



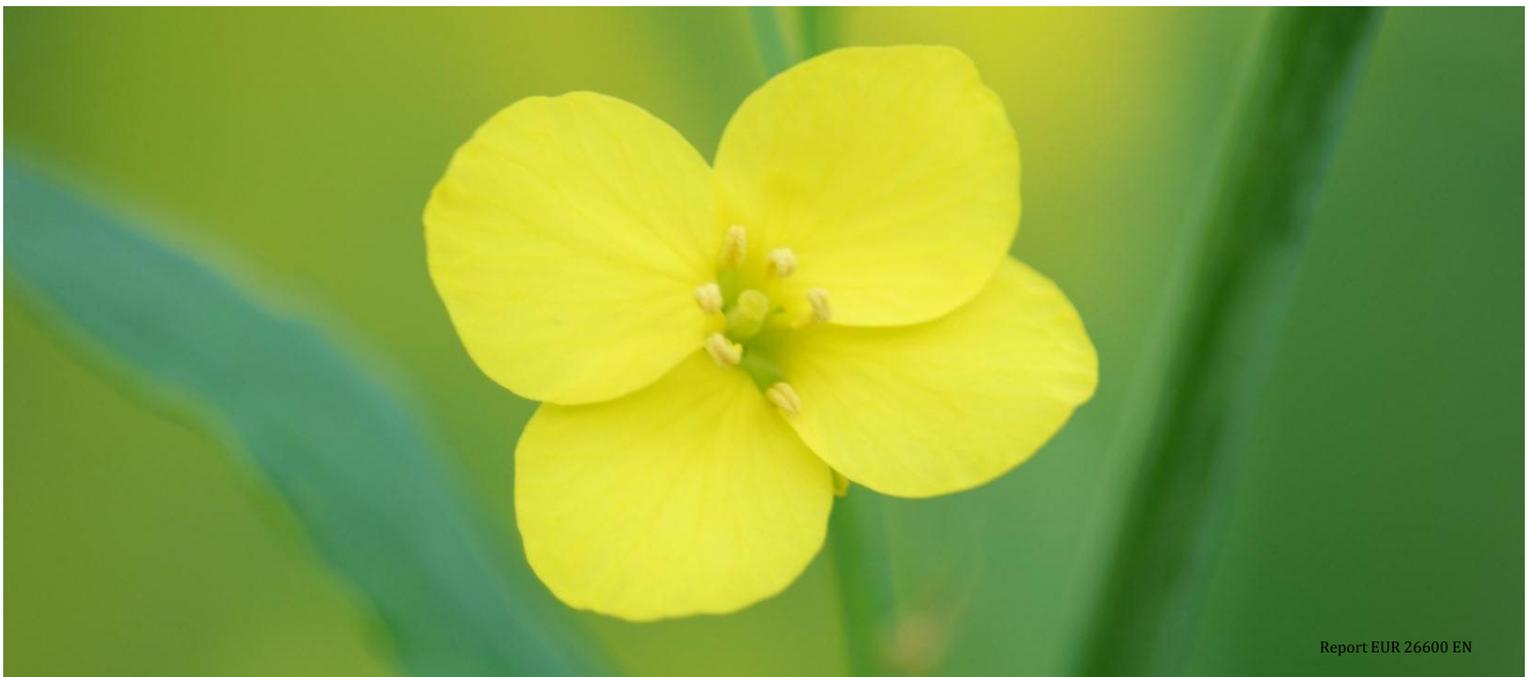
European
Commission

JRC SCIENTIFIC AND POLICY REPORTS

Commodity Market Development in Europe – Outlook

Proceedings of the
October 2013 Workshop

Thomas Fellmann, Fabien Santini
2014



Report EUR 26600 EN

Joint
Research
Centre

European Commission

Joint Research Centre
Institute for Prospective Technological Studies

Contact information

Address: Edificio Expo. c/ Inca Garcilaso, 3. E-41092 Seville (Spain)
E-mail: jrc-ipts-secretariat@ec.europa.eu
Tel.: +34 954488318
Fax: +34 954488300

<http://ipts.jrc.ec.europa.eu>
<http://www.jrc.ec.europa.eu>

This publication is a Scientific and Policy Report by the Joint Research Centre of the European Commission.

Legal Notice

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of this publication.

Europe Direct is a service to help you find answers to your questions about the European Union
Freephone number (*): 00 800 6 7 8 9 10 11
(*): Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server <http://europa.eu/>.

JRC 85607

EUR 26600 EN

ISBN 978-92-79-37792-1(pdf)
ISSN 1831-9424 (online)

doi:10.2791/78384

Luxembourg: Publications Office of the European Union, 2014

© European Union, 2014

Reproduction is authorised provided the source is acknowledged.

Printed in Spain

Commodity Market Development in Europe – Outlook

Proceedings of the October 2013 Workshop

Thomas Fellmann^{1,2}, Fabien Santini¹

¹ European Commission, Joint Research Centre,
Institute for Prospective Technological Studies, Seville, Spain

² Department of Economics, University Pablo de Olavide, Seville, Spain

Disclaimer:

The views expressed are those given and presented at the workshop and may not in any circumstances be regarded as stating an official position of the European Commission or of the other institutions that participated at the workshop.

Workshop background

This report contains a summary of the discussions and the presentations of the 'Commodity Market Development in Europe – Outlook' workshop, jointly organised by the European Commission's Joint Research Centre (JRC), Institute for Prospective and Technological Studies (IPTS) and the Directorate General for Agriculture and Rural Development (DG AGRI). The workshop took place in Brussels on 23-24 October 2013 and is part of the series of workshops on commodity market modelling and development, held annually since 2006.¹

The annual workshops are envisioned, as part of a validation procedure, to present and discuss the preliminary results of the European Commission's outlook assessment on EU agricultural market developments. The 2013 workshop gathered high-level policy makers, modelling and market experts from the EU, Switzerland, the United States, South Africa, and international organisations such as the FAO, the OECD and The World Bank. It provided a forum to present and discuss recent and projected developments in the EU agricultural and commodity markets, to outline the reasons behind them and to draw conclusions on the short/medium term prospects of European agricultural markets in the global context. Special focus was given to the discussion on the sensitivity of the projections to different settings/assumptions (regarding e.g. uncertainties concerning macroeconomic conditions, specific policies, different drivers of demand and supply, etc.).

¹ The proceedings of the respective workshops are listed below and can be downloaded from the JRC-IPTS website (<http://ipts.jrc.ec.europa.eu/publications/>):

Bartova, L., R. M'barek (Eds.) (2008): Commodity Modelling in an Enlarged Europe. November 2006 Workshop Proceedings. AGMEMOD Report V. JRC Scientific and Technical Reports, European Commission. EUR 22940 EN/5

Bartova, L., S.H. Gay, R. M'barek (Eds.) (2008): Commodity Market Development in Europe – Outlook. November 2007 Workshop Proceedings. JRC Technical Notes, European Commission. EUR 23377EN

Fellmann, T., R. M'barek, S.H. Gay (2009): Commodity Market Development in Europe – Outlook. November 2008 Workshop Proceedings. JRC Technical Notes, European Commission. JRC 51276

Fellmann, T., B. Van Doorslaer, R. M'barek, S.H. Gay (Eds.) (2010): Commodity Market Development in Europe – Outlook. November 2009 Workshop Proceedings. JRC Technical Notes, European Commission, JRC 60425

Fellmann, T., R. M'barek, S.H. Gay (2011): Commodity Market Development in Europe – Outlook. October 2010 Workshop Proceedings. JRC Scientific and Technical Reports, European Commission. JRC 65170

Fellmann, T., S. Hélaine (2011): Commodity Market Development in Europe – Outlook. October 2011 Workshop Proceedings. JRC Scientific and Technical Reports, European Commission. JRC 67918

Fellmann, T., S. Hélaine (2012): Commodity Market Development in Europe – Outlook. October 2012 Workshop Proceedings. JRC Scientific and Policy Reports, European Commission. JRC 76028

Suggestions and comments made during the course of the workshop were taken into account to improve the final version of the outlook. Hence, for reference to the DG AGRI baseline projections refer to the final report:

‘Prospects for Agricultural Markets and Income in the EU 2013-2023’
<http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook>

Acknowledgments

We would like to acknowledge contributions made by all participants (a complete list is included in Annex 2) and their consent to share their knowledge and ideas, as well as the staff particularly involved in the organisational arrangements, in particular Sandra Marcolini and Anna Atkinson. We thank all contributing and participating colleagues from the European Commission as well as the following invited external experts, who either were involved in a formal presentation or participated to the discussions:

Alessandro Antimiani	National Institute of Agricultural Economics Research (INEA) (IT)
John Baffes	The World Bank (USA)
Jack Baines	EUCOLAIT (BE)
Christoph Berg	F.O. Licht (DE)
Maria Blanco Fonseca	Universidad Politecnica de Madrid (ES)
David Blandford	Penn State University (USA)
Madeleine Breguet	Tallage (FR)
Richard Brown	GIRA, Euroconsulting (UK)
Alison Burrell	Scientific Freelancer (FR)
Philippe Chotteau	Institut de l'Elevage (FR)
Merritt Cluff	Consultant (IT)
Darren Cooper	International Grains Council (UK)
Trevor Donnellan	Rural Economy Research Centre (Teagasc) (UK)
Alexandre Gohin	French National Institute for Agricultural Research (INRA) (FR)
Chris Horseman	Informa Agra (UK)
Roel Jongeneel	LEI (NL)
Christophe Lafougère	GIRA, Euroconsulting (FR)
Gabriele Mack	Agroscope (CH)
Holger Matthey	FAO (IT)
Isabelle Maurizi	European Biodiesel Board (BE)
Jean-Luc Mériaux	UECBV (BE)
Ferdi Meyer	Bureau for Food and Agricultural Policy BFAP (SA)
Seth Meyer	USDA (USA)
Caroline Midgley	LMC International (UK)
Thomas Mielke	Oil World (DE)
Thordis Moeller	Nordzucker (DE)
Zebedee Nii-Naate Nartey	DEFRA (UK)
Catherine Paice	Dairy Industry Newsletter (UK)
Ignacio Pérez Domínguez	OECD (FR)
Arnaud Petit	Copa-Cogeca (BE)
József Popp	Agricultural Economics Research Institute - AKI (HU)
Petra Salamon	Thünen Institute (TI) (DE)
Jo Swinnen	KU Leuven & CEPS (BE)
Axel Tonini	OFAG (CH)

Bart Van Belleghem	EUCOLAIT (BE)
Cees Vermeeren	AVEC (BE)
Oliver Von Ledebur	Thünen Institute (TI) (DE)
Elisabeth Waelbroeck Rocha	IHS Global Insight (UK)
Patrick Westhoff	FAPRI (USA)
Peter Witzke	University of Bonn/EuroCare (DE)
Monika Wohlfarth	Zentrale Milchmarkt Berichterstattung (ZMB) (DE)

Table of Contents

Workshop background	5
Acknowledgments	7
Table of contents.....	9
Workshop agenda	12
Acronyms.....	15
Summary of the workshop	17
1. Background of the EU outlook and scenario setting of the uncertainty analysis	18
1.1 The EU outlook and its construction process.....	18
1.2 Background and scenario setting of the uncertainty analysis	20
2. Macroeconomic assumptions	25
2.1 Still high degree of uncertainty surrounding the economic outlook.....	25
2.2 Global recovery is underway, but numerous short and longer term risks remain.....	26
2.3 Structural change in the link between energy and agriculture?.....	28
2.4 Summary of the session discussion.....	30
3. Special policy session: New agricultural policies in the EU and US	31
3.1 The new CAP towards 2020	31
3.2 Developments of the US Farm Bill	33
3.3 Summary of the session discussion.....	35
4. Special technical session: Modelling the new CAP and the Farm Bill	36
5. Special short session: An analysis of a potential "green revolution" in Africa.....	39
6. Cereals, oilseeds, sugar: Can production outpace consumption growth in the EU?	41
6.1 Low production growth compared to previous decades	41
6.2 Uncertainty analysis: Impact of lower crude oil prices	42
6.3 China's grain demand growth expected to outpace increases in domestic production ...	43
6.4 Oilseeds: rising dependence on palm oil in the world market	45
6.5 Summary of the session discussion.....	47
7. Biofuels: competition between biofuels in an uncertain regulatory frame	49
7.1 EU to become the second largest biofuel user	49
7.2 Uncertainties in the EU's biofuel sector.....	50
7.3 Rising relevance of used cooking oil and animal fat in biodiesel feedstock	51
7.4 A challenging commercial environment for ethanol production.....	52
7.5 Summary of the session discussion.....	54
8. Which future for meat markets in the EU?	56
8.1 Production and consumption recovery in the EU	56
8.2 The impact of specific uncertainties on the meat outlook	57
8.3 Global meat consumption growth dominated by poultry	58
8.4 Reflections on the world beef market outlook in 2014 and beyond	60
8.5 Summary of the session discussion.....	62
9. Milk and dairy markets: To what extent will the EU benefit from the strong world demand?	64
9.1 Favourable prospects for EU dairy products.....	64

9.2 Effects of macroeconomic uncertainties on the EU dairy outlook	65
9.3 EU milk production reacts stronger to price developments than in the past	66
9.4 Increased investment in new milk powder plants	68
9.5 Positive prospects for EU cheese exports	70
9.6 Summary of the session discussion.....	71
10. Future challenges for EU agriculture and policy	73
Workshop presentations	79
Background document for the uncertainty analysis and description of scenarios	80
Prospects for EU agricultural markets – Introduction	
<i>Pierluigi Londero (DG AGRI) & Robert M'barek (JRC-IPTS)</i>	82
The link between energy and agriculture: Structural change, implications and the road ahead	
<i>John Baffes (The World Bank)</i>	86
Global outlook macro drivers: Scenario setting panel discussion	
<i>Elisabeth Waelbroeck-Rocha (IHS Global Insight)</i>	88
The CAP towards 2020: Political agreement	
<i>Tassos Haniotis (DG AGRI)</i>	91
US Farm Bill update	
<i>Seth Meyer (USDA)</i>	93
An analysis of a potential "Green Revolution" in Africa: impact on EU-28 and African agri-food sectors	
<i>Hasan Dudu & Cristina Vinyes (JRC-IPTS)</i>	95
Prospects for EU agricultural markets - Cereals, oilseeds, sugar	
<i>Stephan Hubertus Gay (DG AGRI), Sergio René Araujo Enciso (JRC-IPTS), Marco Artavia (JRC-IPTS)</i>	96
Global markets for grains and oilseeds – some observations and factors to watch	
<i>Darren Cooper (International Grains Council)</i>	100
Production and consumption trends for oilseeds: Can production outpace consumption growth in the EU?	
<i>Thomas Mielke (Oil World)</i>	102
Prospects for EU agricultural markets - Biofuels	
<i>Stephan Hubertus Gay (DG AGRI) & Fabien Santini (JRC-IPTS)</i>	105
Developments in the EU biodiesel market	
<i>Christoph Berg (F.O. Licht)</i>	108
Ethanol in Europe	
<i>Caroline Midgley (LMC International)</i>	109
Prospects for EU agricultural markets - CAP 2020 and modelling	
<i>Benjamin Van Doorslaer (JRC-IPTS), Stephan Hubertus Gay (DG AGRI), George Philippidis (JRC-IPTS)</i>	111
Modelling the CAP reform in CAPRI	
<i>Peter Witzke (EuroCARE)</i>	112
Challenges in modelling U.S. Farm Bill proposals	
<i>Pat Westhoff (FAPRI)</i>	114
Prospects for EU agricultural markets - Meat	
<i>Sophie H�elaine, Fabien Santini, Benjamin Van Doorslaer, Livia Galita (DG AGRI & JRC-IPTS)</i>	116

Gira reflections to the EC Outlook 2013-2023	
<i>Richard Brown (Gira)</i>	119
Beef outlook - 2014 & after	
<i>Philippe Chotteau (Institut de l’Elevage)</i>	121
Prospects for EU agricultural markets - Milk and dairy commodities	
<i>Sophie H�elaine (DG AGRI) & Marco Artavia (JRC-IPTS)</i>	124
Dairy market outlook - comments and expectations	
<i>Monika Wohlfarth (ZMB)</i>	127
Comments on the Commission’s milk and dairy outlook results and reflections on the developments in milk powder markets	
<i>Christophe Lafoug�ere (Gira)</i>	130
Comments on the Commission’s milk and dairy outlook and prospects for the cheese markets	
<i>Jack Baines (Eucolait)</i>	132
Market developments and impact on agricultural income	
<i>Pierluigi Londero & Elselien Breman (DG AGRI)</i>	136
Commodity market development in Europe - Future challenges and a few reflections	
<i>Jo Swinnen (KU Leuven & CEPS)</i>	137
Drivers affecting agriculture in Europe in the next decade	
<i>Merritt Cluff (Consultant)</i>	138
Policy challenges	
<i>Seth Meyer (USDA)</i>	140
Annex: List of participants	143

Workshop Agenda

Date: 23-24 October 2013

Organisers: JRC-IPTS and DG AGRI

Workshop Agenda (Day 1, part I)

DAY 1 - 23 OCTOBER 2013

Venue Day 1: European Commission, Centre de Conférences Albert Borschette (CCAB), Room 3C, rue Froissart 36, 1040 Brussels

09:00	Registration	
09:30 – 11:00 Session 1	Background of the workshop and Macro-economic assumptions Chair: John Bensted-Smith, JRC-IPTS	
	Welcome	John Bensted-Smith, JRC-IPTS
	Background	Tassos Haniotis, DG AGRI
	Introduction to the Baseline	Pierluigi Londero, DG AGRI
	Presentation of the uncertainty analysis	Robert M'Barek, JRC-IPTS
(20 min)	Outlook – Macroeconomic and Scenario Setting: Panel discussion	Elisabeth Waelbroeck-Rocha, Global Insight John Baffes, World Bank
(40 min)	Open discussion	All participants
11:00 – 11:30	Coffee break	
11:30 – 12:15 Session 2	Special policy session: The new EU and US policies Chair: Alison Burrell	
(15 min)	The new CAP towards 2020	Tassos Haniotis, DG AGRI
(15 min)	The developments of the US Farm Bill	Seth Meyer, USDA
(15 min)	Questions and Answers	All participants
12:15 – 13:15	Networking lunch	

Workshop Agenda (Day 1, part II)

13:15 – 13:30	An Analysis of a potential "Green revolution" in Africa : Impact on EU and African Agrifood Sectors	Cristina Vinyes, JRC-IPTS
13:30 – 15:15 Session 3	Cereals, oilseeds, sugar: Can production outpace consumption growth in the EU? Chair: Chris Horseman, Informa Agra	
(30 min)	EU agricultural outlook and uncertainties	Stephan Hubertus Gay, DG AGRI & Sergio René Araujo Enciso, JRC-IPTS
(30 min)	Panel discussion	Darren Cooper, International Grains Council Thomas Mielke, OIL WORLD
(45 min)	Open discussion	All participants
15:15 – 15:45	Coffee break	
15:45 – 17:00 Session 4	Biofuels: Competition between biofuels in an uncertain regulatory frame Chair: Holger Matthey, FAO	
(20 min)	EU agricultural outlook and uncertainties	Stephan Hubertus Gay, DG AGRI & Fabien Santini, JRC-IPTS
(20 min)	Panel discussion	Christoph Berg, F.O. Licht Caroline Midgley, LMC International
(35 min)	Open discussion	All participants
17:00 – 18:15	Special technical session: Modelling the new CAP and the Farm Bill Chair: Ignacio Perez Dominguez, OECD	
(10 min)	The new CAP towards 2020 in the baseline	Stephan Hubertus Gay, DG AGRI & Benjamin Van Doorslaer, JRC-IPTS
(20 min)	Panel discussion	Heinz-Peter Witzke, University of Bonn Patrick Westhoff, FAPRI
(45 min)	Open discussion	All participants

Workshop Agenda (Day 2)

DAY 2 - 24 OCTOBER 2013**Venue Day 2: Copa-Cogeca, Room B, rue de Trêves 61, 1040 Brussels**

09:00	Wrap-up day 1	Robert M'Barek, JRC-IPTS
09:15 – 10:45 Session 5	Meat markets: Which future for meat consumption in the EU? Chair: Pierluigi Londero, DG AGRI	
(20 min)	EU agricultural outlook and uncertainties	Sophie H�elaine, DG AGRI, Fabien Santini, JRC-IPTS & Benjamin Van Doorslaer, JRC-IPTS
(25 min)	Panel discussion	Richard Brown, GIRA Philippe Chotteau, IDELE
(45 min)	Open discussion	All participants
10:45 – 11:15	Coffee break	
11:15 – 13:00 Session 6	Milk and dairy markets: To which extent will the EU benefit from the strong world demand? Chair: Catherine Paice, Dairy Industry Newsletter	
(20 min)	EU agricultural outlook and uncertainties	Marco Artavia, JRC-IPTS & Sophie H�elaine, DG AGRI
(40 min)	Panel discussion	Monika Wohlfahrt, ZMB Christophe Lafougere, GIRA Jack Baines, EUCOLAIT
(45 min)	Open discussion	All participants
13:00 – 14:30	Networking lunch	
14:30 – 16:30 Session 7	Future challenges for EU agriculture and policy Chair: Chris Horseman, Informa Agra	
(10 min)	Wrap-up and outlook results on income	Pierluigi Londero, DG AGRI
(50 min)	Panel discussion	Tassos Haniotis, DG AGRI Jo Swinnen, KU Leuven & CEPS Merritt Cluff, consultant Seth Meyer, USDA David Blandford, Pennsylvania State University
(60 min)	Open discussion	All participants
16:30	Concluding remarks	

Acronyms

ACRE	Average Crop Revenue Election
AMS	Aggregate Measurement of Support
CAP	Common Agricultural Policy
CAPRI	Common Agricultural Policy Regional Impact Analysis
CGE	Computable General Equilibrium
CIS	Commonwealth of Independent States
CPI	Consumer Price Index
CV	Coefficient of variation
CETA	Comprehensive Economic and Trade Agreement
c.w.e.	carcass weight equivalent
DDGS	Dried Distillers Grains with Solubles
DG AGRI	Directorate General 'Agriculture and Rural Development'
DG ECFIN	Directorate General 'Economic and Financial Affairs'
DWP	Designer Whey Protein
EC	European Commission
ECB	European Central Bank
ERS	Economic Research Service
EU	European Union
EU-15	15 EU Member States before May 2004
EU-25	25 EU Member States after 2004 enlargement
EU-27	27 EU Member States after 2007 enlargement
EU-28	28 Member States after 2013 enlargement
EU-N13	13 newest EU Member States, entered in 2004 or later
FAME	Fatty Acid Methyl Ester
FAO	Food and Agriculture Organization of the United Nations
FAPRI	Food and Agricultural Policy Research Institute
FDP	Fresh Dairy Products
FFMP	Fat Filled Milk Powder
GDP	Gross Domestic Product
HVO	Hydrogenated Vegetable Oil
IDF	International Dairy Federation
IGC	International Grains Council
ILUC	Indirect Land Use Change
IMF	International Monetary Fund
IPTS	Institute for Prospective Technological Studies
JRC	Joint Research Centre
LUC	Land Use Change

MILC	Milk Income Loss Contracts
NPC	Nominal Protection Coefficient
NREAP	National Renewable Energy Action Plans
OECD	Organisation for Economic Co-operation and Development
PE	Partial Equilibrium
PSE	Producer Support Estimate
SAPS	Single Area Payment Scheme
SCO	Supplemental Coverage Option
SFP	Single Farm Payment
SNAP	Supplemental Nutrition Assistance Program
STAX	Stacked Income Protection Plan
SURE	Supplemental Revenue Assistance Payments
TFP	Total Factor Productivity
TRQ	Tariff Rate Quotas
UCO	Used cooking oil
UCOME	Used-Cooking-Oil-Methylester
US	United States of America
USD	US Dollar
USDA	US Department of Agriculture
WBR	World Beef Report
WPC	Whey Protein Concentrate
WPI	Whey Protein Isolates
WTO	World Trade Organization

Summary of the workshop

The 2013 ‘Commodity Market Development in Europe – Outlook’ workshop forms part of the intensive validation procedure of the results of the European Commission’s outlook on EU agricultural market developments. In the following chapters the presentations and discussions of the workshop are briefly summarised. Suggestions and comments made during the workshop were taken into account to improve the final version of the outlook. Thus, for the final outlook projections please refer to the report ‘Prospects for Agricultural Markets and Income in the EU 2013-2023’ which can be downloaded from the DG AGRI homepage².

This summary follows the general structure of the 2013 outlook workshop. First the outlook construction process and the main assumptions of the accompanying uncertainty analyses are outlined (Chapter 1). As the macroeconomic environment can strongly influence the projected developments in agricultural markets, a specific session was dedicated to the discussion of the macroeconomic assumptions underlying the baseline projections (Chapter 2). This year’s workshop included a special session dedicated to the new agricultural policies in the EU and USA (Chapter 3) and a special technical session on how to model the new CAP and Farm Bill policies (Chapter 4). Furthermore, also a short session was held on the possible impacts of a new ‘green revolution’ in Africa (Chapter 5). Concerning the specific agricultural markets, a summary of the session on production, productivity and related uncertainties for the cereal, oilseed and sugar markets is given in Chapter 6 and of the session on biofuels in Chapter 7. The sessions on drivers of supply and demand and related uncertainties are summarised for meat markets in Chapter 8 and for milk and dairy markets in Chapter 9. The workshop concluded with reflections on future challenges for EU agriculture and policy (Chapter 10).

² <http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook>

1. Background of the EU outlook and scenario setting of the uncertainty analysis

Pierluigi Londero (DG AGRI) and Robert M'barek (JRC-IPS) provided background information on the EU outlook and its construction process and also on the scenario setting of the uncertainty analysis. The latter is carried out to demonstrate the effects of several uncertainties on the outlook projection results.

1.1 The EU outlook and its construction process

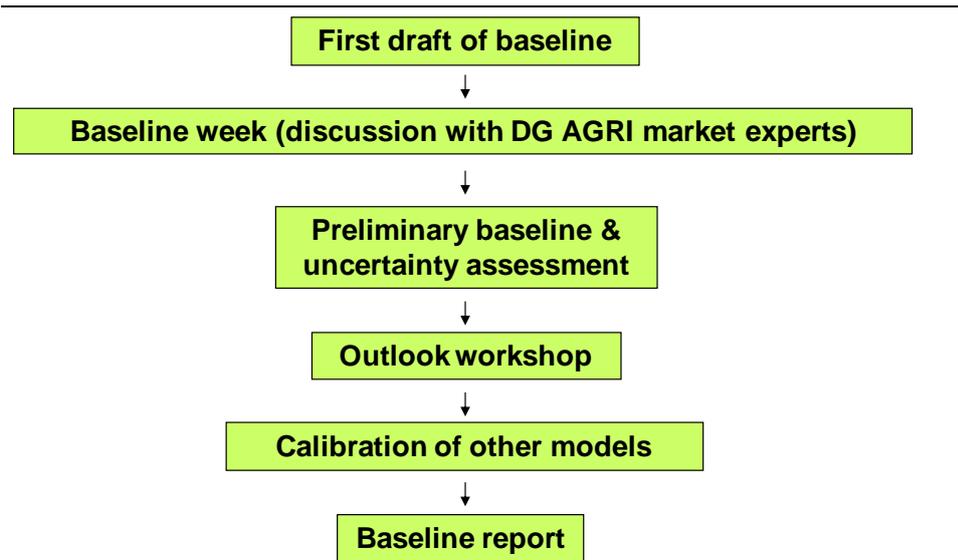
The European Commission annually publishes an outlook on the medium-term developments in agricultural markets and income in the EU. This outlook (or 'baseline') is elaborated on the basis of specific policy and macroeconomic assumptions and presents a consistent set of market and sector income prospects. It cannot be considered a forecast, but a description of what may happen under the assumptions above mentioned. The construction of the outlook involves joint efforts of DG AGRI and the JRC-IPTS, and the outlook projections should help to better understand the markets and their dynamics and also to identify key issues for market and policy developments. Furthermore, the outlook serves as a benchmark for assessing the medium-term impact of future market and policy issues. The model used for the outlook projections is the European Commission's version of AGLINK-COSIMO³, a recursive dynamic partial equilibrium model with a detailed representation of world agriculture and policy. The data used to construct the outlook is based on the latest available market and policy information, which in the case of this year's preliminary outlook was the data available at the beginning of September 2013. The new CAP agreed upon in June 2013 could only be taken into account for this year's outlook as far as the changes were already known and could be implemented into the AGLINK-COSIMO model. In this context it has to be kept in mind that Member States may decide on the concrete and detailed policy implementation of some new CAP features until summer 2014 and some of the new policies require the adaptation of the agro-economic models used. Thus, the outlook takes into account the phasing out/abolition of milk quotas in 2015 and the end of sugar quotas in 2017. World trade is assumed to remain in conformity with the Uruguay Round Agreement on Agriculture and the assumption that no new free trade agreements (FTAs) would enter into force before 2023 was followed. Regarding the latter

³ Note: The results of any analysis based on the use of the AGLINK-COSIMO model by parties outside the OECD are outside the responsibility of the OECD Secretariat. Conclusions derived by third-party users of AGLINK-COSIMO should not be attributed to the OECD or its member governments.

this means that the EU FTAs between the EU and e.g. Colombia, Peru and Central America are included, but not those that were still under negotiation at the time of the workshop (e.g. with Canada and Ukraine).

The new EU MS Croatia is included retroactively and projection results are presented in balance sheets for the main agricultural commodities, with detailed results for the EU-28, EU-15 and EU-N13 for cereals, oilseed, sugar, rice, biofuel, meat and dairy markets.

Figure 1: Overview of the EU baseline construction process



Source: Presentation Londero and M'barek (DG AGRI and JRC-IPTS)

The process of the baseline construction is depicted in Figure 1. The starting point is the latest available version of the AGLINK-COSIMO model, which was used for the OECD-FAO Agricultural Outlook published in June 2013.⁴

The EU module of AGLINK-COSIMO is adjusted according to the latest EU short-term outlook (autumn 2013 version⁵). Furthermore, the latest available macroeconomic projections are taken from a consistent source (IHS Global Insight) for the main countries at stake and up to 2023, with data for the close future provided by DG ECFIN. An in-depth discussion of the first baseline results takes place between modelling and market experts of DG AGRI and the JRC-IPTS during a ‘baseline week’ in September/October. After further adjustments, the preliminary baseline is presented in October at the ‘Commodity Market Development in Europe – Outlook’ workshop, organised by the JRC-IPTS and DG AGRI. In order to identify and quantify the potential variability of the market projections, the results of additional scenarios with alternative assumptions are also presented during the workshop. Suggestions

⁴ The OECD-FAO Agricultural Outlook 2013-2023 is available online: <http://www.agri-outlook.org/>

⁵ http://ec.europa.eu/agriculture/markets-and-prices/short-term-outlook/index_en.htm

and comments made during the workshop are taken into account to improve the final version of the outlook, which is then published in the report 'Prospects for Agricultural Markets and Income in the EU' in December.⁶

1.2 Background and scenario setting of the uncertainty analysis

An outlook for agricultural market developments is always subject to numerous uncertainties, especially with regard to weather and climate conditions, macroeconomic developments (e.g. Gross Domestic Product (GDP) growth, exchange rates, oil prices), supply and demand patterns (e.g. yield trends and consumer preferences) or policy issues (e.g. renewable energy policies). A deterministic baseline is based on explicit assumptions regarding these exogenous variables, usually assuming steady yield trends, a specific path for GDP growth, exchange rates and oil prices. For that reason a deterministic baseline provides a set of results for a single set of assumptions and it is important to keep in mind when analysing the results of the outlook that there is uncertainty around these assumptions. The preliminary outlook is therefore accompanied by selected uncertainty analyses following a 'what if' approach, i.e. exemplifying how the projections would change if deviations from the 'standard' assumptions were to occur.

At this year's workshop, results of uncertainty analyses conducted with the agro-economic models AGLINK-COSIMO, CAPRI⁷ and the general equilibrium model MAGNET⁸ have been presented.⁹ All three models are part of the iMAP modelling initiative.¹⁰ An overview of the uncertainty scenarios is given in Table 1.

⁶ For more detailed information on the general baseline construction process refer to iMAP modelling team (2011): Prospects for Agricultural Markets and Income in the EU. Background information on the baseline construction process and uncertainty analysis. JRC Scientific and Technical Reports, European Commission, Seville. Available at: <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=4879>

⁷ CAPRI = Common Agricultural Policy Regional Impact. For more information see Britz, W., H.-P. Witzke (eds.) (2012): CAPRI Model Documentation 2012, Institute for Food and Resource Economics, University of Bonn. Available at: http://www.capri-model.org/docs/capri_documentation.pdf

⁸ MAGNET = Modular Applied GeNeral Equilibrium Tool. For more information see Woltjer, G., M. Kuiper (2013): The MAGNET model, Module description. LEI, February 2013

⁹ The results of an uncertainty analysis conducted with the European Simulation Model (ESIM) have not been presented at the workshop but are included in the publication of the final outlook.

¹⁰ M'barek, R., W. Britz, A. Burrell, J. Delincé (2012): An integrated Modelling Platform for Agro-economic Commodity and Policy Analysis (iMAP). JRC Scientific and Technical Report, European Commission, JRC 69667. Available at: <http://ftp.jrc.es/EURdoc/JRC69667.pdf>

Table 1: Overview on the uncertainty scenarios

Uncertainty analysed	Scenario	Model used
General yield and macroeconomic uncertainty	Partial stochastic analysis of arable crop yield and macroeconomic variables	AGLINK-COSIMO
Lower crude oil prices	Partial stochastic analysis of lower crude oil prices	AGLINK-COSIMO
Stronger Euro relative to the USD	Partial stochastic analysis of a stronger Euro relative to the USD	AGLINK-COSIMO
Combined weaker Real and lower Brazilian GDP	Partial stochastic analysis of a weaker Real and lower Brazilian GDP	AGLINK-COSIMO
Combined stronger crude oil price, with higher/lower US maize yields	Partial stochastic analysis of a stronger crude oil price, together with higher/lower US maize yields	AGLINK-COSIMO
Increasing operating costs, focusing on EU feed costs	Increase in compound EU feed prices by 20%	CAPRI
"Green revolution" in Africa	14% Higher than expected African total factor productivity	MAGNET

Partial stochastic analyses have been carried out with the AGLINK-COSIMO model. Firstly, the impact of yield and macroeconomic uncertainties has been analysed in general. Secondly, a closer look at subsets of model simulations was taken by selecting certain key stochastic variables and analysing how the projection is affected when these variables take specific values within their spectrum of uncertainty.

The main assumptions of the scenarios conducted with the AGLINK-COSIMO and CAPRI models are briefly outlined below. The results of these uncertainty scenarios have been presented within each session on the different commodity markets. The results of the analysis with the MAGNET model of a potential "green revolution" in Africa were presented in a special short session on the topic. The underlying assumptions of this scenario are outlined in chapter 5.¹¹

Partial stochastic analysis with the AGLINK-COSIMO model

General yield and macroeconomic uncertainty

In the deterministic baseline a specific path for GDP growth, exchange rates and oil prices as well as steady yield trends (i.e. yields not affected by yearly weather fluctuations) are assumed. To assess the sensitivity of the market developments to some uncertainties related to the development in yields and the macroeconomic environment, partial stochastic

¹¹ For more detailed information on the scenario settings and methodological approaches of the uncertainty analysis please refer to the publication of the final outlook: http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook/2013/fullrep_en.pdf

simulations were carried out with the AGLINK-COSIMO model. The following exogenous macroeconomic variables were treated as uncertain: real GDP, GDP deflator, consumer price index (CPI), exchange rate national currencies/USD for the EU and other developed and BRIC countries (Australia, Canada, Japan, New Zealand, USA; Brazil, Russia, China and India) as well as world oil price (Brent crude oil price in USD per barrel). An approximation of the past uncertainty was made for each of these macroeconomic variables by taking annual forecast errors (difference between the ex-ante forecast and the observed outcome from 2004 to 2012). For yields, the approximation of past uncertainty is based on the difference between the predicted yield and the actual yield for the period 1996 to 2012. Regional blocks are created, representing the EU (EU-15 and EU-N13), the Black Sea area (Russia, Ukraine and Kazakhstan), North America (Canada, Mexico and the US), South America (Argentina, Brazil, Paraguay and Uruguay), South East Asia (Indonesia, Malaysia, Thailand and Vietnam), Australia, China and India. Crop yield fluctuations are assumed to be correlated within each regional block (due to similar weather patterns), but they are not correlated across regional blocks and across years. The impact of uncertainty in both arable crop yields and macroeconomic variables is assessed simultaneously. The stochastic model is simulated 700 times, of which about 85% solved (approximately 600 cases). The uncertainty of the outcome for each variable relevant to the outlook (e.g. production, consumption, exports, imports etc. of the different agricultural commodities) is measured by the coefficient of variation (CV) between the 10th and 90th percentiles of the 600 alternative uncertainty scenarios solved.¹²

Lower crude oil prices subset

Crude oil prices have a direct impact on agricultural market developments, as the oil price is both a driver of agricultural production costs (e.g. fertiliser, machinery costs) and positively correlated with commodity prices, especially through the link between agricultural and energy markets (mainly through biofuels). Generally it is assumed that the oil price will continue to increase over the mid-term, at least in nominal terms. However, some oil-exporting countries are more moderate about the future trend of the crude oil price and there might be downward price pressure from the development of unconventional fossil fuels. The impacts of a lower than expected crude oil prices on the baseline results are assessed by taking a subset of simulated scenarios (122 draws in total) for which the crude

¹² For more detailed information on the methodology see: Burrell, A., Z. Nii-Naate (2012): Partial stochastic analysis with the European Commission's version of the AGLINK-COSIMO model. JRC Reference Report, European Commission, JRC76019, <http://ftp.jrc.es/EURdoc/JRC76019.pdf>

oil price is comprised within a range of values between the 20th and 40th percentile, i.e. between 72 and 102 USD/barrel in 2023, with an average oil price of 87 USD/barrel (i.e. 25% below the baseline assumption of 116 USD/barrel). When looking at the results of this uncertainty analysis it has to be kept in mind that lower crude oil price levels induces indirect effects on other macroeconomic indicators (such as GDP growth and exchange rates) which are reflected in the results.

Stronger Euro relative to the US dollar subset

Exchange rate developments have direct consequences on the export capacity of a country and hence impacts developments on the agricultural markets. With a CV of 11.5% in 2023 the EUR/USD exchange rate is one of the most uncertain macroeconomic variables for the EU partial stochastic analysis. In the light of a potentially better economic recovery in the EU and some threats to the economic development in the US (like e.g. the debt crisis in the US), the impact of a stronger EUR than assumed in the baseline are analysed. For this uncertainty analysis a subset of simulations was selected where the EUR/USD exchange rate takes values between its 60th and 80th percentiles, comprising 120 simulations with exchange rates between EUR/USD 1.54 and 1.80.

Weaker Real and lower Brazilian GDP subset

During part of the first 10 years of the 21st century Brazil showed a very dynamic economic growth as well as an appreciation of the Brazilian real (BRL). However, between 2009 and 2012 a slowdown in the Brazilian GDP growth could be observed and since 2011 the BRL experiences depreciation relative to the USD. As Brazil is a big player in world agricultural markets, one of the subsets chosen for the uncertainty analysis focuses on the effects of a weaker BRL and lower Brazilian GDP growth than the ones assumed in the baseline. The subset analysed for this situation comprises 43 scenarios, and on average the Brazilian GDP index is about 9% lower and the BRL/USD exchange rate about 22% lower than the values assumed in the baseline.

Stronger crude oil price, with higher/lower US maize yields subset

Biofuel policies are considered to influence agricultural market developments. Apart from the policies, demand for biofuels is influenced by crude oil prices, while supply is affected by availability of agricultural feedstock for the production of biofuels. To assess this issue, two subsets of the general macroeconomic and yields uncertainty scenarios have been further analysed. Both subsets feature higher crude oil prices, with observations between the 70th

and 90th percentile, which relates to oil prices between 137-171 USD/barrel compared to the 116 USD/barrel assumed in the baseline (i.e. oil prices are on average about 31% higher than the baseline value assumed in 2023). The first subset corresponds to higher US maize yields and comprises 38 observations between the 60th and 90th percentile (i.e. maize yields between 11.4-13.1 t/ha compared to the 11 t/ha assumed in the baseline), whereas the second subset with lower maize yields covers 30 observations between the 10th and 40th percentile of the maize yield variable (i.e. yields between 9.2-10.6 t/ha).

Analysis of an increase in compound EU feed prices with the CAPRI model

In recent years, the agricultural sector experienced increasing pressure on the cost side. The main drivers of the increase are sector-specific, for example in the cereal sector the rise was mainly driven by increased costs for fertilisers, machinery, seeds and crop protection¹³ while for livestock feed costs are the main concern. Regarding the latter, EU feed costs could further increase unilaterally if a stricter sanitary or environmental legislation in the EU would increase processing costs in the EU. To assess how the outlook projections might be affected by higher EU feed costs, an uncertainty analysis was carried out with the CAPRI model, analysing the impact of a 10-20% increase in EU compound feed prices on pig and poultry sectors at EU, MS and regional (NUTS2) level. Compound feed in the context of this analysis is defined as feed based on cereals, oilseeds and oilcakes. Feed based on grass, fodder crops and straw is indirectly affected via price feedback and subsequent substitution effects. Feed costs are endogenously calculated in CAPRI and an exogenous shock had to be introduced into the model in order to simulate an increase in EU feed costs. This was done by a 20% increase of the EU processing margins for the conversion from raw material to compound feed. This scenario actually represents an important shock, but it was introduced like this to better illustrate the potential changes rather than to represent a really plausible scenario. The introduced increase in processing margins translates to increases in EU feed prices of 10% for protein-rich feed and between 18-20% for other compound feed relative to the baseline.

¹³ DG AGRI (2011): Farm Economics brief N°2: EU production costs overview. DG Agriculture & Rural Development, Microeconomic analyses of EU agricultural holdings, Brussels, <http://ec.europa.eu/agriculture/rca/pdf/Brief201102.pdf>

2. Macroeconomic assumptions

Macroeconomic developments are key drivers of agricultural markets. Therefore part of the first session of the workshop was dedicated to a discussion on the macroeconomic assumptions used in the EU agricultural outlook, especially discussing global macroeconomic drivers, and highlighting the link between energy and agriculture.

2.1 Still high degree of uncertainty surrounding the economic outlook

The starting point for the EU agricultural outlook projections is the OECD-FAO Agricultural Outlook 2013-2022. Initial projections for world market prices and also for the different countries in the world are taken from this source. The macroeconomic assumptions are further updated for GDP growth, inflation rates, exchange rates and oil prices. Regarding the updates, Pierluigi Londero (DG AGRI) pointed out that there is always a question as to whether take the data from one single (coherent) source or to take data that seems more plausible from different sources. This year the choice was made to use the macroeconomic forecast of DG ECFIN for the close future and use one consistent source (IHS Global Insight) for main countries up to 2023. The draft baseline assumptions on key macroeconomic variables are shown in Table 2.

Table 2: Draft baseline assumptions on key macroeconomic variable, 2010-2023

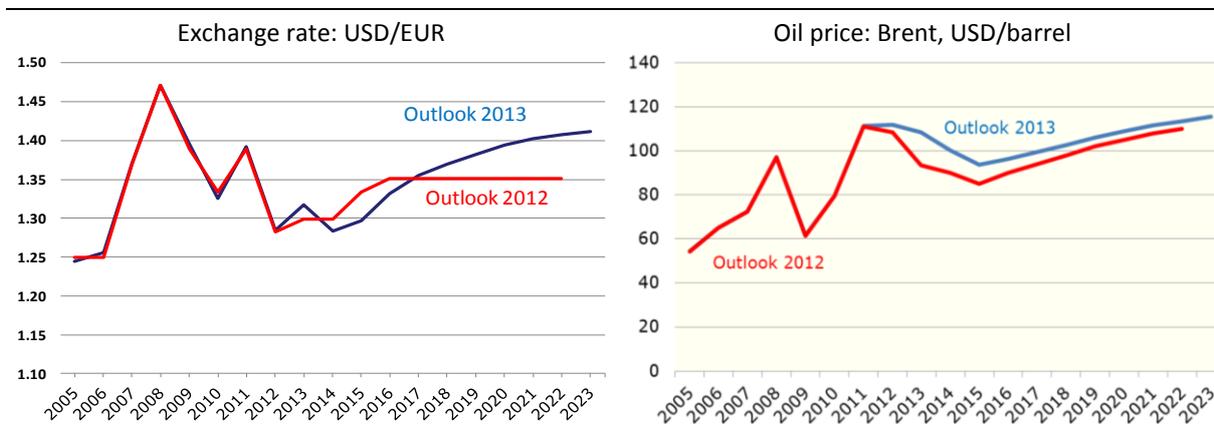
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Population growth (EU-28)	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%
EU-15	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
EU-N13	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Real GDP growth (EU-28)	2.1%	1.5%	-0.3%	0.0%	1.2%	1.6%	1.9%	2.0%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%
EU-15	2.1%	1.4%	-0.4%	-0.1%	1.1%	1.5%	1.7%	1.8%	1.7%	1.7%	1.7%	1.8%	1.7%	1.7%
EU-N13	2.3%	3.1%	0.7%	0.7%	2.2%	3.4%	4.3%	5.2%	4.4%	4.3%	4.2%	4.1%	4.0%	3.8%
World	4.3%	3.1%	2.6%	2.5%	3.3%	3.9%	3.9%	3.9%	3.8%	3.8%	3.7%	3.7%	3.7%	3.6%
Inflation (Consumer Price Index) (EU-28)	1.9%	3.0%	2.4%	1.6%	1.8%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.9%	1.9%
EU-15	1.9%	2.9%	2.4%	1.6%	1.8%	1.9%	1.9%	2.0%	1.9%	1.9%	1.9%	2.0%	1.9%	1.9%
EU-N13	2.8%	3.8%	3.7%	1.8%	2.5%	2.6%	2.7%	2.7%	2.5%	2.5%	2.5%	2.5%	2.4%	2.4%
Exchange rate (USD/EUR)	1.33	1.39	1.28	1.32	1.28	1.30	1.33	1.36	1.37	1.38	1.39	1.40	1.41	1.41
Crude oil price (USD per barrel Brent)	79	111	112	108	100	94	96	99	103	106	109	112	114	116

Source: Preliminary baseline

The baseline assumes that the world economy growth rate will grow by 3.3% in 2014 and between 3.7% and 3.9% from 2015 onwards, with real GDP in the EU-28 growing by 1.2% in 2014 and around 1.9% per year from 2016 onwards. Inflation in the EU-28 is assumed to be around 2% from 2015 onwards. Thus, in this year's baseline a slightly slower economic recovery is expected than in the baseline produced a year ago. The EUR/USD exchange rate is set to strengthen to 1.41 by 2023, whereas it was capped at 1.35 EUR/USD from 2016 onwards in last year's baseline. On the other hand, crude oil prices are assumed to increase

to 116 USD/barrel by 2023, i.e. the expected increase is higher compared to the outlook assumptions in 2012 (cf. Figure 2).

Figure 2: Assumptions on USD/EUR exchange rate and oil price developments



Source: Presentation Londero and M'barek (DG AGRI and JRC-IPTS)

2.2 Global recovery is underway, but numerous short and longer term risks remain

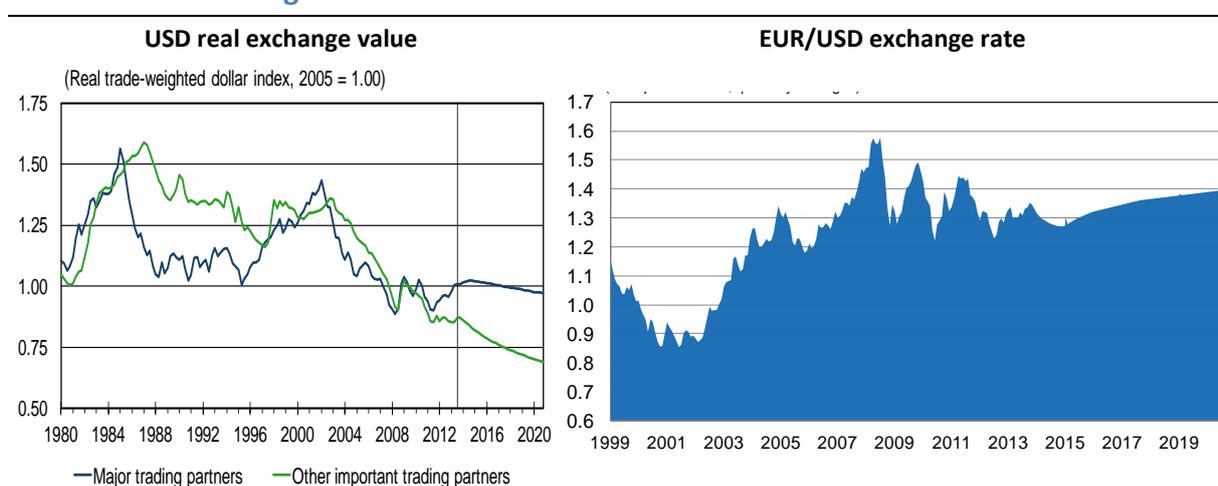
Elisabeth Waelbroeck-Rocha (IHS Global Insight) reflected in her presentation on the probable macroeconomic developments over the next 10 years and highlighted key risks for global economic developments over this time horizon. Waelbroeck-Rocha pointed out that the purchasing managers' indexes for manufacturing indicate that recovery is underway in the major economies. However, numerous short and longer term risks still remain. Among the short term risks, Waelbroeck-Rocha sees (i) a slowing growth pattern in emerging economies (which she thinks is likely to come to an end, except in case of possible social unrest in certain countries) (ii) a possible debt ceiling 'psychodrama' (like the October 2013 shutdown) in the US, (iii) persisting instability in the Middle East, (iv) austerity fatigue in Europe that might create political challenges and (v) general nervousness in the financial markets. Longer term risks for the global economy are mainly linked to the changing balance of economic power across regions (with a risk of increased geopolitical tensions), the possibility of more inward focus in the US and general resource constraints in the context of demographic and climate change challenges.

Even though the global economy is recovering, IHS Global Insight expects only a gradual acceleration in the global economy, because: (i) the US policy environment remains difficult even though US growth will strengthen with improvements of housing markets and consumer finances; (ii) although recession seems to be over in the Eurozone, full recovery is expected to be slow; (iii) economic growth in China has stabilised to a one-digit level, and China will face major structural challenges in the future; (iv) less monetary accommodation will hurt emerging markets that depend on external finance. Thus the strengthening of

global GDP growth is likely to be led by the developed countries, not emerging economies. The slowing of GDP growth in emerging countries can be attributed to both cyclical causes (such as for example an excess capacity after the investment booms or weaker export markets) and structural causes (such as the end of the rapid globalisation process or a lack of market reforms).

Regarding energy price developments, Waelbroeck-Rocha outlined that despite a moderate growth in energy demand, demand and prices are expected to pick up in 2014 as the global economy strengthens. In terms of oil price, rising production (unconventional oils) and fuel mix changes in North America will imply downward pressures in 2014-15, but the potential decline in oil prices will be limited due to production trends in Libya and Iraq. Furthermore, security challenges in the Middle East and Africa will create upside price risks. Therefore, IHS Global Insight expects crude oil prices to remain moderate in 2014-15 and to slightly rise afterwards. Waelbroeck-Rocha also highlighted that commodity prices are generally expected to remain highly volatile and hence businesses need to continue adapting to price volatility. With respect to exchange rates, IHS Global Insight expects that the US dollar’s real exchange value will resume a downward trend and the EUR/USD exchange rate will slowly appreciate.

Table 3: USD exchange rates



Source: Presentation Waelbroeck-Rocha (IHS Global Insight)

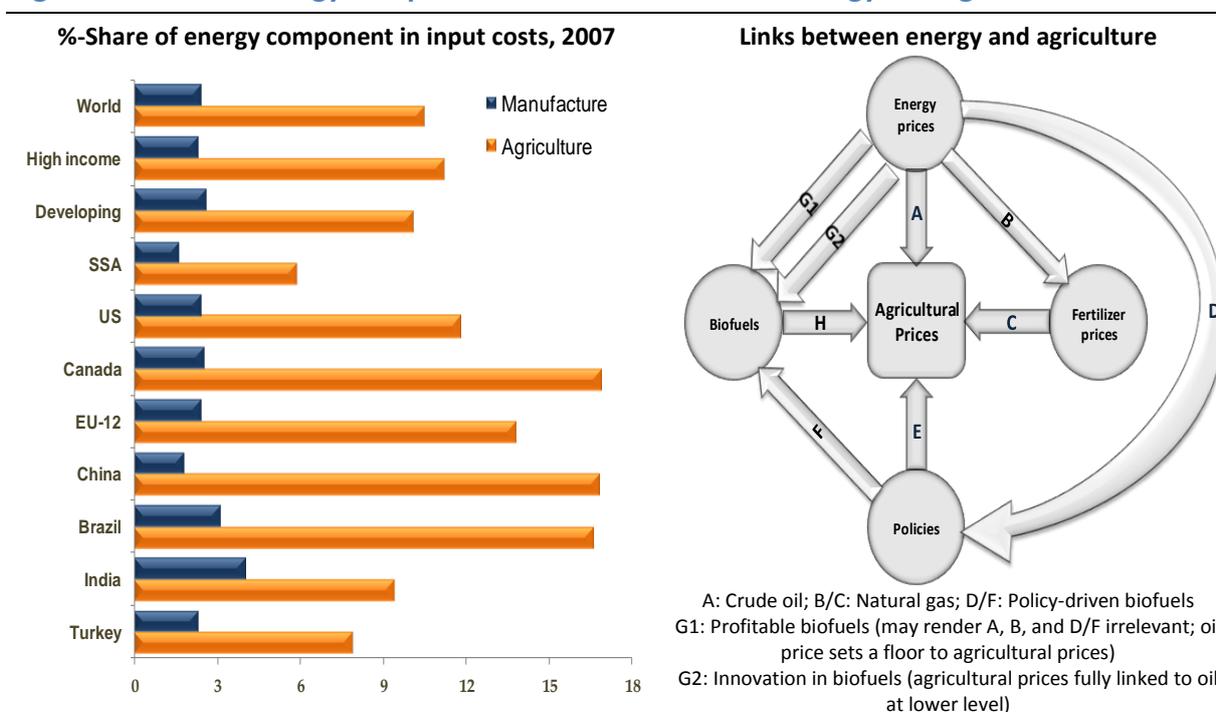
Looking a bit further ahead, Waelbroeck-Rocha stressed that trends in world population will have a significant impact, and especially urbanisation may cause specific problems that have to be dealt with. By 2020, 60 cities will have more than five million inhabitants and 13 cities will have more than 10 million. Also important in the context of agricultural commodity markets, Waelbroeck-Rocha specifically pointed out the evolution of the distribution of household income in the Chinese population. Income in China is increasing steadily and even

though the speed of change is expected to slow down, the number of households with an income above 10,000 USD will continue to grow.

2.3 Structural change in the link between energy and agriculture?

John Baffes (The World Bank) gave a presentation on the link between energy (oil and gas) and agriculture in the context of recent developments in energy markets. He pointed out that despite recent moderation, energy and fertiliser prices remain high. Energy represents, directly and through the cost of fertilisers, a high share of agricultural input costs (cf. Figure 3, left panel). However, energy markets also matter to agriculture on the demand side because of biofuels. Thus, the nexus between energy and agriculture is a complex issue (cf. Figure 3, right panel).

Figure 3: Share of energy in input costs and links between energy and agriculture



Source: Presentation Baffes (The World Bank); primary sources, left panel: author's calculations based on the GTAP database; right panel: Baffes, J. In: Global Food Security, 2013, vol. 2, pp. 110-116

Baffes highlighted that technology improvements lead to a new situation in energy markets that is associated with the following four price gaps: (Gap #1) US natural gas used to be traded in par with crude oil. New technologies (horizontal drilling and hydraulic fracturing) boosted US natural gas production, pushing prices down to levels of 20 years ago. This created a large gap between US natural gas and oil prices, which is expected to persist; (Gap #2) US natural gas used to be traded at a price more than double to the one of coal. This price gap has now disappeared; (Gap #3) US natural gas prices (based on spot market) diverged from European and Japanese LNG prices, which are still linked to crude oil. Natural

gas price convergence between the US and Europe will depend on whether a European natural gas market will emerge. However, even if it will emerge it will be rather slow and therefore this third gap is expected to persist; (Gap #4) Crude oil production in the US increased by more than 2 million of barrels per day during the past two years, causing the US oil price (West Texas Intermediate, WTI) to be considerable lower than the Brent one (world marker). However this fourth gap is likely to close during 2014.

In view of the development of new supplies, Baffes expects natural gas price levels to remain moderate in the longer term. Nonetheless, crude oil prices are not expected to decrease, which implies that the price gap with natural gas would persist. Concerning long term oil prices, Baffes distinguished between ‘herding behaviour’ and ‘fundamentals’, both tending to maintain oil prices high. By herding behaviour, he means (i) the psychological effect of 100 USD as a round number (it is the “new 20 USD”); (ii) the fact that Saudi Arabia is comfortable with a range of 100-110 USD and has the power to maintain that range (similarly to the 25-30 USD range in the late 1990s/early 2000s); (iii) many oil exporting countries have based their budget projections on a crude oil price of 100 USD, thus unwilling to supply for less. On the other hand, Baffes also named some major demand and supply fundamentals underlying the prospects of higher oil prices: (i) although oil demand by OECD countries weakened considerably due to the post-financial crisis shock and longer term efficiency gains, oil demand in developing and emerging countries is expected to keep growing strongly from low levels of consumption and their income elasticity estimates for energy is close to or exceeds 1. Furthermore, if non-OECD countries would reach the energy use patterns of OECD countries, world consumption of crude oil would be 2.5 times higher; (ii) the “new” oil (including Canadian tar sands, Brazilian deep-sea oil fields, and US shale oil) is expensive to extract; (iii) substitutability between oil and other types of energy is lower than it used to be in the past. Oil is mostly used now for transport, petrochemicals, and some residential/commercial use. In addition, the contribution from nuclear energy is declining (Japan, Germany, and others are increasingly expressing concerns over safety issues), while renewable energy, despite the efforts, do actually not add much to global energy consumption (biofuels added in 10 years as much as the US unconventional fuels added in 16 months). Thus, the only source of downward pressure on oil prices could come from technological break-through in vehicle batteries and/or lower storage and transport cost for natural gas.

Summing up his presentation, Baffes concluded that oil prices can be expected to be rather high in the longer run, whereas prices for natural gas will be rather low. As natural gas

affects fertiliser prices, also lower fertiliser prices can be expected. Due to the lower natural gas prices, an emerging fertilizer industry and slightly lower oil prices, Baffes expects US agriculture to benefit from a comparative advantage compared to other regions.

2.4 Summary of the session discussion

Part of the session discussion was dedicated to the gap between the oil and gas prices and the potential effects on agricultural markets as well as the possibility to see price convergence between the different sources of energy. Higher overall levels of oil and natural gas prices as well as advances in the extraction technologies rendered shale gas profitable. However, it was highlighted that shale gas remains a local resource due to high transportation costs. Nonetheless, it was reckoned that US agriculture is becoming indeed more competitive due to cheaper energy. The cheaper energy may also lead to a shift in the US to the production of products that are more energy intensive, with the US becoming an exporter of such products. It was also highlighted that fertiliser industry (plants) might move to the US, which also would further add to the comparative advantage of agricultural production in the US. On the other hand, as the US is currently a net importer of fertilisers, reductions in US fertiliser imports could lead to a decrease of world fertiliser prices. Other factors could contribute in closing the gap, in particular technology improvements, renegotiation of contracts for conventional natural gas and related commodities such as urea, increased substitution between sources of energy with increased weight of renewables, and overall decrease of costs and prices of electricity, diffusion of shale production out of the US despite resistance in Europe, etc. Workshop participants also stressed that the cost of such a possible transition should not be underestimated and that in any case the price convergence between the different sources of energy would take time.

Concerning the macroeconomic assumptions underlying the projections for the EU agricultural commodity markets, participants highlighted that macroeconomic assumptions are in general uncertain, with some of the participants being generally more pessimistic with regard to global macroeconomic developments and the recovery projected.

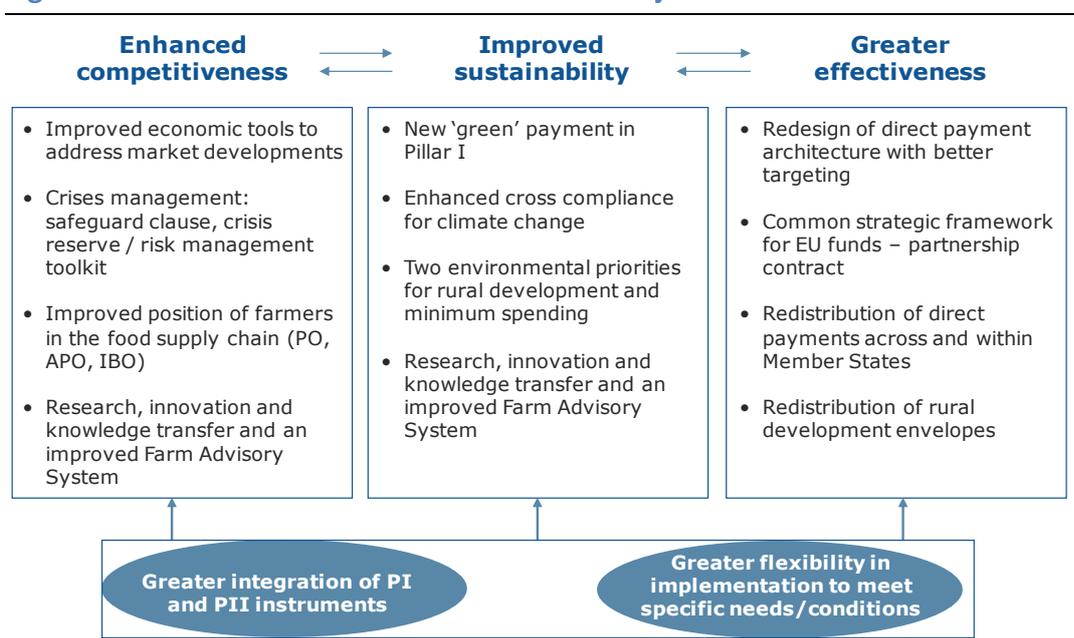
3. Special policy session: New agricultural policies in the EU and US

This year's workshop included a special policy session dedicated to the new agricultural policies in the EU and USA. A related special technical session on the challenges to model these new policies has also been organised (see section 4 below).

3.1 The new CAP towards 2020

Tassos Haniotis (DG AGRI) presented the main features of the political agreement on the reform of the CAP, reached between the European Commission, the European Parliament and the European Council on 26 June 2013, and completed on 24 September 2013 with regard to some remaining issues. Three broad areas are at the core of the CAP: viable food production, sustainable management of natural resources and balanced territorial development. To strengthen these areas, the major reform objectives are to enhance competitiveness and improve sustainability of European agriculture, as well as to achieve a greater effectiveness of the policy. The CAP instruments to meet these reform objectives are presented in Figure 4.

Figure 4: CAP instruments to meet the reform objectives



Source: Presentation Haniotis (DG AGRI).

Concerning direct payments, Haniotis outlined that the reform provides for external (between Member States) and internal convergence (between regions and farmers within each Member State) which implies a significant redistributive impact. All Member States with direct payments below 90% of the EU average will see one third of this difference closed and direct payments in all Member States will reach a minimum level by 2020. In

addition, within each MS or region, differences in the level of direct payment per ha will be reduced, however payments per ha may not be below 60% of the average in a single administrative or agronomic area by 2019. The new design of direct payments foresees that by 2015, EU farmers will have access to schemes compulsory in all MS, such as a basic payment scheme, a 'green' payment linked to three environmentally-friendly farming practices ('crop diversification', 'permanent grassland' and 'ecological focus areas') and a young farmers scheme. Other schemes might be voluntarily offered by Member States (comprising specific coupled support, support in natural constraint areas and a redistributive payment provided as a top-up to the basic payment). Furthermore, Member States have the possibility to offer a simplified scheme for small farms.

Concerning CAP instruments aiming at competitiveness of agriculture, Haniotis pointed out that the end of quotas (sugar, milk), vine planting rights (new system of authorization) and certain aid schemes (SMP, silk worms) will lead to greater market orientation. Safety nets will be enhanced by improved flexibility, raised beef intervention price, etc., and crisis management tools are strengthened (e.g. safeguard clause and crisis reserve). In addition, measures to facilitate producer cooperation, as well as a new risk management toolkit placed in the second pillar (enabling Member States to encourage farmers to take part in insurance schemes or mutual funds) should also contribute to an enhanced competitiveness. Haniotis also outlined the new framework of the rural development policy, where rural development programmes will be better coordinated with other European Structural and Investment (ESI) funds with a more adaptable national or regional strategic approach.¹⁴

Haniotis commented that Member States will gain flexibility in the new CAP, which is useful to take into account the different characteristics of the 28 Member States and the need to reflect this diversity in their choices. The different layers in the new system of direct payments should allow achieving a balance between the need for flexibility on the one hand, and the policy objectives of a more targeted, greener and fairer system of direct payments on the other hand. In general, the philosophy and market orientation of previous CAP reforms has been kept. Yet, the concrete implementation of the new rules by the MS will not be known before August 2014 when the MS have to communicate their implementation plan to the EC.

¹⁴ For more information on the political agreement on the CAP reform see http://ec.europa.eu/agriculture/cap-post-2013/index_en.htm

3.2 Developments of the US Farm Bill

Seth Meyer (USDA) presented an update on the reform process in the US agricultural policy. He first gave some background information on the variety of different programmes under the current Farm Bill, pointing out that the 2008 Farm Bill maintained traditional price support programs for sugar and dairy and income support programs for crops (marketing loan program, direct payments, counter-cyclical payments). In addition, the two new risk management programs ACRE (Average Crop Revenue Election) and SURE (Supplemental Revenue Assistance Payments) have been added to complement the continuing traditional risk management tools (crop insurance program).

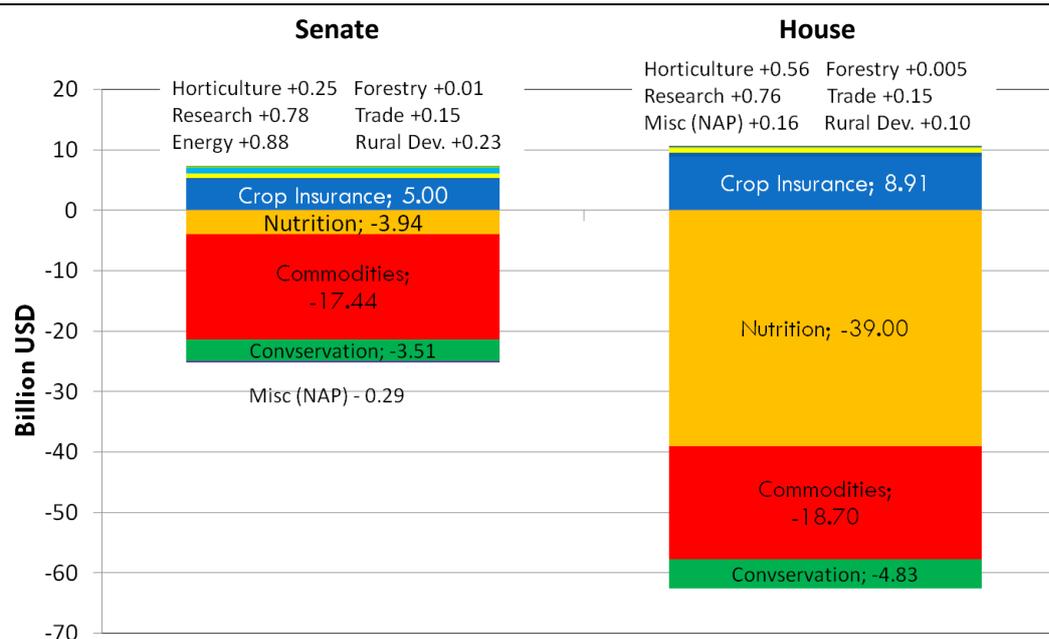
The 2008 Farm Bill actually expired in 2012 but was extended for one year. In the legislative process, the new 2013 US Farm Bill has to pass the Agricultural Committees of both the House and the Senate. By the time of the workshop, the Farm Bills that have passed the Senate ('S. 954' in June 2013) and the House ('H.R. 2642' without a nutrition title in July, and the nutrition title 'H.R. 3102' in September 2013) show similarities but still include significant differences. Both the House and the Senate eliminate several commodity programmes such as direct payments, counter-cyclical payments and the ACRE program, whereas both maintain marketing loans and crop insurance. Other similarities between both drafts include, among others, maintaining the sugar program and the conservation programs similar to the ones under the 2008 Farm Bill, introducing a new Stacked Income Protection Plan (STAX) for cotton and a dairy margin insurance replacing the previous dairy product price support and the Milk Income Loss Contracts (MILC).

A key difference between the Farm Bills that passed the House and the Senate is that the Senate would offer farmers the alternative choice between new 'shallow loss' revenue programs to increase crop insurance coverage and augmented counter-cyclical payments based on base acres, whereas the House would offer a choice between 'shallow loss' programs or a new price-based loss program similar to the counter-cyclical payments but based on actual plantings and revised target prices. Another key difference concerns nutrition aspects: both the House and the Senate would reauthorize the Supplemental Nutrition Assistance Program (SNAP, formerly called food stamps), but the House bill foresees much larger cuts in the SNAP by ending 'broad-based categorical eligibility' to SNAP applicants receiving benefits under certain other programs, and adding work requirements and other categorical choices.

Meyer highlighted that the development of the new Farm Bill is particularly affected by general budgetary discussions. Projections of the Congressional Budget Office (CBO) show

that if the mandatory programs of the 2008 Farm Bill would continue, they would cost about 973 billion USD over the next 10 years (FY2014-FY2023). In contrast, the 10-year score of the Senate-passed farm bill would reduce these baseline projections by 17.9 billion USD and the House-passed farm bill by 51.9 billion USD. The difference in budget spending is mainly due to the higher cuts and restrictions made in the House bill with regard to nutrition programs, with the House bill’s reduction for nutrition programs being 39.0 billion USD whereas the Senate bill’s reduction is 3.9 billion USD over 10 years (cf. Figure 5).

Figure 5: Budget implications of the Senate and House 2013 Farm Bills (10-year score)



Note: Senate = Senate Agricultural Committee 2013 Farm Bill version S.954
 House = House Agricultural Committee 2013 Farm Bill version H.R.2642 & H.R. 3102
 Source: Presentation Meyer (USDA); primary source: cost estimates by the Congressional Budget Office

Meyer emphasised that there is actually much uncertainty in the budget estimates due to the programmes complexity and savings could be less than anticipated if producers choose price loss coverage over revenue loss plans. Regarding WTO implications, Meyer pointed out that both the House and Senate bill would reduce green box spending (e.g. direct payments, conservation program, nutrition) and increase amber box spending (shallow loss, crop insurance, increased price support). The shift away from decoupled direct payments to more production based payments is attributable to budget pressures and the dissatisfaction expressed in the public debate with decoupled payments (for example the need for payments is questioned in times of high prices). However, even though the House and

Senate 2013 Farm Bills imply a higher ‘exposure’ of product-specific support, the likely net effect of the Farm Bill would be a lower Aggregate Measurement of Support (AMS)¹⁵.

3.3 Summary of the session discussion

The discussion first centered on the higher flexibility granted to EU Member States within the new CAP. Some participants raised concerns that the enhanced flexibility may be used by Member States to implement coupled payments for the dairy and sugar sectors and that this may bear the risk that these sectors have difficulties to adapt to the quota removal. However, other participants see no big risk that this would really happen. Preliminary analyses revealed that the only sectors where coupled payments could be justified are extensive livestock systems in risk of abandonment. A further point raised in the discussion was the risk that the new CAP may impede structural change. However, it was pointed out that the CAP direct payments may only slow down but not stop structural change and do not influence production (at least not to a significant extent).

An important issue in the discussion was related to land values and the questions to what extent direct payments influence land values and what might have to be changed in the policy to subdue possible land value increasing effects. It was highlighted that an important objective for Member States will be to implement the new CAP in a way that land prices are not affected by further increases. In any case this issue needs close monitoring (also after the new CAP is set into force in the Member States).

Finally the question was raised how the CAP and US Farm Bill may affect agricultural markets and hence the agricultural commodity outlook. It was stated that the level of competitiveness of some sectors in the EU might be affected by the new CAP. The extent to which this will be the case can only be assessed once Member States have made their concrete implementing decisions. Regarding the US, no large changes are expected concerning the overall impact of the final 2013 Farm Bill on agricultural commodity markets.

¹⁵ On 7 February, President Obama signed into law the Agriculture Act of 2014 — also known as the Farm Bill - See more at: <http://www.usda.gov/wps/portal/usda/usdahome?navid=farmbill>

4. Special technical session: Modelling the new CAP and the Farm Bill

Linked to the special policy session (see section 3 above), the agenda of the workshop included a special technical session on how to incorporate the new CAP and US Farm Bill policies in existing models. Specific presentations were given on how the new CAP towards 2020 is considered in the baseline, how to incorporate it into the CAPRI model and on the challenges of modelling the US Farm Bill proposals.

Stephan Hubertus Gay (DG AGRI) explained to which extent the CAP reform is already incorporated in the European Commission's baseline. The end of the milk quota system is included as milk deliveries to dairies are not limited from 2015 onwards. Likewise the end of the sugar and isoglucose quotas is included and from 2017 there is only one single price for sugar, i.e. no separation of in- and out-of-quota sugar is made. Regarding the Single Farm Payment (SFP), an adjustment of the overall envelope is incorporated; however this is done with average payments in EU-15 and EU-N13. With respect to greening measures, Gay pointed out that the protection of pasture area is taken into account, but that pasture is actually exogenous in the AGLINK modelling approach. Crop diversification is not included as only a limited impact of the measure at EU-15 and EU-N13 level is expected. On the other hand, the inclusion of ecological focus area is foreseen by introducing a further wedge for set-aside, but for the time being this wedge is set at 0%. Other specific measures comprising capping, young farmers, small farmers, re-coupling etc. will only be included in the baseline once Member States have taken their concrete implementation decisions.

Commenting on the incorporation of the CAP reform in the CAPRI model, Ben Van Doorslaer (JRC-IPTS) emphasized that the implementation of rural development measures needs to be updated in the model and that, as for AGLINK, many measures can only be included in the CAPRI baseline once the concrete implementation decisions are taken by Member States. Regarding the representation of the CAP in CGE models used at the JRC-IPTS, Van Doorslaer delineated that neoclassical multi-region CGE models with an agricultural focus typically feature both factor and product market modifications. A 'new' modelling direction relates to the CAP budget and an 'own' resources component of the CAP budget is included. Van Doorslaer also highlighted further improvements in data representation and modelling, e.g. due to explicit links between all EU Pillar 1 and Pillar 2 payments and CAP budget accounting equations.

Peter Witzke (EuroCARE) further elaborated on the inclusion of important CAP reform elements in the CAPRI modelling system. Regarding entitlements, Witzke explained that in the CAPRI model they influence the production decisions. Entitlements may have a positive

or a zero shadow value, which constitutes the base for incorporating greening and convergence CAP reform elements in CAPRI. The representation of mandatory and voluntary CAP reform elements related to the direct payments is in general possible, but concerning the basic payment scheme, the correct incorporation into CAPRI requires information on the actual implementation at Member State level. With respect to the greening component, Witzke explained that it is modelled in CAPRI through a separate entitlement that can be used by the farmers. He further explained the specific modelling approach to each component of greening. Regarding cover crop diversification, this will be based on a farm level analysis on observed data of 2008 (FADN), translated into an indirect indicator at NUTS2 level that may be incorporated in CAPRI. Concerning the pasture target component, the modelling will depend on the concrete implementation rules set by Member States. At this stage, a simple target is set in CAPRI, equalling the average grass area in the baseline (2020) with the grass area in the base year 2004. With regard to the ecological focus area component, Witzke emphasized that until now landscape elements such as hedges were not eligible for the SFP and hence there is actually no data available at European level on the areas concerned. A simple implementation into CAPRI through a 5% requirement would actually exaggerate the effect of EFA. Finally, on convergence, Witzke explained that while the financial amounts (net ceilings) need to be updated, an external convergence formula for Member States has been implemented in CAPRI. An entitlement trade module ensures that unused entitlements may be reallocated within a Member State, but internal convergence and distributive elements are still not incorporated.

Pat Westhoff (FAPRI) presented five major challenges related to the modelling of the US Farm Bill proposals. The first challenge is to estimate the impacts of eliminating the current direct payments and countercyclical payments (CCPs). The elimination of fixed direct payments (5 billion USD per year) should only have small effects on production in the model (as these payments are largely decoupled), but it does affect farm income and land value. CCPs are tied to prices, but have fixed base areas and yields. At the current levels of prices, CCPs are not applying for most crops, but their modelling (and hence the effects of their elimination) requires stochastic analysis as there is some chance that payments occur in certain conditions. An analysis of the supply-inducing effect of CCPs is also required.

The second challenge is to estimate the budgetary costs of the new price-based subsidies. The Price Loss Coverage (PLC) scheme in the House Bill triggers payments when prices fall below fixed reference prices. These reference prices are well above the current target prices, but below projected average prices for most commodities. To estimate the costs, a

stochastic analysis is again required. The third challenge is related to the estimation of the budgetary costs of the new revenue programs. The Agriculture Risk Coverage (ARC) scheme in the Senate Bill foresees payments when county (or farm) revenues per hectare fall below a trigger tied to moving averages of prices and yields. This requires the estimation of future combinations of prices and county yields which means a stochastic analysis and lots of correlations. The fourth challenge is to estimate the impacts of new programs on supply. The new programs are generally more coupled than the programs they replace, with the House PLC and Revenue Loss Coverage (RLC) and Senate ARC being all tied to planted areas and prices or revenues, whereas the Adverse Market Payments (AMPs) scheme in the Senate Bill are tied to base acreage and fixed yields. The fifth challenge relates to the estimation of Aggregate Measurement of Support (AMS) and other WTO measures, which actually requires guessing on how the new programs might be notified in the WTO. Applying a stochastic analysis for the estimation revealed that the mean levels of AMS would be below existing WTO agreements and that the overall trade-distorting support and other measures would be below possible new agreements. More specifically, results indicate that dairy AMS declines (no price support program, new program *de minimis* in most cases), AMS for crops may increase (as new amber policies replace green policies) and it is not likely that the current AMS limit of 19.1 billion USD would be exceeded. However, in the stochastic analysis, several limits (AMS, Overall Trade Distorting Support (OTDS) and especially commodity-specific caps) are frequently exceeded.

In the session discussion, the need for updating price elasticities in the models was discussed as well as the possibilities of achieving a better real world representation by taking also market imperfections into account. A further point of discussion was that the baseline of CAPRI is calibrated to the AGLINK baseline, and the question was asked if it would actually not be better to do it the other way around as many details (e.g. related to Member States or environmental issues) are not reflected in AGLINK but they are in CAPRI. It was stated that the whole estimation necessary to conduct baseline projections with the CAPRI model would not be manageable on a yearly basis due to the complexity of the model. Workshop participants also highlighted that certain things like the modelling of environmental conditions are generally not a problem as long as the conditions can be really defined in economic terms. Furthermore it was again stressed that for the modelling and hence evaluation of the total effects of the new CAP it is necessary to first know how certain measures are implemented at Member States level.

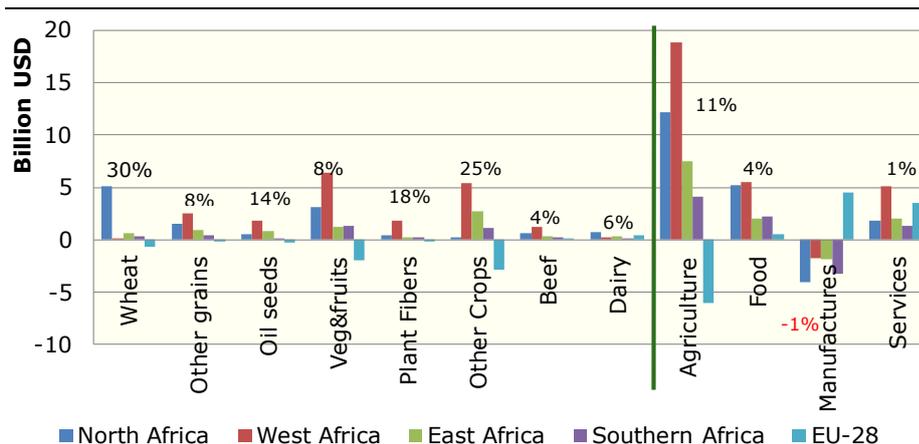
5. Special short session: An analysis of a potential "green revolution" in Africa

In a special short session, Cristina Vinyes (JRC-IPTS) presented preliminary results of an impact analysis of a potential "green revolution" in Africa. Agriculture is the most important contributor to the GDP in most African countries. However, total factor productivity (TFP) in African agriculture is rather low and lags behind both the global average and the region's actual production potential. Given the importance of agriculture in African economies, an increase in agricultural productivity has the potential to boost (economic) development in Africa. To analyse the effects of an increase in Africa's agricultural productivity on African agricultural production and trade, the CGE model MAGNET was used. Magnet is a global, dynamic CGE model based on the GTAP model. For the purpose of this study, the 129 regions covered in MAGNET were aggregated to six regions (EU-28, North Africa, West Africa, East Africa, Southern Africa, Rest of the World) and the model was calibrated to GDP and population growth assumed in the OECD-FAO Outlook baseline (2013). The scenario assumes a cumulative African agricultural TFP growth to be 14% higher than assumed in the baseline for the time period 2014-2023.

Scenario results show that the African agricultural production would increase by 11% compared to the baseline, with the production increase led by the crop sectors. The increase in agricultural production also has a positive effect on the downstream sectors in Africa, with the output of Africa's food processing industry increasing by 5%. While the African service sector would also be positively affected (+1%), the modeled green revolution is projected to have a slightly negative effect on Africa's manufacturing sector (-1%). The effects on the EU are rather limited, as EU agricultural production is projected to decrease by 1.2%, with fruit & vegetables and other crops being the most affected sectors in both percentage and absolute levels in the EU (Figure 6).

Regarding the change in trade between Africa and the EU, the African food trade balance is projected to improve considerably. Africa would increase its agricultural exports to the EU by 51% compared to the baseline, while at the same time importing 26% less EU agricultural goods. Despite the increasing exports and decreasing imports, food consumption in Africa increases on average by about 4%.

Figure 6: Change in production relative to the baseline (2014-2023)



Source: Presentation Vinyes (JRC-IPTS).

The overall impact of the modeled “green revolution” on the African economy is significant, with the aggregated African GDP expected to be about 2.3% higher in 2023 compared to the baseline. Impacts on the GDP are most pronounced in West Africa in relative terms, whereas North Africa benefits most in absolute terms. The welfare gains for African households are positive and show the same pattern as the GDP increase. The overall effects on EU welfare and GDP growth are also positive, but small. Concluding her presentation, Vinyes highlighted that while a “green revolution” in Africa would only have a small positive effect on EU welfare and GDP growth, the positive impact in Africa would be large.

In a short discussion on the exercise, workshop participants asked how eligible agricultural land is considered in the model. Vinyes explained that some specific rates for eligible agricultural land are assumed for each region and that MAGNET has a land supply curve that reflects increasing marginal costs for bringing additional agricultural land into production. Regarding the modelled African regions, workshop participants recommended to actually split South Africa out of Southern Africa because South Africa is an emerging economy and therefore it can be considered as being different from the other regions.

6. Cereals, oilseeds, sugar: Can production outpace consumption growth in the EU?

This session was dedicated to the discussion of the preliminary baseline results for cereals, oilseeds and sugar, and the impact of yield and macroeconomic uncertainties in these sectors. Furthermore, some general past and future developments in the sectors were presented and specific focus was given to the growing grain demand in China and the increasing dependence on palm oil.

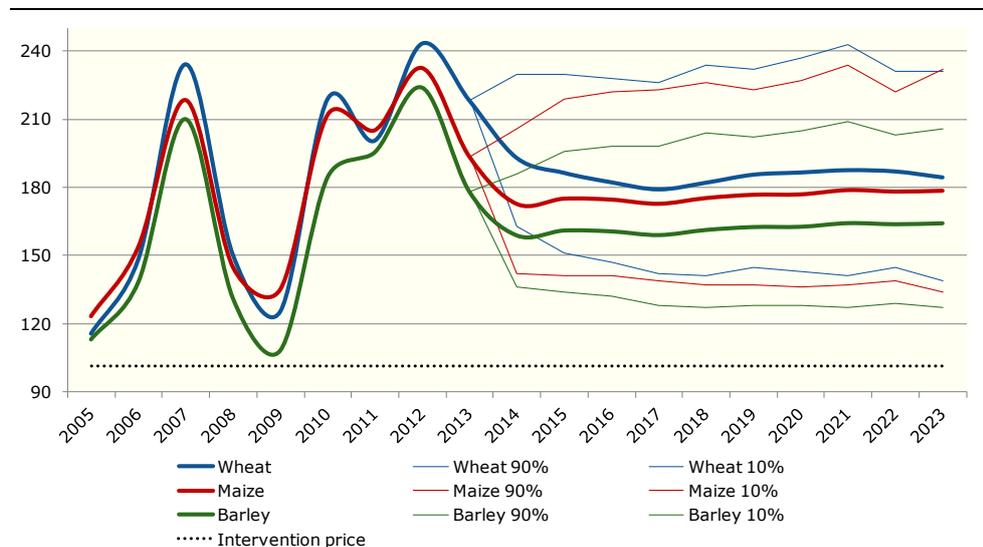
6.1 Low production growth compared to previous decades

The preliminary outlook results for cereals, oilseeds and sugar have been presented by Stephan Hubertus Gay (DG AGRI). Per capita demand (kg/capita) for arable crops is projected to be rather stable, with slight increases expected for wheat and sweeteners (sugar, isoglucose). A slow increase is projected for the feed demand of the EU livestock sector. However, breaking down the feed demand per type of feed, Gay highlighted that demand for high protein feeds (mainly soybean and other oilmeals) and low protein feeds (mainly cereals) is expected to be rather constant over the projection period, whereas medium protein feed (mainly Dried Distillers Grains with Solubles, DDGS) is projected to increase, albeit from a low level. The increase in DDGS (a by-product of the production of cereal based ethanol) as feed is attributable to an increased use of cereals for ethanol production.

While developments in yields and area for the different crops have been quite varied in the past, the projections indicate that annual changes in arable crops' area and yield will become more similar over the medium term. Projected yield increases are based on recent trends and are especially low for common wheat, whereas they are more dynamic for sunflower seed, maize and rapeseed. Preliminary projections show that the total cereal production in the EU-28 amounts to at 314.9 million tonnes by 2023, with production of wheat and coarse grains at 145.6 and 169.3 million tonnes, respectively. The EU is expected to remain a net exporter of cereals, but also a considerable net importer of oilseeds (mainly soybeans). The stock-to-use ratios are projected to remain tight for cereals at levels well below the ratios of the last decade. EU and world cereal prices are projected to be lower than current levels, but still above long term averages. However, Gay pointed out that there is a considerable uncertainty behind the cereals price projections, especially when taking uncertainties about future yield and macroeconomic developments into account. An important point is that even

considering the yield and macroeconomic uncertainties, the intervention prices would not be triggered over the projection period (cf. Figure 7).

Figure 7: EU cereal prices (EUR/tonne) and uncertainties



Source: Presentation Gay (DG AGRI) and Araujo Enciso (JRC-IPTS).

Vegetable oil demand in the EU has increased during recent years mainly because of an increased demand of feedstock for biodiesel production. Over the projection period a further increase in demand is expected. On the contrary, projection results indicate that the EU food demand of vegetable oils is stable and could be covered by domestic production by 2023. Regarding protein meals, the EU is projected to remain a large net importer of soybean meal. However, as feed demand is only expected to increase slightly, soybean meal demand will be rather constant over the projection period.

Sugar beet production in the EU is expected to increase over the projection period, mainly driven by increasing world prices, growing demand for bioethanol and also facilitated by the end of the EU sugar quota regime. The share of isoglucose in the overall sweeteners production is expected to increase considerably following the end of sugar quota, from currently about 3.5% to about 12% by 2023. Nonetheless, this share would still be low compared to observed shares in Northern America (e.g. 40% in the US). The EU has been a net importer of sugar since the EU sugar reform in 2006, but preliminary projection results indicate that it could come close to self-sufficiency by 2023.

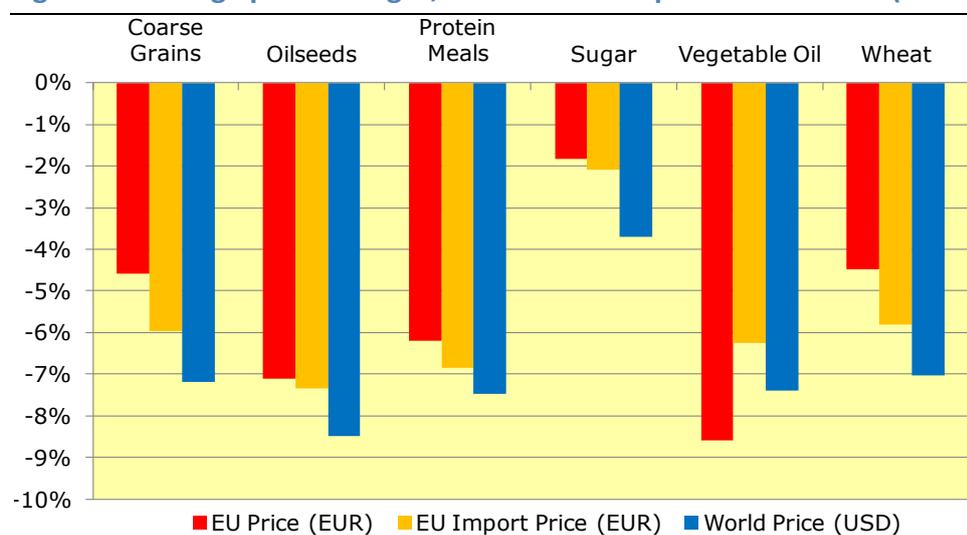
6.2 Uncertainty analysis: Impact of lower crude oil prices

Sergio René Araujo Enciso (JRC-IPTS) presented the major results of the stochastic analyses for the grains sector with respect to the impacts of yield and macroeconomic uncertainties, more specifically concentrating on the impact of lower crude oil prices. For this analysis, a

lower oil prices is understood as being within a range of values between 72 and 102 USD/barrel in 2023, with an average oil price at 87 USD/barrel (i.e. on average 25% below the baseline assumption of 116 USD/barrel). Araujo Enciso reminded that a lower crude oil price also impacts other correlated macroeconomic indicators (like GDP growth and exchange rates) which has to be taken into account in the discussion of the results of the uncertainty analysis.

A lower oil price results in reduced agricultural commodity prices but also in reduced input costs (e.g. mineral fertilizer prices are on average 14% below the baseline level) for agricultural production. Agricultural commodity prices decrease both on the EU and the world market level, with the decrease being more pronounced at world market level (between -3.7% for sugar and -8.5% for oilseeds) for all commodities except for vegetable oil where the EU price (-8.6%) decreases relatively more than the world price (-7.4%) (cf. Figure 8). EU production and consumption show rather marginal reactions to the weaker oil price, whereas EU imports and exports are more affected. However, Araujo Enciso emphasized that the changes in imports and exports are not only attributable to the lower crude oil prices but are also driven by related changes in exchange rates.

Figure 8: Average price changes, lower crude oil price vs. baseline (2023)



Source: Presentation Gay (DG AGRI) and Araujo Enciso (JRC-IPTS).

6.3 China's grain demand growth expected to outpace increases in domestic production

Darren Cooper (International Grains Council) presented some observations and factors to be monitored in the global markets for grains and oilseeds. He first described the development of the IGC Grains and Oilseeds Index (GOI), an index aiming at representing price trends in

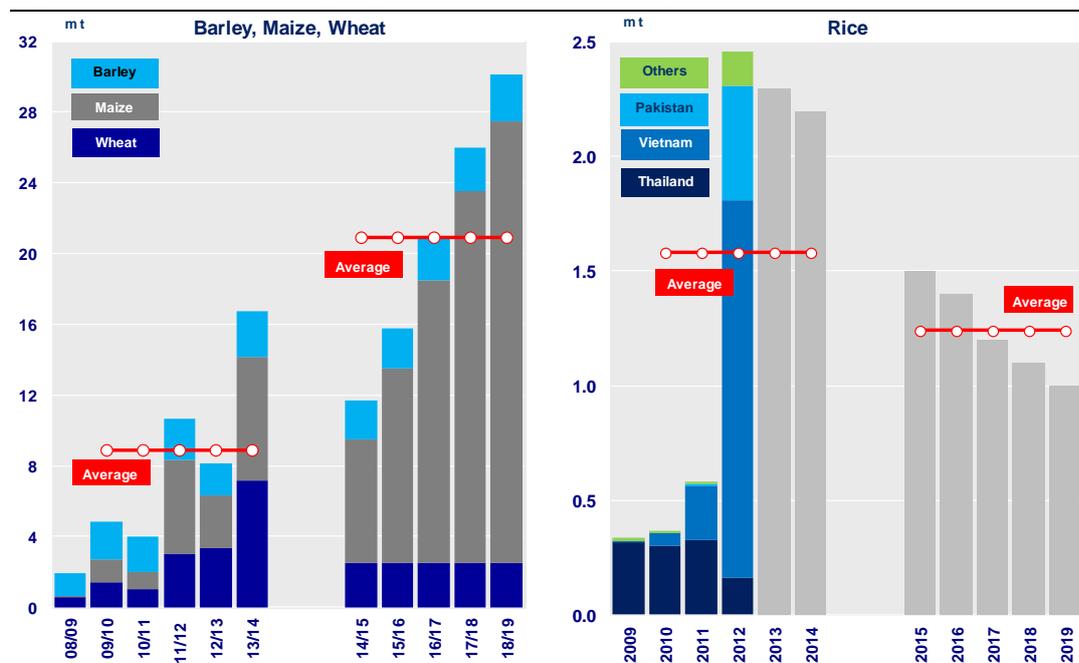
key global agricultural markets.¹⁶ The GOI shows, even though occasionally bumpy, a heavy decline of prices for the grains and oilseeds complex during the past year (GOI being around 16% lower on a year by year basis). A closer look at the complex shows that markets for all products weaken. The 2013/14 supply overall outlook for grains and oilseeds markets is significantly higher than last year, with production of total grains (wheat and coarse grains) in 2013/14 being forecasted to be about 8% higher than in 2012/2013, mainly due to more favorable weather conditions in key production areas, particularly the US and CIS. However, price increases for wheat during September 2013 were due to concerns about crop prospects in Argentina and the Black Sea region. Nonetheless, IGC expects wheat output to increase by about 6% in 2013/14 compared to 2012/2013 (especially in CIS) and ending stocks to also recover (although wheat stocks of the major exporters remain well below the last 5-year average). The IGC forecast for maize in 2013/14 sees a record high in world production and global ending stocks are expected to recover sharply from the record low in 2012/13 to a 13-year high level of 152 million tonnes. Due to expected bumper crops in South America, IGC foresees global soybean output to expand by 4% in 2013/14. Depending on the harvest in South America, the forecast for soybean ending stocks is at a 3-year high of 29m tonnes. The forecast for global rapeseed production sees an increase of 5% in 2013/14 compared to 2012/13, and the world ending stocks are expected to grow by 17%, which would be the first increase since four years.

Focusing specifically on grain imports in China, Cooper explained that China's grain imports are expected to rise significantly in 2013/14, led by imports in wheat and maize. China's rice purchases also unexpectedly increased sharply, boosted by a wide domestic-export price spread (i.e. the spread between local and export prices makes imports attractive). China's wheat harvest in 2013/14 is expected to be above average, but due to adverse weather the milling quality of wheat might be poor. This led to increases in local wheat prices and strong imports (with China's wheat imports in 2013/14 expected at an 18-year high of about 7.2 million tonnes). Despite an expected record harvest, China's maize imports in 2013/14 are forecast to reach 7.0 million tonnes, i.e. more than double compared to last season. Comparatively high domestic prices and prohibitive internal transport costs imply that imported maize remains competitively priced in major consuming regions of Southern China. This expected increase in China's maize imports is linked to an increasing demand for meat

¹⁶ The IGC Grains and Oilseeds Index (GOI) follows the day-to-day price changes for wheat, maize, barley, sorghum, rice, soybeans and canola. The index is calculated using 22 USD-denominated daily export quotations at leading origins. More information on the IGC GOI is given at www.igc.int/grainsupdate/igc_goi.xls

products in China, with the projected demand growth outpacing the increasing domestic production. IGC expects China to overtake Japan as the world's leading importer of maize, with imports forecast to increase to about 25 million tonnes by 2018/19 (cf. Figure 9). Concerning rice, there is a tendency towards decreased imports but this will strongly depend on the relationship between domestic and international prices.

Figure 9: Medium term projections for China's imports



Source: Presentation Cooper (International Grains Council).

6.4 Oilseeds: rising dependence on palm oil in the world market

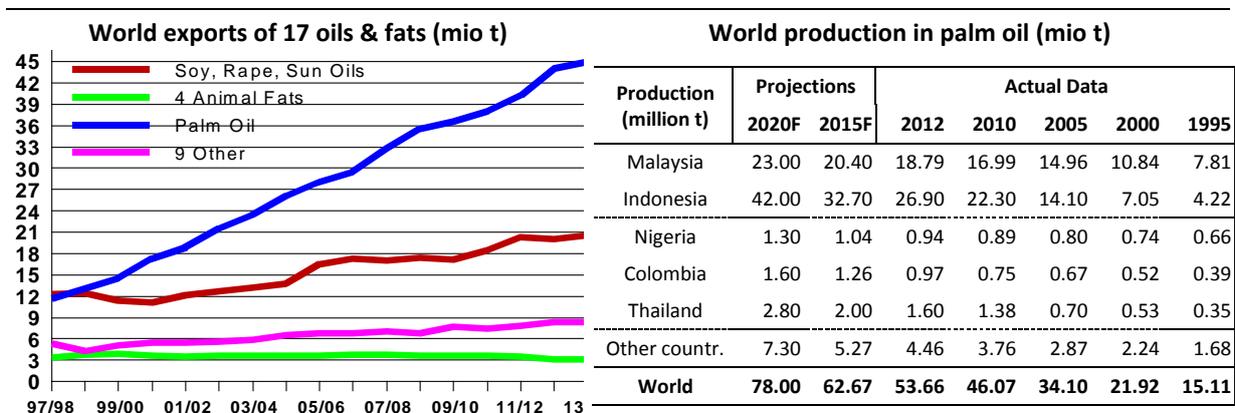
Thomas Mielke (Oil World) presented production and consumption trends for oilseeds. He first highlighted the high EU import dependency for oilmeals. The EU consumed 28.8 million tonnes of soybean meal in 2012/13, of which only 0.9 million tonnes were domestically produced. Of the total EU consumption of 55 million tonnes in oilmeals, almost 80% were imported either as seed or as meal. As oilseed prices and price trends in the EU depend on developments on the world market, Mielke presented the production structure and trends in the oilseeds world market. Due to the strong demand in oils and meals, the world oilseed production more than doubled in the past 25 years. The increase in production was based on both increased areas and yields, with about half of the area increase coming from land previously used for grains. Mielke expects this shift in land use to slow down and highlighted that agricultural land became a limiting factor worldwide (land values more than doubled in the past 6-8 years). Even though there is a potential for area expansion in Russia and Brazil, it would require infrastructure investments to activate it.

Regarding world production, ample oilseed supplies are expected in 2013/14, with large increases in soybeans, sunflower seed, rapeseed and palmkernels, i.e. the four oilseeds that were also the growth leaders in the past 15 years. World production is seen to rise by 22 million tonnes in 2013/14 and opening stocks 8 million tonnes higher than last year, boosting world supplies by 30 million tonnes. Concerning the main exporters, in 2013/14 the US and South America will account for about 80% of world exports of oilseeds (129 million tonnes) and even 95% of world soybean exports (107 million tonnes). Rapidly rising import demand is expected from China, mainly for soybeans, but also for rapeseed. Following a stagnation of oilseed imports in 2012/13, a big jump in China's oilseeds imports by 8-9 million tonnes is likely to occur in 2013/14 (at the expense of stocks in exporting countries). Mielke further emphasized the general importance of China in the oilseeds world market, as China currently imports about 63% of the world oilseeds trade and is the world largest crusher with large and modern capacities.

Commenting specifically on palm oil, Mielke highlighted that yields of palm oil per ha are much higher than those for soybean and rapeseed oils (with palm oil yields of about 4.5 tonnes of oil/ha compared to about 0.3 tonnes/ha for soybean oil), with the dominance of palm oil and palmkernel oil increasing worldwide. World consumption of all oils and fats more than doubled in the latest 20 years to 188 million tonnes in 2012/13 and also the annual growth rates of palm oil and palmkernel oil consumption were more than double than those of other oils and fats. At present, both palm and palmkernel oils account for 33% of the world consumption and 63% of the world exports. Palm oil became the most important vegetable oil worldwide and its production was multiplied by more than 4 times in the past 20 years, from 14 million tonnes in 1993/94 to an estimated 59 million tonnes in 2013/14 (of which 30 million tonnes are produced in Indonesia and 20 million tonnes in Malaysia). Mielke also emphasized the rising dependence on palm oil with regard to world exports, with palm oil exports having almost quadrupled between 1997/98 and 2012/13, whereas exports of all 16 other oils and fats increased by 48%. In October/September 2013/14 palm oil exports are likely to rise to 45 million tonnes, whereas the combined exports of soybean, sunflower and rapeseed oils are expected to account for 21 million tonnes (cf. Figure 10). Regarding the major exporters, Indonesia and Malaysia have exported 43.6 million tonnes of oils and fats in 2012/13, i.e. they accounted for 58% of total world exports of all oils and fats in 2012/13. Commenting further on the world consumption and production of palm oil, Oil World forecasts that in 2020 at least 78 million tonnes of

palm oil will be required by consumers worldwide (Figure 10). The major challenges in meeting this demand will be area and yields expansion in the context of sustainability.

Figure 10: World production of oils and fats and exports of palm oil



Source: Presentation Mielke (Oil World)

6.5 Summary of the session discussion

In the discussion, some workshop participants considered that there will be more volatility in prices for cereals and oilseeds and higher prices especially for oilseeds (to be about 10% higher) due to strong demand and difficulties to cover this in particular due to land constraints. Higher price volatility for oilseeds is realistic given the concentration of production in a few selected regions (US and South America for oilseeds, Malaysia and Indonesia for palm oil). This makes the world market vulnerable to local harvest failures. It was further stated that price volatility could be reduced if the biofuel mandates would be made more flexible, as they are currently independent from market conditions and hence can become an important factor for price volatility on the upper side.

Discussing a specific question on the impact of the possibility for EU Member States to provide up to 2% of the national envelope as coupled support to protein crops, it was highlighted that this is expected to have only little effect on production at EU level, although the exact impact depends on how many Member States finally will make use of this option.

Regarding consumption patterns, it was discussed how changes in diets and also the economic crisis may affect the cereals and oilseeds demand. The diet effect could be an important factor, but it was especially highlighted that the economic crisis implies more budget constraints for households in their purchases, with the direct effect that less food is wasted at household level. This behaviour may continue after the economic crisis and could actually lead to a structural change in consumption patterns.

A further topic in the discussion concerned whether to expect a high or low uptake of isoglucose with the end of sugar and isoglucose quotas in the EU. The answer to this

question depends on consumer preferences, but also on the marketing strategies of sweetener users such as the soft drink industry. Some participants expect that the food and drink companies will switch from sugar to isoglucose due to lower prices for the latter. Therefore a major change could occur, and the production currently limited to about 700 000 tonnes in the EU could even be tripled in the medium to long term. On the other hand, other workshop participants also pointed out that the share of isoglucose is decreasing in the US and that starch producers are not in the position to increase production immediately as there are currently no capacities available, i.e. investment is needed to expand existing plants or build new ones. To this respect it was noted that some sugar companies recently started investing in starch.

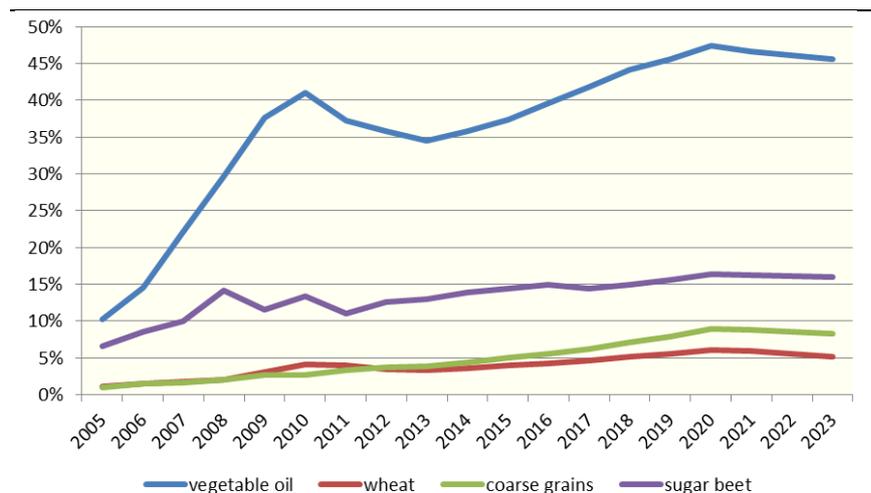
7. Biofuels: competition between biofuels in an uncertain regulatory frame

In recent years biofuels have increasingly influenced the developments of cereal, sugar and oilseed markets, with biofuel markets themselves being strongly policy-driven. This session was dedicated to the preliminary baseline results for biofuels and the analysis of how these results are in general affected by macroeconomic and crop yield uncertainties as well as the specific uncertainty related to higher crude oil prices in combination with higher and lower maize yields in the US. Furthermore, in the panel discussion, a closer look on previous and expected developments in the EU biodiesel and ethanol markets was taken.

7.1 EU to become the second largest biofuel user

Stephan Hubertus Gay (DG AGRI) presented the preliminary outlook results for the EU biofuel markets. It is assumed that no changes would be made to the current EU biofuel policy and that the mandate of the Renewable Energy Directive (RED) is met by 2020. With respect to the 10% transport fuel target, a biofuel energy share of 8.5% in liquid transport fuels is assumed, with other renewable energy (e.g. electric cars) filling the gap. A further assumption is a continued increase in diesel and a decline in petrol use. Gay emphasized that the preliminary baseline only considers EU biofuel policy currently in place; hence it does not incorporate possible changes that are currently under discussion (like a possible limitation for the contribution of first generation biofuels, sustainability criteria or indirect land use change).

The underlying model assumption that the mandate of the current RED is met by 2020 implies that the EU biofuel consumption has to accelerate in order to meet its targets. Projection results show that the EU would become the second largest biofuel user over the period concerned, with its biofuel consumption still below US levels but above the levels of Brazil. By source, most of the EU biofuel consumption is expected to be satisfied by domestically produced agricultural feedstock (first-generation biofuels), but projection results also show an increase in bioethanol imports. In terms of production, the outlook indicates a faster growth in ethanol than in biodiesel, but the latter remains dominant in absolute terms. Concerning feedstock for biofuels, increases in ethanol production are mainly based on maize, whereas there is a growing importance of biodiesel based on waste oils (e.g. used cooking oils). Low prospects are seen for other second-generation biofuels in the medium-term. Gay stressed that biofuels are particularly important for vegetable oil use in the EU (especially rapeseed oil) and that the share of biodiesel production in the overall EU demand of vegetable oil is projected to be about 45% by 2023 (cf. Figure 11).

Figure 11: Share of biofuel use in the total EU use of feedstock

Source: Presentation Gay (DG AGRI) and Santini (JRC-IPTS)

7.2 Uncertainties in the EU's biofuel sector

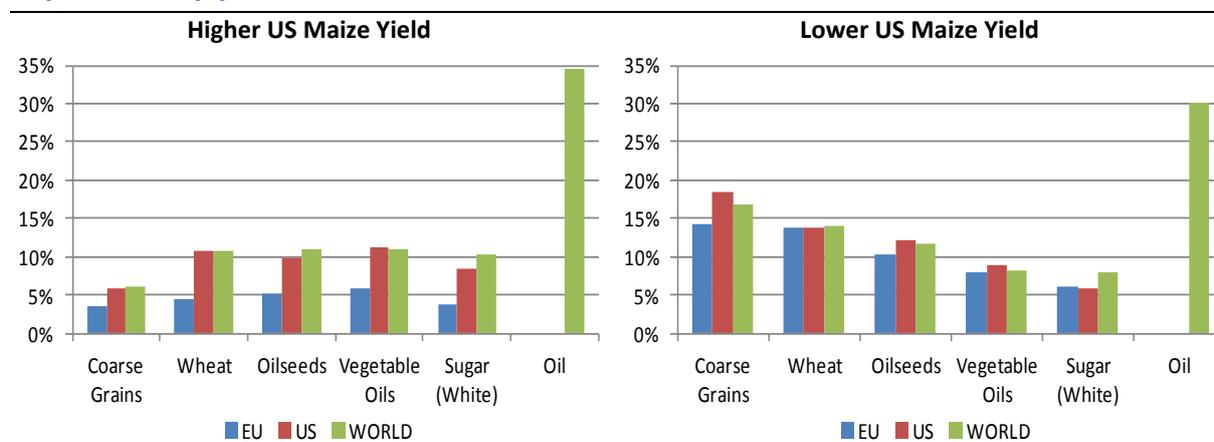
Fabien Santini (JRC-IPTS) presented the uncertainty analysis for the biofuel sector, first presenting general results of the partial stochastic analysis with regard to macroeconomic and crop yields uncertainties. The uncertainties on the projections of EU biofuel production are rather limited, with coefficients of variation (CVs) of 4% for biodiesel and 2% for ethanol production in 2023. On the other hand, EU trade of biofuels is more subject to uncertainty, with CVs of 27% for EU ethanol imports and 9% for EU biodiesel imports.

Focusing on the particular uncertainties related to higher crude oil prices in combination with different levels of maize yields in the US, Santini pointed out that higher crude oil prices than those assumed in the preliminary baseline generally lead to increased world production and consumption of biofuels, with the effect being stronger in the case of higher US maize yields. Not surprisingly, the higher US maize yields also lead to higher ethanol exports from the US, while ethanol exports of Brazil would decrease. However, the same effect on US and Brazilian ethanol exports, albeit at a lower level, can be observed with lower US maize yields. The lower ethanol exports in Brazil might be attributable to increased domestic ethanol consumption due to higher crude oil prices.

World and domestic biofuel prices are increasing, with the price increase being slightly higher with lower US maize yield. The increases in biofuels prices translate to higher crop prices at the EU, US and world market level. The impact is high for coarse grains prices in the case of lower US maize yields (+14% in the EU), but moderate in the case of higher US maize yields (EU coarse grain prices increase by +4%) (cf. Figure 12). Thus, the results of this uncertainty analysis show that not only future biofuel policy but also other uncertainties are

important for the further development in the biofuel sector and the related agricultural feedstock markets.

Figure 12: Higher crude oil prices in combination with higher and lower US maize yields: Impact on crop prices



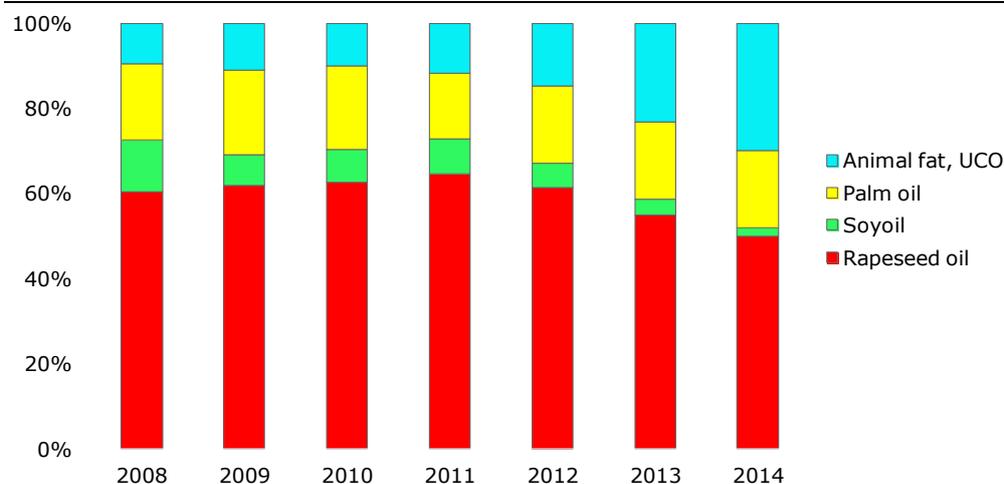
Source: Presentation Gay (DG AGRI) and Santini (JRC-IPTS)

7.3 Rising relevance of used cooking oil and animal fat in biodiesel feedstock

Christoph Berg (F.O. Licht) presented recent developments in the EU biodiesel market. He first highlighted the rising difference between physical and mandate (including double counting) biodiesel demand. While both were equal in 2008, since then quota-biodiesel demand always exceeded the physical biodiesel demand, and the constantly increasing gap is expected to further increase in 2014 and 2015. A further decrease in biodiesel consumption in 2014 and 2015 is expected due to restrictions in Argentina and Indonesia as well as a general decline of demand for biodiesel. While there have been constant increases in EU imports of Fatty Acid Methyl Ester (FAME) until now, the lower physical demand and trade legislation are likely to result in declining FAME imports in 2014/2015. In general, F.O. Licht's short term outlook for FAME production is stable, but growth in output is expected for Hydrogenated Vegetable Oil (HVO). However, the development of HVO basically comes from investments of only one firm and it is unclear if investments in new plants are planned. Berg highlighted that the share of used cooking oil (UCO, a by-product of the processed food industry) and animal fat (a by-product of meat production) in the biodiesel feedstock is rising (Figure 13). Berg further stressed that Used-Cooking-Oil-Methylester (UCOME) received a high premium over FAME (UCOME is typically blended into FAME). This led to the increase in the use of used cooking oil for biodiesel production, but it is actually driven by the EU regulatory framework as UCOME counted double towards renewables mandates compared with standard first-generation FAME biodiesel. Berg also pointed out that the double

counting might actually have led to system abuse (e.g. the use of specifically produced oil instead of waste oil).

Figure 13: Relevance of used cooking oil and animal fat in biodiesel feedstock



Source: Presentation Berg (F.O. Licht)

Commenting specifically on the preliminary Commission outlook results for biofuels, Berg stressed that the projections seem to make sense if it is assumed that the EU biofuel mandate is met. However, as he does not see enough investment in the biofuel sector, Berg actually is more bearish for the outlook of both ethanol and biodiesel. The lack of investment is also linked to the on-going policy debate on the EU regulatory framework for biofuels. Berg sees the current debate moving away from biofuel mandates towards GHG emission savings, and with no (new) policy in place before the end of 2014, the current RED might not be reliable enough and biodiesel companies will be likely to hold back or discard necessary investments. Therefore Berg concurs with the EU baseline in that he is more optimistic with regard to the developments of ethanol than for biodiesel.

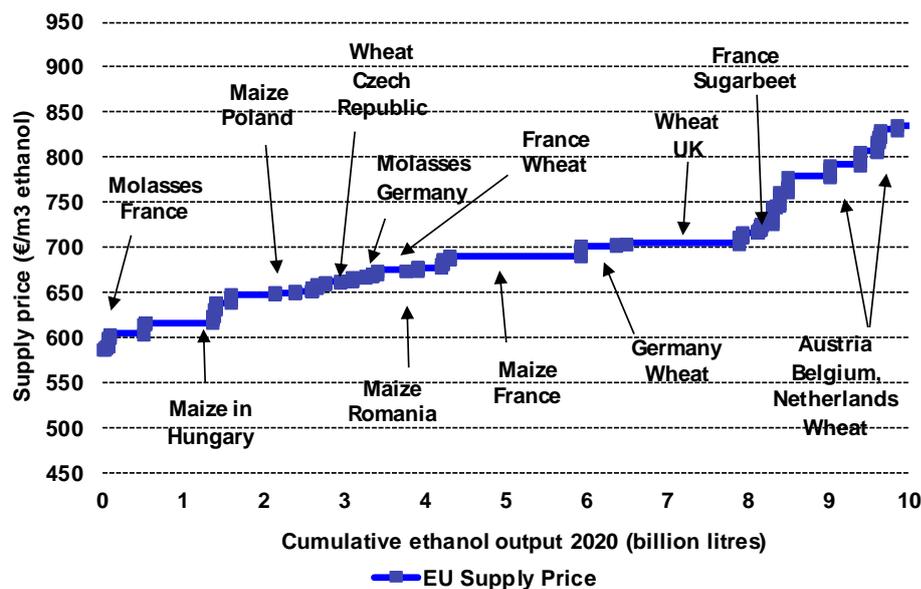
7.4 A challenging commercial environment for ethanol production

A closer look on the developments on the EU ethanol market was presented by Caroline Midgley (LMC International). Midgley highlighted that the Commission's outlook shows a generally more optimistic view on the developments in the biofuel market than the LMC projections, with the biofuels energy share (% RED counting), projected to be 8.5% in the Commission's preliminary outlook compared to 7.5% by LMC. Accordingly, the preliminary outlook shows fuel ethanol demand rising to more than 14 billion litres, whereas LMC projects only 10 billion litres by 2020. Midgley challenged especially the projected increase in EU diesel demand as many analysts (including LMC) think the dieselisation of the market is coming to an end. Furthermore, the projected 12% share of ethanol in gasoline by volume

seems to be quite ambitious, because it would imply a total market penetration of E-10 and considerable volumes of E-85. However, concerning the latter, the LMC forecast shows only very modest growth for E-85 and a share below 1% in gasoline by volume in 2023.

With regard to future ethanol production, Midgley pointed out that contrary to the Commission, LMC actually assumes that sugar beets will not make a major contribution to ethanol production after 2017 when sugar production quotas are abolished. LMC expects ethanol production from sugar to remain less profitable than the use of sugar for other purposes. LMC expects that this could result in the removal of around 900 million litres of ethanol from the market. LMC also expects less increase in EU ethanol imports than presented in the preliminary outlook. Midgley further stressed that the gross margin on wheat ethanol production has narrowed in recent years as ethanol prices have failed to rise in line with wheat prices. With respect to the EU supply price for ethanol, LMC calculations predict that future total cost of EU grain based ethanol will be about 590-700 Euros/m³ (cf. Figure 14).

Figure 14: Future full costs of producing grain based ethanol in the EU



Source: Presentation Midgley (LMC International)

Midgley highlighted that US ethanol imports, without the anti-dumping (AD) duty, are very competitive, as is Brazilian ethanol (paying the denatured tariff). However, Brazilian ethanol would not be competitive if Brazil’s gasoline prices were aligned to oil prices. Even in the case of anti-dumping duties, LMC forecasts that EU ethanol prices will remain subdued and that gross margins for wheat based ethanol production are expected to continue to decline.

Reflecting on how EU biofuel producers will respond to this challenging economic environment, Midgley emphasized that the thin margins are likely to drive consolidation in

the sector. Producers will try to boost revenues by seeking to valorise additional by-products, e.g. corn ethanol producers could develop corn oil extraction and wheat dry mills could convert to wet mills and produce starch products and wheat gluten. Furthermore, the abolition of EU sugar and isoglucose production quotas in 2017 opens up the possibility of producing sweeteners from starch. LMC also expects that ethanol producers will look for new opportunities to supply the food and beverage industries. Moreover, they may develop neutral alcohol capacities.

7.5 Summary of the session discussion

In the discussion a question was raised on what the preliminary outlook actually assumes with regard to biofuel consumption after 2020 (as the outlook results show a decrease in biofuel consumption after 2020). It was clarified that the current mandate is not increasing beyond 2020, and therefore no increase in the biofuel energy share in liquid transport fuels is expected from 2020 onwards. However, the outlook assumes that the increase in waste oil use will continue after 2020 – which, because of its double counting as second-generation biofuels, allows a decrease in the use of first-generation biofuel and results in the projected overall decline of EU biofuel consumption after 2020. Concerning the underlying assumption that the targets of the biofuel mandates are met (assuming a biofuel energy share of 8.5% in liquid transport fuels with other renewable energy (e.g. electric cars) filling the gap to reach the 10% share), several workshop participants challenged this assumption considering it to be overly optimistic and they actually do not expect the EU to fulfil the biofuel mandates in 2020. However, the general approach for the baseline is to take existing and already agreed policies as given, and therefore, in this case, it also has to be assumed that the EU mandate of the Renewable Energy Directive will be met. Hence, currently discussed possible changes in the EU biofuel policy have not been taken into consideration in the preliminary outlook. However, it was mentioned that several policy options have been assessed with the AGLINK model and results are published in a separate report.¹⁷

Regarding the LMC analysis about the influence of the abolition of the sugar quotas on the use of sugar beet for the ethanol production in the EU, it was clarified that this is based on the assumption that sugar can be imported into the EU without restrictions, i.e. EU sugar

¹⁷ H elaine, S., R. M'barek and H. Gay (2013): Impacts of the EU biofuel policy on agricultural markets and land use. JRC Scientific and Policy Reports, European Commission, Seville. (<http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=6559>).

prices would be equal to the world prices which are expected to be high and therefore would make the use of sugar more attractive for other destinations than ethanol.

The advantages of US ethanol production over EU ethanol production were discussed, one of the main causes being that the maize used in the US is a cheaper feedstock for ethanol production than the milling wheat used in the EU. Lower energy cost in the US (shale gas) is an additional advantage for the dry milling process based on maize, as well as the wider range of high value by-products (maize oil DDG) than the EU wheat-based processes.

Finally it was also noted by workshop participants that a potential decline of biodiesel could have consequences on the feed industry, with less rape meals available.

8. Which future for meat markets in the EU?

This session was dedicated to the discussion of the preliminary baseline results for meat markets as well as the impact of general uncertainties and increased EU compound feed prices on the meat outlook. Furthermore some specific reflections on the pork, poultry and beef world markets were presented and discussed.

8.1 Production and consumption recovery in the EU

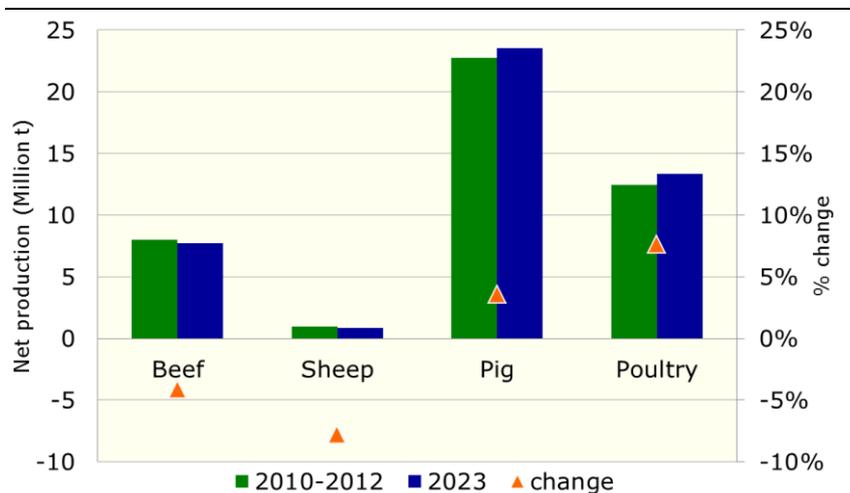
The preliminary results of the European Commission's outlook on meat markets were presented by Sophie Hélaïne (DG AGRI). The ongoing economic downturn and historically high level of unemployment in the EU resulted in a contraction of EU meat consumption in 2012 and 2013, reaching its lowest level in the past 11 years. Furthermore, EU demand was pushed further towards poultry, the cheapest meat option. However, the preliminary baseline results show a high meat demand and positive trade prospects at world level.

Regarding beef production, the EU cattle herd is expected to slightly increase in 2014 in the light of EU dairy quota abolishment, but EU beef production is projected to return to its declining trend after 2015. Beef imports are expected to increase, though they are projected to stay below the level of 2005 (when beef imports actually exceeded the TRQ level). EU pig meat production is projected to rebound from 2015 onwards and benefit from export opportunities. The expansion of exports is however constrained by increased competition from the US and Brazil. EU poultry production is also expected to increase over the projection period, but at a slower pace than in previous decades, which is mainly attributable to high feed costs. Nonetheless, poultry meat will still remain the most dynamic meat sector. For sheep and goat meat, the projections show a continuation of the historical downward trend, albeit at a slower rate than in the previous decade (but this is based on the assumption that EU Member States would keep existing coupled payments for sheep). The dynamics of EU meat production are depicted in Figure 15.

With regard to meat consumption, EU beef meat consumption is projected to decrease over the projection period. EU pig meat consumption is expected to gradually recover from the decline observed since 2007, but by 2023 consumption levels are projected to still be below 2011 levels. With supply markets under pressure, sheep meat consumption is expected to further decrease. By contrast, EU poultry consumption is projected to continue its steady increase observed in previous years (but at a slower pace). On the aggregate level, the increase in poultry and pig meat consumption compensates for the decrease in beef and sheep meat consumption. Therefore total per capita meat consumption in the EU is

expected to slightly increase over the projection period (reaching a total of 65.9 kg/capita by 2023). The growth in total meat consumption is more pronounced in the EU-N13 than in the EU-15, but a gap of almost 10 kg per capita less meat consumed in the EU-N13 compared to the EU-15 still remains.

Figure 15: Recent and projected EU meat production



Source: Presentation Hélaïne (DG AGRI), Santini and Van Doorslaer (JRC-IPTS)

8.2 The impact of specific uncertainties on the meat outlook

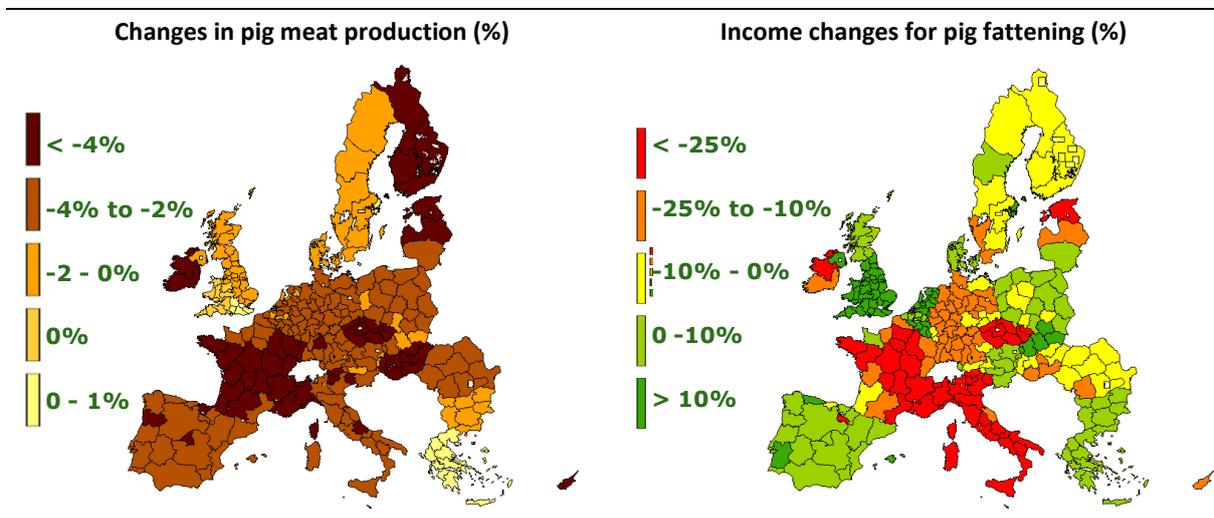
The main results of the uncertainty analyses for the meat baseline projections were presented by Fabien Santini and Ben Van Doorslaer (both JRC-IPTS). Regarding the impact of combined macroeconomic and yield uncertainties on the baseline projections for EU meat trade, the effect of macroeconomic uncertainty is generally bigger than the effect of yield uncertainty. With a coefficient of variation of 11%, EU net exports of pig meat are likely to keep on growing, whereas the EU remains a net importer of beef until 2023 (with a CV of 39%). Poultry meat net trade is also likely to vary a lot (CV = 31%), but the EU keeps a net export position throughout the projection period. Analysing a subset with lower GDP growth and weaker currency in Brazil, the results show a significant decrease in world meat prices (-11.1% beef, -9.9% pork, -8.4% poultry) which also leads to lower EU producer prices for beef (-1.6%) and pig meat (-0.8%). Due to the lower world market prices, EU net imports of beef would further increase, whereas EU net exports of pork and poultry would decrease (but the effects on EU net trade is rather moderate in absolute terms for all the markets concerned).

A further analysis was carried out with the CAPRI model on the impact of a 10-20% increase in EU compound feed prices at the EU and regional (NUTS2) level.¹⁸ The increase in prices for compound feed leads to a switch in the feed composition towards grass and fodder.

¹⁸ Compound feed in the context of the analysis is defined as feed based on cereals, oilseeds and oilcakes.

Substitution is however limited by nutrition requirements and the availability of fodder. The poultry sector, and to a lesser extent the pig meat sector, shows less flexibility in the substitution of compound feed. Therefore these two sectors are the most affected by an increase in compound feed prices. Poultry production would decrease by 6% at EU level and exports would decrease by 360 thousand tonnes (-42%), whereas imports increase by 227 thousand tonnes (+90%). Concerning the EU pig meat sector, exports would decrease by 21% and production decreases by 3% at EU level (with changes between +1% and -7% at regional level). Despite an EU producer prices increase of 8% (similar throughout all Member States), income from pig fattening would decrease by 8% at the EU level (with considerable differences at regional level) (cf. Figure 16).

Figure 16: Impact of increased EU compound feed prices on the pig meat sector



Source: Presentation H elaine (DG AGRI), Santini and Van Doorslaer (JRC-IPTS)

8.3 Global meat consumption growth dominated by poultry

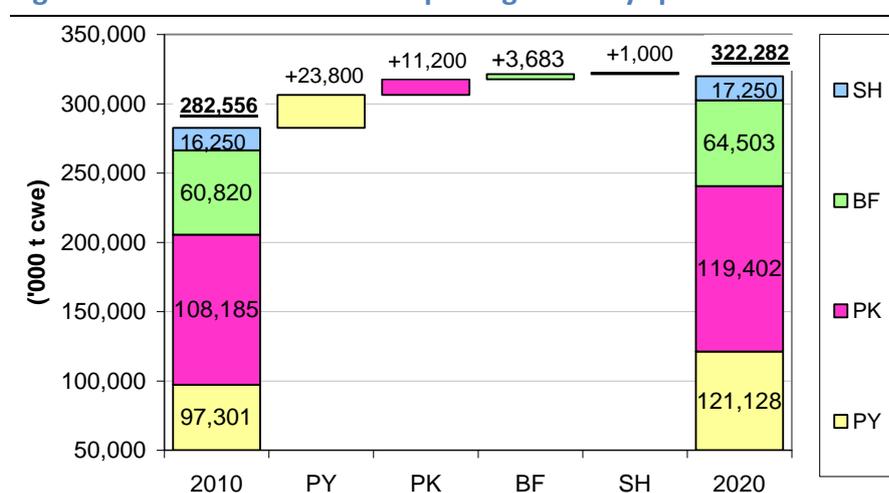
Richard Brown (Gira Consultancy and Research) first commented in his presentation on the EC's preliminary outlook results for meat and then gave some specific reflections on the pork and poultry world markets.

Brown outlined that the Commission's outlook projects a recovery in meat consumption for all species, and Gira agrees on this upward trend in total meat consumption, but is actually a bit more optimistic, especially for poultry. Regarding exports, the EC's outlook seems overly optimistic for pig and poultry meat. Gira's view is that the EU pig meat export volume will be more under pressure by Russian domestic production developments and more competition in Asian markets from the US, Canada and Brazil (Japan is now open for pig meat imports from the Brazilian state Santa Catarina). With respect to imports, Gira expects pig, poultry and beef meat import volumes to rise more than projected by the Commission, especially as

they will be subject to bilateral free trade agreements (e.g. between the EU and Canada). While the Commission’s projections for EU meat production are positive for pork and poultry, Gira is less positive and sees only poultry growing, mainly driven by cost efficiency of the chicken industry. The other types of meat are expected to decline due to increased third country competition. Brown emphasized that the Commission's outlook is relatively pessimistic on meat prices and Gira actually expects higher meat price rises, reflecting increases in global market prices. Regarding meat prices, Brown further elaborated that there are actually surprisingly low increases for example in global cattle numbers and almost no change in feeding intensity, which can be expected to result in further increasing meat prices.

Focusing on the pork and poultry markets, Brown highlighted that global meat consumption continues to grow, mainly driven by an increasing demand per capita in emerging markets. Gira forecasts an increase of 40 million tonnes (+14%) in global meat consumption between 2010 and 2020, which is less than in the previous decade, but would mean a significant recovery from the impact of the 2008-2009 financial crisis on meat consumption. The global meat consumption growth will be dominated by poultry, driven by its relative cheaper price (cf. Figure 17).

Figure 17: Global meat consumption growth by species 2010-2020



Source: Presentation Brown (Gira Consultancy and Research)

Looking at the indices for producer/wholesale prices for poultry and pig meat from 2001-2013, it can be observed that real prices have risen strongly in real terms and Gira expects this development to continue. Brown highlighted that the apparent 2012 price downturn for pig meat is influenced by prices in China and if China is excluded, a sharp increase in prices can in fact be observed. Brown illustrated that global pig meat imports are dominated by Asia (especially China) and that there is a high concentration of global pig meat exporters

(with North America as the most important region). Pig producer prices (EUR/t c.w.e.) are attractive in export markets, and Gira actually expects that the EU will face stronger competition from lower cost producing areas. Concerning poultry meat, Brown showed that global imports are broadly distributed between many destinations. The EU as a poultry meat exporter is squeezed by lower cost competition from the US and Brazil. Brown emphasized that EU animal welfare regulations partly explain the cost difference, but on the other hand it can be observed that tougher animal welfare demands are spreading to key competitors, and that EU farmers are adapting and reducing their initial costs.

8.4 Reflections on the world beef market outlook in 2014 and beyond

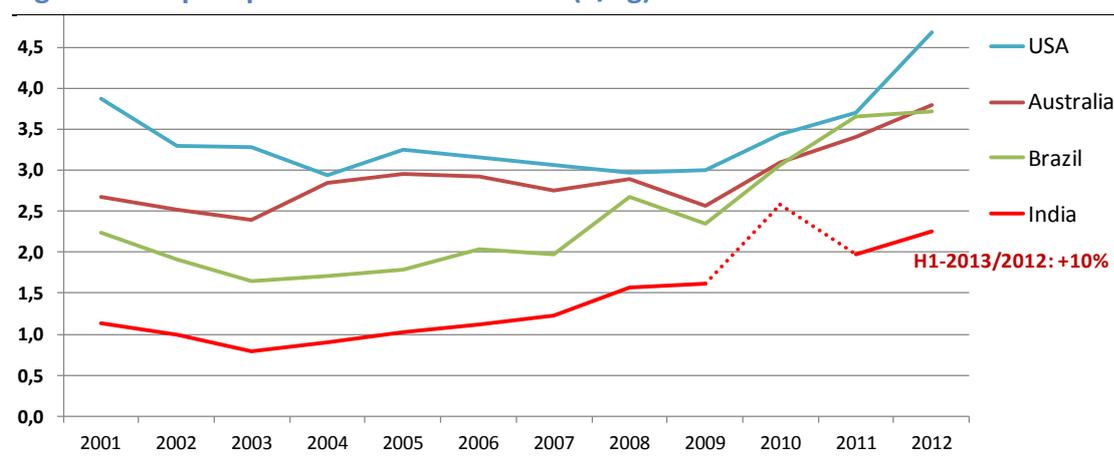
Philippe Chotteau (Institut de l'Elevage) commented on the preliminary outlook results of the Commission and reflected on some major issues for the world beef market in the coming years. Chotteau first outlined the following main drivers for EU beef production: i) dairy and suckler cows herd evolution; ii) veal production, representing 22-23% of calves born from the EU dairy cows; iii) live animals trade balance, with imports of live animals becoming negligible, but opportunities for live animals exports; iv) carcass weight evolution; and v) genomics and sexed semen (implying more crossed bred calves from dairy cows). Chotteau emphasised that the sharp drop in EU beef consumption since 2008 (-12%) is specifically due to the economic crisis, but in the long term, the decline of EU beef is following the decline in number of cows. Concerning the herd evolution, 2/3 of the EU herd is composed of dairy cows, and therefore developments on the dairy commodities markets and cow productivity prospects are key drivers for beef meat markets. In 2013, a stabilisation of the dairy herd could be observed for the first time since years, but Chotteau does not expect this situation to continue, as the production responses to the currently high dairy prices will drive prices down again which will lead to declines in the dairy herd with corresponding effects for beef production. Chotteau further highlighted that the prospects of beef returns are closely linked to i) the extent and the speed of the EU economic recovery; ii) the ability of the EU beef industry to meet EU consumer preferences and to avoid meat scandals like the recent one with horse meat, and especially iii) the returns compared to other farming and non-farming alternatives.

Regarding EU beef imports, Chotteau stressed that after 2018 the free trade agreement between the EU and Canada¹⁹ implies potential imports from Canada of around 50 000

¹⁹ More information on the CETA between the EU and Canada can be obtained on the respective DG Trade website: <http://ec.europa.eu/trade/policy/countries-and-regions/countries/canada/>

tonnes c.w.e. (35 000 t for chilled beef and 15 000 t for frozen beef) without duties, i.e. potentially almost doubling the Canadian beef exports outside NAFTA. With respect to EU exports, Chotteau remains generally doubtful on the EU's future beef price competitiveness, but he reckons some good export prospects exist for quality niche markets and towards neighbouring countries. This would in particular be the case for the Mediterranean area, with a relatively high demand for live cattle. In 2012, a sharp increase in beef imports in the Mediterranean area could be observed, but these were only marginally served by EU beef. Chotteau expects that the EU can further increase exports to the Mediterranean area, but at the same time emphasized that this market is highly sensitive to sanitary and political issues. Further focusing on world beef exports, Chotteau reflected on the situation of the two major players India and Brazil. He first highlighted the low cost of production for Indian buffalo beef. Even though export prices rose quickly over the last years, Indian frozen beef exports still increased (albeit at a slower pace) due to the huge low cost beef demand in Asia and Africa (cf. Figure 18).

Figure 18: Export prices for deboned beef (€/kg)



Source: Presentation Philippe Chotteau (Institut de l'Élevage)

India possesses the most important cattle herd in the world, but it serves mainly for dairy and draft purposes, not for meat. Chotteau explained that India has a very specific beef meat balance with a net production of about 3.6 million tonnes c.w.e. and a domestic beef consumption of approximately 2 million c.w.e. (i.e. only about 1.6 kg per capita, as around 40% of Indian citizens are vegetarians). Regarding Brazil, Chotteau pointed out that there is a high price incentive for beef in Brazil, with a Brazilian Real depreciation boosting the competitiveness of Brazilian beef and leading to Brazil's return on the world market.

8.5 Summary of the session discussion

Discussing EU meat consumption, some participants of the workshop expressed more optimism than the Commission's outlook. For example, beef consumption in Germany was reported to have stabilised in the last years, not declined. However, other participants pointed out on the contrary drivers indicating a further decrease of beef meat consumption. Germany could be an exception compared to countries more affected by the economic downturn and for example a decrease of 2% per year could be observed in France, and the developments are worse in other EU Member States like Italy and Portugal. Other factors might need to be taken more into consideration, such as changes in diet and the increasing share of vegetarianism. During the discussion it was also highlighted that a close observation of the developments in the rest of the world is inevitable to actually understand what happens in the EU meat sector. Moreover, developments on the fish markets need to be considered and it was suggested to include also the fish and aquaculture sector into the Commission's outlook (similar to what is done in the annual OECD-FAO outlook).

Another point of discussion was the possible impact of the FTA between the EU and Canada (CETA), especially with regard to Canadian beef and pork exports to the EU. The general opinion was that the impact of CETA on EU meat markets might be limited in the short run and that Canadian stakeholders will need time to expand their exports up to the TRQs. In this context it was highlighted that because Canada is close to the large US market the Canadian meat production is adapted to the quality requirements of the US, especially with regard to intramuscular fat (US consumers favor marbled meat whereas EU consumers rather prefer lean meat).

The question was discussed if sexed semen could be a game changer in beef production. Sexed semen is used to produce animals of the desired sex from a particular breeding (it is also used to improve genetic value) and beef cattle farmers could use sexed semen to capitalize on the higher value of male animals than female ones for meat production. It was stated that sexed semen has been used for example in France, but rather for dairy cattle not for beef production. Generally there seem to be more advantages to using sexed semen in the dairy industry (for replacement heifers from genetically superior cows) than in the beef industry.

A further discussion arose around the effects of a possible increase in Brazil's beef production intensity. Some experts at the workshop stated that while there would certainly be enough place in Brazil to increase beef production, an increase in the herd would require investments for which credit currently does not seem available, especially because the

investment needs are higher compared to those in crop production, with the latter also offering quicker and better return on investment. Therefore most experts do not expect a big increase in the Brazilian cattle herd size in the short- to medium-term. Nonetheless, a more intensive 'end-fattening' in Brazil could occur in the mid-term.

Regarding poultry production it was emphasized that the EU poultry industry suffers from squeezed margins due to higher feed costs. In addition, the impact of strict EU welfare measures on poultry production is strong and as indicated in the uncertainty analysis of the Commission's outlook, a change in the feed mix for poultry is difficult.

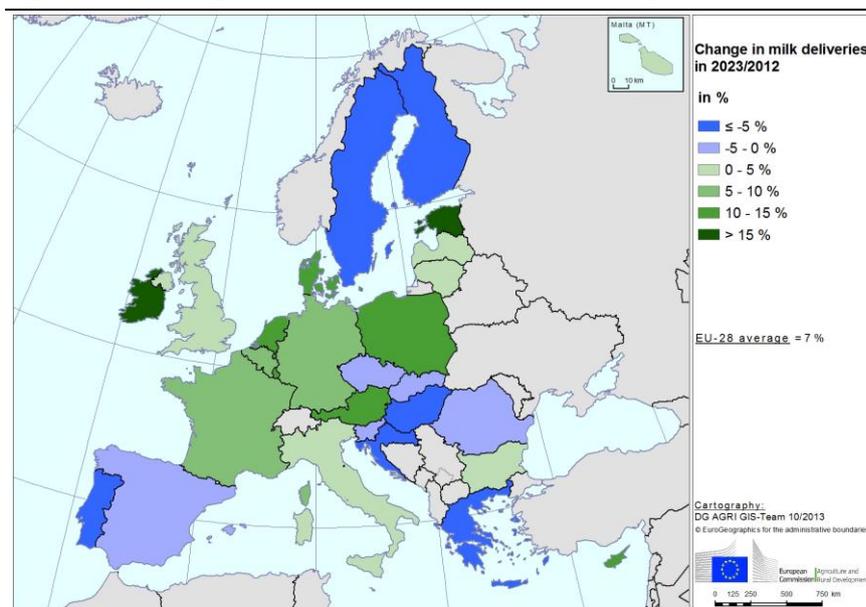
9. Milk and dairy markets: To what extent will the EU benefit from the strong world demand?

In this session the focus was on the preliminary outlook results for the EU milk and dairy markets and the impact of yield and macroeconomic uncertainties as well as reflections on general developments in the EU and world markets for cheese and milk powder commodities.

9.1 Favourable prospects for EU dairy products

Sophie Hélaïne (DG AGRI) presented the preliminary outlook results for the EU milk and dairy markets. The ‘big event’ for the EU dairy markets over the projection period is the abolition of milk quotas in 2015. However, there is no abrupt increase in EU milk production expected in 2015, and for EU milk deliveries the outlook shows a quite moderate increase of 9.1 million tonnes by 2023 (+ 7% compared to 2012). In 2012, the number of EU dairy cows increased for the first time in 20 years; however, as from 2016, the total number of dairy cows should decline again, albeit slower than in previous decades. Thus, the increase of EU milk production over the projection period corresponds principally to further improvements in milk yields per cow. As can be seen in Figure 19, most of the milk production increase is projected to take place in the EU-15.

Figure 19: Change in milk deliveries in 2023 compared to 2012



Source: Presentation Hélaïne (DG AGRI) and Artavia (JRC-IPS)

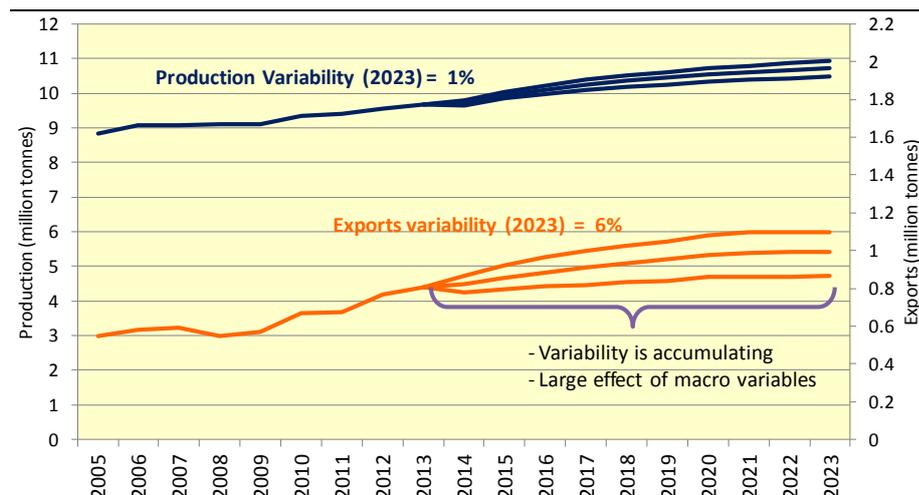
The outlook results also indicate a robust EU domestic demand and a strong world demand for milk and dairy products. The increase in EU milk production is mainly directed to the production of cheese, fresh dairy products (FDP) and whey, which are all products projected

to have great export potential. The main destination for EU cheese exports is Russia, which is expected to further increase over the projection period, albeit at a slower pace. For drinking milk, EU exports to China have increased considerably over the last years due to safety scandals affecting China's domestic milk production. This trade could further develop if freight prices remain low and if Chinese consumers keep paying a premium for non-Chinese milk. For butter also an increase in EU production is projected, but driven by an increasing domestic demand, not by global drivers. Regarding prices, the EU milk price is projected to decrease slightly between 2013 and 2016, and to stay firm afterwards. Cheese and SMP prices are also projected to decrease between 2013 and 2016 but increase afterwards, with cheese prices almost reaching the levels of 2013 by 2023 and SMP also stabilising at a relative high level towards 2023. By contrast, butter prices are projected to decrease throughout the projection period.

9.2 Effects of macroeconomic uncertainties on the EU dairy outlook

The main results of the uncertainty analyses for the milk and dairy markets were presented by Marco Artavia (JRC-IPTS). The focus of the presentation was mainly on uncertainties related to macroeconomic variables. Furthermore, as the preliminary outlook results indicate especially an increase in cheese production (i.e. the most important dairy product in terms of production and value levels, Artavia concentrated on cheese in his presentation. The main sources of uncertainty for EU cheese come from outside the EU because dairy products are extensively traded commodities, and their domestic developments are strongly influenced by the (economic) developments in major importing and exporting countries. An analysis of correlation of cheese exports reveals that the EUR/USD exchange rate (with direct consequence on the EU competitiveness), the Russian GDP (Russia is the major market for EU cheese exports) and the New Zealand Dollar exchange rate (New Zealand is one the main competitors of the EU in the world market) are key drivers of uncertainty.

The variability of EU-28 production and consumption is low for milk, but higher for SMP and WMP (the latter being more exposed to international trade than other dairy products). Indeed, with EU production levels of SMP and WMP being twice the levels of the respective exports, the variability of EU SMP and WMP exports is about two times higher than their production variability. With respect to variability in EU cheese production and exports, Artavia pointed out that the low production variability of 1% results in a higher variability of export (6%) (cf. Figure 20).

Figure 20: EU cheese production and export uncertainty

Source: Presentation Hélaïne (DG AGRI) and Artavia (JRC-IPTS)

Reflecting further on the reaction of EU dairy products to uncertainties in macroeconomic variables, Artavia focused on the behavior of EU cheese exports in the context of a stronger Euro. Results of the subset with an exchange rate between 1.54 and 1.80 EUR/USD (i.e. a strong EUR than assumed in the baseline) show only moderate effects on the EU cheese exports. This is because in the uncertainty analysis the negative effect of an appreciation of the EUR on EU cheese exports is actually compensated by other variables (e.g. an increased Russia GDP). Artavia pointed out that this exemplifies that in a stochastic analysis strong changes in one variable may be compensated by simultaneous movements in other variables.

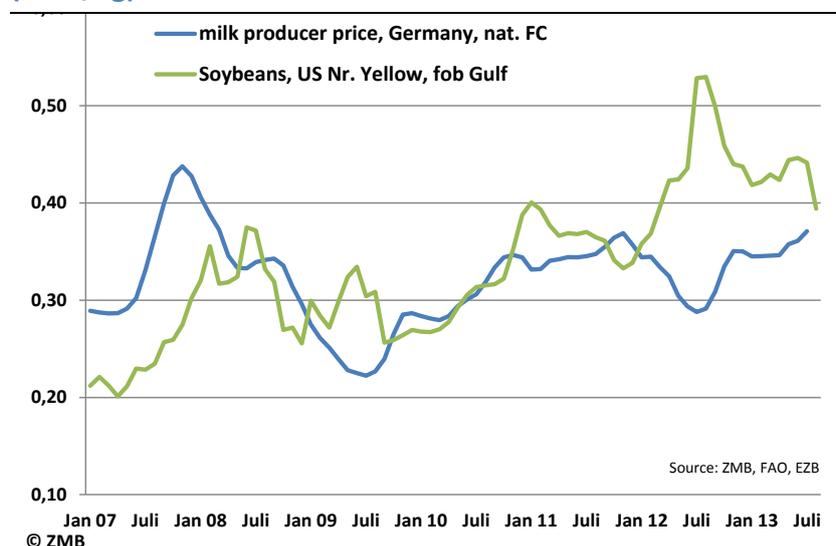
9.3 EU milk production reacts stronger to price developments than in the past

Monika Wohlfarth (ZMB) presented some comments and reflections regarding the EU milk and dairy market perspectives. Wohlfarth highlighted that the ZMB does not expect demand growth within the domestic EU market, but that the growing international demand for dairy products will be the driver for EU dairy production in the coming years. Since 2009, EU dairy exports are continuously increasing, especially for cheese and whey. On the international dairy markets, a few big exporters (New Zealand, EU, USA, and Australia) concentrate the supply and, even though there are many importing countries, the international market is highly dependent on the imports of China and Russia. Wohlfarth emphasised that milk output in the EU reacts much stronger to milk prices (with a certain time lag) than in the past. While agricultural input prices increased substantially since 2005 (making producers more vulnerable to milk price changes), EU milk prices have also followed a rising trend with a record high expected in 2013, leading to a rise in total EU milk production. The increase in

milk deliveries is actually faster than the increase in milk production, reflecting an increasing share of milk delivered to dairies.

Concerning EU milk processing, ZMB expectations are widely in line with the Commission's outlook, with ZMB expecting an increase in the production of (almost) all major dairy products. Higher increase in EU cheese production than indicated in the Commission's outlook could be possible, as cheese shows the steadiest growth in both exports and internal consumption. Furthermore a bigger increase in the EU production of WMP and SMP is likely as new large drying capacities are built in Europe (e.g. in Germany, France, Ireland and Belgium) Moreover, new capacities for whey processing into derivatives are also built. With a higher production of WMP and cheese, actually no increase of butter production is expected. The ZMB expects more volatile EU milk deliveries in the future because milk production will be more linked to margins and more influenced by weather conditions. Wohlfarth exemplified the point of volatility and the increasing influence of margins on EU milk production by comparing the developments in soybean prices to German milk prices between 2007 and July 2013, showing an inverse development between the two prices (with a certain time lag) (cf. Figure 21).

Figure 21: Comparison of milk producer prices in Germany and the price for soybeans (Euro/kg)



© ZMB
Source: Presentation Wohlfarth (ZMB)

With respect to the effect of the abolishment of EU milk production quotas, Wohlfarth pointed out that the countries which have been limited by the quota system in recent years (NL, DE, DK, IE, LT, CY, AT, BE, PL) can be expected to see their milk production increasing once the quota system is removed. EU milk production can be expected to mostly concentrate in regions with a high share of grassland (near to the coasts, etc.) and regions without other agricultural opportunities in general.

At Member State level, the ZMB sees more optimism than the Commission in the UK milk and dairy sector, as the growing investments of dairy companies recently observed in this MS might lead to increased investments at farm level and thus to an increase in production in the coming years. Scandinavian countries can also be expected to increase production in order to export to Russia. Regarding Eastern Europe (EU-12), Wohlfarth pointed out that, even though grassland and cheap labor are available, technological progress at farm level and investments at dairy/processor level would be needed in order to boost milk production.

9.4 Increased investment in new milk powder plants

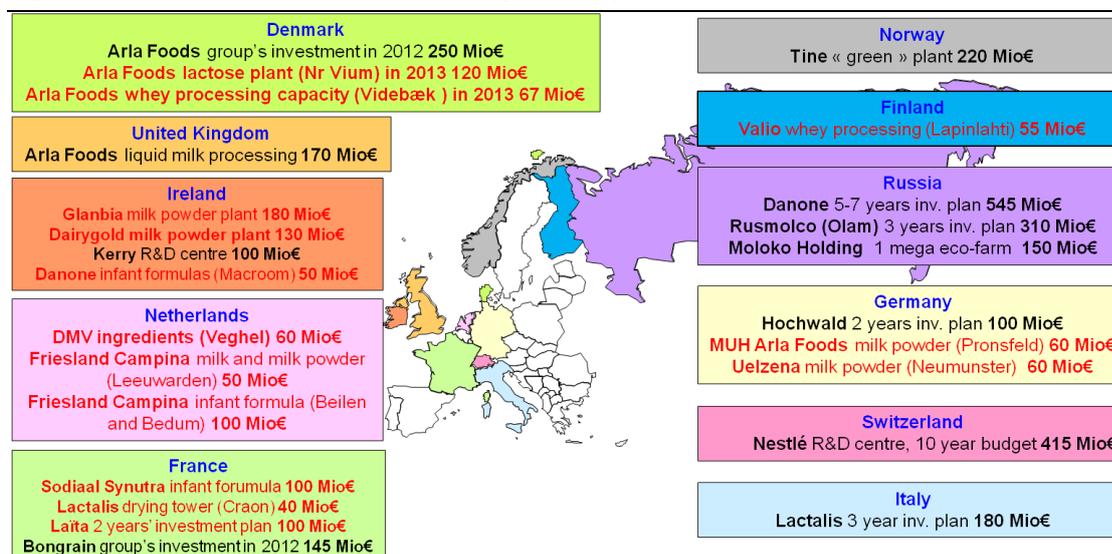
Christophe Lafougère (Gira Consultancy and Research) provided feedback on the Commission's milk and dairy outlook results and also reflected on the developments in the EU and international milk powder markets.

Lafougère highlighted that the Commission's projections are more optimistic than the forecast of Gira, with the EC projecting 1.2 million tonnes more milk produced in 2017 compared to Gira. Gira actually expects less cheese production and hence also less EU cheese exports. At Member State level, Lafougère expects the top eight EU milk producers to increase their production by more than 8%. Germany is expected to be the Member State with the biggest increase in milk production. In Ireland there is actually scope to easily double milk production at farm level, however, this is not likely to take place due to a lack of capacities on the processors side. In the UK, which is about 14% below the quota limits, an increase in production of about 1 million tonnes is expected, with the production increase leading to reduced imports, which in turn will impact the overall EU market.

Concerning milk powders, Lafougère emphasised the recently increased investments in new plants (about 850 million Euros). These investments take place in a context of increased amount of EU milk which has to be transformed into powders for export (cf. Figure 21). With respect to SMP, Lafougère stressed that the supply is highly concentrated in the world market, with the US, EU, New Zealand and Australia together accounting for about 90% of all exports. The EU is currently the largest global exporter of SMP (with a share of 31% in global exports in 2012), but the US is expected to increase exports to 620000 tonnes by 2017 and to become the main supplier with a market share of 32%. For WMP there is also a concentrated world supply, facing more than 140 importers. Since the melamine scandal, China has been the main driver of the global WMP market with a share of total imports of

around 20% in 2012. Also East and South East Asia are increasing their reliance on WMP imports, with Oceania currently being the dominant supplier.

Figure 22: Recent investment in milk powder production



Source: Presentation Lafougère (Gira Consultancy and Research)

Reflecting on EU whey production, Lafougère pointed out that even though whey powder (WP) still represents its major part, the strongest growth will be in the production of derivatives such as Whey Protein Isolates (WPI) and Designer Whey Protein (DWP). This is mainly due to the specific demand for infant formula²⁰ production and dietetic/nutritional products. Gira expects an increase in WPI production of 6.5% and in DWP of 4.2% by 2017. Whey consumption driven by infant formula demand is increasing in East and South East Asia with China being the main importer of WPI and DWP. However, standard whey powder consumption is still important for the feed sector in Asia.

Lafougère identified Fat Filled Milk Powder (FFMP) as another product that should be more closely monitored. The global production of FFMP is estimated to be about 2.3 million tonnes in 2012. Europe is by far the main producer, producing more than half of the global FFMP production (more than 1.3 million tonnes in 2012). North America is the second most important producer of FFMP, while Oceania (mainly New Zealand) represents only 6% of the global FFMP production. Regarding global trade, about 950 000 tonnes of FFMP were exported, mainly from Europe (Germany, Belgium, France, Ireland and the Netherlands).

²⁰ Infant formula is a manufactured food that is designed for babies and infants less than 12 months of age.

9.5 Positive prospects for EU cheese exports

Jack Baines (EUCOLAIT) first commented on the Commission's milk and dairy outlook results and then focused on the prospects for cheese markets, particularly with regard to EU exports. Baines considers the Commission's outlook for milk production as too modest and delineated several reasons why he actually expects a higher increase in EU milk production. He highlighted that, depending on the data source, milk deliveries in the EU-27 have been growing between 3.8 and 4.5% in the last 3 years (2010-2012) in an environment with quota restrictions. Thus, if this growth would continue over the projection period until 2023, a compound increase between 10-15% could be expected, which would be far more than the 6.3% increase in the EC outlook. Baines questioned that production growth would slow down with the abolishment of milk quotas. He further highlighted that increases in the number of EU dairy cows are currently observed. While some seem to believe that this increase is only temporary, driven by farmers retaining cows to take advantage of high milk prices, EUCOLAIT thinks that this increase is rather fundamental, reflecting farmers' preparation for the quota abolishment. Furthermore, Baines thinks that the potential for milk production in the EU-12 is generally underestimated (especially for Poland and Hungary) and that the EU-12 could contribute more positively to milk production growth in the EU.

Concerning the developments of EU cheese exports, Baines highlighted the strong growth in recent years. Over the last six years, exports have gone up by nearly 200 000 tonnes, with an exceptional growth in 2010 and 2012. The main destination for the growing EU exports is Russia, accounting for almost 60 % of the export increase in 2010 and about 40 % in 2012. Eight countries import more than 2/3 of the EU exports (Russia, US, Switzerland, Japan, Algeria, Saudi Arabia, Australia and Canada), but under many different forms at different prices. Therefore any forecast for cheese exports needs to take into account the different markets and subcategories of cheeses.

Looking closer into the growth prospects of the major cheese importing countries, Baines emphasized that even though cheese imports in Russia strongly increased in recent years, the consumption per capita remains low. However, Russian cheese imports are expected to continue growing because of the growth of the urban population. In addition, milk production in Russia continues to struggle and milk is increasingly processed into fresh dairy products.

In the US, the second biggest market for EU cheese exports, volumes have not gone up, as the majority of EU cheese exports are within TRQs. Baines thinks that the ethnic profile of

the US population increase is not favourable to a higher consumption of specialty cheeses. Nonetheless, US demand for specialty cheese is increasing, and it can also be observed that European and US dairy companies invest in the US to produce specialty cheese locally.

Other main destinations for EU exports of cheese are respectively: (i) Switzerland with a balanced net trade; (ii) Japan, fairly static in recent years, concerning mainly lower value cheese, primarily used as ingredient for processed foods; (iii) Canada, another static market because of its restricted market access (import quotas); however, with the CETA, the EU cheese export volume could more than double in the next five years, and (iv) Algeria, very price sensitive lower value cheese (as the imported cheese in Algeria is mainly used as ingredient for the production of processed cheese).

Baines concluded, that in total he is more optimistic about EU cheese exports than the projections in the EC outlook, and he expects a volume growth of more than 150 000 tonnes in the coming five years (whereas the EC’s preliminary outlook shows an increase of 125 000 tonnes) (cf. Table 4).

Table 4: Growth in EU cheese exports between 2013 and 2018

	<u>tonnes</u>	<u>comments</u>
Russia	80.000	despite trade issues, continued growth at current rhythm
United States	0	no growth without improved market access
Switzerland	0	no net movements
Japan	0	no growth without improved market access
Canada	0	no growth without improved market access
Australia	5.000	continuation of current growth pattern
Saudi Arabia	0	no growth expected
Algeria	0	no growth expected
ROW > 6 €/kg	6.000	continuation of current growth pattern
ROW 6 - 5 €/kg	7.000	continuation of current growth pattern
ROW 5- 4 €/kg	30.000	continued growth but more competition from USA
ROW < 4 €/kg	25.000	continued growth but more competition from USA
World	153.000	

Source: Presentation Baines (EUCOLAIT)

9.6 Summary of the session discussion

Concerning world markets, the question of the potential of Argentina with respect to dairy exports was discussed. Experts do not expect Argentina to become the “New Zealand of South America” and even despite some dairy export growth, Argentina is not expected to become a major player in world dairy markets. Regarding the prospects of New Zealand’s milk and dairy production it was stated that high land prices and environmental regulation constrain a further increase of milk production in New Zealand.

A major part of the discussion was dedicated to ‘soft landing’.²¹ Some of the workshop participants consider that the already increasing trends in dairy herd sizes and yields are contradicting the initial goals of soft landing. However, other participants pointed out that milk quotas are gradually becoming less relevant in limiting milk production, as the actual production falls short of quota in the majority of Member States. Furthermore, the price of milk quota is now low or equal to zero in several Member States. Thus, what is observed in the EU milk market is a gradual increase in production and a higher reaction to market prices, which was the purpose of soft landing.

Discussing the likelihood (and possible consequences) of excessive milk production in the EU, most experts stated that despite the potential (e.g. in Ireland), it is not expected that EU milk production will increase to an extent that could have really major effects on the sector. Milk production will be regulated by prices and as commodity prices are expected to be rather volatile, the production response to quota abolition will be limited. Furthermore, most of the additionally produced milk can be exported following strong world demand. In this context it was stressed that the expected production increase in emerging countries could take some time and for that reason there could be actually good prospects for the exports of EU dairy (powder) commodities.

²¹ To facilitate a soft-landing for the end of the milk-quota system, the 2008 CAP Health Check set a gradual increase in quotas (5 times +1% every year) until 2013/14.

10. Future challenges for EU agriculture and policy

As an introduction to the final session on policy challenges, Pierluigi Londero (DG AGRI) presented a wrap-up on income developments in the Commission's preliminary outlook for agricultural commodity markets. To clarify the storyline behind the income projections, Londero first presented a commodity-specific picture of income, comparing the results of 2023 to the respective average of 2010-2012. The back-of-the-envelope calculation indicates that for cereals the projected increase in quantity (+11%) does not compensate for the price decrease (-14%) and hence results in a decrease of revenue. For beef the projected decrease in quantity is levelled out by increasing prices. On the other hand, for oilseeds, milk, pork and poultry an increase in both quantity and prices are projected, which results in higher revenues for these commodities. Londero emphasised that in the income projections of the agricultural sector, revenue is only one component as subsidies also need to be added while costs and taxes need to be subtracted. Furthermore, the interpretation of the agricultural income outlook requires the consideration of structural change and the economic and policy settings underlying the market projections also need to be taken into account. Under the assumptions used for the preliminary outlook, the projection results indicate a decrease in total agricultural income in both nominal and real terms by 2023 compared to the average of 2003-2007. However, when looking at agricultural income in real terms per annual labour unit, a positive trend is projected as the decrease in total agricultural income is compensated by the decline in the number of farmers and agricultural workers. The income projections show a steady growth in agricultural income per labour unit in the EU-N13, however, the gap with agricultural income per labour unit in the EU-15 will not be closed.

In the final panel discussion on future challenges for EU agriculture and policy, Tassos Haniotis (DG AGRI) differentiated between global, EU specific and policy drivers. Haniotis emphasized that the developments in EU agriculture are part of the broader global issue and hence global drivers will cause most of the future challenges for EU agriculture. Much depends on how the world economy will develop and for example a housing or debt crisis in China could have major negative impacts on the global economy and agricultural market developments at both world and EU level. Especially the situation in the three big agricultural players at world level (Brazil, China and US) will influence developments of agricultural world markets. For example if China would import animal products instead of feed for their domestic livestock, the whole trade pattern would be significantly affected. Furthermore, as highlighted during the workshop, some global players benefit from

comparative advantages in agricultural production due to energy prices, which are not likely to disappear in the next few years. Major EU specific drivers for agricultural developments will be the EU's annual economic growth and how fast the economic recovery and the decrease of unemployment will take place. In addition, the economic turmoil has also an impact on structural change in the agricultural sector, as it potentially keeps more farmers in the sector. Developments in the EU biofuels sector and policy decisions concerning the EU biofuel framework may have a major impact on agricultural developments in the EU. Moreover, persistent high feed and fertiliser costs are a critical aspect in a context of decreasing level of co-movement in input and output prices. Regarding specific policy drivers, Haniotis stressed that it remains to be seen how the new CAP will be implemented at EU Member States level and how this will impact the re-structuring of EU agriculture. A specific policy challenge for the EU should be to reverse the decline in agricultural productivity gains.

Jo Swinnen (KU Leuven & CEPS) reflected on challenges related to price volatility, food standards and regulation, farmers' benefit of adding value to agricultural commodities, niche markets, and EU agricultural employment. Regarding the price volatility for food in general, as well as specifically for dairy and cereals, Swinnen pointed out that between 2005 and 2012 the coefficients of variation in the EU indices are well below the respective coefficients in the FAO indices, both for general food price and dairy price indices, indicating a lower price volatility at EU than at world market level. On the other hand, the price variability seems to be higher for cereals at EU level. Food standards and regulations constitute challenges for farmers, the processing industry and international trade, and Swinnen highlighted that they are becoming more and more important at both the EU and world level, as can be observed by the exponential increase in SPS notifications to the WTO. A particular challenge for farmers is related to the question of how to add value to the commodities they produce. In this context Swinnen also alluded to the increasing importance of organic food, fair trade or other niche markets. Finally, a specific challenge for EU agriculture is related to the economic crisis and its impact on agricultural employment, as a slowdown in the structural adjustment can be observed, particularly in countries hit most by the crisis like Greece and Spain.

Merritt Cluff (independent consultant) identified several drivers likely to affect agriculture in Europe in the next decade such as the global and EU economic situation, the high level and volatility of food prices, little growth in EU agriculture as well as Europe's strong position in food processing. With respect to the economic situation, Cluff emphasized that sustained

economic growth in emerging countries has been and will be a key driver for both global and EU agriculture. However, he considers the IMF projections for worldwide economic growth as being at the 'high end', i.e. future economic growth rates are likely to be lower. Concerning price volatility, since 2006 the monthly FAO food price index shows higher levels of and more volatile food prices than in the past. The crucial question in this context is whether prices will remain high or not and what will be the impact of both alternatives. Concerning growth in EU agriculture, Cluff highlighted the slow production and productivity growth as well as the stability of demand in the EU. Although the EU is expected to increase its total agricultural exports over the next decade, imports will also increase and hence the EU will remain a net importer of agricultural commodities. Cluff finally pointed out a further important, but often neglected, driver for agriculture: the concentration of global food processing and retailing, which has a strong influence in particular through branding, on the modes of consumption and the selection of products available to consumer.

Seth Meyer (USDA) presented an 'American perspective' on future challenges for agriculture. He first stressed that the steady increase in agricultural prices in the US over the last years is reflected through a sharp increase in agricultural land prices (e.g. land prices in Iowa and Nebraska almost tripled over the last 15 years). This increase in land prices might indicate that farmers are actually positive about future developments in the agricultural sector. Regarding biofuel prospects, Meyer underlined the blend wall constraints on domestic consumption of ethanol in the US, and for the prospects of EU biofuels he emphasized that almost all risks are on the downside. If ILUC will be included in a new regulatory EU biofuels framework, this would constrain the biodiesel markets for compliance and the ethanol markets are actually too small to absorb decreasing biodiesel volumes. The anti-dumping duties on Argentinean and Indonesian biodiesel and US ethanol will make compliance more 'costly' and the costs aspect will likely enter the debate as volumes rise and constraints bind. Meyer highlighted that the US ethanol demand is projected to decrease in the short run and to stay at a lower level over the next 10 years compared to 2009/10 (in terms of area-equivalent). The production of maize for ethanol will lose in relative importance in the US, especially because of the continuous strong rise in soybean imports by China. Meyer further highlighted the positive relation between meat consumption and increasing GDP per capita, as well as the challenges that are associated with the increasing world population and urbanisation and he stressed that the increasing demand will certainly also lead to amplified pressure on water resources due to irrigation.

David Blandford (Pennsylvania State University) expressed his fears that the economic situation in the EU is much more complex than what is generally believed, and that signs of economic recovery are actually fragile. Therefore he considers it difficult to get a sound view on future developments in the EU's agricultural sector. Blandford further outlined that from his point of view achieving 'coherence' is actually the most challenging issue with respect to agricultural policy objectives, formulation and implementation in the EU. Blandford considers that the EU needs to develop a clearer view on the future role of its agriculture, and especially decide if the role for agriculture should mainly be to provide environmental public goods (ecosystem service) or to produce food and hence increase productivity. Blandford also emphasized that a more critical discussion is needed on the apparent contradiction between these two extremes, as for example organic farming might not always be more environmental friendly than conventional farming and, reciprocally, environmental issues can also be addressed by technological change. In this context, he also questioned whether allowing more flexibility to MS in the implementation of the common policy is actually a good thing, especially taking into account rent seeking tendencies and the fact that global issues are most likely better addressed at supranational level. In addition, in the current macroeconomic context some Member States might lack the financial means to provide co-financing to measures reflecting the common policy.

In the open discussion, workshop participants commented on the issues of CAP internal coherence and co-financing issues. Some participants highlighted that reverse flexibility (i.e. the transfer of Pillar 2 funding to Pillar 1) offers the possibility to reduce co-financing requirements and could even be seen as contribution first step for 'greening' the payments under Pillar 1. Other workshop participants highlighted that the EU has been coherent with respect to CAP reforms over the last two decades and that the CAP post-2013 reform reflects a consolidation of policy actually in line with previous reforms.

Regarding the debate on a principal role of EU agriculture (providing environmental public goods or producing food), it was emphasized that the objectives of the CAP indeed comprise both, but that achieving one target does not exclude the achievement of the other (e.g. it is possible to produce sufficient food in an environmental friendly way).

Participants also discussed the policy challenge of addressing structural change and improving efficiency in the agricultural sector, while at the same time accommodating needs of a fractured but socially important farm sector in many rural areas. Increasing agricultural productivity was repeatedly pointed out by workshop participants as one of the most important challenge for EU agriculture, in particular in the context of climate change.

Several workshop participants stressed again that the macroeconomic assumptions used for the preliminary outlook might actually be too optimistic, especially when considering the risk of a longer than expected (global) economic recovery or even more so if a new recession would take place. In this respect it was mentioned that the uncertainty analyses accompanying the outlook actually provide some useful indications on the impact of different underlying assumptions on the outlook results.

Workshop Presentations

Background document for the uncertainty analysis and description of scenarios



1. Models used

AGLINK-COSIMO
a recursive-dynamic, partial equilibrium, net trade, supply demand model of world agriculture markets.

CAPRI
a comparative-static, spatial, partial equilibrium model designed to model agricultural commodity markets worldwide, whilst also providing a detailed representation of EU agricultural and trade policy instruments.

ESIM
a comparative-static, partial equilibrium, net trade, world market model of production and consumption of agricultural goods. It is mainly designed to simulate the development of agricultural markets in the EU and accession candidates. All EU-28 Member States are modelled individually.

MAGNET
a recursive-dynamic, global general equilibrium model that extends from GTAP model by a modular approach, specific focus is given for agricultural and environmental policy.



2. Partial Stochastics AGLINK-COSIMO

We estimate a typical shock to the macro economy and fluctuations in global weather patterns. Variables treated as uncertain:

EU, other developed and BRIC countries macroeconomic indicators (exogenous)

- Real GDP
- GDP deflators
- Consumer price indices
- Exchange rate National currencies / USD
- World oil price

Global crop yields (endogenous)

- Crops coverage
 - Cereals, oilseeds, etc. (see next slide)
- Country coverage
 - EU-15 and EU-N13, Black Sea, South and North America, Asia, Oceania.

Annual macroeconomic forecast errors are computed as the difference between forecast.

- Yield uncertainty is the difference between observed and modelled yield.
- Weather patterns and macroeconomic forecasts are independent.
- The macroeconomic forecast errors are calibrated to accumulate over time because uncertainty of long-term forecasts is greater than that of short-term forecasts.
- Normal distribution of forecast errors and model residuals is assumed.
- Inter-year correlations are assumed to be zero.
- Covariance matrices of macroeconomic variables and regional crop yields (eight regional blocks) are computed.
- Latin Hypercube sampling method is used to generate the distribution of plausible collection of correlated macroeconomic forecast errors and crop yield uncertainty
- Stochastic model is simulated 700 times, of which more than 85% solve.



Country/crop coverage for the stochastic analysis and annual average crop yield coefficient of variation

Commodity	EUROPE		BLACK SEA AREA		SOUTH AMERICA		NORTH AMERICA		SOUTH EAST ASIA		AFRICA	ASIA	OSIA	OEAS	
	EU-15	EU-N13	East Africa	Black Sea	Brazil	Argentina	Brazil	USA	Canada	Thailand	Vietnam	Indonesia	Australia	China	India
Durum wheat	0.10	0.18											0.34	0.03	0.03
Common wheat	0.04	0.10	0.25	0.24	0.11	0.14	0.15	0.18	0.29	0.07	0.08	0.11			
Coarse grains			0.12							0.15	0.11				
Berley	0.04	0.08				0.16				0.11				0.3	
Maize	0.08	0.25				0.11	0.07		0.04	0.07	0.08				0.04
Soya	0.08	0.10							0.08						
Rice	0.10	0.08													
Oilseeds			0.19	0.12			0.19								
Rapeseed	0.08	0.12								0.11				0.3	
Sunflower seed	0.08	0.15			0.10	0.15									
Soybean	0.10	0.16			0.20	0.08		0.08	0.18						
Palm oil											0.08	0.08			
Sugar beet	0.04	0.04			0.14				0.08						0.1
Sugar cane						0.08	0.03		0.08	0.11			0.09	0.08	0.03
Rice		0.04						0.04	0.03	0.02					0.03



Uncertainty analysis, scenarios:

1. Models used
2. Yield and macro economic variables partial stochastic analysis
3. Feed cost increase (CAPRI)
4. Higher than expected TFP growth in Africa with a CGE approach



1. Models used

Models gathered in the integrated Modelling Platform for Agro-economic Commodity and Policy Analysis (iMAP) (<http://ftp.jrc.es/EURdoc/JRC69667.pdf>)

More details also in "Prospects for Agricultural Markets and Income in the EU. Background information on the baseline construction process and uncertainty analysis" (<http://ftp.jrc.es/EURdoc/JRC67803.pdf>)

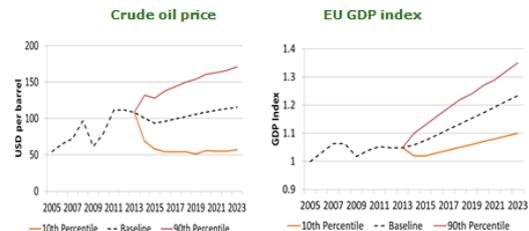


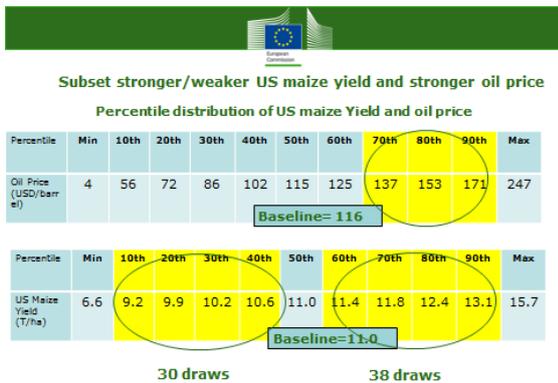
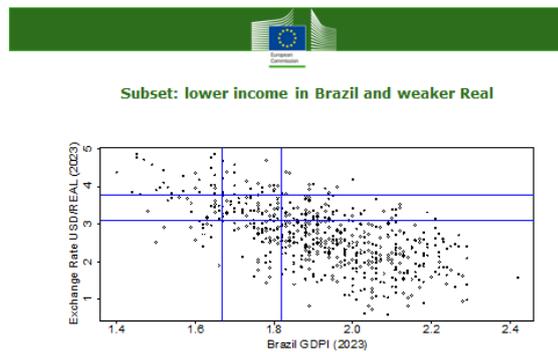
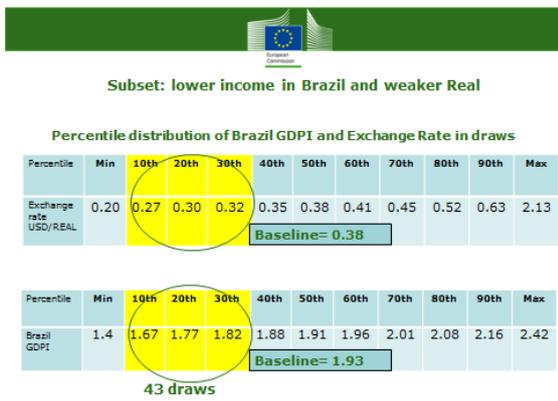
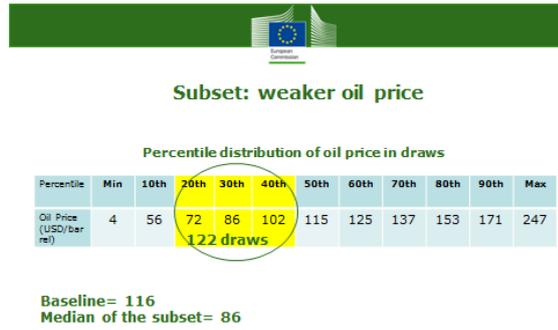
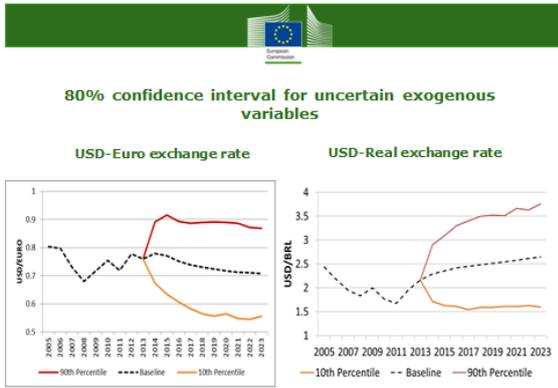
Macroeconomic variables for the stochastic analysis and standard deviations of the forecast errors

	Australia	Brazil	Canada	China	EU-15	India	Japan	New Zealand	Russia	USA	World
CPI	0.02	0.07	0.02	0.07	0.02	0.10	0.01	0.07	0.07	0.01	
GDP deflator	0.03	0.05	0.02	0.09	0.01	0.07	0.02	0.02	0.10	0.02	
GDP	0.01	0.03	0.02	0.04	0.03	0.04	0.04	0.03	0.08	0.02	
National currency / USD	0.13	0.21	0.08	0.04	0.12	0.10	0.09	0.15	0.14		
Crude oil price											0.26



80% confidence interval for uncertain exogenous variables





3. Feed cost increase

- Objective?**
Analysing the impact of the uncertainty of an upward development of EU feed prices and impact in the EU at different geographical levels
- What?**
Increase of EU feed prices by 20%
- How?**
Increasing the **processing margins** of feed in the EU (from cereals, rich in proteins, rich in energy, from milk products)

4. Assessing a potential "green revolution" in Africa

- Higher than expected African TFP growth
- MAGNET assumes a cumulative additional TFP growth rate of 14 percentage points over the period 2014-2023 on the top of a 20% growth of TFP in the baseline.
- Harmonised MAGNET with OECD-FAO's GDP and population expected growth rates.

4. African Macro Indicators by region, 2011

	Number of countries	Number of LDC	GDP based on PPP valuation (USD Billion)	GDP per capita (PPP valuation, USD)	Population (millions)	Land area (Billion of Ha)	Agriculture Land Area (Billion of Ha)
North Africa	6	1	1,107	6,459	171	677	141
West Africa	15	11	638	2,067	309	503	249
East Africa	13	11	450	1,561	288	596	309
Southern Africa	20	10	965	3,491	276	1,174	466
Africa	54	33	3,159	3,025	1,044	2,951	1,165
EU-28	28	-	16,092	31,838	505	423	188

Prospects for EU agricultural markets – Introduction Pierluigi Londero (DG AGRI) & Robert M'barek (JRC-IPTS)



2012
you came, because you were interested in...

2013
We learned our lesson

Results more "attractive"(A):

- Price developments
- MS results (partly)

Risk diversification (E):

- EC catering (day 1)
- Agro-food association (day 2)

A. Results
B. Information on markets
C. Uncertainty of markets
D. Policy implications
E. Wonderful sandwiches



The Baseline process

and its many helping hands

René Araujo Enciso, Marco Artavia, Elselien Breman, Alison Burrell, Alberto D'Avino, Koen Dillen, Hasan Dudu, Thomas Fellmann, Livia Galita, Stephan Hubertus Gay, Sophie Hélaine, Maciej Krzysztofowicz, Pierluigi Londero, Robert M'barek, Dangis Nekrasius, Zebedee Nii-Naate, Fabien Santini, Bence Toth, Ben Van Doorslaer, Cristina Vinyes

3



Baseline / Projection – what is it about?

- Why?
- Better understand markets and their dynamics
 - Identify key issues for market and policy development
 - Benchmark for assessing medium-term impact of market and policy issues

- What?
- 10-year markets and income projections
 - Focus on EU
 - Cereals, oilseed, sugar, rice, biofuel, meat and dairy
 - Not a forecast, but a description of what may happen under a specific set of assumptions

- When?
- Annual publication at the end of the year



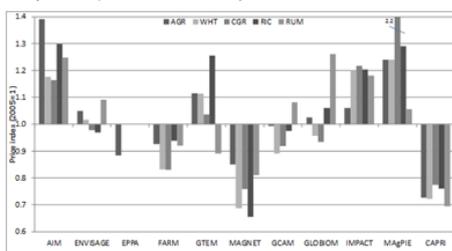
4



Long-term scenarios – not a market outlook

Towards 2050

- Comparison of 11 global models
- Figure Reference Scenario – average global producer price index (2005 = 1, scale from 0.6 to 1.4)



5



Starting point

OECD/FAO Agricultural Outlook 2013-2022

- Agricultural commodity markets for the rest of the world

Most recent market and policy information

- EU Short Term Outlook (Autumn 2013)

Macro-economic forecast

- (DG ECFIN for the close future)
- Consistent source for main countries and up to 2023

Additional ad-hoc input



6



Overview of the EU baseline process



7



Modelling tools

Agro-Economic Modelling Platform (iMAP)

- hosted by JRC-IPTS in cooperation with DG AGRI
- widely used, robust and scientifically acknowledged tools
- partial-equilibrium (PE) and general equilibrium (CGE) models

Modelling tools used for EU baseline and uncertainty analysis

- AGLINK-COSIMO (EC version of OECD-FAO model)
- CAPRI (highly disaggregated in regions and products)
- ESIM (EU Member States)
- MAGNET (multi-regional, multi-sector CGE model)



8



Policy assumptions

Too early to include the CAP as agreed in June 2013

- MS implementation only in summer 2014
- New policies require adaptation of models

It includes

- Phasing out/abolition of milk quotas in 2015
- End of sugar quotas in 2017

World trade remains in conformity with the Uruguay Round Agreement on Agriculture

No new FTAs enter into force before 2023

(e.g. Colombia, Peru and Central America included; Canada and Ukraine not yet included)

Baseline includes historic and future values including Croatia

9



Macroeconomic assumptions

Single (coherent) source vs. more plausible (on which basis) assumptions

World GDP growth increases to 3.3% by 2014, up to 3.9% thereafter

EU

- EU GDP growth around +1.9% per year from 2016
- USD/EUR exchange rate strengthens to 1.41 by 2023
- EU inflation around 2.0% per year
- Crude oil price increases to 116 USD/barrel by 2023

10



Back into the future



11



Flashback - Outlook 2012 Macroeconomics

Macroeconomic assumptions towards 2022

- World economy expected to slow down to 2,4% in 2013
- Growth: double dip in 2012 (and 2013 for EU15)
- Inflation: above 2% also during crisis
- Euro exchange rate: capped at 1.35 (\$ per EUR)
- Steady increase in crude oil price to around 110 USD/barrel

Expert views

- Underlying assumptions are **still very uncertain** and some of the participants stated that they are **generally more pessimistic** (financial crisis in the Euro area and the public debt levels in the US)
- US: a 'fiscal cliff' will likely be avoided
- Worst case scenario (see next slide)

12



2012 - Worst Case Scenario by IHS: 4 Risk Triggers

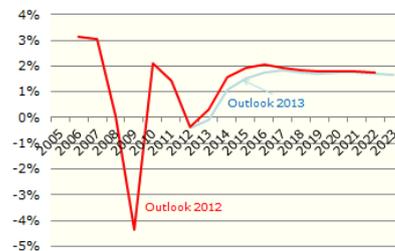
Risk Triggers	Narrative
Eurozone Meltdown	<ul style="list-style-type: none"> • Greece exits Eurozone, causing financial market contagion. • Sovereign bond yields spike as private funding dries up. • Spain, Italy, Portugal, Ireland, and Cyprus exit Eurozone. • European recessions deepen, new currencies depreciate.
Middle East Conflicts & Oil Price Shock	<ul style="list-style-type: none"> • Syria unravels and conflict spreads into Lebanon. • Israel and Iraq feel increasingly threatened. • Nuclear talks break down, Iran veers toward confrontation. • Supply disruptions send oil prices past USD150 per barrel.
US 'Fiscal Cliff'	<ul style="list-style-type: none"> • Deadlines at start of 2013 pass with no action, resulting in a fiscal contraction equal to US\$488 billion, or 3.0% of GDP. • Tax cuts expire and sequestration leads to spending cuts. • Middle East instability prompts reversal of defense cuts.
China Hard Landing	<ul style="list-style-type: none"> • Real estate market bubbles burst. • Loan defaults by developers and local governments trigger a banking crisis and credit squeeze. • Investment and consumption are scaled back in 2013-16.

13



Macroeconomic assumptions

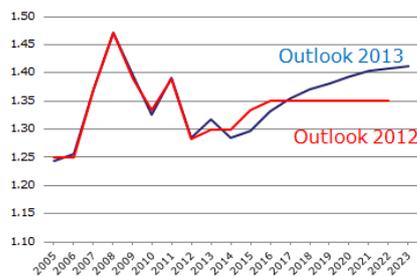
Slower economic (GDP) recovery expected than a year ago



14



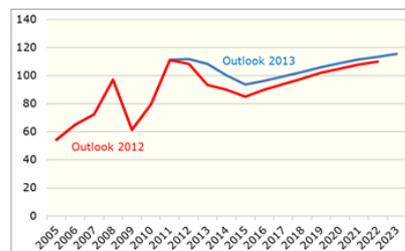
Exchange rate: EUR/USD



15



Oil price: Brent, USD/barrel



16



Flashback - Outlook 2012 Arable crops

Outlook 2012

- Relatively **positive outlook for arable crops** in the EU as a result of solid world demand and firm prices (after a decline in 2013/14).
- In the EU, market developments for arable crops are driven by the **biofuel market**, which is the most dynamic demand factor, as EU feed and food demand are expected to show only a marginal increase

Expert views

- **Reasonably optimistic outlook** for developments in the grain markets was confirmed.
- **Climate change** important cause of uncertainty in agriculture over the next ten years? 50% thinking it is **overstated** and 7% considering it unimportant

17



Flashback - Outlook 2012 Biofuels

Outlook 2012

- The big unknown

Expert views

- Workshop participants consider the **MS forecasts overly optimistic**
- In addition, the use of **second-generation biofuels will be limited** as production is still expected to stay at a low level.
- Another risk is related to **potential policy changes** that could impose more stringent sustainability requirements and the consideration of ILUC factors, which could affect biodiesel supply especially.

19



Flashback - Outlook 2012 Meat

Outlook 2012

- EU on-going economic downturn tend to push EU demand towards **cheaper meat options**.
- The **new animal welfare requirements** in the pig sector are also expected to play an important role in the near future.
- As a consequence, total EU meat production, after having increased during both 2010 and 2011, will **contract by 2%** over the next two years.

Expert views

- Global economic crises still unsolved, could affect meat production negatively
- Brazil up to 2.5 cattle per hectare?

21



Flashback - Outlook 2012 Dairy

Outlook 2012

- Medium term prospects for milk and dairy products favourable due to continuing expansion of **world demand**.
- Global population and economic growth, and increasing preference for dairy products are expected to be the main drivers, fuelling EU exports and sustaining commodity prices.

Expert views

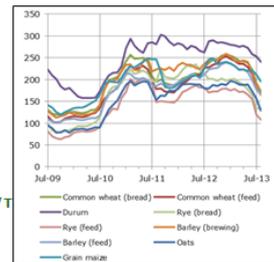
- Consumption and prices fairly high and likely to continue to grow further.
- Dairy prospects are indeed **the most optimistic** among those of the agricultural commodities in the medium term.
- Expiry of the production quota, efficiency gains should follow in the EU. Hence, **productivity growth** could probably be higher than indicated in the preliminary baseline.

23



Arable crops 2013

A **good grain harvest** in the EU (and worldwide) relieves market tightness in the marketing year 2013/14



EU cereal prices since 2009-13 (EUR/T)
DG AGRI Short-term outlook No 7, Autumn 2013

Uncertainty ⇒ Weak oil price analysis

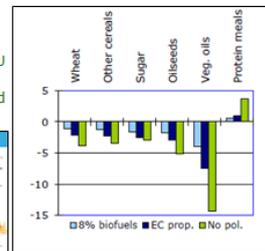
18



Biofuels 2013

Policy changes

- EC proposed a 5% cap on food-based fuel crops in (Oct 2012)
- EP voting set a ceiling at 6% in EU in 2020 (Sep 2013)
- EP environment committee stalled proposal (Oct 2013)
- Decision in 2015?



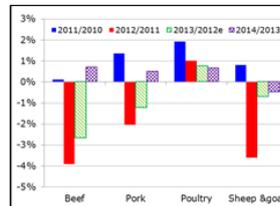
Uncertainty ⇒ Strong oil price, higher/lower US maize yield

Change in feedstock world prices in comparison to base in 2020 (%)

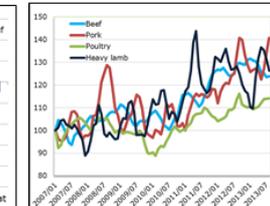
20



Meat 2013



Yearly change in slaughtering (%)
DG AGRI Short-term outlook No 7, Autumn 2013



Meat market prices nominal index: 2007=100
DG AGRI Short-term outlook No 7, Autumn 2013

Uncertainty ⇒ Weaker Real, low growth Brazil ⇒ Higher feed costs

22



Flashback - Outlook 2012 Dairy

Outlook 2012

- Medium term prospects for milk and dairy products favourable due to continuing expansion of **world demand**.
- Global population and economic growth, and increasing preference for dairy products are expected to be the main drivers, fuelling EU exports and sustaining commodity prices.

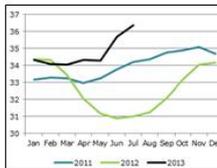
Expert views

- Consumption and prices fairly high and likely to continue to grow further.
- Dairy prospects are indeed **the most optimistic** among those of the agricultural commodities in the medium term.
- Expiry of the production quota, efficiency gains should follow in the EU. Hence, **productivity growth** could probably be higher than indicated in the preliminary baseline.

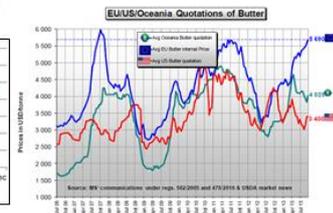
23



Dairy 2013



Milk price in the EU-28
(in EUR/100 kg)
DG AGRI Short-term outlook No 7, Autumn 2013



Quotations of Butter
Source: DG AGRI; Milk Market Situation, Oct 2013

Analysis of macroeconomic and yield uncertainties

24



Uncertainties

Brief introduction into methodology

25



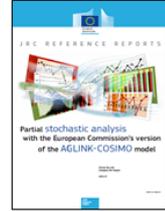
Uncertainties

Baseline assumptions

- macroeconomic environment, normal weather conditions, no safety / animal disease disruptions - only one possibility

Alternative scenarios

- Partial stochastic analysis (of about 50 macroeconomic and 70 yield variables)
- Macroeconomic uncertainty (GDP index, GDP deflator, CPI, exchange rate, oil price)
- Yield uncertainty



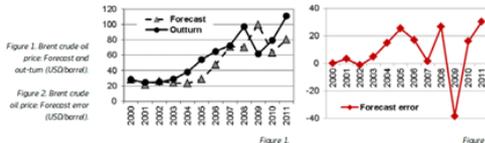
Details, see A. Burrell, Z. Nii-Naate (2013)

26



Partial stochastics

- Annual macroeconomic forecast errors (year-on):** difference between forecast and outturn from 2004 to 2012
- Yield uncertainty:** difference between modelled and actual yield for the period 1996 to 2012
- Macroeconomic forecast errors accumulate over time
- Correlation of macroeconomic variable errors and regional crop yield errors (eight regional blocks)
- Assumption of normal distribution



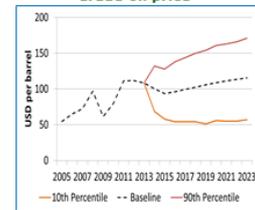
Source: A. Burrell, Z. Nii-Naate (2013)

27



Crude oil price

- Stochastic model is run 700 times, of which more than 85% solve
- 80% confidence interval for uncertain exogenous variables
- Uncertainty measured with the coefficient of variation (CV) between 10th and 90th percentiles
- Subsets: uncertainty in specific external factors



Percentile distribution of oil price in draws

Percentile	Min	10th	20th	30th	40th	50th	60th	70th	80th	90th	Max
Oil Price (USD/barrel)	4	56	72	86	102	115	125	137	153	171	247

28



Summary uncertainty analysis

	Crops	Biofuels	Meat	Dairy
Weaker oil price	Yellow			
Stronger oil price, lower/higher maize yield	Yellow	Orange		
Macroeconomic and yield uncertainties	Purple			Purple
Weaker Real, lower growth Brazil	Green			
Feed cost increase (CAPRI)	Blue		Blue	

All partial stochastic simulations with AGLINK-COSIMO

29



Agenda Day I

AGENDA

DAY 1 - 23 OCTOBER 2013	
Venue Day 1: European Commission, Centre de Conférences Albert Borschette (CCAB), Room 3C, rue Froissart 36, 1040 Brussels	
09:00	Registration
9:30 - 11:00	Session 1: Background of the workshop and Macro-economic assumptions Chair: John Benedict-Smith, JRC-IPTS
10:00	Welcome: John Benedict-Smith, JRC-IPTS
10:15	Background: Tassos Haniotis, DG AGRI
10:30	Introduction to the Baseline: Pierluigi Londero, DG AGRI
10:45	Presentation of the uncertainty analysis: Robert M Bavek, JRC-IPTS
11:00 (20 min)	Outlook - Macroeconomic and Scenarios Setting Panel discussion: Elisabeth Waerwick-Rocha, Global Insight; John Baffes, World Bank
11:15 (40 min)	Open discussion: All participants
11:30 - 11:30	Coffee break
11:30 - 12:15	Session 2: Special policy session: The new EU and US policies Chair: Alison Barrett
11:45 (15 min)	The new CAP towards 2020: Tassos Haniotis, DG AGRI
12:00 (15 min)	The developments of the US Farm Bill: Seth Meyer, USDA
12:15 (15 min)	Questions and Answers: All participants
12:15 - 12:15	Networking lunch

30



Agenda Day I

13:15 - 13:30	An Analysis of a potential "Green revolution" in Africa - Impact on EU and African Agrifood Sectors Cristina Vinces, JRC-IPTS
13:30 - 13:45	Session 3: Cereals, oilseeds, sugar: Can production output consumption growth in the EU? Chair: Chris Hammer, International Agri
13:45 (20 min)	EU agricultural outlook and uncertainties: Stephan Hubertus Gay, DG AGRI & Sergio Riera Araujo Enciso, JRC-IPTS
14:05 (20 min)	Panel discussion: Darren Cooper, International Grains Council; Thomas Meixner, Cerealist
14:20 (45 min)	Open discussion: All participants
14:15 - 14:45	Coffee break
14:45 - 17:00	Session 4: Biofuels: Competition between biofuels to EU external regulatory framework Chair: Hugue Mathy, FMO
15:00 (20 min)	EU agricultural outlook and uncertainties: Stephan Hubertus Gay, DG AGRI & Fabien Sarrin, JRC-IPTS
15:15 (20 min)	Panel discussion: Christoph Berg, FDL; Lucie Caroline Maglay, LMC International
15:30 (45 min)	Open discussion: All participants
17:00 - 18:15	Special technical session: Modelling the new CAP and the Farm Bill Chair: Ignacio Perez Dominguez, OECD
17:15 (10 min)	The new CAP towards 2020 in the baseline: Stephan Hubertus Gay, DG AGRI & Benjamin Van Doorslaer, JRC-IPTS
17:30 (20 min)	Panel discussion: Hans-Peter Witzke, University of Bonn; Francis Wierhoff, IfPRI
17:45 (45 min)	Open discussion: All participants

31



Agenda Day II

DAY 2 - 24 OCTOBER 2013	
Venue Day 2: Copia-Cogeca, Room B, rue de Trèves 61, 1040 Brussels	
09:00	Wrap-up day 1: Robert M Bavek, JRC-IPTS
9:15 - 10:45	Session 5: Meat markets: Which future for beef commodities in the EU? Chair: Pierluigi Londero, DG AGRI
10:00 (20 min)	EU agricultural outlook and uncertainties: Sophie Hilana, DG AGRI; Fabien Sarrin, JRC-IPTS & Benjamin Van Doorslaer, JRC-IPTS
10:15 (25 min)	Panel discussion: Richard Brown, GIRA; Philippe Chocheau, IDELE
10:30 (45 min)	Open discussion: All participants
10:45 - 11:15	Coffee break
11:15 - 12:00	Session 6: Milk and dairy markets: To which extent will the EU demand face the strong world demand? Chair: Catherine Farny, ICR Technology Newsletter
11:30 (20 min)	EU agricultural outlook and uncertainties: Marco Arena, JRC-IPTS & Sophie Hilana, DG AGRI
11:45 (40 min)	Panel discussion: Monika Wohlfahrt, ZMR; Christophe Lathuier, GIRA; Jack Barnes, EUCOLAIT
12:00 (45 min)	Open discussion: All participants
12:00 - 14:30	Networking lunch
14:30 - 16:30	Session 7: Future challenges for EU agriculture and policy Chair: Clavin Horrocks, International Agri
14:45 (10 min)	Wrap-up and outlook results on income: Pierluigi Londero, DG AGRI
15:00 (50 min)	Panel discussion: Tassos Haniotis, DG AGRI; Jo Derman, KU Leuven & CEPS; Merrit Cluff, consultant; Seth Meyer, USDA; David Sandford, Pennsylvania State University
16:00 (60 min)	Open discussion: All participants
16:30	Concluding remarks

32

The link between energy and agriculture: Structural change, implications, and the road ahead

John Baffes (The World Bank)

The Link between Energy and Agriculture: Structural Change, Implications, and the Road Ahead

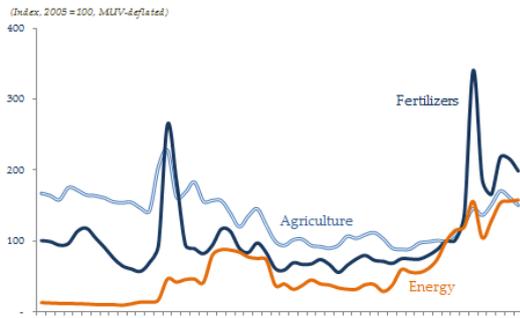
JOHN BAFFES
The World Bank

*Commodity Market Developments in Europe—Outlook
JRC-IPTS and DG AGRI
Brussels, October 23-24, 2013*

Outline

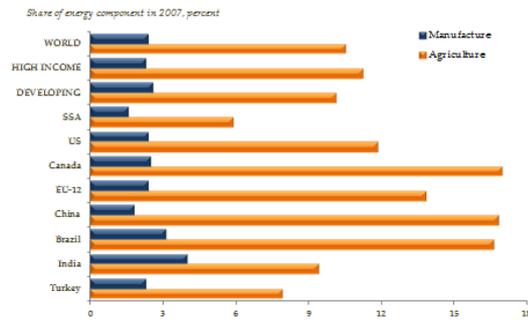
- Energy's role in agriculture, Recent developments in energy markets
- Implications for modeling and expected outcomes

Despite recent moderation, energy and fertilizer prices are still high



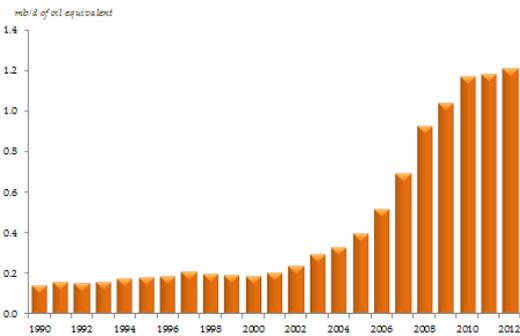
Source: World Bank.
Note: 2013 figures as of September 2013

... and, not only energy matters a lot to agriculture from the cost side ...



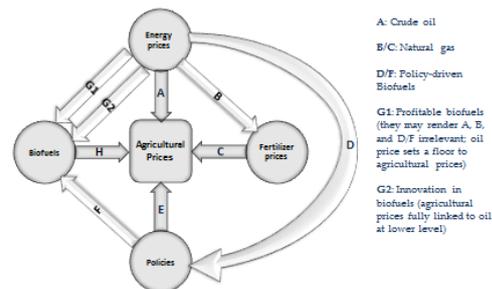
Source: Author's calculations based on the GTAP database

... but also on the demand side because of biofuels ...



Source: BP Statistical Review, IEA, and World Bank

... in other words, a complex issue

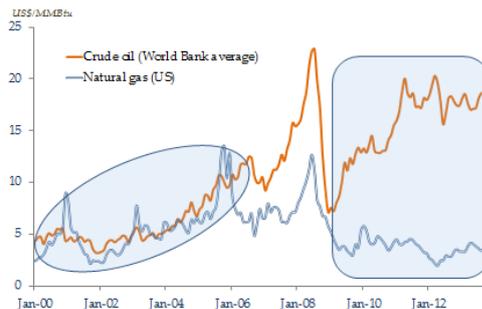


Source: Baffes, John (Global Food Security, 2013, vol. 2, pp. 110-116)

Technological improvements, the new energy map, and the "4 price gaps"

- **Gap # 1:** US natural gas used to be traded in par with crude oil. New technologies (horizontal drilling and hydraulic fracturing), boosted US natural gas production, pushing prices down to levels of 20 years ago. This created a large gap between US natural gas and oil prices, which is expected to persist.
- **Gap # 2:** US natural gas (and crude oil) used to be traded at more than twice the level of internationally traded coal. This price gap has now disappeared.
- **Gap # 3:** US natural gas prices (based on spot market) diverged from European and Japanese LNG prices (still linked to crude oil). Convergence will depend on whether a European natural gas market is created and will be slow. Hence this gap is expected to persist.
- **Gap # 4:** Crude oil production in the U.S. increased more than 2 mb/d during the past 2 years, causing the US oil price (West Texas Intermediate, WTI) to be traded at a considerable discount over Brent (the world marker). This gap is expected to close in 2014, important to compare the 2 mb/d addition to biofuels which have added just 1.3 mb/d

US natural gas, which used to be traded in par with oil, is traded now with an 80% "discount" ... [Gap #1]



Source: World Bank

Commodity Market Development in Europe – Outlook

... and is traded in par with coal prices [Gap #2]



Source: World Bank

9

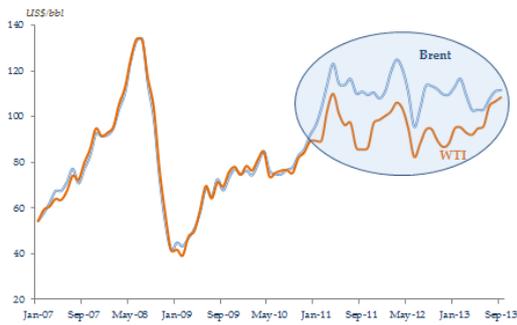
US natural gas prices also diverged from European and Japanese LNG prices, which are still linked to oil [Gap #3]



Source: World Bank

10

The divergences between Brent (world) and WTI (mid-continent US) prices is likely to close within 2014 [Gap #4]



Source: World Bank

11

In view of the new supplies, natural gas prices are expected to moderate in the longer term ...



Source: World Bank and Consensus Economics, Inc. Note: Long term forecasts reflect expected returns from both existing production facilities and those under development. The long term estimates of August 2013 refer to 2019-2023 inflation-adjusted 2013 dollar terms

12

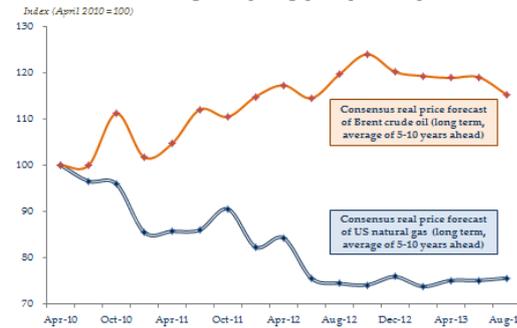
... however, crude oil prices are not ...



Source: World Bank and Consensus Economics, Inc.

13

... implying that despite the increase in recoverable reserves of both oil and natural gas, the price gap is expected to persist



Source: Consensus Economics, Inc.

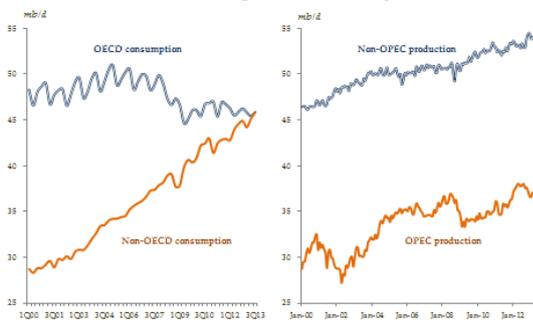
14

Views on long term oil prices: Herding behavior versus fundamentals

- **HERDING:**
 - \$100 is a round number. It is the new \$20.
 - Saudi Arabia is comfortable with the \$100-110 range and has the power to maintain that range (that range used to be \$25-30 in the late 1990s/early 2000s.)
 - Many oil exporting countries have based their budget on \$100, thus unwilling to supply for less.
- **FUNDAMENTALS:**
 - **Demand:** Although demand by OECD countries weakened considerably (post-financial crisis shock and longer term efficiency gains), developing and emerging country demand growth is expected to be very strong; they also begin from very low level of consumption and their income elasticity estimates for energy is closer to (or exceeds) unity.
 - **Supply:** The "new" oil (including Canadian tar sands, Brazilian deep-sea oil fields, and U.S. shale) is expensive.
 - **Other energy sources:** Substitutability between oil and other types of energy is much lower than it used to be – most oil now goes for transport, petrochemicals and some residential/commercial use. Contribution from nuclear energy is declining (Japan, Germany, and others are increasingly expressing concerns over safety issues). Renewables, despite efforts do not add much to global energy consumption (biofuels added in 10 years as much as the U.S. added in 16 months).
 - Thus, the only source of downward pressure on oil prices will come from technological break-through in vehicle batteries and/or lower cost storage/transport for natural gas.

15

Non-OECD countries consume more oil than OECD ones ... most of which comes from high cost (non-OPEC) producers



Source: International Energy Agency

16

If (when?) non-OECD countries reach OECD energy use patterns, the world would consume 2.5 times more crude oil



Source: BP Statistical Review, UN, OECD, Eurostat

Modeling and expected outcomes

- **Modeling.** Because natural gas affects fertilizer prices, the oil and fertilizer assumptions must be separated, with oil expected to be high and fertilizers/natural gas to be low. On biofuels, we must separate policy-induced from profitable biofuels (including the possibility of a technology shock) and, perhaps, treat them as up-side and tail risk scenarios.
- **Expected outcomes:** US agriculture will develop a comparative advantage (lower natural gas prices, an emerging fertilizer industry, and slightly lower oil prices), therefore, its profitability will be higher than other regions. It is unlikely that world prices will decline.

Thank you!

The analysis presented here is based on the World Bank's quarterly commodity market reports. The latest issue was posted on October 17, 2013. The next issue will be posted during the third week of January 2014

www.worldbank.org/prospects/commodities

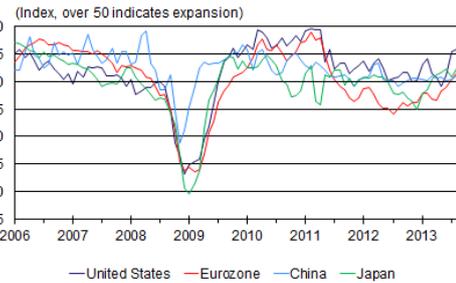
Global outlook macro drivers: Scenario setting panel discussion Elisabeth Waelbroeck-Rocha (IHS Global Insight)



Purchasing managers' indexes for manufacturing signal better performance in the major economies



**Global Outlook
Macro Drivers**
Scenario Setting Panel Discussion
Elisabeth Waelbroeck-Rocha
Senior Director, IHS Economics
October 23, 2013



Sources: Institute for Supply Management, Markit, China Federation of Logistics and Purchasing

The global recovery is underway, but numerous risks remain



- Among the key sources of short term risk are:
 - Slowing growth in many emerging economies
 - Debt ceiling psychodrama in the USA
 - Instability in the Middle East
 - Mounting social unrest in several emerging economies
 - Austerity fatigue in Europe, creating political challenges
 - Financial market nervousness
- Longer term risks are linked to:
 - The changing balance of economic power across regions
 - Risk of uptick in geopolitical tensions
 - Demographic challenges
 - Resource constraints
 - Climate change & extreme events

© 2013 IHS

A gradual acceleration in the global economy is expected



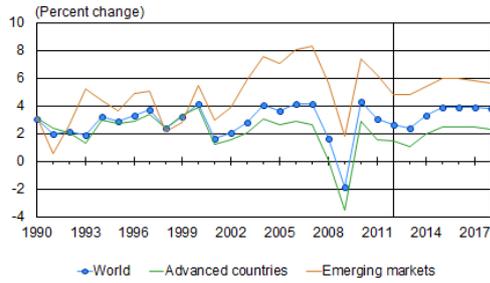
- The developed countries will lead the acceleration.
- US growth will strengthen as housing markets and consumer finances improve, but the policy environment remains difficult.
- The Eurozone's long recession has ended, but recovery will be slow.
- China's growth has stabilized, but major challenges lie ahead.
- The end of extreme monetary accommodation will hurt emerging markets that depend on external finance.
- The commodities supercycle is over; inflation will be mild.



© 2013 IHS

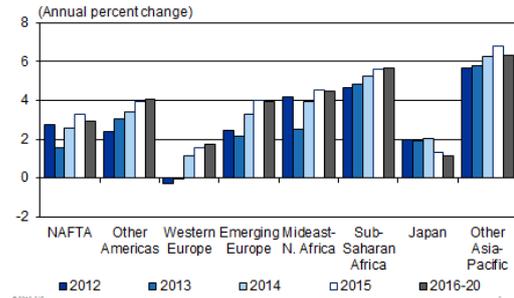
Commodity Market Development in Europe – Outlook

Global real GDP growth will strengthen in 2014-15



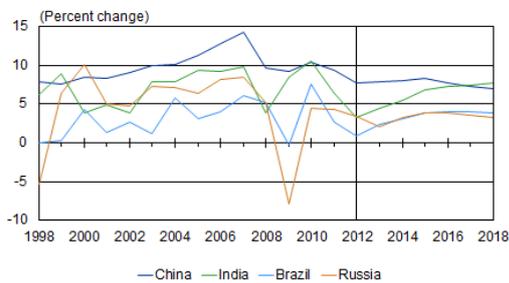
© 2013 IHS

Asia-Pacific leads regions in real GDP growth



© 2013 IHS

Real GDP growth in key emerging markets



© 2013 IHS

Why has growth slowed in emerging markets?



Cyclical forces	Structural forces
• Global monetary cycle	• Slower labor force growth
• Withdrawal of policy stimulus	• End of rapid globalization
• Weak export markets	• End of the commodity supercycle
• Excess capacity after investment booms	• Lack of market reforms and overreliance on government

© 2013 IHS

Despite moderate energy demand growth, supply risks limit the decline in oil prices



- Growth in oil demand will pick up in 2014 as the global economy strengthens.
- Rising production and fuel mix changes in North America will exert downward pressures on oil prices in 2014-15...
- But oil production trends in Libya and Iraq will limit the potential decline in oil prices in 2014-15
- Security challenges in the Middle East and Africa pose upside price risks.



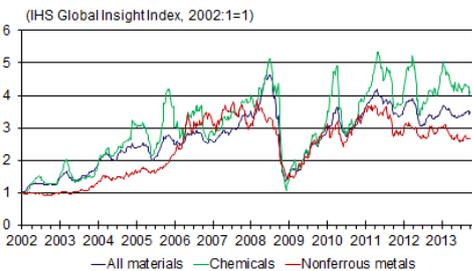
© 2013 IHS

Crude oil prices should remain subdued in 2014-15, and rise moderately afterwards



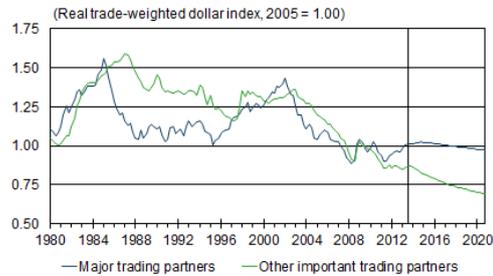
© 2013 IHS

Commodity prices remain highly volatile, around a flat trend



© 2013 IHS

The dollar's real exchange value will resume a downward trend



© 2013 IHS

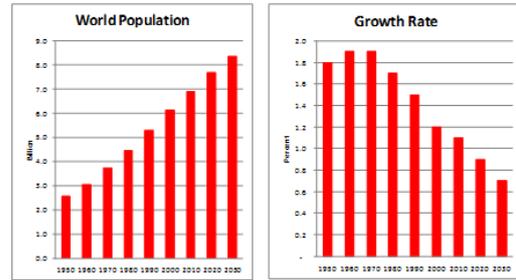
The €/ \$ rate will slowly appreciate



© 2019 IHS

13

Looking further ahead, world population growth trends will be a game-changer

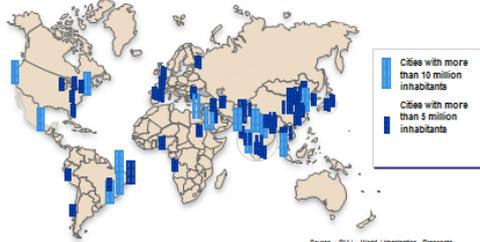


© 2019 IHS

Urbanisation causes specific problems that have to be dealt with



By 2020, 60 cities will have more than 5 million inhabitants, and 13 will have more than 10 million



© 2019 IHS

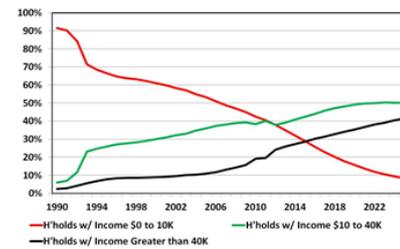
Source - ONU - World Urbanization Prospects

13

In China, the number of households with an income above \$10K will continue to grow



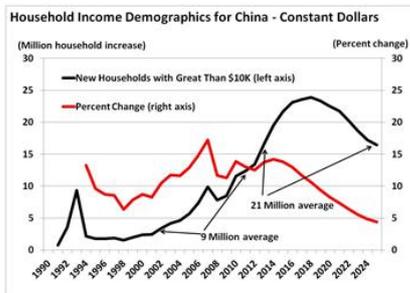
Household Income Demographics for China - Constant Dollars (Share of households)



© 2019 IHS

14

But the speed of change will slow



© 2019 IHS

17

Thank you !

For additional information please contact:
Elisabeth.WaelbroeckRocha@ihs.com

© 2019 IHS

The CAP towards 2020: Political agreement

Tassos Haniotis (DG AGRI)

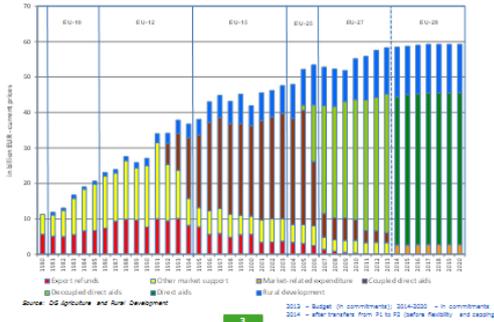
The CAP towards 2020
Political agreement

DG Agriculture and Rural Development
European Commission

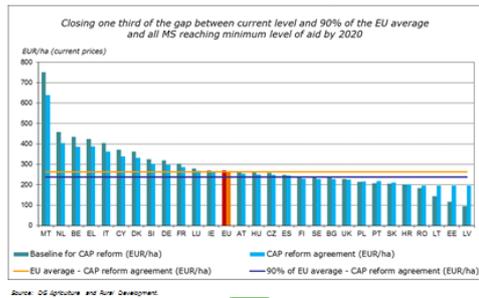
Where are we with the CAP reform process?

- 12 April – 11 June 2010: Public debate (EU citizens and organisations)
- 18 November 2010: Commission Communication « The CAP towards 2020 »
- 12 October 2011: Commission legal proposals on the CAP
- 2011-2013: Discussions in the European Parliament and the Council
- 26 June 2013: Political Agreement on the CAP reform between European Parliament, Council and Commission
- 2013: Finalisation of the legislative phase
- 2014: Approval of Delegated and Implemented Acts

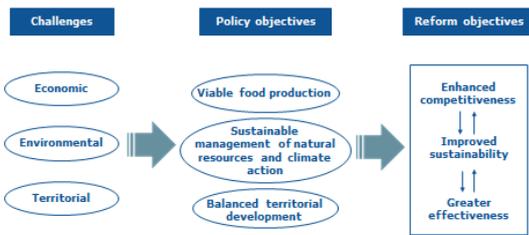
The path of CAP expenditure 1980-2020 (in current prices)



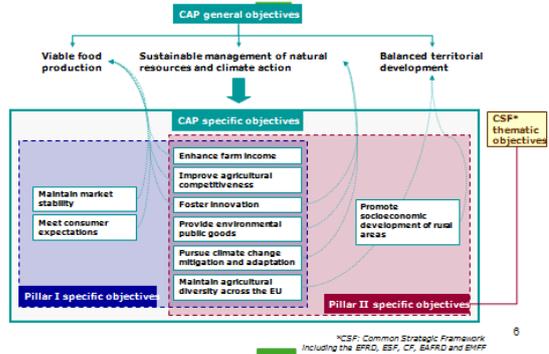
Redistribution of Direct Payments



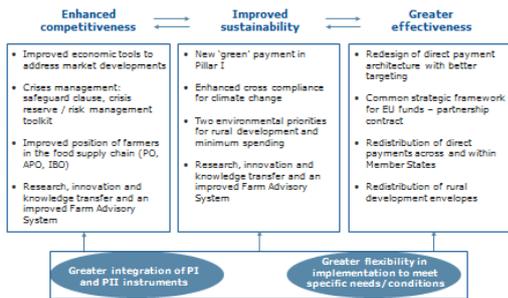
Challenges and objectives of the future CAP



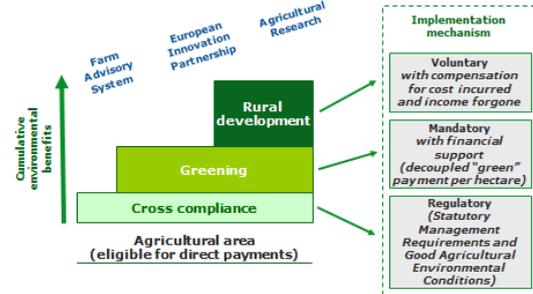
Intervention logic for the CAP



What CAP instruments to meet the reform objectives?



The new greening architecture of the CAP



New design of direct payments (1)

In 2015, EU farmers would have access to:

<p>Compulsory schemes (all MS):</p> <ul style="list-style-type: none"> Basic payment scheme 'Green' payment* Young farmers scheme 	<p>Voluntary schemes (MS choice):</p> <ul style="list-style-type: none"> Coupled support Support in natural constraint areas Redistributive payment
---	---

All payments subject to cross compliance
All farmers will have access to the Farm Advisory System

OR

A simplified scheme for small farmers (voluntary for MS)

* Payment for agricultural practices beneficial to climate change and the environment

The green direct payment

30% of the direct payment envelope for applying three basic practices:

- Maintaining permanent grassland**
 - ban on ploughing in designated areas
 - national/regional ratio with 5% flexibility
- Crop diversification**
 - at least 2 crops when the arable land of a holding exceeds 10 hectares
 - at least 3 crops when the arable land of a holding exceeds 30 hectares
 - the main crop may cover at most 75% of arable land, and the two main crops a maximum of 95% of the arable area
- Maintaining an "ecological focus area" of at least 5% of the arable area of the holding**
 - only applicable for farms with more than 15 hectares arable land.
 - figure to rise to 7% after a Commission report in 2017 & a legislative proposal
 - EFPAs may include field margins, buffer strips, fallow land, landscape features, afforested area, terraces, areas with catch crops, green cover and nitrogen fixing crops, short rotation coppices, agro-forestry, strips of land along forest edges

Equivalence: MS can decide that, instead of applying these three practices, a farmer can undertake practices which are considered equivalent (e.g. crop rotation instead of crop diversification).

The new framework of the EU's rural development policy

Coordination and complementarity with ESI Funds

European Level	<p>Common Provisions Regulation for ESI Funds</p> <ul style="list-style-type: none"> Covering the EAFRD, ERDF, ESF, CF, EMFF Reflecting EU2020 through 11 common thematic objectives to be addressed by key actions for each of the funds
National Level	<p>Partnership Agreement</p> <p>National document outlining the intended use of the funds in the pursuit of EU2020 objectives</p>
National or Regional Level	<p>Rural Development Programme(s)</p> <ul style="list-style-type: none"> (Other funds' operational programmes)

For further information

Political agreement on the CAP2020
http://ec.europa.eu/agriculture/cap-post-2013/agreement/index_en.htm

Legal proposals
http://ec.europa.eu/agriculture/cap-post-2013/legal-proposals/index_en.htm

Impact assessment
http://ec.europa.eu/agriculture/policy-perspectives/impact-assessment/cap-towards-2020/index_en.htm

Commission Communication 'The CAP towards 2020'
http://ec.europa.eu/agriculture/cap-post-2013/communication/index_en.htm

New design of direct payments (2)

Capping voluntary for the MS
Degressivity of 5% over 150 000 €

Cross compliance - Climate change	<p>Coupled support</p> <ul style="list-style-type: none"> Wide range of sectors Up to 8% (or to 13% depending on past level) of DP envelope, +2% for protein crops 	<p>Natural constraint support</p> <ul style="list-style-type: none"> For areas with natural constraints - or part of them Up to 5% of the DP envelope 	Small Farmer Scheme	
	<p>Young Farmer Scheme</p> <ul style="list-style-type: none"> Up to 2% of DP envelope < 40 years commencing activity For 5 years 	<p>«Green» Payment</p> <ul style="list-style-type: none"> 30% of the DP envelope Thresholds & exemptions Equivalence 		<ul style="list-style-type: none"> Simplification of claims and controls Lump sum payment to be determined by MS under conditions [500 to 1250 €] Entrance in 2015 Up to 10% of the DP envelope
	<p>Basic Payment Scheme</p> <ul style="list-style-type: none"> New BPS entitlements in 2015 SAPS extended until 2020 (EU-10) Internal convergence / derogation with external convergence model to reach more similar levels per ha (min. 60% of average within a region/country by 2019) 	<p>Voluntary redistributive payment</p> <ul style="list-style-type: none"> +max. 65% on max. 30 ha or national average size; max. 30% of DP envelope. Definition of active farmer 		
	OR			

CAP instruments to meet the objectives of competitiveness

<p>Market orientation/ Safety net</p> <ul style="list-style-type: none"> Market orientation: <ul style="list-style-type: none"> End of quotas (sugar, milk) and vine planting rights (new system of authorisation) End of certain aid schemes (SMP, silk worms) Enhanced safety net: <ul style="list-style-type: none"> Improved flexibility Beef intervention raised to 85% of the reference price Automatic tendering for dairy above fixed quantities (outer increased to 90% in period + 1 month); PSA for cheese with PDO/PGI Strengthened crisis management: <ul style="list-style-type: none"> Safeguard clause Crisis reserve Temporary examination for recognised POs/IBOs from competition rules 	<p>Producer Cooperation</p> <ul style="list-style-type: none"> Extension of PO/IBO model to all sectors Extension of delivery contracts for all sectors (voluntary for MS, except sugar) Collective negotiation of supply contracts allowed for certain arable crops, beef and olive oil producers Extension of supply regulation by recognised POs/IBOs to ham with PDO/PGI Continuation sugar sector agreements post-quota Extension of rules allowed for milk POs/IBOs 	<p>Risk Management Tools</p> <ul style="list-style-type: none"> New risk management toolkit in the second pillar: <ul style="list-style-type: none"> Crop, animal and plant insurance (financial contributions to insurance contracts covering farmers' losses caused by certain crisis events, e.g. adverse climatic effects) Mutual funds (a scheme accredited by the MS whereby affiliated farmers can insure themselves in order to obtain compensation payments when a crisis occurs) Income stabilisation tool (same mechanism as the mutual fund but the cause of a decline of the farmer's income is not relevant) Complementarity with other development measures
---	--	--

Strategic programming

<p>Rural development objective</p> <ol style="list-style-type: none"> Knowledge transfer and innovation Farm viability, competitiveness, innovative farm technologies, sustainable forest management Food chain organisation, incl. processing/marketing, animal welfare and risk management Restoring, preserving and enhancing ecosystems Resource efficiency and shift towards a low carbon and climate resilient economy Social inclusion, poverty reduction and economic development in rural areas 	<p>Focus areas</p> <ol style="list-style-type: none"> (a) innovation, cooperation, and the development of the knowledge base; (b) links between agriculture, food production and forestry and research and innovation; (c) lifelong learning and vocational training (a) economic performance of all farms and farm restructuring and modernisation, notably to increase market participation/orientation and diversification; (b) facilitating entry of adequately skilled farmers and generational renewal (a) integration of primary producers into the agri-food chain; quality schemes, adding value, promotion in local markets and short supply circuits, producer groups/ organisations; (b) farm risk prevention and management (a) biodiversity, including in Natura 2000 areas, areas facing natural or other specific constraints and high nature value farming, and the state of European landscapes; (b) water management, including fertiliser and pesticide management; (c) preservation of soil erosion and soil management (a) efficiency in water use; (b) efficiency in energy use; (c) renewable sources of energy, by products, wastes and non-food raw material for the bio-economy; (d) reduction of greenhouse gas and ammonia emissions; (e) carbon conservation and sequestration (a) diversification, creation and development of small enterprises and job creation; (b) local development in rural areas; (c) information and communication technologies (ICT) in rural areas 	<p>Greening objectives</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Innovation, Climate Change and Environment</p>
---	--	---

US Farm Bill update Seth Meyer (USDA)

US FARM BILL UPDATE

Seth Meyer (smeyer@oce.usda.gov)

October, 23 2013

Farm Support Programs

Current Tools	2012 outlays, million
Direct Payments	\$3,921
Counter-Cyclical Payments	\$11
ACRE	\$16
Marketing Loan	\$6
Crop Insurance	\$6,387
Disaster Assistance	\$693
Sugar	\$0
Dairy	\$403

CBO baseline: May 2013

Context for farm bill debate

- Rise (volatile?) in world prices since 2005 (Holding?)
=> price-based programs have largely been inconsequential
=> declining support (PSE/AMS)
- Biofuel boom ebbing?
=> long run determined by energy prices
=> demand constrained by "blend wall"
=> EPA signals easing of targets
- Budget pressures => "fiscal cliff"
- Erosion of public support for decoupled payments
- Growth in the federal crop insurance program
- Compliance with WTO panel (Brazil cotton)

Similarities of House and Senate Passed Farm Bills

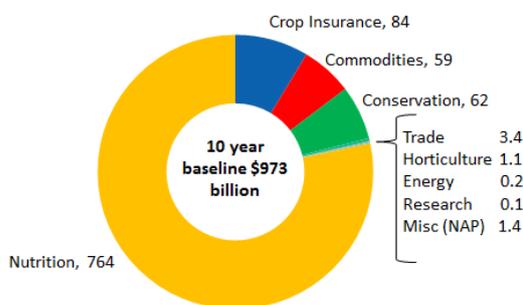
- Commodity programs
 - Both eliminate direct payments, counter-cyclical payments and ACRE program
 - Marketing loans maintained
 - Crop insurance maintained and supplemented with "deductible" coverage (SCO)
 - Stacked Income Protection Plan (STAX) for cotton
 - Dairy margin insurance replaces dairy product price support and MILC
 - Sugar program remains the same
 - Similar conservation programs

Key programs for commodities

- Price support programs
 - Sugar
 - Dairy
- Risk management programs
 - Crop Insurance
 - Supplemental Agricultural Disaster Assistance
- Income support programs
 - Marketing loans
 - Direct payments
 - Counter-cyclical payments
 - Average Crop Revenue Election (ACRE)
 - Milk Income Loss Contracts (MILC)

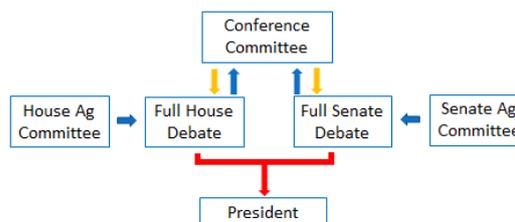
10 Year Baseline for Farm Bill Titles

Current policy expenditures serves as a base for determining cost of new proposals



Source: CRS using CBO estimates, Oct 10

Farm Bill Legislative Process



- Budget appropriations and reconciliation
- USDA implementation

Key differences

- Commodity programs:
 - Senate would offer choice between new "shallow loss" revenue programs to augment crop insurance coverage and augmented counter-cyclical payments based on base acres
 - House would offer choice between "shallow loss" programs or new price-based loss program similar to CCP program but based on actual plantings and revised target prices
- Nutrition programs—House bill makes much larger cuts by
 - Ending "broad-based categorical eligibility" to SNAP applicants that receive benefits under certain other programs (TANF, SSI, state assistance programs)

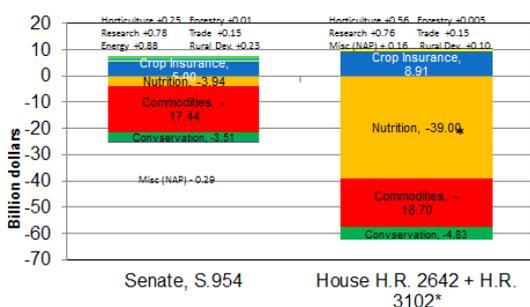
Dairy Program Specifically

- Programs Eliminated
 - Price support
 - Milk Income Loss Contract
 - Export Subsidies
- Program Created
 - Margin Insurance (triggered when price of milk – average feed cost < \$4.00 cwt). Optional program.
 - Program participants reduce production when prices fall

Payment Limitations

	Current Law	Senate Bill	House Ag Committee
Payment Cap	\$105,000/person	\$50,000 for AMP and ARC, \$75,000 for LDP	\$125,000 for PLC/RLC, no limit on LDP
Income Eligibility Limit (AGI)	\$500,000 off farm, \$750,000 on farm	\$750,000 combine limit	\$950,000 combined limit

Budget Implications (10 year score)



Source: CRS using CBO estimates

WTO Implications?

- House and Senate bills would reducing green box spending (eg, direct payments, conservation programs, nutrition); increase amber spending (shallow loss, crop insurance, increased price support)
- Likely net effect: LOWER AMS (b/c of dairy) but higher exposure
- Negligible probability of exceeding \$19.1b
- Higher product-specific AMS for most commodities (except dairy)

Conclusions

- Budget pressures and public perception will likely result in major shift in policy away from decoupled payments to production based payments
- At current price projections, likely no large shifts in area.
- House and Senate proposals would shift green box spending (direct payments, CRP) into amber box (revenue loss, price loss, SCO). Dairy AMS likely to fall as price support program replaced with margin-based program.
- WTO: Lower AMS but higher 'exposure' to extreme outcomes
- Much uncertainty in budget estimates because of program complexity. Savings could be far less than anticipated, if producers choose price loss coverage over

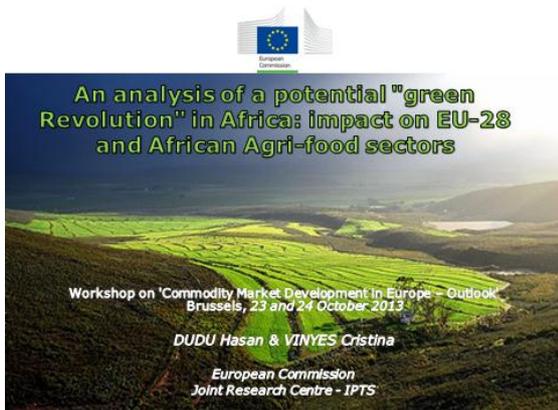
	Current	House	Senate
Fixed payments	Direct payments: GREEN**	Repeal	Repeal
Price based payments	Counter-cyclical payments: Non-product specific AMBER	Price Loss Coverage (PLC): Product specific AMBER (actual plantings)	Adverse Market Payment: Non-product specific AMBER (base acres)
Revenue based payments	Average Crop Revenue Election (ACRE): Product specific AMBER (actual plantings)	Revenue Loss Coverage: Product specific AMBER (actual plantings)	Agricultural Risk Coverage: Product specific AMBER (actual plantings)
Non-recourse, marketing loans	Marketing Loans: Product specific AMBER (actual production)	Maintained: Product specific AMBER (actual production)	Maintained: Product specific AMBER (actual production)
Crop Insurance	Non-product specific AMBER	Maintained: Non-product specific AMBER	Maintained: Non-product specific AMBER
Supplemental coverage option (SCO)	NA	STAX or RLC acres not eligible: Non-product specific AMBER	Different coverage for ARC and non-ARC participants: Non-product specific AMBER
Stacked Income protection plan (STAX)	NA	Cotton specific program: Product specific AMBER	Cotton specific program: Product specific AMBER

Dairy

	Current	House	Senate
Dairy price support	Supports prices of cheese, butter, NFD: Product specific AMBER	Repeal	Repeal
Dairy counter-cyclical price program	Milk Income Loss Contract (MILC): Product specific AMBER	Dairy production margin protection program (DPMPP): Product specific AMBER	Dairy production margin protection program (DPMPP): Product specific AMBER
Dairy Market stabilization program (DMSP)	NA	NA	Tied to participation in DPMPP: Product specific AMBER
Dairy export subsidies	Dairy export Incentive program (DEIP): Notified as an export subsidy	Repeal	Repeal
Dairy Indemnity programs	Set to Expire 31.12.13: GREEN	Extended FY2018: GREEN	Extended FY2018: GREEN

An analysis of a potential "Green Revolution" in Africa: impact on EU-28 and African agri-food sectors

Hasan Dudu & Cristina Vinyes (JRC-IPTS)



Introduction

- Despite Africa huge agriculture potential, Africa still imports USD\$30 billion in food annually (ADB)
- What happens if this potential is activated

	Number of countries	Population (millions)	GDP per capita (PPP valuation, USD)	African Share in EU Agrifood Trade (percentage)	EU Share in African Agrifood Trade (percentage)
North Africa	6	171	6 459	2	41
West Africa	15	309	2 067	2	34
East Africa	13	288	1 561	1	50
Southern Africa	20	276	3 491	1	31
Africa	54	1044	3 025	6	37



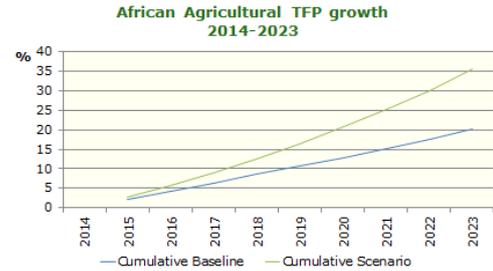
Modeling approach

- Modular Applied GeNeral Equilibrium Tool (MAGNET): Global recursive dynamic CGE*
- Regions: EU-28, North Africa, West Africa, East Africa, Southern Africa, Rest of the World
- Calibrated baseline to OECD-FAO Outlook GDP and Population Growths
- Two periods: 2007-2014 & 2014-2023
- The model is measured in real terms

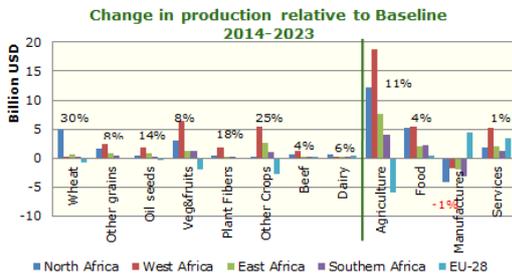
*Van Meijl, H. et al. (2006). The impact of different policy environments on land use in Europe.



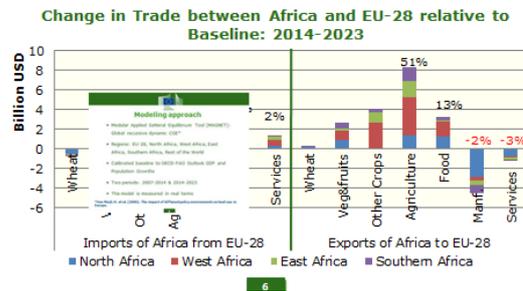
Scenario cumulative agricultural TFP growth is 14%

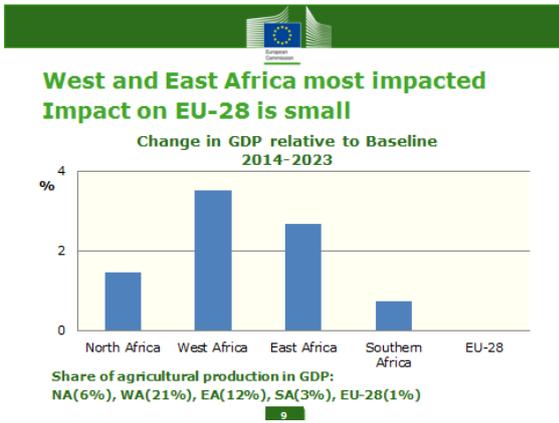
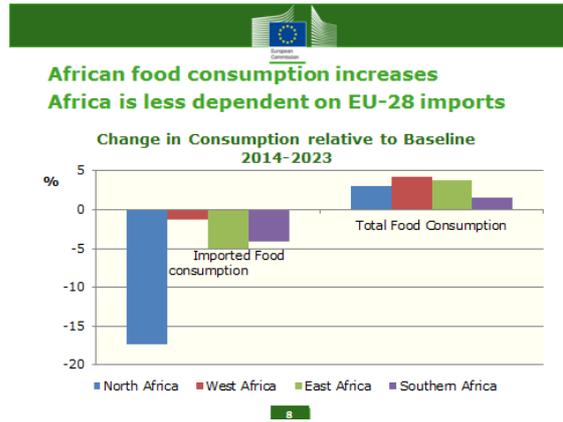
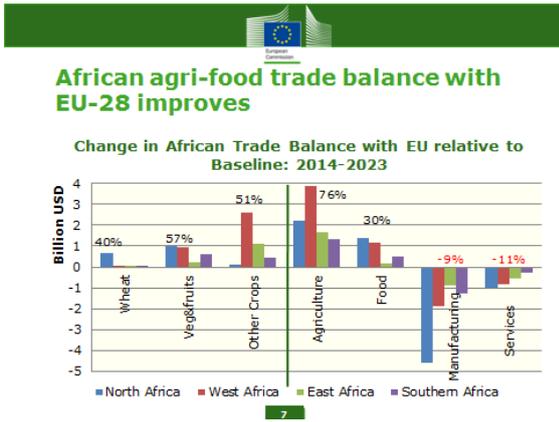


African agricultural production rises 11% EU-28 falls by 1.2%



EU-28 imports 51% more African agricultural goods Africa imports 26% less EU agricultural goods





Conclusions

- African agri-food exports to EU-28 increase significantly while imports decline slightly: Net trade in agri-food commodities improves
- Africa food consumption less dependent on imports despite the increasing exports
- East and West Africa are the most impacted
- Overall, impact on EU-28 is positive and small while the impact in Africa is positive and large.

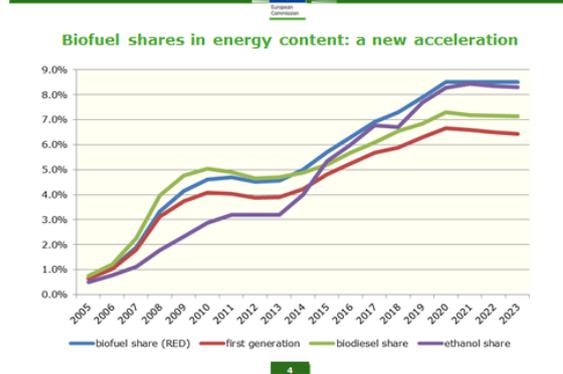
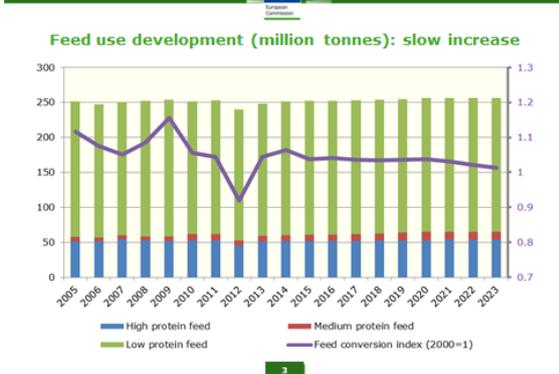
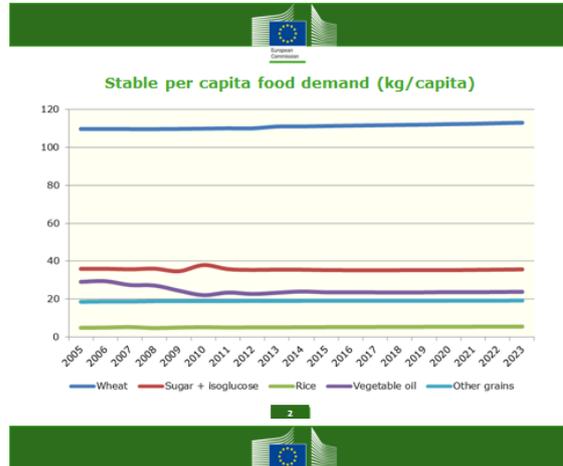
10

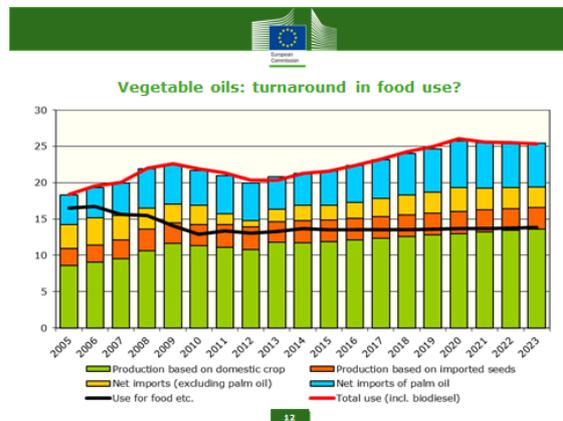
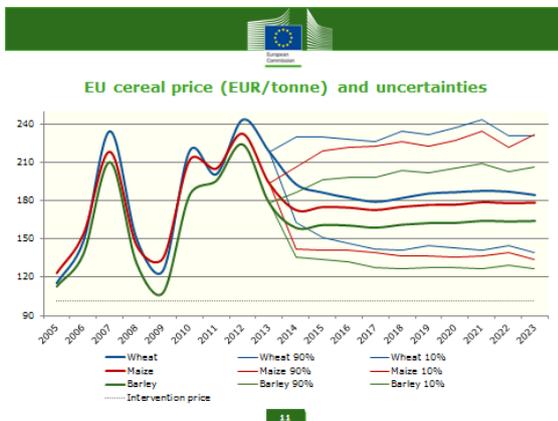
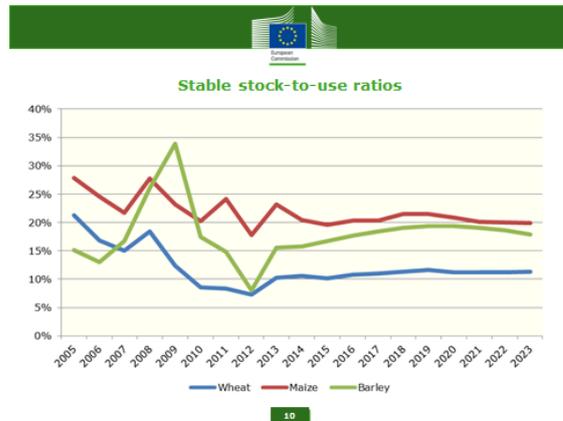
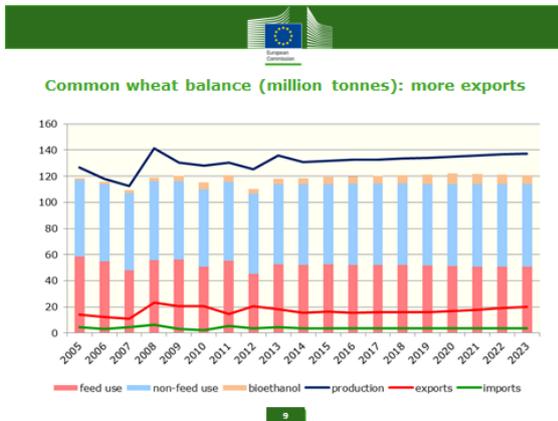
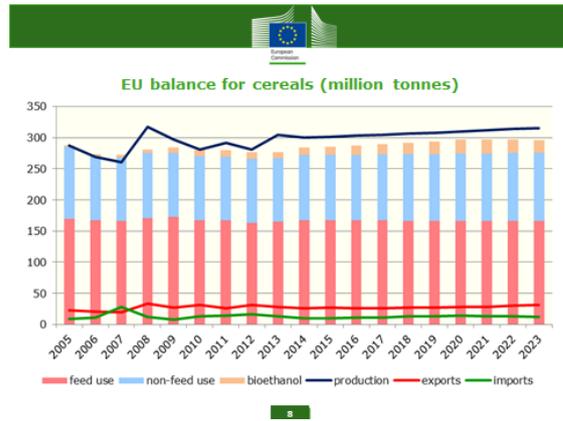
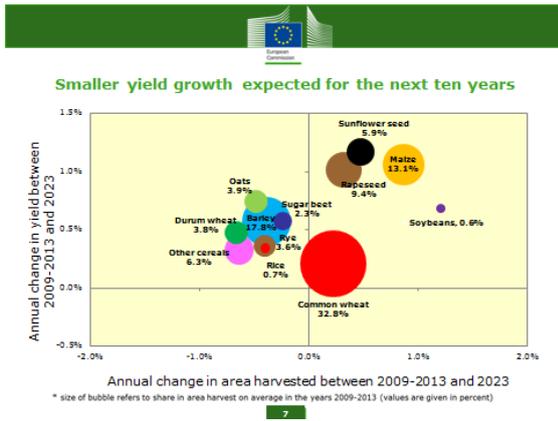
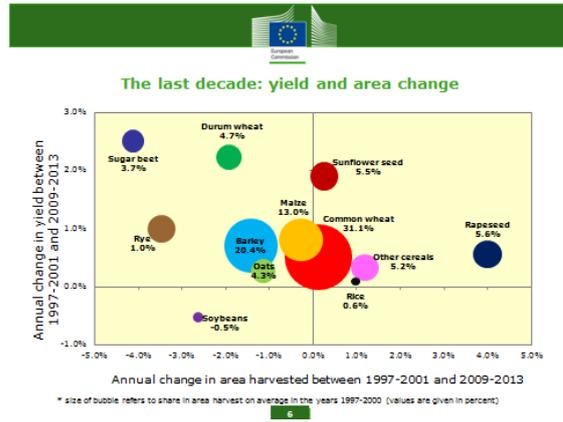
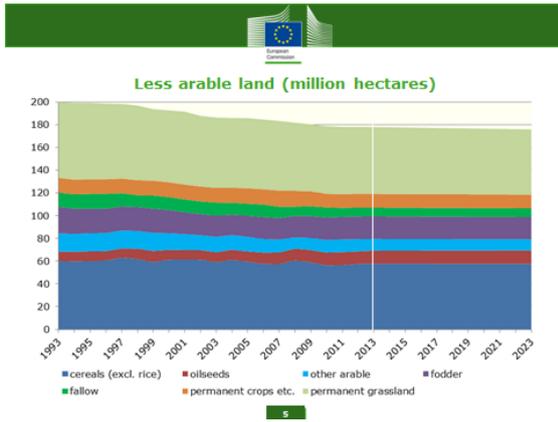
Prospects for EU agricultural markets - Cereals, oilseeds, sugar

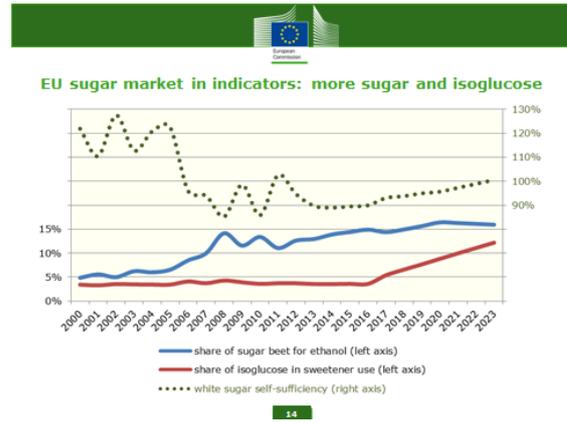
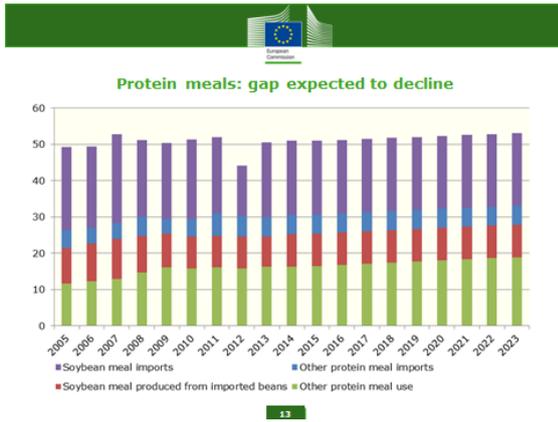
Stephan Hubertus Gay (DG AGRI), Sergio René Araujo Enciso (JRC-IPTS), Marco Artavia (JRC-IPTS)

Workshop on 'Commodity Market Development in Europe - Outlook'
Brussels, 23 and 24 October 2013
S. Hubertus GAY, Sergio René ARAUJO ENCISO, Marco ARTAVIA

European Commission
DG Agriculture and Rural Development & Joint Research Centre - IPTS







Summary

EU production is faster growing than consumption...
 although production growth is low compared to previous decade
 Wheat exports increase slightly over the next ten years
 Maize imports slightly increase due to specific demands (ethanol, isoglucose)
 Vegetable oil demand depends largely on the biofuel developments
 Protein meal gap slightly closing due to available other protein sources (DDG) and slow demand growth
 Isoglucose will increase considerably following the end of quota but its share in use will remain low compared to Northern America
 Sugar production and consumption to increase but average prices will be sharply down

15

Background

Use the baseline as the reference scenario for *ex ante* simulations

Partial stochastic analysis:

- identify baseline variables affected by the uncertainty relating to one or more exogenous factors
- analyse the impact on the baseline for different values of one or more exogenous factors
- takes into account only the uncertainty in specific external factors
- future variability is calculated based on the variability in the past

16

Introduction: Yield Uncertainty

8 geographical regions

- North America, South America, Europe, Black Sea, China, Australia, India, South East Asia

Relationship within the countries in a region
 No relationship among the countries in different regions

17

Introduction: Macroeconomic Variables Uncertainty

Variables:

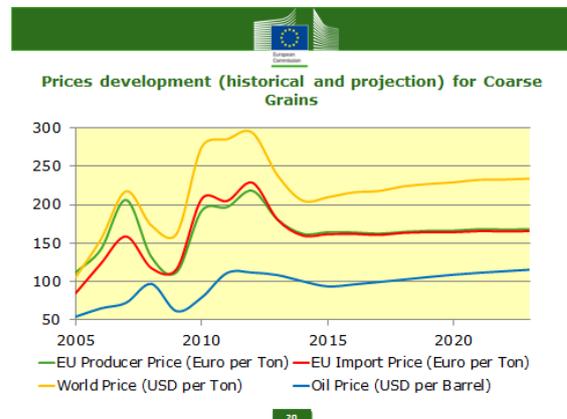
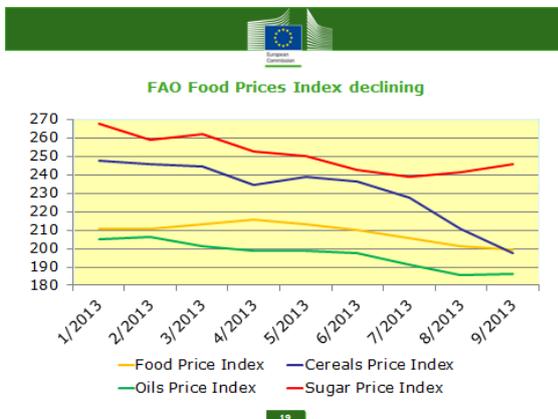
- GDP Index
- GDP Deflator
- Exchange Rate
- Oil Price

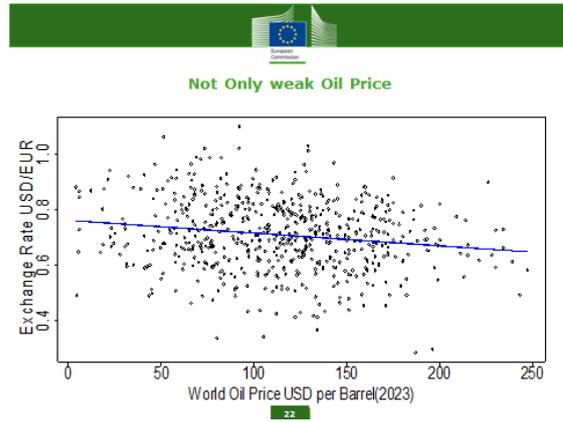
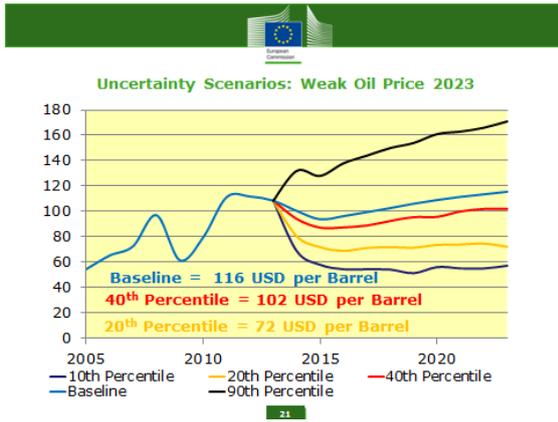
Countries:

- Develop Countries
- BRIC

Adding Uncertainty

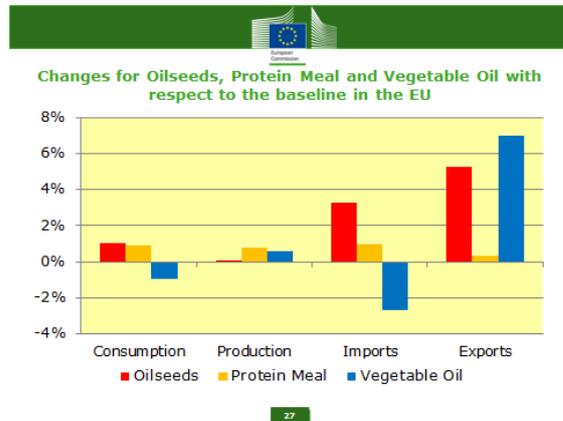
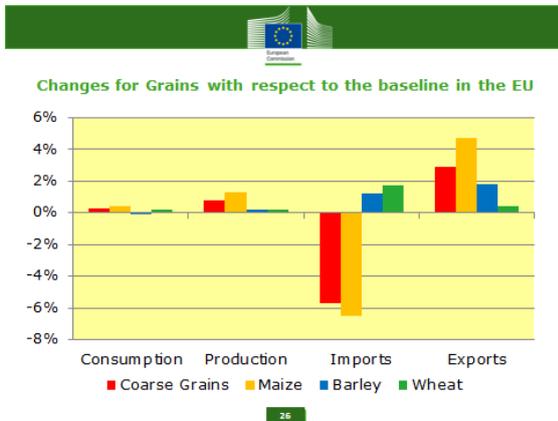
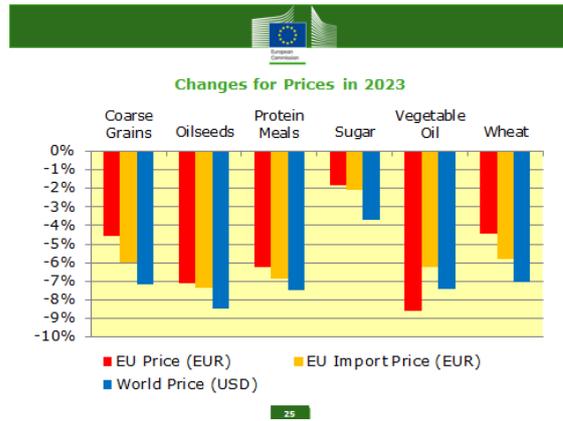
18





World Price Effects

Feb 2013-June 2013 (%) Food Price Watch Jul 2013 - World Bank	Difference Baseline vs. Weak Oil Price (%) AGLINK-COSIMO results
Change in the Indices	Change in the Prices
Crude Oil -7	Crude Oil -25
Fertilizers -8	Fertilizers -14
Change in the Prices	Change in the Prices
Maize -1	Coarse Grains -7
Wheat -2	Wheat -7
Sugar -6	Sugar -4
Soybean Oil -11	Vegetable Oil -7
	Protein Meal -7
	Oilseeds -8



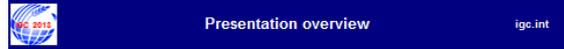
Summary

Weak Oil Prices:

- Reduce agricultural commodity prices
- Reduce input costs (fertilizer and energy)
- Production and consumption in the EU have a moderate reaction to weak oil prices
- Imports and exports in the EU have a higher reaction to weak oil prices than production and consumption
- Imports and exports are also driven by exchange rate

Global markets for grains and oilseeds – some observations and factors to watch

Darren Cooper (International Grains Council)



Commodity Market Development in Europe – Outlook

Global markets for grains and oilseeds – some observations and factors to watch



Organised by JRC-IPTS and DG AGRI

European Commission
Brussels
23 October 2013

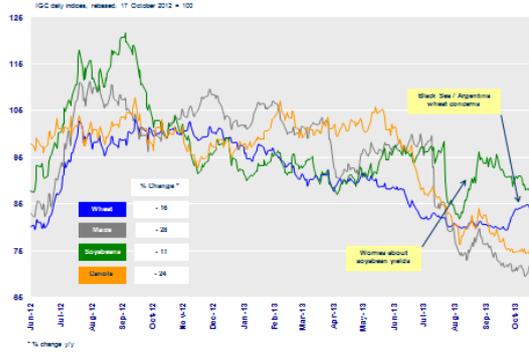
Darren Cooper
International Grains Council
dcooper@igc.int

- Market developments
- Focus on availabilities in 2013/14
- China's cereal imports – recent and future trends
- EU medium-term comments

The grains and oilseeds complex: occasionally bumpy, but heavy declines in the past year



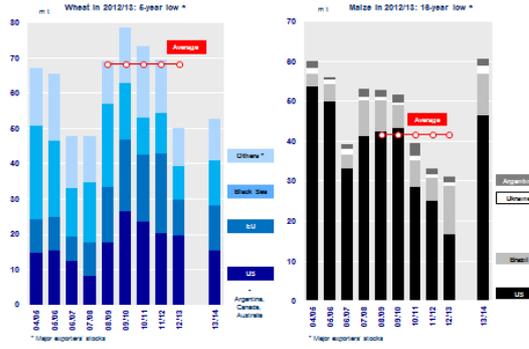
A closer look at the complex: all markets weaken on fundamental prospects



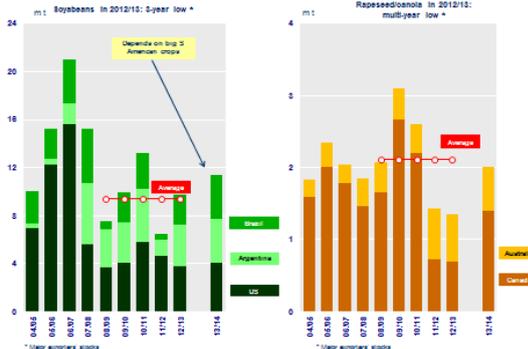
Grains and oilseeds diverge from broad commodity trends



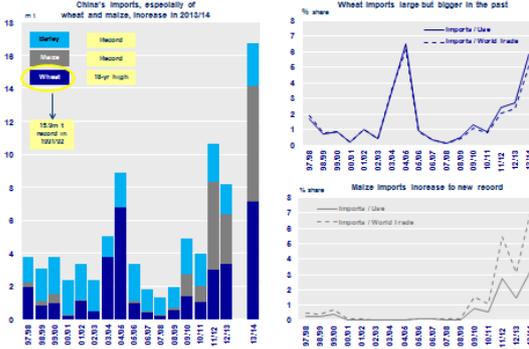
The bottom line in 2013/14: the need for larger supplies of grains...



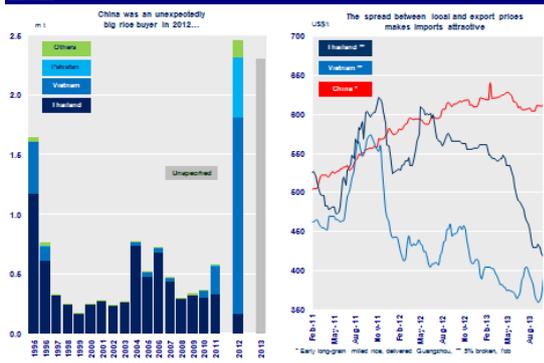
...and oilseeds – soybeans and rapeseed/canola



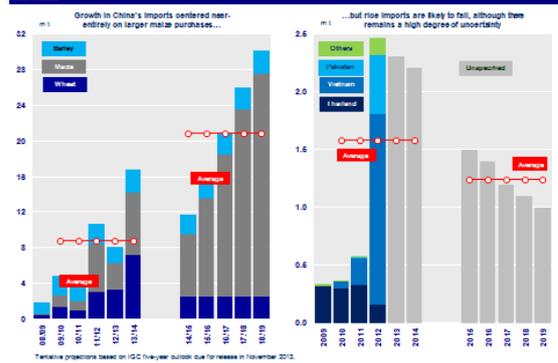
China's grain imports significantly higher in 2013/14, led by wheat and maize...



China's rice purchases sharply higher, boosted by wide domestic-export price spread



Medium term projections for China's imports: grains to rise, rice to decline*

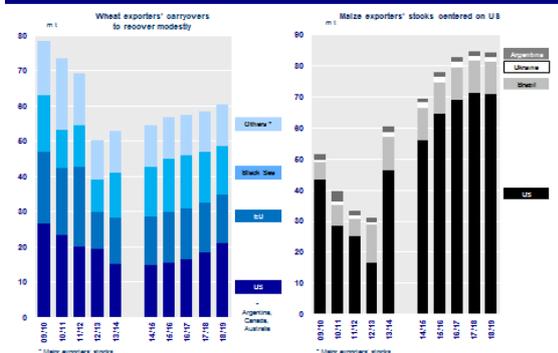


Points to note on China's cereal imports

- Wheat imports in 2013/14 seen rising sharply to an 18-year high of 7.2m t. Recent reports have highlighted expectations for a smaller outturn and higher local prices.
- While China is expected to import regular amounts of wheat for blending with local output, purchases are projected to be much smaller over the next five years.
- Due to high domestic prices, maize imports have become increasingly competitive in recent seasons, with both private buyers and state-owned enterprises moving to secure additional supplies.
- Over the medium term, projected growth in demand is forecast to outstrip the rise in production, necessitating larger imports. China is projected to overtake Japan as the world's leading importer of maize, with shipments forecast to increase from 7.0m t in 2013/14, to 25.0m by 2019/20.
- Barley imports are expected at a record high of 2.0m t in 2013/14 of 2.5m t, owing to a smaller outturn and reduced quality.
- Undepinned largely by demand for brewing, purchases of barley from the world market are set to mainly fluctuate in the range of 2.0 to 2.5m t over the next five years.
- Imports of rice surged in 2012, driven by a widening spread between domestic and international prices, with supplies sourced from Vietnam and Pakistan in particular.
- Imports in that year and in 2013 marked a big shift from the normal pattern of buying expensively-priced fragrant types.
- There appears to be no shortage of rice in China, so imports are expected to trend lower in future years, but this will depend on the relationship between domestic and international prices.

Medium term projections – some comments

The medium-term: Global grain exporters' stocks to climb, led by maize



The medium-term: EU acreage projections

m hectares	2013/14 EC-B3	2018/19 EC-B3	% Change Avg. *	2013/14 IGC	2018/19 IGC	% Change Avg. *
All Wheat	25.0	28.2	+0.2	25.7	28.5	+0.5
Maize	10.0	10.1	+0.1	9.7	8.2	-1.1
Barley	12.4	12.2	-0.3	12.5	12.7	+0.3
Soyabeans	0.40	0.44	+2.1	0.45	0.50	+2.2
Rapeseed	0.0	0.7	+0.4	0.0	0.9	+1.0
Sub-total	55.3	55.6	+0.1	55.0	55.8	+0.3

* Annual average growth rate; EC-B3 - EC based projections; IGC - International Grains Council.

Production and consumption trends for oilseeds: Can production outpace consumption growth in the EU?

Thomas Mielke (Oil World)

Can Production Outpace Consumption Growth in the EU

Presentation on 23 Oct 2013

Thomas Mielke, Executive Director of ISTA Mielke, Oil World,
Global Market Research on Oilseeds, Oils and Meals,
E-mail <Thomas.Mielke@oilworld.de>



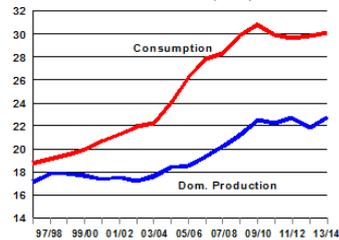
Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

My comments to the presented outlook



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

EU-27: Domestic Production & Usage of 17 Oils & Fats (Mn T)



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

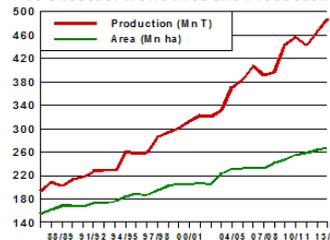
Prices and price trends in the EU depend on what happens on the world market



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

In past 25 years world oilseed production more than doubled (strong oil and meal demand)
On rising acreage and yields
About half of the acreage increased came from grains. But this shift will slowdown.
Agricultural land has become limiting factor worldwide, but big potential in Russia + Brazil
Land values more than doubled in the past 6-8 years

10 Oilseeds: World Area and Production



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

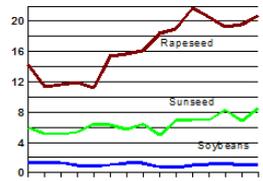
Company Profil and Services

- ISTA Mielke GmbH – publisher of OIL WORLD - was founded in 1958
- ISTA = International Statistical Agricultural Information
- Independent, not involved in trading
- Leading private authority for global research and market analyses for oilseeds, oils & fats and oilmeals
- unbiased information on the past and current global supply, demand and price developments as well as forecasts
- Daily, weekly and monthly publications on www.oilworld.de

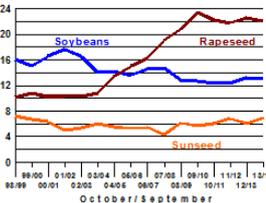


Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

EU-27: Production of 3 Oilseeds (Mn T)



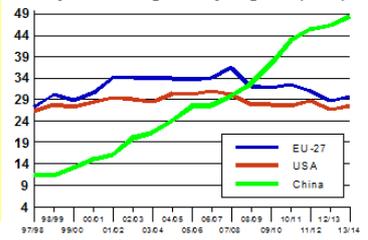
EU-27: Cruschings of 3 Oilseeds (Mn T)



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

Soya meal: the EU consumed 28.8 Mn T in 2012/13, of which 0.9 Mn T from domestic soybeans
12 oilmeals: Total EU consumption 55 Mn T, of which almost 80% imported either as seed or as meal
High import dependence!
To adjust import policy to the realities of the market

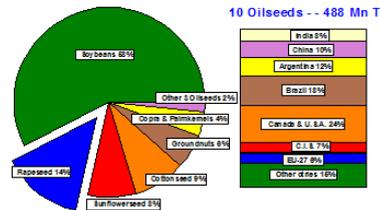
Soya Meal Usage in Key Regions (Mn T)



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

Global Production of 10 Oilseeds

2013/14 = 488 Mn T



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

Ample oilseed supplies ahead in 2013/14. Biggest increases in soybeans, sunflowerseed, rapeseed and palmkernels

These 4 oilseeds were also the growth leaders in the past 15 years

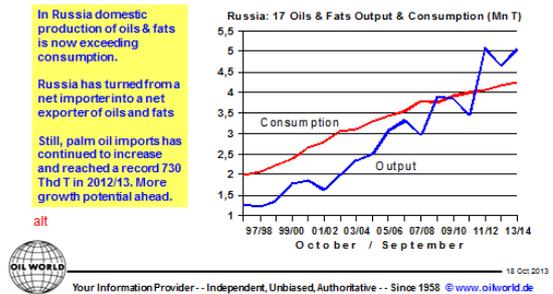
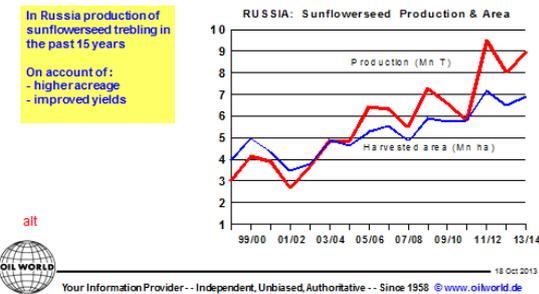
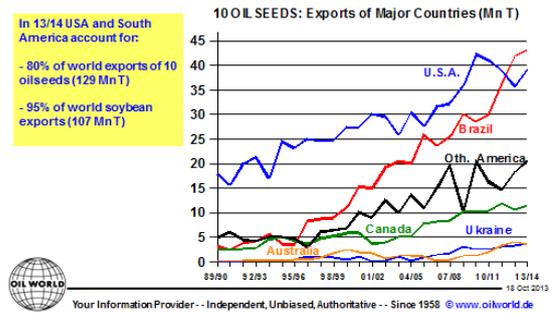
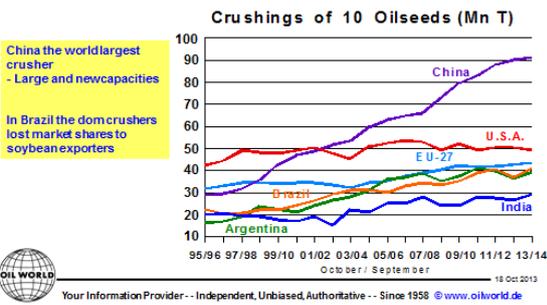
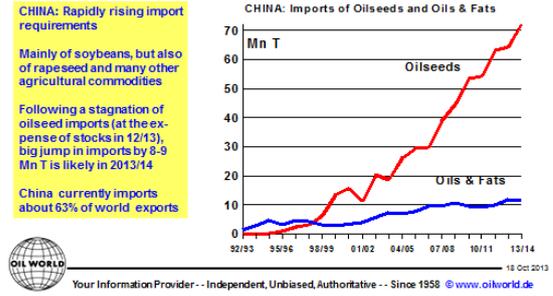
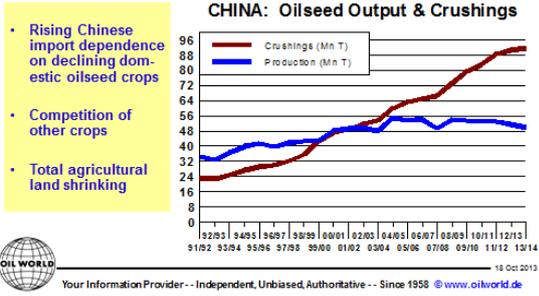
In 2013/14 world production seen rising by 22 Mn T and opening stocks up 8 Mn T, boosting world supplies by 30 Mn T -> BEARISH !

10_OIL SEEDS: World Production (Mn T)

	13/14F	12/13	11/12	10/11	10/11	Avg Change 15 Years
Soybeans	281.31	266.97	240.70	204.91	204.91	+3.6%
Cottonseed	42.04	45.01	47.77	43.55	43.55	+1.8%
Groundnuts	29.08	28.00	27.18	27.70	27.70	+2.0%
Sunflower seed	39.61	35.58	39.56	33.60	33.60	+2.9%
Rapeseed	67.48	63.92	61.42	61.04	61.04	+4.3%
Sesameseed	3.93	3.74	3.83	3.83	3.83	+2.3%
Palmkernels	14.67	14.02	13.29	12.54	12.54	+7.4%
Copra	5.46	5.48	5.26	4.30	4.30	+0.4%
Linseed	2.26	2.01	2.12	1.82	1.82	-0.8%
Castorseed	1.41	1.33	2.00	1.56	1.56	+1.3%
Total	488.29	466.09	442.60	455.35	455.35	+3.3%



Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de



C.I.S.: Sunseed Area, Yields & Production

	19/20F	12/13	11/12	10/11	07/08	02/03
Harv. Area (1000 ha)	15700*	12726	13639	11890	9497	7370
Russia	8000*	6500*	7200*	5800	4850	3782
Ukraine	6000*	6922	6130*	4950	3900	2934
Yields (T/ha)	1.62*	1.35	1.46	1.24	1.15	1.06
Russia	1.48*	1.23*	1.32*	1.00	1.13	.97
Ukraine	2.00*	1.66	1.95*	1.63	1.25	1.24
Crop (1000 T)	25500*	17229	19964	14722	10874	7836
Russia	11800*	7993	9500*	5820	5500	3684
Ukraine	12000*	8387	9500*	8070	4880	3510
Kazakhstan	700*	400	409	329	205	190
Moldova	750*	296	427	382	198	318
Oth. countries (a)	250*	153	128	121	132	134

(a) Incl. Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Tajikistan and Uzbekistan.

Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

C.I.S.: Soybean Area, Yields & Production

	19/20F	12/13	11/12	10/11	07/08	02/03
Harv. Area (1000 ha)	4250*	2904	2434	2251	1395	489
Russia	2000*	1379	1187	1090*	709	362
Ukraine	2000*	1380*	1110	1037	583	98
Yields (T/ha)	2.06*	1.49	1.72	1.43	1.08	1.20
Russia	1.70*	1.31	1.48	1.12*	0.92	1.17
Ukraine	2.40*	1.67*	1.98*	1.71	1.26	1.28
Crop (1000 T)	8750*	4331	4195	3224	1510	588
Kazakhstan	330*	170	153*	114	83	25
Moldova	210*	48	79	111	40	13
Russia	3400*	1806	1756	1222	652	423
Ukraine	4800*	2300*	2200*	1770	732	125
Oth. countries	10*	7	7	7	3	2

Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

C.I.S.: Rapeseed Area, Yields & Production

	19/20F	12/13	11/12	10/11	07/08	02/03
Harv. Area (1000 ha)	4150*	2247	2171	2133	1732	296
Russia	1800*	977	837	613	534	120
Ukraine	1300*	600*	833	863	800	90
Yields (T/ha)	1.88*	1.43	1.42	1.26	1.21	.92
Russia	1.50*	1.06	1.26	1.09	1.18	.96
Ukraine	2.70*	2.17*	1.73	1.73	1.32	1.07
Crop (1000 T)	7800*	3216	3091	2690	2092	273
Belarus	1000*	705	379	374	240	60
Kazakhstan	450*	117	149	109	118	2
Moldova	150*	59	70*	47	45	-
Russia	2700*	1036	1056	870	631	115
Ukraine	3500*	1300*	1437	1490	1058	96

Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

RAPESEED & CANOLA: World Production by Country (Mn T)

	Forecasts		12/13	11/12	10/11	04/05	04/05	04/05
	19/20F	13/14F						
EU-27	23.50*	21.00*	19.65	19.25	20.60	15.45	8.36	
C.I.S.	7.80*	4.68*	3.22	3.09	2.69	.57	.18	
Canada	18.00*	16.40*	14.02	14.61	13.10	7.67	7.23	
China	13.00*	11.80*	12.50	12.80	13.08	13.18	7.49	
India	8.70*	7.00*	7.20	5.80	7.10	6.21	5.88	
Australia	5.00*	3.60*	4.27	3.36	2.45	1.43	.31	
Oth. ctrs.	4.50*	3.00*	3.07	2.51	2.80	1.79	0.94	
WORLD	80.50*	67.48*	63.93	61.42	61.82	46.30	30.39	

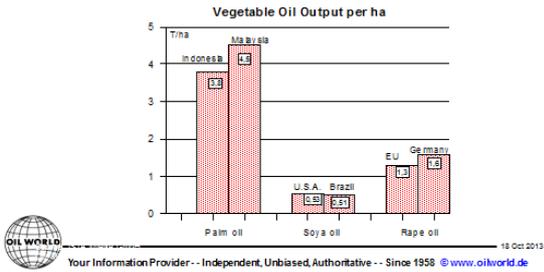
Your Information Provider - Independent, Unbiased, Authoritative - Since 1958 @ www.oilworld.de

Palm Oil - - Increasing Dominance



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

Palm oil yields per ha are much above soya and rape oils



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

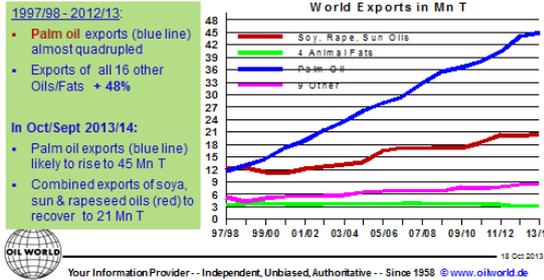
The Success Story of the past 30 Years

- Substantial growth in world production of palm oil
- In 1980: 4.6 Mn T or 8% of 17 oils & fats
- In 1990: 11.0 Mn T or 14%
- In 2000: 21.9 Mn T or 19%
- In 2010: 46.1 Mn T or 27% (only 6% of area)
- In 2011: 50.8 Mn T or 28% (57% of exports)
- In 2012: 53.7 Mn T (plus 5.9 Mn T of Palmkernel oil)
- In 2020 at least 78 Mn T of palm oil required by consumers worldwide



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

Rising Dependence on Palm Oil



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

Palm oil : World Production Outlook

Major Challenges: Area Expansion, Yields, Sustainability

Production (Mn T)	Projections				Actual Data			
	2020F	2015F	2012	2011	2010	2009	2008	1995
Malaysia	23.00*	20.40*	18.79	18.91	16.99	14.96	10.84	7.81
Indonesia	42.00*	32.70*	26.90	24.30	22.30	14.10	7.05	4.22
Nigeria	1.30*	1.04*	.94	.93	.89	.80	.74	.66
Colombia	1.60*	1.26*	.97	.94	.75	.67	.52	.39
Thailand	2.80*	2.00*	1.60	1.53	1.38	.70	.53	.35
Oth ctrs.	7.30*	5.27*	4.46	4.18	3.76	2.87	2.24	1.68
WORLD	78.00*	62.67*	53.66	50.79	46.07	34.10	21.92	15.11

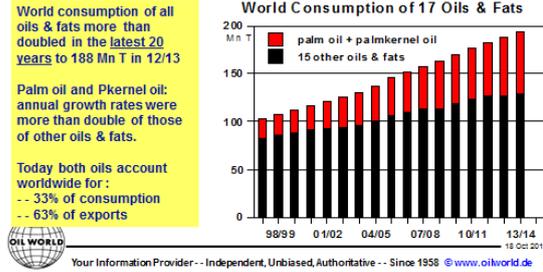


Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de



3,400 Ha of UP's advanced planting materials yielded an average of 7.59 MT CPO/ha

Growing Dominance of Palm Oil & Palmkernel Oil Worldwide



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

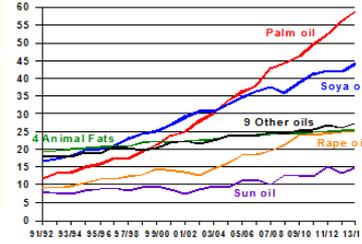
Palm oil has become the most important veg. oil worldwide

Palm oil production was boosted by more than 4 times in the past 20 years from 14 Mn T in 1993/94 and is estimated to reach 59 Mn T in 2013/14. Thereof: Malaysia 20 Mn and Indonesia 30 Mn T

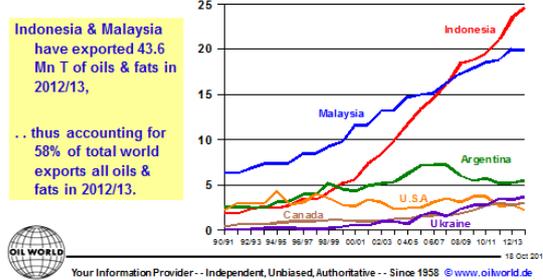


Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

17 Oils & Fats: World Production (Mn T)



Indonesia & Malaysia have exported 43.6 Mn T of oils & fats in 2012/13,



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

Thank You for Your Kind Attention !

If I can be of assistance to you in the future, you are invited to contact me any time.

More details and background information are given in the Oil World Weekly & Monthly Reports, which can all be obtained from the Internet.

Thomas.Mielke@oilworld.de



Your Information Provider - - Independent, Unbiased, Authoritative - - Since 1958 @ www.oilworld.de

Prospects for EU agricultural markets - Biofuels

Stephan Hubertus Gay (DG AGRI) & Fabien Santini (JRC-IPTS)



Biofuel assumptions

No changes in the current Renewable Energy Directive (RED)

A biofuel energy share of 8.5% in liquid transport fuels

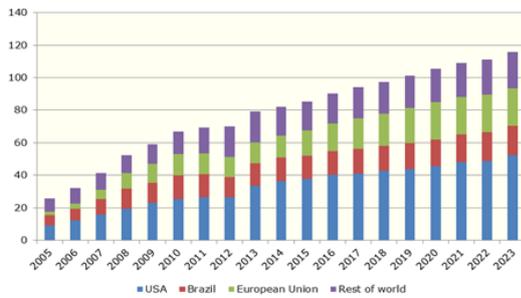
Other renewable energy to fill the gap e.g. electric cars

Continued increase in diesel and decline in petrol use

2



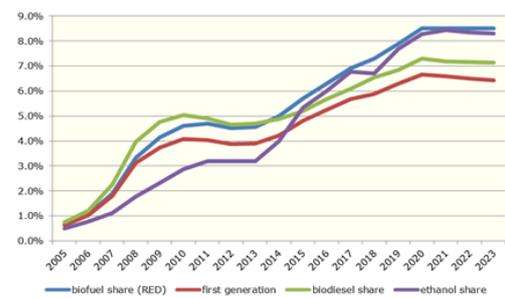
World biofuel use (billion tonnes oil equivalent)



3



EU biofuel shares in energy content: a new acceleration



4



Current biofuel discussion

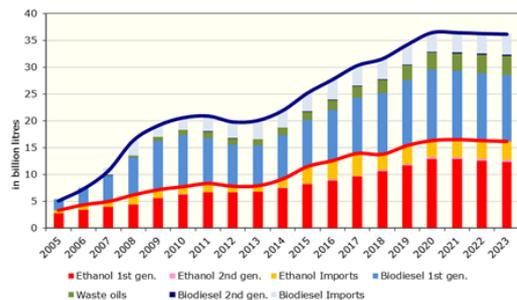
- Limit first generation contribution
- Sustainability criteria
- iLUC (indirect Land Use Change)
- Proposal of the European Commission (October 2012)
- First reading vote in the European Parliament in July 2013
- Discussion still ongoing



5



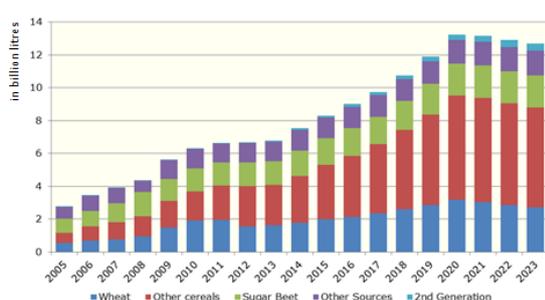
Biofuels: more imports and waste oils



6



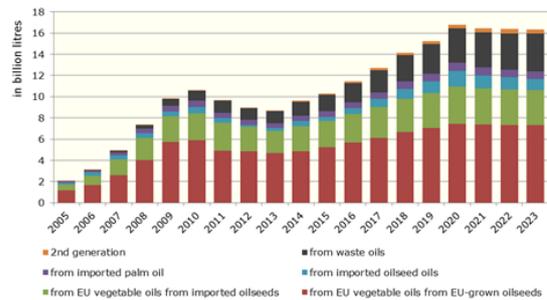
Ethanol feedstocks: mainly other cereals



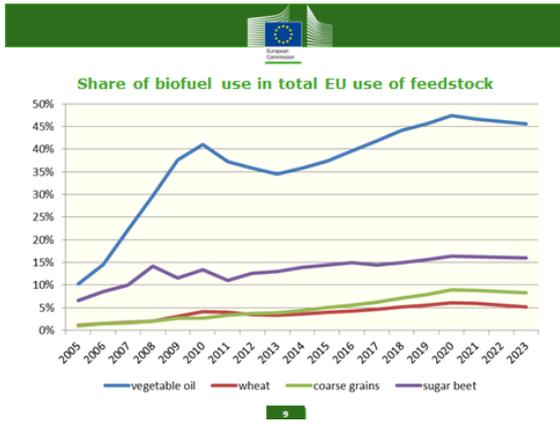
7



Biodiesel feedstocks: increasing share of waste oils



8



9

Summary

EU biofuel consumption has to accelerate again to meet current targets

Current discussion on sustainability criteria and maximum share of first generation biofuels

Faster growth in ethanol than in biodiesel expected

Biofuel share would exceed current standard blends (B7, E10)

Waste oils (UCOME, animal fats) to increase importance

Little prospects for other second generation

Biofuel use especially important for vegetable oil use in the EU

Biofuel market is highly policy dependent

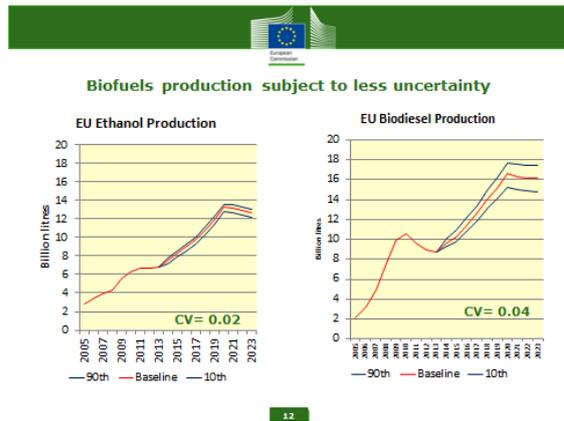
10

Uncertainty Analysis

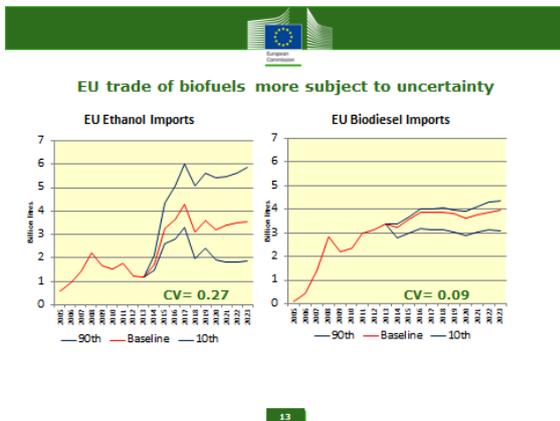
Partial Stochastic Analysis vs Deterministic Baseline

- General uncertainties
- Subset Stronger Oil Price / (Lower - Higher) US Maize Yield

11



12

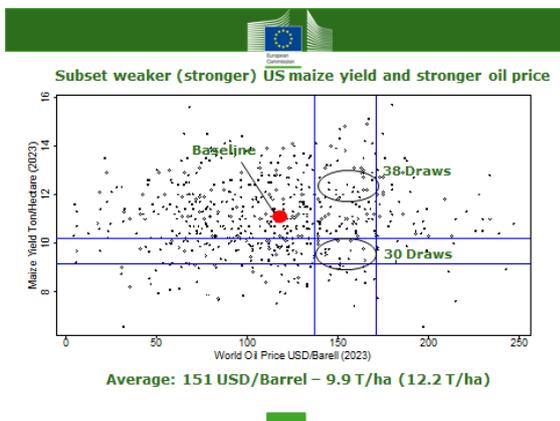


13

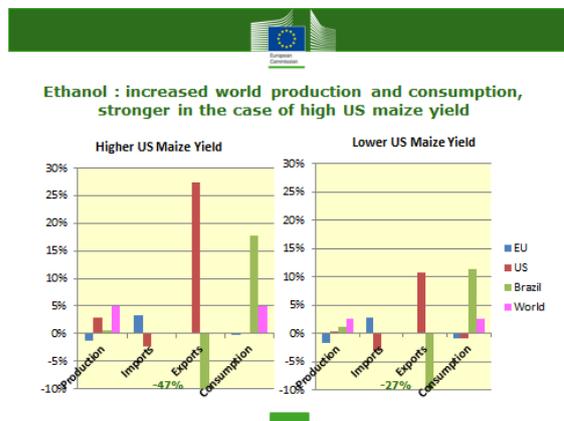
Percentile distribution of US maize Yield and oil price

Percentile	Min	10th	20th	30th	40th	50th	60th	70th	80th	90th	Max
Oil Price (USD/barrrel)	4	56	72	86	102	115	125	137	153	171	247
Baseline=116											
Percentile	Min	10th	20th	30th	40th	50th	60th	70th	80th	90th	Max
US Maize Yield (T/ha)	6.6	9.2	9.9	10.2	10.6	11.0	11.4	11.8	12.4	13.1	15.7
Baseline=11.0											

14



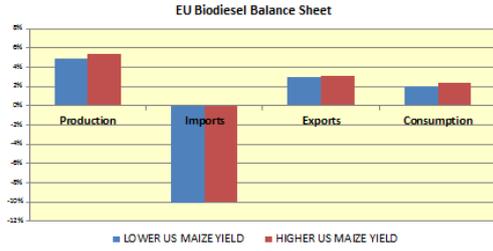
15



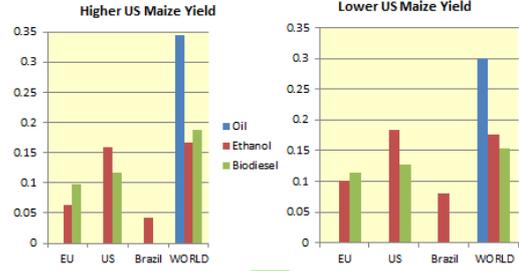
16



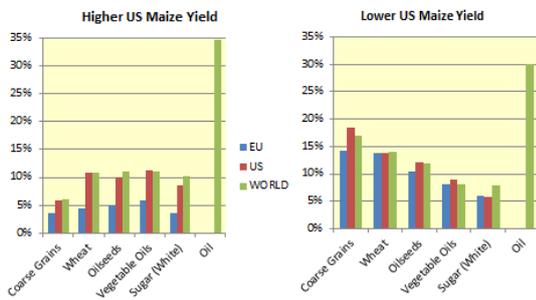
Biodiesel: increased EU production & consumption



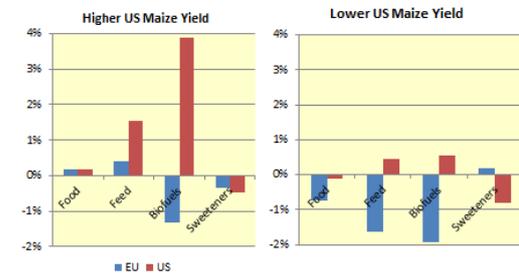
World & Domestic biofuels prices slightly boosted by lower maize yield



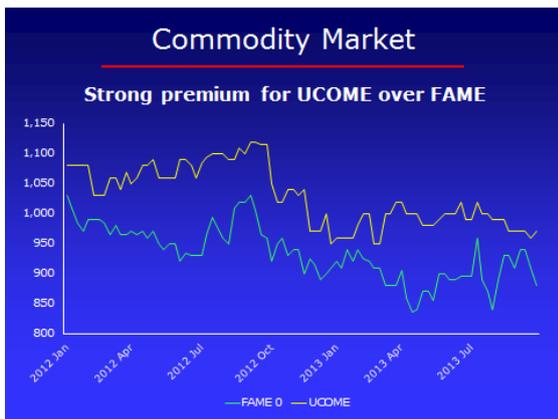
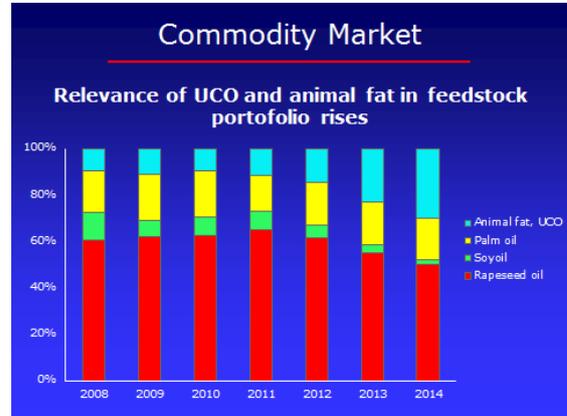
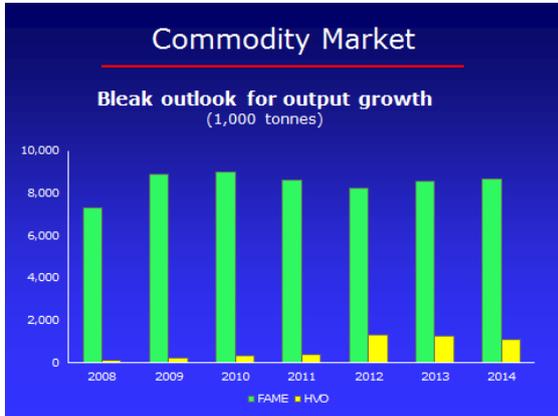
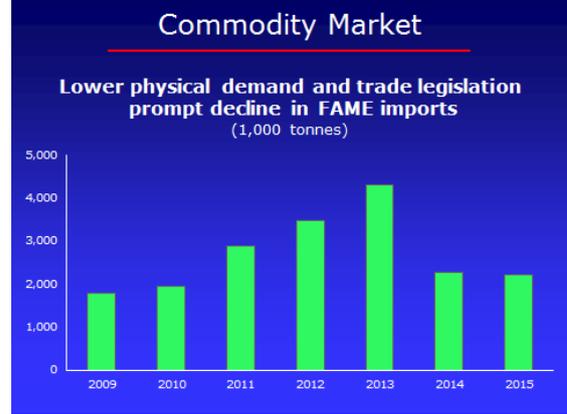
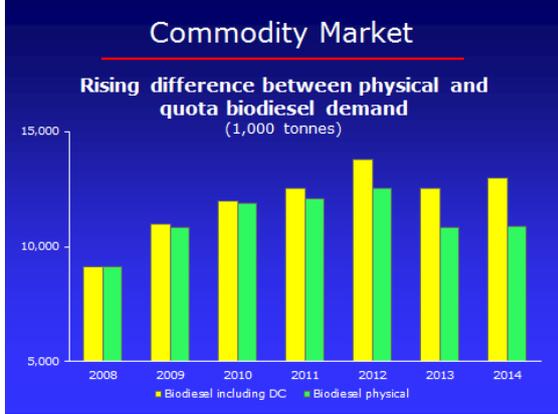
Crop prices



Use of Coarse Grains



Developments in the EU biodiesel market
Christoph Berg (F.O. Licht)



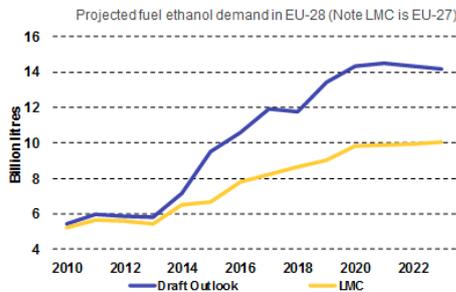
Ethanol in Europe Caroline Midgley (LMC International)

Ethanol in Europe

Commodity Market Development in Europe
Dr Caroline Midgley
Brussels October 23rd 2013

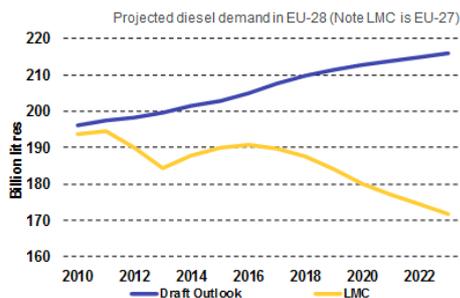


The draft outlook projects fuel ethanol demand rising to > 14 bn lts whereas LMC projects only 10 bn lts by 2020.



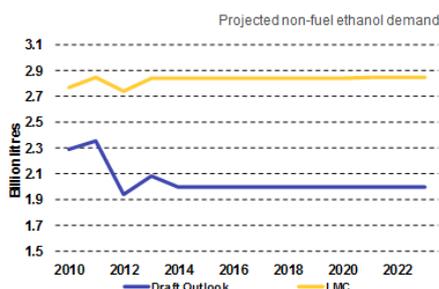
12/02/2014 ©LMC International, 2013 3

The draft outlook assumes higher diesel demand than LMC. Many analysts (including LMC) think the dieselisation of the market will come to an end.



12/02/2014 ©LMC International, 2013 5

The draft outlook assumes a lower level of non-fuel demand to LMC.



12/02/2014 ©LMC International, 2013 7

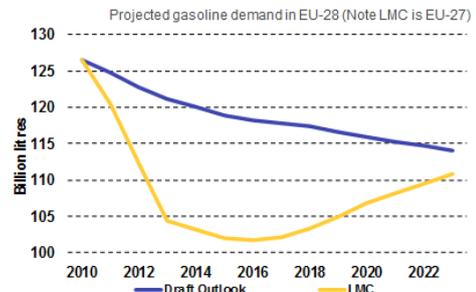
The draft outlook has a more optimistic view of 1st gen and ethanol than LMC.

Projected % by energy in 2020

	Draft Outlook	LMC
Biofuels energy share (% RED counting)	8.50	7.46
Energy share: 1 st -generation	6.65	5.32
Energy share: based on waste oils	0.83	0.76
Energy share: other 2 nd -generation	0.10	0.61
Electricity, hydrogen + biogas	?	0.77
Energy share: Ethanol in Petrol	8.3	6.0
Energy share: Biodiesel in Diesel	7.3	6.8
Total with multiple counting	?	9.09

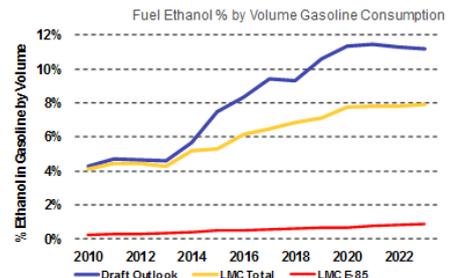
12/02/2014 ©LMC International, 2013 2

The draft outlook assumes higher gasoline demand than LMC but our 2011 and 2012 figures are very different...



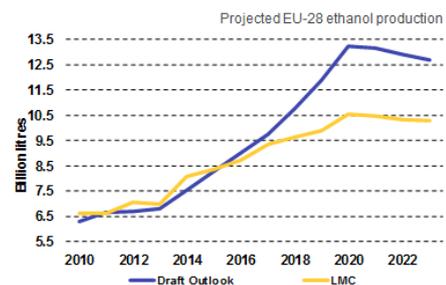
12/02/2014 ©LMC International, 2013 4

The draft outlook implies 12% of ethanol in gasoline by volume. This is ambitious assuming an E-10 blend wall and implies a considerable volume of E-85 and total market penetration of E-10.



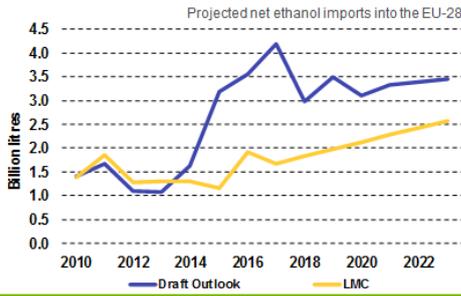
12/02/2014 ©LMC International, 2013 6

The draft outlook is more optimistic about future ethanol production. LMC assumes that beets will not make a major contribution to ethanol production after 2017 once sugar production quotas as abolished.



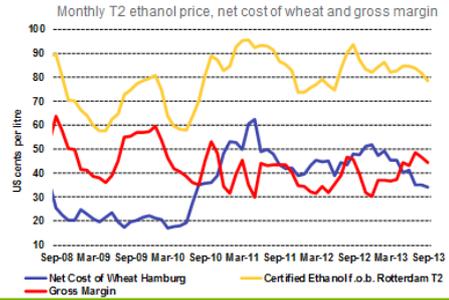
12/02/2014 ©LMC International, 2013 8

As per the draft outlook, LMC also expect imports to increase. However, we have a more conservative view as to the volume of imports.



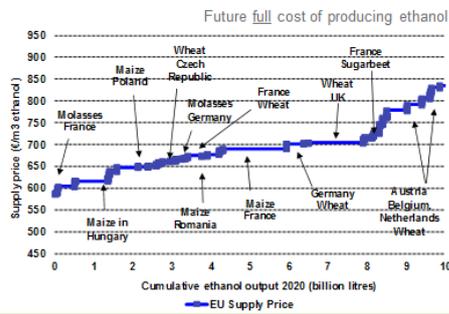
12/02/2014 ©LMC International, 2013 9

The gross margin on wheat ethanol production has narrowed in recent years as ethanol prices have failed to rise in line with wheat prices.



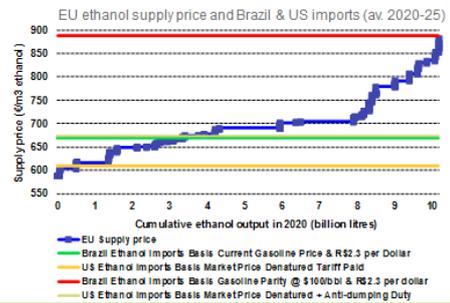
12/02/2014 ©LMC International, 2013 10

The total future delivered cost of EU ethanol for grains is €590-700/m³.



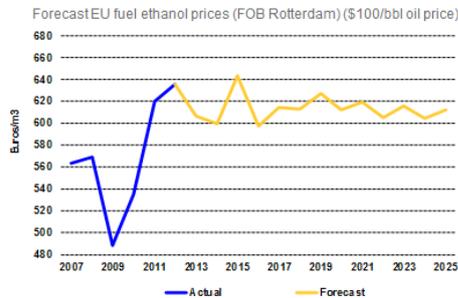
12/02/2014 ©LMC International, 2013 11

US imports, without the AD duty, are very competitive, as is Brazilian ethanol (paying the denatured tariff). If Brazil's gasoline price were raised in line with oil prices, it would be very uncompetitive.



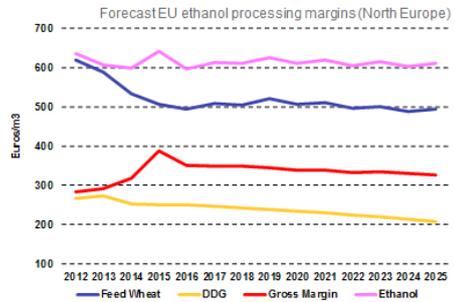
12/02/2014 ©LMC International, 2013 12

EU fuel ethanol prices are expected to remain subdued despite the imposition of anti-dumping duties



13/02/2014 ©LMC International, 2013 13

Gross margins for wheat based ethanol production are expected to continue to decline.



13/02/2014 ©LMC International, 2013 14

How will producers respond to the challenging commercial environment?



- Thin margins are likely to drive consolidation in the sector
- There will be a drive to boost revenues by seeking additional by-products. Corn ethanol producers could install corn oil extraction. Wheat dry mills could convert to wet mills and produce starch products and vital wheat gluten.
- The abolition of sugar/isoglucose production quotas in 2017 opens up the possibility of producing sweeteners from starch.
- Fuel ethanol producers will look for new opportunities to supply the industrial and beverage markets. Fuel producers may install neutral alcohol capacity.
- The only good news for producers is the abolition of sugar production quotas. Sugar producers will be free to divert surplus beets into sugar production. This is likely to offer a better return than ethanol, resulting in the removal of around 900 million litres of ethanol from the market.

13/02/2014 ©LMC International, 2013 15

Thank You
www.lmc.co.uk



Prospects for EU agricultural markets - CAP 2020 and modelling
*Benjamin Van Doorslaer (JRC-IPTS), Stephan Hubertus Gay (DG AGRI),
 George Philippidis (JRC-IPTS)*



Incorporation of the CAP reform in the CAPRI model

- End of milk quota included in baseline
- End of sugar quota included in baseline, isoglucose is not modelled
- Greening measures
 - ✓ permanent grassland
 - ✓ crop diversification (Shannon-index)
 - ✓ ecological focus area
- Direct payments:
 - ✓ Need to update information on ceilings (budget)
 - ✓ convergence of direct payments; internal convergence?
 - ✓ Update of eligible hectares - entitlements (new base: 2015 ?) and budget figures in premium module

3



Incorporation of the CAP reform in the CAPRI model

- Rural development measures: update necessary, to be discussed
- Capping, young farmer, small farmer, re-coupling...
 Will be included in baseline following Member State implementation decisions

4



Incorporation of the CAP reform in the DG AGRI baseline

- End of milk quota included as of 2015
 - No limitation on deliveries to dairies
- End of sugar and isoglucose quota included as of 2017
 - No separation of in- and out-of-quota sugar: one single market price
- Single Farm Payment:
 - Adjustment of overall envelope but average payments in EU-15 and EU-N13
- Greening:
 - Protection of permanent pasture: pasture area exogenous in the approach
 - Crop diversification: not included as only limited influence on EU-15 and EU-N13 level
 - Ecological Focus Area: foreseen in the approach to include a further wedge for set-aside, but left at 0% for the time being
- Capping, young farmer, small farmer, re-coupling...
 - Will only be included in the baseline following Member State implementation decisions

2



Incorporation of the CAP reform in the CAPRI model

- Rural development measures: update necessary, to be discussed
- Capping, young farmer, small farmer, re-coupling...
 Will be included in baseline following Member State implementation decisions

4



Agricultural Modelling in CGE

- Factor markets
 - Heterogeneous land transfer between different agricultural activities
 - Segmented agricultural and non-agricultural labour and capital markets.
- Product markets
 - Production quotas
 - Decoupled payments. Uniform land subsidy (no coupling factor...source of on going research)
 - Pillar II productivity effects – parametric uncertainty
 - CAP budgetary expenditures
- Improved data representation and modelling
 - Explicit links between all EU pillar I (e.g., decoupled, market measures) and Pillar II (rural development) payments and CAP budget accounting equations
 - Own resource component of EU budget, MS contributions to CAP and additional corrections (rebates)

Modelling the CAP reform in CAPRI Peter Witzke (EuroCARE)



Modelling the CAP reform in CAPRI

Workshop on "Commodity Market Development in Europe - Outlook"
Brussels, 23-24 October 2013
Peter Witzke, EuroCARE



Content

- Some background on CAPRI
- Important reform elements and options to include them

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE



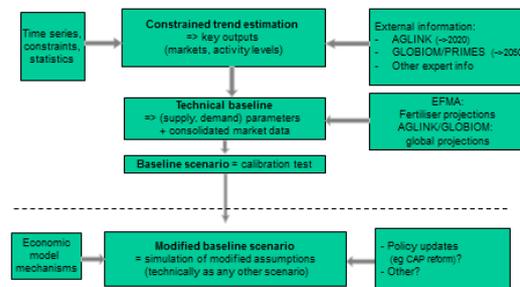
CAPRI: Overview

- Database
 - Eurostat, also FAO or Aglink, plus IFA, ILO... for special issues
- Two modes of application
 - Baseline: Constrained trend estimation + calibration
 - integrates external information plus statistical analysis
 - Scenario analysis: Comparative static economic equilibrium model
 - Drivers: agric/other policies, macro, technology
- Two major components for scenario analysis:
 - Global market model (~ 40 regions)
 - ~ 70k equations for supply, demand (with Armington), policy.
 - Regional (NLP) programming models for supply side of European regions
 - Policy details, some physical constraints, nonlinear cost => smooth response
- Output: Markets, activities, environment, economic welfare

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE



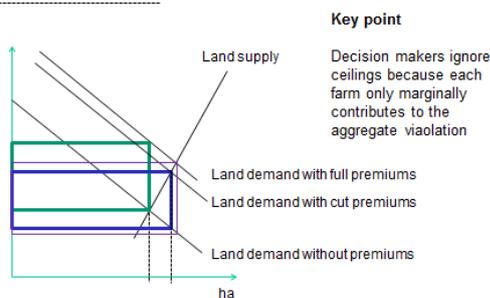
Overview on CAPRI baseline procedure



Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE



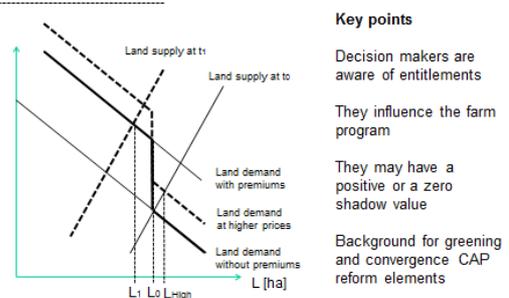
Modelling: Agenda 2000 premiums



Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE



Modelling: entitlements in CAPRI



Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE



CAP reform elements related to SFP

Type of support	Capping (% of DP)	CAPRI accessible?
Voluntary		
Coupled support for range of sectors	10%	Like Article 68
Natural constraint support	5%	Like modulation + LFA support
Small farmers scheme, degressivity, capping	?	FT Version? Needs external analysis
Young Farmer Scheme	2%	Analysis only based on assumptions
Mandatory		
'Green' Payment <ul style="list-style-type: none"> Crop diversification Permanent grassland Ecological focus area 	30%	See below
Basic Payment Scheme <ul style="list-style-type: none"> National or regional flat rate / ha New entitlements in 2015 		No problem but MS information?

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE



Greening (1)

Component	Requirements	Interpretation
Crop diversification	<ul style="list-style-type: none"> If < 10 ha: exempted 10-30ha: <ul style="list-style-type: none"> At least 2 crops Main crop < 75% of arable land (exceptions for grassland and other desired landuse) >30ha <ul style="list-style-type: none"> At least 3 crops Main crop < 75% Main 2 crops < 95% of arable land 	Greening component (30%) has a separate entitlement as the basic payments.
Permanent grassland	<ul style="list-style-type: none"> Strict maintenance in designated areas Otherwise maintaining ratio to agricultural area with 5% leeway 	It is cut endogenously according to the largest % gap to the respective target value
Ecological focus area	<ul style="list-style-type: none"> Land set aside, fallow, afforested, with pulses, agroforestry etc Includes field margins, hedges, trees with conversion factors 5% of arable land (may increase to 7%) 	=> Farmers decide whether it is worth to comply

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Witzke, EuroCARE

- Farm level analysis (FADN) with auxiliary optimisation program
 - Objective function: Minimise squared differences to observed data (2008)
 - But meet crop diversity constraints (and some technical constraints)
 - Calculate Shannon index for all farms corresponding with a certain CAPRI farm type before and after imposing compliance

$$\text{ShannonIndex} = -\sum_i p_i \ln(p_i)$$

If crop 1 = 99%, crop2 = 1%; Shannon = 0.06,
but 4 crops each 25%; Shannon = 1.39

- Target level for Shannon index in CAPRI = Baseline Shannon index * relative improvement from FADN index for a particular farm type
 - NUTS2 are aggregated from FTs with areas shares
- => Farm level targets are translated into an indirect indicator that may be calculated in CAPRI

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Wijk, EuroCARE

- Grassland target will depend on MS implementation rules
 - So far very simple target: Average of baseline (2020) grass area and base year (2004) grass area
 - Neglects aggregation bias etc
- Ecological set aside :
 - Landscape elements such as hedges were so far not eligible for SFP ("area in good agricultural and environmental condition") ⇒ no data at European level
 - Furthermore landscape elements may be converted into equivalent hectares using a table of conversion coefficients => requirement is relaxed.
 - Also data on fallow land often dubious in statistics
- => Simple implementation with 5% requirement will exaggerate effects

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Wijk, EuroCARE

- Financial amounts (net ceilings) need update in CAPRI
- Convergence formula for MS has been implemented
 - premiums(new) = premiums(old) + 1/3*[premiums(EU*0.9)- premiums(old)]
 - An entitlement trade module ensures that within a MS unused entitlements may be reallocated
- Internal convergence and distributive elements so far neglected
 - Information on MS implementation already available?

Workshop on "Commodity Market Development in Europe - Outlook" - Brussels, 23-24 October 2013 - P. Wijk, EuroCARE

Challenges in modelling U.S. Farm Bill proposals

Pat Westhoff (FAPRI)

Challenges in modelling U.S. Farm Bill proposals

Pat Westhoff (westhoffp@missouri.edu)
 Director, Food and Agricultural Policy Research Institute
 University of Missouri
www.fapri.missouri.edu

Workshop on Commodity Market Development in Europe - Outlook
 Brussels
 Oct. 23, 2013

Food and Agricultural Policy Research Institute
FAPRI

Agenda

- House and Senate farm bill proposals
- Some modelling challenges
- A few results

Congressional farm bill proposals

- Both would eliminate many existing farm programs
 - Direct payments, countercyclical payments, ACRE
 - Dairy price supports and MILC payments
- Allocation of "savings"
 - Reduce federal deficit
 - Create new programs that pay farmers when prices or revenues fall below a trigger
 - House and Senate have different proposals for these new programs
- Major difference on SNAP (food stamps)
 - Senate makes relatively small cuts (<1%)
 - House makes about \$39 billion in cuts over 10 years (10x Senate cuts)



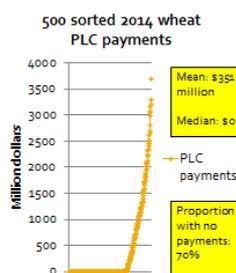
Challenge 1: Estimating impacts of eliminating two current programs

- Elimination of fixed direct payments (DPs)
 - \$5 billion per year, largely decoupled
 - In model, only very small effects on production
 - But does affect farm income, land values
- Eliminating countercyclical payments (CCPs)
 - Tied to prices, but fixed base area and yields
 - At current prices, irrelevant for most crops
 - Requires stochastic analysis, as some chance payments can occur
 - Also must decide supply-inducing effect of payment
 - In model, effect of \$1 of CCPs greater than of \$1 of DPs
 - But less than the effect of a dollar of market receipts



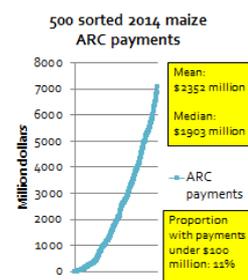
Challenge 2: Estimating fiscal costs of new price-based subsidies

- House Price Loss Coverage (PLC) makes payments when prices fall below fixed reference prices
- These prices are well above current law target prices, but below projected average prices for most commodities
- Stochastic analysis required to estimate costs



Challenge 3: Estimating fiscal costs of new revenue programs

- Senate Agriculture Risk Coverage (ARC): payments when county (or farm) revenues per hectare fall below a trigger tied to moving averages of prices and yields
- Requires estimates of future combinations of prices and county yields—stochastic analysis and lots of correlations



Challenge 4: Estimating supply impacts of new programs

- New programs are generally more coupled
 - House PLC and Revenue Loss Coverage and Senate ARC all tied to planted acres and prices or revenues
 - Exception: Senate Adverse Market Payments (AMPs) tied to base acreage and fixed yields
- Thus far more "coupled" than programs they replace
- Model assumes that \$1 of revenues under new program has same effect on production as \$1 of market returns
- For ARC and RLC, had to calibrate national models to reflect expected payments from county-level analysis



Impacts on area planted (million hectares)

	Baseline (2014-18 avg.)	House change vs. baseline	Senate change vs. baseline
Maize	37.05	+0.05	+0.09
Soybeans	31.22	-0.05	-0.01
Wheat	29.99	+0.02	-0.04
Upland cotton	4.03	+0.05	+0.06
Sorghum	2.73	-0.02	-0.02
Rice	1.15	+0.03	-0.01
Oats	1.16	-0.03	-0.02
Barley	1.29	+0.07	-0.01
Sunflower seed	0.87	-0.01	-0.01
Peanuts	0.57	+0.02	0.00
12-crop total	102.90	+0.15	+0.03



Farm price impacts (dollars per metric ton)

	Baseline (2014-18 avg.)	House change vs. baseline	Senate change vs. baseline
Maize	188	-1	-1
Soybeans	416	0	-1
Wheat	225	-1	0
Upland cotton	1517	-14	-15
Sorghum	181	0	-1
Rice	309	-7	+3
Oats	206	0	0
Barley	205	-10	0
Sunflower seed	532	+1	0
Peanuts	556	-43	+2



Challenge 5: Estimating AMS and other WTO measures

- Have to guess how new programs might be notified
 - Most new programs likely to be amber
 - Senate AMP might be blue under new rules
- Stochastic analysis to estimate
 - Mean levels of AMS under existing WTO agreement
 - Overall trade-distorting support and other measures under possible new agreement
- Results
 - Dairy AMS declines (no price support program, new program *de minimis* in most cases)
 - AMS for crops may increase, as new amber policies replace green
 - Not likely to exceed current \$19.1 billion AMS limit
 - But in stochastic analysis, frequently exceed proposed \$7.6 billion AMS limit, OTDS limits and (especially) commodity-specific caps



Thanks!

- FAPRI-MU website: www.fapri.missouri.edu
 - Report on House and Senate bills is #06-13, issued earlier this month
- To contact me:
 - 573-882-4647
 - westhoffp@missouri.edu
- FAPRI-MU team:
 - Julian Binfield
 - Scott Gerlt
 - Lauren Jackson
 - Willi Meyers
 - Kateryna Schroeder
 - Wyatt Thompson
 - Jarrett Whistance
 - Peter Zimmel

FAPRI baseline review:
Dec. 16-17 in Washington



Prospects for EU agricultural markets - Meat

Sophie H elaine, Fabien Santini, Benjamin Van Doorslaer, Livia Galita
(DG AGRI & JRC-IPTS)

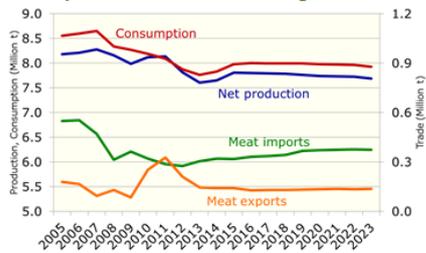


Key points

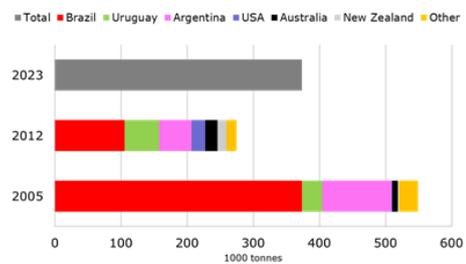
- High world meat demand and positive trade prospects
- Beef and pig meat: rebound after a few years of declining production but from 2015 mixed picture
- Poultry meat has strongly benefited from the lower supply of the other meats
- Development of sheep meat production less negative than usual



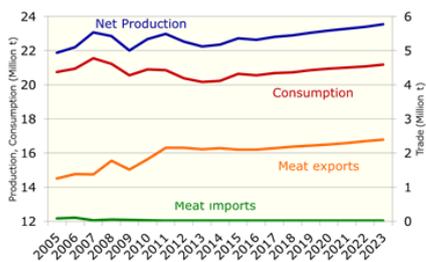
EU beef production back to declining trend after 2015



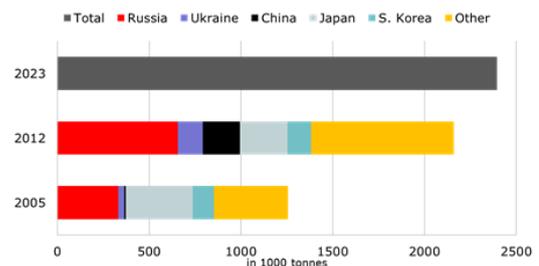
EU beef imports developments



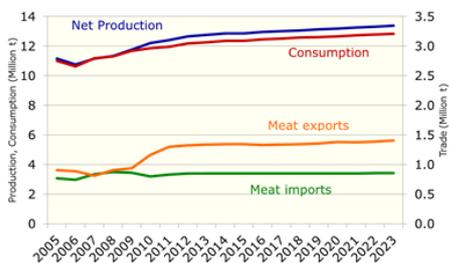
Pig meat: rebound from 2015 to benefit from export opportunities



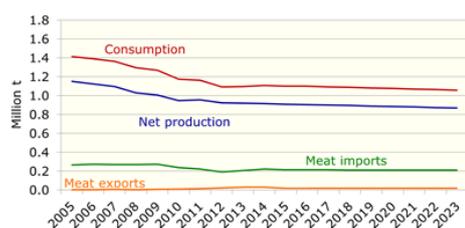
EU pig meat exports developments

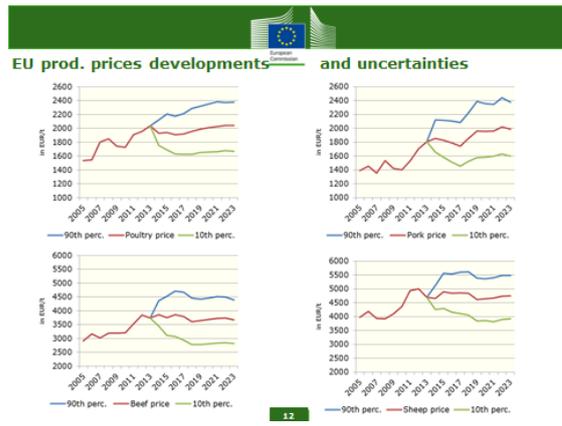
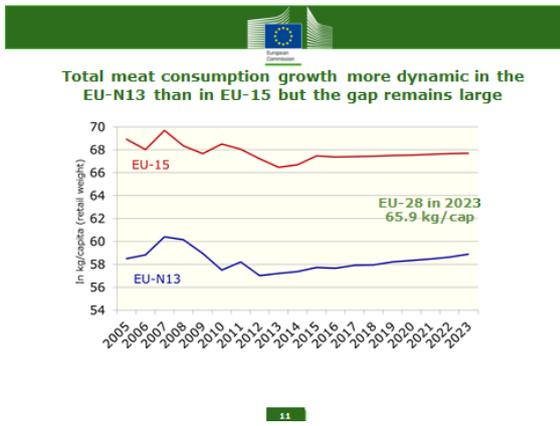
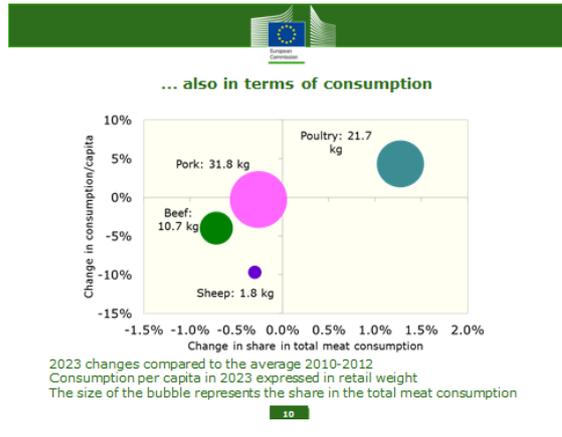
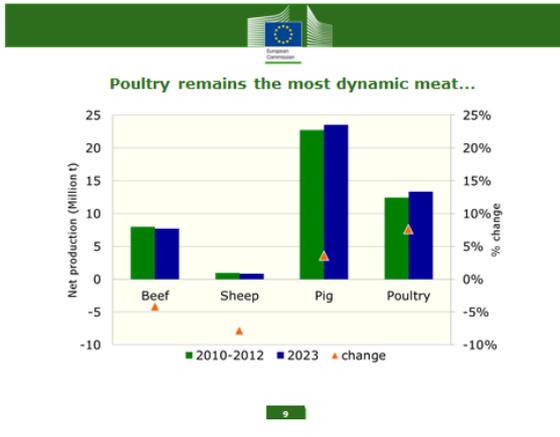


Poultry meat demand and production growth not as strong as in previous decade



Sheep meat: slowdown in the declining trend



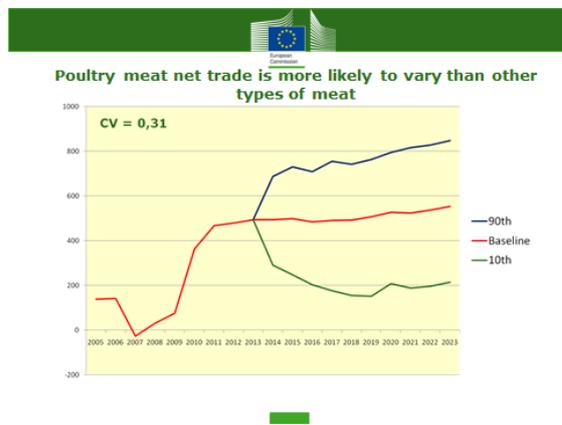
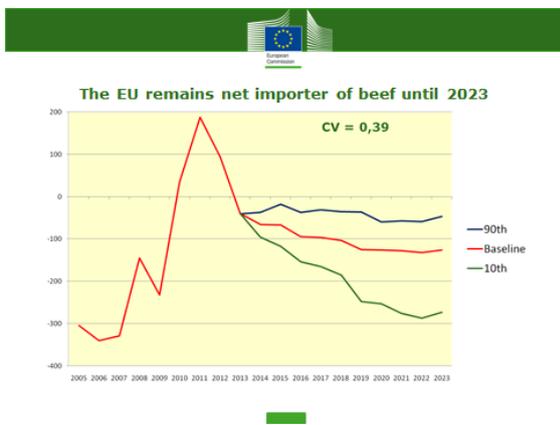
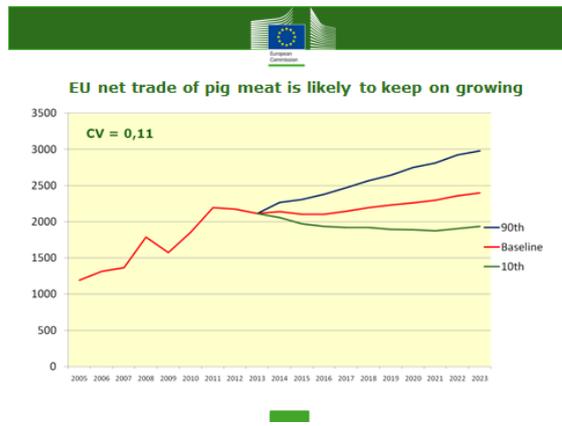


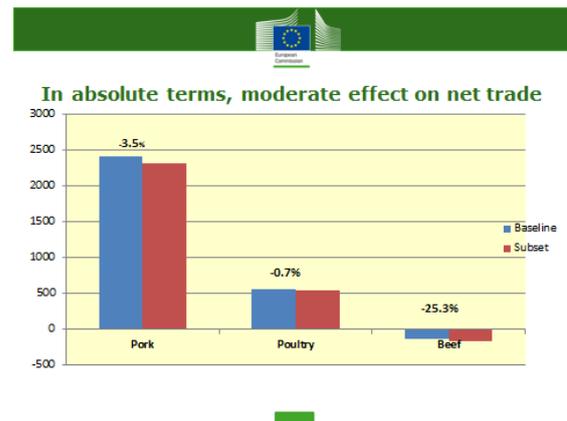
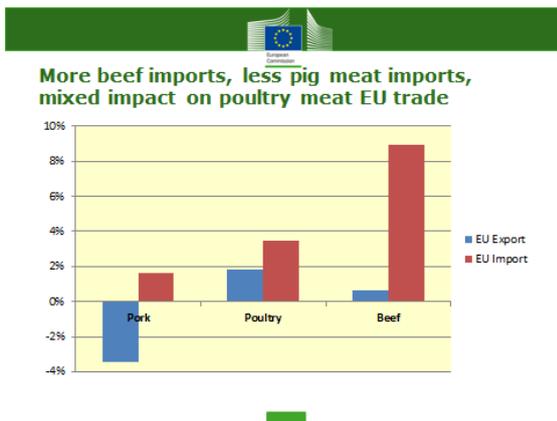
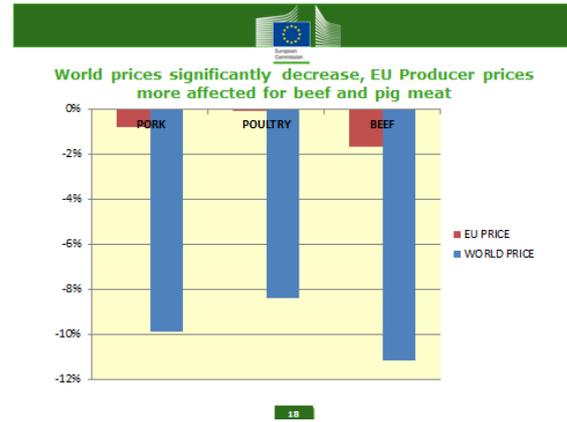
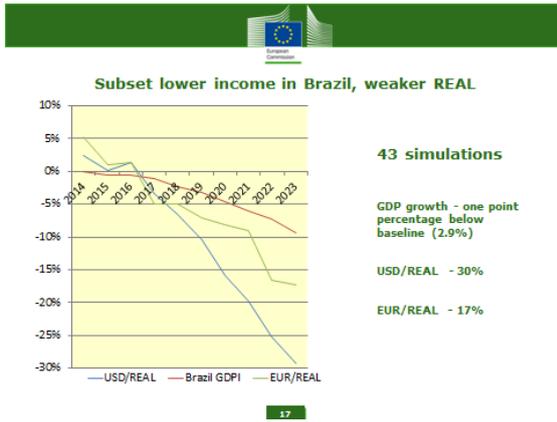
Uncertainty Analysis

Partial Stochastic Analysis vs Deterministic Baseline

- General uncertainties
- Subset Lower Income and Weaker Currency in Brazil

Increased Feed Costs impact (CAPRI)





Feed cost increase

- Objective?**
To analyse the impact of the uncertainty of an upward development of EU feed prices and impact in the EU and at regional level (NUTS2)
- What?**
Increase of EU feed prices of 10-20% in 2020 compared to the baseline 2020 (business as usual scenario)
- How?**
By increasing the processing margins of feed in the EU by 20% (feed from cereals, rich in proteins, rich in energy, from milk products); the CAPRI model was used for the scenario analysis

21

Changes in feed composition (% , kg/animal)

	Feed cereals	Feed rich protein	Feed rich energy	Feed other	Fodder Grass	Fodder maize	Other Roots	Other fodder	Straw
Dairy Cows	-20.5	-0.6	-2.4	-21.5	10.0	32.5	43.3	5.5	1.7
Suckler Cows	-43.2	-14.8	-10.2	-26.5	4.2	-4.6	38.5	3.1	-13.9
Pig fattening	-2.5	1.1	4.8	-10.9		15.8			
Pig Breeding	-10.0	2.5	-1.1	-21.9		36.8			
Laying hens	0.1	0.3	3.1	-10.4					
Poultry fattening	0.6	0.7	2.0	-13.3					

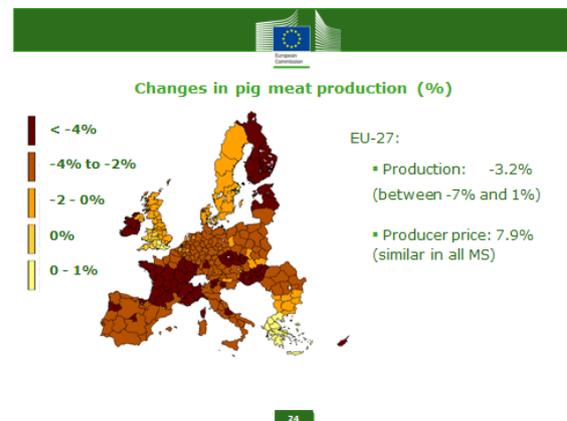
- Switch from processed feed to grass and fodder in the case of ruminants, but limited because of feed requirements, availability of fodder and competition
- Less "flexibility" of substitution for poultry

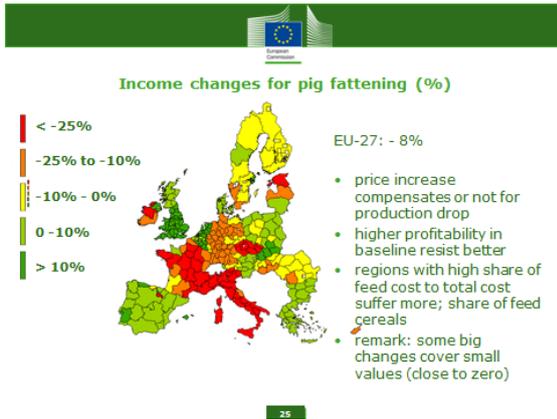
22

Changes in the EU balance sheet

		Difference (1000 tons)	% change
Pig meat	Production	-759	-3.2
	Consumption	-189	-0.9
	Imports	58	56.1
	Exports	-512	-21.4
Poultry	Production	-782	-6.0
	Consumption	-196	-1.8
	Imports	227	90.9
	Exports	-360	-41.7

23





Summary

- The varied characteristics of the animal production systems in the EU make the impact very much regional specific.
- Main drivers:
 - share of feed costs in total costs
 - possibility to substitute for other (cheaper) feeding stuff
 - profitability of the activity in the baseline

Gira reflections to the EC Outlook 2013-2023” Richard Brown (Gira)

Gira
Consultancy & Research
Prospective of Strategic

Gira reflections to EC “Commodity Market Development in Europe - Outlook 2013-2023”

Based on Gira’s annual Short Term Trends in World Meat Markets & Long Term Strategic Trends in World Meat Markets 2010-2020

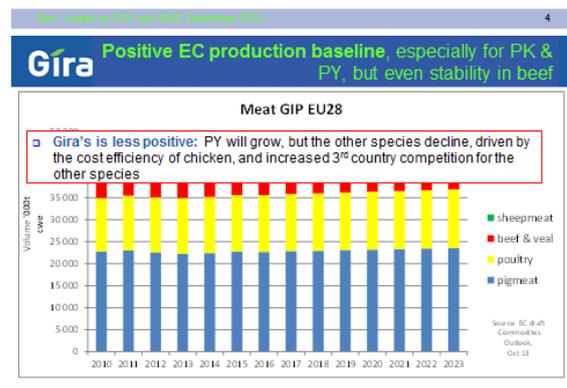
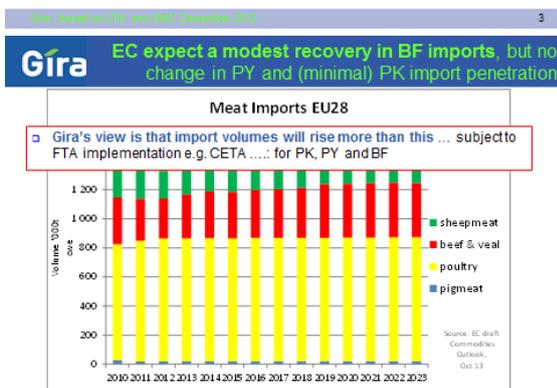
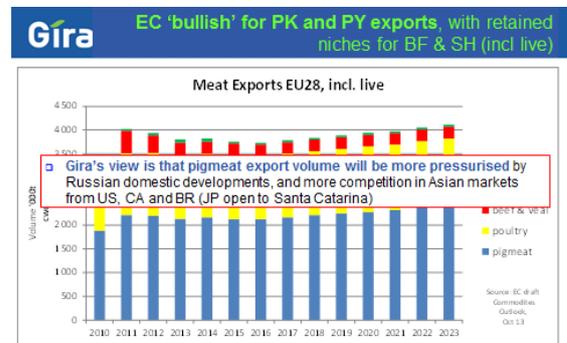
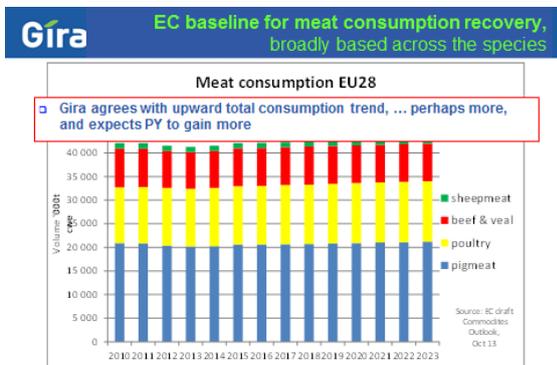
EC-Outlook meeting
Richard Brown
October 24th 2013

13, chemin du Levant
01210 Ferney-Voltaire - France
Tel: + (33) 4 50 48 24 00
Fax: + (33) 4 50 48 24 02
contact@girafood.com
www.girafood.com

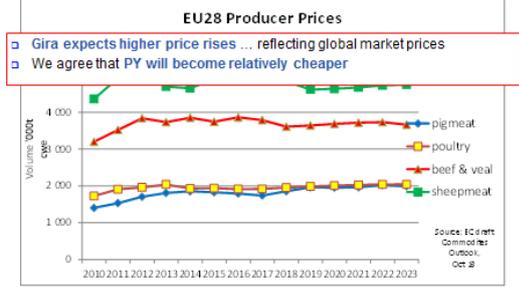
Gira Gira’s brief for today

- Comment on the EC’s draft meat market outlook 2014-2023
- Reflections on pork & poultry markets:
 - Potential new export markets for the EU
 - Implementation & compliance on new animal welfare rules

Gira - based on LTM and GMC December 2012 2



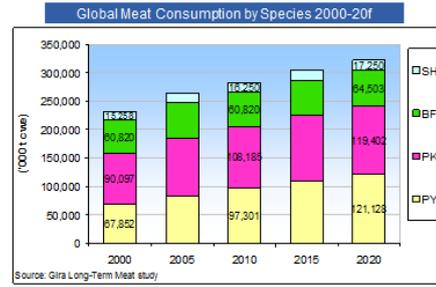
Gira EC forecast is relatively bearish on price, except for PK – which rises to close the gap with PY



Gira based on LTM and GMC December 2012

7

Gira Global meat consumption continues to grow, pulled by mainly by per capita demand in emerging markets

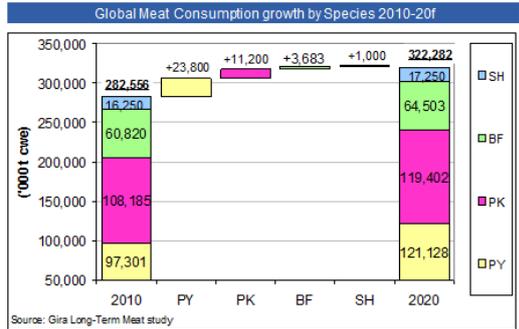


40m t of meat consumption growth 2010 to 2020f (+14%), less than previous decade, but good recovery from 2009 credit crunch

Gira based on LTM and GMC December 2012

8

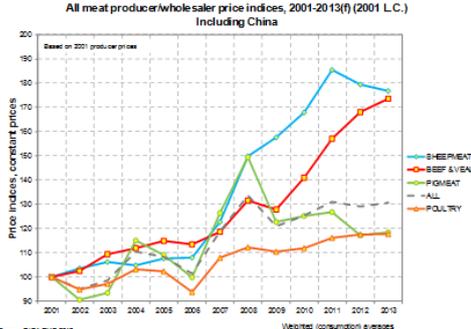
Gira Global meat consumption growth dominated by poultry, driven by its relative price



Gira based on LTM and GMC December 2012

9

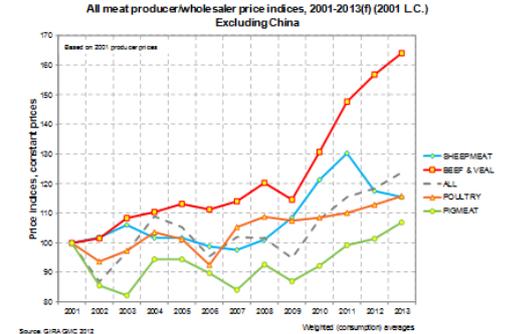
Gira Real prices have risen strongly ... and will continue
Apparent 2012 price downturn for pork is heavily influenced by CN price



Gira based on LTM and GMC December 2012

10

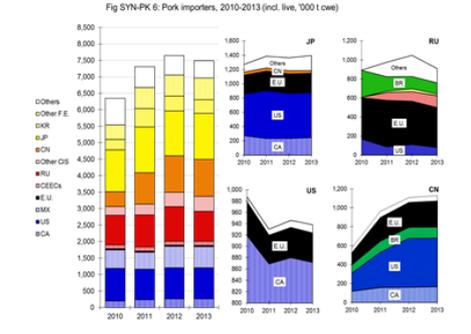
Gira Excluding Chinese influence: sharp price increase looks more familiar



Gira based on LTM and GMC December 2012

11

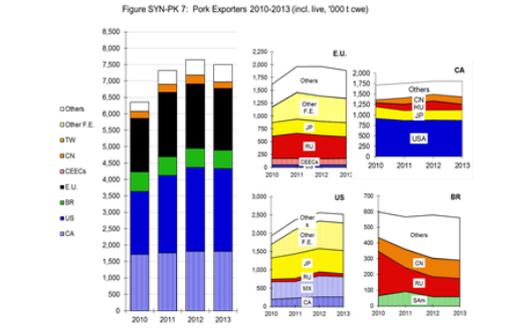
Gira Global Pigmeat Importers: dominated by Asia



Gira based on LTM and GMC December 2012

12

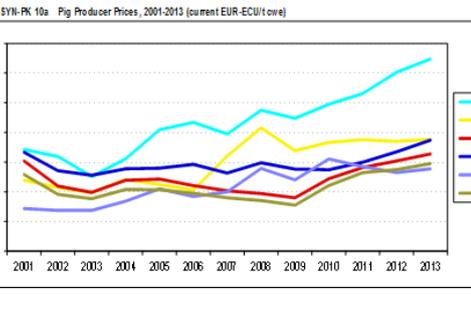
Gira Global Pigmeat Exporters: Highly concentrated ... but more competition for EU from lower cost producers, assuming market access



Gira based on LTM and GMC December 2012

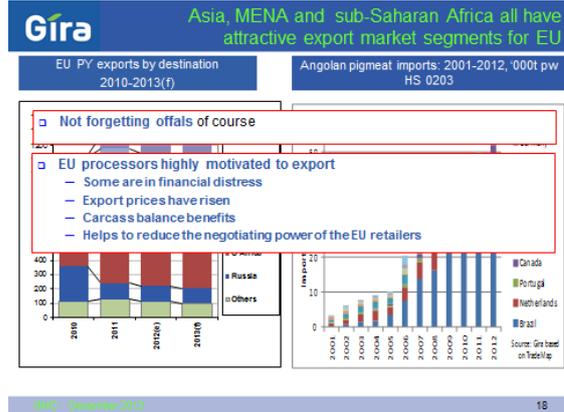
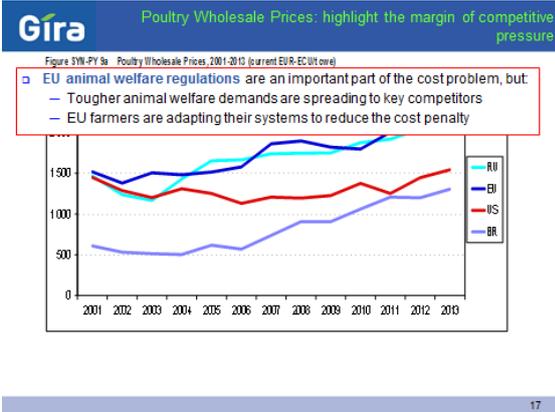
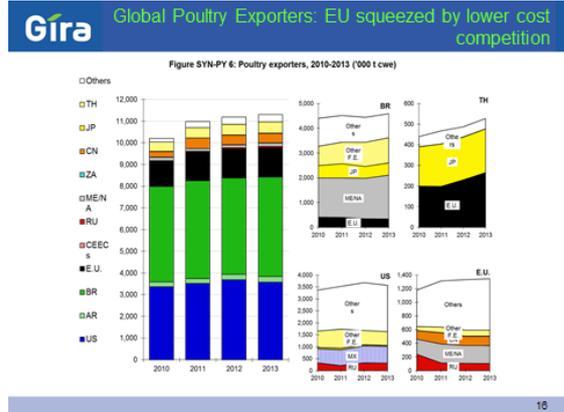
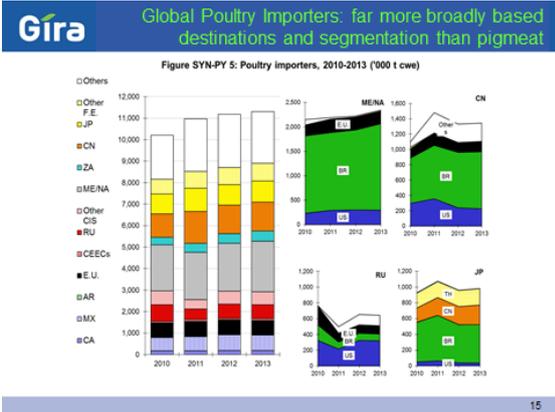
13

Gira Pig Producer Prices (EUR/t cwe), ... attractive in export markets ... but strong competition



Gira based on LTM and GMC December 2012

14



Beef outlook - 2014 & after

Philippe Chotteau (Institut de l'Elevage)

Beef Outlook 2014 & after

Philippe CHOTTEAU
Head Economics Dpt

Commodity Outlook, Brussels, October 24th 2013

www.idele.fr

Plan

1. Feedback about the JRC preliminary prospects 2014-2023
2. Some major issues about the World Beef Market in the next few years

www.idele.fr

EU Beef Production main Drivers

1. Cows herd evolution: dairy & suckler.
2. Veal production: #22-23% of calves born from EU dairy herd; at carcass weights 2,5 lighter than cattle. Specific (malthusian) strategy for a purely EU market (up to now).
3. Live trade balance. Live imports have become negligible, but opportunities for live exports (beef stores and finished young bulls, dairy heifers).
4. Carcass weight evolution.
5. Genomics & Sexing semen: more crossed bred calves from dairy cows.

www.idele.fr

Long term decline of EU beef prod.

Net production/consumption in the EU-27

Source: Institut de l'élevage, based on Eurostat

Long decline trend in line with the cow number decline

Sharp drop of consumption from 2008 (-12%!)

www.idele.fr

Cows herd evolution post 2013 ?

- ▶ **2/3 of EU cows are dairy => major impact of Dairy Commodities market + Cow productivity prospects**
- ▶ In 2013: For the 1st time since years, stabilization of the dairy herd.
- ▶ Would this unusual situation go on for the next 10 years ?
 - Quite good prices prospects for dairy commodities but ups & downs likely
 - Cow productivity [Milk Yield] increases only slowly, particularly in the last period, from 2018: why ? Change of feed systems ?

www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Cows herd evolution post 2013 ?

- ▶ **1/3 of EU cows are suckler => major impact of Coupled payments (FR + SP = half of the EU herd)**
- ▶ **Why no prospect about the suckler cows number ?**
 - We could collaborate if possible/useful
- ▶ **Beef returns anticipations, closely linked to:**
 - ▶ End (and when ?) of the EU economic crisis: consumer price sensitivity
 - ▶ Ability of the EU beef industry to meet EU consumer preferences (i.e. « Horse gate »...)
 - ▶ But mainly compared returns with other alternatives, farming (grain crops...) or non farming.

www.idele.fr

Commodity Outlook – Beef – October 24th 2013



EU Beef Imports Prospects

- ▶ **Increase after 2018: do that include the future Canadian Beef TRQ ?**
- ▶ Seems to be around 50 kt cwe (35 kt for chilled beef and 15 kt for frozen) at 0 duty. That will potentially nearly double the Canadian exports outside the NAFTA.
- ▶ Concerns about the compliance with EU standards (animal welfare, sanitary practices, environment...)
- ▶ Signal sent to USA (much larger production and exports)

www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Export prospects ?

- ▶ **EU Beef Price competitiveness remain doubtful in the future on Third Markets**
- ▶ **But strong points for the neighbouring countries & quality niche markets**
 - ▶ Mediterranean area: live cattle or beef exports ? High demande for live cattle: higher value for Vth quarter (variety meats, hides & skins) + religious slaughter
 - ▶ Continental beef breeds for lean young bull beef and store males
 - ▶ Higher world standards in terms of food security, environment friendly, animal welfare...

www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Export prospects ?

- ▶ **Still at the bottom from 2013 to 2023 ?**
- ▶ Production expected to rebound from 2014 with the return to a more normal culling rate (2 to 3% lower in 2013 compared to 2011-2012)
- ▶ Companies strategies to export to Mediterranean countries...
- ▶ ... and to some high price niche markets (« EU Gourmet Products » together with cheeses, wines or spirits...)

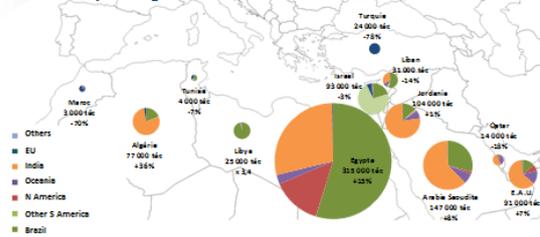
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Mediterranean area market

- ▶ **Sharp increase for beef imports in 2012...**
- ▶ **But only a marginal share for EU beef**



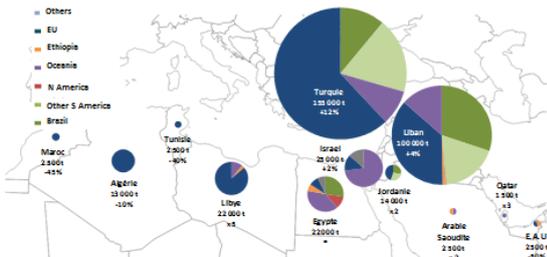
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Mediterranean area market

- ▶ **Still a very important live trade in 2012... with a huge EU share**
- ▶ **But highly sensitive to sanitary & political issues**



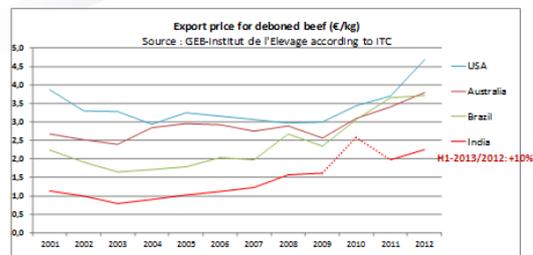
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Low cost Indian Buffalo Beef

- ▶ **But its price increases quickly**



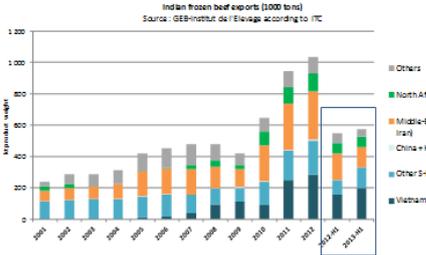
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Indian exports: still higher...

- ... but at a slower pace.
- A huge low cost beef demand in Asia and Africa



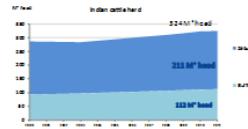
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



A considerable potential

- The most important cattle herd in the World, but for Dairy & Draft, not for meat.
- ... and a very limited production & local demand.
- Very specific beef balance, particularly hard to forecast.



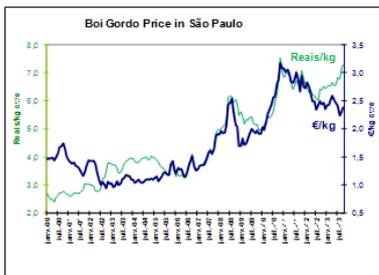
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Highly incentive beef price in Brazil

- But R\$ devaluation boosts its competitiveness on World Market



www.idele.fr

Commodity Outlook – Beef – October 24th 2013



Return of Brazil on the World Market



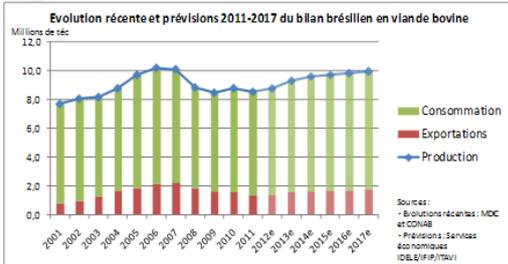
www.idele.fr

Commodity Outlook – Beef – October 24th 2013



But should remain far from 2007 level

- Production increase forecast, but domestic demand very buoyant



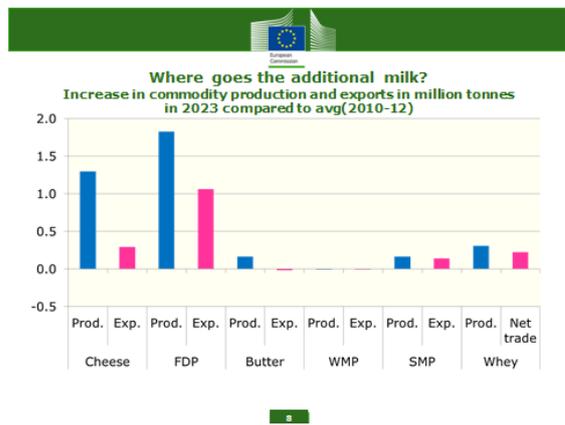
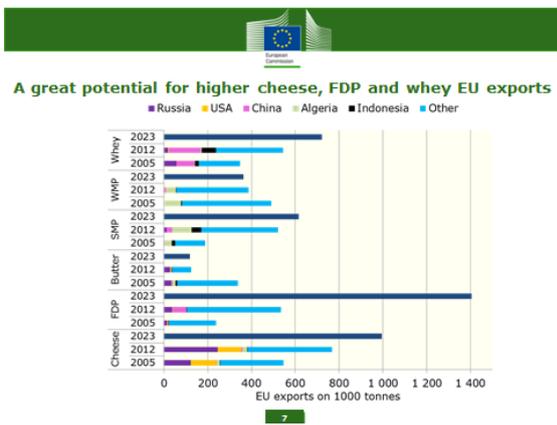
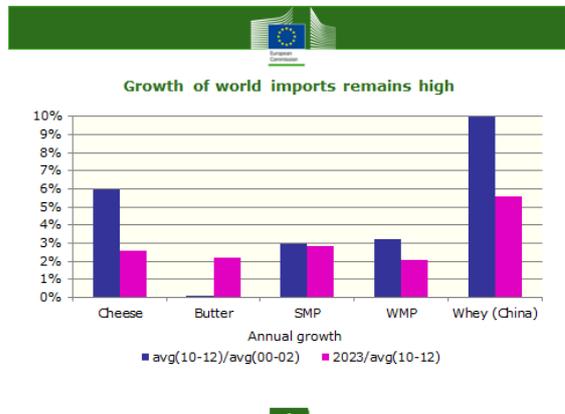
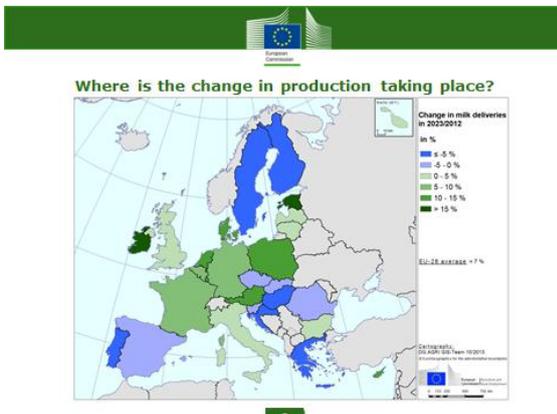
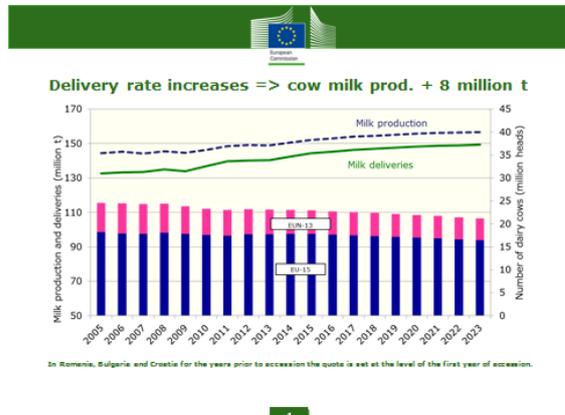
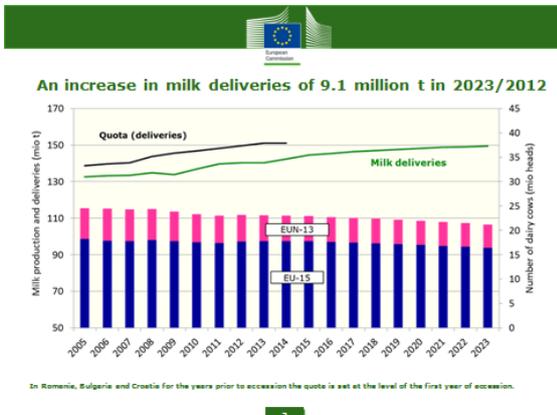
www.idele.fr

Commodity Outlook – Beef – October 24th 2013

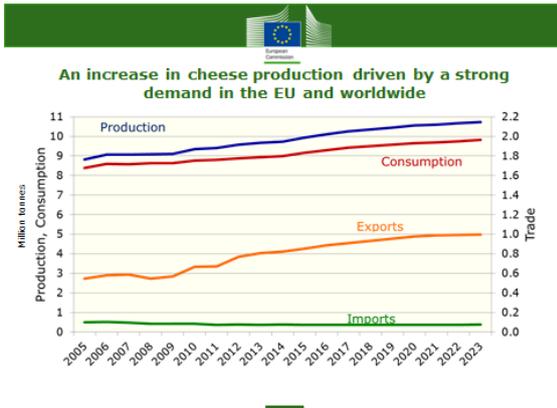


Prospects for EU agricultural markets - Milk and dairy commodities

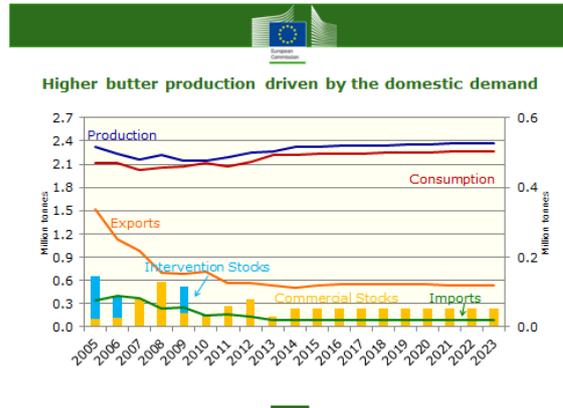
Sophie H elaine (DG AGRI) & Marco Artavia (JRC-IPTS)



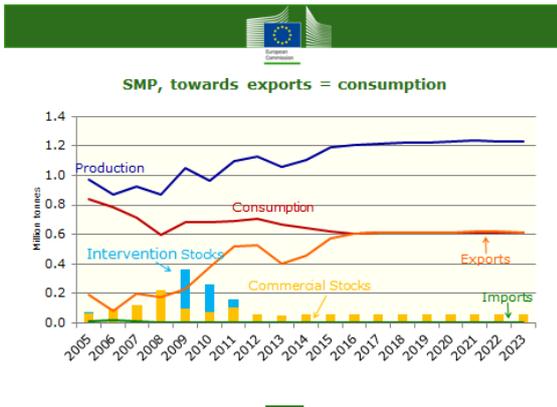
Commodity Market Development in Europe – Outlook



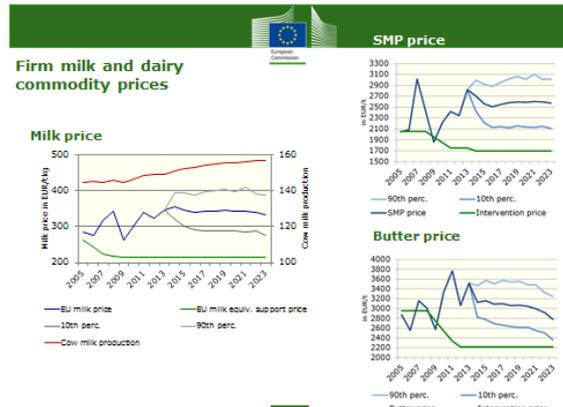
9



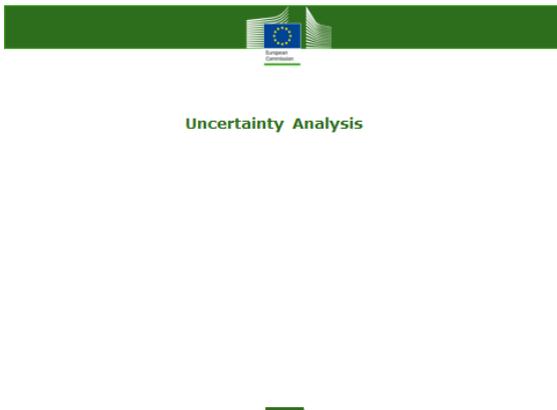
10



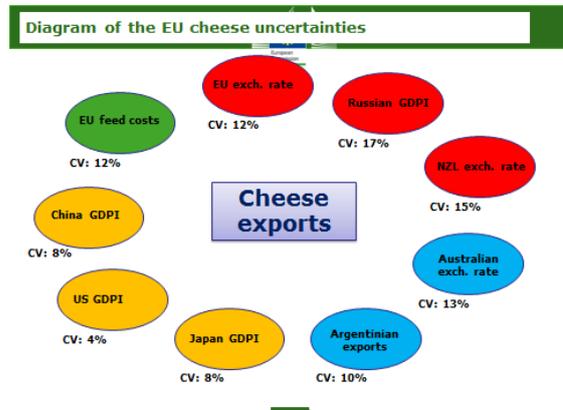
11



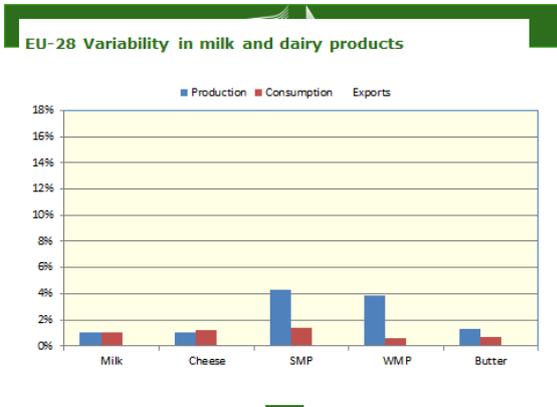
12



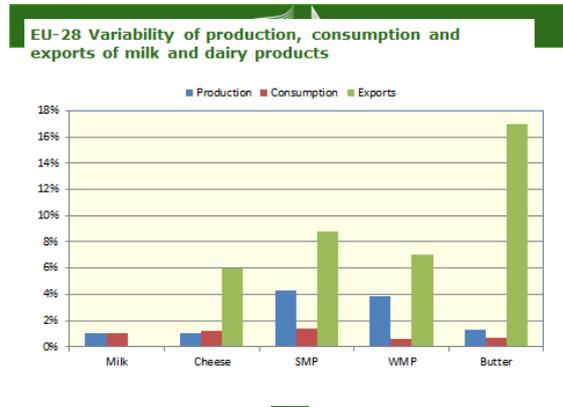
13



14



15

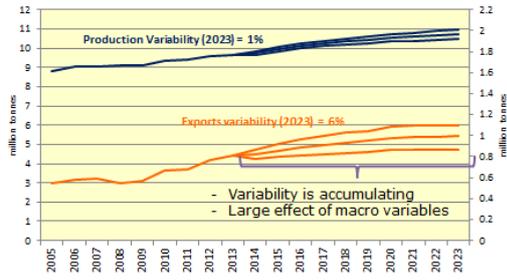


16

Commodity Market Development in Europe – Outlook



Cheese low production (left axis) variability results in higher export variation (right axis) due to lower levels



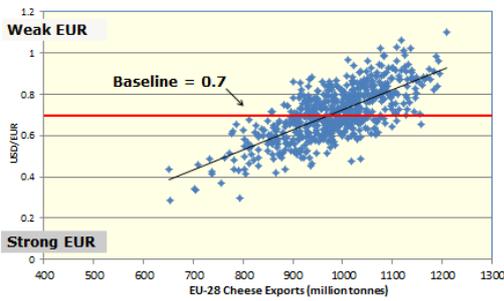
17



Is it true that dairy products react strongly to macroeconomic variables?

18

Large effect of the EU exchange rate (plot of the 700 stochastic runs)



19

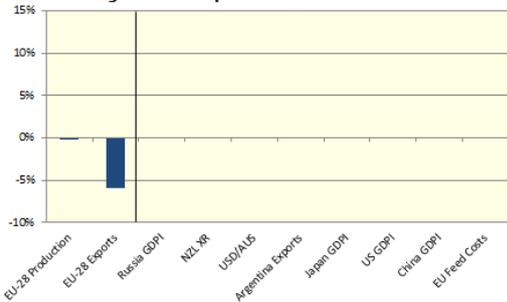
With strong prospects for the USD/EUR exchange rate in the baseline: how would an even stronger euro affect cheese exports?

Subset: 1.54 – 1.80 EUR/USD
(122 runs)

20



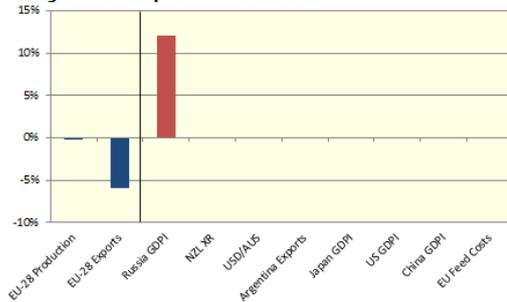
Cheese changes with respect to the baseline



21



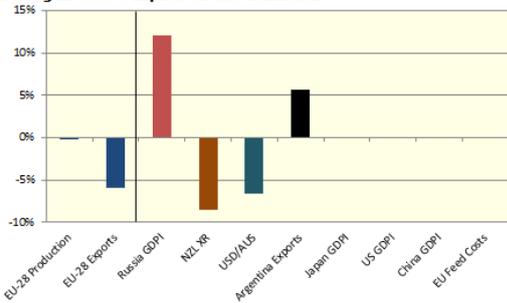
Changes with respect to the baseline



22



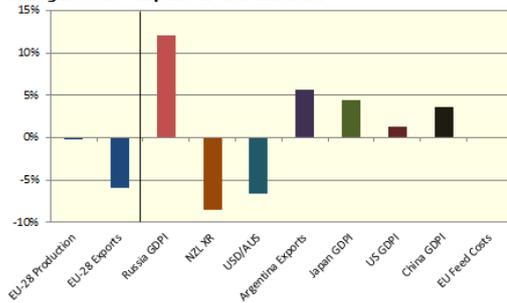
Changes with respect to the baseline



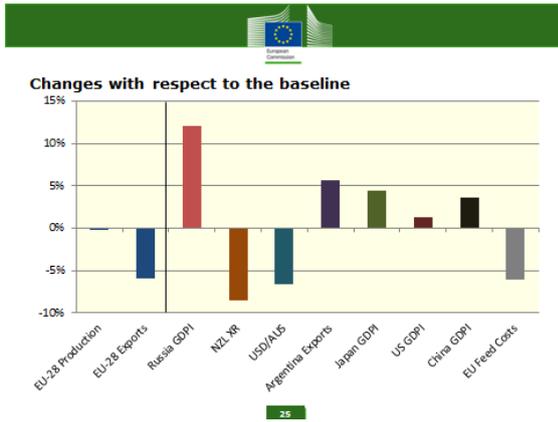
23



Changes with respect to the baseline



24



Summary

- Low variability in milk and dairy products.
- Higher variability of dairy exports due to lower levels.
- Strong response of dairy products to some of the macroeconomic variables as for example EU exchange rate.
- However, the system of world uncertainties is very complex. Strong changes in one variable may be compensated by simultaneous movements in other variables.

Dairy market outlook - comments and expectations

Monika Wohlfarth (ZMB)



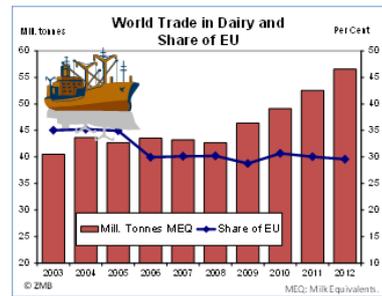
Dairy Market Outlook Comments and Expectations

Workshop on Commodity Market Outlook
Brussels, 24. October 2013

Monika Wohlfarth

Zentrale Milchmarkt Berichterstattung GmbH
Tel. 030/4060799721 | info@milkm.de

Growing international demand will be the driver for the coming years



20.03.2013 | ED4-TopMeeting Brussels | © ZMB Zentrale Milchmarkt Berichterstattung GmbH

No growth of internal demand

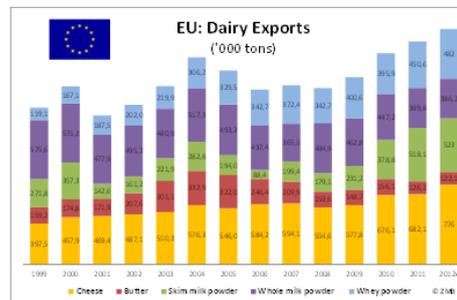
European Union: Balance Sheet of Cow Milk

m. tonnes	2008	2009	2010	2011 ¹	2012 ¹
	EU-27	EU-27	EU-27	EU-27	EU-27
Deliveries of milk	135,1	134,7	130,8	139,5	140,4
+ Imports in milk equivalent	2,3	2,0	1,5	1,1	1,1
- Exports in milk equivalent	12,2	12,7	14,8	18,0	17,0
- Change in stocks					
in milk equivalent	+ 1,9	+ 0,9	- 1,7	- 0,7	- 0,9
Consumption in milk equivalent of which:	123,3	123,1	125,1	125,3	125,5
- at market prices	123,3	123,1	125,1	125,3	125,5
- subsidised consumption	0,0	0,0	0,0	0,0	0,0
Consumption per capita	248	246	250	250	250
Self-sufficiency (%)	110	109	109	111	112

1) Provisional or forecast. updated: 17.01.2013
Source: ZMB

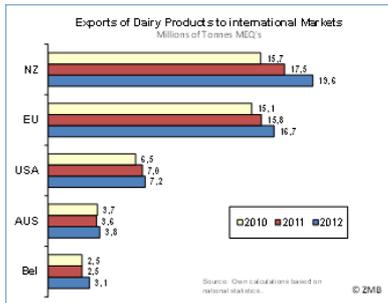
20.03.2013 | ED4-TopMeeting Brussels | © ZMB Zentrale Milchmarkt Berichterstattung GmbH

EU-Exports are increasing again, Cheese and Whey with continuous growth



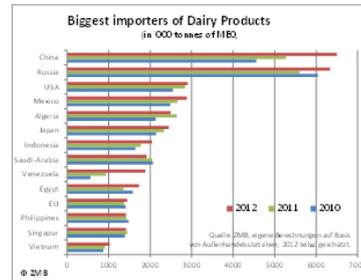
20.03.2013 | ED4-TopMeeting Brussels | © ZMB Zentrale Milchmarkt Berichterstattung GmbH

Only a few big exportes



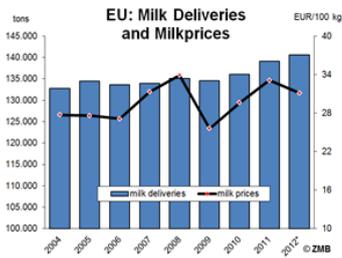
20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

High dependence on China and Russia



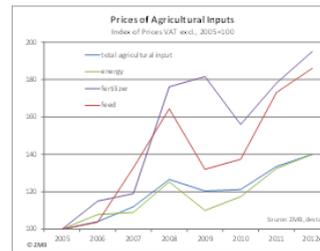
20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Milk Output reacts stronger on Prices (or margins)



20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Costs of Milk Production increased substantially



20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Rising Trend of Milk Prices, Record high expected in 2013



20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

ZMB's Point of View: Milk Output will grow further

- ✓ Deliveries increased faster than production due to increasing share of milk delivered to dairies, Exemption EU-N2 due to quality-issues and small structures
- ✓ Growth can accelerate in the next decade

Average year-on-year growth of milk output			
Milk Production		Milk deliveries	
observed 2004 - 2012		observed 2004 - 2012	
EU-27	+ 0,22 %	EU-27	+ 0,58 %
EU-25	+ 0,41 %	EU-25	+ 0,73 %
EU-15	+ 0,40 %	EU-15	+ 0,80 %
EU-N10	+ 0,48 %	EU-N10	+ 1,85 %
EU-N2	- 3,04 %	EU-N2	- 5,89 %

20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Milk processing

- All major products except for WMP increased
- Most additional milk went into cheese
- Butter with the lowest growth-rate
- SMP-Production increased with protein-standardisation

Average year-on-year growth 2004-2012 of milk processing	
Liquid milk	+ 0,26 %
fermentend products	+ 1,10 %
Butter	+ 0,07 %
Cheese	+ 1,12 %
SMP	+ 2,36 %
WMP	- 1,71 %

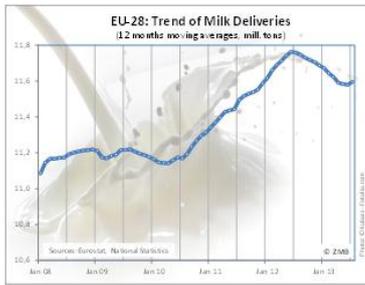
20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Comments to milk processing

- We expect a slight increase of production in the white range like the EU-Commission
- A higher increase of cheese production is possible, most steady growth of export and increasing internal consumption
- New big dryers are build in Europe (Germany, France, Ireland, Belgium ...), so a bigger increase of production of WMP and SMP is likely. More processors are keen on investing in infant formula. New capacities for whey processing into derivatives are build. As consequence less „normal“ whey powder will be produced
- With a higher production of WMP and Cheese no increase of butter production

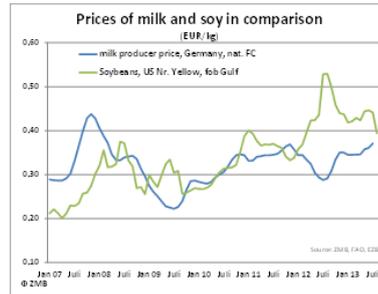
20.03.2013 | EDA-Tech/Meeting Brussels | © ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Milk deliveries will grow, but will be volatile



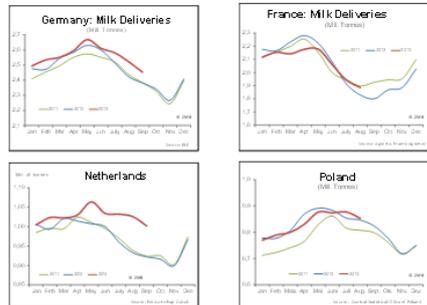
20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Production will be more linked to margins (and weather-influenced)



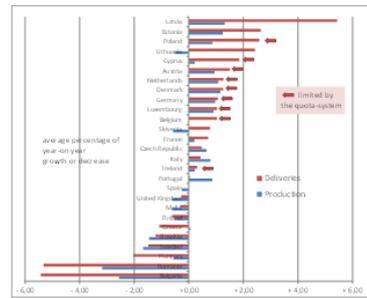
20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Strong increases started in summer-time



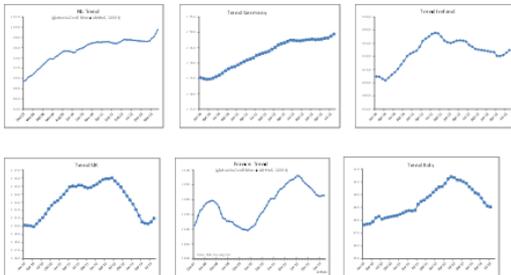
20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Development of Milk Output 2004 - 2012



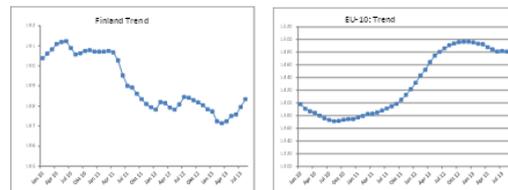
20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Trend of deliveries in different Member States



20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Trend of deliveries in different Member States



20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Expectations for Milk Output

- Milk production will concentrate in regions with a high share of grassland (near to the coasts, etc.) and regions without other agricultural opportunities in general
- Milk production will be more volatile, depending on actual margins
- Growth in countries limited by the quota-system (NL, Ger, Dk, IE, Lu, Cy, Aus, B, Pl) will accelerate (in times of high prices)
- France: the question-mark, no clear direction so far
- UK: a turn-around is possible, farmers are more optimistic now
- Ireland: Goal to increase milk production by 50 % is very ambitious, high impact of weather-conditions
- Eastern Europe: Development will be strongly linked with technical progress and investment of dairies

20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Thank you
for your attention!

Monika Wohlfarth, CEO
ZMB Zentrale Milchmarkt Berichterstattung GmbH
www.milk.de
info@milk.de

20.03.2013 | EDA-TeB-Meeting Brussels | ZMB Zentrale Milchmarkt
Berichterstattung GmbH

Comments on the Commission's milk and dairy outlook results and reflections on the developments in milk powder markets

Christophe Lafougère (Gira)

Gira
Consultancy & Research
Prospective et Stratégie

Workshop on "Commodity Market Development in Europe - Outlook"
Milk and dairy markets

24 October 2013, Brussels

Christophe Lafougère, Director

13, chemin du Levant
01210 Ferney-Voltaire - France
Tel: + (33) 4 50 40 24 00
Fax: + (33) 4 50 40 24 02
contact@girafood.com
www.girafood.com

Gira EC's projections are more bullish than Gira's
Overview of the 5 key dairy commodities

- EC's Milk collection forecast is +1.2 mio t (2017/12) more than Gira...

% change per annum 2017/2012	Production		Consumption		Exports		Comments
	EC	Gira	EC	Gira	EC	Gira	
Cheese	+1.4%	+0.7%	+1.2%	+0.6%	+3.4%	+1.6%	Gira's compared to EC's projections: Less production (less milk available) Less consumption → & less exports

2

Gira EC's projections are more bullish than Gira's
Overview of the 5 key dairy commodities

- EC's Milk collection forecast is +1.2 mio t (2017/12) more than Gira...

% change per annum 2017/2012	Production		Consumption		Exports		Comments
	EC	Gira	EC	Gira	EC	Gira	
Cheese	+1.4%	+0.7%	+1.2%	+0.6%	+3.4%	+1.6%	Gira's compared to EC's projections: Less production (less milk available) Less consumption → & less exports
Butter	+0.8%	+0.1%	+1.0%	0.0%	+1.6%	-0.4%	Gira: Flat

3

Gira EC's projections are more bullish than Gira's
Overview of the 5 key dairy commodities

- EC's Milk collection forecast is +1.2 mio t (2017/12) more than Gira...

% change per annum 2017/2012	Production		Consumption		Exports		Comments
	EC	Gira	EC	Gira	EC	Gira	
Cheese	+1.4%	+0.7%	+1.2%	+0.6%	+3.4%	+1.6%	Gira's compared to EC's projections: Less production (less milk available) Less consumption → & less exports
Butter	+0.8%	+0.1%	+1.0%	0.0%	+1.6%	-0.4%	Gira: Flat
SMP	+1.5%	+0.4%	-1.3%	-0.1%	+3.2%	-0.8%	EC: optimistic – all for export But USA will take the lead very soon!

4

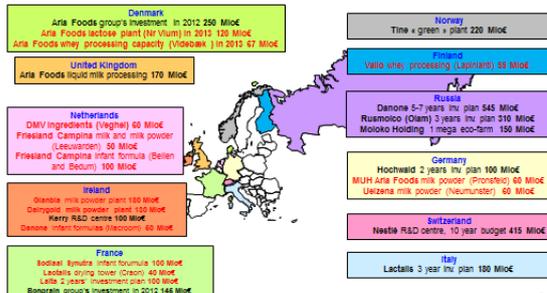
Gira EC's projections are more bullish than Gira's
Overview of the 5 key dairy commodities

- EC's Milk collection forecast is +1.2 mio t (2017/12) more than Gira...

% change per annum 2017/2012	Production		Consumption		Exports		Comments
	EC	Gira	EC	Gira	EC	Gira	
Cheese	+1.4%	+0.7%	+1.2%	+0.6%	+3.4%	+1.6%	Gira's compared to EC's projections: Less production (less milk available) Less consumption → & less exports
Butter	+0.8%	+0.1%	+1.0%	0.0%	+1.6%	-0.4%	Gira: Flat
SMP	+1.5%	+0.4%	-1.3%	-0.1%	+3.2%	-0.8%	EC: optimistic – all for export But USA will take the lead very soon!
WMP	-0.1%	-0.1%	+0.6%	-0.4%	-0.7%	0.3%	Gira: Flat

5

Gira Increased investment in "powders" (€850 mio)
... in the knowledge that the extra milk has to be transformed into commodities and then exported

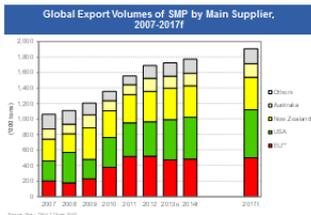


6

Gira Exports of SMP
Concentrated supplier base: USA, EU, NZ and Australia = 90%

Export market shares remained almost stable among the major exporters:

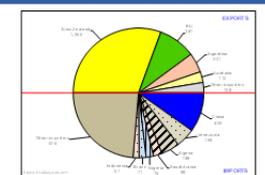
- EU: Currently largest global exporter of SMP – 31% in 2012.
- USA: 28% with 445k tons exported in 2012. This volume is expected to grow to 620k tons by 2017, with a market share of 32%, making USA the largest global SMP exporter.
- New Zealand: around 23% of global SMP exports.
- Australia: 10% market share with 169k tons exported in 2012.



7

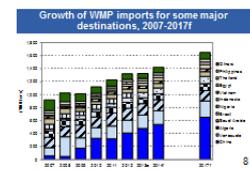
Gira Imports of WMP
Few suppliers... to over 140 buyers!

WMP Global Imports & Exports ('000 t pw), 2012



Since the melamine scandal, China has been the driver of the global market with a share of worldwide recorded WMP imports of around 20% in 2012. It imported 455 k tons in 2012 and this is expected to reach 650 k tons by 2017.

East and SE Asia are increasing their reliance on WMP imports, with Oceania currently being the dominant supplier.



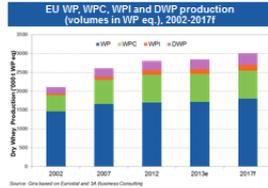
8



EU whey production profile
Stronger growth of DWP (+4.2%) and WPI (+6.5%)

Even if WP represents the major part of whey production in Europe, the strongest growth should concern WPI and DWP in the near future. This is mainly due to the pressure from infant formula production and dietetic/nutritional products.

- Within WPC, WPC 35% is down, whereas WPC 70% is up
- Euroserum in France is the world leader for DWP

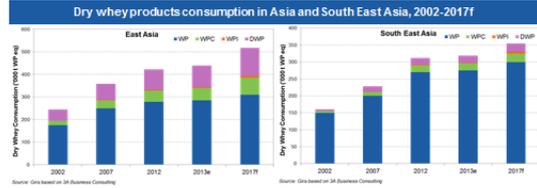


- Among EU countries, France, Germany, Italy, Poland, the Netherlands and Ireland are the main producers of whey.
- Trade is important between these countries:
 - The main trade is between Germany and the Netherlands.
 - Some exports are in the form of liquid whey.

9



Asian whey consumption profile
Consumption driven by Infant formula demand



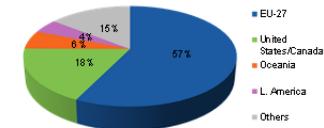
- East Asia (CN, JP, SK) and South East Asia (ID, MY, PH, SG, TH and VN) are the region with the biggest increase of WPI and DWP consumption
 - This situation is driven by high infant formula demand
 - China is the main contributor
- Standard whey powder consumption is still important for the feed sector.

10



FFMP global production
More than half of FFMP production comes from the EU

Global FFMP production breakdown (volume), 2012



- 2012 global production of fat-filled milk powder is estimated to be about 2 300 KT
- Europe is by far the main producer, with more than 1 300 KT produced in 2012.
 - North America is in second position
 - Oceania (mainly New Zealand) represents just 6% of FFMP global production.

11



FFMP global trade
The EU is the main exporter

Global FFMP trade, 2012

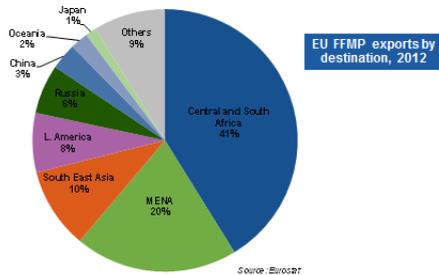


- In 2012, about 950'000 tons of FFMP were exported, mainly from Europe.

12



FFMP global trade (2)
EU exports are from DE, BE, FR, IE and NL



This product should be monitor by the EU

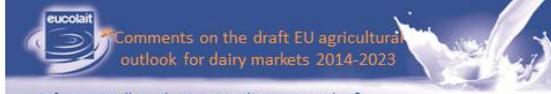
Comments on the Commission’s milk and dairy outlook and prospects for the cheese markets

Jack Baines (Eucolait)



WORKSHOP ON COMMODITY MARKET DEVELOPMENT IN EUROPE - OUTLOOK

Brussels, 24 October 2013

Comments on the draft EU agricultural outlook for dairy markets 2014-2023

Is forecast milk production growth not too modest?
According to Base Line Study
✓ Total Production: +4.3 % between 2013 and 2023
✓ Milk Deliveries: +6.4 % in this period

Milk supply in the EU27, 2010-2022

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total milk production (BLS)	145.8	151.9	152.0	153.2	154.1	155.2	156.1	157.4	157.6	158.2	158.6	159.1	159.1	159.2
Delivered to cases	136.5	138.8	140.2	142.4	144.8	146.4	148.4	147.0	147.6	148.2	148.7	149.1	149.2	149.3
- BLS (Base Line Study)	132.3	135.3	136.1	137.4	138.4	139.4	140.4	141.4	141.4	141.4	141.4	141.4	141.4	141.4
- EURSTAT	134.2	136.6	138.1	140.2	141.6	143.0	144.4	145.8	146.2	146.6	147.0	147.4	147.8	148.2
- Eucolait estimate				141.6										

Annual % change

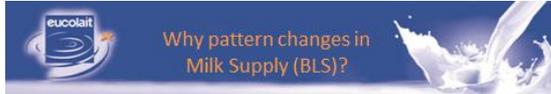
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total milk production (BLS)	1.22%	4.41%	0.21%	1.10%	0.82%	0.45%	0.54%	0.83%	0.20%	0.21%	0.21%	0.20%	0.20%	0.20%
Delivered to cases	1.96%	0.44%	1.03%	1.44%	1.48%	0.82%	0.85%	0.42%	0.33%	0.41%	0.35%	0.21%	0.21%	0.21%
- BLS (Base Line Study)	1.10%	2.01%	0.56%	1.21%	1.20%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
- EURSTAT	1.21%	2.20%	0.92%	1.20%										
- Eucolait estimate				1.00%										

Methodical Difference?



Is forecast milk production growth not too modest?

- Depending on source of data milk deliveries (EU-27) have been growing between 3.8 and 4.5 % in the last 3 years (2010-2012) in an environment with quota restrictions.
Is quota abolishment going to slow down growth?
- An increase in the number of dairy cows recorded by a December 2012 survey (+0.7%) is confirmed by a May-June 2013 survey (+1.1%). *Is this temporary or fundamental?*
- There is certainly a tendency to potentially over-estimate the growth in the dairy belt, but ...
Aren't we doing the opposite for some Eastern European Countries (Poland – Hungary)?

Why pattern changes in Milk Supply (BLS)?

Milk supply and utilization in the EU27, 2010-2022

	2010-22	2010-2014	2015-22
Dairy cows (million head)	-0.28%	-0.28%	-0.28%
of which EU-15	-0.55%	0.23%	-0.31%
of which EU-12	-1.45%	-2.37%	-0.34%
Milk yield (kg/head)	0.85%	0.85%	0.85%
of which EU-15	1.11%	0.48%	1.41%
of which EU-12	0.58%	2.19%	1.20%
Core milk production (million t)	0.52%	0.52%	0.52%
of which EU-15	0.81%	0.79%	0.42%
of which EU-12	0.20%	0.42%	0.20%
Total milk production (million t)	0.45%	0.52%	0.28%
of which EU-15	0.81%	0.79%	0.42%
of which EU-12	-0.35%	0.21%	-0.42%
Delivered to cases (million t)	0.87%	0.92%	0.41%
of which EU-15	0.84%	0.94%	0.42%
of which EU-12	0.03%	1.02%	0.16%
Pa content of milk (in %)	-0.24%	-0.22%	-0.22%
Technical content of milk (in %)	-0.22%	-0.22%	-0.22%
Milk producer price (EUR/t)	0.15%	0.55%	-0.45%



Why pattern changes in Cheese Production (BLS)?

Cheese market projections for the EU, 2010-2022 (thousand tonnes)

	2010-22	2010-2014	2015-22
Production	1.27%	3.20%	0.46%
of which EU-15	1.21%	0.54%	2.27%
of which EU-12	1.42%	2.11%	0.26%
Consumption	0.85%	0.85%	0.85%
of which EU-15	0.85%	0.85%	0.85%
of which EU-12	1.24%	1.11%	2.24%
per capita consumption (kg)	0.87%	0.28%	0.88%
of which EU-15	0.28%	0.19%	0.22%
of which EU-12	2.25%	1.21%	2.45%
Imports	-0.15%	-0.28%	0.18%
Exports	0.12%	0.37%	1.24%
EU market price (EUR/t)	1.88%	4.40%	0.21%
World market price (EUR/t)	0.18%	-0.25%	0.19%
World market price (USD/t)	0.26%	-0.15%	0.25%

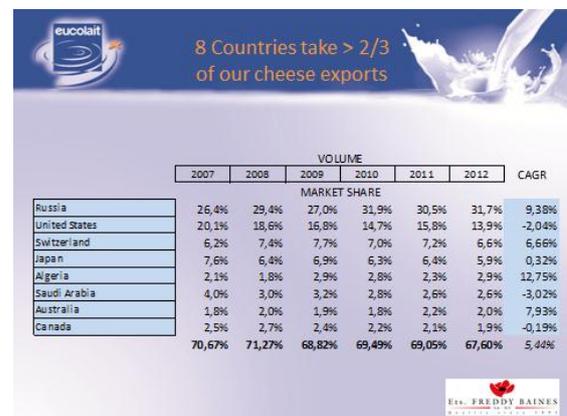
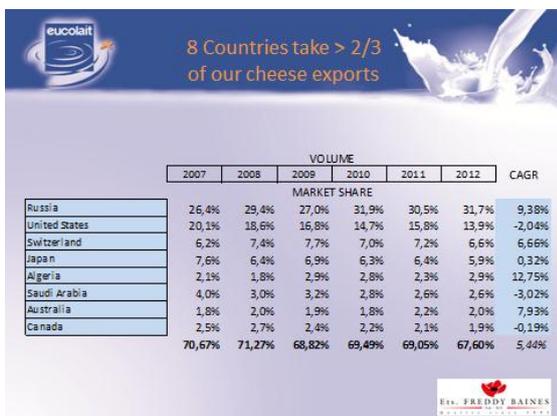
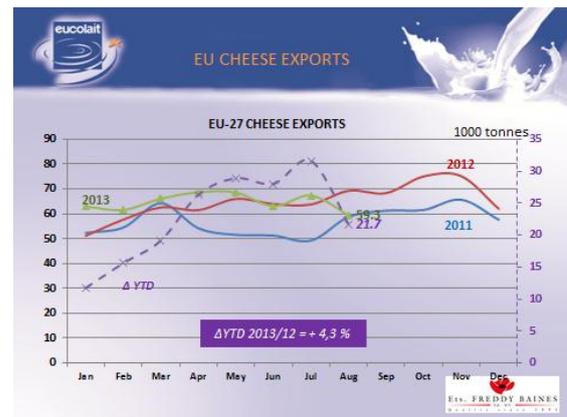
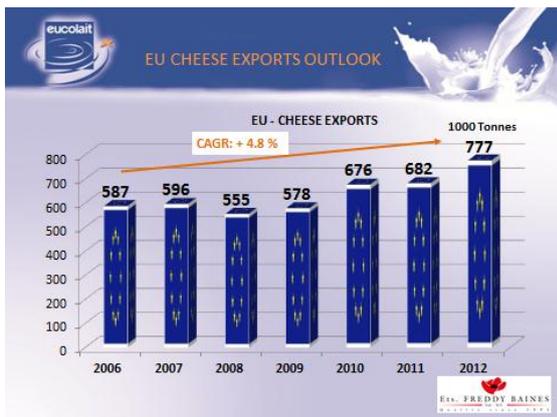
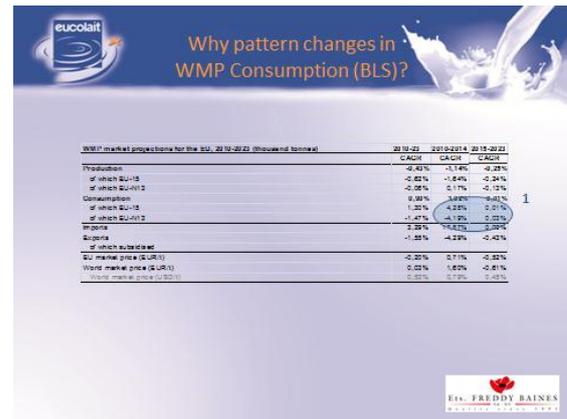
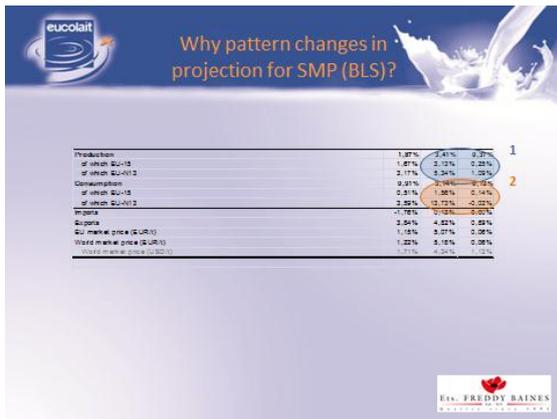



Why pattern changes in projection for Butter (BLS)?

Butter market projections for the EU, 2010-2022 (thousand tonnes)

	2010-22	2010-2014	2015-22
Production	0.74%	2.07%	-0.62%
of which EU-15	0.74%	0.81%	0.22%
of which EU-12	0.75%	2.53%	-0.21%
Consumption	0.55%	0.71%	0.26%
of which EU-15	0.57%	1.01%	0.22%
of which EU-12	0.35%	1.08%	0.23%
per capita consumption (kg)	0.23%	0.22%	0.21%
of which EU-15	0.21%	0.74%	-0.25%
of which EU-12	0.45%	0.88%	0.41%
Imports	-0.54%	-0.48%	-0.25%
Exports	-0.15%	-1.52%	0.08%
of which EU-15			
EU market price (EUR/t)	-1.29%	-1.85%	-1.26%
World market price (EUR/t)	-2.26%	-4.75%	-1.84%
World market price (USD/t)	-1.29%	-0.54%	-0.25%







Growth Prospects in Russia

- Cheese imports have enjoyed strong growth in recent years
- Per capita consumption still low
- White cheese growing faster than yellow cheeses
- Population declines but moves increasingly to cities
- Consumption growth strongest in other cities than Moscow/SPB
- Consumption growth potential > 100 000 tons in the next 5 years
 - Based on pro capita consumption increases of 1 kg per person in largest cities w/o Msk/Spb
- EU represents more than 75 % of imports excluding CU





Growth Prospects in USA

- No growth of cheese exports in recent years
- High value cheeses
- Import quota constraints
- Population growth 1% per year
 - Profile
- Local production of specialty cheeses
 - EU dairy groups investing in the US
 - Local plants





Growth Prospects in Switzerland

- Growth of cheese exports in line with global growth
- Medium - high value cheeses
- Free market access
- Population growing but small (8.2 M)
- Imports from EU + Exports to EU nicely balanced





Growth Prospects in Japan

- No growth
- Two tier market
 - Lower value cheeses for use in processed cheese production
 - Niche market for highest value cheeses
- Highly regulated market access
- Declining population
 - Aging population





Growth Prospects in Canada

- No growth
- High value cheeses
- Highly regulated market access
 - Import quota
- Population growing





Growth Prospects in Algeria

- Rollercoaster
 - Erratic pattern
 - Growth in recent years
 - No real growth if analyzed over longer period 2001 - 2012
- Low value cheeses
 - For processing
- Population growing at almost 2 % per year





Growth Prospects in Saudi Arabia

- No growth of cheese exports in recent years
 - Are you sure about consumption prognosis?
 - Reduction EU + Australia > increase NZ + USA (2007 – 2012)
 - Imports from other processing hubs in the region?
- Low value cheeses
 - For processing





Growth Prospects in Australia

- Nice growth of cheese exports in recent years
- High value cheeses




Commodity Market Development in Europe – Outlook

eucolait Growth Prospects in ROW
A. Export value > 6 EUR/kg in 2012

- Top destinations
Norway, Brazil, Hong Kong, Qatar, French Polynesia, New Zealand, Indonesia, ...
- 29 200 ton in 2012
- + 25 % between 2007 and 2012
- Norway: highly regulated market access
- Brazil has probably highest growth potential
 - Mercosur

Est. FREDDY BAINES

eucolait Growth Prospects in ROW
B. Export value between 6 & 5 EUR/kg in 2012

- Top destinations:
Kuwait, China, Israel, Singapore, Thailand, Philippines, Vietnam, Malaysia, ...
- 24 800 tons in 2012
- + 40 % between 2007 and 2012

Est. FREDDY BAINES

eucolait Growth Prospects in ROW
C. Export value between 5 and 4 EUR/kg in 2012

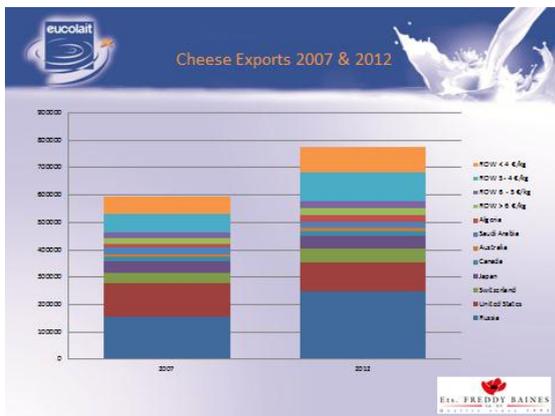
- Top Destinations
Egypt, United, Arab Emirates, South Korea, Ukraine, South Africa, Mexico, Ceuta, Venezuela, Turkey, ...
- 104 700 MT in 2012
- + 54 % between 2007 and 2012

Est. FREDDY BAINES

eucolait Growth Prospects in ROW
D. Export value between < 4 EUR/kg in 2012

- Top Destinations
Libya, Lebanon, **Croatia**, Iraq, Morocco, Bosnia & Herzegovina, Bahrain, Jordan, ...
- 92 700 MT in 2012
- + 41 % between 2007 and 2012

Est. FREDDY BAINES



eucolait CONCLUSIONS

Growth of EU Cheese exports 2013 - 2018

	tonnes	comments
Russia	80.000	despite trade issues, continued growth at current rhythm
United States	0	no growth without improved market access
Switzerland	0	no net movements
Japan	0	no growth without improved market access
Canada	0	no growth without improved market access
Australia	5.000	continuation of current growth pattern
Saudi Arabia	0	no growth expected
Algeria	0	no growth expected
ROW > 6 €/kg	6.000	continuation of current growth pattern
ROW 6 - 5 €/kg	7.000	continuation of current growth pattern
ROW 5 - 4 €/kg	30.000	continued growth but more competition from USA
ROW < 4 €/kg	25.000	continued growth but more competition from USA
World	153.000	

Est. FREDDY BAINES

Market developments and impact on agricultural income

Pierluigi Londero & Elselien Breman (DG AGRI)



The outlook in a nutshell
2010-2012 vs. 2023 - %

EU28	Quantity	Price	P*Q
Cereals	11%	-14%	-5%
Oilseeds	20%	-7%	11%
Milk	7%	16%	25%
Beef	-4%	4%	0%
Pork	3%	29%	33%
Poultry	8%	10%	18%



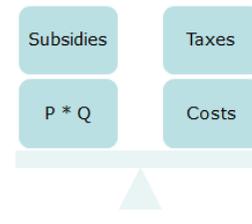
What does it mean for agricultural sector income?

EU28	Quantity	Price	P*Q
Cereals	11%	-14%	-5%
Oilseeds	20%	-7%	11%
Milk	7%	16%	25%
Beef	-4%	4%	0%
Pork	3%	29%	33%
Poultry	8%	10%	18%

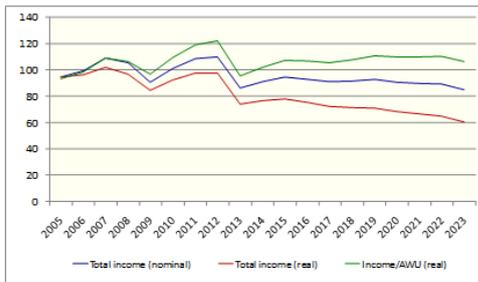
Other sectors not covered by the outlook?



What does it mean for agricultural sector income?



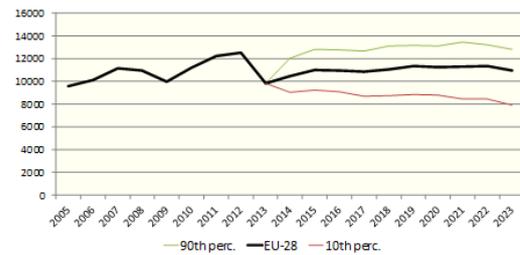
Development of agricultural income in the EU-28
(average 2003-2007=100)



5



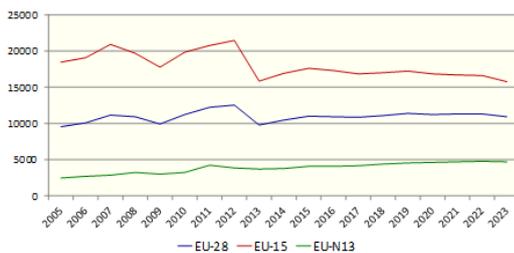
Factor income in real terms per labour unit



6



Factor income in real terms per labour unit



7

Commodity market development in Europe - Future challenges and a few reflections

Jo Swinnen (KU Leuven & CEPS)

Commodity Market Development in Europe

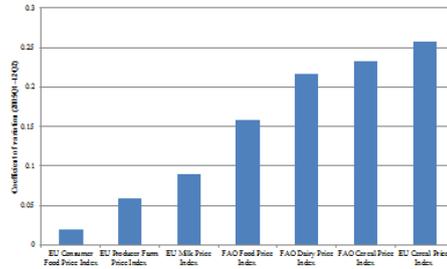
Future Challenges

A few reflections

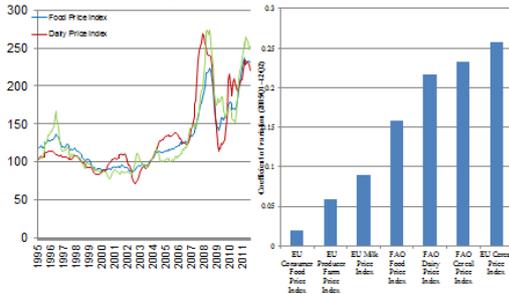
Jo Swinnen

KU Leuven & CEPS
October 2013

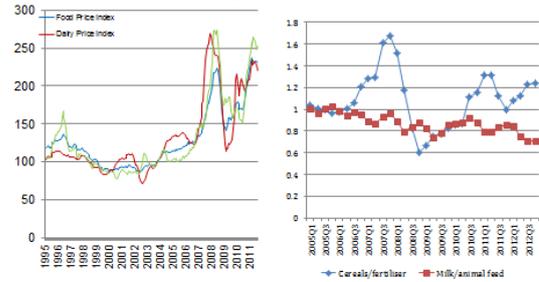
Price volatility on global and EU markets (food, dairy, cereals)



Price Volatility on Global and EU Markets Food, Dairy, Cereal Prices



Global and EU (relative) Prices (Output/Input)

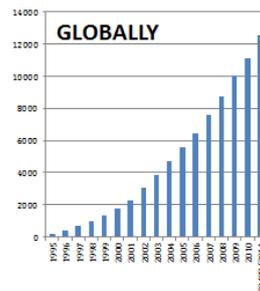


Food Standards & Regulations

In EU

- Public
 - EFSA
 - ...
- Private
 - Retail standards
 - Organic
 - ...

Total amount of SPS notifications to WTO

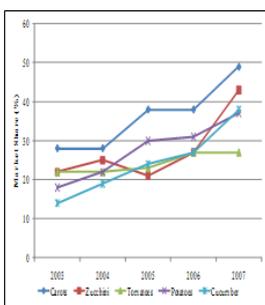


“Commodity markets” Where is the value added ?

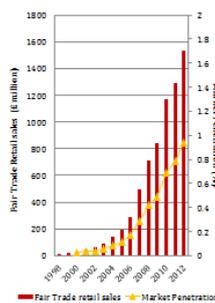


Changing nature of “commodities”

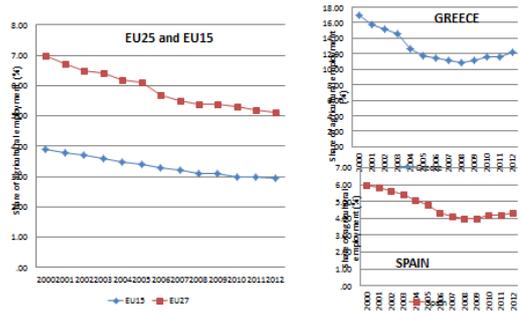
French Organic Food Sales



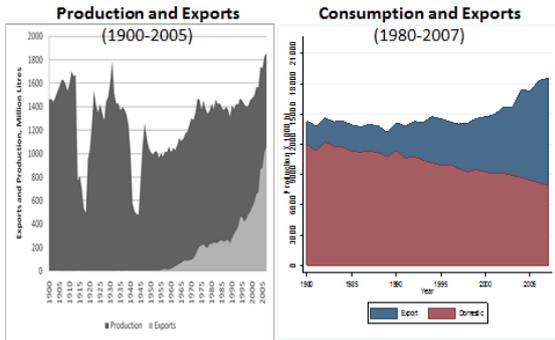
UK Fair Trade Sales



EU Agricultural Employment 2000-2012



Barley & (Belgian) Beer Market



Drivers affecting agriculture in Europe in the next decade
 Merritt Cluff (Consultant)

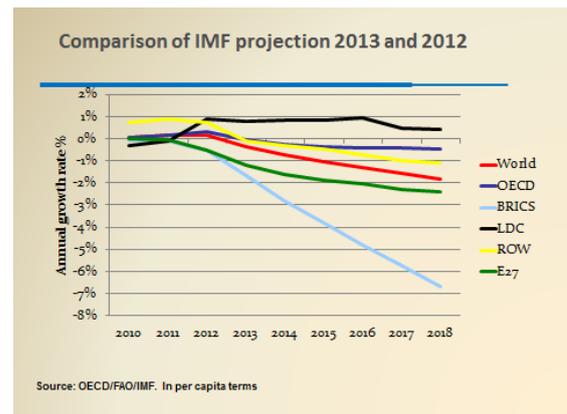
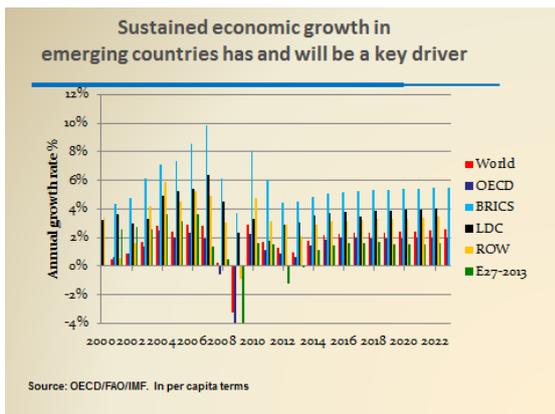
Drivers affecting Agriculture in Europe in the next decade

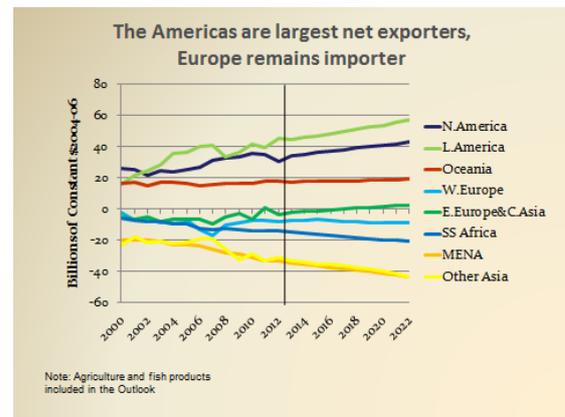
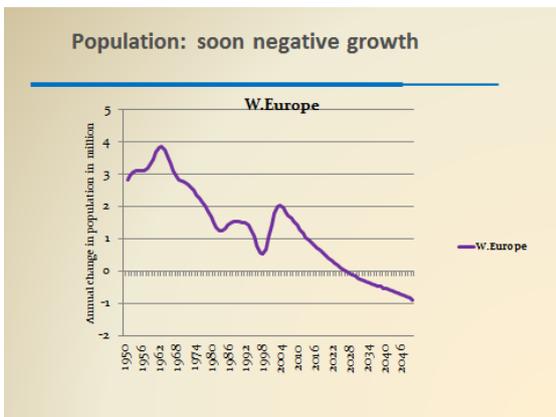
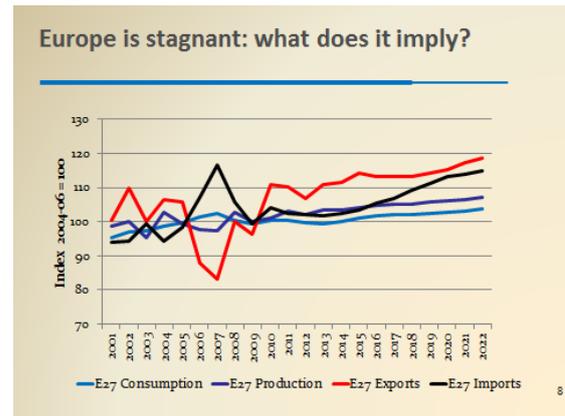
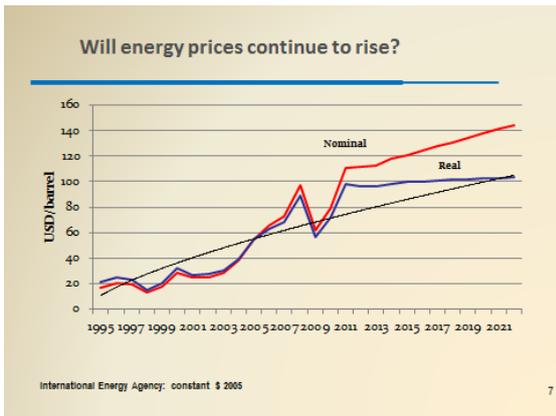
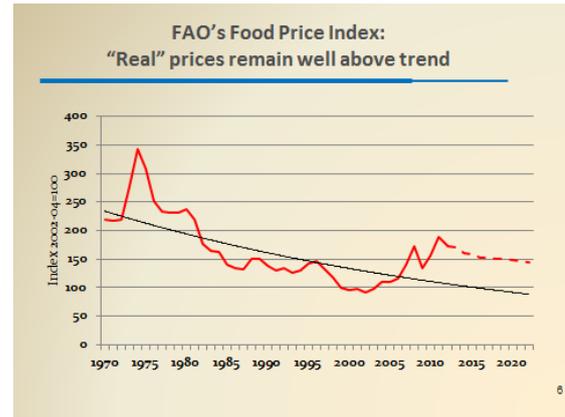
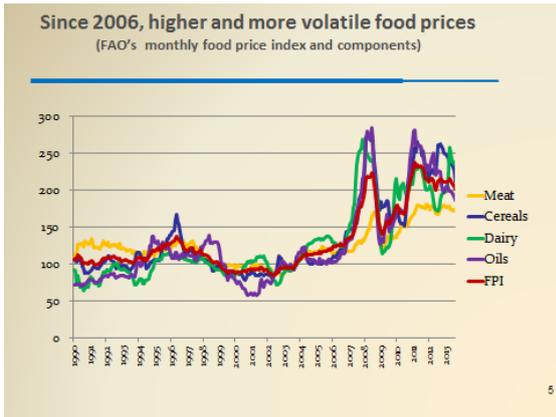
Commodities Conference
 October 23-24, 2013
 Merritt Cluff

Drivers

- Global and EU economic situation
 - Dr. Doom returns with vengeance
 - Why does IMF remain (so) optimistic?
- High/volatile food commodity prices
 - Are they here to stay?
 - What will be policy impact if not?
- EU Agriculture – coping with little growth
 - Slower production/productivity growth
 - No/little demand growth
 - Environmental agenda
- Europe’s strong position in food processing
 - Food giants and foreign investment

2





Our neglect of food globalization processing/retailing

- Growing concentration globally of food processing
 - Strong influence on branding and forms of consumption, products available
 - Europe has strong and growing influence: Nestle, Unilever, particularly dairy processing
- Growing concentration of retailing
 - Strong influence on product selection
 - Carrefour, Tesco etc.

11

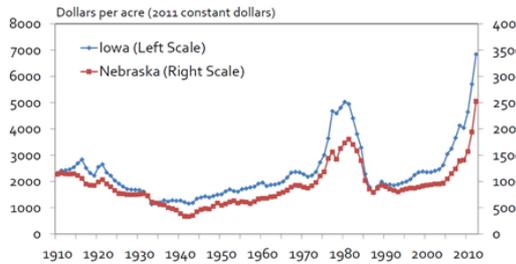
Policy challenges
Seth Meyer (USDA)

CHALLENGES

Seth Meyer (smeyer@oce.usda.gov)

October, 24 2013

Iowa/Nebraska land values

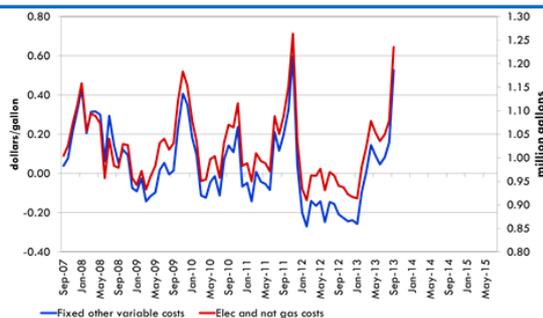


Source: Henderson KC Fed, based on USDA data

EU Biofuel Expectations

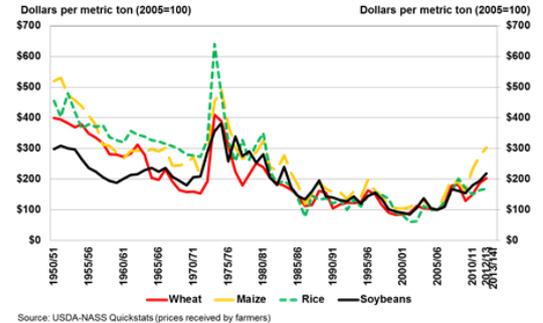
- Relative to baseline, most risk is on the 'downside'
 - ILUC inclusion
 - Constrains biodiesel markets for compliance
 - Ethanol markets (motorfuel) too small to absorb volumes
 - Even baseline assumes some higher level blends needed after 2017 (geographic dispersion?)
 - Anti-dumping duties on BR and ID biodiesel and US ethanol will make compliance more 'costly'
 - 'Costs' will likely enter the debate as volumes rise and constraints bind.

Ethanol Production Margins at 'spot' costs



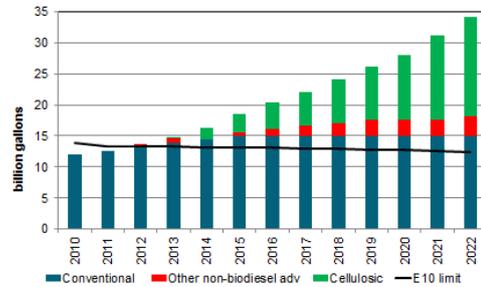
Source: USDA-AMS National Ethanol Summary USDA-WAOCB Jerry Norton

Real Commodity Prices



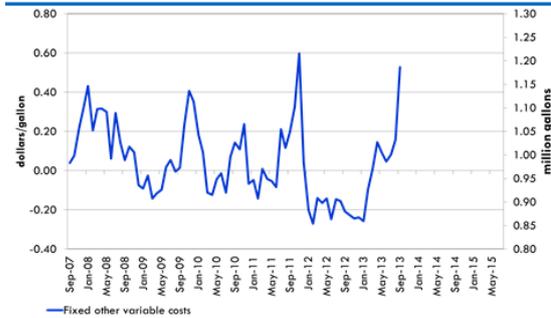
Source: USDA-NASS Quickstats (prices received by farmers)

Blend wall constraints on domestic consumption of ethanol



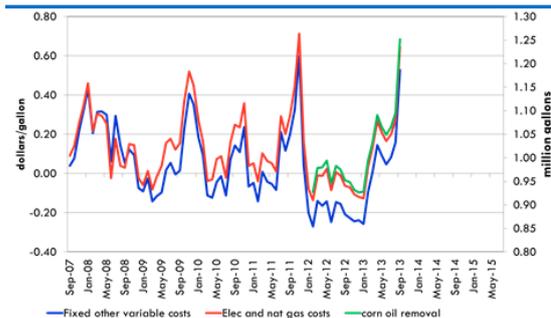
Source: Mandates as in EISA 2007, E10 limit is 10% of the EIA-AEO 2013 motorfuel use

Ethanol Production Margins at 'spot' costs



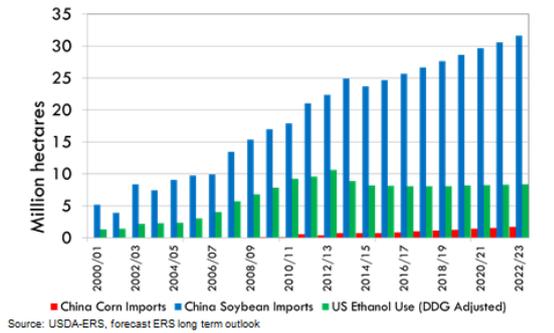
Source: USDA-AMS National Ethanol Summary USDA-WAOCB Jerry Norton

Ethanol Production Margins at 'spot' costs

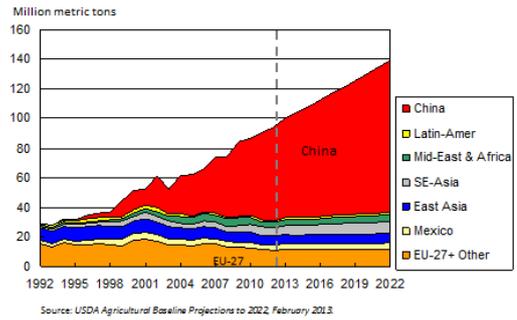


Source: USDA-AMS National Ethanol Summary USDA-WAOCB Jerry Norton

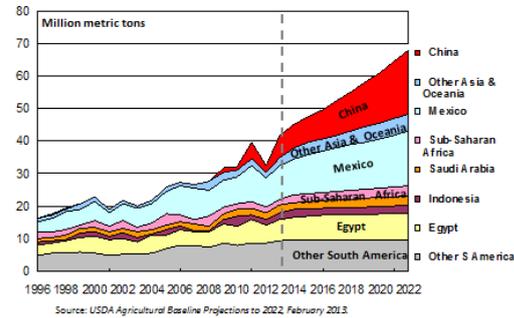
Key Demands in US acreage equivalents



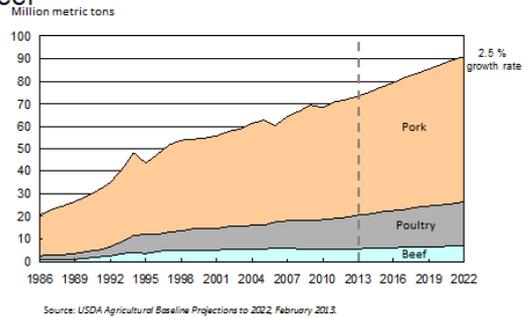
Global Soybean Imports



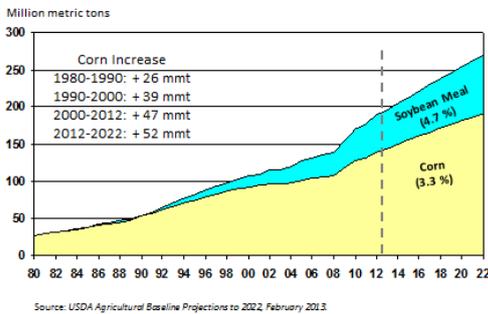
Corn Imports: (Selected Countries) Countries with increasing imports



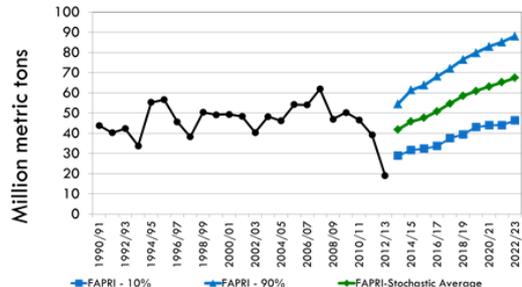
China's Meat Production of Pork, Poultry, and Beef



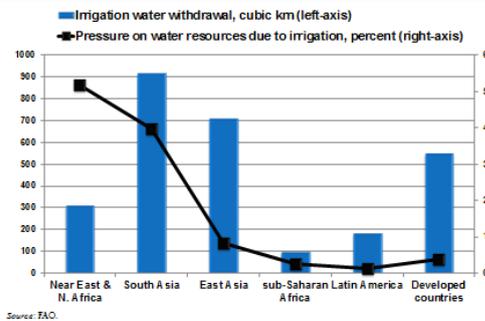
China's Feed Demand for Meat Production Corn and Soybean Meal



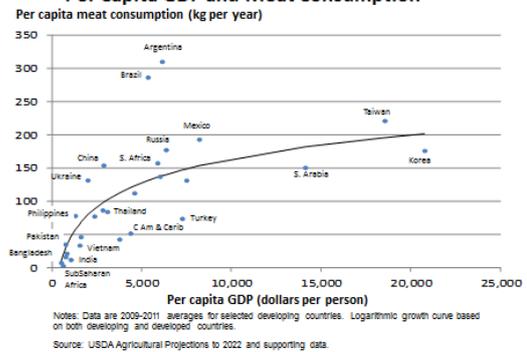
U.S. Maize Exports



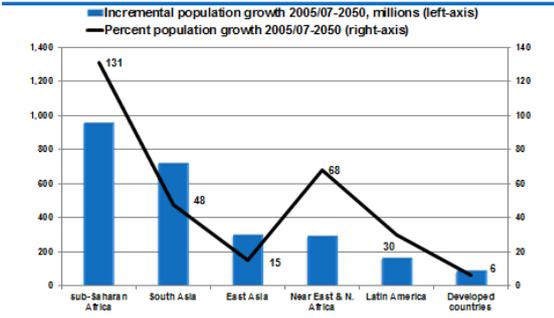
Strong competition for water in Near East/N. Africa and South Asia



Per Capita GDP and Meat Consumption

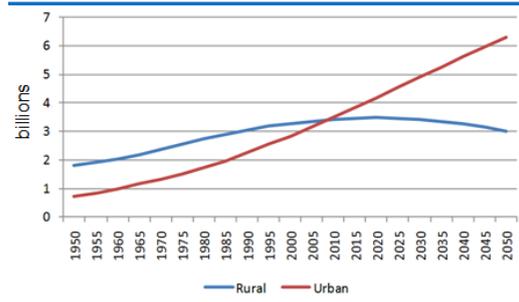


An additional 2.5 billion persons to 9.1 billion in 2050



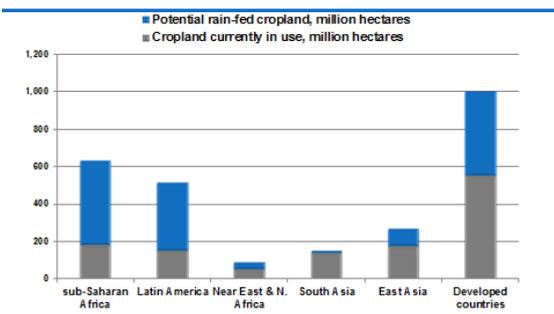
Source: United Nations Population Division (2009).

Urbanization



Source: UN, 2011

Land expansion potential, though concentrated in certain regions



Source: GAEZ-v3.0 in Fischer et al 2011.

Annex: List of Participants

1. ANTIMIANI	Alessandro	National Institute of Agricultural Economics Research (INEA) (IT)
2. BAFFES	John	The World Bank (USA)
3. BAINES	Jack	EUCOLAIT (BE)
4. BERG	Christoph	F.O. Licht (DE)
5. BLANCO FONSECA	Maria	Universidad Politecnica de Madrid (ES)
6. BLANDFORD	David	Penn State University (USA)
7. BREGUET	Madeleine	Tallage (FR)
8. BROWN	Richard	GIRA, Euroconsulting (UK)
9. BURRELL	Alison	Scientific Freelancer (FR)
10. CHOTTEAU	Philippe	Institut de l'Elevage (FR)
11. CLUFF	Merritt	Consultant (IT)
12. COOPER	Darren	International Grains Council (UK)
13. DONNELLAN	Trevor	Rural Economy Research Centre (Teagasc) (UK)
14. FELLMANN	Thomas	University Pablo de Olavide (ES)
15. GOHIN	Alexandre	French National Institute for Agricultural Research (INRA) (FR)
16. HORSEMAN	Chris	Informa Agra (UK)
17. JONGENEEL	Roel	LEI (NL)
18. LAFOUGÈRE	Christophe	GIRA, Euroconsulting (FR)
19. MACK	Gabriele	Agroscope (CH)
20. MATTHEY	Holger	FAO (IT)
21. MAURIZI	Isabelle	European Biodiesel Board (BE)
22. MÉRIAUX	Jean-Luc	UECBV (BE)
23. MEYER	Ferdi	Bureau for Food and Agricultural Policy BFAP (SA)
24. MEYER	Seth	USDA (USA)
25. MIDGLEY	Caroline	LMC International (UK)
26. MIELKE	Thomas	Oil World (DE)
27. MOELLER	Thordis	Nordzucker (DE)
28. NARTEY NII-NAATE	Zebedee	DEFRA (UK)
29. PAICE	Catherine	Dairy Industry Newsletter (UK)
30. PÉREZ DOMÍNGUEZ	Ignacio	OECD (FR)
31. PETIT	Arnaud	Copa-Cogeca (BE)
32. POPP	József	Agricultural Economics Research Institute - AKI (HU)
33. SALAMON	Petra	Thünen Institute (TI) (DE)
34. SWINNEN	Jo	KU Leuven & CEPS (BE)
35. TONINI	Axel	OFAG (CH)
36. VAN BELLEGHEM	Bart	EUCOLAIT (BE)
37. VERMEEREN	Cees	AVEC (BE)
38. VON LEDEBUR	Oliver	Thünen Institute (TI) (DE)

39. WAELBROECK ROCHA	Elisabeth	IHS Global Insight (UK)
40. WESTHOFF	Patrick	FAPRI (USA)
41. WITZKE	Peter	University of Bonn/EuroCare (DE)
42. WOHLFARTH	Monika	Zentrale Milchmarkt Berichterstattung (ZMB) (DE)

European Commission participants

Directorate General Agriculture and Rural Development (DG AGRI)	
43.	BASCOU Pierre
44.	KNOUSE RAMIREZ Gerardo
45.	BREMAN Elselien
46.	KRZYSZTOFOWICZ Maciej
47.	DAUTZENBERG Peter
48.	LEBESSIS Notis
49.	D'AVINO Alberto
50.	LILLIG Andreas
51.	DEL POZO RAMOS Manuel
52.	LONDERO Pierluigi
53.	DILLEN Koen
54.	MARTIN OVILO Carlos
55.	GALITA Livia
56.	MISONNE Brigitte
57.	GARCIA AZCARATE Tomas
58.	MULDER Hendrik
59.	GARCIA NAVARRO Miguel
60.	NEKRASIUS Dangis
61.	GAY S. Hubertus
62.	SCHANK-LUKAS Ave
63.	GENOVESE Giampiero
64.	SZENTIVANY Martin
65.	GIVORD-STRASSEL Doriane
66.	TOTH Bence
67.	HANIOTIS Tassos
68.	UBOLDI Adamo
69.	HELAINÉ Sophie
70.	WEINBRENNER Timo
Joint Research Center (JRC)	
71.	ANNONI Paola
72.	ARAUJO René
73.	ARTAVIA Marco
74.	BENSTED-SMITH John
75.	M'BAREK Robert
76.	OTTO Jens
77.	SANTINI Fabien
78.	VAN DOORSLAER Benjamin
79.	VINYES Cristina
Directorate General Trade (DG TRADE)	
80.	VARANDA RIBEIRO Ricardo
Directorate General Enterprise and Industry (DG ENTR)	
81.	VELAZQUEZ Beatriz

Europe Direct is a service to help you find answers to your questions about the European Union

Freephone number (*): 00 800 6 7 8 9 10 11

(*): Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet.

It can be accessed through the Europa server <http://europa.eu/>.

How to obtain EU publications

Our priced publications are available from EU Bookshop (<http://bookshop.europa.eu>),

where you can place an order with the sales agent of your choice.

The Publications Office has a worldwide network of sales agents.

You can obtain their contact details by sending a fax to (352) 29 29-42758.

European Commission

EUR 26600 – Joint Research Centre – Institute for Prospective Technological Studies

Title: Commodity Market Development in Europe – Outlook. Proceedings of the October 2013 Workshop

Authors: Thomas Fellmann, Fabien Santini

Luxembourg: Publications Office of the European Union

2014 – 144 pp. – 21.0 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424 (online)

ISBN 978-92-79-37792-1 (PDF)

doi:10.2791/78384

Abstract

This report contains a summary and the presentations of the expert workshop 'Commodity Market Development in Europe – Outlook', held in October 2013 in Brussels. The workshop was held to present and discuss the preliminary results of the European Commission's outlook on EU agricultural market developments. The workshop gathered high-level policy makers, modelling and market experts and provided a forum to present and discuss recent and projected developments on the EU agricultural and commodity markets, to outline the reasons behind observed and prospected developments, and to draw conclusions on the short/medium term perspectives of European agricultural markets in the global context. Special focus was given on the discussion of the influence of different settings/assumptions (regarding e.g. drivers of demand and supply, macroeconomic uncertainties, etc.) on the projected market developments.



JRC Mission

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.

*Serving society
Stimulating innovation
Supporting legislation*

