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DIRECTORATE-GENERAL FOR AGRICULTURE AND RURAL DEVELOPMENT

Directorate L. Economic analysis, perspectives and evaluations
L.5. Agricultural trade policy analysis

AGRICULTURAL COMMODITY MARKETS OUTLOOK 2010-2019

A comparative analysis of projections published[1] by

Organisation for Economic Cooperation and Development (OECD) & Food and Agriculture Organisation (FAO)

Food and Agricultural Policy Research Institute (FAPRI)

US Department for Agriculture (USDA)

July 2010

This working document does not necessarily represent the official views of the European Commission.

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[1] Sources:
OECD-FAO Agricultural Outlook 2010-2019, published in June 2010
available at www.agri-outlook.org

FAPRI 2010 US and World Agricultural Outlook, published in January 2010
available at http://www.fapri.iastate.edu/outlook/2010

USDA Agricultural Projections to 2019, published in February 2010
available at http://www.ers.usda.gov/publications/oce101/
USDA projections are not compared systematically.

Summary

This note compares baseline projections prepared by FAPRI and OECD-FAO. Given the timing of macroeconomic inputs on which the projections are based, some aspects of the projections can be considered dated. However, they do serve as an indication of possible future development paths on international agricultural commodity markets. Compared to previous years, the current report seeks to provide an overview of trends, main drivers and uncertainties on the international commodity markets which will later serve as an input to the DG Agri baseline and further internal and external discussions in the context of CAP post 2013.

Baselines assume a steady economic recovery starting from 2010. Developing and emerging economies are not only driving the economic recovery and enjoy higher population growth, but also continue playing an increasing role in world agricultural production, consumption, and trade. World agricultural trade observes a strengthened south – south orientation. World agricultural prices are likely to remain on levels higher than their pre-peaks but below the peaks of 2007 – 8. Specific developments depend on the commodity basis. Assuming normal conditions, large cereals stock are likely to prevent dramatic price increases. Demand for vegetable oil is driving prices of the oilseeds sector while demand for sugar remains strong contributing to an upward pressure on prices. Biofuels mandate continue playing an important role in the biofuel sector. Economic recovery underpins growth and prices in the meat and dairy sectors. Nevertheless, projections with their smooth yearly price averages do not take account of price volatility.

Among the uncertainties likely to affect the markets in the medium term are macroeconomic developments, policy changes, and issues related to climate change and weather anomalies.

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1. INTRODUCTION

Medium term baselines analysed in this report[2] are snapshots of what the world would look like under specific macroeconomic and normal weather conditions. Projections as model outcomes tend to view the markets in a smooth manner, and as such are often not reflective of some policy discussions, as well as of increased price volatility on monthly basis.

Compared to previous years, the current exercise does not dwell on comparing results of specific models for a variety of commodities. Instead, it seeks to provide an overview of **trends, main drivers and uncertainties** on the international commodity markets which will later serve as an input to the DG Agri baseline and further internal and external discussions in the context of CAP post 2013.

A unifying theme of this year's medium term agricultural outlooks remains uncertainty and downside risk. Traditional macroeconomic and policy uncertainties, such as rate of economic growth, sustainability of growth, and exchange rate adjustments are complemented by increasing concerns about the impact of climate change in the medium term. Although opinions differ whether the impact of climate change in terms of temperature change will be noticeable in a decade, erratic weather patterns and more frequent occurrence of severe weather conditions cannot be excluded.

Each commodity chapter specifies a sector-specific list of risk and uncertainties. Non-sector specific risks include:

- Macroeconomic developments
  - Rebuilding of consumer balance sheets and private demand recovery, household savings rates
  - Public sector deficits and exit strategies to restore fiscal balance
  - Developments on labour and financial markets.
  - Sustainability of economic growth
  - Exchange rate adjustments and international imbalances
  - Oil price developments
- Policies
  - Trade: trade disputes and protectionist measures, DDA, bilaterals
  - Agricultural policies
  - Bioenergy policies
- Weather related events and climate change, plant and animal disease, water availability

[2] USDA projections were finalised in December 2009, FAPRI in January 2010 and OECD-FAO in April 2010. The FAPRI baseline relies on data provided by IHS Global Insight from January 2010, OECD-FAO mostly on data from in-house sources and international organisations, and the USDA on in-house sources compiled in October 2010.

2. MACROECONOMIC ASSUMPTIONS

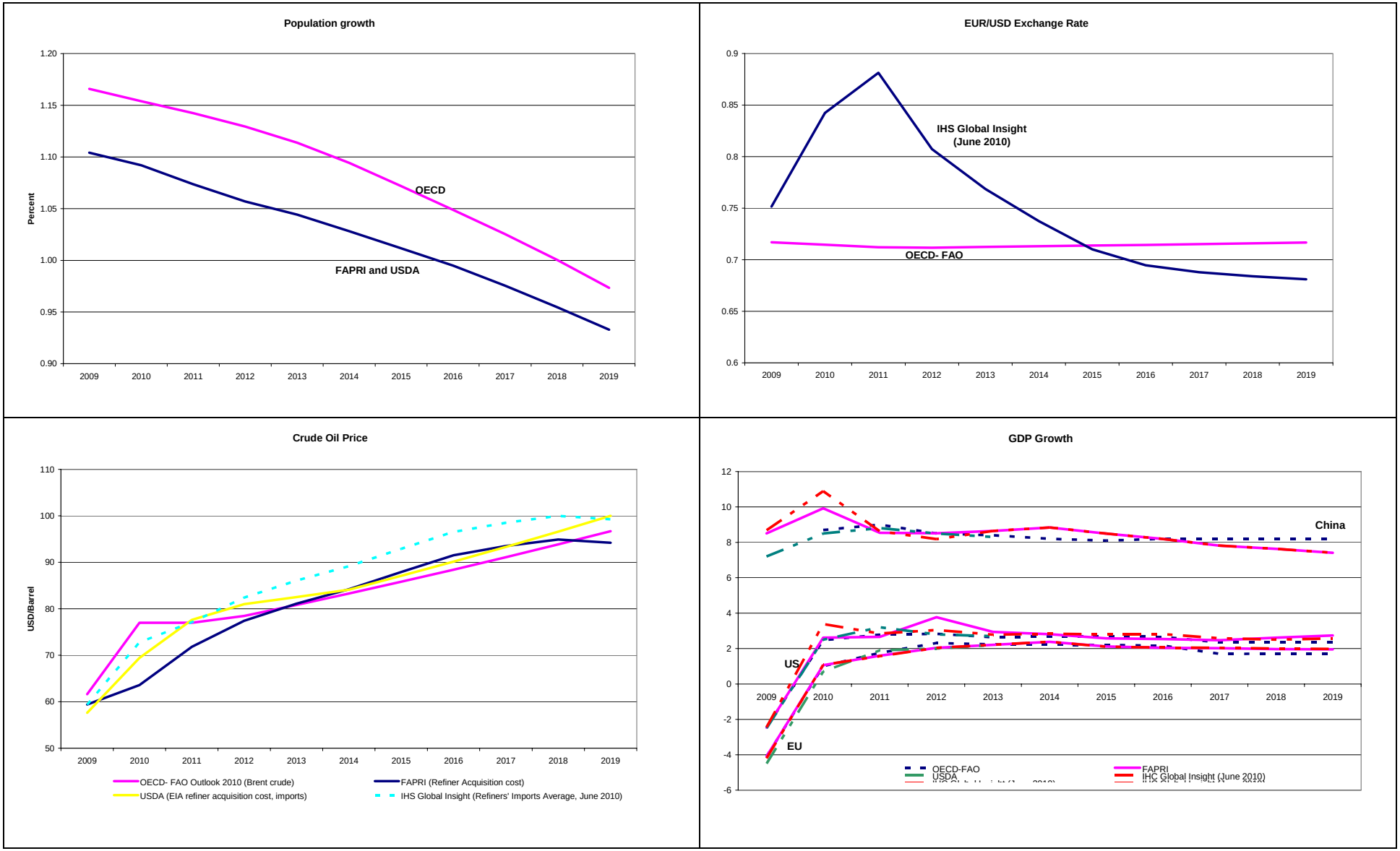
Assuming normal weather conditions, application of current policies and no further outbreaks of plant or animal diseases, macroeconomic factors are the principal drivers in the models. Population and economic growth rates affect demand growth, exchange rates impact trade flows and last but not least, oil prices influence both supply and demand of agricultural commodities. Deterministic projections analysed use single-valued parameters although some provide stochastic projections (FAPRI in the US baseline) or scenario analysis (OECD-FAO).

There is a general agreement on the slowing rate of **population** growth which differ significantly across geographic regions, with the highest increases projected in Africa followed by Middle East and the lowest in Europe. Population in some countries is projected to decline due to an aging population (Russia, Japan) while in others due to the AIDS epidemic (South Africa). Increasing population coupled with raising incomes, urban migration, emergence of a middle class and changing age distribution alters per capita consumption patterns shifting to more energy demanding diets. Urbanisation also brings along reduced supply of labour in rural areas, reduced area around urban settlements available for agricultural production and consequently higher demands on infrastructure delivering food to the cities.

In a continuing environment of economic uncertainty, last year's discussion about the depth of the recession was replaced by a discussion about the speed and sustainability of recovery. Almost a universal recovery is expected in 2010, even if in some countries rates of the **GDP growth** slow down later and speed is uneven. Asian countries, experiencing positive growth even in 2009, are likely to lead the world economic recovery although there are worries about overheating and tightening monetary policies in China and India. In the presence of booming budget deficits in many countries that relied on significant government stimuli plans and have yet to define exit strategies, some estimates of GDP growth might prove optimistic, and worries about a potential double dip in some countries, speed of the recovery, and sustainability of growth are being voiced. While in theory occurrence of a double dip recession might be limited, experience from the 2009 pointed to linkages between countries. Commodity markets impact future growth in many countries dependent on commodity exports. It is likely that impact of financial crisis on the market will linger, influencing borrowing costs and capital flows, resulting in righter financial conditions.

Despite various sources used, trends and levels of GDP in many countries are with some exceptions comparable across sources. Russia, an important market participant, differs by more then 2% between the FAPRI and OECD, with FAPRI levels slightly above 3% level and OECD levels approaching 5.3 – 5.6%.

Oil price is expected to remain at historically high levels. Agricultural commodity and energy prices are more intertwined now than before due to more processing and transport, as well as the emergence of the biofuels industry. The economic recovery is normally accompanied by strengthening energy prices as demand for energy increases which could possibly put breaks on growth. Undervalued or overvalued **currencies** influence the relative competitiveness and trade between regions. The US dollar still plays a central role on the financial and commodity markets. In the light of the large deficit in the US, dollar depreciation was assumed, making US exports more competitive.


Population growth
Percent
1.20
1.15
1.10
1.05
1.00
0.95
0.90
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
OECD
FAPRI and USDA
EUR/USD Exchange Rate
0.9
0.85
0.8
0.75
0.7
0.65
0.6
IHS Global Insight
(June 2010)
OECD- FAO
Crude Oil Price
USD/Barrel
110
100
90
80
70
60
50
OECD- FAO Outlook 2010 (Brent crude)
FAPRI (Refiner Acquisition cost)
USDA (EIA refiner acquisition cost, imports)
IHS Global Insight (Refiners' Imports Average, June 2010)
GDP Growth
12
10
8
6
4
2
0
-2
-4
-6
China
US
EU
OECD-FAO
USDA
FAPRI
IHS Global Insight (June 2010)

3. CEREALS

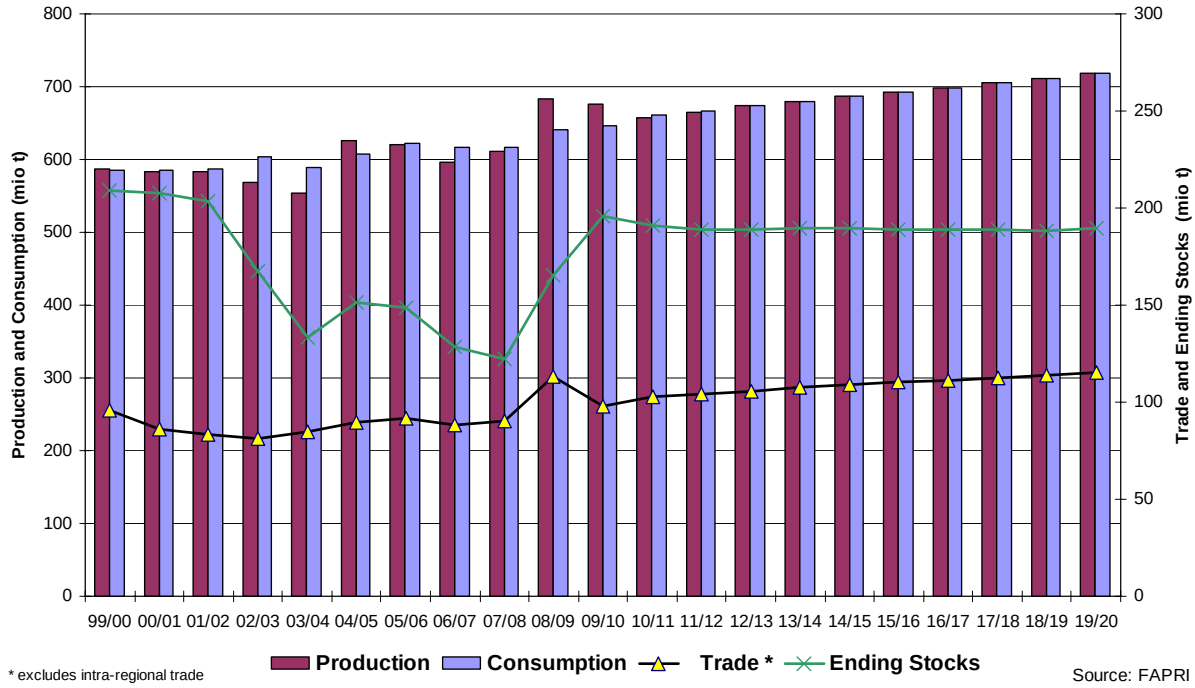
3.1. Wheat

After two consecutive bumper harvests the wheat market has returned to calm after prices exploded in 2007/08 due to fears of imminent shortages. Producers have responded to higher prices while demand growth was subdued by the economic crisis. In consequence, wheat stocks have reached levels last seen a decade ago while prices turned lower and became less volatile. First estimates for 2010/11 season were adding to the bearish sentiment, but recent weather scares in Canada (excessive rain), Russia, Kazakhstan (drought) and other places risk making wheat supply much tighter than previously thought.

Population growth will continue to drive food wheat demand as both are projected to increase at an average annual rate of around 1.2%. Feed wheat demand should grow at a similar pace as the price difference between with maize continues to shrink and feed wheat becomes more attractive to livestock producers. Demand from the biofuel sector is set to grow much faster, manly driven by EU requirements. However, wheat bioethanol should still account for no more than 2.5% of total wheat consumption.

Record wheat production in the last two seasons was achieved when wheat producers responded to higher prices by increasing planting area. As prices went down, so did wheat area. In fact, wheat production over the next 10 years is set to increase mainly through better yields, whereas area should remain stable or show only incremental growth.

Graph 3.1.1 World wheat balance sheet

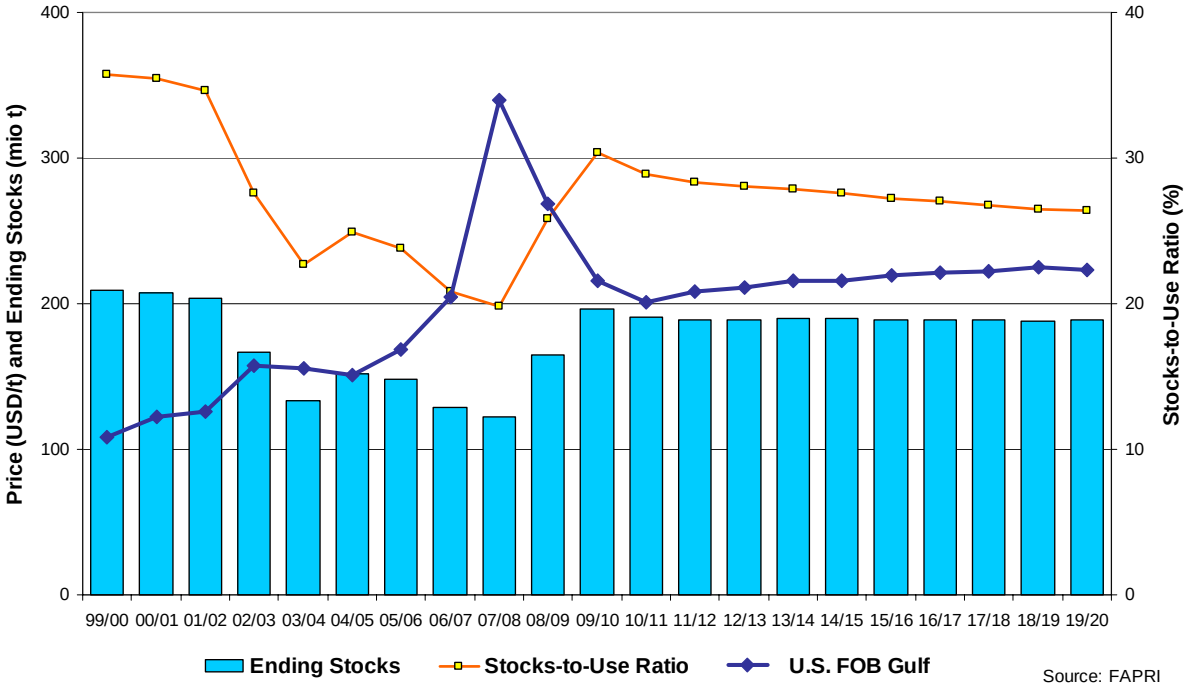


* excludes intra-regional trade

Source: FAPRI

World wheat stock-to use ratio reached a comfortable level after two surplus years and is expected to stay in this position for the remainder of the decade. However, OECD-FAO warns that although stock levels in general have increased substantially aggregate stocks of major exporters have a smaller share than before, which may limit their ability to quickly respond to supply shortages. As a consequence of higher stocks, prices projections are rather stable in both FAPRI and OECD-FAO outlooks. U.S. HRW wheat price is projected to float inside a narrow band of 200-225 USD/t throughout the projection period.

Graph 3.1.2 World wheat price and stocks



Source: FAPRI

World trade in wheat decreased sharply in 2009/10 for several reasons: an impact of the economic crisis, good harvests for some traditional wheat importers and because 2008/09 was a year of record high trade volumes. For the projection period, wheat trade should resume the upward trend, growing at a slightly faster pace than supply and demand.

Exports will be dominated by 5 "traditional" exporters (USA, Australia, Canada, EU and Argentina) and by 2 "Black Sea" exporters (Russia and Ukraine), with a combined world share of over 80%. OECD projects that by the end of the decade Russia will become the world's biggest wheat exporter, while FAPRI still ranks it as a no. 2 behind the United States.

On the import side, the growth will continue to come from the developing countries, especially from North African countries, as well as from Mexico, Brazil, South Korea and other countries in Asia, Africa and Latin America.

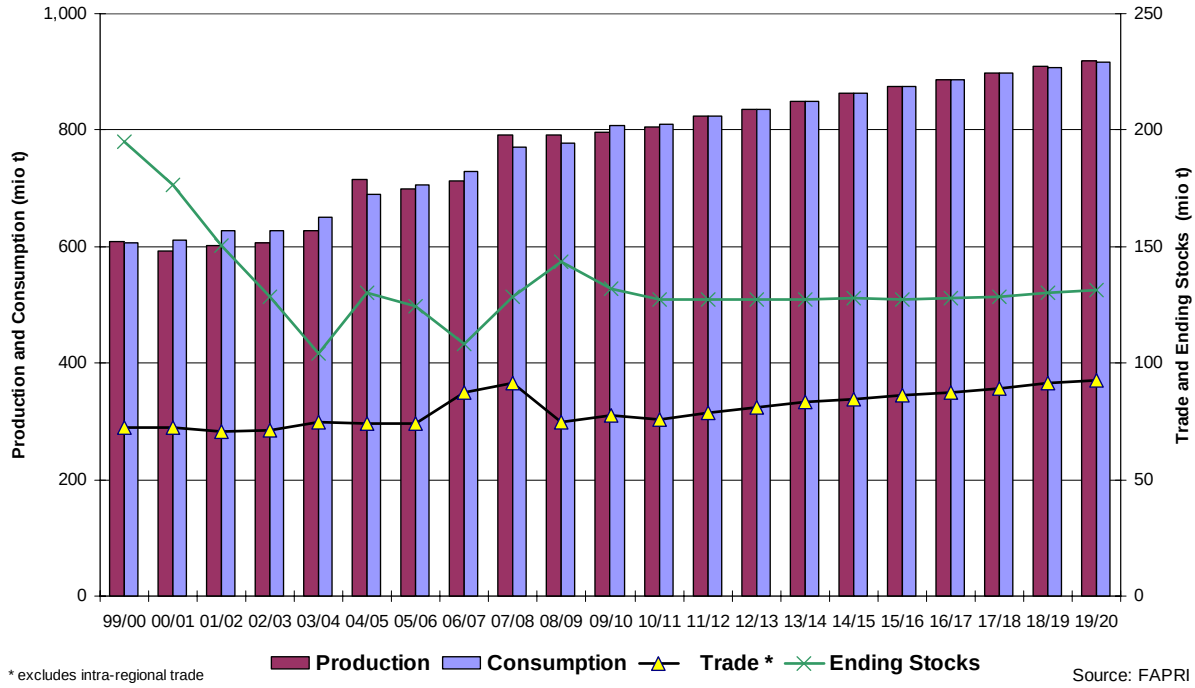
The main uncertainties for the wheat outlook are mainly the outside factors: prospects of economic growth and income levels in the developing countries for the demand side and – as always – climatic conditions on the supply side. Another uncertainty is the policies of countries holding large wheat stocks (i.e. China), especially in the event of a significant supply shock, and biofuel policies.

3.2. Coarse grains

Recent developments in the coarse grain market were similar to those of wheat, although there were also some differences. After the prices spike in 2007/08 coarse grains prices dropped, although for maize this fall was less pronounced due to sustained demand for the production of maize ethanol. With good prices, stable demand and low stock levels, maize production continued to grow in 2009/10, whereas barley production went down significantly following pressure from cheap feed wheat and having little support from the biofuel sector.

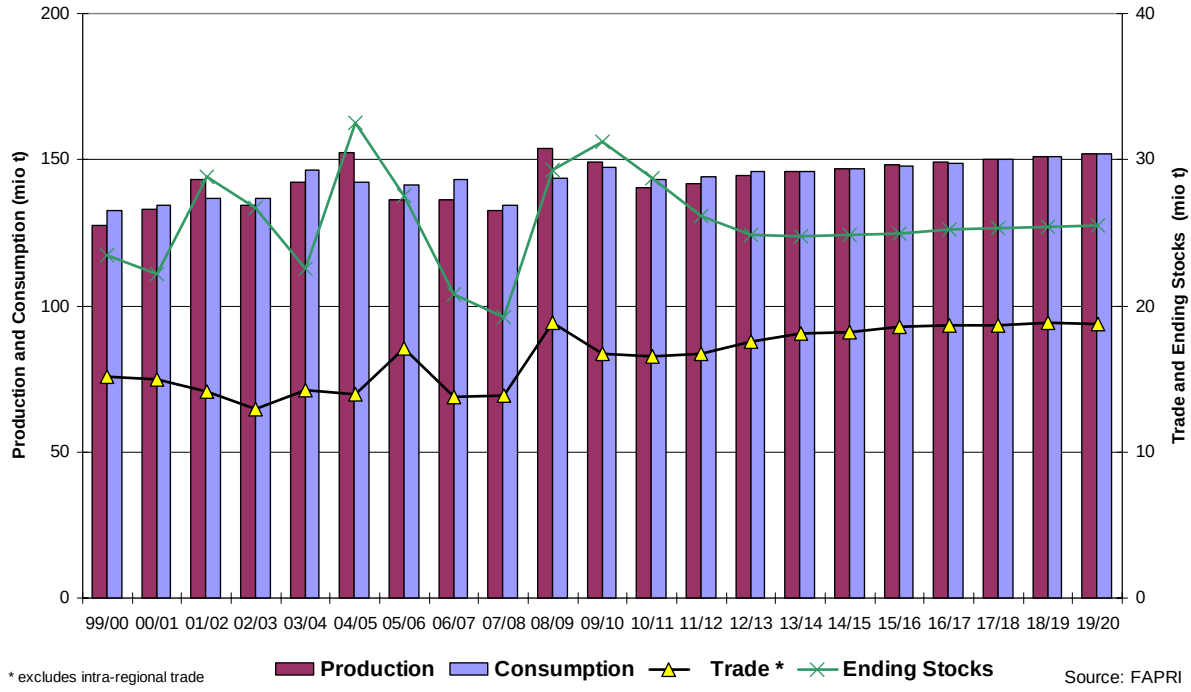
Production growth of coarse grains during the next 10 years is projected to slow to around 1.5% per year due to slower expansion in area (+0.5%) and yields (+1.0%). US maize production should expand exclusively through better yields, but the fastest growth rates should be achieved in countries with big potential in both area and yield improvements: Nigeria, Ethiopia, Brazil, Ukraine. Barley production will grow only incrementally and is not forecast to surpass the record level of 2008/09 bumper harvest. Countries with faster than average growth include Canada, Australia and Russia, whereas barley production in the US is set to keep the declining trend.

Graph 3.2.1 World maize balance sheet



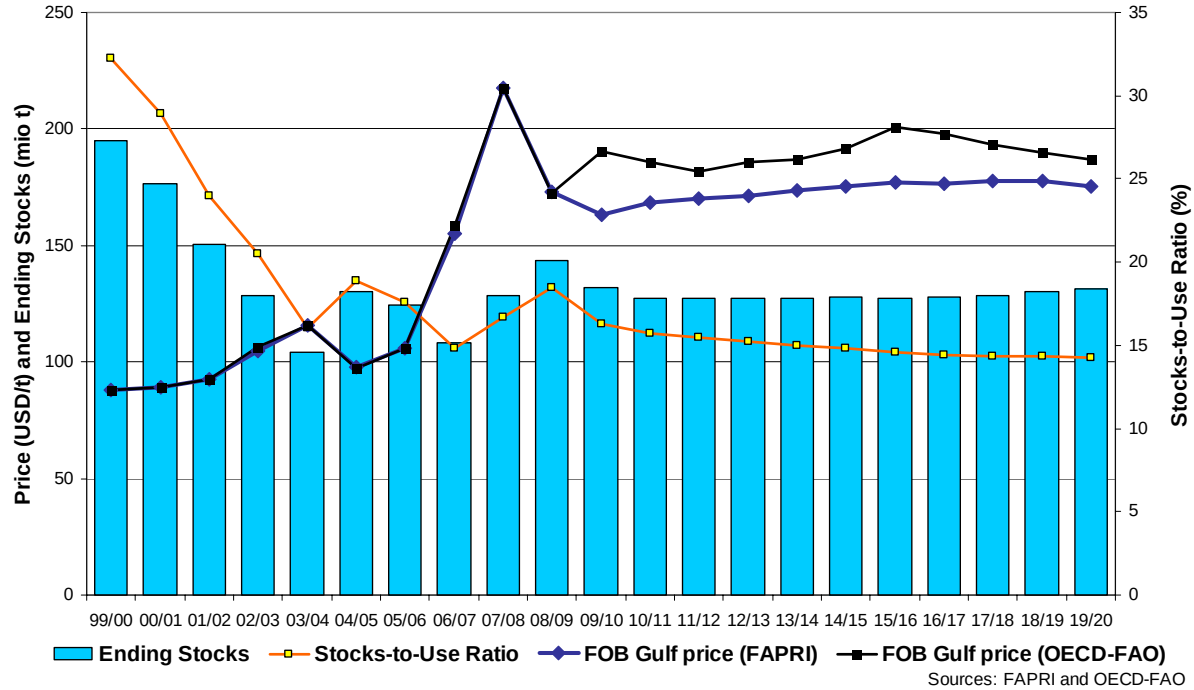
Biofuel policies will continue to shape the demand for maize in the medium term, although their significance will start to fade as US bioethanol mandates are reached by the middle of the projection period. Feed demand will take over thereafter as increasing incomes in developing countries and changing dietary patterns lead to expansion of the livestock sector. According to OECD-FAO, up to 40% of the total increase in maize feed demand during the next decade will come from China. Barley consumption should increase fastest in Australia, as well as Russia, Ukraine and other CIS countries.

Graph 3.2.2 World barley balance sheet



Strong demand in coarse grains is expected to limit the growth in ending stocks and, just like in the case of wheat, most of the increase in stocks is projected to take place in China. Less stocks means more support for the price: according to FAPRI, if projected average wheat price is expected to be 45% higher than 1999/00-2006/07 average, it is 64% higher for maize. Barley price, however, is projected to be only 40% higher, as its stocks are higher and demand growth is lower. OECD-FAO outlook projects higher maize prices, albeit the gap decreases towards the end of the decade when biofuel demand abates.

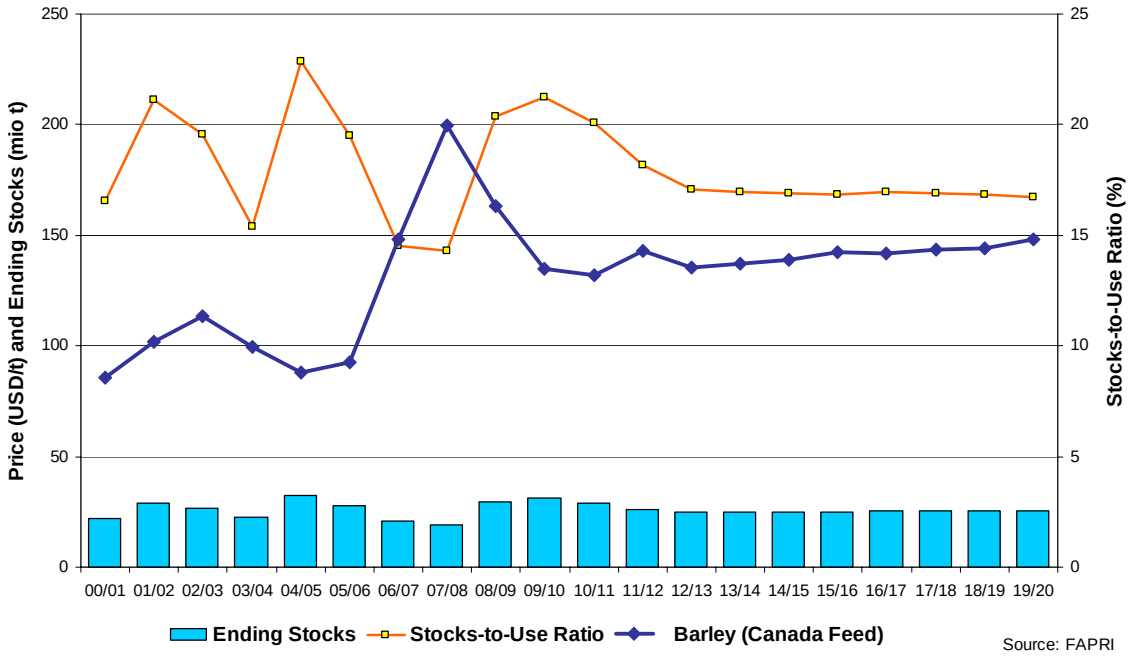
Graph 3.2.3 World maize prices and stocks



Despite increasing stocks, China is likely to continue importing maize from the US to lower domestic prices. According to FAPRI, China becomes a net importer of maize by 2011/12 and will import 3.4 million tonnes by 2019/20. In general, expansion of the world trade of coarse grains will be slightly faster than of production or consumption and will be driven by developing countries and their growing demand for feed: Mexico (maize and sorghum), Egypt, Saudi Arabia (barley) as well as other countries of North Africa and Middle East.

On the exporters' side, the US will continue to dominate in the maize and sorghum markets, while Argentina should retake its place among top main exporters recovery in maize production. Barley exports will be dominated by Ukraine, Russia and other CIS countries on one side and EU, Canada and Australia on the other.

Graph 3.2.4 World barley prices and stocks



Source: FAPRI

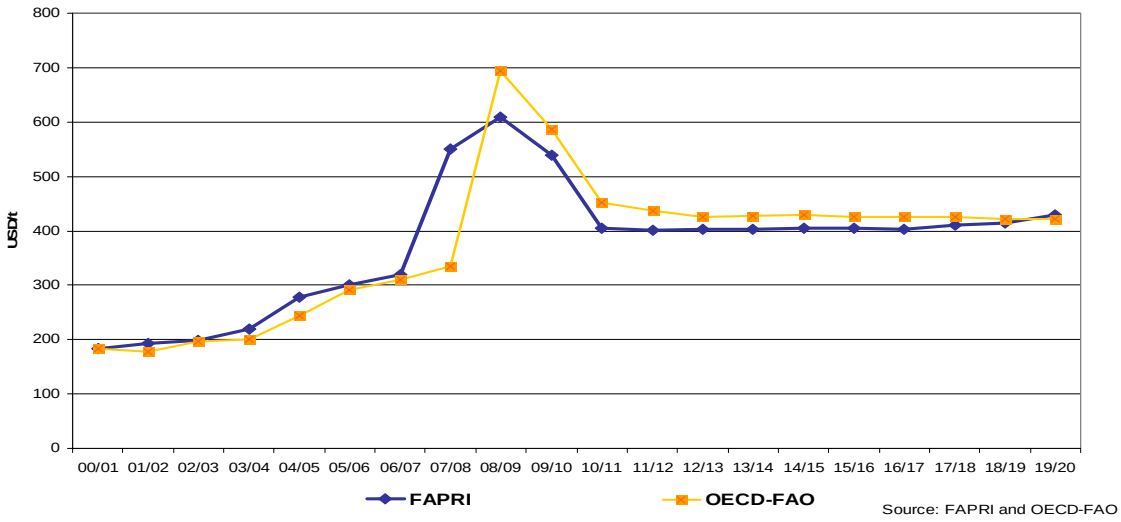
Uncertainties of the coarse grains outlook are similar to those of wheat and the main difference here lies in their importance. For example, situation in the energy market will have a more pronounced and direct impact on coarse grains and especially maize because of the biofuel link. Similarly, GDP and income growth in the developing countries could have a bigger impact on demand for coarse grains (feed) than on wheat (food). On the other hand, increasing use of GM varieties of coarse grains could make them less sensitive vis-à-vis unfavourable climatic conditions and diseases. Other factors adding to the uncertainty include: GM approval process in the EU, trade agreements and food security measures.

4. RICE

In 2009, despite export restrictions and stock controls that led to the price hikes of 2007/08 still in place in major exporting countries, international **rice prices** declined as more exportable supplies became available. However, in contrast to the other cereals, rice prices in 2009 were still particularly high. They are forecast to drop further in 2010 as exportable supplies expand.

After the decrease in the short-term, prices are forecast to stabilise above the levels of the decade preceding the price hikes and strengthen (FAPRI) or minimally ease off at the end of the projection period (OECD-FAO).

Graph 4.1 World rice prices



World rice production has outpaced consumption since 2005, a situation that reversed in 2009, as India's output declined substantially because of unfavourable climatic conditions. Over the outlook period, **world consumption** grows mainly due to population growth as average per capita consumption continues to decline slightly, driven by urbanization, income growth, aging populations, and diet diversification in a number of Asian countries. World rice **production** outpaces consumption and grows mainly due to increase in yields as at world level the area under rice is projected to grow little, given an expected retreat in some Asian countries (e.g. China).

Table 4.1 World rice balance

	Production	Consumption	Exports
99/00 to 08/09	100	100	100
10/11 to 19/20			
FAPRI	112	112	135
USDA	113	112	124
OECD-FAO	119	117	125

OECD-FAO projections are the most bullish among the Outlooks for world rice consumption and production growth with a 1.2% and 1.4% per annum increase respectively. OECD-FAO expects that as after the experience of the record rice prices in 2008 many governments in major rice importing countries embarked on medium- or

long-term strategies to increase their rice self-sufficiency, this trend is expected to prevail in the next decade. As a result, an expansion of rice cultivation is anticipated in Africa and in a few Asian countries, where suitable land and water are still available. USDA and FAPRI forecast smaller increases of 1.1 and 1% (production and consumption) and 0.9% (both) per annum respectively.

The steady growth in demand due to population growth in developing countries drives an expansion in **global rice trade**. It is projected to grow 3.4 % per year from 2010 to 2019 in the most bullish for trade, FAPRI forecast. World trade as a share of world consumption, typically about 7 to 8 % (depending on the Outlook) remains smaller than for other grains.

Table 4.2 Main rice net exporters and importers

	in 1000 tonnes			Change vs past			Shares in world trade	
	Past	Current	Projected	Past	Current	Projected	Past	Projected
AVG from	99/00	09/10	10/11	99/00	09/10	10/11	99/00	10/11
to	08/09		19/20	08/09		19/20	08/09	19/20
Net Exporters	**24.933**	**27.576**	**33.823**	**100**	**111**	**136**	**100%**	**100%**
Thailand	8.146	9.798	11.596	100	120	142	33%	34%
Vietnam	4.085	5.004	4.811	100	122	118	16%	14%
Pakistan	2.533	3.791	3.503	100	150	138	10%	10%
United States	2.692	2.494	2.162	100	93	80	11%	6%
India	3.948	1.982	6.254	100	50	158	16%	18%
China	1.061	1.130	1.287	100	106	121	4%	4%
Myanmar (Burma)	407	1.007	1.304	100	248	321	2%	4%
Cambodia	161	773	737	100	480	457	1%	2%
Net Importers	**24.933**	**27.576**	**33.823**	**100**	**111**	**136**	**100%**	**100%**
Philippines	1.616	2.599	3.409	100	161	211	6%	10%
Iran	1.208	1.701	1.857	100	141	154	5%	5%
Nigeria	1.547	1.600	2.379	100	103	154	6%	7%
Saudi Arabia	1.054	1.320	1.541	100	125	146	4%	5%
European Union-27	1.040	1.203	1.413	100	116	136	4%	4%
Iraq	965	1.100	1.332	100	114	138	4%	4%
Malaysia	694	829	1.133	100	119	163	3%	3%
Ivory Coast	728	796	1.241	100	109	170	3%	4%
South Africa	694	726	1.065	100	104	153	3%	3%
Bangladesh	778	704	1.662	100	90	214	3%	5%

Source: FAPRI

Among traditional rice exporters, Thailand, Vietnam and Pakistan are anticipated to uphold their top positions on the global market over the next decade, all the Outlooks forecast. As large investment in expansion of rice cultivation is undergoing in Cambodia, Laos and Myanmar, these are expected to emerge as important suppliers to the world market. The process would likely be facilitated by the newly implemented ASEAN free trade agreement, which has abated most restrictions on rice movements within the block.

There are discrepancies between the outlooks on the ability of the US to expand its net exports. While OECD-FAO and USDA project the US to export substantially more rice throughout the outlook (1.5% per year increase over the outlook attributable to a slight area expansion, continued yield growth, and slow growth in domestic use), FAPRI is less optimistic in this regard with a 1.5% decrease in the US exports expected.

Developing countries are expected to continue driving import growth in the next decade. FAPRI project the Philippines to remain the top rice importer over the projection period, as its rice self-sufficiency program has yet to attain significant results. OECD-FAO seems to be more optimistic about the ability to increase domestic production by this major world rice importer. It expects the gap between domestic production and consumption to widen with production increasing stronger and imports easing off over the outlook period. The EU is projected to import more in ten years time, the Outlooks agree.

The Outlooks point to possible frequent disruptions in trade in rice associated with changes in government policies as experienced in the past. Also the presence of genetically modified rice in a number of markets could tip the market balance one way or another.

5. OILSEEDS[3]

5.1. Primary commodity

The current dynamics of soybean, sunflower and rapeseed markets are alike: relatively relaxed supply and demand situation for seeds and meals, less so for oils, resulting in weakening of meal and strengthening of oil values. Following ample harvests in leading producers and consumption growth lagging behind production growth, oilseed stocks are at comfortable levels, particularly for soybeans. Reflecting solid growth from China and other parts of Asia, world oilseed trade is at a record level with increasing soybean exports from South America. Drought-stricken Argentinean harvest in 2009 put an upward pressure on prices, while record-breaking harvest in the United States coupled with somehow lower demand for vegetable oil and protein meal for animal feed resulting from general economic slowdown pushed prices downwards. They currently remain stabilised albeit at levels higher than their 2008 pre-peak levels.

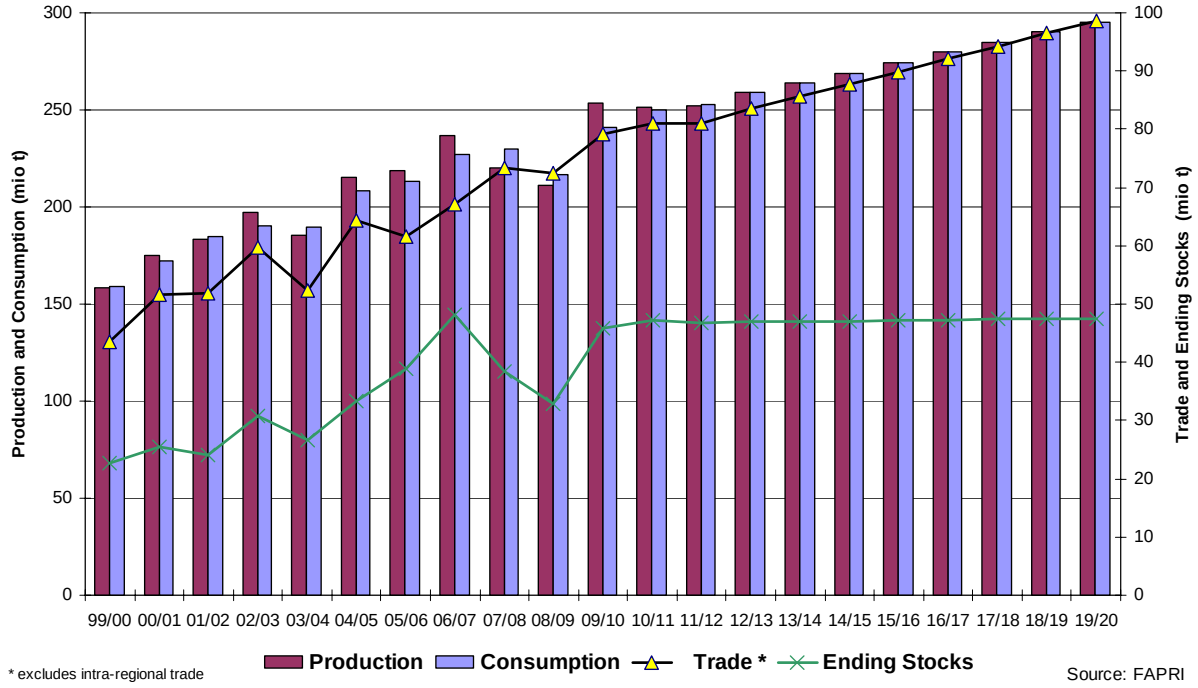
Demand for oilseeds is driven by demand for vegetable oil for human consumption and further processing into biodiesel as the main drivers.

Although in a near future a price decline can be expected due to higher carryover, later prices above long term trends are expected given steady growth and strong crude oil prices. Price projections are similar across institutions. Oilseed acreage and production increase to meet steady demand because of sustained profitability and yield improvements although rate of area expansion remains smaller compared to the previous decade because of environmental regulations in developing countries and sustained profitability of competing crops. Soybean production over the next decade increases by 16%, compared to 60% over the previous decade (in area terms 9% compared to 41%). The US, Brazil, Argentina and Canada remain the main oilseed producers together with Paraguay which gradually strengthens its role. Oilseed production in the EU is expected to increase by 30% due to yield gains. At the same time production in Russia and Ukraine strengthens with a hope of capturing export markets.

Oilseed trade is expected to continue growing. Main players – US, Brazil, Argentina, Canada and Paraguay - remain. Brazil surpasses the US as the main soybean exporter. Many countries are trying to develop their crushing capacity to capture value added. Ukraine gradually replaces exports of rapeseeds and sunflower seeds with value added but still maintains primary commodity exports. Argentina keeps on its push for domestic processing, driving down exports of primary commodity. China continues to import raw material, strengthening its position as the world's biggest oilseeds importer, importing an impressive 60 million tons in 2019/20 (an increase of 43% compared to 2009/10 and 500% compared to 1999/00).

[3] Different baselines model oilseeds differently. While FAPRI provides a detailed breakdown of the oilseed sector to soybeans, rapeseed, sunflower, peanut and palm oil, OECD-FAO baselines provides only an aggregate for oilseeds, vegetable oils, and protein meals making direct comparisons difficult.

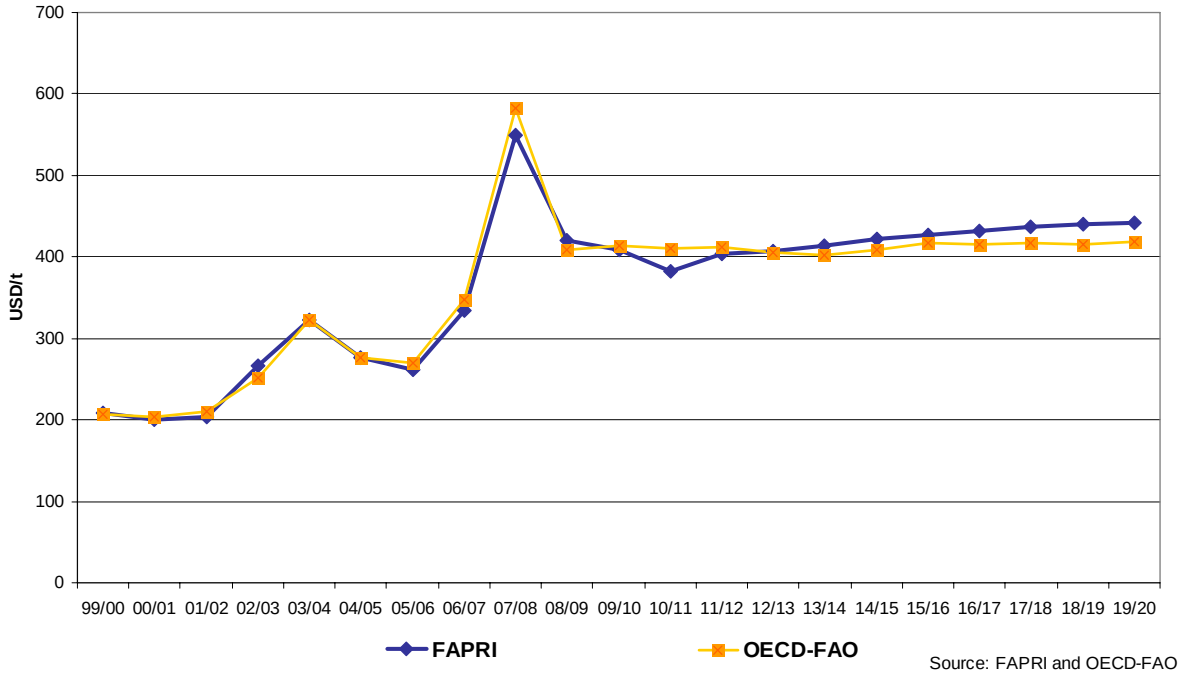
Graph 5.1.1 World soybean balance sheet (FAPRI outlook)



* excludes intra-regional trade

Source: FAPRI

Graph 5.1.2 Soybeans (FAPRI) and oilseeds (OECD): projected world prices



Source: FAPRI and OECD-FAO

5.2. Derived products[4]

Oilseed sector is currently (and most likely will also be in the future) driven by vegetable oil although crushing capacity can prove to be a constraint. Compared to 2008/09 soybean oil production increased, yet at 38 million tons remained only slightly above the 2007/08 levels despite record high soybean harvest. Vegetable oil consumption continues its steady growth, leaving only little to stock recovery. Steady trade levels imply most of the increased consumption of oilseed oil (with the exception of palm oil) takes place at the place of production. Although prices decreased since their peaks, they remain above historical averages and support additional investment in crushing capacity.

The main drivers of the vegetable oil market remain demand for vegetable oil for human consumption and industrial use (biodiesel). Although vegetable oils are generally substitutes, vegetable oil market is likely to remain tight with low stock-to-use ratios and ending stocks of oil acting as buffer against upward pressures on prices. Strengthening of crude oil contributes to strengthening of oils and fats. Lower rate of price increases is expected in the later years of the outlook because of emergence and increased utilisation of the second generation biofuels.

Oil production is expected to increase by over 40% over the projection period (including palm oil), with a larger share going to biodiesel, in particular in OECD economies. However, in non-OECD economies, food use accounts for most of the increase. EU is becoming the leading importer of vegetable oils, with its imports increasing by 75%. Together, EU, China, and India import 55% of total vegetable oil imports. Owing to differential tax scheme that supports exports of value added products, Argentina produces 63% of world oil. The share of Ukraine on exports of vegetable oils and meals is expected to increase. Canada strengthens is position as a leading exporter of rapeseed oil.

Protein meal prices reflect the strength of the meats and dairy sectors and availability of other feeds. Despite challenges in meat and dairy sectors, soybean meal price remains above the historical average. Global soybean meal trade is increasing, with most of the increase originating in the EU and Far East Asia, including the Philippines, Indonesia and Thailand owing to growing feed demand.

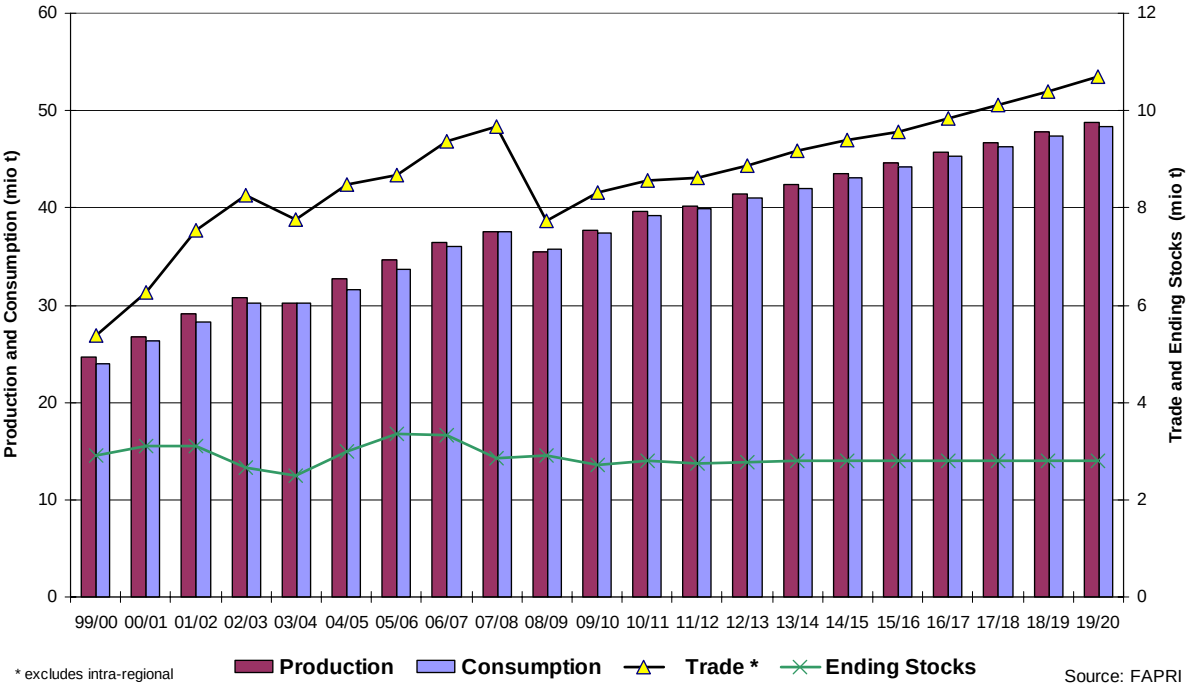
The main driver in the protein meal sector is demand for animal feed, and substitutability of other feeds. Protein meals in animal feed rations can be substituted to a certain degree. Developments on the fish meal market are increasingly important for the protein cake market as global fishmeal supplies and exports are declining.

With 25% growth in global demand for protein, more growth is expected in non-OECD (3.2%) than in the OECD (1%) because of sustained growth and intensification of livestock production. Production expansion is expected in Brazil, Argentina, and India. China remains the leading meal consumer. Protein meal trade growth rate is likely to be lower than trade growth rate of raw material or vegetable oil. Argentina strengthens its position as the largest protein meal exporter because of its developed crushing capacity and small domestic market, supplying 40% of exports in 2019. Brazil remains the second largest exporter due to increases in domestic consumption. India continues supplying

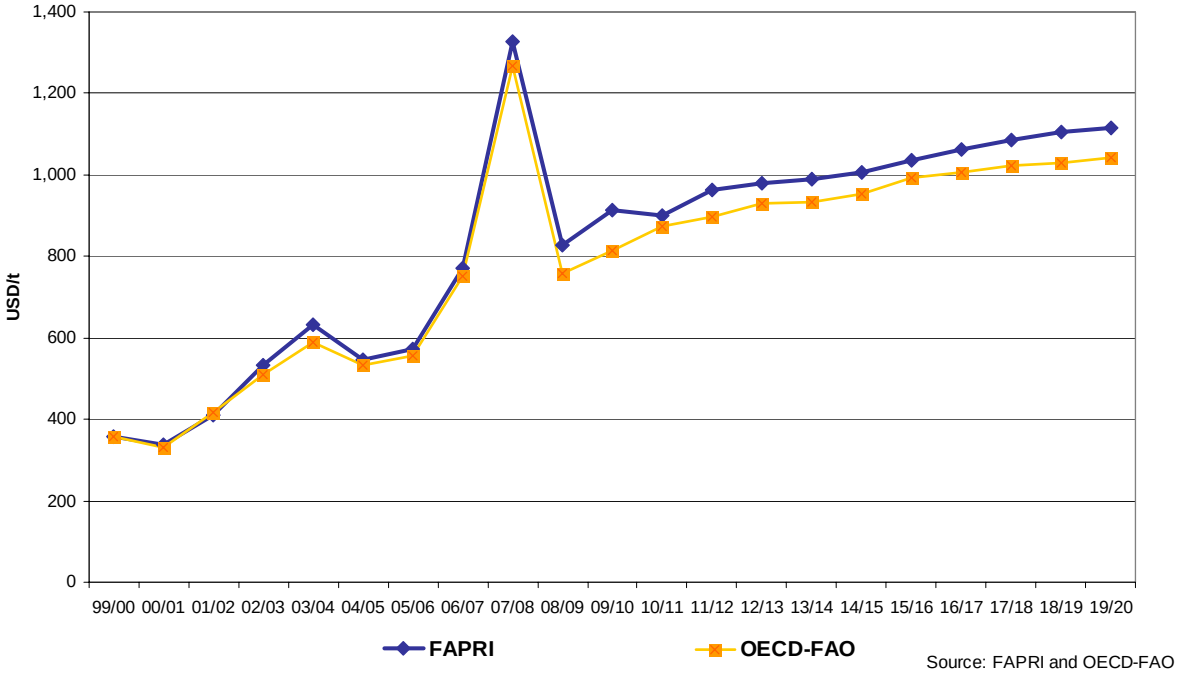
[4] Discussion of vegetable oils in the OECD-FAO Baseline also includes palm oil.

nearby destinations after increasing consumption by domestic operations, and the role of Ukraine is growing. EU remains the principal meal importer although increase in domestic rapeseed production translates into balanced protein meal imports. Nevertheless, EU is likely to import more protein meals than raw beans.

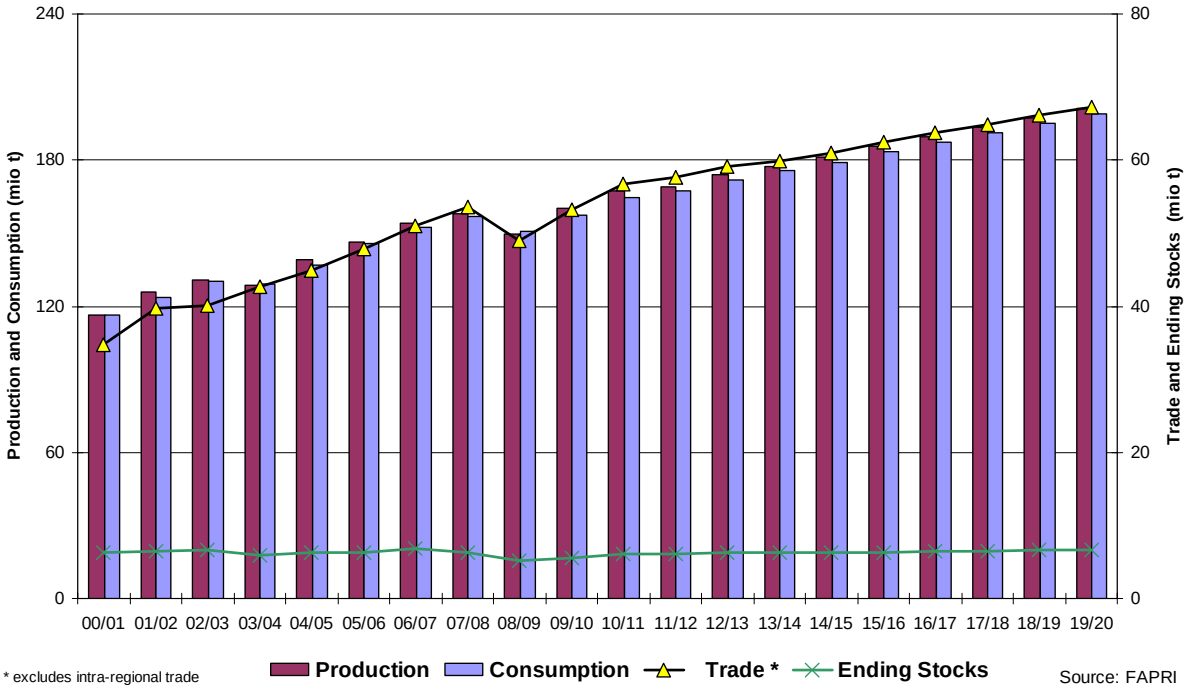
Graph 5.2.1 World soybean oil balance sheet (FAPRI outlook)



Graph 5.2.2 Soybean (FAPRI) and oilseed and palm oil (OECD): projected world prices



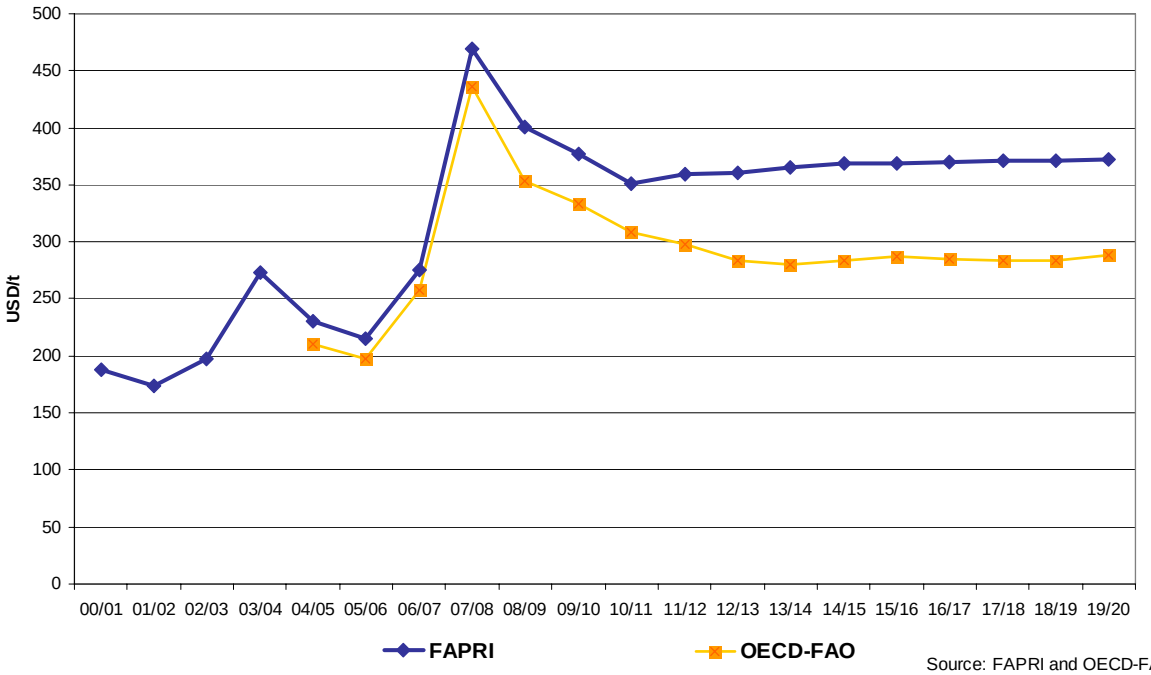
Graph 5.2.3 World soybean meal balance sheet (FAPRI outlook)



* excludes intra-regional trade

Source: FAPRI

Graph 5.3.2 Soybean (FAPRI) and protein meal (OECD): projected world prices



Source: FAPRI and OECD-FAO

In addition to uncertainties defined earlier in this note, oil sector specific uncertainties include:

- Developments of the biodiesel sector, including emergence of second generation of biofuels, chances in blending policies, price of crude oil.

- Supply and demand concentration influencing market stability originating from resource limitation, weather related anomalies, policy decisions. Domination by a small number of countries makes it vulnerable to supply disruptions. 4 countries are going to be responsible for 85% of total oilseed exports in 2019 (includes palm oil).

- Sustainability and environment: climate change mitigation, deforestation, environmentally sensitive areas, certification.

- Rising demand for new oils with special properties as a response to health concerns in developed countries.

- Developments in the meat and dairy sector as consumers of protein meals, alternative feed sources (DDGs).

6. MEATS

The global economic downturn had a severe impact on the meat sector. Crisis-affected incomes around the world and constrained access to investment credit adversely impacted both demand and supply.

In terms of **price effects**, pigmeat prices fell the most in 2009, since the global supply, driven by a recovery of the Chinese production from massive sanitary crisis in 2007, failed to adapt to the shrinking demand, which was further weakened by fears linked to global spreading of the H1N1, commonly known as "swine flu". Beef prices were also significantly affected by the contraction in demand as consumers switched to cheaper categories (mince, burgers) and other sources of animal proteins. In this respect, poultry prices fared reasonably well, taking advantage from substitution effects between meats.

The global meat market in 2009 grew at a lower rate (about +1%) compared to the normal trend (over 2%) and it was positive essentially only thanks to a continued robust growth in China and the sanitary-related problems in its domestic market.

Global meat trade has shown visible signs of decline since the 4th quarter of 2008, and traded volumes and values in 2009 were considerably lower compared to the previous year (about -5% for all meats), and particularly for pig meat (around -10%). Apart from the impact of the crisis on global demand and supply, the decrease in world trade from the record levels of 2008 (due to exceptional Chinese pork imports) was also related to various sanitary (related to spreading of H1N1) and import restrictions (e.g. China, Russia).

All the meat markets are forecast to recover relatively fast in the first years of the projection period with global demand rebounding along with the recovery of the global economy and providing animal health and sanitary issues do not affect seriously the meat markets.

Over the outlook period all the meat **prices** are projected to grow with the most considerable gains for poultry prices when compared with the average of the past decade, the Outlooks agree. OECD-FAO and USDA forecasts for the poultry price growth (a 39% increase both) are more bullish than FAPRI (35%). The strongest growth in prices for poultry is driven by an increase in demand unrivalled by the other meats.

World meat **consumption** continues to experience one of the highest rates of growth among the major agricultural commodities. The growth is to occur mostly in rapidly growing developing countries, mainly in Asia but also in Latin America, and it is expected to reflect particularly the rise in consumption of the cheaper meats, poultry and pigmeat.

Driven by increasing demand, global meat **production** is forecast to expand (the highest rate of growth 1.9% per annum forecast by OECD-FAO, followed by similar 1.6% and 1.5% by FAPRI and USDA respectively), however slower than in the previous decade, constrained by higher production costs and the availability of natural resources. Poultry is forecast to be the most dynamic sector in terms of production growth, followed by slower increases in pork and beef production, the Outlooks agree. OECD-FAO projections are the most bullish with poultry production growing by 2.4% per annum

over the baseline, followed by less optimistic forecast of USDA (2.2%) and FAPRI (1.8%).

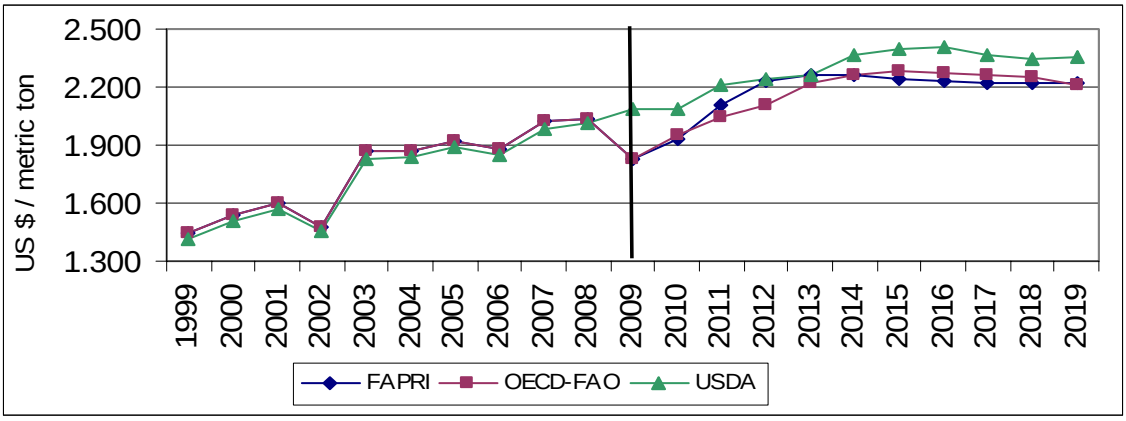
World meat **trade** is forecast to expand by between 20% (OECD-FAO) and 23% (USDA) by 2019 relative to the 2007-09 base, driven mainly by poultry and beef exports. Most of the increase is projected to be coming from developing countries with Brazil accounting for two-thirds of these exports in 2019.

6.1. Beef

When compared to the other meats, **global beef sector was the most severely affected by the falling demand** as due to comparatively high prices of beef consumers switched to cheaper alternatives in times of falling incomes.

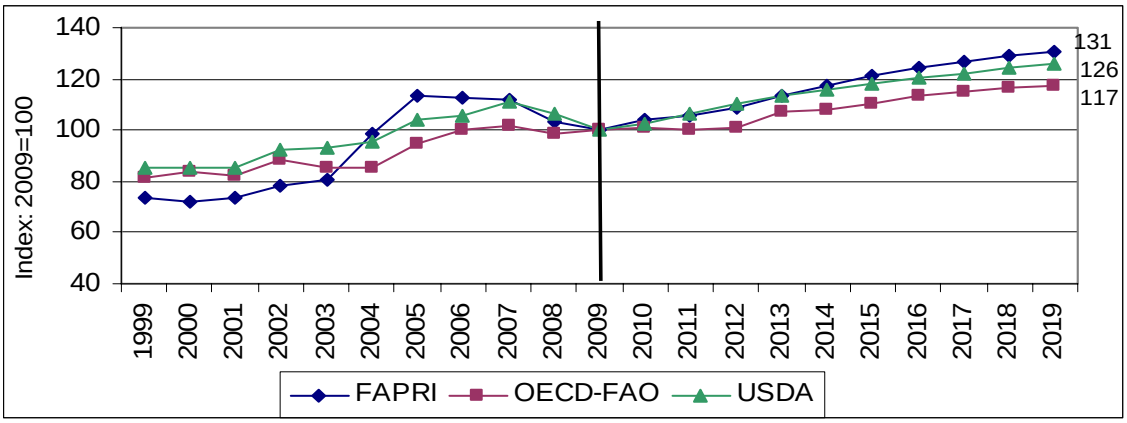
After the 2008 peak in **beef prices** in most parts of the world, prices decreased in 2009, mainly due to the demand downturn, but also due to the decrease in feed prices, linked to the burst of the price bubble affecting most cereals and oilseeds products. OECD-FAO and FAPRI forecast beef prices (Nebraska Direct Fed Steer Price) to increase firmly in the first part of the projection period as supplies remain tight following reduced herds. However, the two Outlooks agree that over the second part of the outlook period, prices would mildly ease off as the output rebounds (and, as OECD-FAO expects contrary to FAPRI, Russia reduces its imports demand). Overall, the prices are projected to increase by 23% (FAPRI), 22% (OECD-FAO) by 2019 compared to the 2000-09 base. USDA forecast for world beef prices is more bullish with a 31% increase over the baseline period along a growth trend continuing throughout the outlook.

Graph 6.1.1 Projected world beef prices



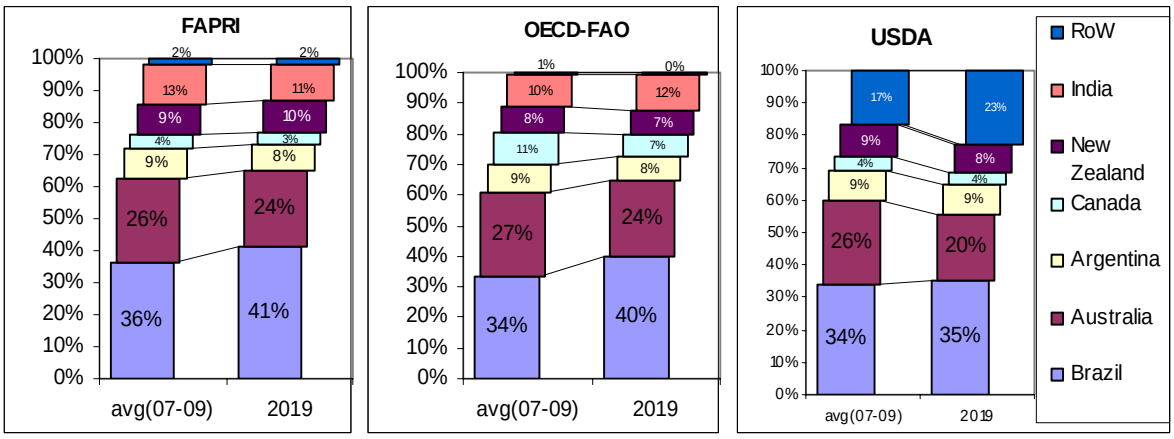
Responding to the growth in world price and as trade recovers, world beef production increases in the next decade with OECD-FAO being the most optimistic about the rate of growth (1.4% per annum) compared to USDA (1.1%) and FAPRI (0.9%).

Graph 6.1.2 Beef world trade



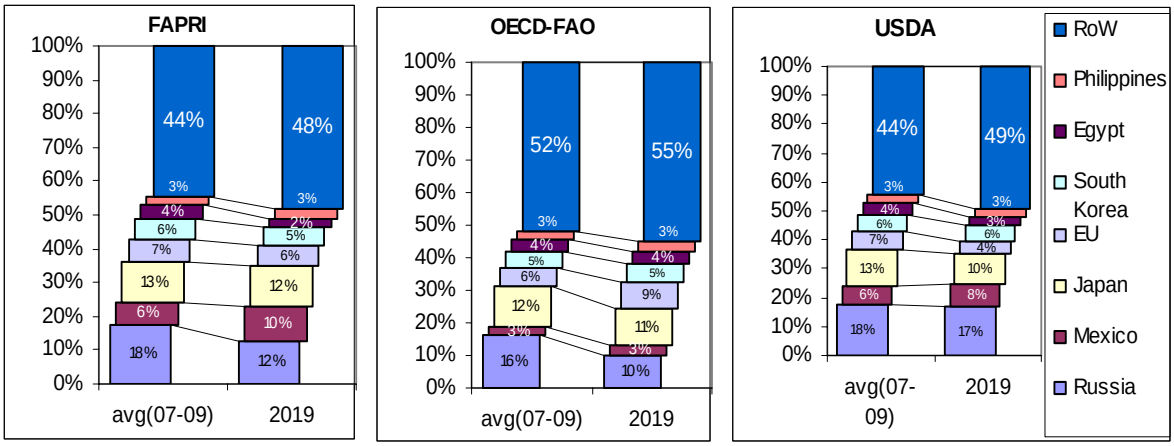
Beef world trade is forecast to recover after the recent slowdown by between 17% (OECD-FAO) and 25% (FAPRI) by 2019 compared to 2007-09 base. While FAPRI and USDA forecast continued growth over the projection period, OECD-FAO global trade forecast is relatively depressed over the first 3 years of the outlook. As regards the major beef exporters, **Brazil,** currently holding roughly one-third of world exports is forecast to increase its share, all the Outlooks agree. USDA's forecast for Brazil, however, seems the least optimistic (only 1% of additional share compared to 5% and 6% of additional world beef market share projected by OECD-FAO and FAPRI respectively). USDA projections assume no changes in the set of countries that recognize Brazil as foot-and-mouth disease (FMD) free, thus limiting Brazil's ability to compete in some markets for beef. USDA is also the most bearish about the evolution of **Australia's** exports (the second biggest beef exporter) over the projection period forecasting a more severe, compare to the other forecasts, drop in Australia's world market share (-6%).

Graph 6.1.3 World beef net exports by country



Russia, the biggest player on the global beef imports scene will considerably reduce its net imports, OECD-FAO and FAPRI forecasts. According to the former, Russia due to growing domestic production reduces its import demand and its world imports share drops from 16 to 10% over the baseline. The latter also projects that Russia will lose its world imports share; however this will be squeezed by growing imports in other parts of the world.

Graph 6.1.4 World beef net imports by country



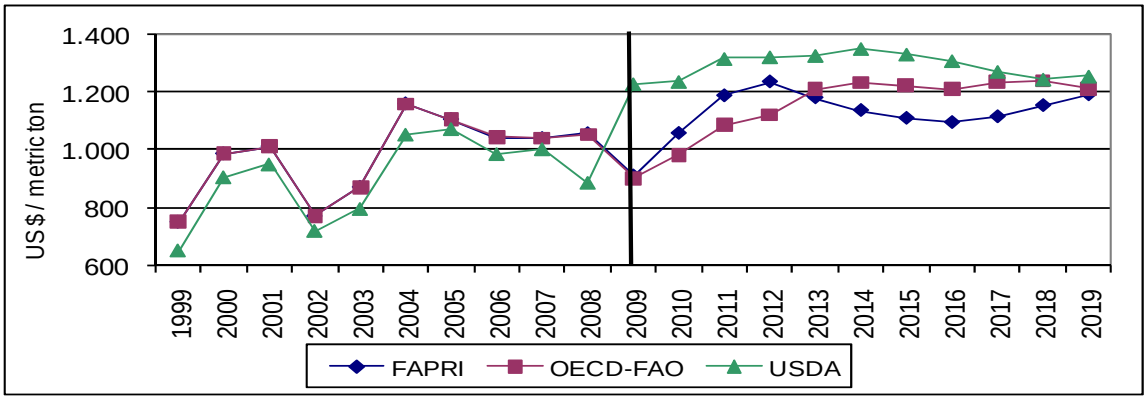
Discrepancies exist between the Outlooks as regards the **EU beef market and trade**. EU consumption, after already dropping for two consecutive years by 2009, is forecast to continue along this downturn trend (OECD-FAO, USDA) or stagnate (FAPRI). As the drop in production is stronger than the decline in consumption, EU net imports are projected to increase substantially, almost doubling by 2019, according to OECD-FAO forecast. FAPRI expects slow decline in both domestic supply and demand and a moderate growth in net imports in the second part of the projection period. USDA is more bullish about the drop in the EU consumption, hence its forecast for a 22% drop in EU net imports.

6.2. Pork

Global pigmeat sector cannot regard 2009 as a successful year with prices plummeting in parallel to the fall of feed costs after the hikes of 2007-08 and due to the strong drop in global demand. Consumption was not only negatively affected by the global recession, but also discouraged by the appearance of H1N1. The profitability of the sector remained very low and producers all over the world continued to register losses, particularly in the US, Canada and the EU, in spite of the drop of feed costs. Against this background, situation in China (holding roughly half of world production and consumption) substantially impacted the sector in 2009 as its domestic pig sector almost completely recovered from a swine disease problem with pork production and consumption returning to pre-crisis levels and import falling dramatically from 2008 levels.

In the short term world pigmeat prices increase substantially in response to renewed demand after the recession, FAPRI and OECD-FAO forecast. However, as production, in particular from Brazil and China, both of which are experiencing high productivity gains, expands prices are expected to ease off already from 2013 (FAPRI) or 2015 (OECD-FAO). USDA price forecast develops along similar although less volatile pattern, however a substantial difference in price projection for the base year of 2009 exists between the USDA and the other Outlooks.

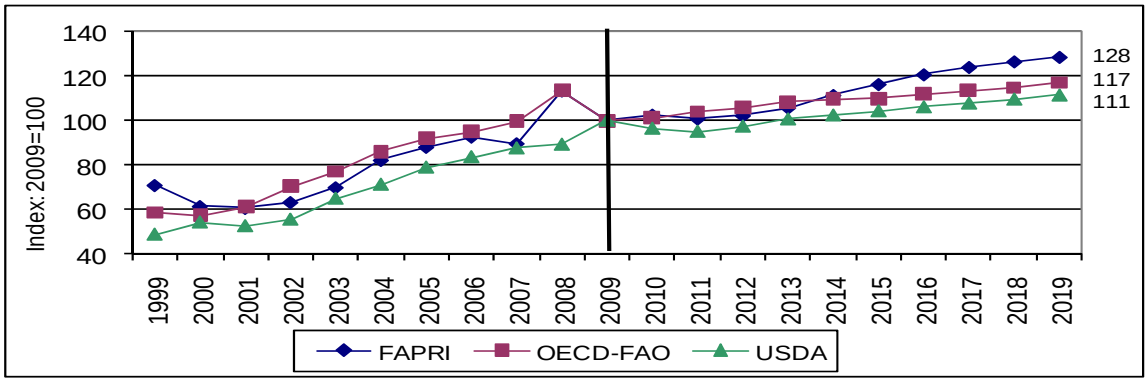
Graph 6.2.1 Projected world pork prices



OECD-FAO projections for **world pigmeat production and consumption** are relatively more bullish (1.9% per annum) compared to FAPRI and USDA (both 1.3%). This growth is expected to originate predominantly in developing countries, which will account for a great majority of additional output.

Recovering from a 12% drop in 2009, **pork world trade** grows by 27% by 2019 compared to 2007-09 base in the most bullish, FAPRI forecast. OECD-FAO and USDA projections are more moderate (with a 21% and 12% increase respectively).

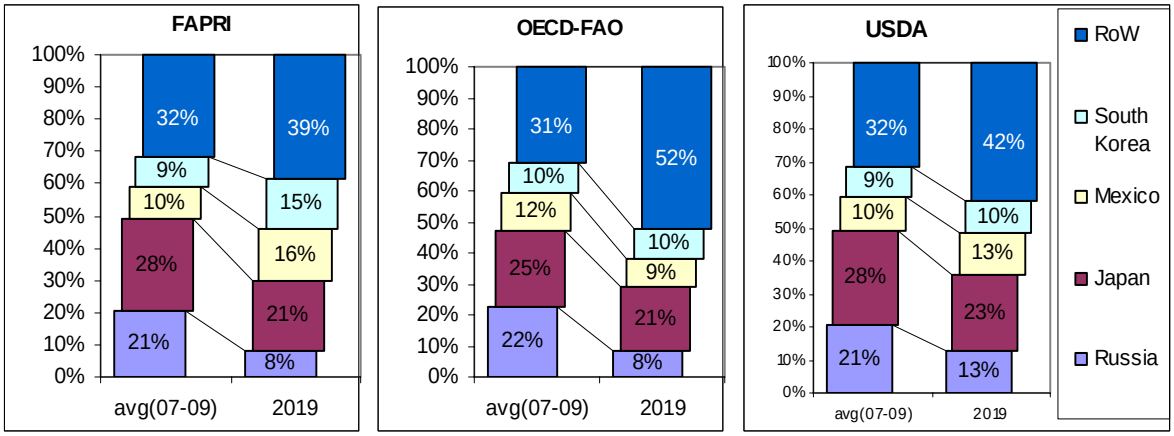
Graph 6.2.2 Pork world trade



Among the world's top net pork exporters, all the Outlooks forecast an increasing market share for the US and Brazil, while the projections for Canada and the EU are bearish. The EU is forecast to lose between 8 (USDA) and 15 (OECD-FAO) percentage points of its global market share. OECD-FAO bearish projections relate to their expectations of the EU pork net exports decreasing as following policy reforms domestic output falls and consumption grows in the EU. FAPRI and USDA forecasts point rather to lower competitiveness of the EU exports as the reason behind losing the export share.

On the imports side, the expected trend is contrary to the exports side as the current major net importers (Russia and Japan) are expected in all the Outlooks to see their market shares decreasing. Russia's net imports of pork decline throughout the outlook as domestic production grows stimulated by the country's policies to achieve higher self sufficiency.

Graph 6.2.3 World pork net imports by country



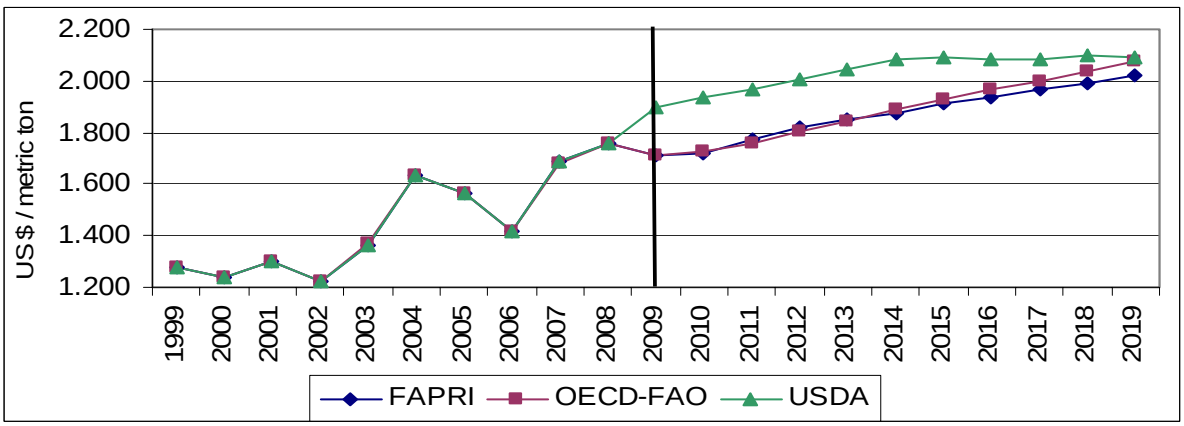
As China recovered from the swine disease problem and related dramatic increase in pork imports in 2008, the country saw its domestic pork production resuming growth and became a small net exporter once again in 2009. The Outlooks differ on the prospects for Chinese net trade in the coming decade with USDA expecting expanding production to offset rising pork consumption and the country to remain a small net exporter, and FAPRI and OECD-FAO projecting that China will become a growing net importer again.

The other main net importing countries, South Korea and Mexico are projected to increase their imports with FAPRI forecast strongly bullish in this regard. However, OECD-FAO forecast are less bullish for the two countries with South Korea net imports share keeping firm level throughout the outlook period and Mexico's losing its world share as domestic consumption increases stronger than production.

6.3. Poultry

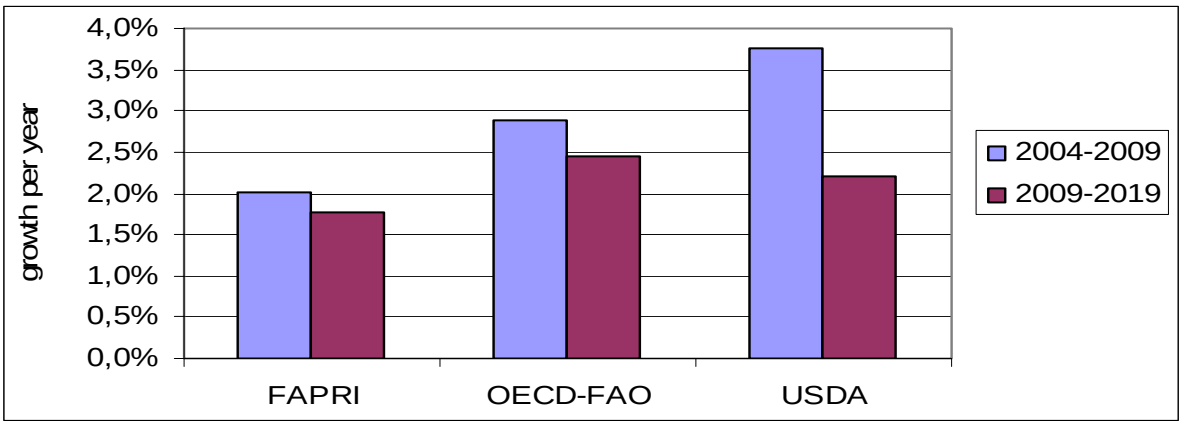
In the course of the economic crisis induced drop in meats demand and decreasing prices, poultry prices fared reasonably well, taking advantage of substitution effects between meats (consumers moving from more expensive red meat towards poultry). Over the projection period, prices are to grow firmly and continuously throughout the outlook period in all the forecasts, mainly driven by higher feed costs and increased demand. Although a gap exists between USDA and the other two projections over the price level, it converges by the end of the projection period.

Graph 6.3.1 Projected world poultry prices



The decent level of consumption in 2009 drove poultry production slightly up in all main producing countries, with the exception of the US, where production registered a significant decrease for the first time in thirty years. **World poultry production** driven by further expanding demand, mainly in the developing countries, exhibits the biggest growth rate among the meats, the Outlooks agree. Although the patterns of consumption are anticipated to be slightly different across countries, there seems to be a universal preference for poultry over the other meats in both developed and developing countries.

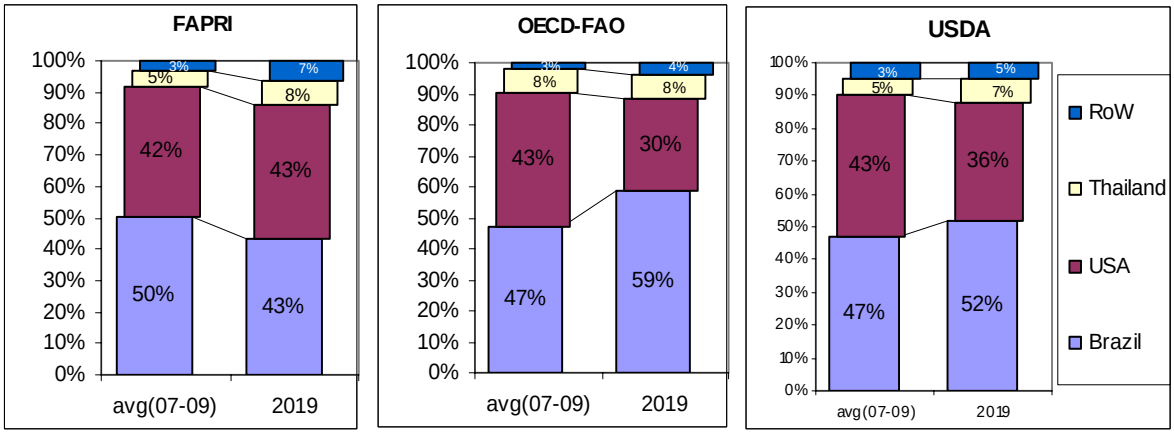
Graph 6.3.2 World poultry production



As import demand recovers, global poultry trade is also set to rebound over the projection period. While all the Outlooks expect world trade to increase steadily, OECD-FAO and USDA are relatively more bullish in their projections (29 and 27% increase over the 2007-09 base respectively) than FAPRI (18% growth).

The reasons behind this discrepancy are revealed when looking at the developments in net exports of the world's main players.

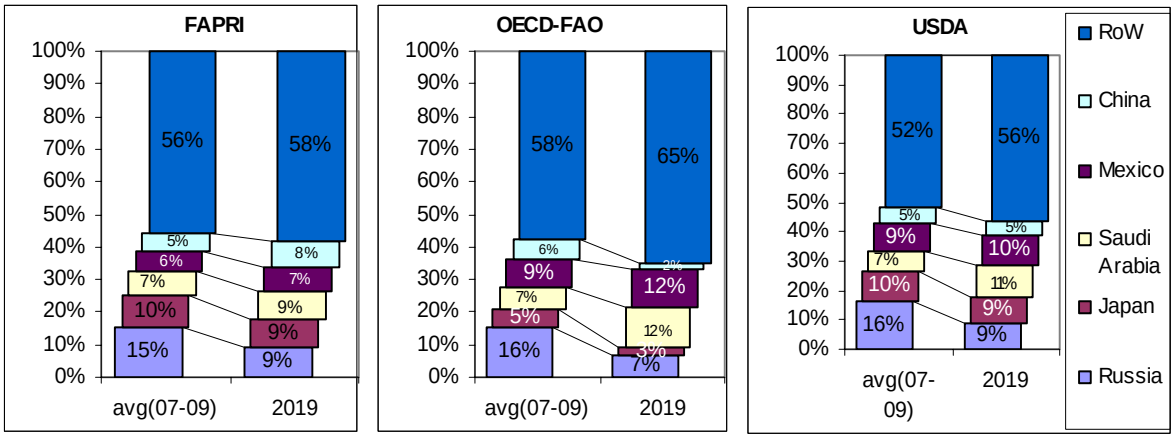
Graph 6.3.3 World poultry net exports by country



OECD-FAO and USDA expect Brazil, the world biggest net poultry exporter, to expand its global poultry market share at the cost of declining US position in the market. While production increases faster than consumption and poultry exports from Brazil grow, the contrary relation between domestic supply and demand happens in the US and its net export decline over the projection period. FAPRI expects Brazil net exports to stagnate throughout the outlook as a strongly growing production is offset by even bolder increase in domestic consumption.

On the imports side, the main players (Russia, Japan, Saudi Arabia, Mexico) are forecast to lose their markets share, according to very close projections by FAPRI and USDA. As Russia makes its poultry TRQ regime more restrictive, this restrains poultry imports and stimulates domestic poultry production. Japan's poultry net imports stagnate over the outlook.

Graph 6.3.4 World poultry net imports by country



OECD-FAO projects similar development in world markets; however it is far more bearish as regards Japanese and more optimistic about Saudi Arabia's imports. A discrepancy between the Outlooks exists as for the developments in the Chinese poultry market, with FAPRI forecasting a strong growth in consumption offsetting the increase in domestic production and drawing in substantially higher imports, and OECD-FAO projecting stronger growth in production and stagnating imports.

7. DAIRY

The **global dairy markets** recovered strongly from the gloom of the first part of 2009 when global dairy demand severely hit by the economic slowdown met with supply increases in reaction to the price hikes of 2007/2008. The reduced producers' returns led to a contraction in milk production during the second semester of 2009 and world prices increased substantially in the autumn of 2009, almost doubling by the end the year. In the first part of 2010, prices kept at firm levels mainly due to tight supplies from drought affected Oceania combined with lower early-season output in the US and EU, and continued strong demand mainly from Asia (particularly China) and some oil exporting countries. As the 2009-10 season ended earlier in New Zealand (due to the drought) with inventories having been drawn down and the overall global demand remaining good, world prices are forecast to keep these high levels till the new season milk production in Oceania comes into the markets in August 2010.

The medium-term outlooks (FAPRI, OECD-FAO) show strong growth potential for world dairy prices over the next decade driven by increasing population and vigorous demand expansion, mainly due to increasing dairy product popularity and rising incomes in developing countries. This year's projections are more optimistic compared to last year's forecasts due to the return to global economic growth and related recovery in global dairy prices already in second semester of 2009. The strong demand is expected to boost a supply response and the dairy sector is to remain one of the fastest growing sectors covered in the Outlook.

World dairy prices are expected to grow in nominal terms with FAPRI being more bullish about the growth rate (3-4% annually by the end of the outlook period) than OECD-FAO (2-3% increase). OECD-FAO forecasts a price weakening in the short term (2010-2011) due to the US and EU stocks reductions, which does not find support in FAPRI projections. On average dairy prices over the outlook are expected to stay firmly above the levels of the decade preceding the price hikes of 2007/08 with the highest gains registered by butter prices (FAPRI +94%, OECD-FAO +85%) followed by cheese, WMP and SMP (however with little difference between these 3 products in both outlooks and with the outlook average two-thirds higher than in the past decade in FAPRI projections and roughly 50% higher in OECD-FAO forecast).

World milk production increased by just one percent in 2009 (below a long-term average growth of 2%) as producers reacted to lower milk prices in the first half of the year. Over the projection period, world milk production is forecast to grow by 2.2% per annum relative to the 2007-09 base period and majority of the additional milk supply coming from developing countries, both Outlooks agree.

Global **dairy products output** is forecast to exhibit the highest growth rate for WMP and butter with very close forecast from OECD-FAO (2.7% per annum) and FAPRI (2.8%) in the case of the former and little difference (FAPRI 2.9% and OECD-FAO 2.2%) for the latter product (mainly due to more bullish FAPRI projections for India's butter output). Production of cheese and SMP forecast to exhibit lower grow rates (1.7-1.8% per annum, the Outlooks agree) with OECD-FAO outlook for SMP relatively bearish (0.5%), compared to FAPRI (1.6%), mainly due to bullish projections of the latter for India and Argentina SMP output.

On the **consumption** side, OECD will continue to dominate cheese consumption with further 20% increase over the baseline, while in developing countries demand is expected to grow the strongest for WMP and butter.

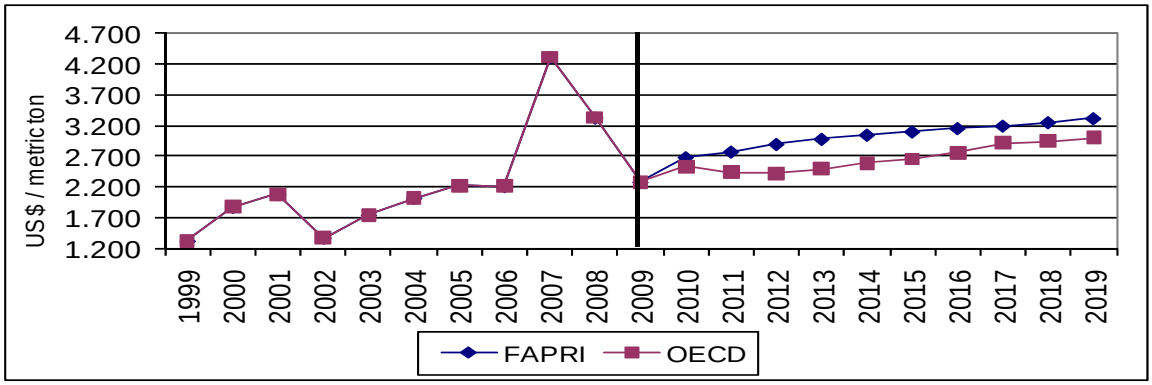
FAPRI is also very bullish about growth in global **trade in dairy products** with SMP and cheese exports increasing the strongest (49% and 41% respectively by 2019 compared to the 2007-09 base) and roughly one-quarter growth in the case of butter and WMP. This is not only more optimistic overall but also substantially different from OECD-FAO bearish forecast for butter (-5%; mainly due to lower imports from Russia) and SMP (9%). World exports are expected to grow for cheese and WMP (both 14%) compared to the 2007-09 base.

7.1. SMP

The most considerable discrepancies between the OECD-FAO and FAPRI outlooks for dairy sector concern world SMP markets projections.

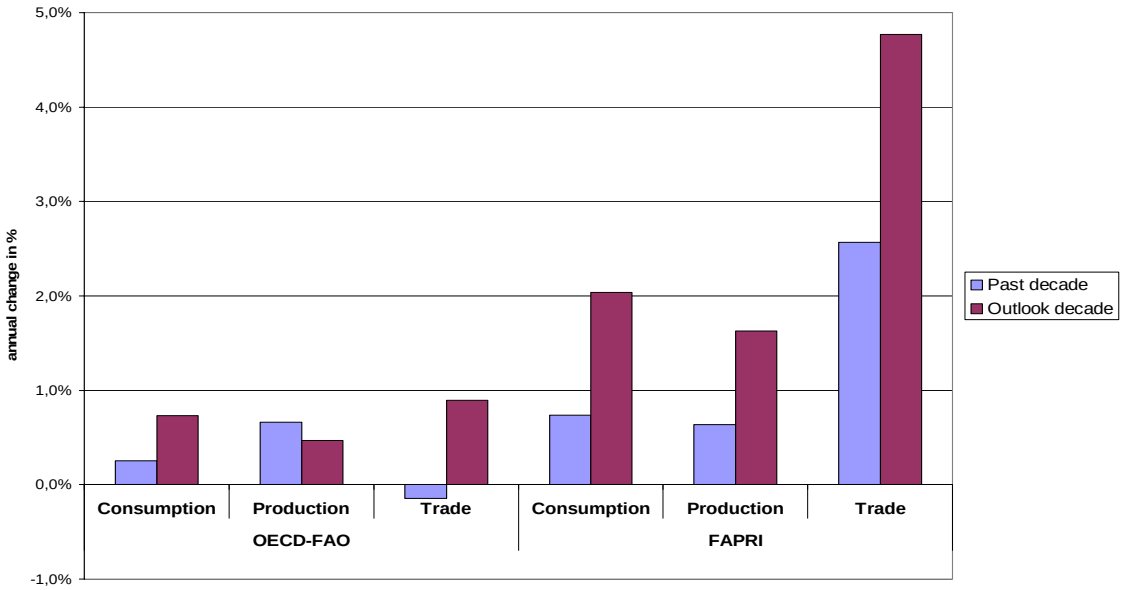
World SMP prices (Oceania fob export price) are projected to grow strongly over the outlook period. As in the case of the other dairy products, FAPRI is more bullish in its price forecast with a 46% increase over the 2009 base compared to a 32% in OECD-FAO projections. Despite a considerable difference in price forecast, in both Outlooks the increase in SMP price is to exhibit the highest rate of growth among the dairy products. However, when looking from a historical perspective, although average SMP prices are projected at levels firmly higher than the pre-2007/08 average, these will be lower than in the case of the other dairy (FAPRI +64%, OECD-FAO +44% above the average price of the 1999-2006 period).

Graph 7.1.1 Projected world SMP prices



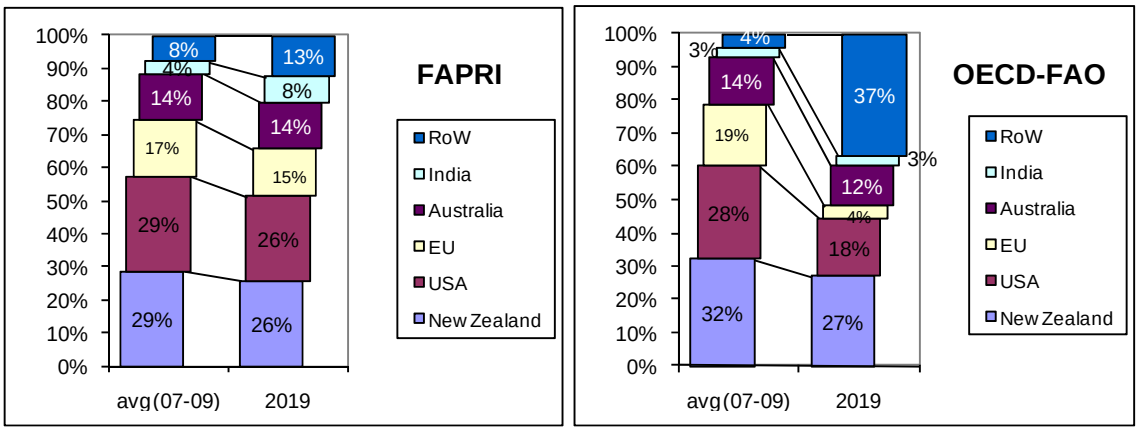
The Outlooks differ substantially over the rate of increase in **world SMP production and consumption**. While in FAPRI forecast, the above-mentioned strong increase in prices is driven by vigorously growing consumption (2% per annum over the outlook period) followed by production increasing by 1.6%, (both supply and demand expanding stronger than in the past decade), OECD-FAO is far more bearish with a 0.7% and 0.5% in consumption and production respectively (however, similarly to FAPRI, world consumption increases stronger than production and when compared to the past decade).

Graph 7.1.2 World SMP production and trade trend



As regards world trade, OECD-FAO projects a 9% increase in SMP trade from the 2007-09 base period, which is a five times lower rate of growth compared to FAPRI forecast for the same period (this is also the highest rate of difference in projections for world trade in dairy products between the Outlooks). While combined market share of the top SMP exporters (New Zealand, US, EU, Australia) declines over the baseline as there is an increase in exports from other countries, such as India, Ukraine, and Brazil, in both Outlooks,. OECD-FAO is far more bearish about the top SMP exporters substantially losing their world share over the projection period.

Graph 7.1.3 World SMP net exports by country



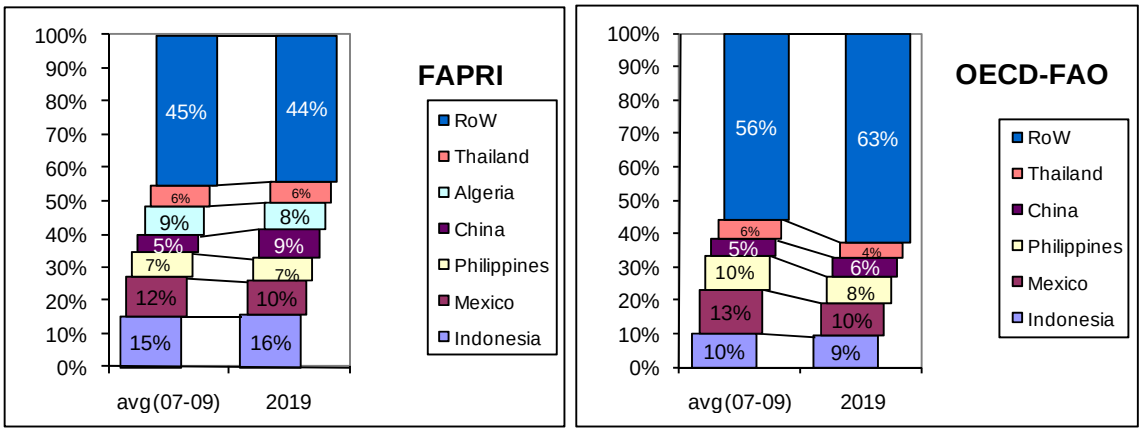
While OECD-FAO forecasts a fourfold drop in the EU share in world SMP exports from 19% in 2007-09 down to 4% at the end of the baseline and a 10% decline in the US share (from 28% to 18%), FAPRI is more optimistic with only 2% and 3% decrease in the EU and US share of world exports respectively. In the case of the OECD-FAO Outlook, the EU drop results from strong decrease in SMP production (23% over the baseline) compensated by EU SMP consumption at a steady, roughly equal to 2009, level. The discrepancy between the Outlooks as concerns developments in the US SMP net exports results from more bullish FAPRI forecast for the US production (a 16% increase by the

end of the baseline compared to the 2010 base), which is the double of the OECD-FAO projection over the same period (8% increase by the end of the outlook period after a sharp 10 % decline between 2009 and 2010). US consumption develops along a modest 6% increase rate in both Outlooks.

The bullish FAPRI forecast for SMP world trade is partly driven by India's SMP exports. As a by-product of a strong butter production, India's SMP production grows by 62.1% over the baseline, creating excess supplies that allow SMP exports to rise (by 228% compared to the 2007-09 base). OECD-FAO outlook is far less bullish about India's ability to increase its SMP exports (although still optimistic with a 44% growth expected).

On the imports side, Southeast Asia (Indonesia, Malaysia, Philippines, Thailand, and Vietnam) keeps its SMP imports strong.

Graph 7.1.4 World SMP net imports by country

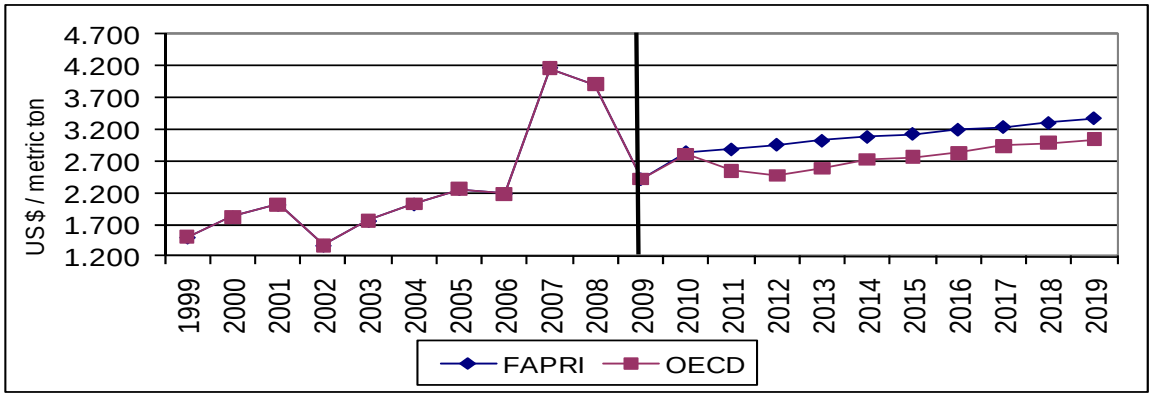


7.2. WMP

Both Outlooks have strong and overall very close projections for global WMP market in the next decade. World WMP market is projected to grow vigorously over the outlook period with consumption expanding mainly in developing countries. In OECD-FAO forecast WMP production and consumption expand the strongest among the dairy products, in FAPRI forecast it trails closely only behind the bullish expansion of butter market.

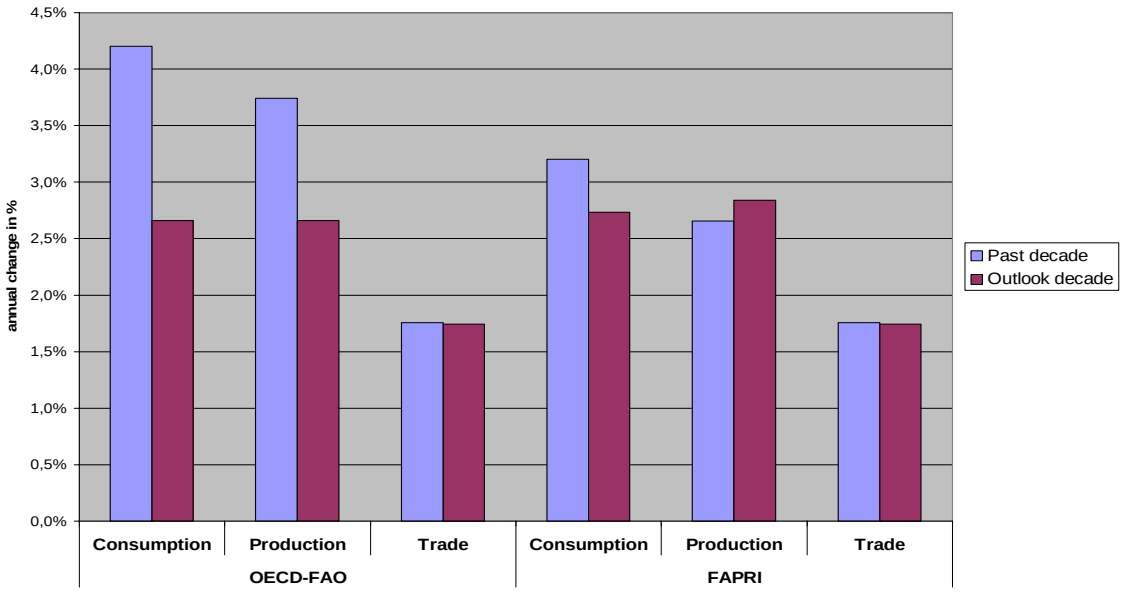
World WMP price (Oceania fob export price) forecasts, similarly to the other dairy products, are more bullish in FAPRI Outlook (40% growth over the projection period) than OECD-FAO forecast (26% increase). The average prices over the outlook are to stay firmly above the levels of the period preceding the price hikes of 2007/08 (by over two-thirds in FAPRI, almost 50% in OECD-FAO forecast).

Graph 7.2.1 Projected world WMP prices



A solid growth for **world WMP production** is forecast in both Outlooks (2.7% per annum over the projection period by OECD-FAO and 2.8% FAPRI). The annual rates of growth for WMP production and consumption would, however, be lower than those exhibited in the past decade. Moreover, FAPRI forecast for world production increasing at a higher rate than consumption, contrary to OECD-FAO, relates to its relatively less bullish projections for consumption in world's main consuming countries, China and Brazil. Chinese and Brazil WMP consumption will expand, FAPRI forecasts, by 3.5% and 2.7% per annum respectively (vs. 5.7 and 5.6% increase in domestic production) compared to 4.2 and 3.7% for the respective countries in OECD-FAO projections.

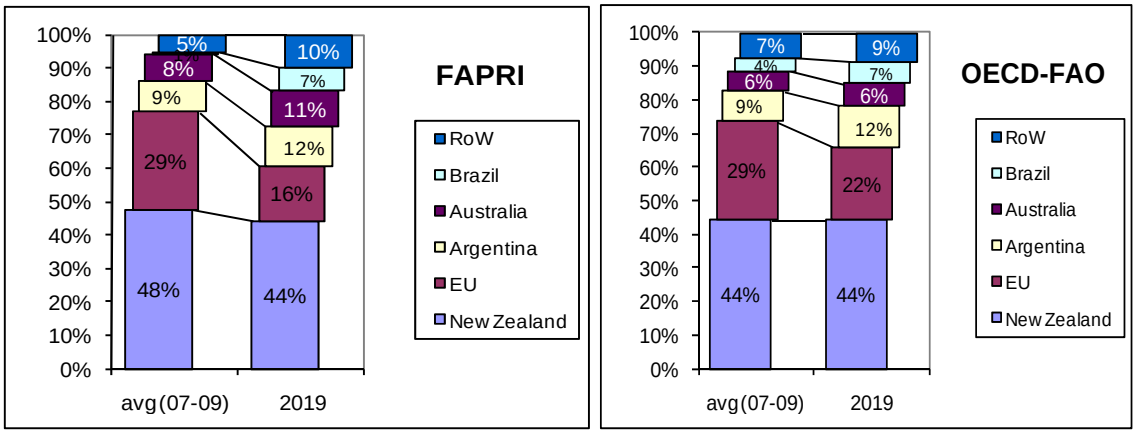
Graph 7.2.2 World WMP production and trade trend



Also **world WMP trade** projections are very close in the Outlooks; both expect world trade to expand by a quarter compared to the 2009 base (this will equal to a 1.7% annual growth).

The world's top two exporters (New Zealand and the UE) are anticipated to hold onto their positions. However, while New Zealand exports expand and the country firmly keeps its global market share, EU WMP exports decrease and it loses a bulk of its global share. OECD-FAO, similar to FAPRI, projects increasing role of Argentina and Brazil as emerging world exporters of WMP. Argentina is to expand its share of world exports from 9% to 12% over projection period (and become the world's third WMP exporter), while Brazil is to follow with a 7% share in 2019 (expanding from 4% in 2007-09), according to OECD-FAO. FAPRI forecasts an almost identical expansion in Argentina net exports and even more bullish growth in Brazil exports (as improved domestic economic conditions and favorable government policies boost Brazilian dairy production).

Graph 7.2.3 World WMP net exports by country



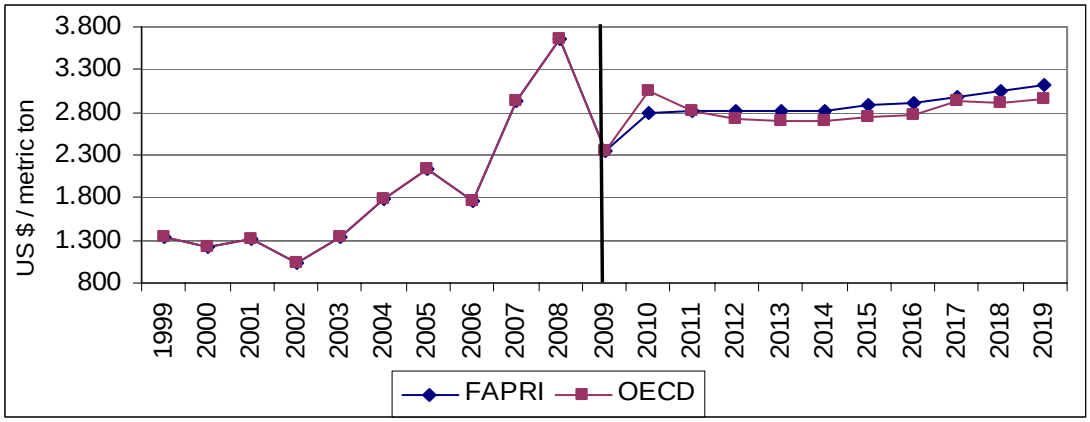
There is a discrepancy between the Outlooks concerning China's ability to recover from melamine scandal of 2008 that dramatically affected Chinese WMP exports. Over the

baseline period, FAPRI forecast domestic WMP production to expand and China to increasingly become net WMP exporter, while OECD-FAO is far less optimistic in this regard and expects that the increase in imports of WMP would ease over the short run and imports would return to historical levels.

7.3. Butter

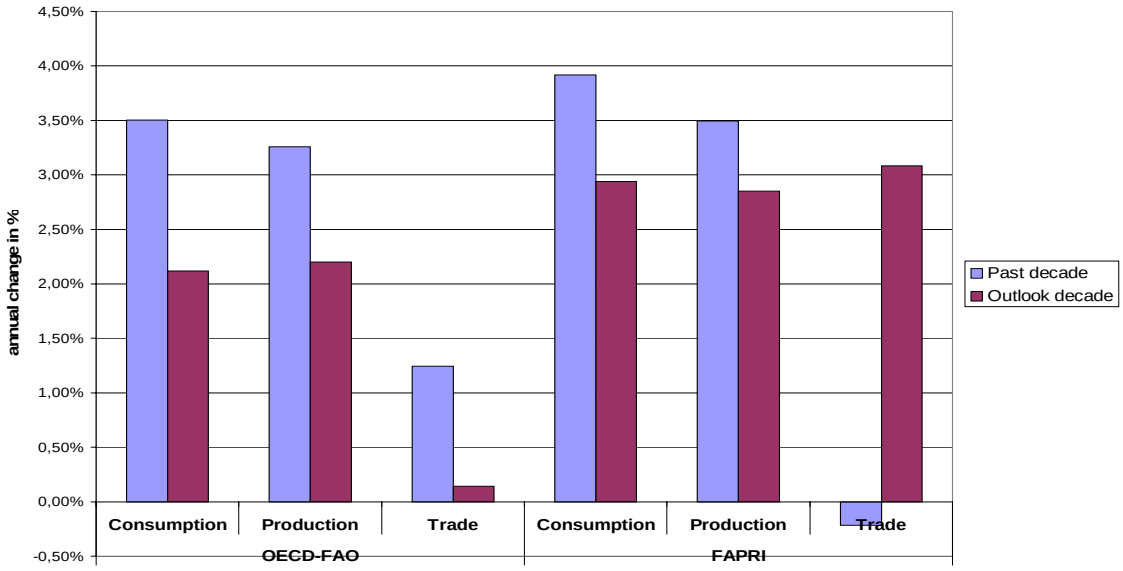
World butter price forecasts (Oceania fob export price) are relatively close between the two Outlooks (with average nominal price over the outlook period only 2% higher in the FAPRI projections) with FAPRI being slightly more bullish than OECD-FAO. Overall, prices are projected at high historical level, firmly above the levels of the period preceding the price hikes of 2007/08. Butter prices are forecast to register the highest gains among all the dairy products (FAPRI +94%, OECD-FAO +85% above the average price of the 1999-2006 period).

Graph 7.3.1 Projected world butter prices



World butter **production** is forecast to develop along a strong growth rate (2.8% per annum over the outlook period), supported by slightly stronger increase in **consumption** (2.9%), according to FAPRI projections. OECD-FAO forecasts also a sound increase in butter production of 2.2%, however, more vigorous than increasing consumption (2.1%). In both Outlooks, the price rise would nonetheless be slower than over the past decade (3.5% and 3.3% for the respective Outlooks). FAPRI has more bullish forecast for India's butter output, the world's biggest butter producer (5% per annum over the outlook) compared to OECD-FAO (roughly 3%), partly offset by lower projections of the former concerning Russia's production (0.6%) compared to the other's forecast (2.3%).

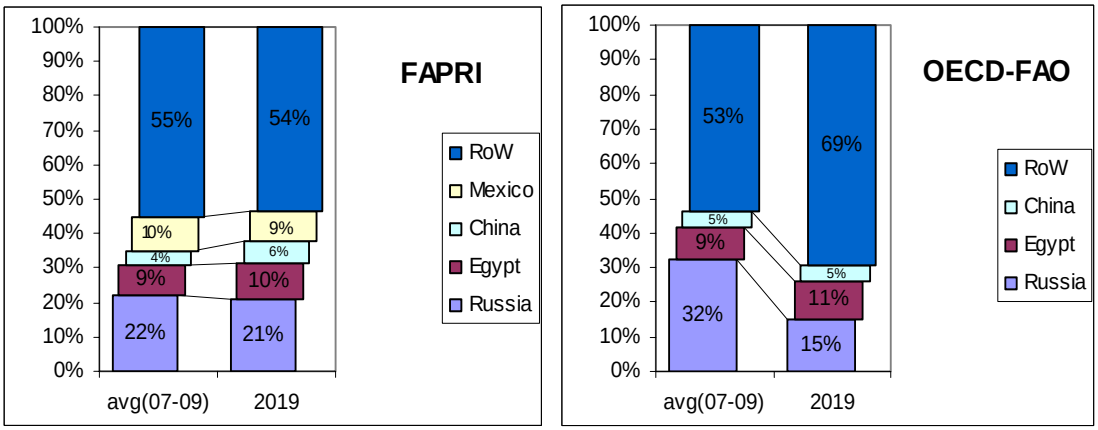
Graph 7.3.2 World butter production and trade trend



The two Outlooks differ substantially as regards **world butter trade**, FAPRI is more bullish with forecast of a 26% growth compared to the 2007-09 base period, while OECD-FAO projects stagnation (-5% over the same period).

The difference should be mainly associated with Russia's ability to meet its growing import demand. As mentioned above, OECD-FAO forecasts that Russia driven by the government's push for self-sustainability, substantially increases its own production and, as a consequence, its net imports drop by 41% by the end of the baseline. FAPRI is less optimistic about Russia's ability to meets its butter demand by domestic production and forecasts Russia's net imports to increase by 22% by the end of the baseline.

Graph 7.3.4 World butter net imports by country

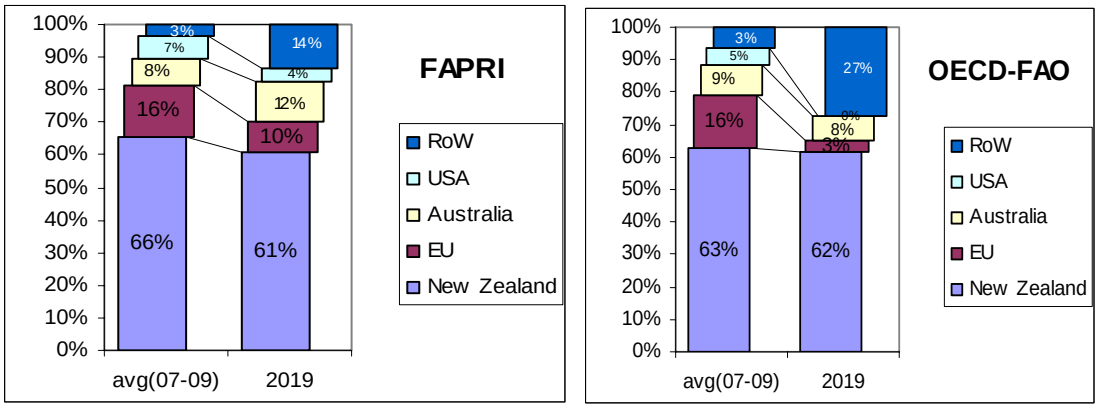


While FAPRI projects Mexico's share (Mexico being the world's third biggest importer) in world butter imports to remain stable (from a 10% of world's net butter imports in 2007-09 to 9% at the end of the baseline), OECD-FAO does not mention **Mexico** as global player in its outlook.

Both Outlooks forecast decreasing net butter exports from the EU and US in 2009-2019, however in relation to the different projections on Russia imports, they differ on the rate

of the decline. FAPRI is far less pessimistic (with roughly 40% drop in the EU and US share of world net exports) compared to a -80% decline for the EU and no US net butter exports projected by OECD-FAO at the end of the baseline.

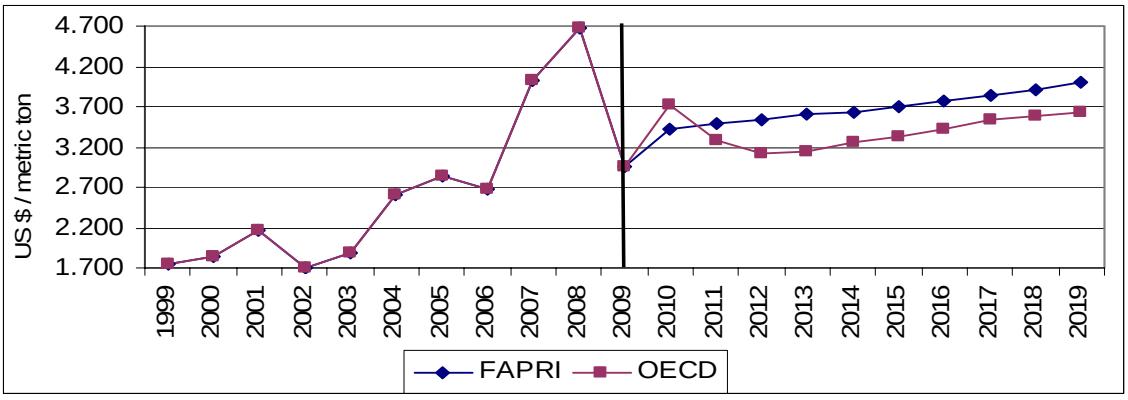
Graph 7.3.5 World butter net exports by country



7.4. Cheese

As in the case of the other dairy products, world cheese prices (Oceania fob export price) are forecast to grow over the outlook period. OECD-FAO forecasts another dip in cheese prices in 2011-12, after which prices are to recover and steadily increase leading a 23% rise over the projection period overall). More optimistically, FAPRI forecasts a continuous growth over the whole outlook period (35% in 2009-19).

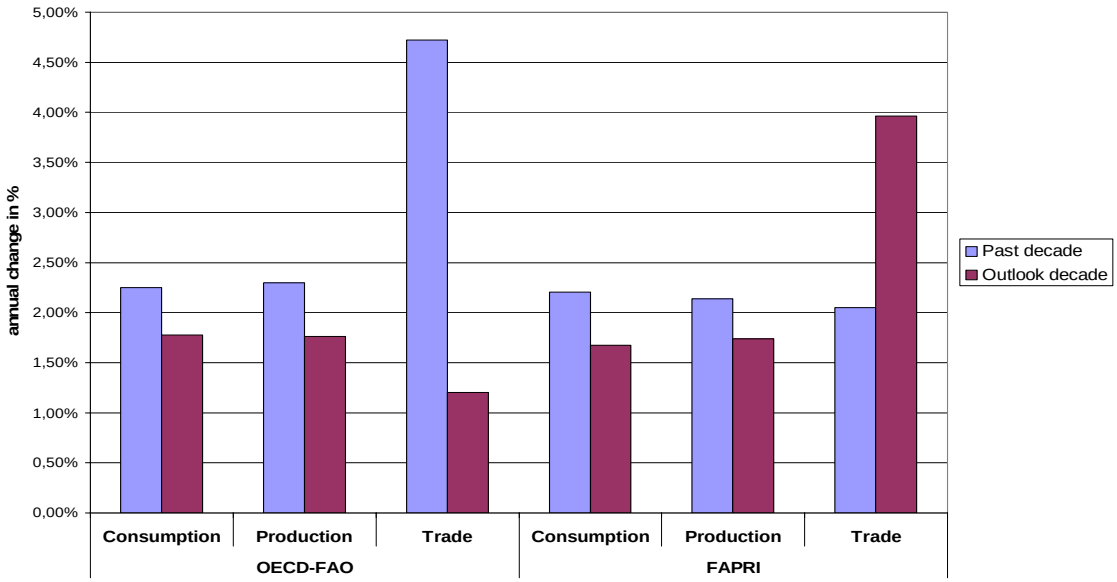
Graph 7.4.1 Projected world cheese prices



World cheese **consumption and production** develop along a steady growth curve, slightly lower than during the past decade, the Outlooks projections are very close (1.8% per annum for consumption and production in OECD-FAO vs. 1.7% for by FAPRI). The US and EU account for roughly a half of the global growth in production.

Moreover, despite the westernisation of diets and change in lifestyle in developing countries, particularly important drivers behind rapidly growing cheese demand, the developed countries still account for three-quarters of the world total consumption.

Graph 7.4.2 World cheese production and trade trend

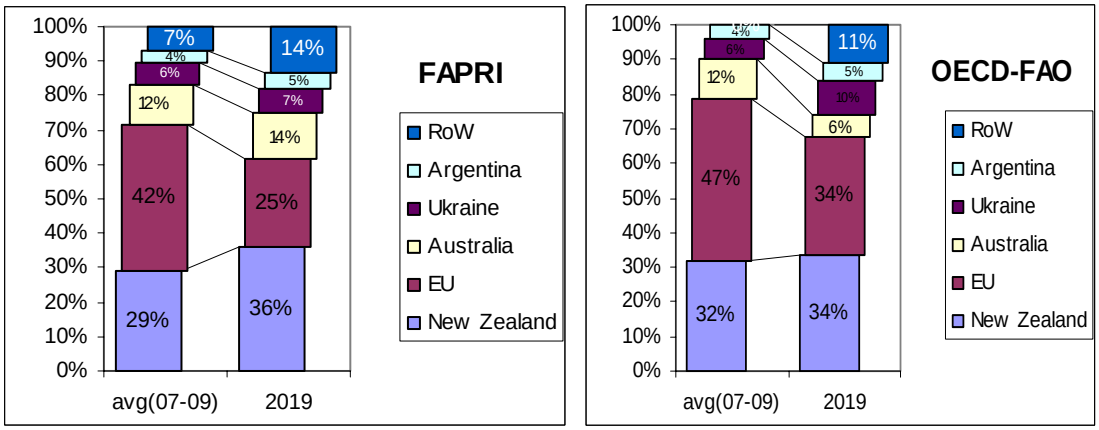


After the crisis induced contraction in global cheese demand, global trade is expected to increase fuelled by re-emerging demand in developing countries. FAPRI is again substantially more bullish as regards cheese trade growth over the baseline period (41%) vs. 14% by OECD-FAO. Moreover, while the former projects that cheese trade over the next decade will almost double the rate of growth in the past, the latter forecasts a dramatic drop in global trade.

As for the world's main net cheese exporters, FAPRI is more bullish than OECD-FAO about the main net exporters (New Zealand, Australia) increasing their world share and the US becoming a net exporter from 2017 on, however FAPRI's forecast turns out to be bearish about developments in EU net cheese exports.

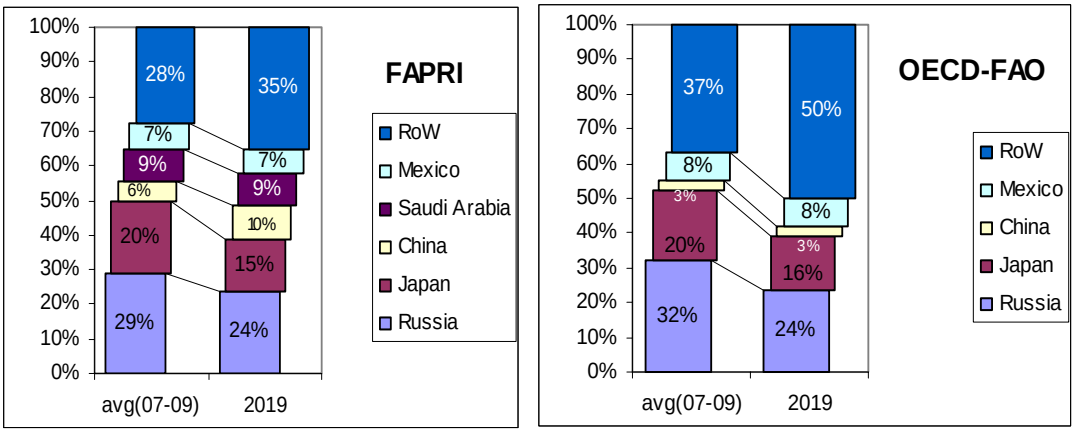
Due to strong domestic demand, the EU net exports and consequently its share of world exports drop by 17 percentage points over the outlook period compared to 13 percentage points decline forecast by OECD-FAO. As for Australia's export performance, while OECD-FAO forecasts that Australia's share of world exports will drop by half, FAPRI is much more optimistic with a forecast of a 2 percentage points increase over the baseline

Graph 7.4.3 World Cheese net exports by country



On the imports side, the Outlooks forecast go along a similar path for the main world players (Russia, Japan and Mexico). However, FAPRI projects a substantially increasing role for China as a global cheese consumer (net imports growing by 6% per annum over the outlook period vs. 3.6% in OECD-FAO forecast).

Graph 7.4.4 World cheese net imports by country



8. BIOFUELS

The importance of biofuels among agricultural commodities on the world market has strongly emerged during the last few years and will probably keep growing in the next decade, thus resulting in growing global demand for feedstocks as maize, wheat, sugar (ethanol) and vegetable oils (biodiesel) and increasing competition with food and feed uses for the utilisation of agricultural land.

Given that biofuels are generally more expensive than transport fuel produced from mineral oil, their expansion was – and will be - largely driven by the adoption of governmental policies aiming at promoting the use of renewable energy sources in the transport sector. Indeed, a high number of developed and developing countries have been implementing specific measures in this respect, notably imposing targets for minimum mandatory use of biofuels and/or providing financial incentives (e.g., subsidies, tax credits and exemptions).

However, the prospects of the biofuels industry are also strongly influenced by crude oil price outlook, since ethanol and biodiesel are substitution products for conventional fuel (respectively for gasoline and diesel). In this respect, the weak energy prices registered in the first half of 2009 brought about a significant squeezing of biofuels' profitability worldwide, thus leading to severe difficulties and to disinvestment in the sector. Conversely, the renewed increase in oil price in the second half of last year contributed to a partial recovery of the market.

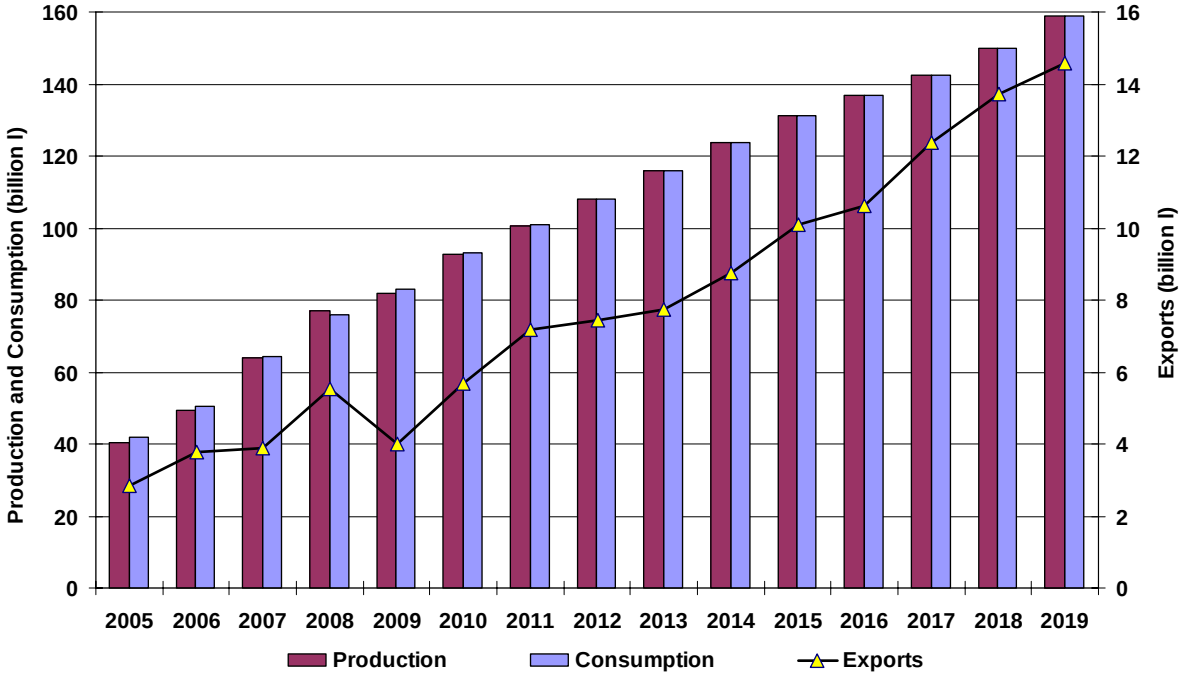
The outlook for the biofuels sector is one of the most uncertain among all agricultural commodities and is highly dependent on a series of key assumptions:

- Evolution of biofuels legislation in the various countries
- Evolution of the energy markets and in particular of oil price
- Yield response and land use change induced by increased food-fuel competition
- Technological advancement within the biofuels sector (improved efficiency of production process, development of second generation biofuels) and for other types of renewable energy, possibly competing with biofuels.

8.1. Ethanol

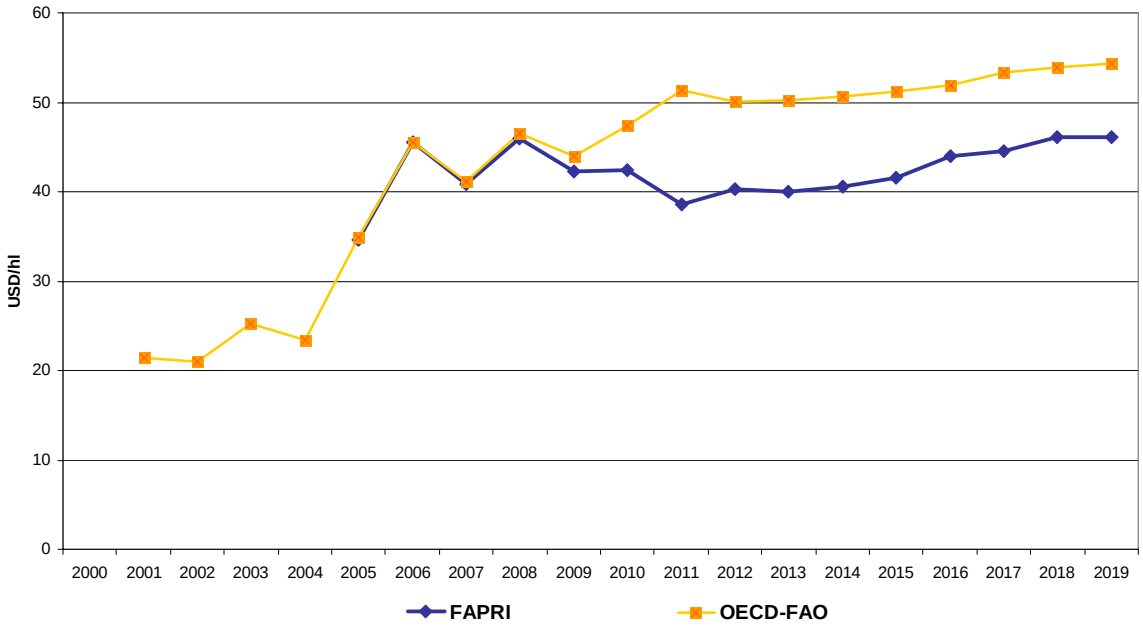
According to the OECD-FAO outlook, global ethanol production and consumption will increase from 93 to 159 billion litres between 2010 and 2019, corresponding to an annual growth rate of 6.2%. FAPRI projections, which do not explicitly provide a total for world production, forecast a slightly less sharp increase (+4.6%), based on the most important players of the ethanol market. With regard to trade, the OECD-FAO projects that the global ethanol exchanges should grow by 11% per year between 2010 and 2019, thus approaching the volume of 15 billion litres by the end of the period. On its side, FAPRI believes in a slightly more rapid development of trade flows, thus estimating that the total volume will attain 16 billion litres in 2019, despite considering only the sum of all positive net exports.

Graph 8.1.1 World ethanol balance sheet (OECD-FAO outlook)



Source: OECD – FAO

Graph 8.1.2 Ethanol: projected world prices



In the OECD-FAO baseline, ethanol world price is projected to display a strong growth in 2010 and 2011, after the decline in 2009, and then to continue increasing smoothly over the rest of the projection period, thus reaching 54 USD in 2018. On the other hand, FAPRI foresees a persistent drop of ethanol price until 2011, and a slow recovery in the rest of the projection period, where the path of FAPRI and OECD-FAO projection are therefore roughly parallel. However, the price drop in the first two projection years is

such that FAPRI is systematically lower than OECD-FAO and its price in 2019 will not exceed the level of 2008, i.e. 46 USD/hl.

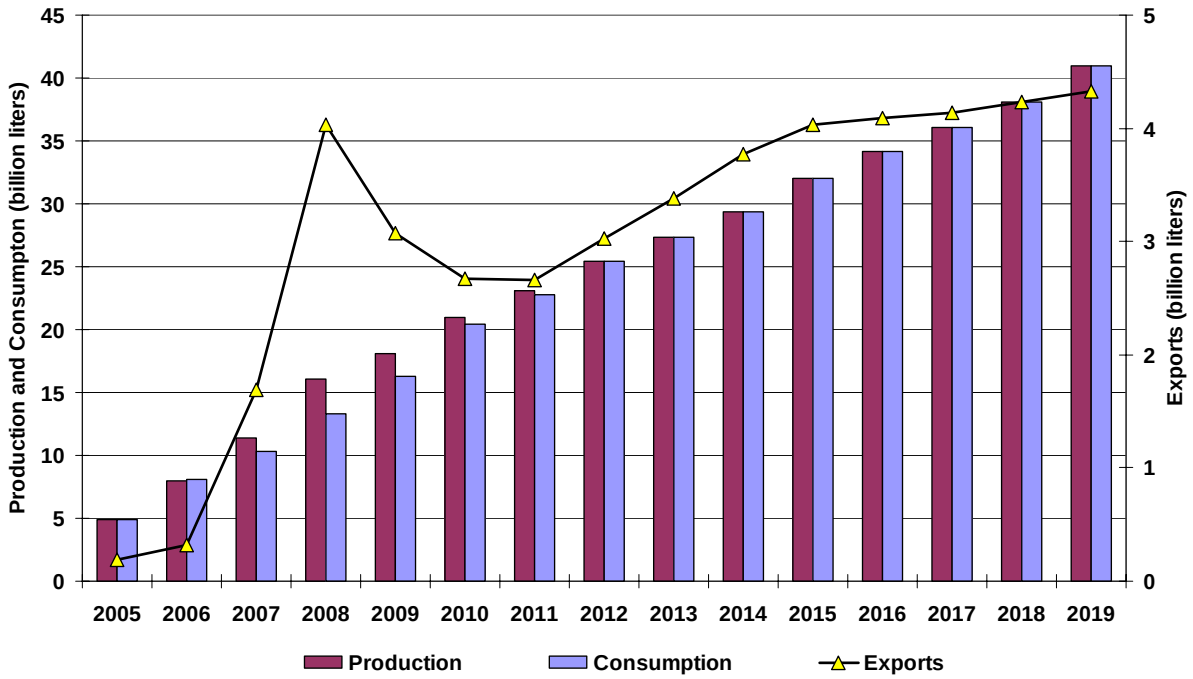
The reason for diverging ethanol prices for the first two years of the projection period does not seem to be just imputable to the assumptions on oil prices: only in 2010, FAPRI assumes significantly lower oil prices than OECD-FAO (63 vs 77 USD/barrel), but projections are pretty much close over the rest of the period (see chapter 2).

As to the projections regarding individual countries, OECD-FAO and FAPRI agree that world ethanol production over the next decade will continue to be dominated by the United States and Brazil (with a joint share of roughly 80%), whereas the EU, Canada, China and India are much smaller players. However, while Brazil is expected to strengthen its position as top world ethanol exporter, the United States should be confirmed as the first world importer, distantly followed by the EU, Canada and Japan.

8.2. Biodiesel

According to the OECD-FAO outlook, global biodiesel production and consumption is projected to increase from 21 to 41 billion litres between 2010 and 2019, corresponding to an annual growth rate (8.0%), so slightly higher than for ethanol. Conversely, FAPRI foresees a more modest annual growth (4.0%) of biodiesel production and consumption over the projection period, i.e. less than for ethanol, although their calculation only takes into account the main producing countries.

Graph 8.2.1 World biodiesel balance sheet



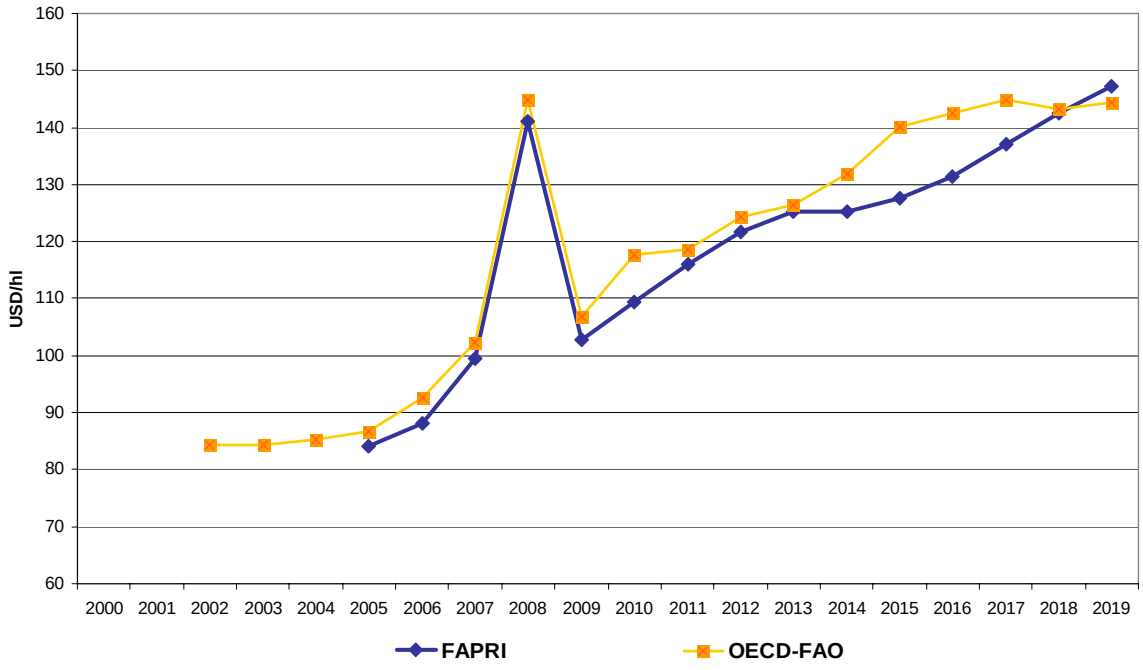
Source: OECD – FAO

As to global trade, according to the OECD-FAO, the growth rate of biodiesel over the projection period amounts to 5.5% per year, with global traded volumes rising from 2.7 billion litres in 2010 to 4.3 billion in 2019. On the other hand, FAPRI forecasts much lower volumes, i.e. only 2.3 billion litres for 2019. Apart from the more limited country coverage of FAPRI, this large gap between the two projections is fundamentally due to

different views about the place where the processing of the vegetable oil production into biodiesel would take place: in particular, while FAPRI thinks that biodiesel would be essentially produced by the country where final consumption takes place (trade thus being focused on vegetable oils rather than biodiesel), the OECD expects a larger volume of biodiesel to be directly traded at global level.

Contrary to the case of ethanol, FAPRI projections regarding biodiesel prices are quite consistent with OECD-FAO and both seem to follow the projected development of crude oil price. Thus, biodiesel price is expected to follow an upward trend between 2009 and 2019, after the plummet registered in 2009. OECD-FAO projects an increase from 107 USD/hl in 2009 to around 144 USD/hl in 2019, whereas for FAPRI the corresponding price rises from 103 USD/hl to147 USD/hl.

Graph 8.2.2 Biodiesel: projected world prices



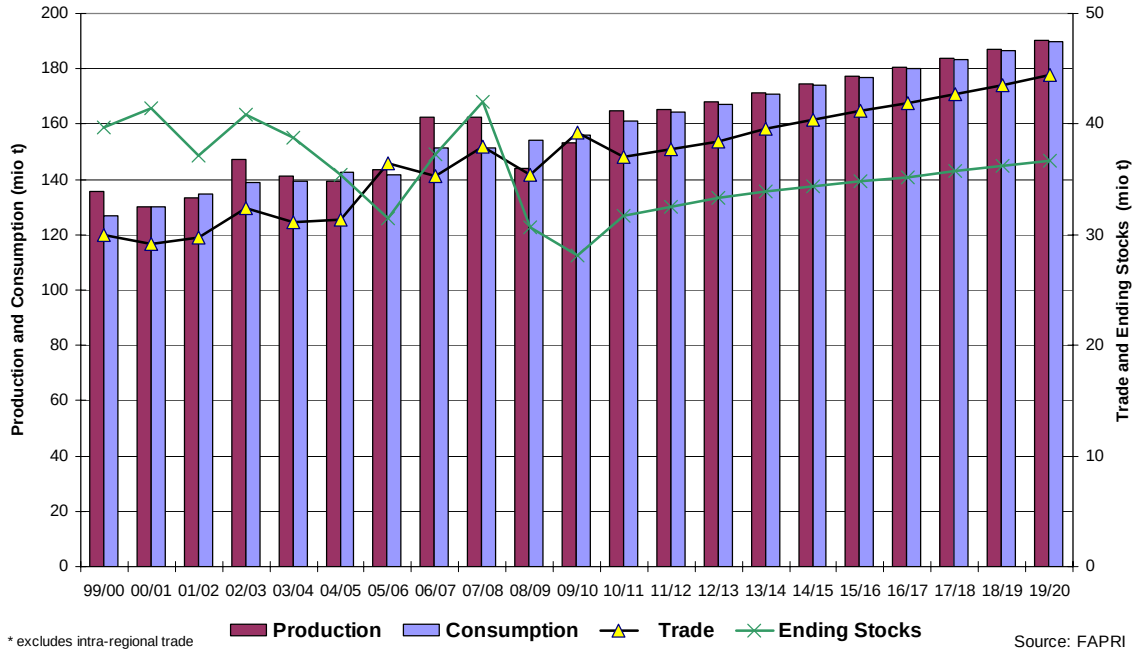
Both OECD-FAO and FAPRI essentially agree on the general picture of the biodiesel sector considered at country level. They both notably foresee the EU confirming its role as world giant in biodiesel production and consumption (with a market share going certainly beyond 50%), whereas the US, Brazil and Argentina would follow with much smaller market shares. The EU is also expected to largely dominate biodiesel imports, while Argentina is projected to be by far the world's largest biodiesel exporter, given that its significant domestic production would only to a minimal extent be consumed internally. On the other hand, Brazilian production would be essentially destined for internal consumption, with little room for exports, while the US biodiesel export potential is expected to suffer from the antidumping measures taken by the EU, which represents the most important destination of US exports.

9. SUGAR

Against the background of growing demand, shortfalls in production in key players resulted in a deficit for two years in a row. Stocks were drawn upon and prices hit record levels at the beginning of 2010. Since then, prices have been more volatile than usual.

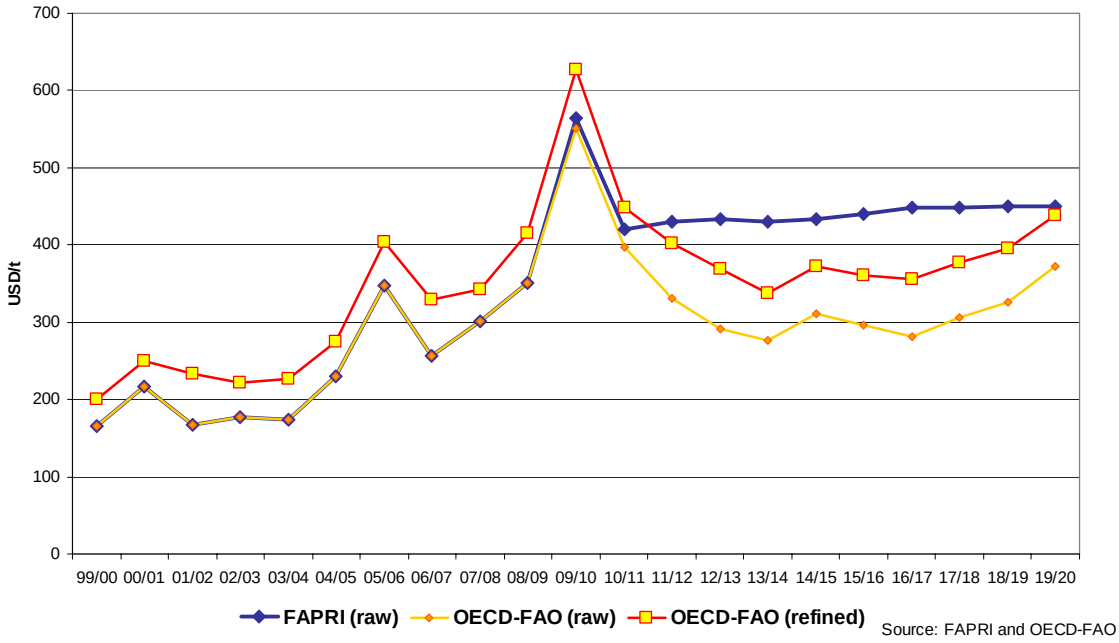
Both OECD-FAO and FAPRI expect that production will exceed consumption in the coming years and that stocks will replenish. However, the stock-to-use ratio would remain below the rates achieved in the early 2000. Trade keeps increasing, in line with the sustained growth of consumption. By 2019/20, production and consumption are expected to come close to 200 million tonnes, with trade representing nearly one quarter of that level.

Graph 9.1 World sugar balance sheet



While FAPRI foresees a fairly balanced increase in production and consumption, OECD-FAO projections reflect the cyclical pattern of sugar production and the enhanced use of sugar cane for biofuel. This pattern also appears in results for stocks and prices. Nevertheless, OECD-FAO price projections remain lower than FAPRI's. OECD-FAO expects production to again become higher than consumption at the end of the projection period. FAPRI explains that prices are sustained by strong import demand. While prices come down from their recent record level, on average they are expected to remain higher than over the previous decade.

Graph 9.2 Price[5] projections for sugar



Brazil remains the leading producer and exporter of sugar, even if more than 50% of cane production is used for biofuels. Exports decrease from the peak level achieved in 2009/10, but they are set to keep growing over the projection period. By 2019, Brazilian exports are estimated to reach more (OCDE-FAO) or less (FAPRI) than 30 million tonnes. According to FAPRI, Brazil would account for more than 60% of world exports. OECD-FAO expresses a note of caution about the "growing concentration of sugar exports" as a possible "other factor contributing to future market volatility".

While OECD-FAO expects India to become a leading importer (with 6 million tonnes by 2019), FAPRI considers that Indian trade will remain balanced over the projection period (even small net exporter). These diverging results reflect different projections for production: FAPRI expects a sustained recovery while OECD-FAO reproduces the cyclical pattern of Indian sugar production.

Both organisations agree that the EU will remain a net importer, with growing net imports following the full implementation of the domestic reform and of preferential agreements. EU-27 imports are estimated by FAPRI at more than 4 million tonnes by 2019, making the EU the leading net importer.

[5] Raw: ICE Inc.N° 11, FOB; Refined: Euronext N) 407, FOB various origins.