European Commission

Prospects for EU agricultural markets and income 2014 2024

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Report

Agriculture and Rural Development

Note to the reader

This report presents the medium-term outlook for the major EU agricultural commodity markets and agricultural income to 2024, based on a set of coherent macroeconomic assumptions deemed most plausible at the time of the analysis. These projections assume also a continuation of current agricultural and trade policies.

This analysis is based on information available at the end of September 2014 and an agro-economic model used by the European Commission.[1] It is accompanied by an uncertainty analysis in order to quantify potential variations of the results stemming in particular from fluctuations in the macroeconomic environment and yields of the main crops.

As part of the validation process, an external review of the baseline and the uncertainty scenarios was conducted at an Outlook Workshop in Brussels on 21-22 October 2014. Valuable input was collected from high-level policy-makers, modelling and market experts from EU and non-EU countries, private companies and other stakeholders, and international organisations such as the Organisation for Economic Cooperation and Development, the United Nation's Food and Agriculture Organisation and the World Bank.

This European Commission publication is a joint effort between the Directorate General for Agriculture and Rural Development and the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS). Authorship for the contents of the publication rest with the Directorate-General for Agriculture and Rural Development. While all efforts are made to reach robust agricultural market and income prospects, uncertainties remain. This publication does not necessarily reflect the official opinion of the European Commission.

In the Directorate General for Agriculture and Rural Development the publication and underlying baseline were prepared by Koen Dillen, Benjamin Van Doorslaer, Livia Galita, Pierluigi Londero, Koen Mondelaers and Sophie Hélaine (coordinator). Maciej Krzysztofowicz, Balázs Bence Tóth and the outlook groups of the DG for Agriculture and Rural Development contributed to the preparation of the baseline.

At JRC-IPTS, the team helping to prepare the baseline and the uncertainty analysis, and organising the Outlook Workshop, included Sergio René Araujo Enciso, Jacques Delincé, Thomas Fellmann, Ignacio Perez Dominguez, Fabien Santini (coordinator), as well as Alexandra von der Pahlen, Cornelia Suta and Robert M'barek. Stefan Niemeyer (JRC-IES) and Szvetlana Acs also contributed to the work.

We are grateful to participants in the Outlook Workshop and many other colleagues for the feedback received during the preparation of the report.

1 EU version of the OECD-FAO AGLINK-COSIMO model.

Executive summary

This report presents the medium-term outlook for the major EU agricultural commodity markets and agricultural income to 2024, based on a set of coherent macroeconomic assumptions deemed most plausible at the time of the analysis. These projections assume also a continuation of current agricultural and trade policies.

The medium-term prospects developed in this report incorporate changes in the short-term broader macroeconomic environment. Cereal prices, which set the tone for most market outlook prospects, are still expected to remain above historical averages in the EU, but significantly below the 2010 and 2012 peaks. Total meat consumption is trending downwards, with poultry meat the only sector for which both production and consumption are projected to increase. EU dairy prospects remain particularly favourable in the longer term, due to growing world demand, despite an expected deterioration of prices in the short term.

Policy and macroeconomic assumptions

The medium-term outlook reflects current agricultural and trade policies, including future changes already agreed upon. Account was taken of common agricultural policy (CAP) implementation options of which Member States notified the Commission in August 2014. However, the baseline reflects the CAP reform only in part, because the level of aggregation does not allow Member States' implementation of policy measures that have an impact on individual farmers' decisions (e.g. greening) to be fully factored in.

Trade policy is assumed to respect the Uruguay Round Agreement on Agriculture. Free-trade agreements that have not yet been ratified, such as that with Canada, are excluded, but the concessions to Ukraine are included. The one-year import ban on agricultural products and foodstuffs imposed by the Russian Federation in August 2014 is taken into account.

Macroeconomic assumptions include a decreasing oil price at the beginning of the outlook period followed by a period of steady increase to 126 USD per barrel in 2024 (though this remains one of the most sensitive and uncertain assumptions). After two years of a weakening euro, the exchange rate is assumed to appreciate slightly to 1.37 USD/EUR in 2024. Economic growth in the EU is expected to recover, but to remain below 2 % a year (except in 2017).

Arable crops

The global medium-term outlook for arable crops shows solid world demand and stable prices, leading to large EU cereal exports. In the EU, domestic demand for cereals and oilseeds is driven by feed use and first-generation biofuel production. On the supply side, arable area in the EU is expected to decline slightly (in line with the long-term trend), with production therefore depending on marginally better yields and the reallocation of crop areas.

As regards biofuels, it is assumed that progress towards the Renewable Energy Directive (RED) target of 10 % of renewables in the energy mix will continue, but biofuels will represent only 7 % of liquid transport fuels by 2020. Consumption of (in particular, first-generation) biofuels is projected to grow less dynamically than expected in earlier editions of this report because of the slow increase observed in recent years and the absence of strong policy incentives to invest.

Cereals production in the EU is foreseen as continuing its slow growth and to reach 317 million tonnes in 2024. A further shift towards maize and wheat production is expected, at the expense of other cereals. The main drivers are increased demand from the livestock sector combined with a slight growth in ethanol production in the first few years, but also good export prospects, mainly for wheat. Despite the strong recovery in EU stocks of major cereals in 2013 and 2014, the increased demand will keep stock-to-domestic use below the average of the past decade for the outlook period. After recovering from the current low prices, cereal prices are expected to stabilise in nominal terms at around 180 EUR/t, above historical averages, though significantly lower than during the 2010-12 peak.

Over the outlook period, oilseed production grows slowly up to 32 million tonnes per year, limited by agronomic constraints and rather stable demand for biodiesel. EU oilseed production remains dominated by rapeseed and sunflower seed, while the EU should import annually 22.4 million tonnes of protein meals, mainly soymeal, for the livestock sector. Meal imports or the crushing of imported seed are seen as accounting for 66 % of total EU meal consumption. Total use of vegetable oil is expected to remain stable, while food use declines slightly over the outlook period.

Following the abolition of sugar and isoglucose quotas in 2017, the EU sugar price is expected to decline and approach the world market price. Despite the price decrease, production is expected to increase by 2 % as compared with the years before quota abolition, and imports should decrease. The increasing use of isoglucose to slightly over 10 % of total sweetener use is expected to push sugar consumption down.

Meat

Bigger populations and strong economic growth in developing countries (albeit slower than in the previous decade) are expected to support higher world meat demand and favour a rise in EU meat exports. EU meat production is expected to increase to 44.9 million tonnes, driven mainly by sustained expansion in poultry meat.

After two years of sharp decline, EU beef production is expected to recover in 2014-15 on the back of the recent increase in the dairy herd (in the EU, around two thirds of beef production comes from the dairy herd). However, beef production is expected to return to its historical declining trend soon after, to reach a level of 7.6 million tonnes in 2024, slightly below that of 2014. After several years of a decreasing trend, sheep and goat meat production and consumption are expected to stabilise at the current level thanks to improved profitability.

Pig meat production is expected to recover in 2015 after three years of reduced supply, mainly due to adjustments linked to new animal welfare rules, and increase marginally by 2% in 2024 as compared with 2014. In a context of slowly decreasing internal consumption, EU pig meat exports are expected to grow steadily, supported by sustained world demand and a competitive EU pig meat sector.

Poultry meat is the only meat for which production and consumption are expected to expand significantly over the outlook period (both by 7% in 2024 as compared with 2014). Poultry meat is enjoying several comparative advantages over other meats, including price affordability, convenience, healthier image, lower production costs, shorter rearing time and reduced investment needs.

Due to low availabilities, higher meat prices and the ongoing economic downturn, overall *per capita* meat consumption reached its lowest level for the past 11 years in 2013 (64.4 kg in retail weight). At the beginning of the outlook period, meat consumption is expected to recover until 2016 as more meat comes onto the market, but it should return to the downward trend thereafter. By the end of the outlook period, *per capita* consumption is expected to fall below 65 kg (in retail weight), close to the 2012 level.

Milk and dairy products

Despite some downward price pressure in the current market situation, medium-term prospects for milk and dairy commodities are favourable, driven by steadily growing world demand. Milk production is expected to increase in the EU, as well as in other main milk-producing regions of the world. EU milk prices are expected nevertheless to remain relatively firm at around 350 EUR/t thanks to slowly growing domestic consumption, which still absorbs close to 90% of EU production.

Milk deliveries could reach 158 million tonnes by 2024, i.e. 12 million tonnes more than in 2014. However, the expansion of EU milk production is limited by increasing production in competing parts of the world, the rate of world import growth, environmental constraints and the limited potential for higher consumption in the EU. Production is expected to concentrate further in regions with lower production costs and where farmers and dairies have invested most.

Milk powders and cheese will absorb most of the additional milk produced in the EU. Higher cheese production (11 million tonnes by 2024) is driven mainly by domestic consumption. Powders (skimmed milk, whole milk and whey) are the easiest and cheapest way to transport milk, and more than half of traded dairy products are powders. By 2024, SMP production is expected to reach 1.6 million tonnes, driven by positive world demand. WMP production and exports could increase slightly, while whey powder production and trade are expected to expand significantly. Increased milk and SMP production go hand in hand with increased butter production, most of which will be absorbed domestically.

Agricultural income

Real agricultural income per labour unit is expected to increase slightly (+10%) in the EU-28 during the outlook period. This aggregate number for income per worker hides two opposite dynamics. On the one hand, total agricultural factor income in real terms deteriorates as production costs grow at a faster pace than output prices. On the other hand, this is more than offset by a strong outflow of labour as a result of structural change. Although the income gap between the EU-15 and the EU-N13 is closing, this gap remains substantial.

Uncertainty analysis and caveats

The outlook for EU agricultural markets and income presented in this publication is based on a specific set of assumptions regarding the future economic, market and policy environment. In addition, the baseline assumes normal weather conditions, steady yield trends and no market disruptions (e.g. from animal disease outbreaks, food safety issues, etc.). These assumptions imply relatively smooth market developments; in reality, as we have seen (particularly in recent years), markets tend to be more volatile.

To quantify some of the upside and downside risks and provide background on possible variation of the results, an uncertainty analysis accompanies the baseline. This concerns in particular the macroeconomic environment and yield variability for the main crops, as well as selected scenarios relating *inter alia* to the impact of *El Niño* events on crops and the effect of lower energy prices in the United States and Canada and their competitiveness on the world market.

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Abbreviations

ACP	African, Caribbean and Pacific group of states
ASF	African Swine Fever
EAA	economic accounts for agriculture
EBA	Everything But Arms
EU	European Union
EU-N13	EU Member States which joined in 2004 or later
EU-15	EU Member States before 2004
EU-27	EU Member States excluding Croatia (joined on 1 July 2013)
EU-28	current EU Member States
USA	United States of America
JRC-IPTS	Joint Research Centre — Institute for Perspective Technological Studies
FAO	Food and Agriculture Organisation of the United Nations
OECD	Organisation for Economic Cooperation and Development
CAP	EU common agricultural policy
RED	Renewable Energy Directive
EUR	euro
USD	US dollar
CPI	consumer price index
FMD	foot and mouth disease
FTA	free-trade agreement
GDP	gross domestic product
GHG	greenhouse gas
LTO	light tight oil
NOAA	National Oceanic and Atmospheric Administration
PDO	protected designation of origin
PEDv	porcine epidemic diarrhoea virus
PGI	protected geographical indication
SMP	skimmed milk powder
SPS	sanitary and phytosanitary
TRQ	tariff-rate quota
WMP	whole milk powder
1st-gen.	first-generation
2nd-gen.	second-generation
hl	hectolitres
kg	kilograms
t	tonnes
t.o.e.	tonnes oil equivalent
w.s.e.	white sugar equivalent
c.w.e.	carcass weight equivalent
r.w.e.	retail weight equivalent
CV	coefficients of variation

1. Introduction – baseline setting

This report presents the medium-term outlook for the major EU agricultural commodity markets and agricultural income to 2024, based on a set of coherent macroeconomic assumptions deemed most plausible at the time of the analysis. These projections assume also a continuation of current agricultural and trade policies.

The baseline assumes normal agronomic and climatic conditions, steady demand and yield trends, and no market disruption (e.g. from animal disease outbreaks, food safety issues, etc.). The assumptions imply relatively smooth market developments; in reality, as we have seen (particularly in recent years), markets tend to be more volatile. Possible price developments caused by yield variability and different macroeconomic environments are presented systematically around the expected baseline. The variability of the main results stemming from these uncertainties is summarised at the end of the report. In addition, to address the implications of selected uncertainties, specific scenarios are analysed and presented in dedicated boxes throughout the report; these include the impact of *El Niño* / *La Niña* events on crop markets and the effect of lower energy prices in the United States and Canada on world agricultural markets.

Assumptions for the world market environment are based on the OECD-FAO agricultural outlook of July 2014, updated with the most recent global macroeconomic projections. The statistics and market information for the EU are those available at the end of September 2014[2] and the macroeconomic assumptions are based on projections published in October and November 2014.

1.1. Domestic policy assumptions

Medium-term projections reflect current agricultural and trade policies, including future changes that have already been agreed upon.

The 2013 common agricultural policy (CAP) reform, which enters into force fully in 2015, is included in our policy assumptions. The new CAP provides Member States with implementation options and they notified the Commission of their choices in August 2014. These notifications have been taken into account even though decisions were not final at the time this report was finalised.

The following aspects of the CAP reform are expected to have a particular impact on market and income developments:

1) **Expiry of milk quotas:** milk quotas will be abolished by April 2015;

2) **Expiry of the sugar quota system:** sugar and isoglucose quotas will be abolished by October 2017;

3) **Intervention mechanisms:** up to 3 million tonnes a year of common wheat, 50 000 tonnes of butter and 109 000 tonnes of SMP can be bought in each year at fixed intervention prices. Beyond these limits, intervention is open by tender. The Commission may also decide to open intervention by tender for durum wheat, barley, maize, paddy rice, and beef and veal.

4) **Decoupled basic payment scheme:**[3] while decoupled payments do not affect production decisions directly, further convergence of direct payments combined with the new distribution of entitlements will sometimes lead to major changes in farmer subsidies and income. In addition, "external convergence" will lead to a gradual increase of direct payments in the EU-N13 in parallel with a reduction in the EU-15; and

5) **Coupled payments:** Member States can couple up to 8 % of their direct payments envelope (up to 13 %, in particular situations, or over 13 %, subject to the Commission's approval). The assumed level of coupled payments by sector is based on Member States' notifications by August 2014. Coupled payments are added to commodity prices as a top-up to the revenue that can influence production decisions.

Exceptional market measures can be deployed to address severe market disturbances. These measures are not explicitly modelled, as they are taken case by case. Nevertheless, the effects of the measures adopted in the dairy sector in 2014 in response to the Russian import ban are taken into account.

The effects of "**greening**", in particular the permanent grassland and ecological focus area (EFA) requirements, are also taken into account to the extent possible. The area of permanent grassland as a proportion of total agricultural area is kept constant over the outlook period at around 33 % (the average EU level in 2012 and 2013). As regards EFA, it should be underlined that fallow land is only one of the area types qualifying for the measure. In many Member States, farmers can use areas with nitrogen-fixing crops, catch crops like mustard or green cover, and landscape features, for example, to meet the EFA requirement of 5 % of arable land. Further work is under way regarding these provisions and also on crop diversification, to better estimate the aggregated production impacts of "greening".

2 See autumn edition of the *Short-term outlook for the arable crop, dairy and meat markets*: http://ec.europa.eu/agriculture/markets-and-prices/short-term-outlook/index_en.htm.

3 Historical budget expenditure and future budget envelopes are used to calculate average per hectare decoupled payments for the EU-15 and the EU-N13 (after applying the transfers between the direct payment and the rural development envelopes as notified by the Member States).

The baseline will therefore reflect the CAP reform only in part, because the assessment of the production impacts of all the measures is not yet complete. Furthermore, given the geographical aggregation of the model, it is not possible to capture the redistribution of direct payments within Member States and regions. Similarly, the voluntary capping of payments over EUR 150 000 and specific schemes for small farmers and young farmers are not accounted for. The effect of the redistributive payment, a top-up to the basic payment for the first hectares of the holding, as implemented by eight Member States, is also not taken into account.

Environmental policies are not explicitly taken into account in this model. However, the effects of the Nitrates Directive and the need to reduce greenhouse gas emissions are factored into the expert judgment underlying the baseline work.

1.2. Trade policy assumptions

As regards international trade negotiations and agreements, it is assumed that all commitments under the Uruguay Round Agreement on Agriculture, in particular on market access and subsidised exports, will be respected. No assumptions are made as to the outcome of the Doha Development Round. The implications of the Bali Ministerial Declaration have not been explicitly taken into account.

The Association Agreements with Moldova and Georgia, as provisionally applied since 1 September 2014, and the concessions to Ukraine are taken into account, but bilateral and regional trade deals that have still to be ratified, e.g. the free-trade agreements with Canada and Ukraine (beyond the unilateral concessions), are not.

Russian import ban

On 6 August 2014, the Russian Federation decreed an import ban on agricultural products and foodstuffs from countries that had adopted sanctions against it in the context of the situation in Ukraine. On 7 August, the Russian government adopted a list of products of which imports from the EU, the United States, Norway, Canada and Australia were to be banned for a year. These include almost all meat products (beef, pig meat, poultry and certain sausages), milk and dairy products, fruit and vegetables, and fish and crustaceans.

To address market disturbance resulting from the ban, measures were taken in the EU for the sectors most affected, i.e. fruit, vegetables and dairy products. For milk and dairy products, which are covered in this outlook, these included extending the intervention mechanism for skimmed milk powder (SMP) and butter beyond the usual period, and a private storage aid scheme for SMP, butter and cheese.

1.3. Macroeconomic environment

In November 2014, the Brent crude *oil price* was quoted below 80 USD per barrel for the first time since mid-2010. The oil price is trending downwards because, in a context of rather slow economic growth, US supply is still increasing, while Libyan exports are recovering and Saudi Arabia did not reduce its production to support higher prices. The Brent oil price is forecast as averaging 106 USD per barrel in 2014. The price level in 2015 and subsequent years remains uncertain and will depend mainly on the behaviour of the OPEC countries. In the longer term, the price is forecast to increase again and reach 126 USD per barrel by 2024, in line with recovery in world economic growth, and high extraction costs for non-conventional oil, for example in North America. Box 2.3 (p. 33) examines whether the exploration of shale gas reserves in the United States and Canada gives those countries a comparative advantage on agricultural markets.

The *EU population* is close to 510 million and is expected to continue to grow, but at a very slow pace (+0.1 % per year) to the end of the projection period. Some Member States (e.g. Luxembourg, Sweden, the United Kingdom and Ireland) have annual population growth of over 0.5 %, while the population is decreasing steadily in many of the countries that joined the EU in 2004 and after, and also in Portugal.

World GDP grew by 2.6 % in 2013. A similar rate is expected in 2014, after which growth is anticipated to recover fully from the economic crisis, fluctuating between 3.6 % and 3.9 % over the outlook period. World economic growth remains driven by China and India. However, Chinese growth is expected to fall to 6.3 % by 2024 and be overtaken by growth in India. After several years of economic difficulties, growth in Brazil should resume from 2017 onwards and reach 3.5 % to 4 % a year. Following the 2014 recession and depreciation of the ruble, Russia's economic growth is expected to recover slowly in 2015 and 2016, before resuming at an annual rate of around 2.5 %. Box 1.1 explores the consequences of a deeper and longer economic downturn in Russia.

After a 0.5 % decrease in *EU GDP* in 2012, 2013 saw almost no growth. The recovery started in 2014 (+1.4 %) and 2 % GDP growth is forecast for 2016 and 2017, before stabilising at 1.7 % per year until the end of the projection period. Overall GDP growth in the EU is well below that in the rest of the world for the outlook period. However, economic growth in the EU-N13 (3.1 % in 2024) far exceeds that in the EU-15, where it is expected to register 1.6 % towards the end of the period.

Table 1.1 Baseline assumptions on EU key macroeconomic variables

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Population growth		**0.3%**	**0.2%**	**0.1%**	**0.3%**	**0.2%**	**0.2%**	**0.2%**	**0.2%**	**0.2%**	**0.2%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
	EU-15	0.4%	0.3%	0.2%	0.5%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
	EU-N13	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Real GDP yearly growth		**1.7%**	**-0.5%**	**0.0%**	**1.2%**	**1.5%**	**1.9%**	**2.0%**	**1.9%**	**1.8%**	**1.8%**	**1.8%**	**1.7%**	**1.7%**	**1.7%**
	EU-15	1.6%	-0.5%	-0.1%	1.2%	1.4%	1.9%	1.9%	1.8%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%
	EU-N13	3.0%	0.6%	1.3%	2.4%	2.4%	2.8%	3.8%	3.9%	3.7%	3.5%	3.4%	3.3%	3.2%	3.1%
	World	3.1%	2.6%	2.6%	2.7%	3.3%	3.7%	3.8%	3.7%	3.7%	3.8%	3.9%	3.7%	3.6%	3.6%
Inflation (CPI)		**3.0%**	**2.6%**	**1.5%**	**0.7%**	**1.0%**	**1.6%**	**1.9%**	**1.9%**	**1.9%**	**2.0%**	**2.0%**	**1.9%**	**1.9%**	**1.9%**
	EU-15	3.0%	2.5%	1.5%	0.7%	1.0%	1.6%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
	EU-N13	3.8%	3.8%	1.4%	0.3%	1.5%	2.1%	2.4%	2.3%	2.3%	2.3%	2.4%	2.4%	2.3%	2.3%
Exchange rate (USD/EUR)		**1.39**	**1.28**	**1.33**	**1.33**	**1.27**	**1.27**	**1.30**	**1.32**	**1.34**	**1.35**	**1.36**	**1.36**	**1.37**	**1.37**
Crude oil price (USD per barrel Brent)		**111**	**112**	**109**	**106**	**104**	**103**	**106**	**108**	**112**	**117**	**120**	**122**	**124**	**126**

Sources: DG Agriculture and Rural Development estimates based on European Commission macroeconomic forecasts and IHS Global Insight.

After some years of very low *inflation* between 2013 and 2015, annual inflation in the EU is expected to remain very close to 2 % for the outlook period.

The *euro* is currently weakening against the US dollar, favouring EU competitiveness on world markets. The annual exchange rate for 2015 and 2016 is forecasted at 1.27 EUR/USD. The euro is expected to strengthen again to reach 1.37 USD/EUR in 2024.

These macroeconomic assumptions have mixed implications for EU agricultural markets. Continuing world population growth drives demand and supports higher prices for agricultural commodities. But the lower economic growth expected in the short term will limit income growth and thus reduce the scope for increasing demand. Oil prices have major implications, especially for production costs and biofuels competitiveness. Due to the high level of uncertainty, most of the analysis in the second part of the report focuses on the implications of alternative macroeconomic scenarios for the prospects for EU agriculture to 2023.

Box 1.1 Impact on agricultural commodity markets of a slowdown in Russia's economic growth

Even before the events in Ukraine, the Russian economy was facing an economic downturn in 2013, with a real GDP growth rate of 1.3% in 2013 (down from 3.4% in 2012 and over 4% in 2010-11). The World Bank attributes the slowdown in economic growth in particular to a lack of structural reforms, which until now was masked by large-scale investment projects and continued wage increases financed by oil and gas revenues. Recent developments confirm this picture. With sluggish domestic demand, an inflation rate that increased in August to 8% year-to-year (even up to 11.5% for food products), a ruble suffering strong and persistent depreciation, the latest World Bank estimates see the Russian economy growing by only 0.5% and IHS expects a 0.5% decrease in Russia's GDP in 2014.

Against this background, we assessed the impact on EU and world agricultural markets of slower than currently expected development of the Russian economy, assuming a scenario of strong and long recession in Russia until 2016, followed by annual economic growth of 1.8% (as compared with 2.5% in the baseline projections). In parallel, the ruble is assumed to depreciate by 9% in the short term and then rebound. It should be borne in mind that this analysis factors in Russia's ban on imports of selected goods from certain countries only until August 2015. To capture the full effect of a Russian economic slowdown, the results of a macroeconomic model, Global Link by IHS, are transferred to the Aglink-Cosimo model. This approach ensures a macroeconomic scene-setting across countries that is coherent with the Russian economic slowdown.

Results indicate that the development of the Russian economy has little effect on the rest of the world, with the exception of energy markets (not considered in this scenario).[4] This is driven by the relative inelasticity of Russian imports (most of which are non-substitutable) to changes in global market conditions. However, the impacts are relevant for the eastern European economies, which have stronger market linkages to Russia (see Table 1.2).

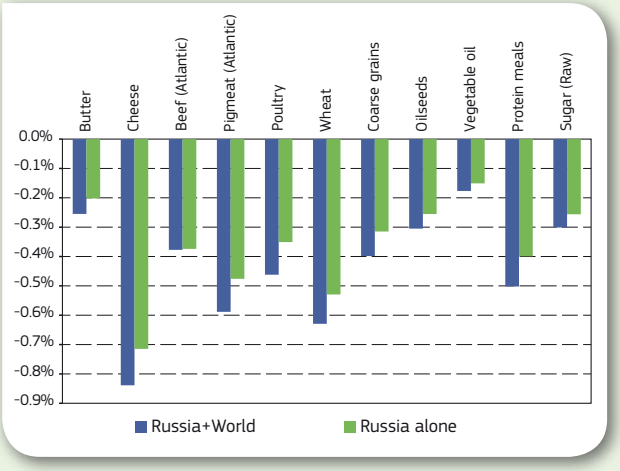
Table 1.2 Impact on real GDP relative to baseline

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Russia	**0.0%**	**-3.7%**	**-7.4%**	**-10.4%**	**-11.9%**	**-10.4%**	**-9.3%**	**-9.5%**	**-9.9%**	**-10.2%**	**-10.2%**	**-11.6%**
EU-N13	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%	-0.6%
EU-15	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
WORLD	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%

Source: Global Link

For the Russian markets, the slower economic growth has a direct negative impact on domestic consumption of agricultural goods, in particular poultry meat and cheese, as well as vegetable oils, sugar and beef meat. The depreciated ruble compounds this situation, on the one hand by increasing domestic prices in Russia, and on the other hand by easing exports while making imports more difficult. Russia is a net importer for many commodities, in particular dairy products, pig and beef meat, sugar and oilseeds. For all these products, Russian net imports are decreasing, by up to 20% in some cases. Conversely, for the commodities of which Russia is a net exporter (cereals, vegetable oils), exports are increasing (by about 4% to 5% in the case of grains).

Graph 1.1 Impact of slower economic growth in Russia on the world price of commodities (average difference *vis-à-vis* 2014-2024 baseline)



The impact on world agricultural prices is generally small (less than 1%). The biggest changes are seen in those commodities where Russia is a major importer (cheese, pig meat) or a major exporter (wheat). Graph 1.1 shows the impact of slower economic growth in Russia (Russia only) and the impact of the Russian economic slowdown and the consequent effects in the rest of the world (Russia+World).

4 Our scenario assumption is that there is no specific impact, as compared with the baseline, on the world oil price or in energy trade volumes.

Russia is a key trading partner of the EU, purchasing mainly dairy products and pig meat (of the commodities covered in the model), as well as fruit and vegetables, and wines and spirits. The fall in Russian imports in the scenario leads to a decline in total EU-28 exports by 1 % for cheese and 0.5 % for pig meat and sugar. In the case of wheat, the increased competition from Russia reduces EU-28 exports. Although the EU is Russia's main trading partner for agricultural commodities, the Russian slowdown also affects the world market as a whole by the same order of magnitude.

In conclusion, the impacts on agricultural markets of a stronger than expected economic slowdown in Russia are limited for the EU, even for key commodities, such as cheese and pig meat, of which the EU exports a lot to Russia. However, if the economic downturn in Russia were to be coupled to changes in the energy markets, the impacts on world and domestic prices would be much stronger.

2. Arable crops

The global medium-term outlook for arable crops shows solid world demand and stable prices, leading to large EU cereal exports. In the EU, domestic demand for cereals and oilseeds is driven by feed use and first-generation biofuel production. On the supply side, arable area in the EU is expected to decline slightly (in line with the long-term trend), with production therefore depending on marginally better yields and the reallocation of crop areas.

This chapter covers a range of arable crops (common wheat, durum wheat, barley, maize, rye, oats, other cereals, rapeseed, sunflower seed, soybeans, rice and sugar beet) and some processed products (sugar, vegetable oils, protein meals, biodiesel and ethanol). It looks first at land-use developments and continues with two key sectors, biofuels and sugar, for which planned policy changes are sources of uncertainty. The chapter then looks at the various cereals, including rice, at oilseeds and at the feed complex (leading into the next chapter).

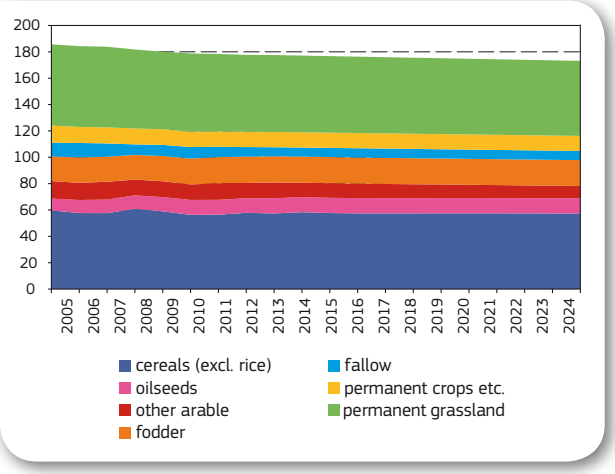
2.1. Land use developments

Agricultural land in the EU has seen a slight reduction over time – in general, because of the spread of forests and other habitats, and greater urbanisation. This trend is expected to continue, though at a slower rate, bringing utilised agricultural area to 173.1 million ha by 2024. About a third of agricultural land is permanent pasture and a small proportion is used for permanent crops, kitchen gardens and greenhouses, leaving around 60 % for arable crops (Graph 2.1).

Changes in land-use brought about by the CAP reform

The implementation of the CAP reform in the coming years is expected to result in a slight change in agricultural land-use patterns. A first effect could come from the shift from historical to regional references for decoupled payments, potentially leading to a reallocation of some production zones. Secondly, the selective use of voluntary coupled support might reverse land-use trends for some speciality crops such as rice, protein crops and durum wheat. Finally, the "greening" provisions are likely to affect various land-use categories. The measure aimed at preserving permanent grassland should help to maintain existing pasture area, which we keep stable over the outlook period. The inclusion of ecological focus areas (EFA) should halt the significant decrease in the area of fallow land (including set-aside) since 2008, when compulsory set-aside ended. Fallow land is only one of the area types qualifying for the EFA measure: in many Member States, farmers can use equivalent measures such as the option of planting areas with nitrogen-fixing crops, catch crops or green cover, and landscape features to meet the 5 % EFA requirement on arable land. Hence, the outlook assumes a small increase in area for protein crops and stability in the total area of fallow land.

Graph 2.1 Agricultural land-use developments in the EU (million ha)

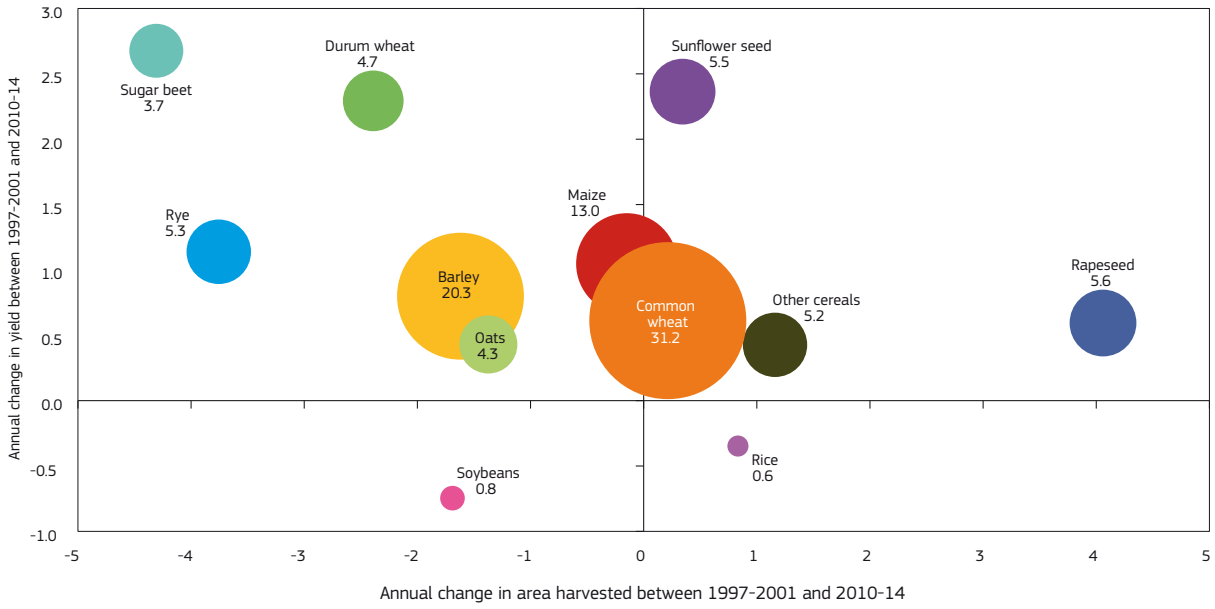


Apart from green maize, harvested area for most fodder crops (e.g. lucerne, temporary grassland) has been declining and we expect a continuing slight fall. The expansion of green maize over the last few years is due partly to its use as a feedstock in the production of biogas, mainly in Germany. This expansion came to a halt recently following a change in the German support arrangements for biogas production.

Cereals land-use has dropped slightly in the past 20 years, but yields (and overall production) have increased, albeit (in the case of yields) at declining rates. These trends are expected not to change in the coming decade. Graph 2.2 compares historical land-use and yield developments for individual crops on the basis of average annual changes between 1997-2001 and 2010-14. Rapeseed saw the biggest area expansion (about 4 % on average), driven by biofuel policy and technological breakthroughs.

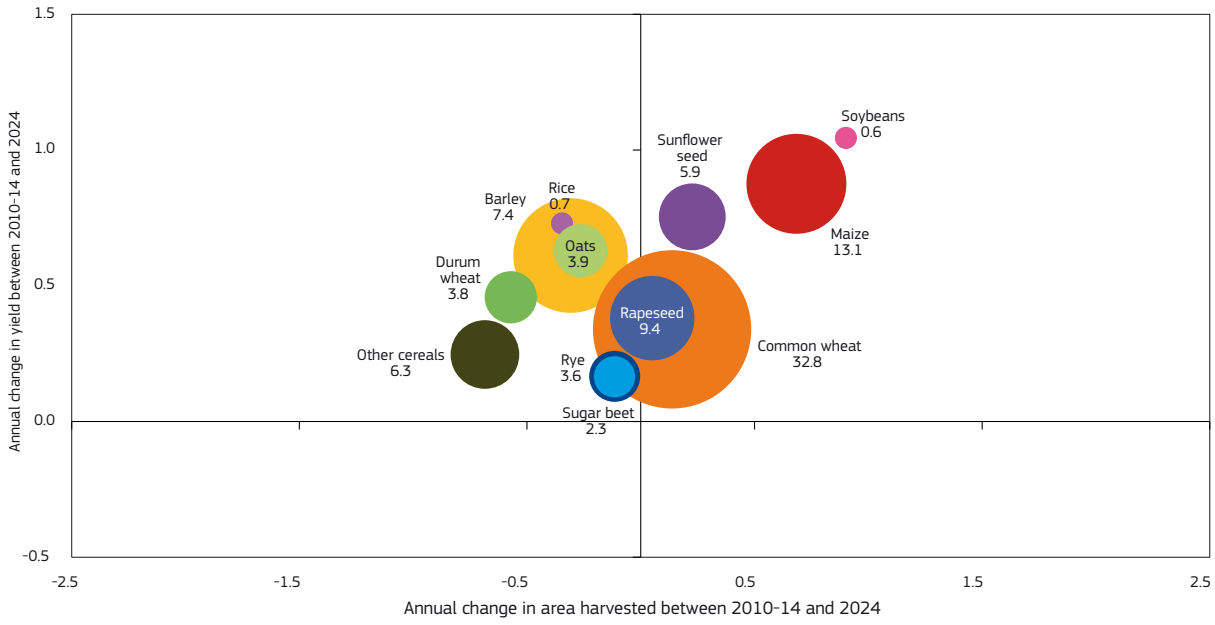
For cereals, the most notable shift is from rye (with a sharp decrease in area) to triticale (included in the "other cereals" category) and, to a lesser extent, rice. Sugar beet area also fell significantly as a result of the 2006 sugar market reform (smaller sugar quotas) and improved yields following the concentration of production in productive regions. Average yields for durum wheat and sunflower also increased. For soybeans, on the other hand, yields decreased slightly, which (combined with smaller areas) reduced production significantly. Both can be at least partly explained by the abandonment of GM soybeans in Romania on that country's accession to the EU.

Graph 2.2 Annual changes in area and yields by crop between 1997-2001 and 2010-14 in the EU (%)



Note: the size of the bubble refers to the average proportion (%) of area harvested in 1997-2001

Graph 2.3 Annual changes in area and yields by crop between 2010-14 and 2024 in the EU (%)



Note: the size of the bubble refers to the average proportion (%) of area harvested in 2010-14

Area and yield changes for the coming decade are generally expected to converge and grow at a much slower pace (as can be seen from the change in scale in Graph 2.3), hence fewer changes in production are foreseen. Soybean production looks set to recover from the contraction of the past decade, with a growth in both area and yield from low levels, but this remains one of the smaller crops in the EU. The area devoted to sunflower and rapeseed is expected to increase slightly, driven by the demand for vegetable oils and biodiesel. However, the growth in rapeseed area slows down significantly, as biodiesel production is expected to be less dynamic than in the past. Expectations are more optimistic for sunflower, which has seen dynamic yield growth in the past, although yields stay low.

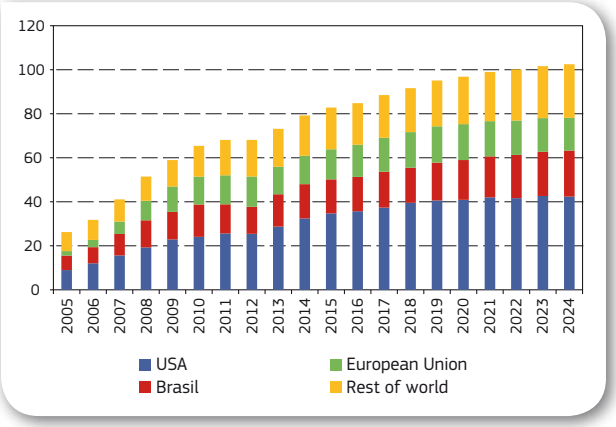
In the cereals sector, maize is the only crop growing in area and yield, mainly due to its increasing use as feedstock in ethanol production, but also for animal feed and for processing into isoglucose. Common wheat yield and area growth are stagnant, despite high yields in 2013 and 2014, following a flat trend in the main producing countries, e.g. France, Germany and the United Kingdom. The increase in maize area comes at the expense of the other cereals, which are more concentrated in competitive areas, leading to higher average yields.

2.2. Biofuels

Worldwide development of biofuels surrounded by uncertainty

As the cereals, sugar and oilseeds markets are driven to a large extent by developments in biofuel markets and policies worldwide, we will look at the big producers before focusing on the EU market. Besides the EU, the world's main biofuel producers and consumers are the United States and Brazil (Graph 2.4). These countries produce mainly ethanol, whereas the EU has a more mixed approach, with a higher proportion of biodiesel. Brazil was the first country to develop a significant biofuels market, using sugar cane as feedstock. In the past decade, the United States has rapidly become the leading consumer and producer of biofuels. In 2014, US production is assumed to grow again due to low feedstock prices after a pause in the upward trend since 2011 as a result of the United States reaching its required use of maize-based ethanol in 2012, and high feedstock prices.

Graph 2.4 World biofuel consumption (million t.o.e.)



Over the outlook period, policy and market uncertainties dominate the prospects for the three main markets. In Brazil, the domestic policy of fixing domestic petrol prices below the world level, combined with relatively high sugar prices, has recently hampered the expansion of the ethanol sector. If Petrobas were to abandon its price-fixing policy, demand for ethanol and hence production in Brazil might increase more than reflected in this baseline. In the United States, the main uncertainty concerns the annual biofuel requirement – this had yet to be communicated for 2014 when these prospects were generated. As US industry has difficulty in supplying the planned amount of cellulosic biofuel and the United States is close to reaching the technical "blend wall" for ethanol, the Environmental Protection Agency (EPA) is expected to revise downwards its mandate for 2014 and subsequent years.[5] Developments on these two markets will to a large extent determine the availability of biofuels on the world market and hence the EU's ability to import ethanol.

On top of these policy uncertainties, low oil prices, especially in the early years of the outlook period, hamper the penetration of biofuels as they reduce the competitiveness of crop-based fuels *vis-à-vis* fossil fuels.

An evolving EU policy less focused on biofuels

For the EU, the policy context for biofuels is determined by two directives setting out sustainability criteria for production and procedures for verifying compliance:

- the Renewable Energy Directive (RED), which entered into force in 2009, set an overall binding target of sourcing 20% of EU energy needs from renewables such as biomass, hydro, wind and solar power by 2020. Member States have to cover at least 10% of their transport energy use from renewable sources (including biofuels); and
- the Fuel Quality Directive, which requires fuel producers to reduce the greenhouse gas (GHG) intensity of transport fuels by 2020.

From 2020 onwards, the RED will be replaced by new energy and climate legislation for which a framework was presented by the European Commission in January 2014 and which was addressed by the European Council in October 2014. The framework provides for continued strong reductions in GHG emissions by 2030. The European Council adopted targets of a 40% cut in GHG emissions (2005-30) and 27% renewable energy by 2030. The fact that these policy orientations have not been translated into concrete proposals for the future sows some doubt as to the future of biofuels in the EU beyond 2020. As regards the period to 2020, amendments to the above Directives to take account of indirect land-use change (ILUC) due to biofuel production are still in the co-legislative process. Adoption of the ILUC legislation, expected in the course of 2015, would reduce short-term uncertainty for first-generation and advanced biofuel demand up to 2020. Nevertheless, remaining uncertainty in the sector and recent market observations seem to suggest that demand might be less dynamic than forecast in last year's outlook.

Since biofuel markets are to a large extent policy-dependent, a future review of EU biofuel policy could lead to substantial changes in feedstock use:

- a cap on the mandate for food-based biofuels would limit overall demand for this kind of biofuel;
- revised sustainability criteria could require greater GHG savings from biofuels as compared with fossil fuels;
- updated default estimates of GHG emissions from biofuels may favour the use of different sources of feedstock; and
- the inclusion of ILUC criteria would significantly affect biofuel demand, in particular for vegetable-oil-based biodiesel.

In order to focus on agricultural markets, the biofuel baseline is highly simplified and distinguishes only two types: ethanol and biodiesel. The land-use implications of biomass-based

5 In the future, the EPA could determine the (advanced, biodiesel and cellulosic) biofuel mandates annually on the basis of the US industry's production capacity.

biofuel production processes (second-generation biofuels) are not considered, as they are still in their infancy. Our specific assumptions for biofuels are:

1. The consumption estimates for diesel and petrol-type fuels are taken from the recent baseline developed by JRC-IPTS and the Commission's Directorate-General for Climate Action using the POLES model;
2. By 2020, biofuels will account for about 7% of total EU transport energy consumption. This translates into a 5% share for first-generation or foodstock-based biofuels. This is in line with the Commission's proposal to limit the mandate for first-generation biofuel crops in the transport mix due to concerns over ILUC; and
3. The lack of long-term investment will stunt the development of second-generation biofuels (excluding biodiesel based on waste oils) throughout the baseline period, so that they account for only 0.14% of all transport energy consumed.

It is assumed that the shortfall *vis-à-vis* the 10% target will be met at least in part by other renewable energy sources, e.g. electric cars. Member States are supposed to strengthen their efforts in these areas, as it is clear that biofuels are less prominent in the proposed post-2020 framework.

Outlook for EU biofuels

Observations in recent years and a general declining trend in transport fuel use seem to suggest that consumption of (in particular, first-generation) biofuels will grow less dynamically than expected in earlier editions of this report. Production is set to increase by about 12 % only and consumption by about 14 % (in energy equivalent) as compared with 2014. The projections assume a 7 % proportion of biofuels in total transport energy use by 2020 (as counted under the RED).

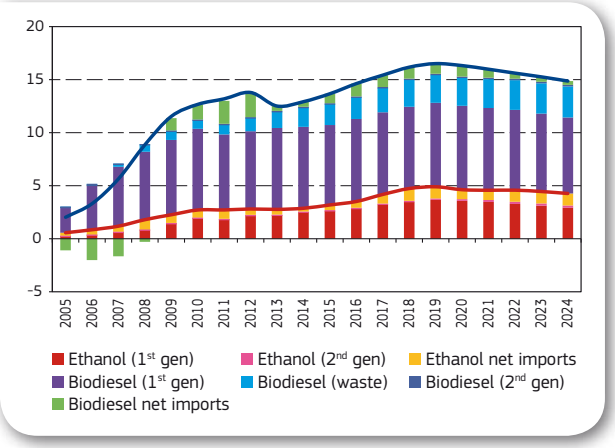
On the back of low feedstock prices, biodiesel production increased in 2014 and became more competitive, mainly crowding out biodiesel imports. Imports for 2014 and 2015 are expected to be down, due to an anti-dumping duty on imports from Indonesia and Argentina. Increased consumption, restricted by revised blending rules in Spain in 2013, was mainly driven by further expansion of the diesel fleet in Europe. Low feedstock prices favour the EU's production and consumption of ethanol. However, despite the significant gap between gasoline prices and ethanol prices for most of the year, bioethanol demand did not pick up. This is linked to infrastructure problems and low penetration in the main E10[6] markets, e.g. Germany, which this year registered a record high of 17.4% of total petrol use.

Will we run into the "blend wall"?

With the current outlook, the EU would on average remain under the "blend wall" – the proportion of biofuels that can be mixed with fossil fuels for use in traditional engines. Diesel cars are currently certified for blends with up to 7% biodiesel by volume (fatty acid methyl ester (FAME) or dimethyl ether (DME); around 6.5% in energy terms) and for petrol cars the limit is 10% ethanol by volume (around 6.7% in energy terms). This means there is no need for higher blends (which is possible for current diesel engines using drop-in diesel substitutes, such as hydrotreated vegetable oil (HVO)) or engines adjusted to use higher blends of other biofuels.

As some Member States have already hit the blend wall constraints and given the policy uncertainty, the outlook assumes that the proportion of energy originating from biofuels will remain stable after 2020. However, as second-generation biofuels gain in importance, the demand for first-generation biofuels is expected to decrease after 2020. Moreover, total transport fuel use is seen as decreasing significantly due to efficiency gains in line with the EU requirement for new passenger cars to emit less than 95 g of CO_2/km from 2020 onwards, a reduction of 40% as compared with the 2007 fleet.

Graph 2.5 EU biofuel consumption by source (million t.o.e.)



It is expected that most of the EU's biofuel demand will continue to be covered by domestically produced biofuels from agricultural feedstock (first-generation biofuels) (Graph 2.5). Ethanol is expected to develop more dynamically, especially in the early years of the outlook period, as cereal prices are low, but biodiesel will still dominate in absolute terms. In addition to domestic sources (based partly on imported feedstock), a proportion of the EU's biofuel demand is covered by biofuels imported (as such or in blends).

The only other important domestic source of biofuels will be biodiesel based on waste oils (used cooking oils and tallow) which, like second-generation biofuels, benefit from double-counting towards the RED target for transport fuels, as they are based on recycled feedstock.

Biodiesel production from domestic oilseeds stable over the outlook period

For 2015, opposing drivers will affect the market. On the one hand, continued low feedstock prices, increased blending in some countries (e.g. Finland and Spain) and increased diesel use will pull demand for biodiesel up. On the other

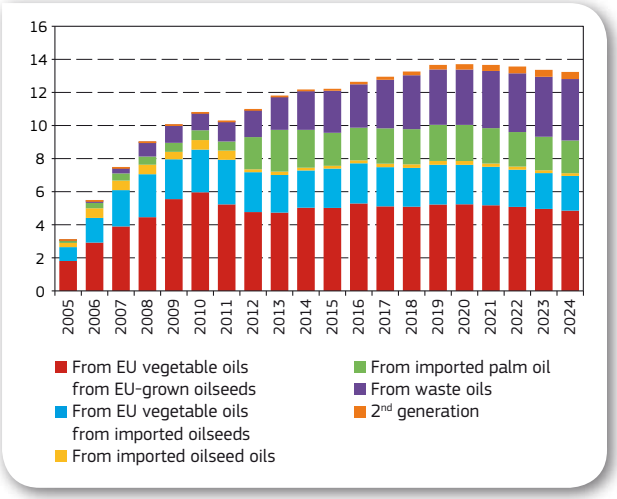
6 E10 is a mixture of petrol and ethanol with a 10% volume share of anhydrous ethanol which can be used in most traditional petrol engines.

hand, the reform of biofuel policies in Belgium, Germany and Poland is expected to dampen demand. Therefore, we foresee production remaining at a level similar to that in 2014.

The main feedstock for the production of biodiesel is vegetable (in particular, rapeseed) oil (Graph 2.6). However, in recent years the use of waste oils (used cooking oils and tallow) has increased, because biodiesel produced from waste oils benefits from double counting under the RED. The growth of used cooking oil is limited by the amount of vegetable oil used and the costs of recycling (collection from households, etc.). However, the decreasing reliance on first-generation biofuels in the policy mix might give certain Member States an incentive to step up efforts to expand the collection of used oils.

Recent years have seen an increased use of palm oil as a feedstock for biofuel production at the expense of other imported vegetable oils. However, since 2014 imported palm oil has had to be certified as sustainable in order to be used for the production of biofuels. The amount of palm oil under these certification schemes that will be diverted to biofuels is not yet clear and it is therefore not assumed to expand over the outlook period.

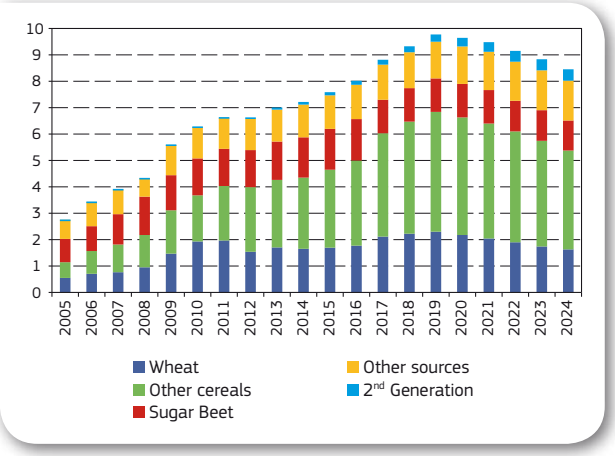
Graph 2.6 EU biodiesel production by source (billion litres)



Early increase in ethanol production based on maize as a feedstock

For ethanol, several feedstocks are used; the main crop-based feedstocks are cereals and sugar beet (Graph 2.7). The proportion of sugar beet used to produce ethanol has surpassed 10% in the last decade, but it is expected to decrease following sugar quota abolition in 2017, as prices for sugar beet for industrial use will increase. Therefore, most of the future growth will be in the use of other cereals, especially maize. After 2020, ethanol production is expected to decrease for a variety of reasons: total petrol use is expected to decrease, demand for cereals for feed continues to be strong, some Member States have opted to focus on biodiesel and farmers prefer (for agronomic reasons) to keep oilseeds in their rotation.

Graph 2.7 EU ethanol production by source (billion litres)

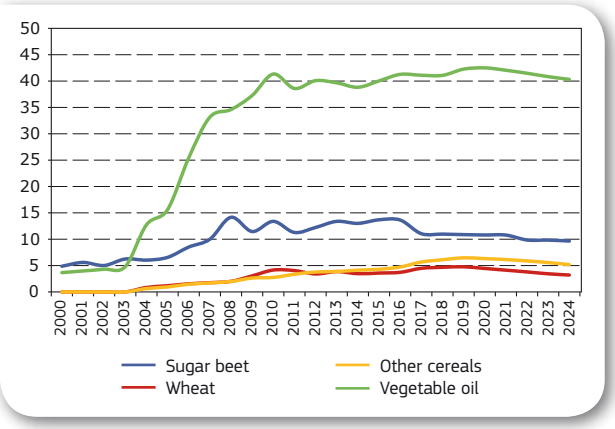


Graph 2.8 shows the increasing importance of biofuels in overall feedstock demand since EU biofuel policy was introduced. The increase was very strong up to around 2010, with a subsequent slowdown in growth. Over the outlook period, demand for cereals, more specifically maize, is expected to increase. So far, the demand for biogas has been reflected only in the land-use balance, as it is mostly based on green maize, which is not covered in the projections.

The production of ethanol from cereals has increased significantly in the past decade and is expected to continue to rise in the EU. Nevertheless, it is not expected that this will account for much more than 5 % of overall demand for cereals, so changes in ethanol production are not likely to have a big impact on feedstock markets.

In contrast, biodiesel production accounts for over 40% of vegetable oil demand in the EU and any change in biodiesel production is expected to have a considerable impact on vegetable oil prices.

Graph 2.8 Proportion of biofuel use in overall feedstock demand (%)



2.3. Sugar and isoglucose

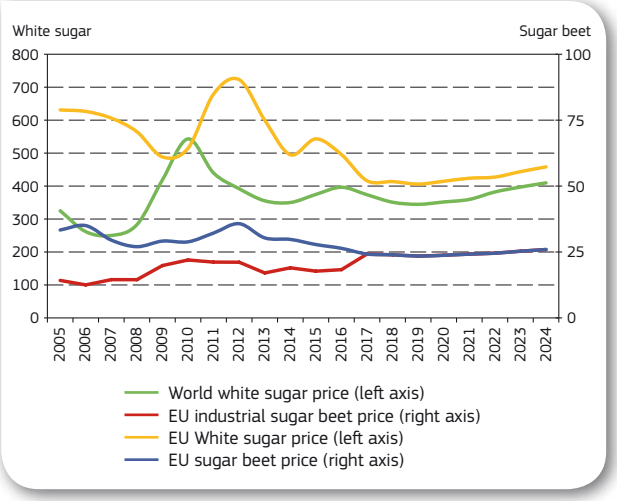
The abolition of sugar and isoglucose quotas in 2017 has far-reaching impacts on the sweetener market over the outlook period. The EU sugar price is expected to decline and approach the world market price, forcing the sector to become more competitive and reducing the incentive for trade partners to export to the EU. Although the expected increase in production to 2024 is limited to around 2 % as compared with the years preceding quota abolition, the EU should become self-sufficient in sugar by the end of the outlook period, as the increased production and consumption of isoglucose replaces part of the sugar consumption.

In the last four marketing years, the world has seen an oversupply of sugar, leading to a steady drop in world sugar prices. In the coming campaign, world supply and demand are expected to be in balance. Prices are not expected to increase, due to big stocks weighing on the markets.

In the EU, prices started to decline from highs in the summer of 2013 and are projected to fall below 500 EUR/t for white sugar by the end of 2014. Despite the lower prices, 2014 sugar and sugar beet production is expected to be high, with favourable weather conditions resulting in high yields.

Lower sugar prices following quota abolition

Graph 2.9 Sugar and sugar beet prices (EUR/t)



The abolition of the sugar quota in 2017 means a structural change in the EU sugar market. One of the goals of the sugar reform is to make the sector more competitive in order to face increased exposure of the EU sugar market to world markets and competition with isoglucose. The most prominent effect anticipated is closer alignment of the EU white sugar price with the world market price. The current price gap of over 200 EUR/t is expected to close to about 50 EUR/t. Given the bearish prospects for world sugar prices in the coming years, this could result in a domestic price only slightly above 400 EUR/t by 2019. The convergence is expected to start even before the quotas are removed, however, as companies may try to gain market share before 2017, including by marketing current sizeable private stocks. This explains the smooth downward price outlook in the coming years. Box 2.1 presents macroeconomic conditions under which the EU price could be lower and closer to the world price.

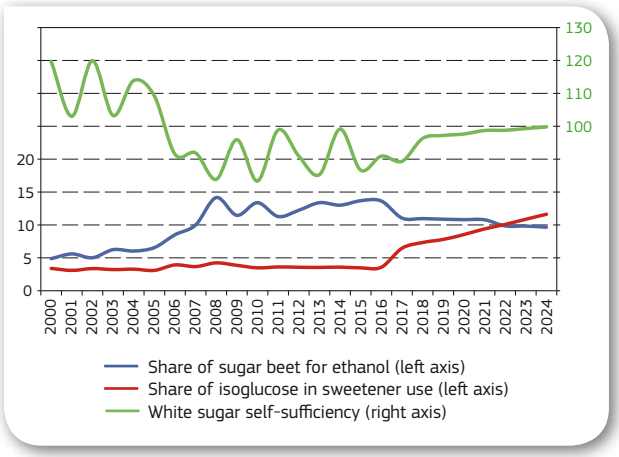
Lower white sugar prices are expected to be transmitted to the sugar beet price, which is expected to dip under 25 EUR/t after quota abolition. Nevertheless, sugar beet production is expected to remain at levels similar to those before quota abolition. This is thanks to higher yields, mainly from the sugar beet area being reallocated to the most productive areas, and the use of voluntary coupled support to maintain production in less productive areas. The reallocation should lead to higher average yields.

The importance of ethanol as an outlet for sugar beet increased considerably following the 2006 reform, but is likely to decline with the disappearance of the sugar quota in 2017. Currently, there are separate markets for in-quota and out-of-quota sugar. Prices for the former are substantially above world market levels, whereas those for the latter are below or at the same level. Without quotas, prices will converge and the production of ethanol from sugar beet will be less competitive.

Isoglucose to become a considerable part of the sweetener complex

The quota for isoglucose[7] will disappear at the same time as the sugar quota, leading to increased competitiveness on the domestic sweetener market, especially in regions with a grain surplus or a deficit in sugar production. Isoglucose is expected to account for an increasing proportion of overall sweetener use, with production of 2.3 million tonnes (almost 12 % of total sweetener use) by 2024. Consumption and production are expected to take off as early as 2017, as players in the industry are preparing for isoglucose to replace sugar. The final share of isoglucose in sweetener consumption is conditional to the price of maize, to the production of sugar beet after the quota abolition and to the uptake by food processors – linked

Graph 2.10 EU sugar and isoglucose market indicators (%)



7 A sweetener based on starch in which part of the glucose is converted to fructose. In the United States, it is referred to as "high fructose corn syrup", since it is mainly produced from maize.

also to consumer taste adaptation. At just over 10% in the EU, the market share of isoglucose would stay far under the levels in the United States, Canada and Mexico where it goes up to 40% as isoglucose production was never restricted.

The policy changes in the sweetener market have a profound effect on the market balance for sugar (see statistical annex). Since the reform of the sector in 2006, the EU has turned from being a net exporter of sugar into a net importer Graph 2.10). Over the outlook period, the EU production is expected to regain self-sufficiency and even be an occasional net exporter. This will lead to a reduction of the domestic sugar price in the EU and make imports less attractive. Therefore, it is expected that sugar imports will decline from current levels. However, net exports do not mean no imports. EU sugar production is concentrated in terms of time (a relatively short period in the autumn) and location (north western Europe), so there will be ample need for imports in certain periods and certain regions. The most competitive trade partners with free access to the EU market will therefore continue to supply it, while others can divert part of their sugar to sugar-deficit regional markets, e.g. in Africa.

Box 2.1 Uncertainties in EU sugar markets

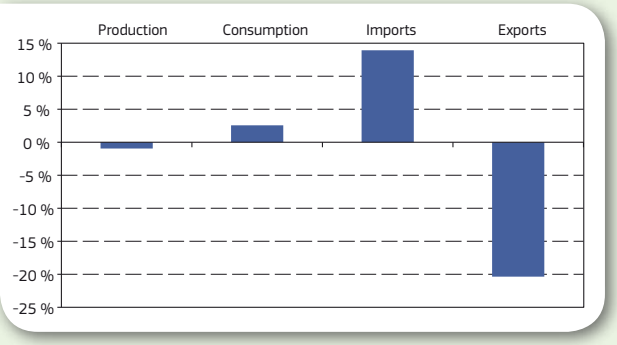
The baseline projects a decreasing EU sugar price, with a gradual reduction in the gap between the EU and the world market prices. However, uncertainties in the macroeconomic situation and in yields in major exporting regions may affect the domestic white sugar price. In order to assess the conditions under which the EU sugar price would converge even further with the world price and what the consequences would be for the EU sugar balance sheet, a subset of 106 macroeconomic and yield scenarios has been selected. The average EU white sugar price within this subset is 358 EUR/t (16.5 % below baseline) over the post-quota period 2018-24.

Within this subset, the world white sugar price remains below the EU domestic price and the gap closes from 47 EUR/t to 40 EUR/t in the later years (2022-24), as the world price in this subset falls by only about 7 %. In terms of macroeconomic conditions, such scenarios are characterised by strong depreciation of the Brazilian real relative to the baseline (-20 % *vis-à-vis* the US dollar; -35 % *vis-à-vis* the euro). The Brazilian currency's exchange rate is without doubt one of the main drivers of sugar prices worldwide, impacting directly the competitiveness of Brazilian sugar exports (close to 50 % of the total world exports). In addition, the 106 selected scenarios are characterised by a lower world oil price (-14 % or 102 EUR per barrel in 2018-24), which contributes to a reduced incentive to process sugar beet and cane into biofuels.

At EU level, the lower price leads to a slight reduction in production, while an additional 677 000 tonnes of sugar are consumed. The extra consumption is principally covered by a strong reduction in exports and a significant increase in imports. Overall, in such macroeconomic conditions, the degree of the EU's self-sufficiency in sugar would be lower than in the baseline (e.g. 96.5 % for the final year, as opposed to 99.7 % in the baseline).

Overall, lower world sugar prices would go together with increased world consumption, trade and production. Given that the main underlying macroeconomic assumption of the subset is the depreciation of the Brazilian real, it is no surprise that Brazil captures the full expansion of world trade (and even more) – Brazilian sugar exports are 16 % higher, while other exporters see total exports decreasing (e.g. Thailand -4 %; ACP countries -3 %). In the case of the ACP countries, not only do exports fall by 60 000 t, but imports rise by a similar amount (3 %) to cover a 1 % increase in consumption. Stronger competition on the world market results in a 2 % decrease in ACP production.

Graph 2.11 Changes in the EU sugar balance sheet in the case of a lower EU white sugar price vis-à-vis 2018-24 baseline



2.4. Cereals

Cereals production in the EU is seen as continuing its slow growth to reach 318 million tonnes in 2024. A further shift towards maize and wheat is expected, at the expense of barley and other cereals. The main driver is increased demand: in the EU, for livestock feed and for feedstock in response to the dynamic growth of ethanol production in the first part of the outlook period, and outside the EU, mainly for EU wheat exports. Despite the strong recovery in 2013 and 2014 in EU stocks of the major cereals, the increased demand will keep the stock-to-domestic-use ratio below the past decade's average. After recovering from the current low prices, the various cereal prices are expected to remain flat in nominal terms, above historical averages though significantly lower than during the 2010 and 2012 peaks.

After a very good 2013 harvest, the record harvest for 2014, forecast at 319 million tonnes, is the result of good yields but also a 1.7% increase in sown area. The common wheat harvest is 10.5 million tonnes higher than in 2013, driven by favourable market conditions in 2013 and very good yield throughout the continent. After recent years' growth, the maize area stagnates, while wheat area expands by over 1 million hectares. The summer rain resulted in high maize yields, however, further increasing maize production. Sorghum is expected to follow its recent trend, with a further 14% increase in production. The growth of barley production is held back a bit in 2014, as yields are expected to be lower than in 2013, especially in Spain. The ample supply should allow for a further recovery of end stocks, which are forecast to reach 51 million tonnes, or 16% of domestic use.

Following these two good harvests, both in the EU and worldwide, cereal prices have come down significantly. The decrease is most pronounced for the coarse grains and even led to a temporary reinstatement of import duties for maize in the EU. Feed wheat prices also went down, due mainly to significant volumes of fodder cereals and to some extent to the lower quality of milling wheat as a result of excess water and possible downgrading.

According to the latest forecast, there is a close-to-60% chance of a weak *El Niño* in the winter of 2015. Box 2.4 and Box 2.5 (p. 40) provide more explanation of the phenomenon and its (minor) consequences for EU agricultural markets.

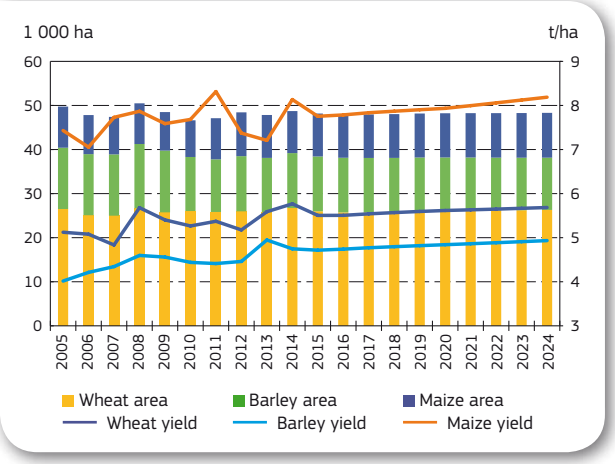
Feed use and exports increase as drivers of production

Consumption growth is mainly driven by higher feed demand, especially in the early years of the outlook period, when meat production is expected to recover and milk production increases following the phasing-out of milk quotas. Demand for cereals for ethanol production also increases, but at a lower rate than in earlier projections.

Over the outlook period, exports are expected to be strong in response to healthy world demand, while growth in domestic use is limited to 1%. By the end of the period, exports fall slightly, as the continuous decline in agricultural area limits production growth. The shift towards common wheat and maize is expected to continue in the coming decade, pulled by feed use and export opportunities for wheat in the Middle East.

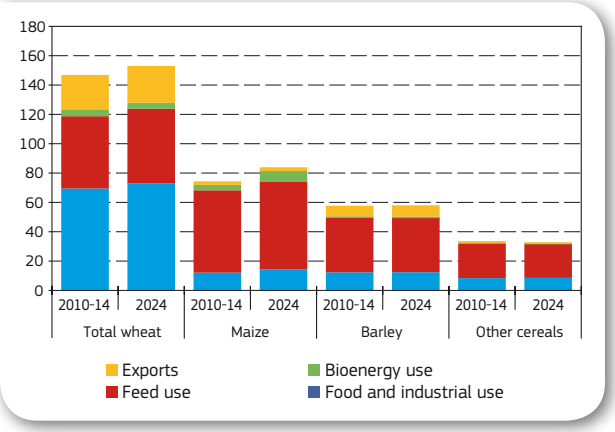
Production increases for wheat (to 150 million tonnes) and maize (up to 79 million tonnes) stem from a combination of slight area and yield increases. The trend for wheat yields has been relatively flat in recent years and this is expected to continue due to various constraints, including policies on nitrates and the Sustainable Use Directive, and the expected higher frequency of heat waves in spring. The demand for maize stems from various sources. Feed and bioenergy use both increase over the outlook period, but increased isoglucose production by the industrial sector also leads to higher demand. Although maize production increases faster than that of all other cereals, it still falls short of overall demand and the EU is expected to remain a net importer throughout the baseline period.

Graph 2.12 EU cereals area and yield



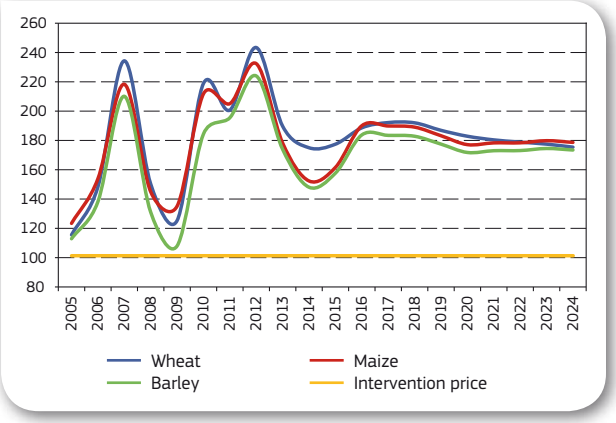
The high prices for durum wheat, in combination with voluntary coupled support measures in some regions, are expected to slow down the decline in production. No strong increase in production is expected, however, as the crop remains relatively uncompetitive as compared with other cereals.

Graph 2.13 Demand for EU cereals (million tonnes)



Although easing after two good harvests, EU cereals markets are expected to remain relatively tight. Despite the strong recovery in stocks in 2013 and 2014 from their very low 2012 level, increased demand will keep the stock-to-use ratio for the major cereals below the average of the past decade, at around 19% for maize, 16% for barley and 12% for wheat in 2024.

Graph 2.14 EU domestic prices for major cereals (EUR/t)



Cereal prices

As indicated above, prices are expected to stabilise at a level above long-term averages, at around 180 EUR/t (Graph 2.14). After an initial period of very low prices for coarse grains, maize and barley are expected to recover as an incentive is needed to produce coarse grain for feed. Prices for wheat and maize are similar throughout the period; wheat prices decrease slightly, but the price gap with barley is considerable in line with the further concentration on maize and common wheat production. The rather low stock-to-use ratios imply that prices are likely to react strongly to any production shortfall in the EU or major supplying regions, e.g. South America or the Black Sea region. Box 2.2 highlights how uncertainty is factored into the price paths for maize, illustrating the possibility of large price variability.

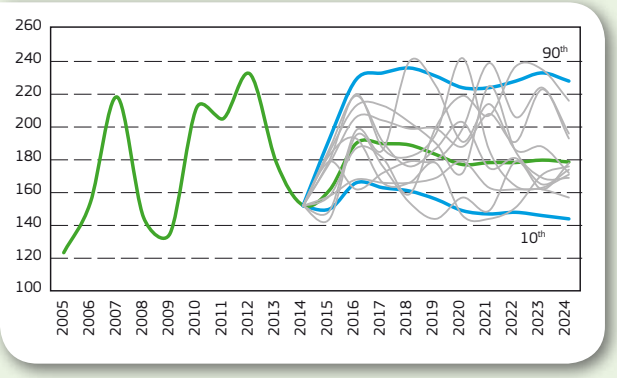
Box 2.2 Price uncertainty in the medium-term outlook

The baseline assumes normal weather and smooth macroeconomic development. Uncertainties about future yields and macroeconomic indicators are incorporated in the baseline projections (Chapter 8), enabling us to illustrate potential price paths underlying the core baseline, as demonstrated for maize in Graph 2.15.

The smooth baseline price line (in dark green) can be interpreted as an average of the potential price paths. The grey lines show ten arbitrarily selected price paths out of almost 600 possible paths derived from the uncertainty analysis. These vary strongly between marketing years.

Two additional lines are included to present the 10th and 90th percentiles. Each year in 10% of the simulations (out of the 600), prices are below/above the 10th/90th percentile, but this low/high price level is determined by some extreme macroeconomic assumptions or very unlikely high/low yields.

Graph 2.15 Possible price paths for maize in the EU (EUR/t)



Box 2.3 The shale gas phenomenon: potential consequences for EU agriculture

Shale gas is natural gas trapped in cavities within shale formations. Technological developments in recent years, especially the "fracking"[8] technique, have allowed it to evolve into an increasingly important source of energy in the United States. In 2000, shale gas accounted for about 1% of US natural gas production and by 2010 it was over 20%. Moreover, the technology has also led to a rapid increase in the production of light tight oil (LTO), which could represent 6-8% of conventional crude oil production in the medium term (International Energy Agency). Worldwide, there are large shale-gas reserves which could considerably expand energy supply in the medium-to-long term. Within the EU, national governments decide whether and where they want to explore for shale gas and this has led to varying degrees of progress, but there is as yet no production of shale gas.

Agriculture is linked to energy markets, traditionally through the input side (i.e. energy and fertiliser costs), but since the 2000s increasingly also through the production of biofuels. This scenario analyses the potential effects of the "shale-gas boom" on agricultural markets. It involves the United States and Canada keeping benefiting from a certain energy price advantage over the rest of the world. For liquid fuels, a 5% lower price in the United States and Canada *vis-à-vis* the crude oil Brent reference price is assumed over the medium term (2015-24). For natural gas, the link is provided through the composite Nitrogen-Phosphorus-Potassium (NPK) fertiliser price (FAOSTAT) thanks to cheaper gas, main raw material for the production of fertilisers. Fertlisers are considered to be 20% lower in the United States and Canada than in the rest of the world, given that:

(1) nitrogenous fertilisers, especially urea, are the fertiliser type used most worldwide, with a share of about 60% of global NPK fertiliser consumption (FAOSTAT);

(2) the basic chemical used to produce nitrogenous fertiliser is ammonia;

(3) about 80% of the energy required for making fertiliser products goes into the manufacture of ammonia; and

(4) US natural gas prices are assumed to remain 40% to 50% lower on average than European (import) prices in the medium term. These assumed price developments are in line with the projections published in the 2013 World Energy Outlook. There have always been differences in natural gas prices across the three major markets (United States, Europe and Japan), reflecting primarily their different demand and supply balances and pricing systems, but the gap has widened since 2008, with North American prices falling thanks to the significant growth in shale gas.

The analysis shows a sizeable gain in competitiveness for US crop producers, with average production costs decreasing considerably over the baseline period, triggering lower producer prices and higher production, especially for energy-intensive crops. This is the case for maize, with production costs falling by close to 7%, which leads to producer prices falling by 1% and production increasing by 5 million tonnes (1.5%). Similarly, cost savings lead to production increases for sorghum and sugar beet. Substitution effects can be observed among crops, e.g. soybean and cotton production is seen as decreasing over the baseline period.

In terms of international markets, divergent effects can be observed for coarse grains and oilseeds. While US net exports of coarse grains increase by 2.8 million tonnes annually on average over the outlook period (about 7% of average annual exports), Canada sees its net exporting position decrease by 800 000 tonnes (about 15%), as shown in Graph 2.17. This loss of share in coarse grains world trade has to do with the United States' greater exposure to the world markets and its large production volume. In other words, the productivity gains in the United States are large enough to push Canada partly out of the market. The EU trade balance for coarse grains is only slightly affected, with net exports down by 250 000 tonnes (about 2%).

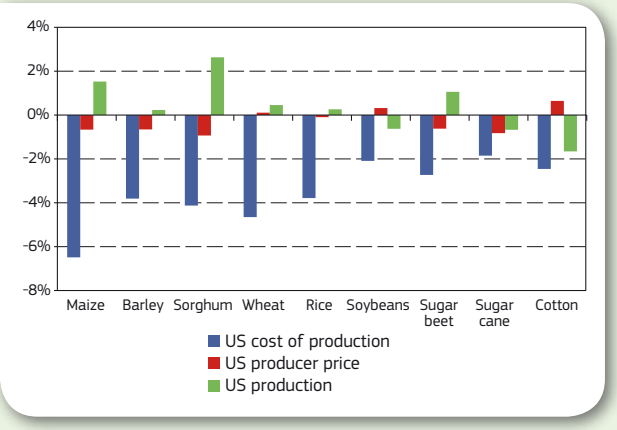
8 Hydraulic fracturing ('fracking') is a well-stimulation technique in which rock is fractured by hydraulically pressurised liquid. It is typically used in the United States for the extraction of shale gas and light tight oil.

These effects in coarse grain markets have potential spillovers into the meat and ethanol sectors. In particular, cheap protein feeds allow for more US and EU pig meat production and exports (about 80 000 and 50 000 tonnes respectively). Canada's net trade in pig meat is considerably reduced (about 265 000 tonnes less), while its exports in live pigs to the United States is expected to increase by about 20 %.

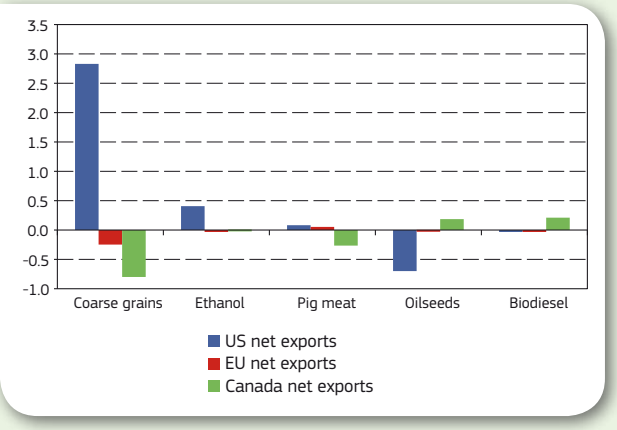
The more profitable conventional US ethanol gains international market share (additional exports of 0.5 billion litres), almost entirely at the expense of Brazilian cane-based ethanol.

Effects can also be observed in international oilseed markets. The above-mentioned substitution effects in the US crop sector are expected to reduce US soybean exports (by 700 000 tonnes). Canada is expected to benefit from these US market dynamics and increase its net exports by 186 000 tonnes. However, the EU's trade balance is largely unaffected (Graph 2.17). As regards biodiesel markets, the higher oilseed production allows Canada to reduce its net importing position by about 210 000 million litres, mainly at the expense of Argentinian exporters.

Graph 2.16 Major US crops – costs of production, producer prices and production (average % change *vis-à-vis* 2015-24 baseline)



Graph 2.17 US, EU and Canadian net exports (average difference in million tonnes or billion litres as compared with 2015-24 baseline)

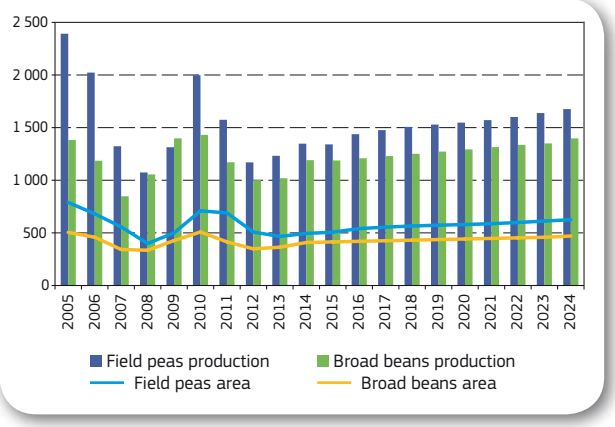


2.5. Protein crops

The production of protein crops has decreased significantly in the past couple of years. The new CAP is expected to reverse this trend, as protein crops can be eligible for the EFA and because of the anticipated use of voluntary coupled support for these crops in some Member States.

The increased production of field peas and broad beans is a result of increases in both yield and area over the outlook period. However, even after this increase, protein crops still account for only a limited proportion (around 1%) of total arable land.

Graph 2.18 Protein crops in the EU – area and production (1 000 hectares/tonnes)



2.6. Rice

EU rice consumption has been reasonably stable, but it is expected to increase slightly, to 5.5 kg/head, by 2024. The rice market is highly segmented, but the different varieties form two main categories, Japonica rice and Indica rice.

In terms of production, Japonica rice varieties account for approximately two thirds of EU rice production. However, this proportion has tended to decline in recent years following the significant increase in the production of Indica rice varieties in 2009/10 (mainly in response to high international market prices) and its subsequent stabilisation at the higher levels. Due to environmental constraints, rice production is restricted to a few Member States, with Italy and Spain responsible for 80% of EU production. The specific agronomic and environmental characteristics required for paddy fields mean that the EU has limited capacity to expand production, but also complicate the use of the fields for alternative crops. As yield growth is also small, it is anticipated that EU rice production will remain stable over the next decade on a slightly decreased area.

Indica type varieties, including Basmati rice, represent close to 60% of EU consumption and Japonica varieties around 40%. The projected increase in consumption should concern mainly Indica varieties. Given the limited capacity for the EU to expand production, the expected increase in domestic demand will probably be met by increased Indica rice imports.

Graph 2.19 *Per capita* rice consumption and self-sufficiency

Overall, the EU is not self-sufficient in rice and imports around 40% of the rice it consumes (90% of its rice imports are Indica rice). Since 2009, the EU has provided duty-free access to the least developed countries under the Everything But Arms agreement; this has led to increased imports from Cambodia and, to a lesser extent, from Myanmar, and to a smaller market share for other traditional exporting countries, such as Thailand, Guyana or the United States.

Despite its significant rice imports, the EU is a net exporter of Japonica rice.

2.7. Oilseed complex

EU oilseed production remains dominated by rapeseed and sunflower seed. Over the outlook period, production is expected to see limited growth, as demand for biofuel is rather stable and agronomic constraints limit a further expansion in terms of area. The main change in demand comes from the expanding livestock sector, which needs the protein meals produced from the various oilseeds.

The 2014 oilseed harvest will be good (for the second successive year) and is expected to reach almost 33 million tonnes. In particular, rapeseed production is expected to increase, mainly due to a 7% surge in yield.

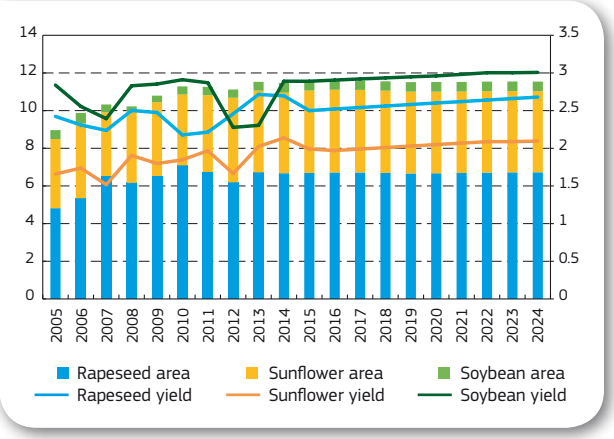
EU oilseed production has experienced a boom in the past decade, fuelled to a large extent by rising biodiesel production. The main beneficiary has been rapeseed, but the expansion of rapeseed area is expected to come to a halt, despite good profitability, as its share in the rotation is limited by agronomic and plant health considerations. Also, the growth in rapeseed yield is potentially constrained by a variety of factors, including the temporary ban on neonicotinoides and the reduced availability of pesticides under the Sustainable Use Directive.

Soybeans, the most important oilseed worldwide, account for a very low proportion of EU production due to yield disadvantage

in Europe as compared with cereals. However, soybean production is expected to increase marginally after the reform of the CAP through specific voluntary coupled support.

Given its limited production growth, the EU will remain a strong net importer of oilseeds, protein meals and vegetable oils (mainly soybeans, soybean meal and palm oil).

Graph 2.20 Oilseed production and yield in the EU



Rapeseed accounts for about two thirds of the EU's oilseed production and soybeans for about 79% of its oilseed imports. As compared with 2014, we see a 5% increase in the volume of seeds imported and crushed domestically (instead of meals being imported directly). About 91% of the oilseeds are crushed into protein meal and vegetable oil. Protein meal is an important ingredient in the compound feed recipes used by the EU livestock industry. Vegetable oils (including cottonseed oil, palm oil, palm kernel oil and coconut oil) are used for human food consumption, industrial uses and to produce biodiesel. The remainder, e.g. sunflower seed, groundnuts, is used as direct feed or food. The demand side is therefore assessed via the EU protein meal and vegetable oil markets.

The EU is the world's second largest user of protein meal as an ingredient of animal feed. Total use stabilises over the outlook period at just under 50 million tonnes. In total, 66% of meal consumption is covered by imports or imported seed.

Except for olive oil, which accounts for less than 10% of total production, the vegetable oils covered in this outlook are those produced in the biggest quantities in the EU. Demand has increased substantially in recent years, mainly because of the rising demand for the production of biodiesel. However, future growth in biodiesel production is expected to come mainly from waste oils, thus reversing this trend (Graph 2.5). *Per capita* human consumption of vegetable oils has decreased in recent years and will continue to do so. Net imports of palm oil tend to decrease over the outlook period due to public concerns about its sustainability and the need for certification, which discourages food processors from using it.

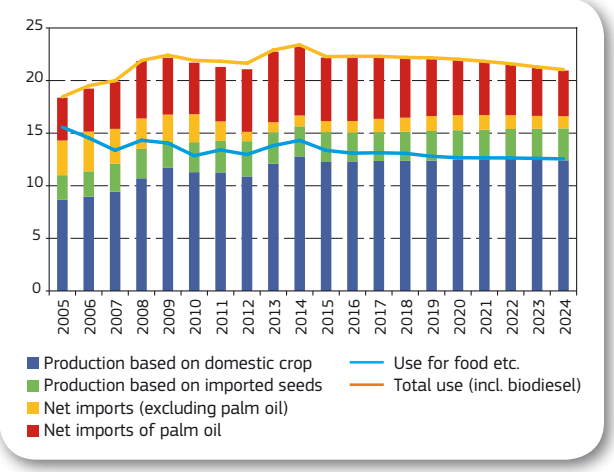
Domestic production of vegetable oils is covering a greater proportion of overall need and may actually meet food demand in the next ten years. Nevertheless, the EU remains highly dependent on vegetable oil imports for non-food use, either in the form of oilseeds for crushing or finished oils (mainly palm oil).

2.8. Feed

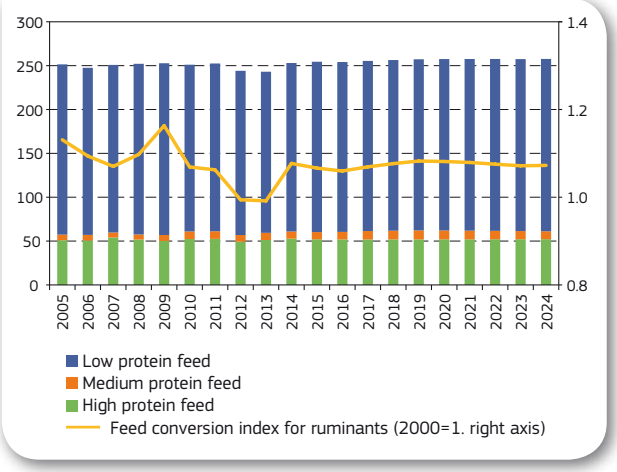
Over the outlook period, total feed use is expected to be stable. However, the composition of compound feed is very sensitive to price changes among the different feedstocks. The share of low-, medium- and high-protein feed is stable for the EU-15. For the EU-N13, we see a decrease in the use of low protein feed in favour of protein-richer feed in more efficient animal production, supplied partly in the form of distiller dried grains available on the market as a by-product from the production of ethanol.

The stable outlook might be surprising in a context of increased livestock and dairy production, but is a result of two opposing drivers of feed demand. A first driver can be captured by the feed conversion rate (FCR), which gauges the relation between feed use and the production of the final product, and is therefore an indicator of production efficiency. For non-ruminants, the FCR is expected to decrease over the outlook period following genetic improvements and productivity gains in the sector.

Graph 2.21 EU vegetable oil – origin and use (million tonnes)



Graph 2.22 EU compound feed use (million tonnes)



For ruminants, however, the FCR increases slightly over the outlook period. For the EU-15, an increase can be observed in the early years, with extra compound feed supplied to cows as milk production increases sharply following quota abolition. Subsequently, the FCR stabilises. In the EU-N13, the restructuring of the dairy and livestock sector leads to a shift from fodder to more compound feed. As the former is not captured in our FCR indicator, this leads to an increased FCR despite the sector being more efficient.

Box 2.4 *El Niño* Southern Oscillation (ENSO) – scientific background

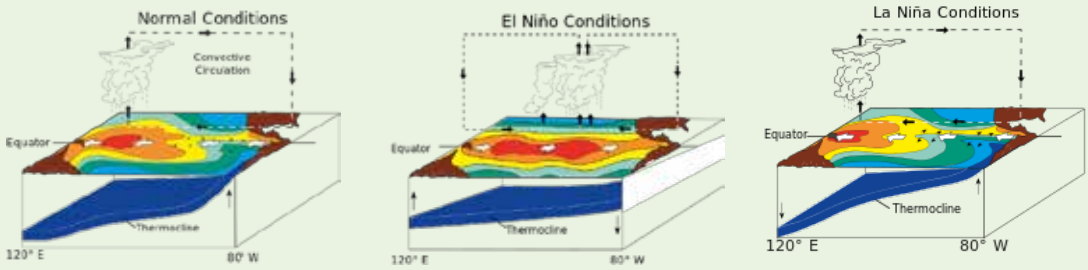
El Niño is a phenomenon of periodic extreme weather and sea conditions occurring around Christmas on the west coast of South America. The term was coined by fishermen who experienced a warm sea and reduced fish catches in this period, often followed by heavy rainfall the following spring.

El Niño is part of a large-scale ocean/atmosphere interaction, *El Niño* Southern Oscillation (ENSO), a warm oceanic phase with high surface air pressure in the Central Western Pacific close to Indonesia and corresponding low pressure and high surface sea temperatures (SST)in the Central Eastern Pacific close to the coast of South America. Its scientific definition identifies an *El Niño* event when the SST is > 0.5° C in a defined region of the east-central tropical Pacific region (the *El Niño* 3.4 region)

El Niño is usually followed by an opposite phenomenon, *La Niña*, in which positive anomalies of SST occur in the Central Western Pacific and negative deviations from the long-term average in the Central Eastern Pacific.

The ENSO phenomenon occurs irregularly at intervals of two to seven years, with an average period length of five years. Its typical duration is nine months to two years.

Figure 2.1 The *El Niño* Southern Oscillation (ENSO) phenomenon.



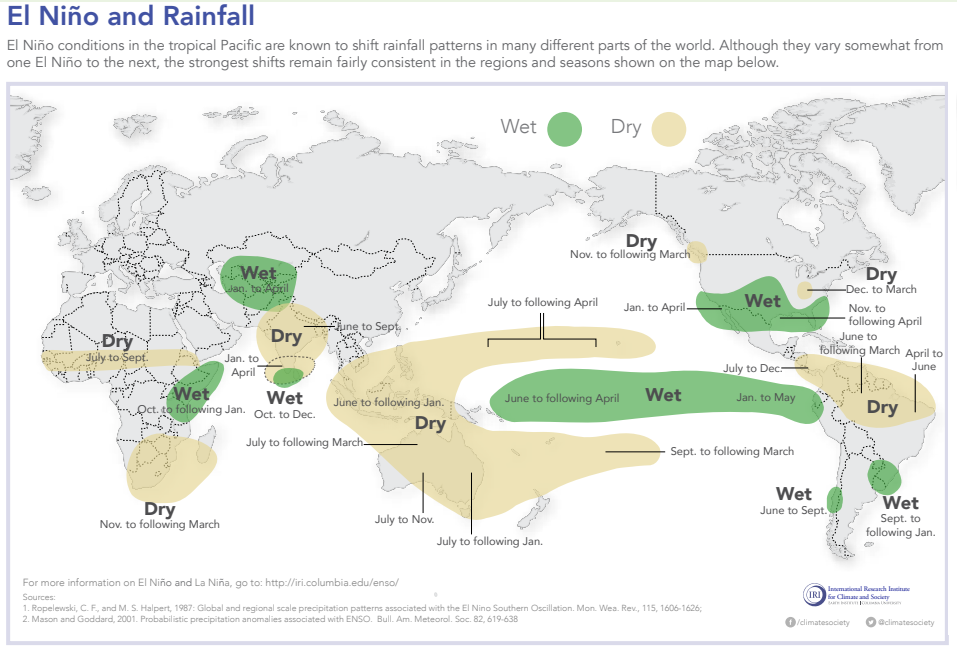
Source: NOAA (http://www.pmel.noaa.gov/tao/elnino/nino-home.html)

El Niño has direct impacts on the regions neighbouring the central Pacific, as traditionally observed, by changing air temperature and precipitation patterns, but also ocean currents. The reduced fishing traditionally observed is a consequence of a disrupted Humboldt Current along the west coast of South America that leads to reduced upwelling of cold (and thus nutrient-rich water) off Peru and Ecuador. Increased precipitation often causes flooding along the west coast of South America. At the same time, below-average precipitation in Indonesia can result in drought situations.

Beyond the directly affected regions, ENSO impacts large parts of the globe through "ENSO tele-connections". Figure 2.2 illustrates the impact of a typical *El Niño* event on the global pattern of precipitation.

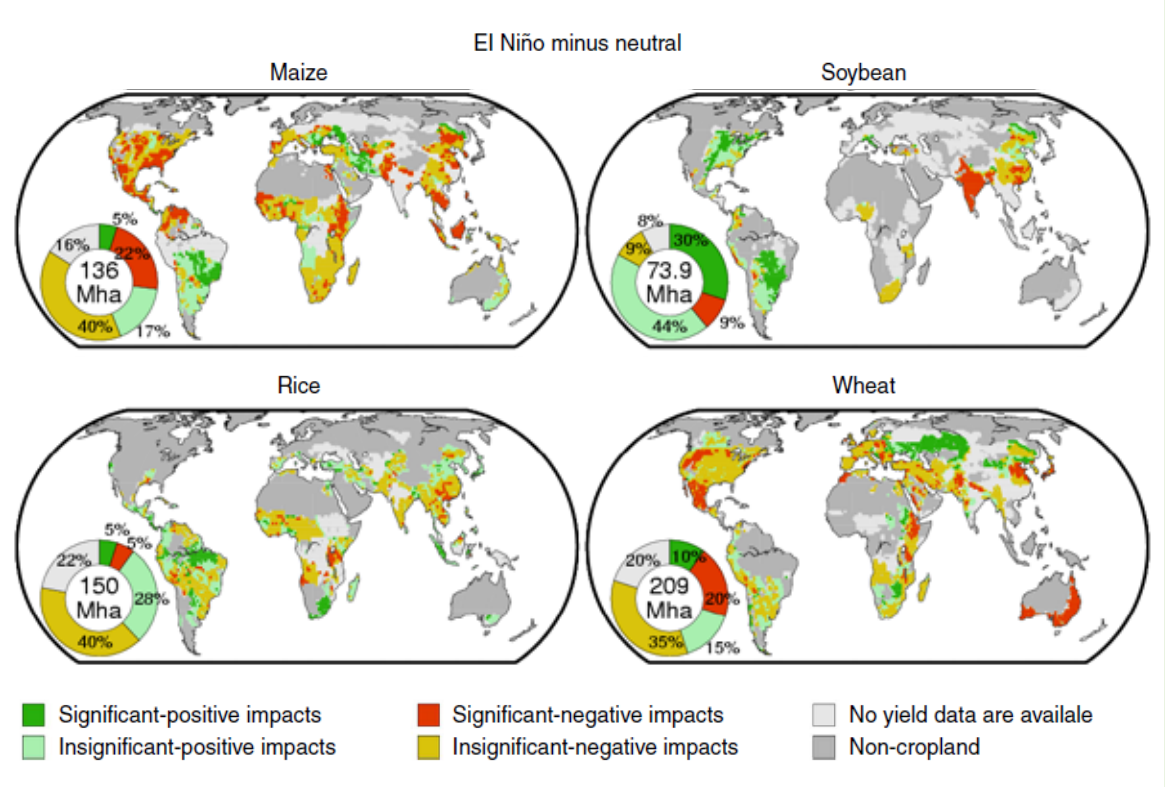
Any attempt to translate this highly differentiated pattern of weather anomalies to impacts on agricultural production must take account of crop-specific calendars. Not only do different crops have differently timed development stages that require specific favourable weather conditions, but the same crop has varying crop calendars in different growing regions of the world. Figure 2.3 presents an attempt to estimate the qualitative impacts of a typically strong *El Niño* event on global yields of wheat, soybean, maize and rice (as recently published by Iizumi *et al*). The impacts vary between continents and even within regions. Overall, impacts on wheat and maize yield are predominantly negative, while soybean yield is estimated to be more positively than negatively affected. The fraction of non-significant impacts is considerable.

Figure 2.2 Schematic impacts of an *El Niño* event



Source: IRI (http://iridl.ldeo.columbia.edu/maproom/IFRC/FIC/elninorain.html)

Figure 2.3 Estimated qualitative impacts of an *El Niño* event on yields



Source: Iizumi et al. Nature communications 5:3712

According to the latest ENSO forecast (NOAA, 17 November 2014), "there is a 58 % chance of *El Niño* during the Northern Hemisphere winter, which is favoured to last into the Northern Hemisphere spring 2015". The predicted *El Niño* is expected to be a relatively weak event with an SST anomaly in the *El Niño* 3.4 region of below + 1° C. Consequently, impacts on global agricultural production in 2015 are expected to be very limited as compared with those of past, stronger *El Niño* events, e.g. in 1982/83 and 1997/98.

Box 2.5 Impacts of *El Niño/La Niña* on agricultural markets

Following the concern that an *El Niño* event could strike in 2014/15, its possible impacts on selected agricultural markets were analysed. Based on past yield fluctuations, scientific literature and expert judgment, the analysis is limited to the regions most likely to be affected by such an event (North America, CIS countries (Russia, Ukraine and Kazakhstan), China, South America and Australia) and to three major crops: wheat, maize and soybeans. The ENSO is modelled as yield shocks (Table 2.1), with the assumption of a strong *El Niño* event in 2015 followed by a strong *La Niña* event in 2016. It is assumed that both events will reoccur on a smaller scale (half the magnitude) in 2020 and 2021.

Table 2.1 ENSO shocks in 2015 as % change in yields

		North America	CIS countries	China	South America	Australia
El Niño	Wheat	-4%	+6%	-2%	+5%	-32%
	Maize	-2%	+7%	-1%	+5%	
	Soybeans	+3%			+7%	
La Niña	Wheat	-1%				
	Maize	-2%			-3%	
	Soybeans	-2%			+3%	

Source: authors

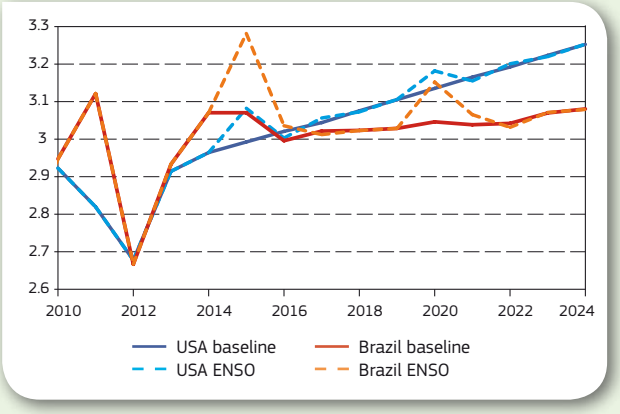
To understand how yield shocks affect the projections at world level, Table 2.1 shows that soybean yields in North and South America are positively affected in an *El Niño* phase, but impacted differently in a *La Niña* phase. The *El Niño* impacts are cumulative, whereas the *La Niña* impacts offset each other. The individual world market impacts of an ENSO phase in different regions will vary according to the magnitude and direction of all individual shocks.

El Niño has a negative impact on world production of cereals (particularly wheat) and a positive impact on oilseeds, meals and oils (Graph 2.23). Although the *La Niña* impacts seem to be opposite to those of *El Niño*, they are smaller (below 1 % in terms of yields) for all crops except oilseeds. Furthermore, the effect of *La Niña* is offset by the lagged effects of *El Niño* (increased production in year N entails reduced prices and planted areas in year N+1).

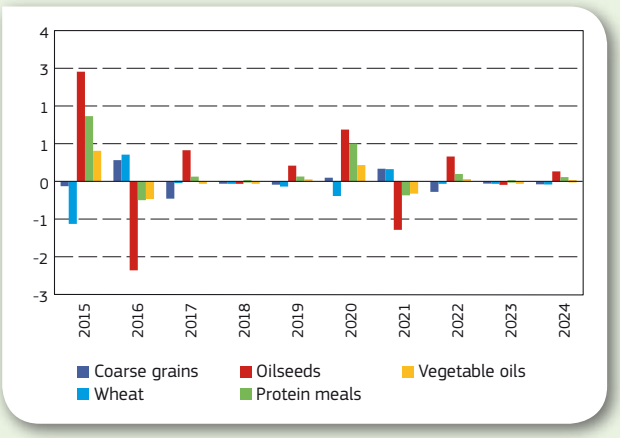
In 2015, due to the excess positive shock of *El Niño* in the major oilseed production regions (North and South America), prices drop drastically by around 13 %, which also affects prices for meals (-7 %) and oils (-4 %). As expected returns decrease the following year, production is reduced by 2 %. There is reconvergence towards stability in the years following these events. On the other hand, the negative impact of *El Niño* on grains production has a positive price effect, but this is limited. The price rise boosts expected returns the following year and wheat production increases by around 1 % (Graph 2.25).

On EU markets, ENSO events impact domestic prices of oilseeds the most, with a 10 % drop in an *El Niño* phase and a 10 % rise the following year. These impacts are mainly due to increased imports (+4 %) in an *El Niño* phase and decreased production (-2 %) the year after. The price shocks are not entirely transmitted to meals and oils, which rise by 6 % and 5 % respectively in an *El Niño* phase. Feed costs for EU producers do not go up or down by more than

Graph 2.23 Soybean yield baseline and ENSO (t/ha)



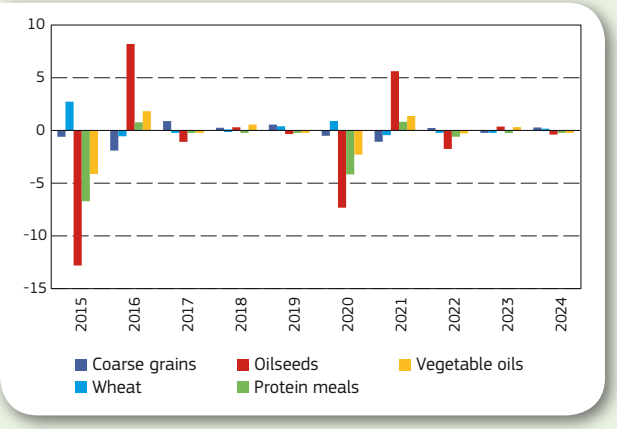
Graph 2.24 ENSO events – impact on world production (%)



2% (feed involves products other than oilseeds and meals that are marginally affected by an ENSO event). Given the limited impact on feed costs, the EU meat and dairy sectors do not seem to be affected by an ENSO event.

In general, it can be concluded that even a strong ENSO event has only a limited impact on production, but a possibly significant effect on crop prices. Due to carryover effects, positive/negative impacts in one year are offset in subsequent years. However, the extent of the impacts of ENSO events are likely to differ depending on their intensity in the regions in question. For example, where the ENSO event affects few regions with a low intensity, the global impact is likely to be marginal. Impacts could also be limited by the current high levels of stocks, which would serve as a buffer.

Graph 2.25 ENSO events – impact on world prices (%)



3. Milk and dairy products

Despite some downward pressure currently being felt in the market, the medium-term prospects for milk and dairy commodities are favourable, thanks largely to steadily growing world demand. Milk production is expected to increase both in the EU and in the other main milk-producing regions of the world. EU milk prices are expected to remain relatively stable thanks to slowly growing domestic consumption, which continues to absorb close to 90 % of the milk produced in the EU.

Difficult current market conditions

Milk production increased significantly in the EU in 2014, but similar developments were also seen in other major milk-producing countries. In 2013, the sharp increase in demand, notably from China, together with the limited levels of supply from the EU, the United States and Oceania – mainly a result of adverse weather conditions and high feed prices – had pushed milk prices to very high levels. The EU average milk price reached a record 402 EUR/t at the end of 2013. With milk quotas soon to be abolished, EU farmers reacted very positively to this price signal, and in 2014 milk deliveries are set to register an all-time high, at close to 147 million tonnes.

The abundance of supply seen in 2014 caused EU dairy commodity prices to start declining, as of the beginning of the year. Russia being the EU's main export market[9] for dairy products, its decision to introduce an import ban at the beginning of August caused an abrupt reduction in demand, and added to the downward price pressure on dairy markets. In October 2014, EU SMP and WMP prices were at around 35 % below those seen last year, with butter prices around 25 % lower. Nevertheless, SMP and butter prices remained significantly above intervention prices. Although cheese was the EU's main dairy export to Russia, its prices have decreased less (-13 % for gouda) because operators have channelled part of the milk previously used for cheese production to SMP and butter, which are more easily storable. On 5 September 2014, the European Commission took measures to address the market disturbance resulting from the Russian ban. These involved offering aid for private storage and public intervention.[10]

The farm-gate milk price decreased significantly in August and September in a small number of Member States (mainly the Baltic countries neighbouring Russia). By contrast, the average EU milk price is not expected to decline considerably before the end of the year, because, in many Member States, there will be a long delay before the decline in the price of dairy products translates into lower farm-gate milk prices. In 2015, the EU milk price is expected to be lower than in 2013 and 2014, at around 330 EUR/t on average.

Cheese exports to Russia accounted for close to a third of total EU cheese exports in 2013. Despite increases in exports to some other destinations, EU cheese exports are expected to fall by more than 10 % in 2014. Russia is also an important market for butter, but the reduction in its purchases has been more than offset by increased demand from the United States. Moreover, the export of other dairy products is expected to increase, driven by lower prices and a weaker euro.

The ban on Russian imports was announced as lasting until August 2015. The question remains as to how fast and to what extent exports to Russia can restart once the ban is lifted. This will depend on the EU's competitiveness in the context of Russia's new market conditions, part of EU cheese and butter having been replaced by dairy products produced domestically or imported from other countries (e.g. Belarus, Brazil and Argentina) during the ban. In addition, European traders are exploring new markets and may be reluctant to rely on the Russian market as much as they did in the past. Nonetheless, EU dairy traders, especially those located at borders with Russia, are likely to be keen to take advantage of any major opportunity on this market.

Milk production set to increase in the EU

Developments in production in 2015 will be shaped by the end of milk quotas in April, and by the low EU milk prices prevailing at the beginning of the year. Some Member States are currently still bound by the quota, and, in order to avoid paying excessively large surplus levies due to lower milk prices, they will need to reduce their milk deliveries in the first quarter of the year. This is particularly the case in Denmark, Germany, Estonia, Ireland, Latvia, the Netherlands and Poland. Other major milk-producing countries are not bound by the quota. For them, the main driver of changes in production levels will be movement in the milk price, with feed costs having fallen and forage conditions currently favourable. Any downward adjustment of milk production is, however, difficult to achieve, because of the high number of dairy cows present on farms. In addition, many farmers may be reluctant to reduce their herds in order not to diminish their ability to expand milk production when the quota is abolished and the market recovers. As a result, milk deliveries to dairies are expected to continue increasing in 2015 before declining slightly in 2016.

9 Between 2011 and 2013, EU exports of dairy products to Russia accounted for 1.4 % of EU milk production. For more details, see http://ec.europa.eu/agriculture/russian-import-ban/pdf/dairy-production_en.pdf.

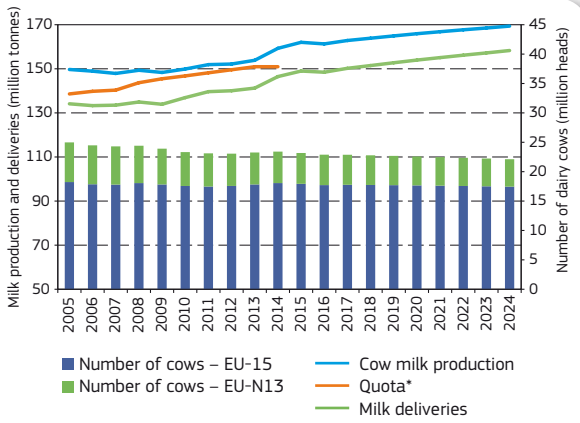
10 After nine weeks, 19 000 tonnes of butter and 13 000 tonnes of SMP were offered for private storage. The scheme was also exceptionally opened to cheese over a period of two weeks and around 100 000 tonnes were offered. To date, no offers have been made for public intervention (open until 31 December 2014).

Milk deliveries are expected to increase steadily from 2016, but at a slower pace than before the abolition of the quota, to reach 158 million tonnes in 2024 (Graph 3.1), i.e. 12 million tonnes more than in 2014. Most of the growth will take place in the EU-15; the EU-N13 could deliver an additional 2 million tonnes.

The expected increase in milk deliveries in the EU-N13 is in part a result of an increase in the proportion of milk produced being delivered to dairies. There is currently a great deal of variation within this group of Member States, with the rate of delivery ranging from 20% in Romania to over 90% in Estonia. On-farm use and direct sales, which continue to absorb close to 30% of milk production in the EU-N13, are expected to decrease slightly faster than has been the case over the past decade. Overall, the levels of production of cow milk are expected to remain stable in these countries while increasing in the EU-15. By 2024, the total EU production of cow's milk could reach close to 170 million tonnes.

Significant improvements are expected in milk yields, especially in the EU-N13, where yields are currently still relatively low. Further genetic improvements are expected in the EU-15, but the main driver for higher yields in these countries will be the increasing number of milking robots. By the end of the outlook period, milk yields could reach 5 700 kg/cow in the EU-N13 and 8 000 kg/cow in the EU-15. The fall in the number of dairy cows, meanwhile, which was also strongly linked to restructuring in the EU-N13, will slow. After three exceptional years of rising herd numbers between 2012 and 2014, the number of dairy cows in the EU-15 will once again start to fall, albeit slowly. By 2024, there is expected to be a total of over 22 million dairy cows in the EU.

Graph 3.1 EU cow milk supply and dairy herd developments



* Deliveries quota only. The total quota has been calculated on the basis of the quotas for Romania, Bulgaria and Croatia in the years prior to accession being the quota set for the first year after accession.

More dairy products consumed worldwide

The 0.8% annual growth in EU milk deliveries expected for the outlook period will be driven by world consumption levels increasing by 2.1% per year. Significant growth in consumption of dairy products is expected to be seen in India, China, the Middle East, other Asian countries and Africa. This increase is only partially due to population growth, with population growth rates now slowing down in these countries. The main driver is a change in consumption patterns towards a diet containing a higher intake of dairy proteins, a development which is directly linked to the increase in the number of urban middle-class households.

Higher consumption of dairy products in certain countries will not necessarily mean that these countries will be importing more: India, for example, is expected to remain self-sufficient (and even become a marginal net exporter). The other regions mentioned will also see their production levels increase and should therefore be able to keep the level of imports as a proportion of consumption at around 20%. Overall, over the projection period world imports are expected to increase by around 2% per year, one percentage point lower than during the last decade. In absolute terms, however, the increase in trade expected over the coming decade is only slightly lower than that seen during the previous ten years. Graph 3.2 illustrates that, worldwide, the expected change in total volumes traded between 2014 and 2024 (around +14 million tonnes in milk equivalent) is only slightly less than the increase recorded in the decade to 2014.

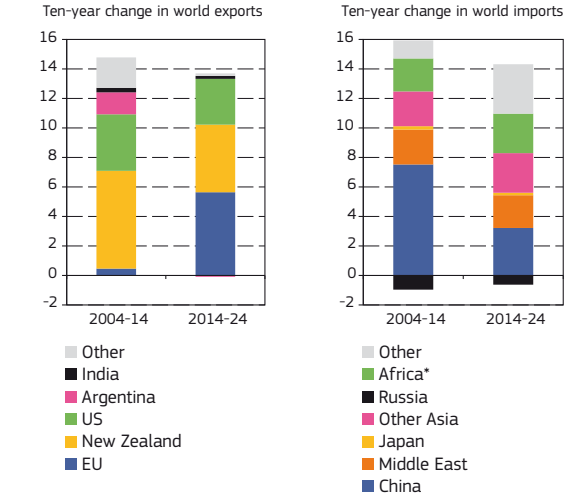
China is expected to maintain its position as the world's largest importer of dairy commodities, accounting for close to 20% of world imports by 2024 (in milk equivalent). The annual increase in Chinese imports is, however, expected to slow, to around 3% per year, a rate of growth far lower than was seen over the last decade (16% per year). The speed of development of Chinese milk production is uncertain, and a possible slower-than-expected increase in production levels here could play a major role in determining commodity price levels and volumes traded.

As is the case in the meat sector, the Russian government is supporting the development of domestic production of milk. The decrease in imports is expected to continue, not only as a result of the import ban, but also because the country's population is expected to decrease by 0.3% per year.

The EU is not the only exporting region expected to further increase its production levels in response to the expected growth in demand. Over the outlook period, US milk production is expected to grow by 10 million tonnes, while Oceania could potentially produce an additional 5 million tonnes. In New Zealand, any increase in milk production is destined for the world market, while in the EU and the United States higher domestic consumption will absorb part of the growth. New Zealand is expected to remain the largest exporter of milk, accounting for around a third of world exports, but the EU will be close behind, and will strengthen its position on the world market.

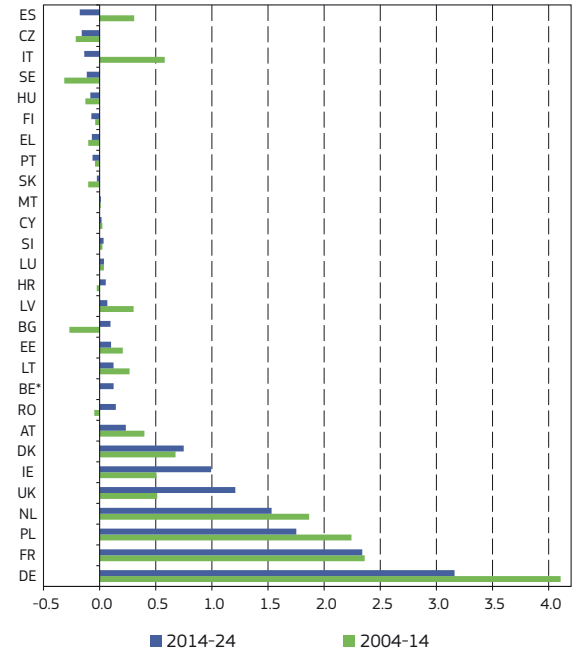
Consumption of dairy products is already high in the EU-15, but further population growth and innovation could contribute to a further slight increase in consumption. The *per capita* intake of dairy products is currently at significantly lower levels in the EU-N13 and is expected to increase noticeably over the next decade.

Graph 3.2 Trade of dairy products: difference in traded volumes (million tonnes of milk equivalent)



Note: the data include trade in cheese, butter, SMP, WMP and whey powder.
* South Africa excluded.

Graph 3.3 Ten-year changes in milk deliveries (million tonnes)



* Break in the time series in 2013.
The change in milk deliveries for the EU-15 and the EU-N13 is derived from the AGLINK-COSIMO model. The split between Member States, however, is based on a modelling exercise carried out in 2013 by the JRC-IPTS[11] and on expert judgment.

Milk production increasingly concentrated in the north of the EU

The expansion of EU milk production is limited by increasing levels of production in competing regions, by the growth rate of world imports, and by the relatively minimal potential for higher *per capita* consumption in the EU. Production is expected to become increasingly concentrated in regions with lower production costs and where farmers and dairies have invested most in additional capacity, such as Denmark, Germany, Ireland, France, the Netherlands, Poland and the United Kingdom (Graph 3.3).

It had already become apparent during the phasing-out of the quota system that not all Member States had the same interest in expanding milk production. Moreover, the good performance of certain Member States in 2014 should be viewed in the light of the extremely high milk prices seen during this period. Given that this price level is not expected to last, and that margins will be lower in the future than they were in 2014, the increase in levels of production could be short-lived. Sweden and Finland, for example, would have greater difficulty competing on the EU market were margins to fall, due to their comparatively high production costs.[11]

Of the countries that have joined the EU since 2004, Poland has the greatest potential in terms of developing milk production. There is scope for making greater use of the industrial capacity already available. Increased production in Poland could, however, come at the expense of neighbouring countries, such as the Czech Republic and Hungary.

Italy's domestic milk price is high because of the country's focus on value-added products such as cheeses with a protected designation of origin or protected geographical indication. Despite the potential to increase the sale value of milk produced domestically, some manufacturers may favour cheaper imported milk for making "standard" or lower-quality products, i.e. those without specific quality designations.[12] Milk production is therefore not expected to increase significantly in Italy.

Feed prices are expected to be lower than in 2010 and 2012 but should remain above historical averages. This will particularly restrict production in countries that rely heavily on purchased feed, such as Spain.

A number of other factors will also play a role in restricting the growth in milk production, one of these being environmental constraints – not only the nitrate directives (e.g. in the Netherlands and in France) but also possible limitations on greenhouse gas emissions (e.g. in Ireland). In other regions of Europe, dairy farming has sometimes already declined, with crop farming, including for biogas production, being preferred. This is particularly the case in Germany and France.

In many European regions, however, dairy farming remains the best use of land, especially in mountainous and predominantly grassland areas. Nonetheless, the expansion of production in these regions is sometimes limited by structural factors; this is the case in Austria, in the south of Germany and in some mountainous areas in France.

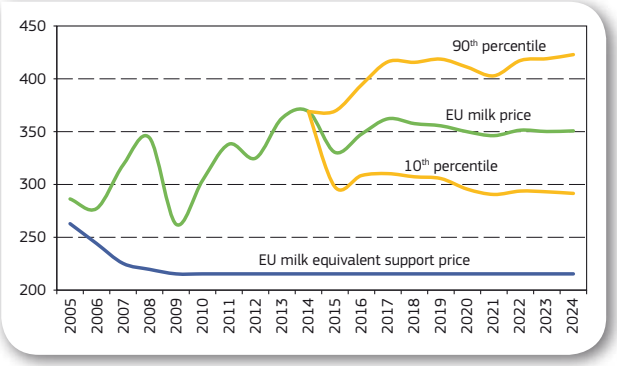
11 Costs of production by Member State are available at http://ec.europa.eu/agriculture/rica/pdf/Dairy_Farms_report_2013_WEB.pdf.

11 See http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook/2013/fullrep_en.pdf, p. 119.
12 Italy imported close to 20 % of the fluid milk consumed or processed in 2013.

Stable milk prices over the medium term

The EU farm-gate milk price (at real fat content) is expected to drop in 2015, as a result of supply exceeding demand from domestic and world markets, before rebounding in 2016 to stabilise at around 350 EUR/t, driven by robust world prices for dairy commodities. Nonetheless, in view of the uncertainties surrounding future developments in crop yields and macroeconomic indicators, the EU milk price could vary, and a number of "paths" are possible, reflecting the potential variation in prices that could result from higher feed costs, better-than-expected export performance, a weaker euro or stronger economic growth worldwide (Box 3.1).

Graph 3.4 Projected price and possible paths for EU farm-gate milk price (real fat content, EUR/t)



More milk channelled into cheese

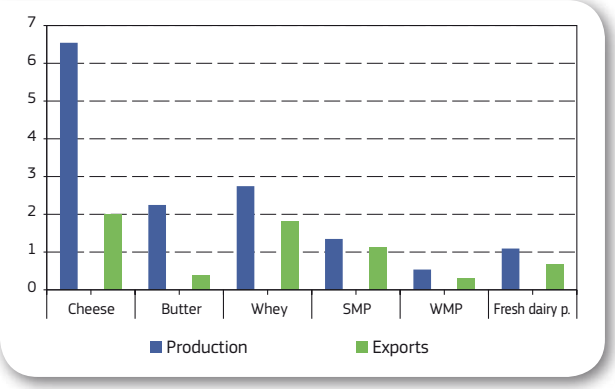
Most of the investment announced or finalised between 2012 and 2014 has taken place in western Europe[13] (specifically in Germany, Ireland, France and the Netherlands). It has mainly been directed at increasing drying capacity (close to 50 % of the investment) and improving cheese manufacturing (20 %). Most of the additional milk produced in the EU will be used in the production of milk powders and cheese.

The main driver for higher cheese production is the potential for higher domestic consumption. By 2024, EU cheese production could reach 11 million tonnes. Of the additional 1.15 million tonnes (as compared with 2014 levels) then being produced, only 350 000 tonnes are expected to leave the EU, increasing EU cheese exports to around 1 million tonnes in 2024.

In the EU-15, *per capita* consumption could increase from slightly over 19 kg in 2014 to 20 kg in 2024. This would require economic recovery as assumed in the outlook and the emergence of innovative cheese products. In the EU-N13, the 3 kg *per capita* expected increase that will see consumption levels reach 16 kg by 2024 is of a similar magnitude to the increase seen over the last decade.

Dairy industries and traders are expected to increase trade flows towards markets other than Russia, especially the Middle East and eastern Asia. This outlook does not take into account the free-trade agreement with Canada, which, once ratified, could provide additional opportunities for European cheese makers.

Graph 3.5 Main dairy commodities – change in production and exports between 2014 and 2024 (million tonnes of milk equivalent)



The EU cheese price (for cheddar) is expected to increase during the outlook period due to rising world prices. EU cheese prices are expected to remain consistently above those in Oceania, albeit with no detrimental effect on Europe's ability to export, thanks to the variety and quality of cheeses produced in the EU. By 2024, the EU could account for close to 40 % of world trade in cheese.

Increase in the production of milk powders for the world market

Milk powders offer the easiest and cheapest way of transporting milk, and over half of EU dairy products traded are now in the form of powders. Milk can be re-constituted from powders by processors or by households. SMP can also be complemented with vegetable fat. With world demand continuing to increase, significant levels of EU investment have been dedicated to creating additional drying capacity.

By 2024, SMP production is expected to reach 1.6 million tonnes, driven by strong global demand. Further increases in production will be limited to around 270 000 tonnes compared to the higher production level of 2014, as growth in world demand is expected to slow and domestic use of SMP is fairly stable. Domestic use also includes feed use, which is currently declining. By contrast, the production of fat-filled powders,[14] a mix of SMP and vegetable fat, could increase, as they are a cheap source of dairy proteins, with Africa emerging as the main export destination.

13 Source: the French Dairy Interbranch Organisation (CNIEL, the umbrella organisation for the dairy industry).

14 In 2013, the EU exported 562 000 tonnes of fat-filled milk powders (CN 1901 90 99). This represents a 90 % increase over ten years.

Around 50 % of the SMP produced in the EU is exported. The EU is competitive on the world market and accounts for more than 30 % of world trade. Competition from the United States, and possibly also from India, is expected to increase. In order to maintain its position on the world market, the EU price may adjust downwards over the outlook period, to below 2 500 EUR/t by 2024.

The WMP market is currently dominated by China on the import side (which buys around 25 % of world imports) while New Zealand is the biggest exporter (producing over half of world exports). Nevertheless, the EU has increased its WMP production and export volumes in 2014, after five years of continuous decline. A further slight increase is expected over the outlook period, bringing production to 840 000 tonnes in 2024. Only half of the additional production will be directed to the international market. Increases in domestic demand could result, for example, from the growing market in chocolate manufacturing.

Whey powder: much more than a by-product

The EU is the world's main producer of whey powder, as a result of its considerable cheese manufacturing levels. The EU produces close to 60 % of the whey powder traded on global markets and is expected to reinforce its trade position over the outlook period. Whey powder is one of the main ingredients for infant formulas,[15] a product with a high value-added whose trade is expanding, especially towards China, with consumers favouring high quality European products and the end of the one-child policy opening up further market opportunities.

Over the next decade, whey powder production is expected to increase by 20 %, to 2.5 million tonnes in 2024. Around 35 % of whey is expected to be exported in its original form, while the rest will be used domestically for animal feed (a declining market) or will be subject to further processing, for the production of food supplements, sports drinks and, most commonly, infant formulas.

In view of the good market prospects in the EU, relative to the limited cheese and whey production in New Zealand, Fonterra, the biggest New Zealand dairy company, has started investing in Europe. Similarly, most of China's investment in the EU dairy market relates to creating drying capacity for the processing of infant formula.

Additional butter on the domestic market

Increased production of milk and SMP goes hand in hand with increased butter production. By 2024, butter production is expected to reach 2.4 million tonnes, a 9 % increase on 2014 levels. Export potential is limited as a result of the EU's poor competitiveness on the world market. Exports could nevertheless increase until 2017, when private stocks accumulated in 2014 and 2015 are released. After 2017, growth in exports is expected to slow and to remain stable for the remainder of the outlook period, at slightly over 160 000 tonnes per year.

Most of the additional production will be absorbed domestically, thanks to the increased industrial use of butter prompted by concerns about palm oil sustainability, and to increased direct consumption by households.

Fresh dairy products also exported

Production of fresh dairy products, such as milk for drinking and yoghurts, stagnated during the last decade. In the ten years to come, however, production could increase slightly (+3 %), driven by dynamic exports and increasing consumption of cream. Consumption of yoghurt could rise noticeably in the EU-N13, where it is currently still at relatively low levels. The *per capita* intake of liquid milk has been declining in recent years, but population growth will limit the fall in total consumption, especially in the UK, which is the main producer and consumer of fresh liquid milk.

In 2013, China absorbed 120 000 tonnes of EU liquid milk, i.e. more than 20 % of EU exports. This trade flow has developed rapidly since 2010, when the EU was exporting less than 10 000 tonnes per year to China. Exports of UHT milk have benefited from cheap freight[16] and from increased public confidence in imported products compared to those produced domestically. Health scares relating to Chinese milk have meant that a substantial premium is now paid for foreign milk. It appears that this could be a long-term market opportunity, and that demand may even strengthen. EU exports of fresh dairy products could reach 1.6 million tonnes by 2024, which would represent around 3 % of EU production.

15 In 2013, EU exports of food preparations for infant formula (CN 1901 10 00) reached 372 000 tonnes. Exported quantities more than doubled in ten years.

16 Using empty containers on their way back to China.

Box 3.1 Uncertainties in EU milk and dairy product markets

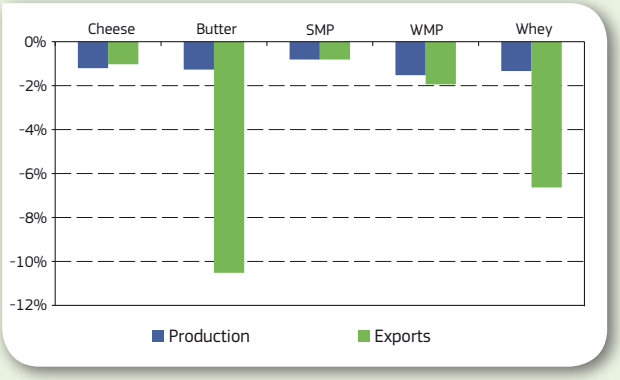
The baseline scenario shown in the graph represents favourable prospects for the milk and dairy markets, with stable EU farm-gate milk prices of about 350 EUR/t. Partial stochastic analysis was performed to show under what macroeconomic conditions EU domestic milk prices would tend to be lower than in the baseline scenario, and what consequences this would have for the milk and dairy markets. A subset of 60 scenarios, where the EU milk price is at the lower 20th percentile (around 314 EUR/t, i.e. 10 % lower than in the baseline scenario) and a moderate production increase is seen in New Zealand (below 1 % on average), has been selected for the period 2015-24.

Within this subset, the macroeconomic context is characterised by lower GDP growth, a stronger euro and a lower crude oil price. Economic growth is lower in almost all countries in the world. GDP growth in the EU is about 6 % lower than in the baseline scenario, which equates to reduced domestic consumption of cheese and butter (-1 %). Furthermore, the subset shows a general appreciation of the euro against the currencies of both its main competitors (8 % against the US dollar and 12 % against the New Zealand dollar) and of its main importing markets (5 % against the Chinese yuan and 10 % against the Russian ruble). This implies a loss of absolute and relative competitiveness, and leads to lower EU exports for all dairy products. The fall in EU exports is relatively modest for cheese, SMP and WMP, but more marked for whey (-7 %) and butter (-11 %, although this relates to a relatively small total quantity). A decrease in world dairy prices (-2 % for cheese and -3 % for SMP) makes imports more attractive, but this is counteracted by lower GDP growth in the main consuming countries (-4 % in China, -2 % in Russia and -3 % in the United States). As a consequence, total world exports remain at the same level as in the baseline scenario, resulting in a loss of market share of world dairy exports for the EU (-2 percentage points for butter, but less than -0.5 percentage points for cheese, SMP and WMP).

The combination of lower exports and slightly reduced consumption within the EU results in a 1 % decrease in EU production of milk and of all dairy products.

The analysis of the subset of scenarios illustrates the relatively high dependency of the EU milk market on exports and therefore on the macroeconomic environment, in particular the exchange rate of the euro and economic growth in general. Nonetheless, in this subset of scenarios, the world crude oil price is about 7 % lower than in the baseline scenario, and the EU feed cost index falls by around 10 %. Gross margins are therefore maintained, mainly as a result of this decrease in production costs.

Graph 3.6 Changes in EU dairy production and exports under the assumption of lower EU milk prices (average annual change compared to the baseline, 2015-24)

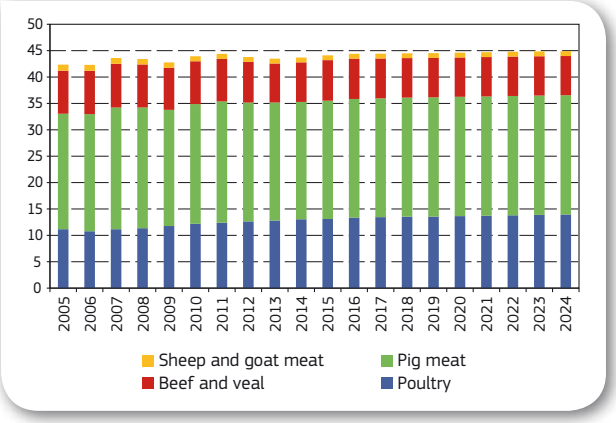


4. Meat products

EU meat production is expected to increase to 44.9 million tonnes, driven mainly by sustained growth in the production of poultry meat. In recent years, production of poultry meat has served to fill the gap left by reduced supply of beef and pig meat. Despite a recovery projected for the short term, beef production is expected to return to its current declining trend in subsequent years; production of pig meat will remain relatively stable while only poultry is expected to continue its pattern of steady growth.

Higher population numbers and strong economic growth in developing countries, albeit slower than in the previous decade, are expected to support higher levels of meat demand and to contribute to growth in EU meat exports.

Graph 4.1 EU meat production (million tonnes)



4.1. Beef and veal

After two years of sharp decline, beef production is expected to recover in 2014-15, benefiting from the increase in dairy herd numbers, before returning to its historical downward trend, albeit with production falling at a slightly slower rate than was seen during the previous decade.

The recent growth of the dairy herd brings more meat onto the market

Given that around two thirds of EU beef comes from the dairy herd, changes in its size have a major impact on beef supply. EU cattle numbers were steadily declining for many years, mainly as a result of efficiency gains realised in response to the quota system limiting milk production. The decrease in suckler cow numbers has accelerated in recent years due to the lack of profitability of this market – the combined result of higher feed costs and more decoupling of direct payments. The number of dairy cows, meanwhile, remained stable and even increased slightly between 2012 and 2014. As milk prices were high, farmers began to recapitalise in anticipation of the abolition of the milk quota system.

The higher numbers of female cattle kept on farms at first led to a large decrease in the number of heads slaughtered. This was not fully offset by higher average slaughter weights and, as a result, beef and veal production decreased significantly in 2012 and 2013 (by 4% per year). In 2014, production is expected to increase again (+1.5%) with the arrival on the meat market of the fattened animals from among the extra dairy cows.

EU exports decreased from 2011's record level as a result of the lack of supply and the protectionist measures adopted by Turkey and Russia, which have included increased import duties and a ban on EU beef, introduced on animal health grounds.[17] Lebanon and Algeria were amongst the other major export markets for EU live cattle. Despite the Russian import ban introduced in August, it is likely that an increase will be seen in beef exports (meat and live cattle) for 2014, due to increased exports to Russia (during the first half of the year), a very significant increase in exports to Asian countries (Hong Kong, the Philippines and Thailand) and higher demand from Bosnia-Herzegovina and Switzerland.

Imports reached the lowest level seen over the past decade in 2012, and failed to adjust in response to the low levels of domestic supply of beef in the EU. This was due to Argentina's policy of limiting exports in line with limited levels of beef production, combined with stable levels of imports from Brazil and Uruguay. In 2013, EU imports started growing again but still remained well within the tariff-rate quotas. The low level of imports seen in 2014 is due to the high market prices in the United States, and to a lesser extent China, which continue to attract beef from the world market, especially from Australia and Brazil, so that less beef is available for the EU market.

The scarcity of supply resulted in higher consumer prices and put additional pressure on consumption in an unfavourable economic context. Following a 1% decline in 2011, overall consumption dropped in 2012 and 2013 by more than 3% per year. *Per capita* beef consumption is expected to pick up again in 2014 thanks to increased availability.

Beef production to fall back into decline, albeit at a slower rate

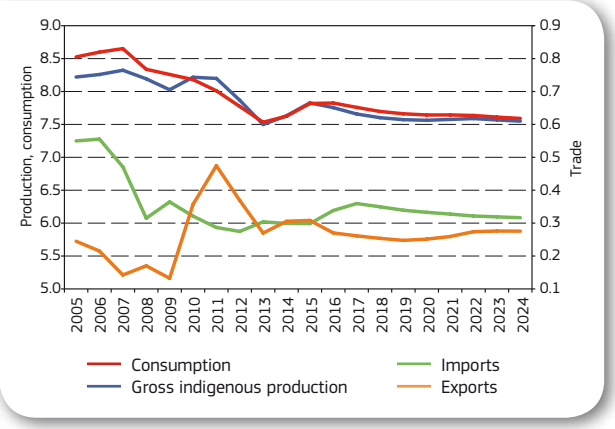
The growth of the dairy herd is not expected to last, with cattle numbers likely to decrease again as soon as 2015, in line with recent trends and productivity gains.

17 In January 2013, Turkey decided to block imports from the EU, requesting certification that animals had been born and slaughtered in the same Member State. In the same year, Russia introduced a ban on livestock imports from several Member States, citing as grounds the veterinary inspection system. Beef trade has been most severely affected by this restriction.

The suckler cow herd is mainly concentrated in the EU-15 (94 % in 2013), in particular in Ireland, Spain, France and the United Kingdom. In these countries, the suckler cow herd is expected to fall to around 10.5 million heads by 2024, therefore decreasing at a slightly slower rate than in the previous decade. By contrast, the suckler cow herd in the EU-N13 is likely to record a slight increase, in line with the trend seen over the last ten years. The fall in beef production can, at least in part, be attributed to the low profitability of this market, taking into account the expected prices and the competition with dairy production. Nonetheless, many Member States opted for voluntary coupled support in the beef sector, mainly as a payment for suckler cows, in order to limit the erosion of the suckler cow herd. Specialist cattle fatteners may not take full advantage of the coupling allowed; in addition, they could be affected by the internal convergence of direct payments, which could entail a reduction of their direct payment references.

Beef production is expected to increase by 2.5 % in 2015 and to stay at a high level during 2016, mainly as a result of the developments in the dairy herd, before starting to decline once again. The decline in production is expected to be slower than that seen in 2007-13, and production is expected to fall below 7.6 million tonnes by 2024 (Graph 4.2).

Graph 4.2 EU beef market developments (million tonnes)



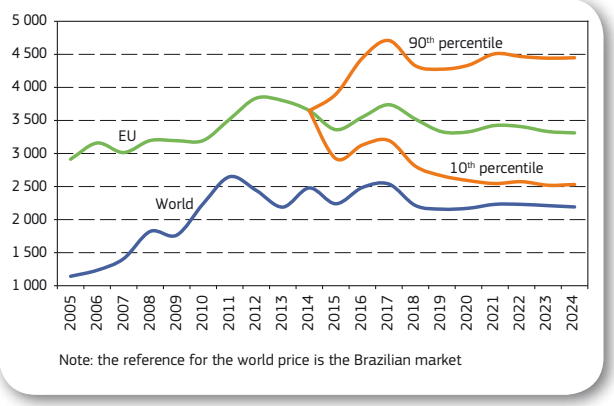
Exports of meat and live animals are expected to stay relatively stable, at 280 000 tonnes, over the period to 2024, after having reached exceptional levels in 2010-12. It is very likely, however, that a shift will be seen in the major export destinations. Russia (after removal of the import ban) is expected to import less from the EU due to increased domestic production and lower demand, while demand from Asian countries (Hong Kong, China, the Philippines, Thailand and South Korea), the Middle East and Egypt could offer new opportunities. The preference of certain importers for local (halal) slaughtering over importing meat could lead to a higher proportion of live exports. Exports to Turkey are currently blocked and it is assumed that this will remain the case during the outlook period, unless the existing sanitary barriers to import are lifted early.

Import volumes are expected to remain fairly stable over the outlook period, although at a slightly higher level than in 2013. The total volume of tariff-rate quotas for fresh and frozen beef will not be filled, although the volume is being increased over the outlook period to 326 000 tonnes (in carcass weight equivalent). The high-quality TRQs are, however, expected to be used close to full capacity. The main reasons for this are: first, that well-supported world prices mean that beef being exported from Australia, Brazil and other South American countries is attracted to other import markets in preference to the EU; and secondly, that increasing domestic consumption in Brazil, the United States, Uruguay and Argentina limits their export potential. India is expected to become the world's largest exporter of beef, and is currently focusing on markets in south Asia, Africa and the Middle East, but sanitary standards and the type of beef limit the potential for export to the EU. EU border protection is set to remain relatively high (with the exception of corned beef) while the price gap between the EU and world is closing slightly. The present outlook does not take into account a possible increase in beef imports resulting from the free-trade agreement with Canada (additional tariff-rate quota of 46 000 tonnes of fresh beef).[18]

Consumption remains very much dependent on availability and price, and, by 2014, is therefore expected to fall 0.4 % from the average levels seen in 2011-13, to a very low level of 10.2 kg *per capita* (retail weight). This figure continues to mask a significant gap between consumption in the EU-15 (11.9 kg) and the EU-N13 (3.6 kg), although this has narrowed slightly.

The EU beef price is expected to fall slightly in 2015, as a result of increased production levels. EU beef prices are expected to follow world market developments more closely during the outlook period, and the price gap could therefore decrease. The herd restocking being carried out in the United States and higher supplies from Brazil are expected to push the world price down from 2017 onwards. The EU beef price is likely to reach around 3 400 EUR/t in the second half of the outlook period. The price path presented is an average

Graph 4.3 Projected beef prices and possible price paths (EUR/t)



18 The tariff-rate quotas under the Comprehensive Economic and Trade Agreement were split into 35 000 tonnes of fresh and 15 000 of frozen beef, but Canada's 4 160 tonnes, awarded under the existing hormone-free *erga omnes* tariff-rate quota, is included in this. The additional tariff rate quota is therefore 46 000 tonnes.

projection and the beef price development may not therefore necessarily be as smooth as indicated, given the uncertainties relating to yields (feed costs and forage availability) and the macroeconomic environment. The 10th and 90th percentiles shown in Graph 4.3 (light green lines) mark the bounds between which each year's price could oscillate, assuming conditions match those of one of the middle 80 % of the simulations run to depict the expected uncertainties in crop yields and in the macroeconomic environment.

4.2. Sheep and goat meat

After several years of continuous decline, sheep and goat production and consumption are expected to stabilise thanks to improved profitability.

EU production levels of sheep and goat meat stabilise

The EU sheep and goat flock has shrunk steadily over the past decade. The overall rate of decline has slowed since 2010, but the situation varies significantly between Member States. Sheep numbers decreased between 2010 and 2012 in Spain (by more than 2 million heads) and France (by 500 000 heads), while Ireland, Greece and Romania saw their flock sizes increase over the same period (by 1.4 million heads in total). Gross indigenous production[19] rose in 2011, supporting increased live animal exports, but fell again the following year before stabilising at around 945 000 tonnes in 2013. Imports grew in 2013, driven by increased availability in New Zealand, but remained well within the tariff-rate quotas. EU exports of both meat and live animals have been continuously increasing, albeit marginally, since 2010. Meat exports (predominantly of frozen meat)[20] were mainly destined for Hong Kong and Vietnam, while live animals were exported to Libya, Turkey and Lebanon. Production is expected to remain stable at EU level in 2014, masking significant variation between Member States.

Production levels expected to remain stable over the coming decade

The historical downward trend in the production of sheep and goat meat seems to have been halted, thanks to increased profitability of sheep farms. In addition, a majority of the main sheep producing Member States decided to implement voluntary coupled support for sheep farming. This could see expected production stabilise at current levels.

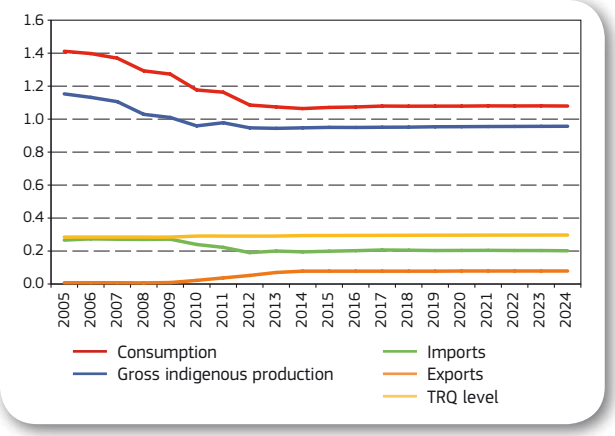
Imports are expected to remain well within TRQ levels. New Zealand and Australia are not expected to fill their quota due to growing opportunities in other markets, especially Asia. Expansion of sheep production in New Zealand is also limited by competition with the dairy sector for pasture.

EU exports remain at a relatively low level. Following the increases seen in recent years, total exports (live animals and meat combined) are expected to have stabilised at around 79 000 tonnes by 2024.

The outlook for sheep meat prices is fairly positive, due to steadily growing demand in Asia (in particular in China) and in the Middle East (notably in Saudi Arabia). The EU price[21] follows the world price but there continues to be a relatively significant gap between the price levels, as a result of EU border protection.

Sheep meat is the least consumed meat in the EU, accounting for only 2.8 % of total meat consumption or 1.8 kg *per capita* (retail weight) in 2024. Consumption is expected to stabilise at around 1.1 million tonnes by 2024 (Graph 4.4), taking into account the fact that consumption of this type of meat is assumed to react fairly inelastically to price increases.

Graph 4.4 EU sheep and goat meat market developments (million tonnes)



4.3. Pig meat

After three years of falling supply levels, pig meat production is expected to recover in 2015 and to increase marginally over the coming decade, with a expected increase of 2 % between 2014 and 2024. With EU consumption of pig meat declining slowly, exports are expected to grow steadily, supported by sustained world demand and a competitive EU pig meat sector.

Decline in pig meat production halted

The continuous reduction in the size of the EU pig herd seen since 2007 – largely as a result of the restructuring programmes adopted by many countries on a background of high feed costs – has accelerated in the last three years, for a number of reasons. First, the investment required by the new animal welfare rules for the pig sector,[22] which came into force on 1 January 2013, led to a further fall in the number

19 Gross indigenous production includes meat production and net trade of live animals (in carcass weight equivalent).

20 The EU also exported offal, in smaller quantities, but this is not included in the market balances.

21 The EU price relates to the price of "heavy lamb".

22 Council Directive 2008/120/EC laying down minimum standards for the protection of pigs according to which sows in gestation should be kept in social groups rather than in individual stalls. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:047:0005:0013:EN:PDF.

of breeding sows and prompted less competitive farmers to leave the market. Secondly, an outbreak of African swine fever at the eastern border of the EU damaged pig production in the areas affected. Thirdly, Russia imposed a ban on imports of EU pig meat in February 2014, following the outbreak of African swine fever (ASf), bringing additional uncertainty to the market. Pig meat production is therefore expected to fall to a low of 22.2 million tonnes in 2014.

Despite the Russian import ban, total EU exports of pig meat fell by only by 8% in 2014. China and Hong Kong are the main destinations for the 10% of EU pig meat production sold on the international market, together absorbing a third of the EU's exports. Russia would usually be the next largest export market, buying on average 24% of EU pig meat exports, closely followed by Japan. The picture is somewhat different, however, in 2014, due to the introduction of the Russian import ban. Volumes that, under normal market conditions, would have gone to Russia have been diverted to other destinations, mainly Japan, South Korea and the Philippines.

With supply levels down in the first half of 2014, the Russian ban at first had no major impact on prices. However, sluggish EU demand saw pig meat prices come under pressure. They are expected to record an average of 1 650 EUR/t for 2014, 6% lower than the high prices seen in 2013.

Production set to expand marginally following recovery in 2015

After seven years of continuous decline in production, the May-June 2014 survey conducted in 14 Member States gave the first indication that pig numbers were recovering, with the total pig population up by 0.9% (and breeding sows by 0.8%) on 2013 levels. The combination of lower feed prices due to record harvest and productivity gains should increase the supply of pigs on the market in the short term (+0.8% in 2015). EU net production is subsequently expected to grow marginally, reaching around 22.6 million tonnes by the end of the outlook period (close to 2012 levels).

Environmental concerns,[23] animal welfare rules and changes in consumption patterns are among the factors limiting the expansion of pig meat production. While production is expected to remain relatively stable at EU level, different trends are projected for the EU-15 and the EU-N13. After a slight recovery in 2015, production in the EU-15 will start to decline once again. In the EU-N13, meanwhile, production will continue to expand, with an increase of 370 000 tonnes expected over ten years.

23 In response to the nitrates directive, some Member States introduced regulations limiting the expansion of pig meat production (e.g. Denmark, France and the Netherlands). In addition, greenhouse gas emissions resulting from enteric fermentation and manure management in the swine sector totalled 25.4 million tonnes, or around 6 % of total agricultural emissions (Eurostat, 2010 data).

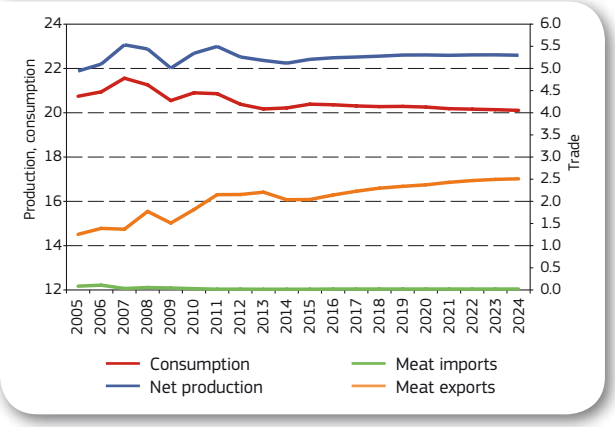
World demand to support EU export potential

World demand for pig meat is expected to remain strong, but will grow at a slower rate than seen in the previous decade (1.7% rather than 4.1% per year). It is expected to reach 8.7 million tonnes by 2024, supported by sustained demand from Asia in particular. A large part of this growth can be attributed specifically to China, with the proportion of total world imports destined for this country set to double between 2014 and 2024 (from 10% to 20%, equivalent to almost 1 million tonnes of additional imports).

In view of the above, EU exports are expected to increase by more than 20% (or 470 000 tonnes) between 2014 and 2024, to reach around 2.5 million tonnes at the end of this period. This increase is expected to be driven not only by increasing demand in China, but also by growth in exports to a number of countries that were not regular trading partners in the past. This will serve to compensate the expected lower exports to Russia resulting from its self-sufficiency policy and import ban.

Although it is assumed that the Russian import ban will remain in place until August 2015, the country's ambitious self-sufficiency targets will lead to lower volumes of EU exports to this market. Russia's domestic production is expected to increase by over 20% between 2014 and 2024, to 3.9 million tonnes. In addition, in order to secure its meat supply in the absence of banned EU and US meat, Russia is negotiating agreements with other suppliers, some of whose exports it had previously imposed restrictions on, such as South Korea (whose exports had been restricted since 2010, due to foot and mouth disease) and Brazil (subject to restrictions since 2011, due to the use of ractopamine).

Graph 4.5 EU pig meat market developments (million tonnes)



Prospects of sustained economic growth in China will continue driving global pig meat demand and consumption. China is the world's largest consumer of pig meat, accounting for around 50% of total consumption. Any small change in China's self-sufficiency levels can therefore have significant consequences for world trade and prices. In view of the government's supportive policies on pig farming, designed to help achieve self-sufficiency, it seems likely that growing demand will be met almost entirely by domestic production. Nonetheless, given that China's demand is growing faster

than its production levels, its import needs will increase, providing further opportunities for EU pig meat exporters. While Chinese imports are not expected to rise to more than 2 to 3% of its domestic production, the EU is the main supplier of the Chinese market, providing over half of total imports, and this proportion is expected to remain unchanged in the medium term.

Consumption of pig meat in the Philippines, a growing market with over 100 million consumers, is expected to continue to increase at a fairly rapid rate, which could create some scope for higher EU exports. In addition, new markets may emerge. Vietnam, for example, recently opened its market to imports of fresh and frozen pork from the EU.

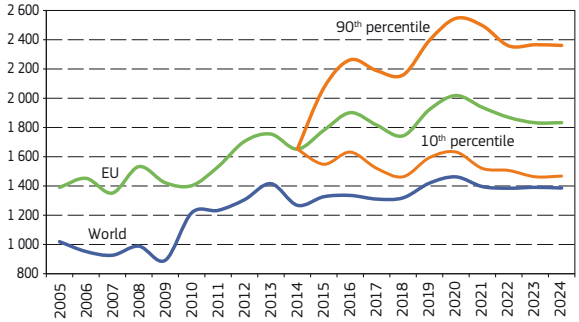
The United States, the EU's main competitor on the world market, is expected to recover from the outbreak of porcine epidemic diarrhoea virus (PEDv) seen in 2013, and to gradually increase its pig meat supply to reach 11.7 million tonnes in 2024 (an increase of 10% on 2014 levels). After slightly lower exports in 2013, US pig meat exports are likely to return to growth, also driven by strong demand from Asia.

Falling consumption levels

Despite some marketing campaigns designed to encourage consumption of fresh pork, *per capita* levels of pork meat consumption are not expected to increase in the EU-15. Moreover, after a slight recovery in 2015, they will start to decline once again (to a level of 29.7 kg *per capita* by 2024), losing out to poultry meat. Consumption in the EU-N13 is, however, expected to increase gradually, to reach 32.7 kg *per capita*, driven mainly by growth in demand in Poland and Romania.

Following falls in 2014, pig meat prices are expected to strengthen over the outlook period, supported by higher world demand, and are predicted to reach an average of 1 830 EUR/t in 2024 (an 11% increase on 2014 levels). Uncertainties related to the macroeconomic environment and to changes in yields could, however, see pig meat prices fluctuate between the 10th percentile (1 460 EUR/t) and the 90th percentile (2 360 EUR/t).

Graph 4.6 Projected pig meat prices and possible price paths (EUR/t)



Note: The reference for the world price is an average of two international quotations, for the United States and Brazil.

4.4. Poultry meat

Poultry meat is the only meat of which production and consumption are expected to expand significantly over the outlook period (by 7% each between 2014 and 2024). Supported by sustained global demand, the EU will maintain its market share with EU exports accounting for 10% of global trade.

Poultry meat able to compensate for lower supply of beef and pig meat

Poultry meat currently enjoys several comparative advantages over other meats, e.g. affordability, convenience, absence of any religious guidelines limiting consumption, healthy image, limited greenhouse gas emissions, lower production costs, short rearing time and lower levels of investment required. As a result, production and consumption have been steadily increasing for many years now.

Thanks to lower feed prices, poultry meat was able to compensate for the lower supply of beef and pig meat seen in recent years. This increase was mainly concentrated in a number of Member States that are major producers – Germany, Spain, the Netherlands and Poland (which together accounted for 44% of total EU production in 2013). Nevertheless, the outbreak of avian flu in November 2014 on farms in Germany, the Netherlands and the United Kingdom (Yorkshire) is not expected to have a significant impact on overall production in 2014, expected at around 13 million tonnes, as preventive measures were immediately put in place.

On the trade side, after an exceptional export performance in 2012, and despite the complete removal of export refunds in 2013, mainly affecting those supplying Saudi Arabia, EU shipments are expected to fall by only around 1% in 2014. The Russian import ban is not having a major effect on the poultry market, as Russian demand was already slowing. The EU market will probably be able to divert the surplus to other destinations, mainly to countries in the Middle East and Africa, especially South Africa.

Imports into the EU also declined over two consecutive years (2013 and 2014). Political tensions in Thailand and the country's reorientation to geographically closer markets resulted in lower exports to the EU, while Brazil, benefiting from the Russian ban imposed on the EU and from falling EU exports to Saudi Arabia, increasingly supplied these two markets at the expense of the EU.

After hitting a record high in the summer of 2013, poultry meat prices have been gradually declining. Higher domestic supplies and lower feed costs are expected to lead to a further decline in 2014, to an average of 1 897 EUR/t (5% below the 2013 level).

Production of poultry meat continues to grow

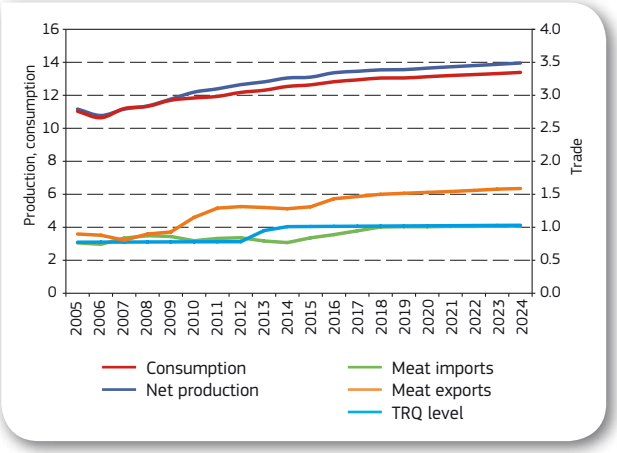
The production of poultry meat is expected to continue to grow steadily over the outlook period, but the rate of growth is very likely to slow to 0.7% per year, having averaged 1.7%

over the past ten years. The strongest increase in production (at 1% per year) is expected to be seen in the EU-N13, due largely to sustained productivity gains in Hungary, Poland and Romania. The other high production increasing countries are EU-15 Member States (e.g. Germany and the Netherlands), where production is expected to grow by 0.5% per year. With feed prices remaining lower than in recent years throughout the outlook period, strong domestic and world demand will together contribute to the increase in production, with total EU production expected to reach almost 14 million tonnes by 2024.

EU maintains its export position on the world market

As is the case for pig meat, global demand for poultry meat imports is expected to remain strong, but with the rate of increase slowing (to 2.9% per year over the next decade, as compared to the rate of 6.4% seen over the previous ten years), to reach 16.2 million tonnes in 2024. Bullish demand from the Middle East (which currently represents 16% of global demand), South Africa (6%), other African countries (e.g. Ghana and Benin) and Asia could continue during the outlook period.

Graph 4.7 EU poultry meat market developments (million tonnes)



In view of the above, the EU's position as a net exporter is expected to be further strengthened, with net exports rising by an average of over 50 000 tonnes per year until 2024. A feature of the trade in poultry meat is that the EU is exporting lower-quality and cheaper cuts (such as legs and wings) and importing cuts with higher value-added (such as poultry breasts and cooked preparations).

Demand from markets in the Middle East, Asia and Africa could continue driving EU exports up by 2.2% per year over the outlook period, to reach almost 1.6 million tonnes by 2024. Nonetheless, the development of the export flow to South Africa is subject to uncertainty, due to the anti-dumping duties[24] imposed by this country on chicken meat exports from three EU Member States (Germany, the Netherlands and the United Kingdom). On the assumption that these duties are lifted in 2015, exports could return to their usual level. Although it is assumed that the Russian import ban will be in place for one year, Russia's policy aim of self-sufficiency will lead to lower imports from the EU. Sustained demand from Saudi Arabia is, however, expected to continue in the future, and to support an expansion of EU poultry exports, despite the absence of export refunds. Moreover, in order to secure supply, foreign companies have started investing in European poultry firms.

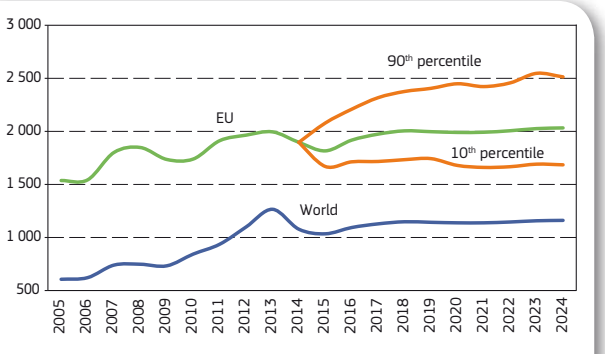
In the past, imports of poultry tended to settle at around the quota level. The situation has changed, however, since 2012, when new tariff-rate quotas[25] were opened, despite the fact that these were not completely filled at that time. Nevertheless, imports are expected to grow gradually from the low level seen in 2013-14, and to achieve the quota level (around 1 million tonnes) by 2017, supported by increased production in two of the EU's main suppliers, Thailand and Brazil (where production is expected to rise by 30% and 17% respectively between 2014 and 2024). Despite the reorientation of exports towards geographically closer destinations, such as Laos and Japan, Thai exports to the EU market are expected to increase over the outlook period. In addition, Brazil, which currently supplies the Russian and Saudi Arabian markets, has the potential to fill its EU import quota of 518 000 tonnes (in carcass weight).

Consumption still rising

Thanks to its relative cheapness and healthy image, poultry meat will continue to be the fastest growing part of the meat market in terms of consumption (out of the four main types of meat), with increases both in volumes consumed (by 0.6% per year, to reach 22.8 kg *per capita* by 2024), and in market share (rising to 32% by 2024).

After a slowdown in the short run, reflecting lower input prices, prices for EU poultry meat are expected to then recover steadily over the period to 2018, following world prices, and to continue rising beyond past levels to reach around 2 030 EUR/t by the end of the outlook period. Depending on the developments in the macroeconomic environment and in yields, poultry meat prices could vary between the 10th percentile (1 680 EUR/t) and the 90th percentile (2 510 EUR/t) during the outlook period.

Graph 4.8 Projected price and possible paths for poultry meat (EUR/t)



Note: The reference for the world price is Brazil.

24 These anti-dumping duties were initially to remain in place until January 2015, but could be extended pending the final results of an investigation by the country's International Trade Administration Commission.

25 These are quotas for processed products of Brazilian, Thai and other origin, opened in 2013. Quotas for chicken meat imports from Thailand were also re-opened in 2012, and two quotas for poultry imports from Ukraine were opened in 2014 (together representing 56 000 tonnes).

Total meat consumption in the EU-N13 slowly catching up with that of the EU-15

While prospects of improved economic growth should leave EU consumers with more disposable income and provide incentives for higher meat consumption, this is not reflected in the projections. In line with trends seen over the last decade, consumption of meat products is not expected to rise over the coming years, due to the growing importance of social concerns (animal welfare and carbon footprints), health concerns and an ageing European population (who will be eating less meat per capita***). Some of these factors serve to favour poultry over the other meats, adding to the effect of increasing poultry consumption as a proportion of total meat consumption.***

In 2012 and 2013, lower availability, higher meat prices, the ongoing economic downturn and the resultanting high unemployment rates, especially in southern European countries – caused overall meat consumption to contract (by 1.5 % over the two years), reaching the lowest level seen over the past 11 years (64.4 kg *per capita*)[26] in 2013, as consumers turned to cheaper meats and cuts.

Meat consumption is expected to recover between 2014 and 2016 as more meat comes onto the market and the economic situation improves, but this trend will be short-lived, with levels very soon starting to fall once again. By the end of the outlook period, *per capita* consumption is expected to have fallen to 64.9 kg (in retail weight), a level similar to that seen in 2012.

26 Consumption *per capita* is measured in retail weight. Coefficients to convert the carcass weight into retail weight are 0.7 for beef and veal, 0.78 for pig meat and 0.88 for poultry and sheep meat.

5. Agricultural income

Agricultural income per annual working unit (AWU) in the EU-28 is expected to increase slightly (+10%) in real terms during the 2014-24 outlook period. This figure masks two contrasting developments, with income per AWU rising strongly by 39% in the EU-N13 but falling by 4% in the EU-15. The income gap between EU-15 and EU-N13 will continue to narrow but will remain substantial.

Agricultural income per AWU is determined by two major factors: the income of total farming activities and the change in labour force. Agricultural income encompasses the total value of production, subsidies minus taxes, the costs of intermediate inputs and the depreciation of farm capital. The total labour force active in agriculture is expressed in annual full time equivalents.

5.1. Historical developments

Over the past decade (2003-13) agricultural income per AWU in the EU-28 increased in both nominal and real terms. This is the result of a moderate expansion in nominal income combined with a strong reduction in the total workforce employed in agriculture.

Over this period average real growth in agricultural income per AWU was modest at 2% per year. However, the income pattern was relatively volatile, mainly driven by fluctuations in agricultural commodity prices. With the bursting of the price bubble and the onset of the economic recession, agricultural income decreased substantially – by 8% in 2009 alone. This was followed by a strong rise in income of 23% between 2009 and 2012 driven by the increase in agricultural prices. As a result, real agricultural income per worker in 2012 was 33% higher than in 2000 and above the previous record set in 2007. In 2013, income fell slightly again, by 2%, from 2012's record level.

The increase in EU-28 agricultural income per worker is mainly driven by the income rise in the EU-N13. While real agricultural income per AWU in the EU-15 was 12% higher in 2013 than in 2000, in the EU-N13 it more than doubled over the same period. This significant increase is mainly a result of the higher prices prevailing in the EU single market, greater public support for the farm sector and a substantial decline in the agricultural workforce. Although the gap in real agricultural income between the EU-15 and EU-N13 is getting smaller, it remains very wide in absolute terms: EUR 21 400 per working unit in the EU-15 in 2013, against EUR 4 100 in the EU-N13.

5.2. Income prospects

Agricultural income is expected to fall considerably in real terms over the outlook period. However, real agricultural income per AWU will increase slightly due to further structural change and continued reduction of the labour force. Income will improve in the EU-N13 but not in the EU-15, further closing the income gap between them.

Some methodological considerations

The medium-term prospects for agricultural sector income have been extrapolated from the projections for the main agricultural markets presented in the earlier chapters. The economic accounts for agriculture (EAA) constitute the statistical basis of this outlook for agricultural income.

The results should be interpreted in the light not only of the economic and policy context underlying the market projections but also of additional caveats specific to the income estimation. Certain key assumptions had to be made about the prospects for agricultural sectors not covered by the modelling tools used for the baseline projections, as well as for the rate of fixed capital consumption and the pace of future structural change. The value of production (VP) for the main arable crops and animal products is derived directly from the change in producer prices and quantities produced expected for the next 10 years. For products not covered in the model (e.g. fruit, vegetables, wine and olive oil), which represent about 37% of the total production value, the value of production is assumed to follow the growth in GDP and the expected changes for the commodities modelled. The value of production of agricultural services (about 8% of total VP) is assumed to follow the same linear trend as in 2000-13.

Agricultural income (or total factor income) is obtained by subtracting from the value of production the intermediate costs and depreciation and by adding subsidies minus taxes. The main intermediate costs are seeds (5% of intermediate costs in 2013), feed (38%), energy and fertilisers (20%) and other costs (37%), such as plant protection products, maintenance of materials and buildings and agricultural services provided. The depreciation of fixed capital, such as equipment and buildings, follows the change in the quantity of modelled products produced and in inflation. Subsidies cover all coupled and decoupled payments, including state aid and production-related rural development support (e.g. for areas with natural constraints) but no investment subsidies. Over the outlook period, the subsidy component of agricultural income changes in line with direct payment ceilings following the CAP reform. The distribution between coupled and decoupled payments takes into account the choices of which the Member States notified the European Commission in August 2014.

Agricultural workforce developments (a key factor for estimating agricultural income per working unit) are assumed to follow the same trend as in 2005-13, in both the EU-15

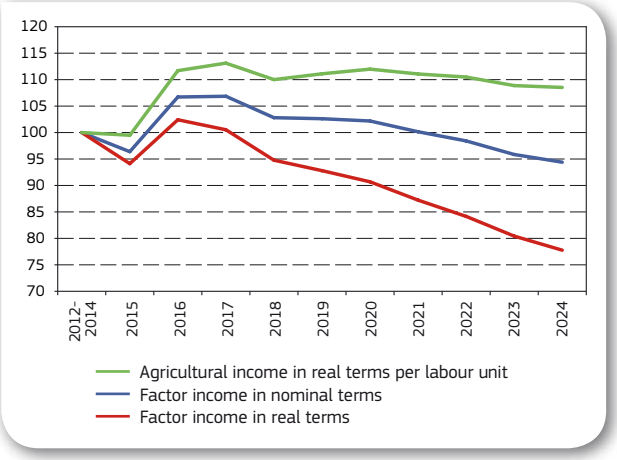
and the EU-N13. In contrast to longer-term trends, as a result of the economic crisis the decrease in the labour force has recently slowed in some Member States, including Ireland, Lithuania, Poland, Romania and Slovakia, while in the UK the labour force in agriculture has even increased.

Real income falling

Given the large number of small farms and the age of farmers both in the EU-15 and the EU-N13 structural change will continue over the outlook period, but at a slightly slower pace than in the pre-crisis period. Major agricultural countries such as Poland (1.9 million annual working units in 2013), Romania (1.6 million AWU), Hungary (0.4 million AWU), the UK (0.3 million AWU) and Ireland (0.17 million AWU) saw the labour decline come to a temporary halt after the economic crisis. The total EU agricultural labour force in 2024 is expected to fall to 7.2 million AWU from 10.1 million in 2013. It would be 6.6 million AWU in 2024 if the pre-crisis rate of decline were to be maintained, or 8.7 million AWU if the post-crisis growth rate in 2010-13 continued.

The overall medium-term trend for agricultural income in real terms *per capita* is expected to be slightly positive (Graph 5.1). In 2024, real agricultural income per labour unit is expected to be 9% above the 2012-14 average, an increase of 0.8% per year. This positive trend is the result of a steady fall in the workforce employed in agriculture (-28%), which more than offsets the expected deterioration in total factor income in real terms (-22%).

Graph 5.1 Change in agricultural income in the EU (2012-14 average = 100)



This, however, should not hide the fact that total agricultural income is going down. Compared with the 2012-14 average, the total value of production increases by 10%. This is mainly due to increases in non-modelled crops (+14%) and agricultural services (+32%), while growth in modelled commodities lags behind (+4%). The main contributors to the latter are dairy (+8%), pork (+8%), poultry (+14%) and maize (+21%), while the main losers are beef (-11%) and soft wheat (-8%). Total costs increase slightly, from 67% to 71%, as a proportion of total revenue. Over the outlook period, depreciation increases with 27%. While seed and feed costs stabilise at the end of the outlook period, costs for energy, fertilisers and other costs continue to increase (by 16% and 28% respectively). Fertiliser and energy prices are linked to the increasing oil price, while the other costs as well as depreciation are linked to inflation. Consequently, the net value added, i.e. the value of production minus intermediate costs and depreciation, drops. In nominal terms, net value added shrinks by 6% from the 2012-14 average.

Real agricultural income per labour unit in the EU-28 is not expected to follow a steady pattern. In 2015, the value of production remains quite stable, while depreciation costs further increase, causing income to fall in both nominal and real terms. In 2016, factor income is expected to make a significant recovery (+11%) due to a surge in the value of production which will not be offset by the moderate increase in intermediate costs anticipated. The main drivers of the rise in value of production are better prices for meat, milk and crops, while production itself remains virtually stable. This record year extends into 2017, but in 2018 income again deteriorates to a level slightly above 2012-14. The main reasons are falling beef and pork meat prices. This decline introduces a period of further decreases in income as the value of production fails to keep pace with increasing intermediate and depreciation costs. The latter are propelled by the oil price and inflation in general.

Increasing convergence in the EU

The evolution of average income for the EU-28 masks significant differences between the aggregate figures for the EU-15 and EU-N13 (Table 5.1). In the EU-15, real agricultural income per working unit is expected to drop substantially by 2024 from the 2012-14 average, whereas in the EU-N13 it keeps on rising. Consequently the gap between the absolute levels of agricultural income per worker in the EU-15 and the EU-N13 will narrow further but will still remain substantial (a gap of EUR 14900, or more than twice expected EU-N13 income per head).

Table 5.1 Outlook for agricultural income in the EU, 2015-24 (2012-14 average = 100)

	2012-14	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Factor income in nominal terms											
EU-28	**100**	**96**	**107**	**107**	**103**	**103**	**102**	**100**	**98**	**96**	**94**
EU-15	100	95	105	105	100	100	100	97	96	93	91
EU-N13	100	101	115	116	115	115	114	112	111	109	107
Factor income in real terms											
EU-28	**100**	**94**	**102**	**101**	**95**	**93**	**91**	**87**	**84**	**80**	**78**
EU-15	100	93	101	99	93	91	89	85	82	78	76
EU-N13	100	100	111	109	106	104	100	97	94	90	87
Labour input											
EU-28	**100**	**95**	**92**	**89**	**86**	**84**	**81**	**79**	**76**	**74**	**72**
EU-15	100	96	94	92	90	88	87	85	83	81	80
EU-N13	100	93	89	86	82	79	76	72	69	67	64
Agricultural income in real terms per labour unit											
EU-28	**100**	**99**	**112**	**113**	**110**	**111**	**112**	**111**	**110**	**109**	**109**
EU-15	100	97	107	107	103	103	103	101	99	96	95
EU-N13	100	107	124	127	128	131	133	134	135	135	136

Different factors are at work simultaneously. The total labour force is currently about equal in the EU-15 and EU-N13. Given the higher pace of structural change in the EU-N13, the total number of AWU in the EU-N13 is expected to drop to 3.3 million by 2024, falling below that of the EU-15 (3.9 million). At the same time the EU-N13 raises the value of production by 15% from the 2012-14 base, while the EU-15 increases it by 8%. The biggest increases are for maize, pork, poultry and eggs. As price ratios between EU-15 and EU-N13 are constant across the outlook period, the difference is due entirely to a higher production increase in the EU-N13. Intermediate costs and depreciation costs also rise faster in the EU-N13 than in the EU-15. The main reason is higher inflation in the EU-N13: over the outlook period the GDP deflator increases by 24% in the EU-N13 and 21% in the EU-15. This also explains why the difference between factor income in real and nominal terms is higher in the EU-N13.

The "external convergence" objective of the CAP, aimed at a fairer distribution of direct payments among the Member States, is also mirrored in the changes affecting subsidies.


512.32
5512.03
7524.16
0.00
0.00
6525.14
.02%
11.02
0.00
-24
0
10
0%
.02%
0.00
8956.21

6. General consequences of macroeconomic and yield uncertainties

The baseline is a deterministic projection of agricultural market developments based on a set of consistent assumptions concerning its key drivers. Partial stochastic analysis is undertaken to provide further insights into the projections. This stochastic analysis quantifies the range of possible outcomes around the central baseline value, taking into account past uncertainty observed in key factors. In particular the uncertainty surrounding selected macroeconomic variables (GDP, GDP deflator, CPI, exchange rates and the oil price) and crop yields is introduced in the model. The analysis is only partial as it does not capture variability stemming from factors other than those selected.

6.1. Exogenous sources of uncertainty

The selection of stochastic variables is driven by two considerations, namely the need to cover the major sources of uncertainty for EU agricultural markets while keeping the analysis simple enough to allow their identification in each market. In total, 37 country-specific macroeconomic variables and 77 country- and crop-specific yields, shown in Tables 6.1 and 6.2, are treated as uncertain in the partial stochastic runs.

The procedure followed consists of three steps: (i) the quantification of th e past uncertainty for each variable concerned; (ii) the generation of 600 sets of possible values for these stochastic variables; and (iii) the execution of the AGLINK-COSIMO model for each of these 600 alternative scenarios. These steps are explained in more detail below.

Step (i): Past variability around the trend is quantified for each macroeconomic and yield variable separately.

For macroeconomic variables, the estimation is based on forecast errors for the period 2004-14. In addition, the correlation between the forecast errors *in each year* for the different variables is considered; forecast errors correlation is used as a proxy to replicate the correlation of macroeconomic variables. However, the correlation of stochastic variables with themselves *over time* is not considered.

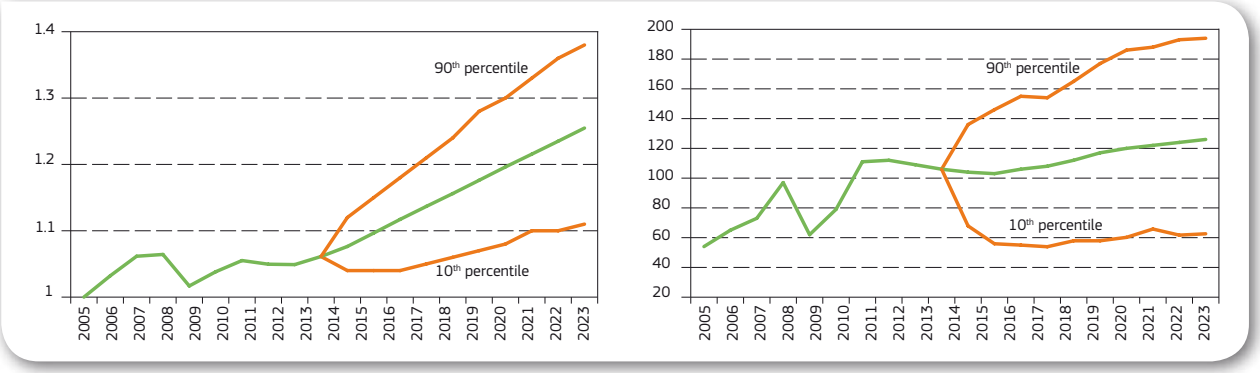
Table 6.1 summarises the simulated variability for macroeconomic variables in 2024. The variability of each outcome is measured through the coefficient of variation in 2024 (CV_{2024}), defined as the ratio of the standard deviation of the variable relative to its mean, and calculated using the 2024 values. By selecting the last year of the outlook period (2024), because macroeconomic uncertainty accumulates over time this coefficient of variation shows the upper range of uncertainty for the variables of interest. Following from the assumption that the stochastic variables follow a multivariate normal distribution, a few extreme values are likely to appear in the draws. This constraint is dealt with by excluding values below the 10th percentile and over the 90th percentile from the analysis.

Table 6.1 Coefficients of variation for macroeconomic variables in 2024 (%)

	Consumer price index (CPI)	GDP deflator	GDP index	Exchange rate (national currency/USD)	Oil price
Australia	5	8	2	14	-
Brazil	13	11	8	25	-
Canada	3	4	5	10	-
China	10	20	10	7	-
EU	4	6	6	12	-
Japan	4	4	9	15	-
New Zealand	6	5	5	15	-
Russia	14	22	16	14	-
USA	2	6	5	-	-
World	-	-	-	-	27

The coefficients of variation given in Table 6.1 show the variability relative to the mean and do not provide information about the actual level of the variable itself. It is therefore also useful to look at the 10th and 90th percentiles of the stochastic simulations (Graph 6.1).

Graph 6.1 GDP index (left) & world oil price (USD/barrel) (right)



For yields, the approximated uncertainty is based on the forecast error between the yield predicted (ordinary least squares) by the trend, input and output prices and the actual yield. The time period used for this analysis is 1996 to 2014. The correlation between yield errors for a given crop is calculated for pairs of countries in the same regional block, but is assumed to be zero between countries in different regional blocks. The forecast errors correlation is assumed to follow a multivariate truncated normal distribution[27]. Regional blocs are shown in Table 6.2, as well as the coefficient of variation for yields in 2024.

Table 6.2 Coefficients of variation for crop yields in 2024 (%)

	Europe		Black Sea area			South America				North America			South East Asia						
CV_{2024} (%)	EU-15	EU-N13	Kazakhstan	Ukraine	Russia	Argentina	Brazil	Paraguay	Uruguay	Canada	Mexico	US	Indonesia	Malaysia	Thailand	Vietnam	Australia	China	India
Common wheat	4	10	26	23	11	17	13	21	22	5	5	6					23	4	5
Durum wheat	11	15																	
Coarse grains				15				16	12										
Barley	5	8				19				5							22		
Maize	6	22				11	9			4	5	8						4	
Oats	6	10								4									
Rye	11	10																	
Other cereals	5	9																	
Rice	4						2					4			3	2		2	5
Oilseeds			35	13	5	6	4	18											
Rapeseed	7	13								5							23		
Soybean	9	24				14	7			7		6							
Sunflower seed	6	15			14	12													
Palm oil													8	8					
Sugar beet	5	8			14							7						9	
Sugar cane						8	3					7			10		8	8	7

Step (ii): 600 sets of possible values are generated for the stochastic variables.

The second step involves generating 600 sets/scenarios of possible values for the stochastic variables, reproducing the variability determined in step (i) for each year of the period 2015-24. Macroeconomic forecast errors accumulate over the period. By contrast, yield variations in a given year are independent of what occurred in the previous year.

Step (iii): the AGLINK-COSIMO model is run for each of the 600 alternative "uncertainty" scenarios.

The third step involves running the AGLINK-COSIMO model[28] for each of the 600 alternative "uncertainty" scenarios generated in step (ii). To better discern the effect of each source of uncertainty, this is first done only with the uncertainties concerning macroeconomic indicators, then only with the yield uncertainties. Finally, the macroeconomic

27 A multivariate normal distribution is the generalization of the one-dimensional (univariate) normal distribution to higher dimension. It is truncated in the sense of being bounded both below and above.

28 The AGLINK-COSIMO model is a recursive-dynamic, partial equilibrium, supply demand model of world agriculture developed by the OECD and FAO Secretariats. The model is used to simulate development of annual supply, demand and prices for the main agricultural commodities produced, consumed and traded worldwide.

and yield uncertainties are combined. This procedure yielded respectively 579, 543 and 532 successful simulations. In some cases the model does not provide a solution; it is a complex system of equations and policies and this may happen when it is exposed to extreme shocks for one or several of the stochastic variables.

6.2. Main impacts of macroeconomic and yield uncertainties

This section summarises the overall results of the uncertainty (partial stochastic) analysis. Some of the results have already been presented in the previous sections (for example, the price fans shown in the description of baseline results for each sector and some boxes related to specific subsets).

Overall, yield uncertainty affects the crop market balances. It directly translates into a change in production, hence demand, imports and exports will adjust accordingly to form a new equilibrium. This effect is transferred to other commodities such as animal production (dairy and meat), mainly through feed, but the effect is diluted because of substitution effects.

Livestock production and biofuels are principally affected by macroeconomic uncertainty; important factors in these markets include the world oil price and exchange rates. The oil price, for example, has a direct impact on the consumption of biofuels as they are linked through policies such as the blending mandate. Exchange rates influence the competitiveness of the EU-28 on world markets through relative prices. This affects mainly those sectors that are well integrated into world trade such as dairy.

Even for crops, prices react more strongly to macroeconomic uncertainties than to yield variation. The latter only has a direct impact on production, while macroeconomic uncertainty affects all dimensions of the market. The effect of the uncertainties comes together at the level of EU farm income. CV_{2024} income per annual working unit due to macroeconomic uncertainty equals 12 %, but only 3 % in the case of yield uncertainty. The combined uncertainties equal 13 %.

Table 6.3 Impact in 2024 of macroeconomic and yield uncertainties on production, consumption and trade of agricultural commodities, CV_{2024} (%)

CV_{2024} (%)	Production			Consumption			Exports			Imports		
	Macro	Yield	Combined	Macro	Yield	Combined	Macro	Yield	Combined	Macro	Yield	Combined
Cereals	**0.6**	**2.0**	**2.1**	**0.6**	**0.6**	**0.9**	**4.8**	**9.0**	**10.0**	**7.1**	**15.0**	**16.5**
Wheat	0.9	2.2	2.4	0.8	0.9	1.2	5.1	9.7	10.8	3.9	9.2	10.1
Coarse grains	0.4	2.6	2.6	0.6	1.3	1.5	5.2	10.6	12.2	11.4	21.8	25.1
Barley	0.5	2.2	2.1	0.8	1.5	1.7	5.0	9.8	11.3	1.5	3.3	3.5
Maize	0.4	5.0	5.0	0.8	2.9	3.0	5.8	14.3	15.8	12.0	23.2	26.8
Oilseeds	**0.8**	**3.0**	**3.1**	**0.5**	**1.2**	**1.3**	**9.6**	**20.6**	**23.5**	**1.8**	**3.0**	**3.7**
Sunflower	0.6	4.7	4.7	0.7	2.9	3.0	13.8	31.0	34.7	13.8	31.0	35.2
Rapeseed	0.9	3.5	3.6	0.5	1.5	1.6	10.1	28.6	30.5	4.0	11.3	12.0
Soybean	1.2	5.6	5.5	1.3	1.6	2.0	0.0	0.0	0.0	1.4	1.9	2.4
Protein meal	0.5	1.1	1.2	1.1	1.1	1.5	2.0	2.4	3.1	2.3	1.4	2.7
Veg. oils	0.4	1.3	1.3	1.7	1.0	1.9	6.9	6.6	9.3	3.2	2.9	4.3
Sugar	1.2	2.5	2.6	2.2	0.3	2.2	18.9	12.9	21.8	8.5	5.8	10.0
Ethanol	1.0	0.9	1.3	9.1	5.3	9.7	16.8	7.5	17.6	44.7	28.9	47.1
Biodiesel	4.1	1.9	4.5	4.1	2.0	4.4	27.5	9.2	30.1	13.7	4.6	14.9
Meat	**1.1**	**0.2**	**1.1**	**0.6**	**0.1**	**0.6**	**9.1**	**1.8**	**9.3**	**1.4**	**0.6**	**1.4**
Beef	0.5	0.4	0.7	0.7	0.2	0.7	8.1	3.3	8.7	4.6	2.0	4.9
Sheep meat	0.8	0.1	0.9	0.6	0.1	0.6	0.3	0.0	0.3	5.2	1.0	5.2
Pig meat	1.7	0.3	1.8	0.8	0.1	0.8	13.2	2.0	13.4	5.2	0.6	5.0
Poultry meat	0.9	0.4	1.0	1.5	0.2	1.5	12.1	2.7	12.2	0.4	0.1	0.4
Milk	**1.0**	**0.2**	**1.0**									
Butter	1.4	0.5	1.5	0.7	0.3	0.8	14.8	4.8	15.7	11.7	5.6	13.7
Cheese	1.0	0.1	1.0	1.2	0.1	1.3	7.5	1.5	7.6	7.3	1.9	7.6
SMP	5.9	0.9	5.8	1.2	0.7	1.3	11.0	2.0	11.0			
WMP	5.4	1.5	5.6	0.7	0.1	0.7	10.7	2.7	10.9			

Table 6.4 Impact in 2024 of macroeconomic and yield uncertainties on consumption by type of use of agricultural commodities, CV_{2024} (%)

CV_{2024} (%)	Consumption			Food use			Feed use			Biofuel use		
	Macro	Yield	Combined	Macro	Yield	Combined	Macro	Yield	Combined	Macro	Yield	Combined
Cereals	**0.6**	**0.6**	**0.9**	**0.3**	**0.2**	**0.4**	**1.0**	**0.8**	**1.3**	**1.5**	**1.4**	**2.0**
Wheat	0.8	0.9	1.2	0.3	0.2	0.4	1.8	2.0	2.8	2.3	3.3	4.4
Coarse grains	0.6	1.3	1.5	0.4	0.5	0.6	0.9	1.7	1.9	1.7	1.7	2.4
Oilseeds	**0.5**	**1.2**	**1.3**	**0.6**	**0.3**	**0.7**						
Protein meal	1.1	1.1	1.5				1.1	1.1	1.5			
Vegetable oils	1.7	1.0	1.9	1.4	1.1	1.8				4.2	2.0	4.5
Sugar Sugar beet	2.2	0.3	2.2	2.2	0.3	2.2				0.9	0.3	0.9
Meat	**0.6**	**0.1**	**0.6**	**0.6**	**0.1**	**0.6**						
Beef and veal	0.7	0.2	0.7	0.7	0.2	0.7						
Sheep meat	0.6	0.1	0.6	0.6	0.1	0.6						
Pig meat	0.8	0.1	0.8	0.8	0.1	0.8						
Poultry meat	1.5	0.2	1.5	1.5	0.2	1.5						
Butter	0.7	0.3	0.8	0.7	0.3	0.8						
Cheese	1.2	0.1	1.3	1.2	0.1	1.3						
SMP	1.2	0.7	1.3	0.3	0.1	0.3	7.9	4.7	8.4			
WMP	0.7	0.1	0.7	0.7	0.1	0.7						

Table 6.5 Impact in 2024 of macroeconomic and yield uncertainties on EU domestic and world prices of agricultural commodities, CV_{2024} (%)

CV_{2024} (%)	EU-28 domestic price			World price		
	Macro	Yield	Combined	Macro	Yield	Combined
Cereals	**10.3**	**4.7**	**11.0**	**9.1**	**3.9**	**9.7**
Wheat	10.5	4.7	11.2	8.8	4.2	9.5
Coarse grains	10.1	5.1	11.0	9.5	4.3	10.3
Barley	10.4	4.7	11.0			
Maize	10.1	5.9	11.2			
Oilseeds	**10.6**	**8.0**	**12.9**	**11.2**	**7.8**	**13.1**
Sunflower	9.8	8.5	12.9			
Rapeseed	10.9	8.7	13.5			
Soybean	11.5	7.3	13.4			
Protein meal	12.3	4.2	12.5	12.4	4.4	12.9
Vegetable oils	10.8	5.4	11.7	8.3	6.1	10.4
Sugar (White)	12.7	2.3	12.7	13.7	1.3	13.9
Ethanol	12.6	4.5	13.0	15.6	1.3	15.6
Biodiesel	12.1	5.3	12.7	20.2	1.0	20.1
Meats	**12.1**	**2.0**	**11.8**			
Beef and veal	14.4	3.6	14.2	21.5	3.0	21.9
Sheep meat	9.8	1.0	9.7	8.0	0.9	8.0
Pig meat	13.1	1.6	12.8	26.1	3.3	26.1
Poultry meat	10.1	1.9	10.0	9.2	1.8	9.4
Milk	**9.2**	**2.0**	**9.2**			
Butter	8.7	2.6	8.9	9.9	2.3	10.1
Cheese	9.7	1.9	9.7	8.9	1.4	9.1
SMP	10.0	1.5	10.0	9.6	1.3	9.7
WMP	9.8	1.6	9.8	10.4	1.5	10.5

7. Market outlook - data

Table 7.1 Area under arable crops in the EU (million ha)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cereals	**56.5**	**57.8**	**57.4**	**58.3**	**57.7**	**57.4**	**57.4**	**57.4**	**57.5**	**57.5**	**57.5**	**57.4**	**57.4**	**57.4**
of which EU-15	*34.2*	*34.9*	*34.6*	*35.0*	*34.9*	*34.7*	*34.8*	*34.9*	*35.1*	*35.1*	*35.2*	*35.2*	*35.2*	*35.3*
of which EU-N13	*22.3*	*22.9*	*22.8*	*23.3*	*22.7*	*22.7*	*22.6*	*22.5*	*22.4*	*22.4*	*22.3*	*22.2*	*22.2*	*22.1*
Common wheat	23.3	23.2	23.4	24.4	23.5	23.3	23.3	23.4	23.6	23.7	23.7	23.8	23.8	23.9
Durum wheat	2.5	2.7	2.4	2.3	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Barley	11.9	12.5	12.3	12.5	12.4	12.4	12.3	12.3	12.2	12.1	12.1	12.0	11.9	11.9
Maize	9.3	9.9	9.7	9.5	9.7	9.8	9.9	9.9	10.0	10.0	10.1	10.1	10.1	10.2
Rye	2.2	2.4	2.6	2.4	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Other cereals	7.1	7.0	7.0	7.2	7.1	7.0	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.6
Rice	**0.5**	**0.5**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**
Oilseeds	**11.3**	**11.1**	**11.5**	**11.5**	**11.5**	**11.6**	**11.6**	**11.6**	**11.5**	**11.5**	**11.5**	**11.5**	**11.5**	**11.5**
of which EU-15	*5.9*	*6.2*	*6.1*	*6.1*	*6.1*	*6.2*	*6.2*	*6.2*	*6.1*	*6.1*	*6.1*	*6.2*	*6.2*	*6.2*
of which EU-N13	*5.4*	*4.9*	*5.5*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*
Rapeseed	6.7	6.2	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Sunseed	4.1	4.5	4.3	4.3	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3
Soybeans	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sugar beet	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Potatoes	1.9	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6
Protein crops	1.1	0.9	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1
Other arable crops	7.1	6.7	7.2	6.7	6.4	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.7
Fodder (green maize, temp. grassland etc.)	19.8	19.9	19.9	19.8	19.8	19.8	19.8	19.8	19.7	19.7	19.7	19.6	19.6	19.6
Utilised arable area	**99.7**	**100.4**	**100.5**	**101.0**	**100.2**	**99.8**	**99.6**	**99.3**	**99.1**	**98.8**	**98.6**	**98.3**	**98.1**	**97.8**
Set-aside and fallow land	7.8	7.3	6.9	6.8	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Share of fallow land %	*7.8*	*7.3*	*6.8*	*6.8*	*6.9*	*7.0*	*7.1*	*7.1*	*7.1*	*7.1*	*7.1*	*7.1*	*7.1*	*7.1*
Total arable area	**107.9**	**107.7**	**107.6**	**107.4**	**107.1**	**106.8**	**106.6**	**106.3**	**106.1**	**105.8**	**105.6**	**105.3**	**105.0**	**104.8**
Permanent grassland	58.8	58.4	58.3	58.2	58.1	58.0	57.8	57.7	57.6	57.4	57.3	57.2	57.1	56.9
Share of permanent grassland %	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*	*33*
Orchards and others	11.6	11.6	11.6	11.6	11.6	11.6	11.5	11.5	11.5	11.5	11.5	11.5	11.4	11.4
Total utilised agricultural area	**178.4**	**177.7**	**177.6**	**177.2**	**176.8**	**176.3**	**175.9**	**175.5**	**175.1**	**174.7**	**174.3**	**173.9**	**173.5**	**173.1**

Table 7.2 EU cereals market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**291.8**	**282.0**	**304.8**	**319.9**	**305.3**	**304.9**	**307.1**	**309.0**	**311.2**	**312.8**	**314.2**	**315.5**	**317.0**	**318.7**
of which EU-15	202.0	202.2	210.5	219.9	212.0	211.1	212.8	214.1	215.7	216.9	217.9	218.9	220.0	221.2
of which EU-N13	89.9	79.7	94.3	100.0	93.3	93.8	94.4	94.9	95.5	95.9	96.3	96.6	97.0	97.4
Consumption	**279.8**	**276.8**	**275.9**	**281.9**	**287.8**	**286.0**	**284.9**	**286.1**	**287.3**	**288.4**	**289.4**	**290.3**	**291.1**	**292.0**
of which EU-15	219.6	219.8	218.2	223.6	229.8	227.8	225.6	226.2	227.1	227.9	228.6	229.2	229.8	230.4
of which EU-N13	60.2	57.0	57.7	58.2	58.0	58.2	59.3	59.8	60.3	60.6	60.8	61.1	61.3	61.7
of which food and industrial	102.5	103.6	100.3	100.7	106.1	104.2	100.5	100.1	100.3	101.7	103.2	104.7	106.5	107.9
of which feed	167.0	163.2	165.0	170.4	170.3	169.6	169.7	170.2	170.5	170.8	171.0	171.1	171.2	171.5
of which bioenergy	10.3	10.0	10.7	10.8	11.5	12.3	14.7	15.7	16.5	15.9	15.2	14.4	13.5	12.6
Imports	14.3	16.7	19.2	15.0	12.3	14.1	13.5	13.0	12.5	11.9	11.2	10.5	9.7	9.1
Exports	25.6	31.8	43.5	34.3	38.1	35.2	35.5	35.7	36.0	36.0	35.8	35.6	35.5	35.6
Beginning stocks	36.7	37.5	27.6	32.2	50.9	42.7	40.5	40.6	40.9	41.3	41.6	41.7	41.8	41.9
Ending stocks	37.5	27.6	32.2	50.9	42.7	40.5	40.6	40.9	41.3	41.6	41.7	41.8	41.9	42.1
of which intervention	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stock-to-use ratio	*13%*	*10%*	*12%*	*18%*	*15%*	*14%*	*14%*	*14%*	*14%*	*14%*	*14%*	*14%*	*14%*	*14%*

Note: the cereals marketing year is July/June

Table 7.3 EU wheat market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**138.8**	**134.4**	**144.0**	**154.2**	**143.1**	**141.8**	**142.6**	**143.8**	**145.4**	**146.5**	**147.2**	**147.8**	**148.6**	**149.5**
of which EU-15	103.1	101.0	104.3	113.8	107.0	105.5	106.3	107.2	108.5	109.3	109.7	109.9	110.3	110.7
of which EU-N13	35.7	33.4	39.7	40.4	36.1	36.3	36.3	36.6	36.9	37.1	37.5	37.9	38.3	38.8
Consumption	**129.7**	**119.7**	**116.6**	**125.3**	**123.8**	**123.9**	**122.1**	**122.7**	**123.6**	**124.5**	**125.5**	**126.2**	**127.0**	**127.7**
of which EU-15	106.5	97.4	94.5	102.1	100.7	100.8	99.0	99.6	100.4	101.3	102.2	102.9	103.7	104.3
of which EU-N13	23.2	22.3	22.1	23.3	23.1	23.1	23.1	23.1	23.2	23.3	23.3	23.3	23.3	23.4
of which food and industrial	69.0	70.4	69.0	69.3	69.1	68.8	66.6	66.9	67.6	68.7	69.7	70.8	71.8	72.7
of which feed	55.4	45.2	43.1	51.7	50.2	50.4	50.0	50.0	50.1	50.3	50.6	50.7	50.8	50.9
of which bioenergy	5.2	4.1	4.5	4.3	4.4	4.6	5.5	5.7	5.9	5.5	5.2	4.8	4.4	4.1
Imports	7.1	5.0	3.7	5.5	5.0	4.9	4.7	4.6	4.4	4.2	4.1	4.0	3.9	3.8
Exports	16.0	21.9	31.1	26.0	27.8	24.6	24.9	25.2	25.7	25.7	25.5	25.3	25.1	25.1
Beginning stocks	10.7	10.8	8.7	8.7	17.1	13.6	11.8	12.2	12.6	13.1	13.5	13.9	14.3	14.7
Ending stocks	10.8	8.7	8.7	17.1	13.6	11.8	12.2	12.6	13.1	13.5	13.9	14.3	14.7	15.1
of which intervention	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: the wheat marketing year is July/June

Table 7.4 EU coarse grains market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**153.1**	**147.5**	**160.8**	**165.7**	**162.2**	**163.2**	**164.5**	**165.2**	**165.8**	**166.3**	**167.0**	**167.7**	**168.5**	**169.2**
of which EU-15	98.9	101.2	106.2	106.1	105.1	105.7	106.5	106.9	107.2	107.5	108.2	109.0	109.8	110.5
of which EU-N13	54.2	46.3	54.6	59.6	57.2	57.5	58.0	58.3	58.6	58.8	58.8	58.7	58.7	58.7
Consumption	**150.1**	**157.1**	**159.3**	**156.5**	**164.1**	**162.2**	**162.8**	**163.3**	**163.7**	**163.9**	**163.9**	**164.1**	**164.1**	**164.3**
of which EU-15	113.1	122.3	123.6	121.6	129.1	127.1	126.6	126.7	126.6	126.6	126.4	126.3	126.1	126.0
of which EU-N13	37.0	34.7	35.7	35.0	35.0	35.1	36.2	36.7	37.1	37.3	37.5	37.8	38.0	38.2
of which food and industrial	33.5	33.2	31.2	31.4	37.0	35.4	33.8	33.2	32.7	33.1	33.5	34.0	34.6	35.2
of which feed	111.6	118.0	121.9	118.7	120.0	119.1	119.7	120.2	120.4	120.5	120.4	120.4	120.3	120.6
of which bioenergy	5.0	5.9	6.2	6.5	7.0	7.7	9.2	10.0	10.6	10.3	10.1	9.7	9.1	8.5
Imports	7.2	11.7	15.5	9.5	7.4	9.1	8.7	8.4	8.1	7.6	7.0	6.4	5.8	5.3
Exports	9.6	9.9	12.4	8.3	10.3	10.6	10.6	10.4	10.3	10.3	10.3	10.3	10.4	10.4
Beginning stocks	26.1	26.6	18.9	23.4	33.8	29.1	28.6	28.5	28.3	28.2	28.0	27.8	27.5	27.3
Ending stocks	26.6	18.9	23.4	33.8	29.1	28.6	28.5	28.3	28.2	28.0	27.8	27.5	27.3	27.0
of which intervention	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: the coarse grains marketing year is July/June

Table 7.5 EU common wheat market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**130.2**	**125.9**	**136.1**	**146.8**	**135.1**	**133.8**	**134.6**	**135.7**	**137.3**	**138.3**	**139.1**	**139.7**	**140.4**	**141.3**
of which EU-15	94.8	92.7	96.6	106.6	99.2	97.7	98.5	99.4	100.6	101.4	101.7	102.0	102.3	102.7
of which EU-N13	35.4	33.2	39.5	40.2	35.9	36.1	36.1	36.4	36.7	36.9	37.3	37.7	38.1	38.6
Consumption	**120.8**	**110.7**	**107.8**	**116.8**	**114.7**	**115.0**	**113.3**	**113.9**	**114.9**	**115.8**	**116.7**	**117.5**	**118.3**	**119.1**
of which EU-15	98.0	88.8	86.1	93.9	92.0	92.3	90.6	91.2	92.1	93.0	93.9	94.7	95.4	96.1
of which EU-N13	22.8	21.9	21.7	22.9	22.6	22.7	22.7	22.7	22.7	22.8	22.8	22.9	22.9	22.9
of which food and industrial	60.4	61.7	60.4	61.0	60.2	60.2	58.0	58.4	59.1	60.1	61.2	62.2	63.3	64.2
of which feed	55.2	45.0	42.9	51.5	50.0	50.2	49.8	49.8	49.9	50.1	50.4	50.5	50.6	50.7
of which bioenergy	5.2	4.1	4.5	4.3	4.4	4.6	5.5	5.7	5.9	5.5	5.2	4.8	4.4	4.1
Imports	5.4	3.6	1.8	3.0	2.9	2.9	2.8	2.6	2.5	2.4	2.3	2.2	2.1	2.0
Exports	14.6	20.5	30.0	25.0	26.7	23.5	23.8	24.0	24.4	24.5	24.2	24.0	23.8	23.8
Beginning stocks	9.9	10.1	8.3	8.4	16.4	13.1	11.3	11.6	12.0	12.5	13.0	13.3	13.7	14.0
Ending stocks	10.1	8.3	8.4	16.4	13.1	11.3	11.6	12.0	12.5	13.0	13.3	13.7	14.0	14.4
of which intervention	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yield	**5.6**	**5.4**	**5.8**	**6.0**	**5.7**	**5.7**	**5.8**	**5.8**	**5.8**	**5.8**	**5.9**	**5.9**	**5.9**	**5.9**
of which EU-15	6.5	6.4	6.8	7.1	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.9	6.9
of which EU-N13	4.1	3.8	4.3	4.3	4.1	4.1	4.1	4.1	4.2	4.2	4.2	4.3	4.3	4.3
EU price in EUR/t	201	243	190	175	177	189	192	192	187	183	180	179	177	175
World price in EUR/t	219	231	231	207	198	204	202	203	203	201	199	197	196	194
World price in USD/t	305	297	307	276	251	259	264	269	271	271	270	268	267	265
EU intervention price in EUR/t	201	243	190	175	177	189	192	192	187	183	180	179	177	175

Note: the common wheat marketing year is July/June

Table 7.6 EU durum wheat market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**8.5**	**8.5**	**7.9**	**7.4**	**8.0**	**8.0**	**8.0**	**8.1**	**8.1**	**8.1**	**8.1**	**8.2**	**8.2**	**8.2**
of which EU-15	8.2	8.4	7.7	7.2	7.8	7.8	7.8	7.9	7.9	7.9	7.9	8.0	8.0	8.0
of which EU-N13	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Consumption	**8.9**	**9.0**	**8.8**	**8.5**	**9.1**	**8.8**	**8.8**	**8.8**	**8.8**	**8.7**	**8.7**	**8.7**	**8.7**	**8.7**
of which EU-15	8.5	8.6	8.4	8.1	8.7	8.4	8.4	8.3	8.3	8.3	8.3	8.3	8.2	8.2
of which EU-N13	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
of which food and industrial	8.7	8.8	8.6	8.3	8.9	8.6	8.6	8.6	8.6	8.5	8.5	8.5	8.5	8.5
of which feed	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
of which bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Imports	1.7	1.5	1.9	2.5	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8
Exports	1.4	1.4	1.1	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3
Beginning stocks	0.8	0.8	0.4	0.3	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7
Ending stocks	0.8	0.4	0.3	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7
Yield	**3.4**	**3.1**	**3.4**	**3.2**	**3.2**	**3.2**	**3.3**	**3.3**	**3.3**	**3.3**	**3.4**	**3.4**	**3.4**	**3.4**
of which EU-15	3.4	3.1	3.3	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4
of which EU-N13	3.9	2.8	3.6	3.6	3.4	3.4	3.5	3.6	3.7	3.7	3.8	3.9	3.9	4.0

Note: the durum wheat marketing year is July/June

Table 7.7 EU barley market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**52.0**	**55.0**	**59.9**	**58.4**	**57.7**	**57.8**	**58.0**	**58.0**	**58.0**	**57.9**	**57.8**	**57.8**	**57.8**	**57.7**
of which EU-15	41.7	44.2	49.8	46.7	46.9	47.1	47.3	47.4	47.5	47.6	47.6	47.7	47.8	47.9
of which EU-N13	10.4	10.7	10.1	11.7	10.8	10.8	10.7	10.6	10.5	10.3	10.2	10.1	10.0	9.9
Consumption	**49.0**	**50.5**	**49.5**	**49.0**	**51.1**	**50.4**	**50.5**	**50.6**	**50.6**	**50.6**	**50.6**	**50.5**	**50.4**	**50.4**
of which EU-15	41.7	42.2	41.3	40.9	43.0	42.3	42.5	42.5	42.6	42.6	42.6	42.6	42.5	42.5
of which EU-N13	7.3	8.3	8.2	8.1	8.1	8.0	8.1	8.1	8.1	8.0	8.0	7.9	7.9	7.9
of which food and industrial	12.4	12.6	12.2	12.3	14.2	13.4	13.2	13.0	12.9	12.8	12.7	12.6	12.5	12.4
of which feed	36.1	37.2	36.6	36.0	36.2	36.2	36.5	36.7	36.9	37.0	37.1	37.2	37.3	37.4
of which bioenergy	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.8	0.8	0.7	0.6	0.6
Imports	0.5	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Exports	5.8	7.8	8.8	6.0	7.4	7.7	7.7	7.6	7.5	7.5	7.5	7.5	7.6	7.6
Beginning stocks	9.5	7.2	4.0	5.7	9.2	8.5	8.4	8.3	8.3	8.3	8.2	8.2	8.1	8.0
Ending stocks	7.2	4.0	5.7	9.2	8.5	8.4	8.3	8.3	8.3	8.2	8.2	8.1	8.0	7.9
of which intervention	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yield	**4.4**	**4.4**	**4.9**	**4.7**	**4.6**	**4.7**	**4.7**	**4.7**	**4.7**	**4.8**	**4.8**	**4.8**	**4.8**	**4.9**
of which EU-15	4.6	4.7	5.2	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.2
of which EU-N13	3.5	3.4	3.6	3.8	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.8
EU price in EUR/t	196	224	174	148	158	184	183	183	177	172	173	173	174	173

Note: the barley marketing year is July/June

Table 7.8 EU maize market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**70.9**	**59.9**	**65.7**	**72.1**	**70.2**	**71.2**	**72.4**	**73.4**	**74.3**	**75.2**	**76.1**	**77.1**	**78.1**	**79.1**
of which EU-15	41.7	39.5	36.7	40.9	39.6	40.1	40.7	41.1	41.5	41.8	42.6	43.3	44.1	44.9
of which EU-N13	29.2	20.5	28.9	31.2	30.5	31.1	31.8	32.3	32.8	33.3	33.5	33.8	34.0	34.2
Consumption	**70.1**	**73.1**	**75.5**	**74.0**	**77.1**	**77.7**	**78.3**	**78.9**	**79.4**	**79.9**	**80.2**	**80.6**	**80.9**	**81.4**
of which EU-15	52.6	59.5	61.3	60.0	63.1	63.6	63.2	63.3	63.4	63.5	63.5	63.6	63.6	63.7
of which EU-N13	17.5	13.6	14.3	14.0	14.0	14.0	15.1	15.6	16.0	16.4	16.7	17.0	17.3	17.6
of which food and industrial	12.8	12.2	10.8	10.8	12.3	13.2	12.2	11.8	11.5	11.9	12.4	12.9	13.5	14.3
of which feed	54.0	57.0	60.6	58.8	59.9	59.0	59.3	59.6	59.7	59.8	59.8	59.8	59.8	60.0
of which bioenergy	3.3	3.9	4.1	4.4	4.9	5.5	6.8	7.5	8.1	8.1	8.0	7.9	7.6	7.1
Imports	6.2	11.0	15.0	9.0	6.9	8.6	8.2	7.9	7.5	7.0	6.4	5.8	5.2	4.6
Exports	3.6	1.8	3.1	2.0	2.5	2.6	2.6	2.5	2.5	2.5	2.5	2.6	2.6	2.6
Beginning stocks	13.5	16.9	12.9	14.9	20.0	17.5	17.1	17.0	16.8	16.7	16.5	16.3	16.0	15.8
Ending stocks	16.9	12.9	14.9	20.0	17.5	17.1	17.0	16.8	16.7	16.5	16.3	16.0	15.8	15.6
of which intervention	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yield	**7.6**	**6.0**	**6.7**	**7.6**	**7.2**	**7.3**	**7.3**	**7.4**	**7.4**	**7.5**	**7.6**	**7.6**	**7.7**	**7.8**
of which EU-15	10.3	9.3	8.8	10.0	9.5	9.5	9.5	9.5	9.5	9.6	9.6	9.6	9.7	9.7
of which EU-N13	5.5	3.6	5.2	5.8	5.5	5.6	5.7	5.7	5.8	5.9	6.0	6.0	6.1	6.2
EU price in EUR/t	205	232	178	152	162	190	190	189	183	177	178	178	180	179
World price in EUR/t	205	233	152	143	155	183	183	181	174	168	169	169	170	169
World price in USD/t	285	299	201	190	197	233	238	239	233	226	229	230	233	232

Note: the maize marketing year is July/June

Table 7.9 EU other cereals* market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**30.2**	**32.6**	**35.2**	**35.2**	**34.3**	**34.1**	**34.0**	**33.8**	**33.5**	**33.3**	**33.0**	**32.8**	**32.6**	**32.4**
of which EU-15	15.6	17.5	19.6	18.5	18.5	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.9	17.8
of which EU-N13	14.6	15.2	15.6	16.7	15.8	15.7	15.6	15.4	15.3	15.1	15.0	14.9	14.7	14.6
Consumption	**31.0**	**33.5**	**34.2**	**33.5**	**35.9**	**34.1**	**34.0**	**33.8**	**33.7**	**33.4**	**33.2**	**33.0**	**32.8**	**32.5**
of which EU-15	18.8	20.7	21.1	20.6	23.0	21.1	21.0	20.8	20.6	20.5	20.3	20.2	20.0	19.8
of which EU-N13	12.1	12.8	13.2	12.9	13.0	13.0	13.1	13.1	13.0	12.9	12.9	12.8	12.8	12.8
of which food and industrial	8.3	8.4	8.2	8.2	10.5	8.7	8.4	8.3	8.3	8.4	8.4	8.5	8.6	8.5
of which feed	21.5	23.8	24.7	23.9	24.0	24.0	24.0	23.9	23.8	23.6	23.5	23.4	23.3	23.1
of which bioenergy	1.1	1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.6	1.4	1.3	1.1	0.9	0.9
Imports	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4
Exports	0.2	0.2	0.5	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Yield	**3.2**	**3.5**	**3.7**	**3.7**	**3.6**	**3.6**	**3.6**	**3.6**	**3.6**	**3.6**	**3.6**	**3.6**	**3.6**	**3.6**
Beginning stocks	3.0	2.5	1.9	2.8	4.6	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.4
Ending stocks	2.5	1.9	2.8	4.6	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.4	3.5

Note: the other cereals marketing year is July/June; * Rye, oats and other cereals

Table 7.10 EU rice market balance (million tonnes milled equivalent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**1.7**	**1.7**	**1.7**	**1.6**	**1.7**	**1.7**	**1.7**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**
of which EU-15	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
of which EU-N13	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Consumption	**2.6**	**2.4**	**2.5**	**2.5**	**2.6**	**2.6**	**2.7**	**2.7**	**2.7**	**2.8**	**2.8**	**2.8**	**2.8**	**2.9**
of which EU-15	2.1	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3
of which EU-N13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Imports	1.1	0.9	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2
Exports	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Beginning stocks	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ending stocks	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Yield	**3.6**	**3.8**	**3.9**	**3.7**	**3.9**	**3.9**	**3.9**	**4.0**	**4.0**	**4.0**	**4.1**	**4.1**	**4.1**	**4.1**
EU price in EUR/t (paddy rice)	322	288	333	321	303	336	342	349	352	355	354	348	340	333
World price in EUR/t	363	336	294	283	281	314	311	312	311	310	308	301	294	286
World price in USD/t	505	432	391	377	357	398	405	412	415	418	417	410	401	392

Note: the rice marketing year is September/August

Table 7.11 EU oilseed* (grains and beans) market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**28.5**	**27.6**	**30.7**	**32.6**	**30.8**	**31.0**	**31.2**	**31.2**	**31.3**	**31.4**	**31.6**	**31.8**	**31.9**	**32.0**
of which EU-15	17.1	17.7	17.4	19.2	18.7	19.0	19.0	19.0	18.9	18.9	19.0	19.1	19.2	19.2
of which EU-N13	11.3	9.9	13.2	13.4	12.2	12.1	12.2	12.2	12.3	12.5	12.6	12.7	12.7	12.8
Rapeseed	19.2	19.2	20.9	22.2	20.8	21.0	21.1	21.0	21.0	21.1	21.2	21.3	21.4	21.5
Sunseed	8.0	7.5	8.7	9.0	8.7	8.7	8.7	8.8	8.8	8.9	8.9	9.0	9.0	9.0
Soybeans	1.2	0.9	1.1	1.4	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5
Consumption	**43.7**	**45.1**	**47.4**	**48.1**	**47.4**	**47.3**	**47.3**	**47.4**	**47.5**	**47.8**	**48.0**	**48.2**	**48.3**	**48.5**
of which EU-15	32.3	34.9	34.5	35.0	35.4	35.4	35.4	35.4	35.4	35.5	35.6	35.8	35.9	35.9
of which EU-N13	11.4	10.1	12.9	13.1	12.0	11.8	11.9	12.0	12.1	12.3	12.3	12.4	12.5	12.6
of which crushing	40.6	40.9	43.1	44.2	43.3	43.2	43.3	43.5	43.7	43.9	44.0	44.2	44.3	44.4
Imports	16.6	16.7	17.9	16.5	17.1	17.0	17.0	17.0	17.1	17.2	17.2	17.2	17.2	17.3
Exports	0.9	0.6	0.8	1.1	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Beginning stocks	4.0	4.5	3.1	3.4	3.2	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Ending stocks	4.5	3.1	3.4	3.2	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
EU price in EUR/t (rapeseed)	475	441	383	383	393	411	401	404	405	404	409	412	412	413
World price in EUR/t	413	453	410	393	403	397	389	390	388	387	391	394	395	394
World price in USD/t	575	582	545	523	511	503	507	516	519	521	530	537	540	540

Note: the oilseed marketing year is July/June; * Rapeseed, soybean, sunflower seed and groundnuts

Table 7.12 EU oilseed yields (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Rapeseed	**2.8**	**3.1**	**3.1**	**3.3**	**3.1**	**3.1**	**3.1**	**3.1**	**3.2**	**3.2**	**3.2**	**3.2**	**3.2**	**3.2**
of which EU-15	3.3	3.4	3.4	3.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
of which EU-N13	2.2	2.5	2.7	2.7	2.5	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.7
Sunflower seed	**2.0**	**1.7**	**2.0**	**2.1**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.1**	**2.1**	**2.1**	**2.1**
of which EU-15	1.9	1.6	1.7	1.8	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1
of which EU-N13	2.0	1.7	2.2	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Soybeans	**2.8**	**2.2**	**2.3**	**2.8**	**2.8**	**2.8**	**2.8**	**2.8**	**2.8**	**2.9**	**2.9**	**2.9**	**2.9**	**2.9**
of which EU-15	3.2	2.6	2.5	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4
of which EU-N13	2.2	1.6	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4

Table 7.13 EU oilseed meal* market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**25.2**	**25.5**	**26.9**	**27.3**	**27.0**	**26.9**	**27.0**	**27.1**	**27.2**	**27.4**	**27.5**	**27.6**	**27.6**	**27.7**
of which EU-15	19.5	20.4	20.1	20.5	20.8	20.9	20.9	21.0	21.0	21.1	21.1	21.2	21.2	21.3
of which EU-N13	5.7	5.1	6.7	6.8	6.2	6.1	6.1	6.1	6.2	6.3	6.3	6.4	6.4	6.4
Consumption	**48.9**	**45.5**	**48.0**	**49.6**	**48.9**	**48.8**	**48.8**	**48.8**	**48.9**	**49.0**	**49.0**	**49.1**	**49.1**	**49.2**
of which EU-15	40.3	36.9	39.4	41.0	40.3	40.2	40.2	40.2	40.3	40.3	40.3	40.4	40.4	40.5
of which EU-N13	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.7	8.7	8.7	8.7	8.7
Imports	24.9	21.1	22.1	23.1	22.9	22.7	22.7	22.6	22.6	22.5	22.5	22.4	22.4	22.4
Exports	1.2	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Beginning stocks	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Ending stocks	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
EU price in EUR/t (soybean meal)	365	404	416	340	337	343	322	314	309	308	311	314	313	311
World price in EUR/t	303	385	363	321	322	327	307	300	295	294	297	299	299	297
World price in USD/t	422	495	482	428	408	414	401	396	393	396	402	407	408	406

Note: the oilseed meal marketing year is July/June; * Rapeseed- soybean-, sunflower seed- and groundnut-based protein meals.

Table 7.14 EU oilseed oil* market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**14.3**	**14.2**	**15.1**	**15.6**	**15.1**	**15.1**	**15.1**	**15.1**	**15.2**	**15.3**	**15.3**	**15.4**	**15.4**	**15.5**
of which EU-15	10.0	10.4	10.0	10.5	10.5	10.5	10.5	10.5	10.5	10.6	10.6	10.6	10.6	10.6
of which EU-N13	4.3	3.8	5.1	5.1	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.8	4.8
Consumption	**15.3**	**14.1**	**15.1**	**15.8**	**15.3**	**15.3**	**15.4**	**15.5**	**15.6**	**15.7**	**15.7**	**15.7**	**15.6**	**15.6**
of which EU-15	12.8	12.1	12.8	13.6	13.0	13.0	13.2	13.3	13.4	13.4	13.5	13.5	13.5	13.4
of which EU-N13	2.5	2.0	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.2	2.2	2.2	2.2
Imports	2.1	1.6	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
Exports	1.0	1.7	1.5	1.4	1.3	1.3	1.1	1.1	1.0	1.0	1.0	1.1	1.1	1.2
Beginning stocks	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Ending stocks	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
EU price in EUR/t (rapeseed oil)	969	859	717	701	762	779	768	780	797	813	838	853	868	878
World price in EUR/t	840	783	702	674	738	751	738	746	755	769	789	805	825	835
World price in USD/t	1 170	1 006	932	898	936	952	962	986	1 009	1 037	1 070	1 096	1 127	1 144

Note: the oilseed oil marketing year is July/June; * Rapeseed-, soybean-, sunflower seed- and groundnut-based oils.

Table 7.15 EU vegetable oil* market balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**14.4**	**14.4**	**15.2**	**15.7**	**15.2**	**15.1**	**15.2**	**15.2**	**15.3**	**15.4**	**15.4**	**15.5**	**15.5**	**15.5**
of which EU-15	10.0	10.6	10.1	10.6	10.6	10.6	10.6	10.6	10.6	10.7	10.7	10.7	10.7	10.7
of which EU-N13	4.3	3.8	5.1	5.1	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.8	4.8
Consumption	**21.7**	**21.4**	**22.9**	**23.4**	**22.3**	**22.3**	**22.3**	**22.2**	**22.1**	**21.9**	**21.7**	**21.5**	**21.2**	**21.0**
of which EU-15	18.9	19.0	20.3	20.7	19.7	19.7	19.6	19.5	19.4	19.3	19.1	18.9	18.6	18.4
of which EU-N13	2.8	2.4	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6
of which food and other use	13.3	12.7	13.8	14.3	13.4	13.1	13.1	13.1	12.7	12.6	12.5	12.5	12.5	12.5
of which bioenergy	8.4	8.7	9.1	9.1	8.9	9.2	9.2	9.1	9.4	9.4	9.2	9.0	8.7	8.5
Imports	8.3	8.7	9.3	9.1	8.6	8.6	8.4	8.2	8.1	7.9	7.6	7.3	7.1	6.8
Exports	1.3	1.8	1.7	1.5	1.5	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.3	1.3
Beginning stocks	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ending stocks	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Note: the vegetable oil marketing year is July/June; * Rapeseed- soybean-, sunflower seed- and groundnut-based oils plus cottonseed oil, palm oil, palmkernel oil and coconut oil.

Table 7.16 EU sugar market balance (million tonnes white sugar equivalent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sugar beet production (million tonnes)	**125.1**	**114.8**	**108.3**	**116.8**	**112.3**	**114.0**	**113.5**	**113.9**	**114.6**	**115.1**	**114.9**	**114.8**	**114.8**	**114.7**
of which EU-15	104.8	94.2	88.8	95.9	92.8	94.3	93.8	94.1	94.8	95.4	95.4	95.4	95.5	95.5
of which EU-N13	20.3	20.7	19.4	20.9	19.5	19.7	19.7	19.8	19.8	19.7	19.5	19.4	19.3	19.2
of which for ethanol	14.1	14.0	14.5	15.2	15.4	15.5	12.5	12.5	12.5	12.4	12.4	11.3	11.3	11.1
of which processed for sugar	111.0	100.8	93.8	101.6	96.9	98.4	101.0	101.4	102.2	102.6	102.5	103.5	103.5	103.6
Sugar production*	**18.0**	**16.4**	**15.3**	**17.6**	**15.8**	**16.1**	**16.5**	**16.6**	**16.7**	**16.8**	**16.8**	**16.9**	**16.9**	**16.9**
Sugar quota	*13.5*	*13.5*	*13.5*	*13.5*	*13.5*	*13.5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
of which EU-15	15.1	13.6	12.5	14.6	13.0	13.3	13.6	13.7	13.8	13.9	14.0	14.1	14.1	14.2
of which EU-N13	2.9	2.8	2.8	3.0	2.8	2.8	2.9	2.9	2.9	2.9	2.8	2.8	2.8	2.8
Consumption	**18.2**	**18.1**	**18.0**	**17.7**	**18.3**	**17.7**	**18.5**	**17.2**	**17.2**	**17.2**	**17.0**	**17.2**	**17.1**	**17.0**
Imports	3.6	3.9	3.7	3.0	3.1	2.7	1.89	1.91	1.89	1.91	1.91	1.90	1.91	1.91
Exports	2.2	1.5	1.5	1.6	1.5	1.5	1.5	1.3	1.4	1.5	1.7	1.7	1.8	1.9
Beginning stocks**	1.2	2.4	3.2	2.7	4.0	3.1	2.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ending stocks**	2.4	3.2	2.7	4.0	3.1	2.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
EU price in EUR/t	679	723	600	495	543	496	416	414	406	415	424	427	444	458
World price in EUR/t	440	392	355	350	375	396	374	351	345	352	360	382	397	410
World price in USD/t	612	504	472	466	475	503	487	464	460	474	488	520	542	561
EU support price in EUR/t	404	404	404	404	404	404	404	404	404	404	404	404	404	404

Note: the sugar marketing year is October/September;
* Sugar production is adjusted for carry-forward quantities and does not include ethanol feedstock quantities;
** Stocks include carry-forward quantities.

Table 7.17 EU isoglucose balance (million tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Isoglucose production	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**1.4**	**1.4**	**1.5**	**1.7**	**1.9**	**2.0**	**2.2**	**2.4**
of which EU-15	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.7	0.8	0.8	0.9	1.0
of which EU-N13	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.3
Isoglucose quota	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Isoglucose consumption	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**1.3**	**1.4**	**1.5**	**1.6**	**1.8**	**1.9**	**2.1**	**2.2**
share in sweetener use (%)	*3.6*	*3.6*	*3.5*	*3.6*	*3.5*	*3.6*	*6.5*	*7.3*	*7.8*	*8.5*	*9.4*	*10.1*	*10.9*	*11.6*
Imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exports	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table 7.18 EU biofuels market balance (million tonnes oil equivalent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**11.5**	**12.0**	**12.8**	**13.2**	**13.4**	**13.9**	**14.6**	**15.0**	**15.6**	**15.5**	**15.4**	**15.1**	**14.8**	**14.5**
Ethanol	3.3	3.3	3.5	3.6	3.8	4.0	4.4	4.7	4.9	4.8	4.8	4.6	4.4	4.2
– based on wheat	1.0	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.2	1.1	1.0	1.0	0.9	0.8
– based on other cereals	1.0	1.2	1.3	1.4	1.5	1.6	2.0	2.1	2.3	2.2	2.2	2.1	2.0	1.9
– based on sugar beet	0.7	0.7	0.7	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
– 2nd-gen.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Biodiesel	8.1	8.7	9.3	9.6	9.6	9.9	10.1	10.4	10.7	10.7	10.6	10.5	10.3	10.2
– based on vegetable oils	7.1	7.3	7.7	7.7	7.5	7.8	7.7	7.7	7.9	7.9	7.8	7.6	7.3	7.2
– based on waste oils	1.0	1.3	1.6	1.8	2.0	2.1	2.3	2.6	2.6	2.6	2.7	2.8	2.9	2.9
– other 2nd-gen.	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Consumption	**14.6**	**14.9**	**13.7**	**14.0**	**14.8**	**15.7**	**16.5**	**17.3**	**17.6**	**17.4**	**17.1**	**16.7**	**16.4**	**16.0**
Ethanol for fuel	2.7	2.8	2.8	2.9	3.2	3.5	4.2	4.7	4.9	4.6	4.6	4.6	4.5	4.3
Non- fuel use of ethanol	*1.5*	*1.1*	*1.2*	*1.0*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*
Biodiesel	10.5	11.0	9.7	10.0	10.5	11.1	11.2	11.4	11.6	11.7	11.4	11.0	10.8	10.6
Net trade	**-3.0**	**-2.9**	**-0.9**	**-0.8**	**-1.4**	**-1.8**	**-2.0**	**-2.2**	**-2.1**	**-1.9**	**-1.7**	**-1.6**	**-1.6**	**-1.5**
Ethanol imports	0.9	0.6	0.5	0.4	0.6	0.7	0.9	1.2	1.2	1.0	1.0	1.1	1.2	1.2
Ethanol exports	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Biodiesel imports	2.2	2.4	1.3	0.8	0.9	1.3	1.2	1.1	1.0	1.1	0.8	0.6	0.5	0.4
Biodiesel exports	0.1	0.1	0.8	0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Petrol consumption	7.9	8.4	9.0	9.3	9.3	9.6	9.8	10.1	10.3	10.3	10.3	10.2	10.0	9.9
Diesel consumption	1.1	1.4	1.7	2.0	2.2	2.3	2.5	2.8	2.9	2.9	3.0	3.1	3.1	3.2
Energy shares:														
Biofuels (% RED counting)	**4.8**	**5.3**	**5.0**	**5.2**	**5.6**	**6.0**	**6.4**	**6.8**	**7.0**	**7.0**	**7.0**	**7.0**	**7.0**	**7.0**
1st-gen.	4.1	4.4	3.8	3.9	4.1	4.4	4.6	4.8	4.9	4.9	4.8	4.7	4.6	4.5
based on waste oils	0.3	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.1
other 2nd-gen.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ethanol in petrol	3.0	3.2	3.1	3.3	3.6	4.0	4.8	5.5	5.7	5.4	5.5	5.6	5.5	5.4
Biodiesel in diesel	5.2	5.6	5.0	5.1	5.4	5.8	5.8	6.0	6.1	6.2	6.1	6.0	5.9	5.9
Ethanol producer price in EUR/hl	58	60	58	58	65	68	68	69	70	70	70	71	74	77
Biodiesel producer price in EUR/hl	96	91	85	83	85	91	93	91	89	91	92	93	98	96

Table 7.19 EU milk market balance

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Dairy cows (million heads)	**23.1**	**23.1**	**23.3**	**23.4**	**23.2**	**22.9**	**22.9**	**22.8**	**22.7**	**22.6**	**22.5**	**22.4**	**22.3**	**22.1**
of which EU-15	17.5	17.6	17.8	18.1	17.9	17.7	17.8	17.7	17.7	17.7	17.6	17.6	17.5	17.5
of which EU-N13	5.6	5.5	5.4	5.4	5.2	5.2	5.1	5.0	5.0	4.9	4.9	4.8	4.7	4.7
Milk yield (kg/cow)	**6 426**	**6 465**	**6 482**	**6 669**	**6 853**	**6 910**	**6 983**	**7 058**	**7 136**	**7 215**	**7 292**	**7 370**	**7 447**	**7 528**
of which EU-15	7 092	7 049	7 038	7 196	7 386	7 452	7 516	7 585	7 656	7 728	7 799	7 871	7 941	8 015
of which EU-N13	4 362	4 594	4 658	4 890	5 030	5 054	5 128	5 206	5 286	5 368	5 449	5 532	5 615	5 701
Dairy cow milk production (million t)	**148.5**	**149.1**	**150.8**	**156.1**	**158.8**	**158.2**	**159.8**	**160.9**	**162.0**	**163.0**	**163.9**	**164.8**	**165.7**	**166.6**
of which EU-15	123.9	123.9	125.5	130.0	132.5	132.0	133.6	134.6	135.6	136.6	137.5	138.4	139.2	140.0
of which EU-N13	24.6	25.2	25.3	26.2	26.4	26.2	26.2	26.3	26.3	26.4	26.4	26.5	26.5	26.6
Total cow milk production (million t)	**151.9**	**152.2**	**153.9**	**159.3**	**162.0**	**161.3**	**162.9**	**163.9**	**165.0**	**166.0**	**166.9**	**167.8**	**168.6**	**169.5**
of which EU-15	124.1	124.1	125.7	130.2	132.7	132.3	133.8	134.9	135.9	136.8	137.7	138.6	139.4	140.3
of which EU-N13	27.8	28.1	28.1	29.1	29.3	29.0	29.0	29.1	29.1	29.1	29.1	29.2	29.2	29.2
Delivered to dairies (million t)	**139.6**	**140.0**	**141.2**	**146.5**	**149.0**	**148.5**	**150.3**	**151.5**	**152.8**	**154.0**	**155.1**	**156.2**	**157.3**	**158.4**
of which EU-15	120.4	120.0	121.4	125.8	128.2	127.7	129.3	130.3	131.3	132.2	133.1	133.9	134.7	135.6
of which EU-N13	19.2	20.0	19.9	20.7	20.8	20.7	21.0	21.2	21.5	21.8	22.0	22.3	22.5	22.8
On-farm use and direct sales (million t)	12.3	12.1	12.6	12.8	13.0	12.8	12.6	12.4	12.2	12.0	11.7	11.5	11.3	11.1
of which EU-15	3.7	4.1	4.3	4.4	4.6	4.5	4.6	4.6	4.6	4.6	4.6	4.7	4.7	4.7
of which EU-N13	8.6	8.1	8.3	8.4	8.5	8.3	8.1	7.8	7.6	7.3	7.1	6.9	6.6	6.4
Delivery ratio (%)	91.9	92.0	91.8	92.0	92.0	92.0	92.3	92.4	92.6	92.8	93.0	93.1	93.3	93.5
of which EU-15	97.0	96.7	96.5	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
of which EU-N13	69.2	71.3	70.6	71.1	71.1	71.4	72.2	73.1	74.0	74.8	75.6	76.5	77.3	78.1
Fat content (in %)	4.03	4.04	4.04	4.04	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
Non-fat solid content (in %)	9.30	9.31	9.31	9.31	9.29	9.29	9.29	9.29	9.29	9.29	9.29	9.29	9.29	9.29
EU milk producer price in EUR/t (real fat content)	340	327	363	369	331	348	363	358	356	350	347	352	351	351

Table 7.20 EU fresh dairy product supply (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**46 800**	**46 705**	**47 025**	**47 186**	**47 454**	**47 629**	**47 774**	**47 917**	**48 042**	**48 150**	**48 253**	**48 392**	**48 527**	**48 700**
of which EU-15	40 560	40 427	40 631	40 773	40 983	41 124	41 226	41 320	41 399	41 463	41 520	41 569	41 604	41 638
of which EU-N13	6 240	6 279	6 394	6 413	6 470	6 505	6 549	6 597	6 643	6 687	6 733	6 823	6 923	7 062

Table 7.21 EU cheese market balance (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**9 391**	**9 603**	**9 659**	**9 835**	**9 965**	**9 966**	**10 151**	**10 292**	**10 428**	**10 555**	**10 668**	**10 779**	**10 878**	**10 984**
of which EU-15	8 105	8 233	8 266	8 413	8 498	8 600	8 724	8 849	8 974	9 103	9 232	9 362	9 485	9 617
of which EU-N13	1 286	1 370	1 393	1 421	1 467	1 367	1 427	1 442	1 453	1 452	1 436	1 417	1 393	1 367
Consumption	**8 793**	**8 913**	**8 947**	**9 123**	**9 354**	**9 262**	**9 358**	**9 457**	**9 552**	**9 642**	**9 732**	**9 823**	**9 907**	**9 993**
of which EU-15	7 532	7 612	7 629	7 774	7 963	7 867	7 924	7 984	8 041	8 093	8 146	8 199	8 248	8 298
of which EU-N13	1 261	1 301	1 317	1 349	1 391	1 396	1 434	1 473	1 511	1 549	1 586	1 624	1 660	1 696
***per capita* consumption (kg)**	**17.4**	**17.6**	**17.6**	**17.9**	**18.3**	**18.1**	**18.3**	**18.4**	**18.6**	**18.7**	**18.9**	**19.0**	**19.2**	**19.3**
of which EU-15	18.8	19.0	19.0	19.3	19.7	19.4	19.4	19.5	19.6	19.7	19.8	19.9	19.9	20.0
of which EU-N13	11.9	12.3	12.5	12.8	13.2	13.3	13.7	14.1	14.5	14.8	15.2	15.6	16.0	16.4
Imports	75	78	75	79	79	78	76	74	72	69	67	65	64	62
Exports	673	768	787	701	739	822	869	908	947	982	1 003	1 021	1 035	1 052
EU price in EUR/t (cheddar)	3 227	3 396	3 662	3 780	3 559	3 611	3 634	3 615	3 638	3 647	3 691	3 793	3 835	3 879
World price in EUR/t	3 103	2 976	3 299	3 378	3 217	3 303	3 310	3 295	3 348	3 410	3 464	3 555	3 611	3 650
World price in USD/t	4 319	3 823	4 381	4 001	4 079	4 187	4 316	4 358	4 470	4 595	4 698	4 838	4 930	4 998

Table 7.22 EU butter market balance (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**2 110**	**2 153**	**2 126**	**2 242**	**2 297**	**2 276**	**2 289**	**2 306**	**2 328**	**2 348**	**2 370**	**2 392**	**2 412**	**2 435**
of which EU-15	1 888	1 909	1 880	1 984	2 032	2 011	2 023	2 038	2 055	2 068	2 079	2 089	2 099	2 110
of which EU-N13	222	244	246	258	265	265	265	267	273	280	291	303	313	325
Consumption	**1 991**	**2 038**	**2 033**	**2 081**	**2 140**	**2 177**	**2 188**	**2 197**	**2 197**	**2 213**	**2 236**	**2 257**	**2 279**	**2 303**
of which EU-15	1 757	1 789	1 761	1 794	1 846	1 875	1 881	1 886	1 881	1 892	1 909	1 926	1 943	1 963
of which EU-N13	233	249	272	287	294	301	306	311	316	321	326	331	336	340
***per capita* consumption (kg)**	**3.9**	**4.0**	**4.0**	**4.1**	**4.2**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.4**	**4.4**	**4.4**
of which EU-15	4.4	4.5	4.4	4.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.7	4.7
of which EU-N13	2.2	2.4	2.6	2.7	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3
Imports	34	29	23	40	39	41	39	36	33	31	31	31	31	32
Exports	124	124	116	131	146	180	190	175	164	166	166	167	165	164
Ending stocks	59	80	80	150	200	160	110	80	80	80	80	80	80	80
of which private	59	80	80	150	200	160	110	80	80	80	80	80	80	80
of which intervention	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU price in EUR/t	3 766	3 064	3 860	3 400	3 723	3 443	3 366	3 344	3 381	3 385	3 379	3 461	3 441	3 438
World price in EUR/t	3 222	2 583	3 023	2 814	2 882	2 763	2 705	2 675	2 708	2 733	2 731	2 782	2 783	2 782
World price in USD/t	4 485	3 318	4 015	3 588	3 653	3 502	3 527	3 539	3 616	3 682	3 704	3 785	3 800	3 809
EU intervention price in EUR/t	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218	2 218

Table 7.23 EU SMP market balance (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**1 096**	**1 109**	**1 101**	**1 301**	**1 411**	**1 407**	**1 430**	**1 456**	**1 481**	**1 502**	**1 519**	**1 535**	**1 552**	**1 570**
of which EU-15	954	953	948	1 072	1 168	1 172	1 191	1 213	1 234	1 252	1 266	1 279	1 293	1 309
of which EU-N13	142	156	153	229	243	235	239	243	246	250	253	255	258	261
Consumption	**689**	**685**	**699**	**702**	**718**	**777**	**754**	**742**	**745**	**747**	**751**	**755**	**759**	**762**
of which EU-15	602	596	583	600	607	654	636	624	627	630	634	638	641	645
of which EU-N13	87	89	116	103	111	124	118	118	118	118	118	117	117	117
Imports	0	2	5	2	2	2	2	2	2	2	2	2	2	2
Exports	516	520	407	582	668	661	693	716	737	756	769	781	795	810
Ending stocks	157	62	62	80	107	77	62	62	62	62	62	62	62	62
of which private	107	62	62	80	107	77	62	62	62	62	62	62	62	62
of which intervention	50	0	0	0	0	0	0	0	0	0	0	0	0	0
EU price in EUR/t	2 420	2 349	3 014	2 720	2 615	2 615	2 590	2 536	2 550	2 536	2 500	2 487	2 492	2 482
World price in EUR/t	2 629	2 461	3 312	2 833	2 665	2 763	2 724	2 688	2 713	2 709	2 680	2 665	2 671	2 648
World price in USD/t	3 660	3 163	4 399	3 775	3 379	3 504	3 552	3 555	3 622	3 650	3 634	3 626	3 645	3 627

Table 7.24 EU WMP market balance (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**691**	**660**	**704**	**778**	**793**	**786**	**791**	**800**	**807**	**818**	**824**	**829**	**835**	**841**
of which EU-15	631	596	640	703	716	710	714	722	730	737	742	745	749	753
of which EU-N13	59	64	64	74	77	76	77	77	78	80	82	84	86	88
Consumption	**304**	**276**	**333**	**364**	**378**	**354**	**358**	**362**	**366**	**372**	**377**	**383**	**388**	**393**
of which EU-15	262	233	284	314	326	301	304	307	310	315	319	323	328	332
of which EU-N13	42	43	48	50	52	53	54	55	56	57	58	59	60	61
Imports	2	3	3	2	3	3	3	3	3	3	3	3	3	3
Exports	388	386	374	415	418	435	436	441	444	449	450	450	450	450
EU price in EUR/t	2 973	2 742	3 503	3 120	3 165	3 234	3 171	3 137	3 143	3 138	3 140	3 155	3 154	3 152
World price in EUR/t	2 786	2 517	3 537	3 215	3 124	3 167	3 095	3 060	3 077	3 087	3 089	3 100	3 105	3 091
World price in USD/t	3 878	3 234	4 698	4 284	3 961	4 015	4 036	4 047	4 109	4 159	4 189	4 218	4 239	4 233

Table 7.25 EU whey market balance (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**1 745**	**1 862**	**2 008**	**2 095**	**2 173**	**2 215**	**2 268**	**2 308**	**2 348**	**2 387**	**2 426**	**2 464**	**2 499**	**2 543**
of which EU-15	1 535	1 618	1 648	1 714	1 770	1 806	1 842	1 879	1 915	1 953	1 990	2 028	2 065	2 103
of which EU-N13	209	244	360	382	403	409	425	430	432	435	436	436	435	440
Consumption	**1 282**	**1 389**	**1 505**	**1 580**	**1 627**	**1 658**	**1 670**	**1 680**	**1 691**	**1 703**	**1 715**	**1 725**	**1 733**	**1 751**
Imports	63	71	75	87	89	93	97	101	103	105	107	107	107	107
Exports	526	544	578	602	636	650	695	729	760	789	818	846	873	900
EU price in EUR/t	896	965	1 017	1 000	948	987	960	943	926	908	872	883	894	899
World price in EUR/t	874	952	969	947	896	935	909	894	878	860	826	836	846	851
World price in USD/t	1 217	1 223	1 286	1 261	1 136	1 186	1 186	1 182	1 172	1 159	1 120	1 137	1 155	1 165

Table 7.26 EU beef and veal meat market balance (1 000 tonnes c.w.e.)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total number of cows (million heads)	**35.3**	**35.2**	**35.2**	**35.2**	**34.9**	**34.6**	**34.5**	**34.4**	**34.2**	**34.1**	**33.9**	**33.8**	**33.6**	**33.4**
of which dairy cows	23.1	23.1	23.3	23.4	23.2	22.9	22.9	22.8	22.7	22.6	22.5	22.4	22.3	22.1
of which suckler cows	12.4	12.2	12.1	11.9	11.8	11.7	11.7	11.6	11.6	11.5	11.5	11.4	11.4	11.3
Gross indigenous production	**8 199**	**7 867**	**7 498**	**7 631**	**7 828**	**7 755**	**7 658**	**7 602**	**7 572**	**7 563**	**7 576**	**7 589**	**7 568**	**7 549**
of which EU-15	7 297	6 995	6 684	6 768	6 931	6 865	6 779	6 732	6 712	6 710	6 730	6 751	6 739	6 729
of which EU-N13	902	872	814	863	897	889	879	870	861	853	845	838	830	821
Imports of live animals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exports of live animals	147	159	109	131	137	110	110	110	110	110	110	120	120	120
Net production	**8 052**	**7 708**	**7 390**	**7 501**	**7 690**	**7 645**	**7 549**	**7 492**	**7 462**	**7 453**	**7 466**	**7 469**	**7 448**	**7 430**
Consumption	**8 011**	**7 773**	**7 532**	**7 625**	**7 817**	**7 825**	**7 758**	**7 697**	**7 662**	**7 643**	**7 644**	**7 636**	**7 611**	**7 591**
of which EU-15	7 454	7 274	7 080	7 051	7 251	7 261	7 197	7 138	7 105	7 089	7 091	7 085	7 063	7 045
of which EU-N13	557	499	452	573	566	564	561	559	557	554	552	550	548	545
per capita* consumption (kg r.w.e.)	**11.1**	**10.7**	**10.4**	**10.5**	**10.7**	**10.7**	**10.6**	**10.5**	**10.4**	**10.4**	**10.4**	**10.3**	**10.3**	**10.3**
of which EU-15	13.1	12.7	12.3	12.2	12.5	12.5	12.4	12.2	12.1	12.1	12.1	12.0	12.0	11.9
of which EU-N13	3.7	3.3	3.0	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Imports (meat)	287	275	304	299	299	338	359	349	339	333	327	321	319	316
Exports (meat)	327	210	161	175	171	160	151	144	138	141	149	154	156	156
Net trade (meat)	41	-65	-143	-124	-128	-178	-208	-206	-201	-191	-178	-167	-163	-161
EU price in EUR/t	3 521	3 838	3 800	3 649	3 361	3 550	3 738	3 520	3 329	3 328	3 424	3 406	3 332	3 311
World price in EUR/t (Brazil)	2 649	2 441	2 189	2 480	2 239	2 486	2 537	2 213	2 158	2 172	2 231	2 230	2 211	2 192
World price in USD/t (Brazil)	3 687	3 137	2 907	3 304	2 839	3 152	3 308	2 928	2 882	2 927	3 026	3 035	3 018	3 001

* r.w.e. = retail weight equivalent; coefficients to transform carcass weight into retail weight are 0.7 for beef and veal.

Table 7.27 EU sheep and goat meat market balance (1 000 tonnes c.w.e.)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross indigenous production	**978**	**947**	**944**	**947**	**950**	**949**	**951**	**951**	**954**	**954**	**955**	**956**	**956**	**957**
of which EU-15	843	811	806	801	800	800	801	802	803	803	804	805	805	806
of which EU-N13	135	136	138	146	150	150	150	150	151	151	151	151	151	151
Imports of live animals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exports of live animals	22	27	34	39	39	39	39	39	39	39	39	39	39	39
Net production	**956**	**920**	**910**	**908**	**911**	**910**	**912**	**912**	**915**	**915**	**916**	**917**	**917**	**918**
Consumption	**1 163**	**1 085**	**1 074**	**1 064**	**1 071**	**1 074**	**1 079**	**1 078**	**1 079**	**1 079**	**1 080**	**1 080**	**1 080**	**1 079**
of which EU-15	1 056	977	970	950	957	957	961	958	958	959	960	961	961	961
of which EU-N13	107	108	104	114	114	117	118	120	121	120	120	119	119	118
per capita* consumption (kg r.w.e.)	**2.0**	**1.9**	**1.9**	**1.8**	**1.8**	**1.8**	**1.9**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**
of which EU-15	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
of which EU-N13	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Imports (meat)	222	190	200	195	199	202	206	205	203	204	204	203	203	202
Exports (meat)	15	25	36	39	39	39	39	39	39	40	40	40	40	40
Net trade (meat)	-207	-165	-164	-156	-160	-163	-167	-166	-164	-164	-164	-163	-163	-162
EU price in EUR/t	4 978	4 980	4 933	5 206	5 468	5 584	5 634	5 455	5 236	5 383	5 461	5 635	5 644	5 718
World price in EUR/t	3 534	4 017	2 944	3 107	3 260	3 330	3 357	3 285	3 285	3 377	3 426	3 536	3 543	3 590
World price in USD/t	4 920	5 161	3 910	4 140	4 133	4 222	4 377	4 344	4 386	4 550	4 646	4 812	4 836	4 916

* r.w.e. = retail weight equivalent; coefficients to transform carcass weight into retail weight are 0.88 for sheep and goat meat.

Table 7.28 EU pig meat market balance (1 000 tonnes c.w.e.)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross indigenous production	**23 055**	**22 554**	**22 388**	**22 274**	**22 448**	**22 519**	**22 551**	**22 591**	**22 641**	**22 645**	**22 629**	**22 648**	**22 650**	**22 632**
of which EU-15	19 609	19 336	19 220	19 051	19 205	19 207	19 154	19 205	19 220	19 199	19 155	19 129	19 090	19 043
of which EU-N13	3 446	3 218	3 168	3 223	3 243	3 312	3 398	3 386	3 421	3 446	3 474	3 518	3 561	3 589
Imports of live animals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exports of live animals	62	36	26	36	37	36	36	36	36	36	36	36	36	36
Net production	**22 993**	**22 518**	**22 361**	**22 238**	**22 412**	**22 483**	**22 516**	**22 555**	**22 606**	**22 609**	**22 593**	**22 612**	**22 615**	**22 596**
Consumption	**20 860**	**20 384**	**20 170**	**20 218**	**20 387**	**20 360**	**20 308**	**20 278**	**20 287**	**20 257**	**20 185**	**20 163**	**20 139**	**20 108**
of which EU-15	16 306	16 090	16 055	16 067	16 190	16 146	16 085	16 029	16 016	15 970	15 889	15 849	15 809	15 762
of which EU-N13	4 554	4 294	4 115	4 151	4 197	4 214	4 223	4 249	4 272	4 287	4 296	4 314	4 330	4 346
per capita* consumption (kg r.w.e.)	**32.2**	**31.4**	**31.0**	**31.0**	**31.2**	**31.1**	**30.9**	**30.8**	**30.8**	**30.7**	**30.5**	**30.4**	**30.4**	**30.3**
of which EU-15	31.8	31.3	31.2	31.0	31.2	31.0	30.8	30.6	30.5	30.3	30.1	30.0	29.8	29.7
of which EU-N13	33.5	31.7	30.4	30.7	31.1	31.3	31.4	31.6	31.9	32.0	32.2	32.3	32.5	32.7
Imports (meat)	18	19	16	17	17	21	21	21	21	21	21	21	21	21
Exports (meat)	2 151	2 154	2 207	2 037	2 041	2 143	2 228	2 298	2 339	2 373	2 429	2 470	2 496	2 509
Net trade (meat)	2 133	2 135	2 191	2 020	2 024	2 123	2 208	2 277	2 318	2 352	2 408	2 449	2 476	2 488
EU price in EUR/t	1 532	1 705	1 755	1 652	1 781	1 901	1 816	1 743	1 923	2 018	1 937	1 869	1 832	1 833
World price in EUR/t (Brazil)	1 012	1 161	1 355	1 172	1 149	1 216	1 244	1 200	1 261	1 300	1 261	1 318	1 295	1 309
World price in USD/t (Brazil)	1 409	1 492	1 800	1 561	1 456	1 542	1 622	1 587	1 684	1 751	1 710	1 794	1 768	1 792
World price in EUR/t (US)	1 454	1 451	1 477	1 364	1 505	1 455	1 377	1 438	1 578	1 625	1 531	1 451	1 486	1 463
World price in USD/t (US)	2 024	1 864	1 961	1 817	1 907	1 844	1 796	1 902	2 107	2 189	2 076	1 974	2 029	2 004

* r.w.e. = retail weight equivalent; coefficients to transform carcass weight into retail weight are 0.78 for pig meat.

Table 7.29 EU poultry meat market balance (1 000 tonnes c.w.e.)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross indigenous production	**12 391**	**12 647**	**12 814**	**13 049**	**13 101**	**13 366**	**13 453**	**13 542**	**13 556**	**13 646**	**13 726**	**13 801**	**13 877**	**13 957**
of which EU-15	9 690	9 771	9 843	9 935	9 964	10 152	10 209	10 268	10 254	10 313	10 365	10 413	10 460	10 515
of which EU-N13	2 702	2 876	2 971	3 114	3 137	3 215	3 244	3 275	3 302	3 332	3 361	3 388	3 417	3 442
Consumption	**11 933**	**12 175**	**12 306**	**12 536**	**12 631**	**12 823**	**12 934**	**13 047**	**13 050**	**13 125**	**13 198**	**13 255**	**13 316**	**13 387**
of which EU-15	9 489	9 626	9 714	10 001	10 102	10 296	10 395	10 497	10 488	10 549	10 608	10 654	10 704	10 759
of which EU-N13	2 444	2 548	2 592	2 535	2 528	2 527	2 539	2 549	2 562	2 576	2 590	2 601	2 613	2 628
per capita* consumption (kg r.w.e.)	**20.8**	**21.1**	**21.3**	**21.7**	**21.8**	**22.1**	**22.2**	**22.4**	**22.3**	**22.4**	**22.5**	**22.6**	**22.7**	**22.8**
of which EU-15	20.9	21.1	21.3	21.8	22.0	22.3	22.4	22.6	22.5	22.6	22.7	22.7	22.8	22.9
of which EU-N13	20.3	21.2	21.6	21.2	21.2	21.2	21.3	21.4	21.6	21.7	21.9	22.0	22.1	22.3
Imports (meat)	831	841	792	768	840	889	946	1 004	1 009	1 008	1 013	1 013	1 017	1 017
Exports (meat)	1 290	1 313	1 300	1 281	1 310	1 432	1 466	1 499	1 515	1 528	1 541	1 558	1 578	1 587
Net trade (meat)	459	472	508	513	470	543	519	496	506	520	529	546	561	570
EU price in EUR/t	1 912	1 964	1 996	1 897	1 816	1 918	1 974	2 005	1 997	1 990	1 992	2 006	2 026	2 033
World price in EUR/t	936	1 099	1 266	1 078	1 035	1 094	1 128	1 148	1 143	1 138	1 138	1 146	1 157	1 161
World price in USD/t	1 303	1 412	1 681	1 436	1 312	1 387	1 471	1 519	1 526	1 533	1 543	1 559	1 580	1 590

* r.w.e. = retail weight equivalent; coefficients to transform carcass weight into retail weight are 0.88 for poultry meat.

Table 7.30 Aggregate EU meat market balance (1 000 tonnes c.w.e.)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross indigenous production	**44 624**	**44 015**	**43 644**	**43 901**	**44 326**	**44 589**	**44 614**	**44 687**	**44 723**	**44 808**	**44 886**	**44 993**	**45 052**	**45 095**
of which EU-15	37 439	36 913	36 553	36 555	36 900	37 023	36 943	37 007	36 988	37 026	37 055	37 098	37 094	37 092
of which EU-N13	7 185	7 102	7 091	7 346	7 427	7 566	7 671	7 680	7 735	7 782	7 832	7 896	7 958	8 003
Imports of live animals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exports of live animals	232	222	169	206	213	185	185	185	185	185	185	195	195	195
Net Production	**44 392**	**43 794**	**43 475**	**43 695**	**44 114**	**44 405**	**44 429**	**44 502**	**44 539**	**44 623**	**44 702**	**44 799**	**44 857**	**44 900**
Consumption	**41 967**	**41 417**	**41 083**	**41 442**	**41 906**	**42 082**	**42 079**	**42 099**	**42 078**	**42 104**	**42 106**	**42 134**	**42 147**	**42 165**
of which EU-15	34 305	33 968	33 820	34 069	34 500	34 660	34 638	34 622	34 567	34 567	34 548	34 549	34 537	34 528
of which EU-N13	7 662	7 449	7 263	7 373	7 406	7 422	7 441	7 477	7 511	7 537	7 558	7 584	7 609	7 637
per capita* consumption (kg r.w.e.)	**66.1**	**65.2**	**64.6**	**65.0**	**65.5**	**65.7**	**65.6**	**65.5**	**65.3**	**65.3**	**65.2**	**65.2**	**65.2**	**65.1**
of which EU-15	68.1	67.3	66.9	67.2	67.7	67.9	67.7	67.5	67.2	67.0	66.9	66.7	66.6	66.5
of which EU-N13	58.4	57.1	55.9	56.7	57.0	57.2	57.5	57.8	58.2	58.5	58.7	59.1	59.4	59.7
of which Beef and Veal meat	11.1	10.7	10.4	10.5	10.7	10.7	10.6	10.5	10.4	10.4	10.4	10.3	10.3	10.3
of which Sheep and Goat meat	2.0	1.9	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8
of which Pig meat	32.2	31.4	31.0	31.0	31.2	31.1	30.9	30.8	30.8	30.7	30.5	30.4	30.4	30.3
of which Poultry meat	20.8	21.1	21.3	21.7	21.8	22.1	22.2	22.4	22.3	22.4	22.5	22.6	22.7	22.8
Imports (meat)	1 357	1 326	1 312	1 279	1 354	1 450	1 533	1 579	1 571	1 565	1 565	1 558	1 559	1 556
Exports (meat)	3 783	3 702	3 704	3 532	3 561	3 774	3 884	3 980	4 030	4 083	4 160	4 222	4 270	4 291
Net trade (meat)	2 426	2 377	2 392	2 253	2 207	2 325	2 352	2 402	2 459	2 518	2 595	2 665	2 711	2 736

* r.w.e. = retail weight equivalent; coefficients to transform carcass weight into retail weight are 0.7 for beef and veal, 0.78 for pig meat and 0.88 for both poultry meat and sheep and goat meat.

Table 7.31 EU eggs market balance (1 000 tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Production	**7 039**	**7 001**	**7 069**	**7 173**	**7 224**	**7 276**	**7 326**	**7 379**	**7 432**	**7 486**	**7 538**	**7 587**	**7 636**	**7 684**
of which EU-15	5 498	5 370	5 598	5 665	5 643	5 675	5 701	5 732	5 766	5 803	5 839	5 871	5 902	5 932
of which EU-N13	1 541	1 631	1 471	1 508	1 581	1 602	1 626	1 648	1 667	1 683	1 699	1 716	1 734	1 752
Consumption	**6 843**	**6 853**	**6 875**	**6 968**	**7 016**	**7 061**	**7 104**	**7 149**	**7 195**	**7 240**	**7 284**	**7 325**	**7 365**	**7 404**
of which EU-15	5 395	5 421	5 595	5 625	5 667	5 705	5 743	5 782	5 822	5 862	5 900	5 936	5 971	6 006
of which EU-N13	1 448	1 431	1 280	1 343	1 349	1 355	1 361	1 367	1 372	1 378	1 384	1 389	1 394	1 398
***per capita* consumption (kg)**	**13.5**	**13.5**	**13.6**	**13.7**	**13.8**	**13.8**	**13.9**	**13.9**	**14.0**	**14.0**	**14.1**	**14.2**	**14.2**	**14.3**
of which EU-15	13.5	13.5	13.9	13.9	14.0	14.0	14.1	14.1	14.2	14.3	14.3	14.4	14.4	14.5
of which EU-N13	13.7	13.5	12.1	12.8	12.8	12.9	13.0	13.1	13.1	13.2	13.3	13.4	13.4	13.5
Imports	21	38	21	21	26	26	26	26	26	26	26	26	26	26
Exports	217	186	215	226	235	242	249	256	264	272	280	289	297	306