conservative one third.

Both agree that China is likely to double its imports to 44 – 45 mio mt and, therefore absorb almost half of the oilseeds traded by 2014 / 15. The EU will continue to be the second importer, but while FAPRI sees almost no change in its imports (remaining at around 16 – 17 mio mt), the OECD expects them to significantly increase and reach 24 mio mt by 2014/15.

For the other major importers, Japan's imports are forecast to remain virtually unchanged at about 7 – 7.5 mio mt, Mexico's imports to increase by about 2 mio mt to 7 mio mt, and India is likely not to participate in the international oilseed trade if present policies do not change (OECD expects India to export small amounts in the outer part of the forecast period).

In short, one has to conclude that the main trade axis US-EU in oilseeds which prevailed only ten years ago will likely be substituted by a South America-China axis in ten years time.

5. Sugar

After moderate annual growth from 1980 – 1992 (below 2%), sugar consumption has been growing faster recently (slightly above 2%). The overall increase in consumption is in line with demographic growth, but

consumption per capita follows a different pattern in developed and developing countries.

Asia, where the biggest consumers (India & China) are located, was characterised by a sustained annual growth of over 4 % during the 1980 – 2002 period, with the notable exception of Japan. Consumption has also grown in Latin America, but at the world average growth rate.

In contrast to these developments, consumption in the EU has remained more or less stable. In North America, the significant decline experienced before the mid-eighties, due to competition from other sweeteners, has stopped, but sugar consumption is still growing at a lower pace than other sweeteners. Finally, in the FSU, after the sharp drop of the early nineties, consumption has resumed growth in recent years.

Unlike most other crops, world sugar production has increased faster than consumption. The annual growth rate for the years 1980 to 2002 for production and consumption was 2.5 % and 1.9 %, respectively. Hence, stocks have expanded since 1985 and prices have declined. This is explained mainly by patterns in the developing world.

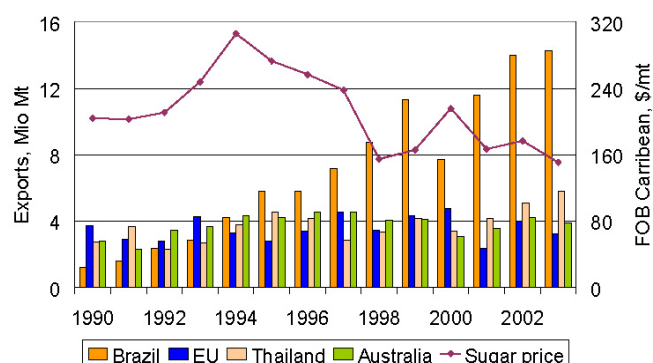
Although annual growth has declined in most recent years from previous levels, production in Thailand, India and China grew at annual rates of between 8 % and 14 % over the years 1980 – 92. In the mid-nineties, Indian sugar production reached the same level as the EU which was, at the time, the leading world producer.

But the big change came from Latin America. Brazilian sugar production took off in the early nineties and has increased at a sustained annual growth rate of 9 % since then. In the rest of the world, divergent moves resulted in a decline of area under beet (mainly in the EU and U.S), while area under cane has significantly increased.

World sugar exports have significantly increased since the mid-nineties, concentrated in a small group of countries that are also leading producers; sugar exports by five countries account for up to 70 % of world exports (Brazil, EU, Thailand, Australia, Cuba). Of this group, Brazil not only became the leading world sugar producer, outpacing the EU and India, it also became by far the largest exporter, and the rapid increase in its exports, unmatched by any similar development elsewhere, explains to a large extent the equally rapid and significant decline in world prices (graph 4).

Imports are less regionally concentrated, with the Russian Federation remaining by far the biggest importer (more than 5 mio mt). Japan, the U.S and Canada are net importers of between 1 and 1.5 mio mt, and China, despite its changing net trade position, is generally a net importer. Finally the EU, despite being a net exporter, also imports significant amounts of sugar.

Graph 4: What drives world sugar prices?



Sugar Outlook

The outlook for sugar markets is a sustained increase in production (especially in Brazil) and in uses, especially in India. FAPRI expects production and demand to be balanced, while OECD forecasts a surplus of production over demand, and thus pressure on prices.

Both FAPRI and OECD foresee an expansion of Brazilian exports (higher in FAPRI than in OECD). On the import side, Russia would more or less maintain its 2000 – 2002 level. OECD sees China as second largest world importer.

A major factor unaccounted for in this outlook is the impact of the EU sugar reform. With the EU expected to become a net importer of sugar after the reform, it remains unclear to what extent EU exports will result in higher prices and/or higher Brazilian exports – a topic for considerable debate and analysis in the years to come.

6. Cotton

Cotton has received much attention in recent years for farm policy reasons, yet little of this has focused on the major transformation in cotton markets. Cotton, about a third of which is produced by developing countries, is grown both for seed and for fibre, with lint content ranging from 30 % to 40 % and seed from 55 % to 65 %. Here we consider only cotton lint, except for areas and yields.

The consumption pattern of cotton is determined by the size of the textile industries of the dominant cotton consumers. China, the leading textile producer, currently consumes more than one-third of global cotton output. Other major textile producers are India, Pakistan, Turkey, and the U.S., which together with China account for more than three-quarters of global cotton consumption.

Since 1980, Chinese cotton use has oscillated between 4 and 6 mio mt. In other leading countries, uses have globally increased since 1980, reaching 2 mio mt for India and Pakistan, 1.2 mio in Turkey and coming close to 1 mio in Indonesia.

Cotton consumption in the U.S has globally increased since 1980. In recent years, it fluctuated between 1.5 and 3 mio mt, while lint use in the EU has been on the decline. Latin America indicates a modest increase in uses in Brazil, while Africa, the continent that has received most attention of recent, has been globally stable.

World production followed similar patterns as consumption, with an unprecedented increase since 2002. Although area has declined since the eighties, the fact that growth in production has continued can mainly be attributed to yield enhancement.

Asia dominates cotton lint production, with Chinese production showing large fluctuations. It peaked at more than 6 mio mt in the mid eighties, but in recent years production ranged between 4 and 5 mio mt. Between 1992 and 1999, areas under cotton in China have declined, but yields have improved. Indian production increased until 1996, in parallel with an increase in the area under production. Since then it has declined, falling below 2 mio mt.

In North America, US cotton production reached a plateau of 4 mio mt in the mid-nineties, and since then, production fluctuated around this level. Developments in production seem to be in line with those of areas, yields have not significantly improved.

In the early nineties, African production surpassed Latin American production, and further increased in the mid-nineties, achieving annual growth rates of more than 3 %. This was driven mainly by area growth, while yields have remained flat.

In Latin America, on the other hand, production dropped in the early nineties and has been limited to 1 mio mt since then. However, Brazilian production could be on an increasing trend, as a result of a spectacular improvement of yields, which were multiplied by 2.5 between 1997 and 2004.

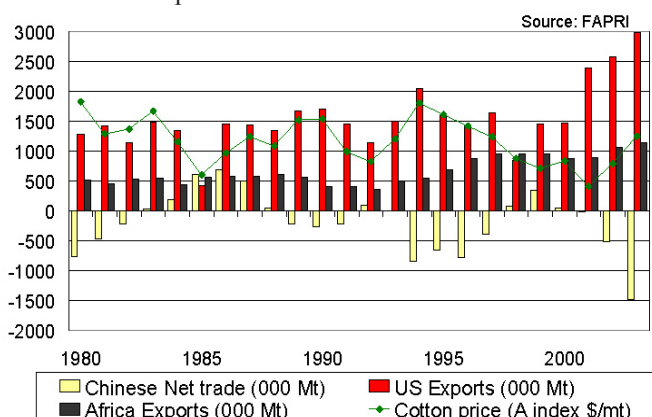
Australia overtook the EU-15 in the mid-nineties, having been a producer of similar magnitude for years. EU production increased, but with production levels standing at around 0.5 mio mt of cotton lint, it plays only a minor role in world production.

World use of cotton has been increasing at roughly the rate of world population growth, and as a result the per capita consumption of cotton fibres has stagnated. By contrast, the world use of synthetic fibres has been increasing. The result is that cotton represents only 40 % of world fibre use compared to 60 % in 1960.

However, lint use has re-emerged as a major source of strong commodity growth since 1998. Asia dominates cotton uses, with China, India, Pakistan, Indonesia and Turkey among the top-10 users.

World cotton markets are characterised by significant price fluctuations, mainly driven by the great variability of use in China, the leading world user of cotton. As graph 5 demonstrates, the world cotton prices (measured here by the A index compiled by the average of daily quotes of traded cotton) is inversely related to Chinese net trade. The higher the Chinese demand in world markets, the higher the cotton price, and vice versa.

Graph 5: What drives cotton markets?



World trade expanded in the late eighties as a result of the emergence of Uzbekistan as an exporter and China's return to a net importer. And although in the nineties trade declined, it has increased dramatically since 2000 as a result of the gradual phase out of the Multifibre Agreement.

Graph 5 also presents two other players that have received attention in recent years, the US and Africa. US exports have been expanding rapidly in recent years, mainly as a result of the decline of domestic use of cotton, and are now approaching 3 mio mt. African exports have risen since the late nineties, to exceed 1 mio mt.

Other players include the five Central Asian republics of the FSU (with Uzbekistan as the biggest player), and to a lesser degree Australia.

EU imports have dramatically dropped as a result of the decline in the textiles industry. Indonesian imports ranged between 0.4 and 0.6 mio mt. As a result of a steady growth in imports, Turkish, Mexican and Russian imports all reached close to 0.4 mio mt. Finally Brazil, a net importer over the nineties, has turned to small net exporter since 2000.

Cotton Outlook

The outlook to 2014 is given mainly by FAPRI and USDA, which see cotton uses increasing even faster than in recent years. Trade is expected to boom, following the end of the multifibre agreement. The main players are China and other Asian countries as leading importers and US as well as Africa as main exporters.

There are differences between USDA and FAPRI forecasts, with USDA seeing the US as the leading exporter with 6 mio mt. On the other hand, FAPRI sees US exports at 3 mio mt, lower than the African level of exports, estimated at 4 mio mt.

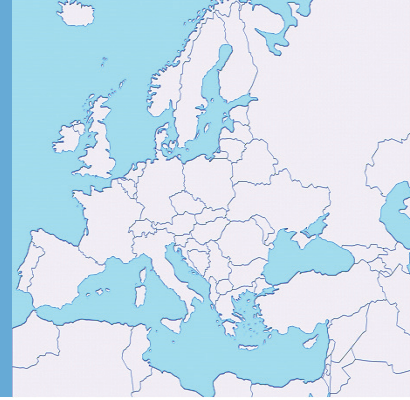
On the import side, the USDA figure for China (6 mio mt) is also much higher than the one of FAPRI (3 mio mt). In addition, Brazil is expected to switch back to a net importer under the USDA forecasts, while it would remain a net exporter in FAPRI.

7. Meats

The meat sector is one in which the past is a good indicator of the expectations one can have for the future outlook. This is not so much because uncertainties do not characterise this sector. On the contrary, outbreaks of diseases have repeatedly had a detrimental impact on producer income or trade flows in recent years. But this impact has generally been short-lived, and consumption patterns recovered to return to previous levels, to the surprise of many, including experts.

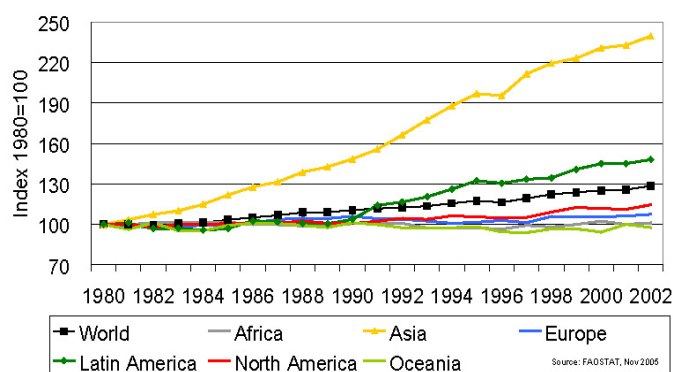
But why should this be the case? Part of the reason is that the steady increase in meat consumption throughout most of the world has been supported by a favourable macro-economic environment of sustained income growth, in particular in the emerging economies of Asia and Latin America. Secondly, it has been influenced by changes in dietary pattern in many regions.

As higher demand for meat has occurred in many net importing countries (Graph 6), world trade has risen and world prices, despite some strong annual variations, have showed moderate strength. Most of the growth has taken



has taken place in Asia, where per capita consumption has more than doubled in the past 25 years, a much stronger growth than that registered in Latin America (60 %).

Graph 6: Growth in meat per capita consumption



Of the three main meat sectors, beef has been the least dynamic and poultry the fastest growing.

Beef

World beef per capita consumption, having remained fairly stable in the eighties, reached a turning point at the beginning of the nineties, and has been decreasing since. European consumption, especially consumption in the FSU dropped sharply after its peak in 1991, and was only partially compensated by the take-off in Asian consumption that occurred at the same time.

However, despite its strong growth, Asian per capita consumption is still very low, even lower than that of Africa. North American per capita consumption is ten times higher, European four times, all of which implies that there is still significant growth potential for the beef sector in Asia.

World beef production followed demand patterns closely, with a sharp drop in Europe, a very strong growth in Asia and a less pronounced one in Latin America.

Asia's production was mainly driven by China's beef production, which though negligible in 1980, now comes close to that of the EU-15. The world's largest beef consuming and producing country is still the USA, which has experienced moderate growth rates for both consumption and production over the last quarter of a century.

In beef trade (graph 11), the most marked change is the EU's shift into becoming a net importer, the result of a declining production, the combined

result of successive animal diseases, policy reform since the mid-nineties, and a recovery in consumption levels. The U.S has improved its net importer position significantly in recent years, though it remains a net exporter in value terms but has recently suffered the repercussions of export restrictions stemming from BSE.

On the export side, Australia and latterly Brazil have been the main winners, accounting together for more than 80% of world beef exports.

Pork

World pork production ranks second to poultry in terms of recent growth, but in terms of quantity, the sector (with production close to 100 mio mt) is still more important than poultry. The predominance of Asia is clear, with China alone representing almost half of world consumption and production. Consumption has been stagnating in Europe during the last decade and has only slightly increased in North America, the third principal pork consumer.

Essentially, pork production takes place where demand is located. The share of pork traded (below 5%) is even smaller than that of poultry meat, but trade has still doubled since the mid-nineties (graph 12). The EU share of world exports has been at about one third for many years but recently reduced as Canada and Brazil gained in importance and the USA switched from being a net importer to a net exporter.

Poultry

In terms of the quantities consumed and produced globally, poultry has overtaken beef since the mid-1990s. The average annual growth rate of consumption and production has been close to 5 %, without any slowdown over the course of the last 25 years. Until 2004, no major disruptions occurred at either global or regional level. However, the spread of the Avian Influenza has the potential to cause the first major disruption to the world poultry sector, with significant negative repercussions on the feed cereals and oilseeds/oilmeal markets.

Growth rates in production and consumption have been especially high in Asia and Latin America and lower in Europe and North America. The latter two regions have also exhibited a significant slow-down in expansion of the poultry sector between 1992 and 2002. In absolute terms, Asia accounts for roughly one third of world consumption and production.

In most cases, the regional production pattern follows that of consumption. This is reflected by the relatively small share of poultry meat that is traded compared to total consumption (graph 13). Since both its exports and im-



ports increased, EU net trade appears rather stable during the last decade, despite the fact that world trade in poultry meat has doubled over the same period. The U.S, traditionally the most important exporter – exports have fluctuated around 2 mio t for several years – has lost a proportion of its market share to Brazil, the third major exporter, in the recent past.

Meat Outlook

FAPRI projects a sustained rise in beef trade of nearly 1.7 mio t over the next decade, which translates into almost a 50 % increase (compared to the extremely low level of 2004 due to BSE in North America). Most of this growth will come from Asia, Mexico and Egypt, while Russia shows only a moderate increase following the introduction of import quotas in 2003.

After the recent short-term fall in pork trade, due to lower availability, weaker economies and animal health crises, both FAPRI and the OECD foresee trade in this sector undergoing a renewed expansion, increasing by around 1 mio t, as a result of strong import demand from Japan, China and Mexico.

But it is poultry meat that is expected to capture a large proportion of the increased global meat demand thanks to low production costs (relative to beef and pork) and consumer preferences in many parts of the world. Trade in poultry meat is also projected to grow, with FAPRI estimating the increase to be around 1.3 mio t. However, this outlook is dependent on the prospects for import demand in China and Japan, given that Russian imports are now broadly limited by quotas.

On the export side, a weak currency, large availability of cheap feed grains and strong investments in the meat sector are all anticipated to further enhance and consolidate Brazil's market share over the medium term.

The outlook for prices remains supported 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 pork prices could display very 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.

8. Milk & dairy products

Europe is the only part of the world where milk production has declined (by 8%) over the last two decades (due to fixed production quotas in the EU and

restructuring of the dairy herd in FSU). All other continents have experienced a strong growth, especially in Asia largely as a result of the tripling of Indian production (which accounts for half of Asian production, though it is broadly matched by domestic consumption), and Oceania, where it doubled. In Africa and Latin America production grew by 75 % over this period, and in North America, it has increased by 30 %. With no trade in milk, the world dairy sector is assessed by analysing the principal dairy products: butter, cheese, skim milk powder (SMP) and whole milk powder (WMP).

Butter

World butter consumption having previously stagnated, has experienced moderate growth over the last decade. European consumption actually dropped sharply in 1992–2002 (once more as a result of the collapse of the FSU). At the same time, Asian consumption, already growing at a strong pace, accelerated over the same time period. In terms of quantity, Asian consumption overtook Europe's in the mid-1990s, with India accounting for about two thirds of total Asian consumption.

With the exception of Oceania, where butter consumption has been decreasing while production has been expanding, thus sharply increasing its export potential, world and regional butter production has closely followed consumption patterns.

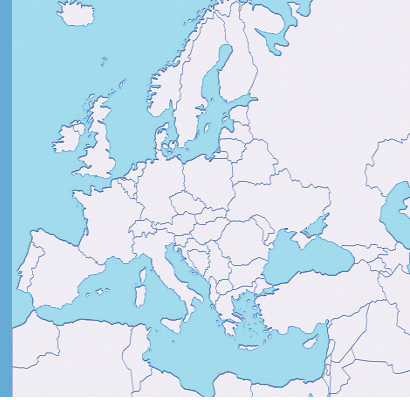
World butter trade peaked in the second half of the 1980s due to record high EU exports at that time, which accounted for roughly two thirds of world trade. Since then, world trade has decreased along with diminishing EU exports. New Zealand has gained most from this, increasing its share to almost 50 % of world butter exports (about 0.8 mio mt).

Skim milk powder

In terms of quantity, world consumption and production of skim and whole milk powder are broadly similar, at roughly 3.5 mio t. SMP consumption in Europe has shrunk, but in Asia and, to a lesser extent, in North America it has grown. In SMP exports, the EU, once dominant, is now the smallest of the 4 main exporters (after New Zealand, Australia, USA). Exports are mainly directed at Asia.

Whole milk powder

Regional distribution of WMP consumption is different from that of SMP. The main consuming regions are Asia and Latin America followed by Europe. World consumption has basically remained unchanged since the mid 1980s, with a decrease in Europe compensated by consumption growth in Asia and Latin America (the same pattern appears for production). Oceania represents



more than half of world trade, while the EU share has declined to one third.

Cheese

World cheese consumption (and production), currently at 17-18 mio t, is concentrated in Europe, which accounts for more than half of world production and in North America, which accounts for roughly a quarter. However, in contrast to the previous three dairy products, the cheese sector is very much the “success story”, with consumption experiencing relatively robust growth rates all over the world.

World cheese trade (currently standing at about 1 mio mt) has shown high growth rates, especially since the early 1990s. It was dominated by EU exports until the late 1990s, but since then Australian and New Zealand exports have grown, and these two countries now account for roughly half of world exports.

It is interesting to note that within the overall trend of decreasing EU dairy products exports, cheese, the product with the highest value added has fared far better than butter, SMP, and WMP.

Dairy outlook

The OECD and FAPRI foresee the medium-term outlook to be dominated by a strong expansion in the global demand for dairy products. This reflects not only income growth in many regions of the world, but also changes in consumer preferences and a shift 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.

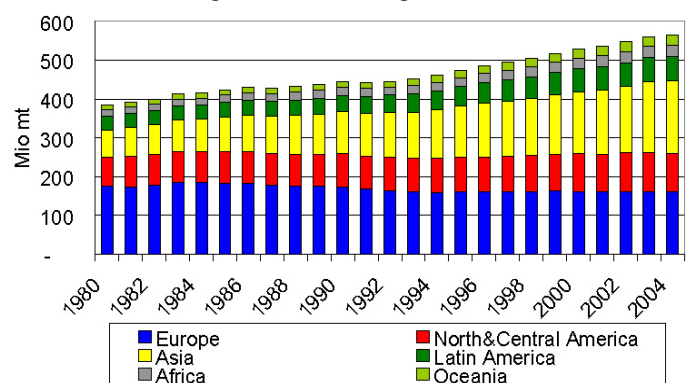
World milk production is predicted to grow at a sustained pace of between 1.2 % and 1.9 % annually, on average, between 2004 and 2012, supported by higher demand and price rises in a number of countries, mainly outside the OECD area and in those OECD countries not subject to production quotas.

But while 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 lesser extent - whole milk powder), a solid and sustained growth in demand for dairy products is projected in developing countries fuelled by growing population, rising disposable income, urbanisation and a changing dietary pattern.

Although a significant part of this increasing demand is expected to be met by domestic production, scope for additional, albeit increasingly regional-

ized, trade is foreseen in Asia and the Middle East. Technological advances are also expected to stimulate a rapid development in milk components. Over the medium term, the rapid expansion of milk production in low-cost producing regions (such as Oceania (which in the past few years had been affected by adverse weather conditions) and China) is expected to moderate price patterns.

Graph 7: World milk production



Supported by the steady rise in global consumption, cheese prices are likely to display relatively high prices over the medium term, after a short-term weakening following the price peak of 2004. The FAPRI and OECD projections diverge on the pace of price developments for milk powders, with SMP and WMP prices increasing by 18 % and 17 % respectively in the FAPRI projections, while they remain stable at 2004 levels in the OECD forecasts. FAPRI expects butter prices to continue growing after a temporary slow down in 2005, and exceed 2 000 \$/mt by 2012. The OECD projects butter prices to remain stable at 2004 (1870 \$/mt) levels over the medium-term.

These medium-term perspectives remain strongly dependent on the future development in some key (existing or emerging) markets such as Russia and East Asia. 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.



9. Conclusions

So what conclusions can one draw on the outlook for world agricultural markets over the next decade?

The first, which is rather close to home, is that the EU has clearly lost market share in almost every sector described in this newsletter. This is not new, despite the fact that it continues to be relatively unknown, and is the result of a reform process that has led to lower surpluses in cereals and beef, to quotas that have kept production stable in dairy and sugar, and to increased competitiveness as a result of the cereal reform (pork and poultry).

This trend is not expected to change in the future; on the contrary, it will be accelerated as a result of new reforms (decoupling of aids, dairy and sugar reforms), the expected withdrawal of the EU from bulk commodity markets and the increase in its value added exports.

The picture from the U.S is more mixed. While it has retained significant presence in bulk commodities, it has lost some of its market share in wheat and soybeans, but continues to dominate in maize, its market share has increased significantly in cotton, and its meat exports have gone up too.

In the rest of the developed world, Australia has been increasing its exports in most commodities, be it crops or livestock. New Zealand has experienced even more rapid growth but in a more limited range of products (essentially dairy and sheep meat). Finally, Canada has remained either stable or has slightly increased its export share.

However, a second conclusion is that the biggest changes are clearly taking place in the developing world, in particular, in its three agricultural giants.

Brazil, although clearly smaller both in population and GDP than China and India, is nevertheless the clear winner in agricultural market developments. The pace of growth in soybeans, beef, pork, poultry, sugar, and even cotton in recent years, is simply staggering, which raises the questions: Can it maintain this pace and at what cost will it come for world market prices?

China on the other hand, as a major importer, falls on the opposite side of the developing world equation. It has seen significant increases in its imports in almost every single commodity where Brazil has increased its exports. It prompts questions along the lines of those for Brazil in so far as one wonders how long this import growth will continue for and what impact will it have on world prices if it slows down?

Finally, India continues to be the big unknown. India is a major producer of many crops and milk, yet almost absent from world agricultural markets because of its present tariff structure. But growth in India's GDP has been so strong that the additional wealth it has generated translates into food demand that is gradually becoming difficult to be satisfied by its internal market. In addition, export possibilities also exist for some of its commodities. The way India develops adds an additional uncertainty to the future of world agricultural markets, simply because of its size.

Clearly further analysis is necessary, and where this newsletter only touches on some of the broader issues of shifting world consumption and production patterns, MAP will focus in more detail on the growing importance of the Chinese, Brazilian and Indian agricultural sectors in a series of newsletters next year. It will also look at the emerging pressures on their rural populations, and the distributional impact of growth in their production and trade. In the meantime, we wish our readers a happy and prosperous new year.

* * *

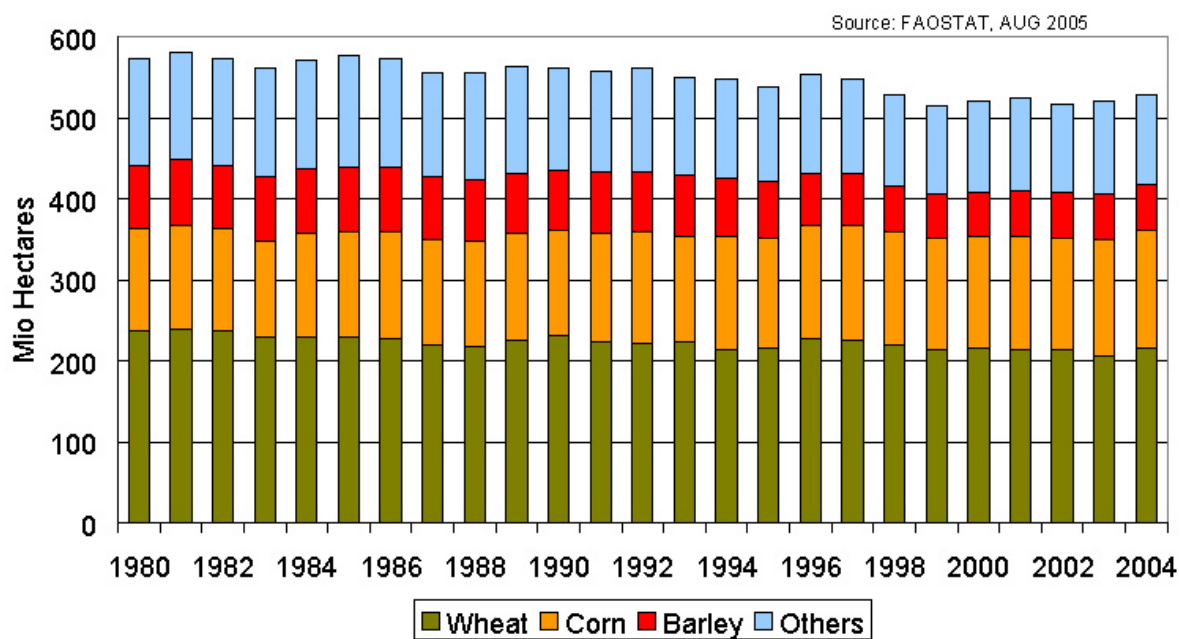
Which outlook?

When the Commission develops its own projections for EU agricultural markets (*), it assesses the outlook of world agricultural markets on the basis of a set of forecasts and projections made by different international organisations, experts and foreign institutions. From this set, two medium-term projections are mainly used because of their degree of information and extent of regional and product coverage. The first is the medium-term outlook of 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, and which since 2005 is developed in conjunction with the Food and Agriculture Organisation (FAO) of the United Nations. The second is the World Markets Outlook of the Food and Agricultural Policy Research Institute (FAPRI), with main units at the University of Missouri-Columbia and Iowa State University, which provides analysis and economic forecasts to the US Congress (FAPRI Outlook). In some cases reference is made to the USDA baseline, produced by the US Department of Agriculture through its interagency World Agricultural Outlook Board.

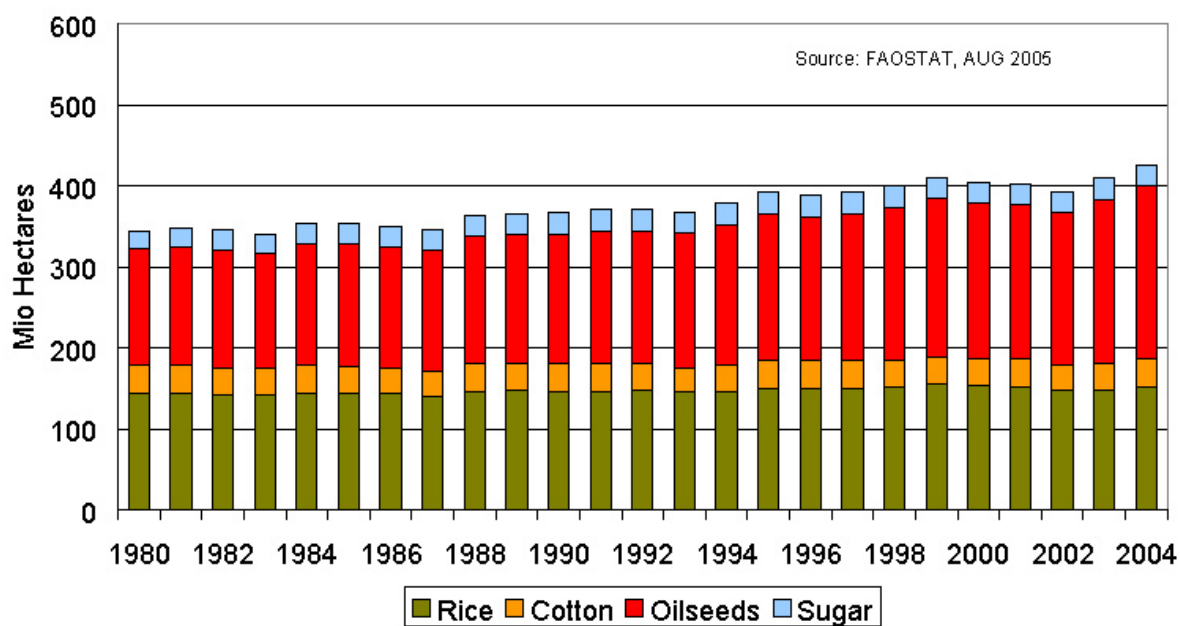
(*) http://europa.eu.int/comm/agriculture/publi/caprep/prospects2005/index_en.htm

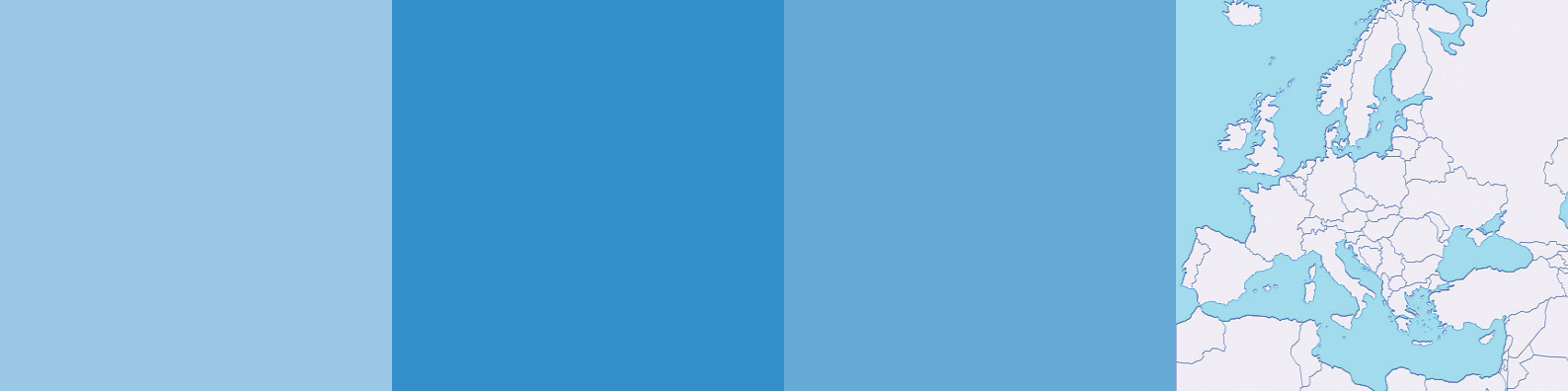
Annexes

Graph 8: World total harvested area - cereals

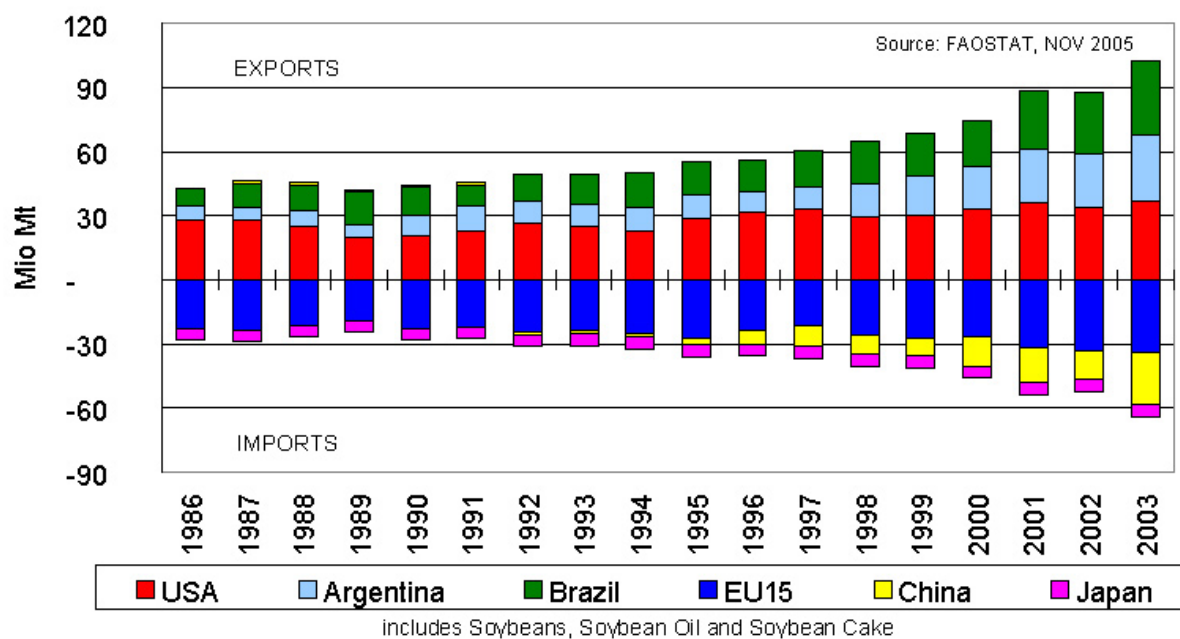


Graph 9: World total harvested area - selected crops

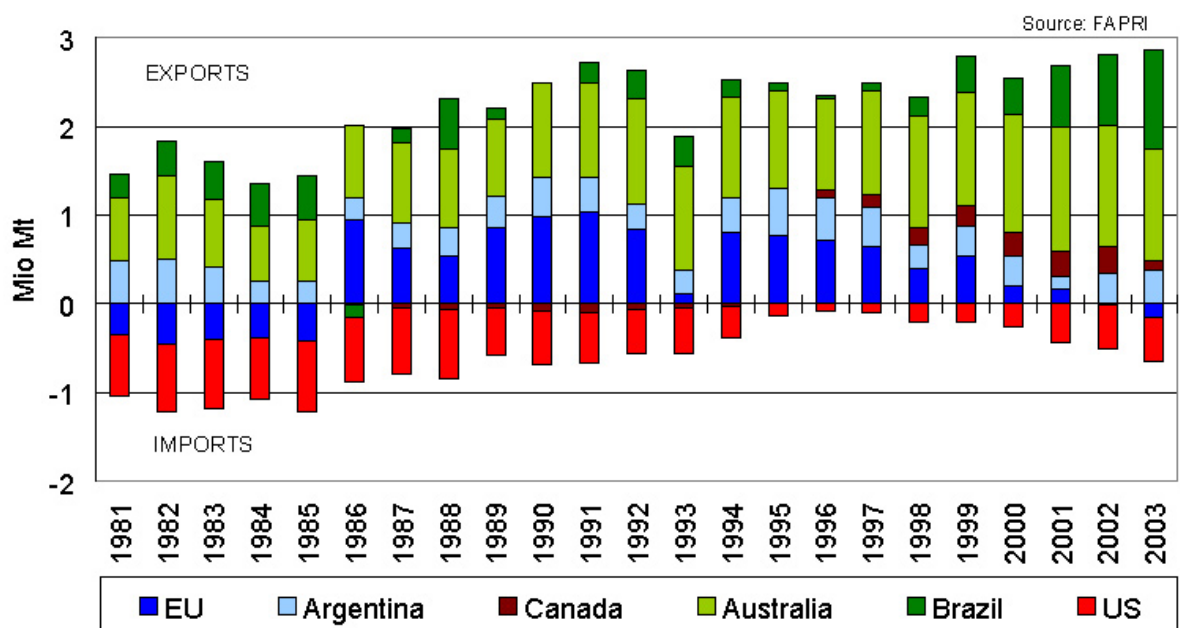


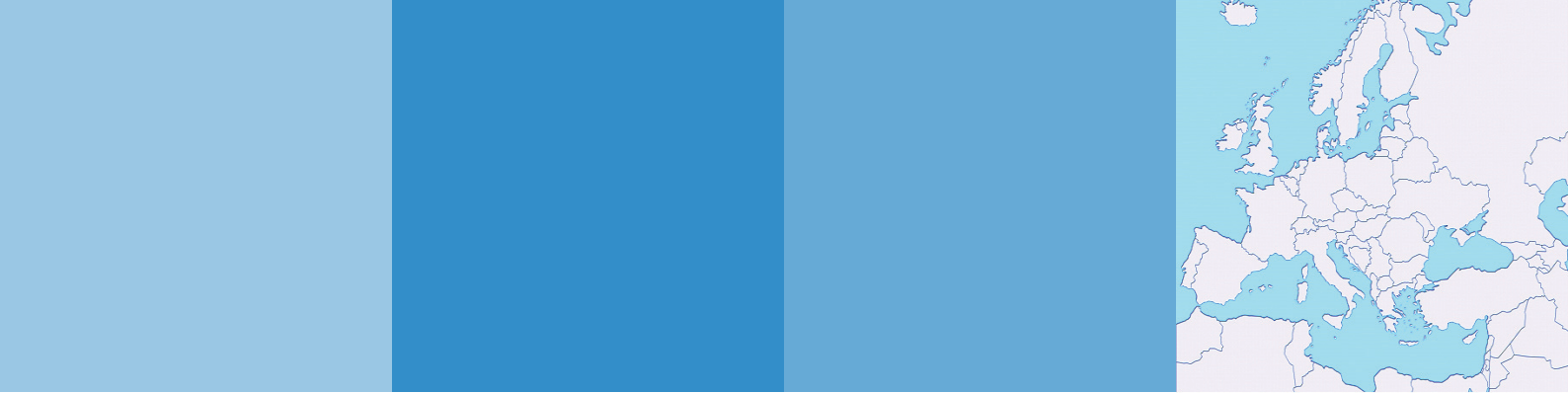


Graph 10: World net trade in soybeans and products - selected countries

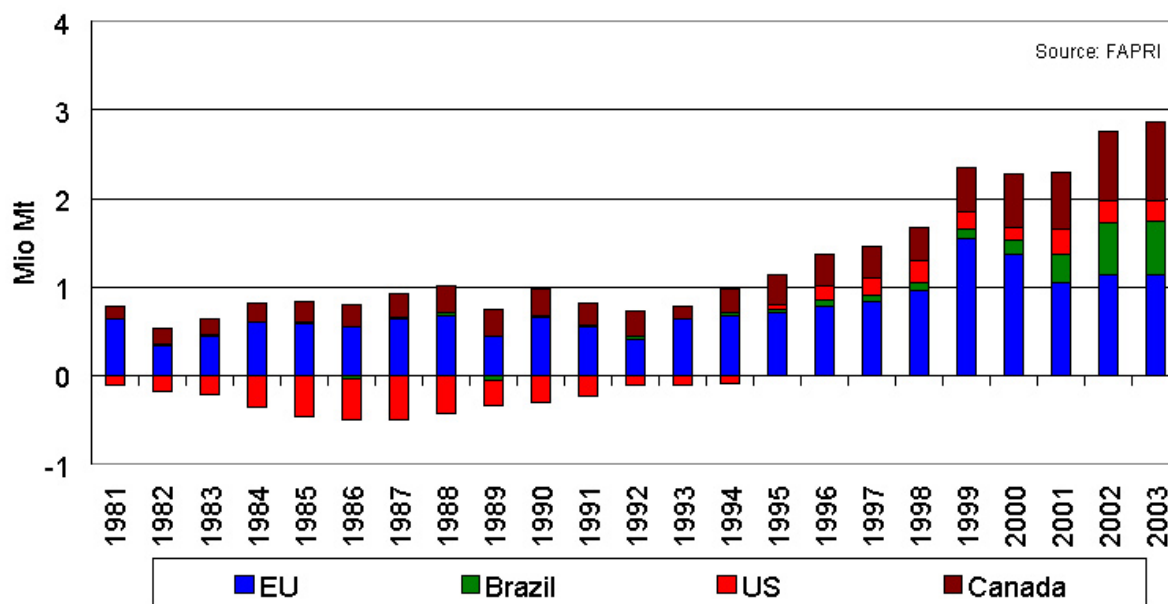


Graph 11: World beef net trade - selected countries





Graph 12: World pork net trade - selected countries



Graph 13: World poultry net trade - selected countries

