“Farming at a crossroads: innovation pathways to address food, climate and trade challenges”

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Outline

Global food supply and demand challenges
- What lessons?

Global regional trends
- Population and consumption trends, emerging food deficits

Innovation and competition challenges
- Trends on the ground, and the role of public policies
Part I – global food challenges

Supply is driven by opposing forces
- Potential to mitigate environmental cost increases by new technologies

Demand is driven by mixed shifts in tastes and preferences
- Population and consumption trends, emerging food deficits

Globalisation and trade opened up markets
- Yet price volatility is mainly driven by exogenous factors (even in trade)
Global food challenges – from ECON 101 to Farming 4.0

Mind the gaps!

Knowledge Applications Perceptions

In order to respond to

- Citizens’ demands
- Globalisation challenges
- COP21/SDGs commitments

Farming 4.0 must produce

More food with lower cost

Globalisation

Macroeconomy and trade

Globalisation
Commodity price waves (real price indices)

Part II – regional food trends

Population growth rates are less important as a demand driver
➢ Africa a notable exception to the overall trend

Consumption trends are mixed
➢ Some sectoral results counter widely held public opinions (e.g. in meats)

Global trends in food surpluses/deficits are region-specific
➢ S. America increases surpluses; Asia and Africa increase food deficits
World food consumption trends

- **WHEAT**
  - Consumption growth vs. population growth

- **MAIZE**
  - Consumption growth vs. population growth

- **SOYA BEANS**
  - Consumption growth vs. population growth

- **BOVINE MEAT**
  - Consumption growth vs. population growth

- **PIG MEAT**
  - Consumption growth vs. population growth

- **POULTRY MEAT**
  - Consumption growth vs. population growth
World food trade trends - Wheat

Africa

South America

Asia

EU-28

North America

Oceania

Per capita consumption

Supply/Demand

1961-1971
dark blue
1971-1980
orange
1981-1990
light blue
1991-2000
yellow
2001-2010
grey
2011-2020
green
World food trade trends – Meat and Dairy

Bovine meat

Pigmeat

Poultry

Dairy products - excluding butter
Part III – Back to some basic issues that need to be addressed

Food is not just a supply-driven challenge...
➢ ... but increasingly one reflecting competing and contradictory shifts in consumer/citizen choices

Climate and environmental issues are bound to dominate farm policy...
➢ ... but jointly achieving more economic and environmental efficiency requires a change in mind sets

There is no doubt that trade liberalisation increased overall welfare...
➢ ... but winners should not “forget” to compensate the losers – and to communicate the result
What type of farm policies do we want?

**No policy**

*Only a textbook example*
- ignores market failures
- facilitates/forces supply to respond
- shifts mitigation to social policy

**Price support**

*Old CAP, current US FB*
- supply responds to policy signals
- oversupply and inefficiencies
- high budgetary outlays

**Supply control**

*Quotas, coupled support*
- addresses some price pressures
- constraints supply response
- freezes asset values, creates rents

**Decoupled support**

*Current CAP, old US FB*
- supply response to market signals
- distribution; targeting tensions
- fixed budgetary outlays
The EU-type of farm policy evolution – so far

EU and world dairy prices

Source: DG AGRI.
What challenges for competition?

On the producer side...
➢ ... innovation benefits come with serious gaps in their distribution, and trade tensions distort signals

On the processing level...
➢ ... asymmetries exist in price transmission, and in the access and use of natural resources

On the consumer side...
➢ ... globalisation of food supply chains and changes in retail create tensions from market concentration
Key drivers of change in EU Food Systems
What role for innovation?

Farming 4.0 is for real...
➢ ... with concrete applications rapidly spreading, and the EU leading in some related areas

Resistance to change and fear of technology is also for real...
➢ ... driven by abuse of data privacy, and confusion of private vs public data availability

Addressing present policy and market failures should anticipate change...
➢ ... this is easier in the private sector, more demanding but also more urgent in the public sector
Thank you!

REPORTS AND MORE INFORMATION

On MFF Material


http://ec.europa.eu/budget/mff/index_en.cfm

On CAP legislative proposals, Impact Assessment and Background


ANNEX

CAP reform path
➢ ... with concrete applications rapidly spreading, and the EU leading in some related areas

Climate change challenges
➢ ... worldwide extreme weather events

EU environmental performance in agriculture
➢ ... on emissions and soil
The CAP gradually shifted from price support...

Source: EC-DG AGRI.
Note: Budget figures are actual until budget year 2016, programmed from 2017-2020, and based on the MFF proposal for 2021-2027.
...to coupled producer support...

Source: EC-DG AGRI.
Note: Budget figures are actual until budget year 2016, programmed from 2017-2020, and based on the MFF proposal for 2021-2027.
...and then to decoupled support...

Source: EC-DG AGRI.
Note: Budget figures are actual until budget year 2016, programmed from 2017-2020, and based on the MFF proposal for 2021-2027.
...significantly improving EU’s farm income...

EU and US nominal farm income (2010=100)

Source: EC-DG AGRI, based on Eurostat and USDA data.
...and EU’s agri-food competitiveness

EU agricultural exports and imports 2005-17 (in billion €)

Source: EC-DG AGRI.
Worldwide extreme weather events

Natural catastrophes worldwide - number of events

- Meteorological events: Tropical storm, extra-tropical storm, convective storm, local storm
- Hydrological events: Flood, mass movement
- Climatological events: Extreme temperature, drought, forest fire

Source: © 2017 Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, NatCatService (January 2017)
EU progress on climate and environment

Reduction in environmental impact indicators (2010=100)

Source: DG AGRI based on Eurostat.