AGRICULTURAL OUTLOOK
IMPLICATIONS FOR FOOD SECURITY

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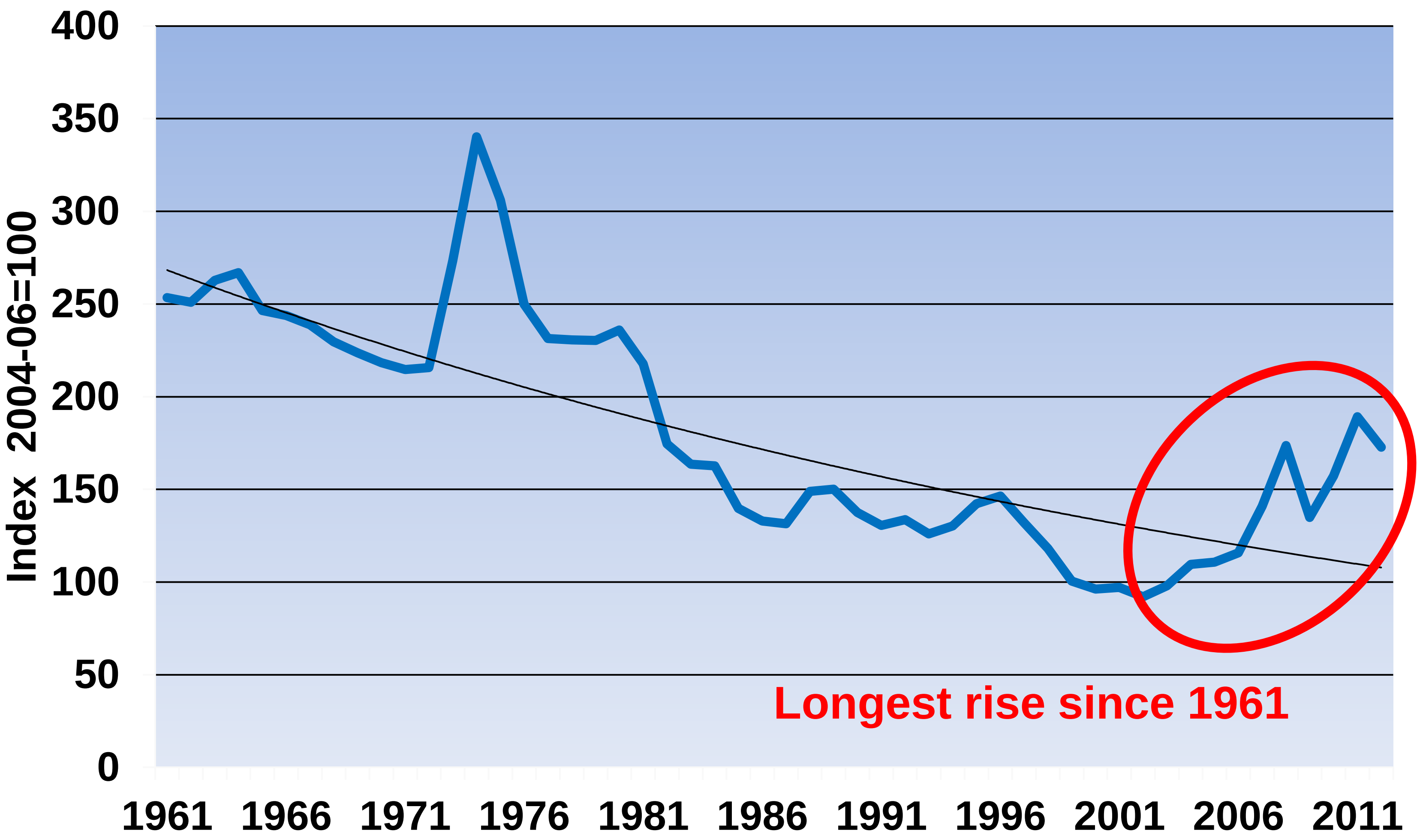
Presentation Outline

1. **Why growing food security concerns?**
2. **What is the market outlook?**
3. **Is price volatility increasing?**
4. **Can supply keep up with demand?**

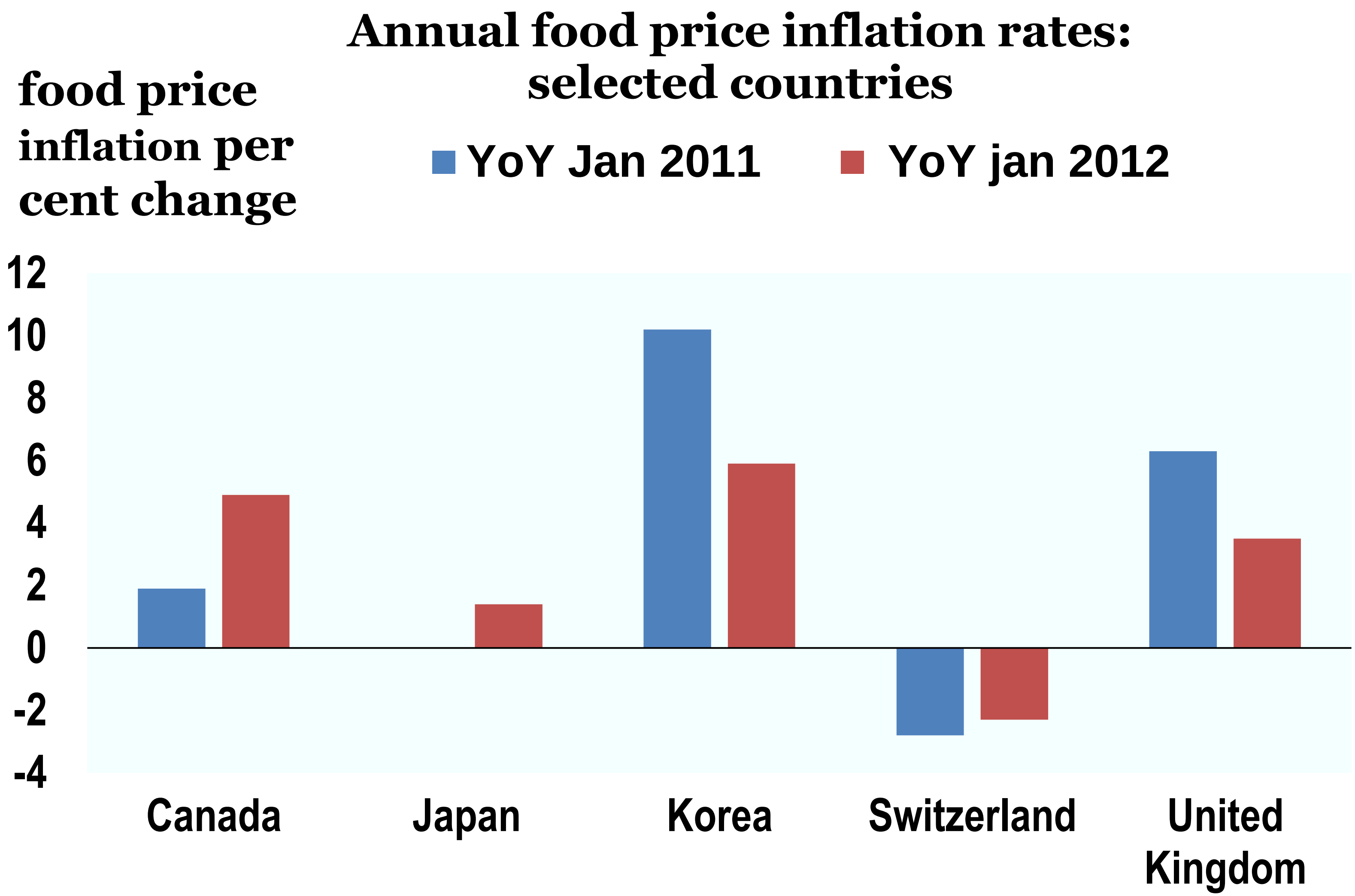
1. Why growing food security concerns?

- **870 million hungry**
- **Growing pop'n**
- **Crop shortfalls/low stocks**
- **Resource constraints & climate change**

FAO Food Price Index has reversed



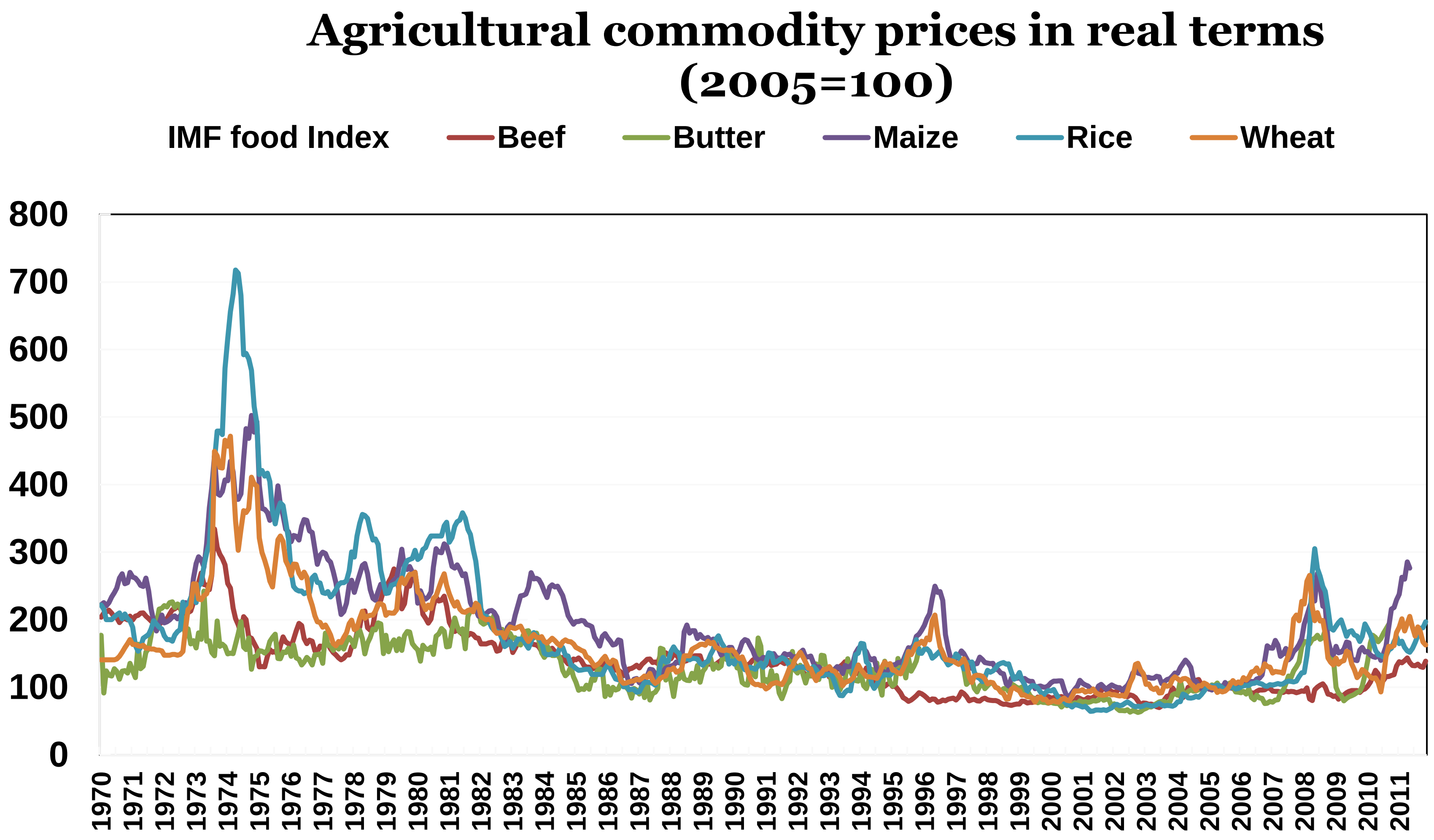
Food price inflation varies by country



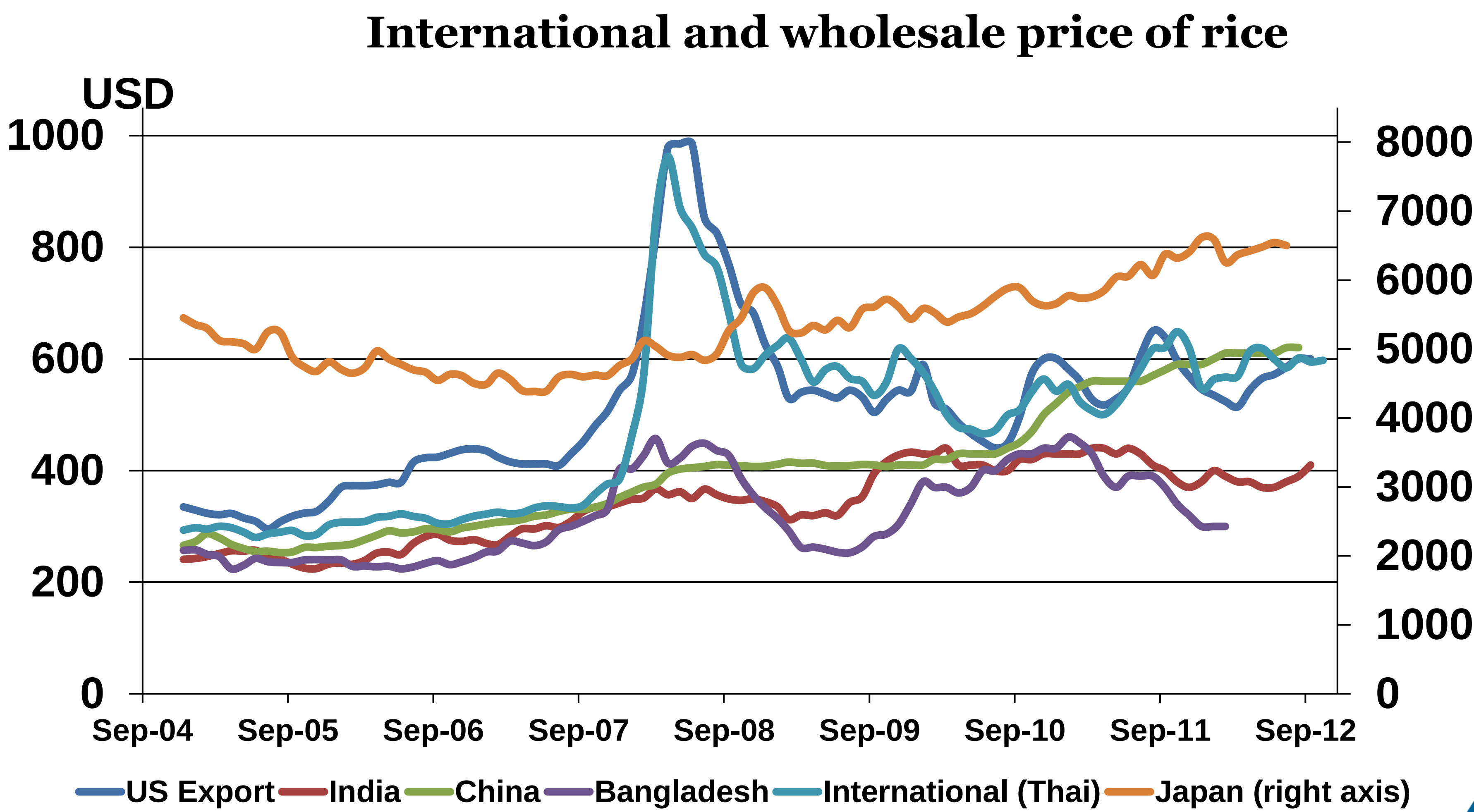
Food prices reflect commodity prices

- **Which often move together**
- **Which reflect energy costs**
- **Which reflect gov't support policies**

Long term decline in commodity prices at an end?



Domestic prices may not reflect world price movements



2. What is the market outlook?

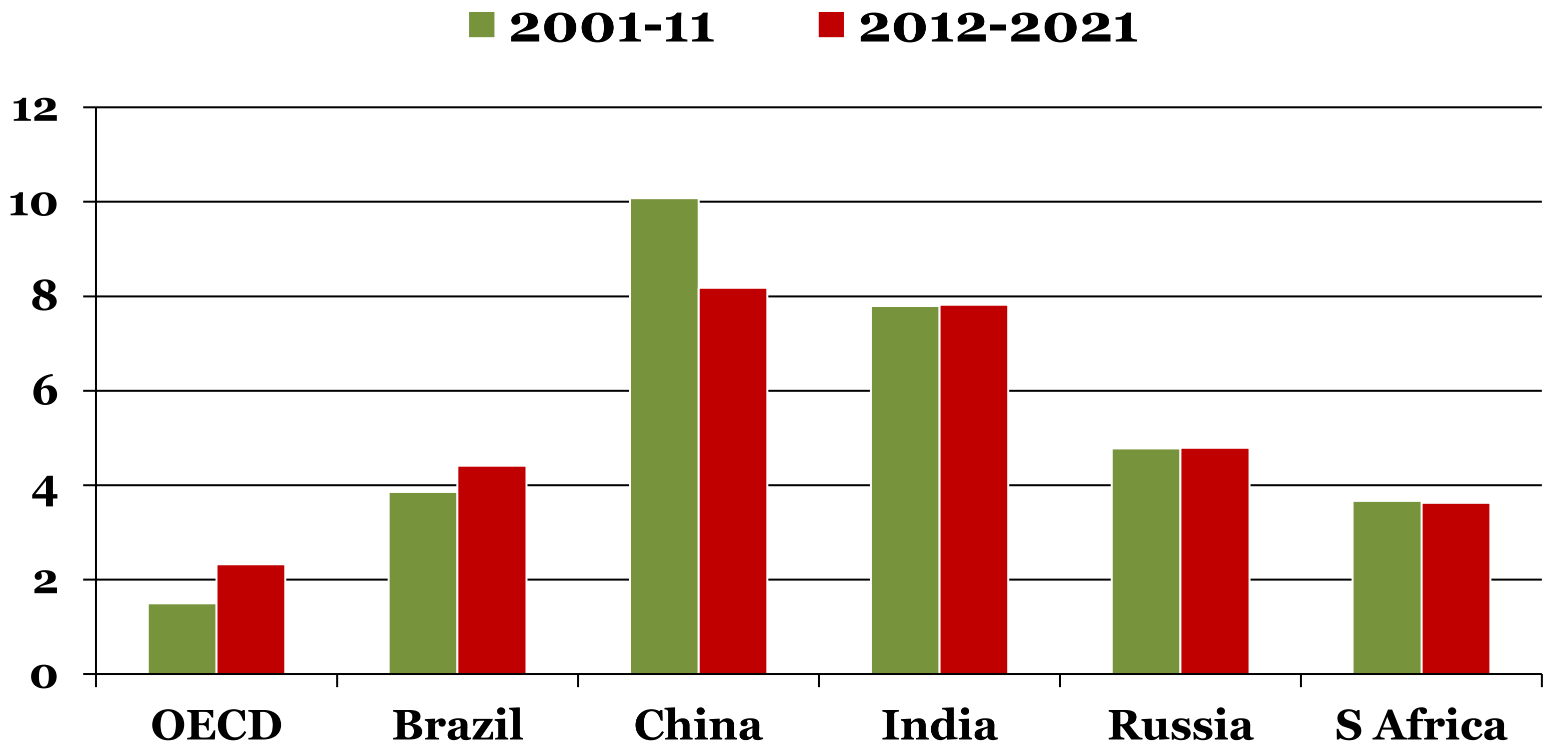
- **10 years - 2012-21**
- **Global consensus**
- **Normal weather**
- **Current policies**
- **Trends not forecasts**

Macro assumptions

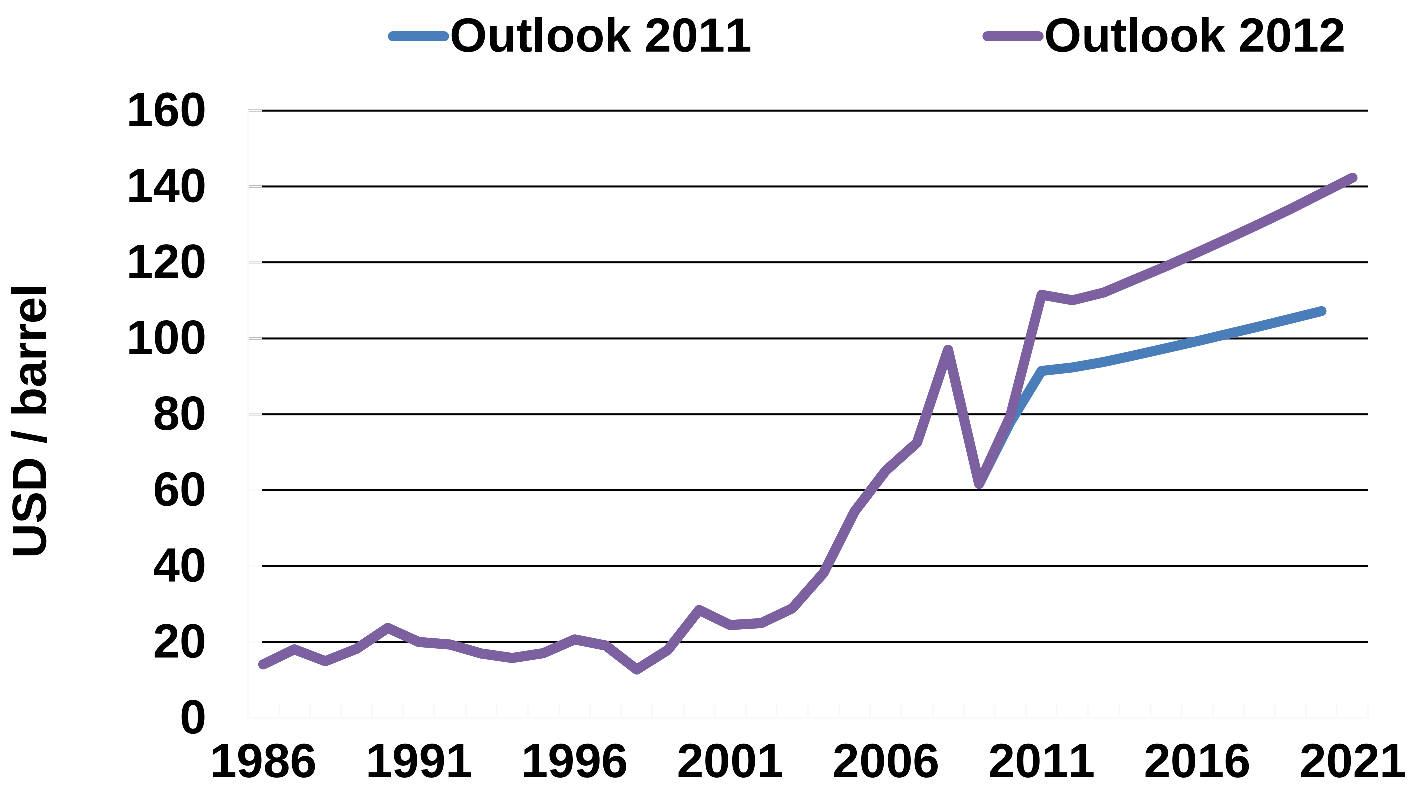
- **Two speed global economy**
- **Slowing pop'n growth**
- **Subdued inflation**
- **Higher energy prices**

Two speed global economy

Average annual GDP growth (%)



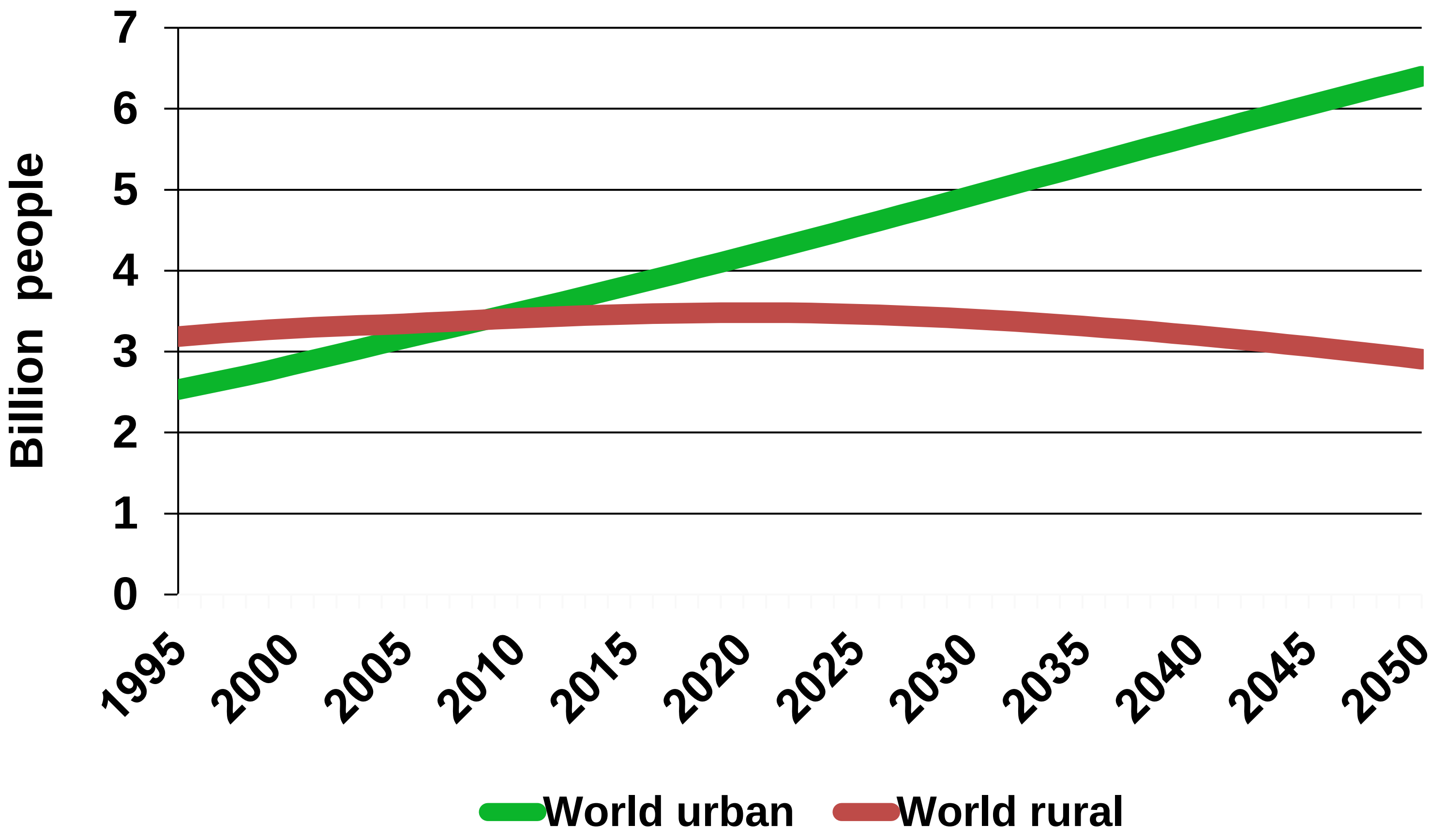
Higher oil prices projected



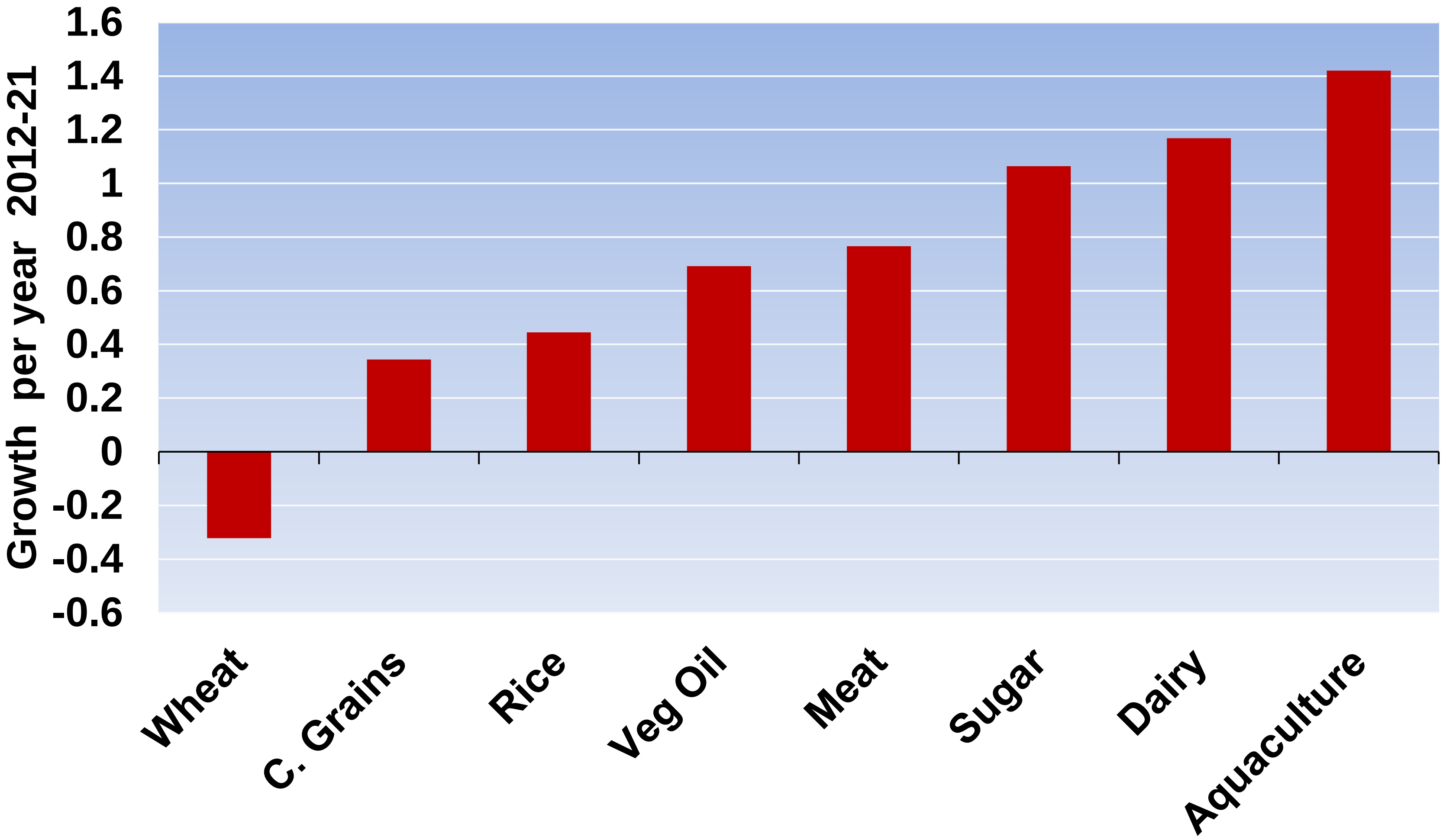
Demand drivers

- **Pop'n up 680M**
- **Higher incomes**
- **Urban migration**
- **Changing diets**
- **More biofuel prod'n**

Urban pop'n to increase 3 billion by 2050

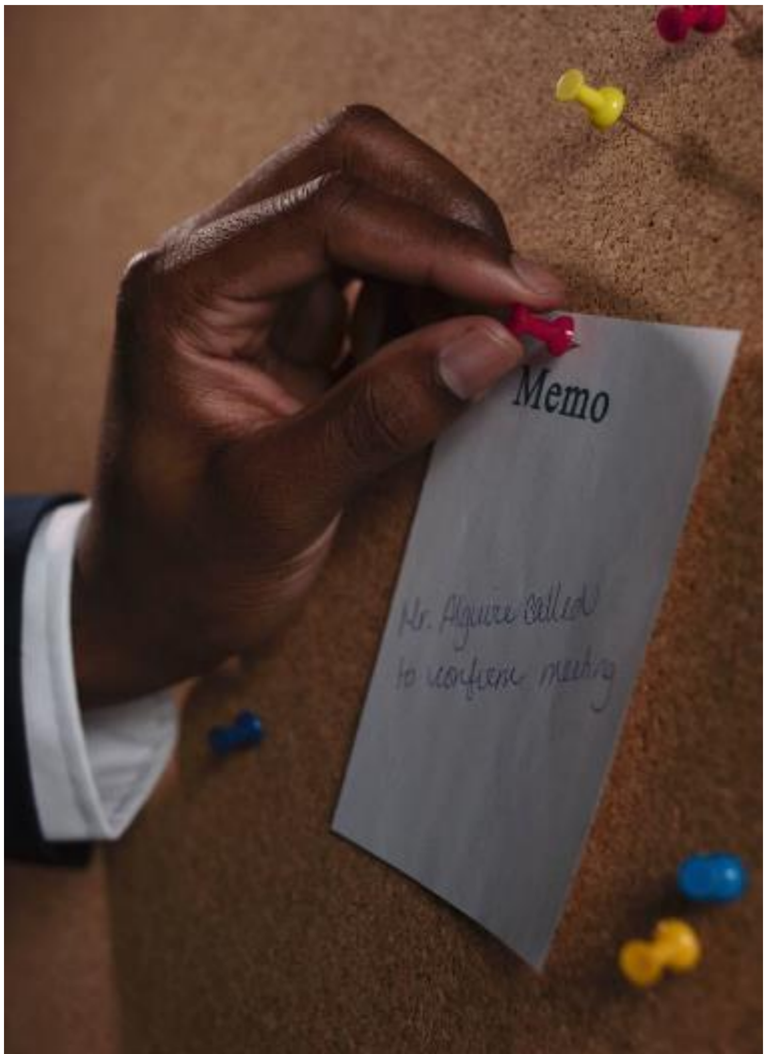


More processed foods, fats and proteins



OECD Trade and Agriculture Directorate

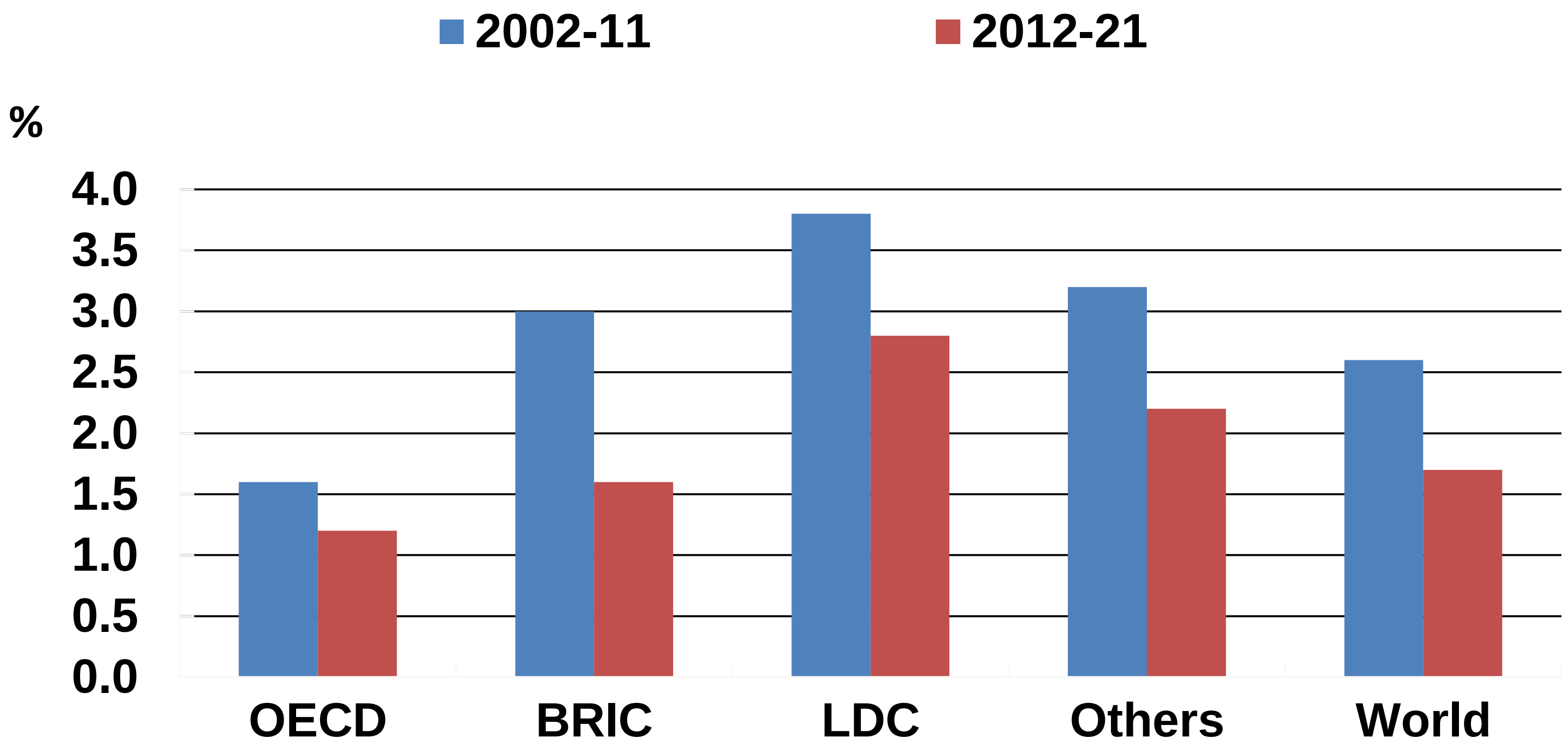
Outlook highlights



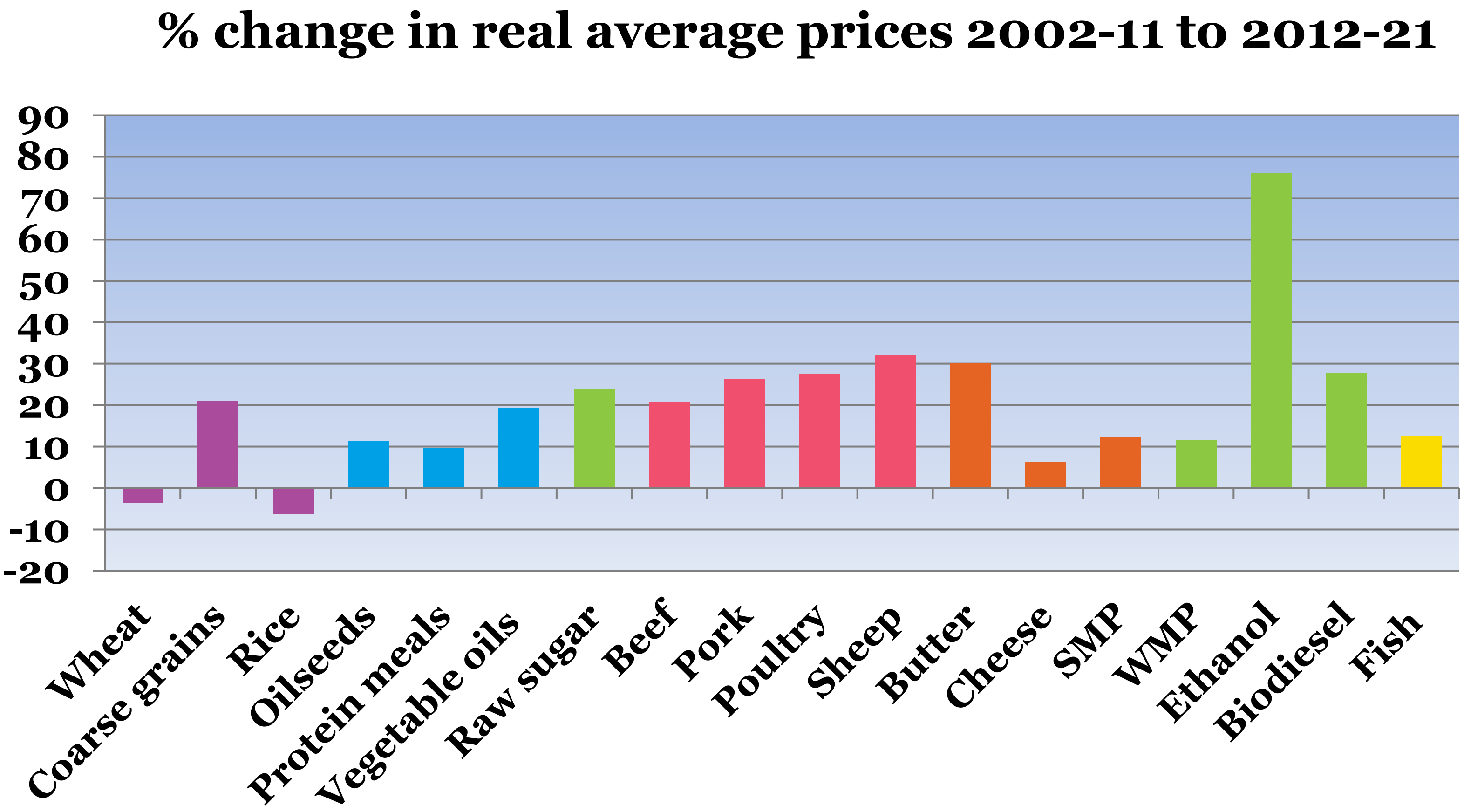
- **Slowing production growth**
- **Higher price plateau**
- **Developing countries increase role**

Global production to grow at 1.7%

Average annual growth in net agricultural output (%)

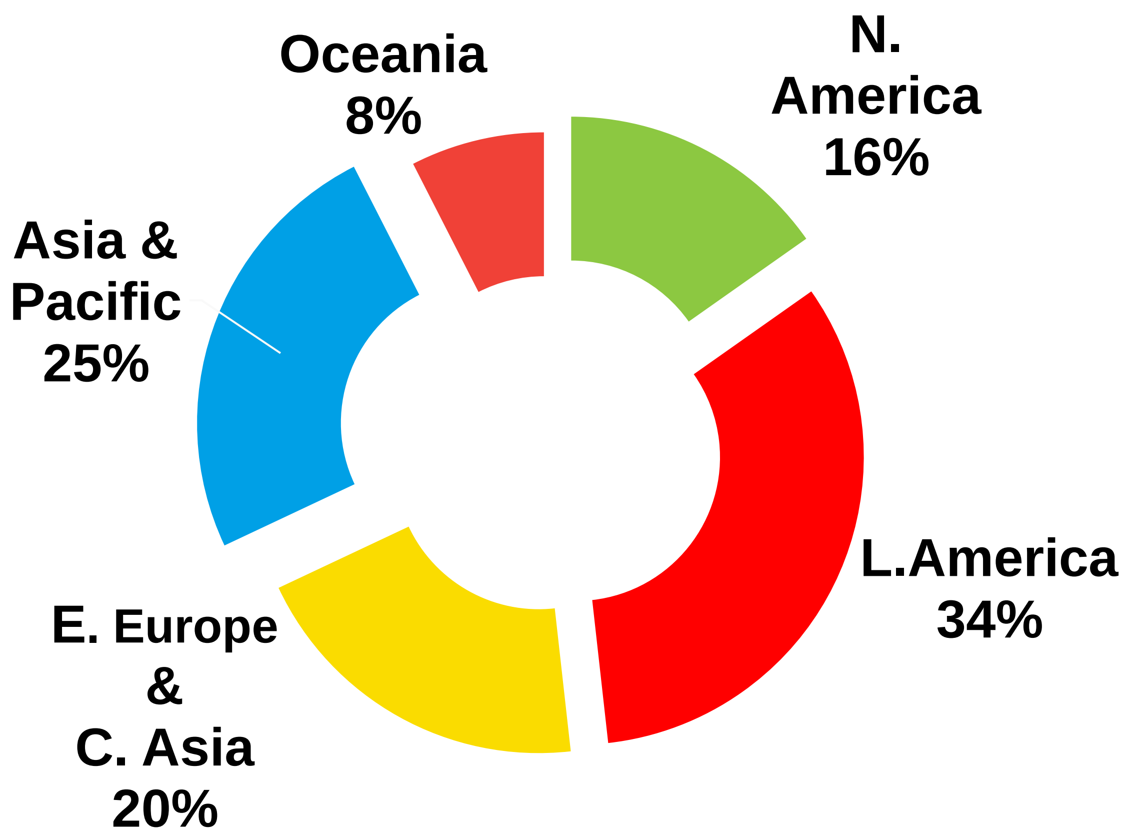


Higher average prices compared to previous decades



Developing countries to dominate export growth

% share of world export growth over next decade

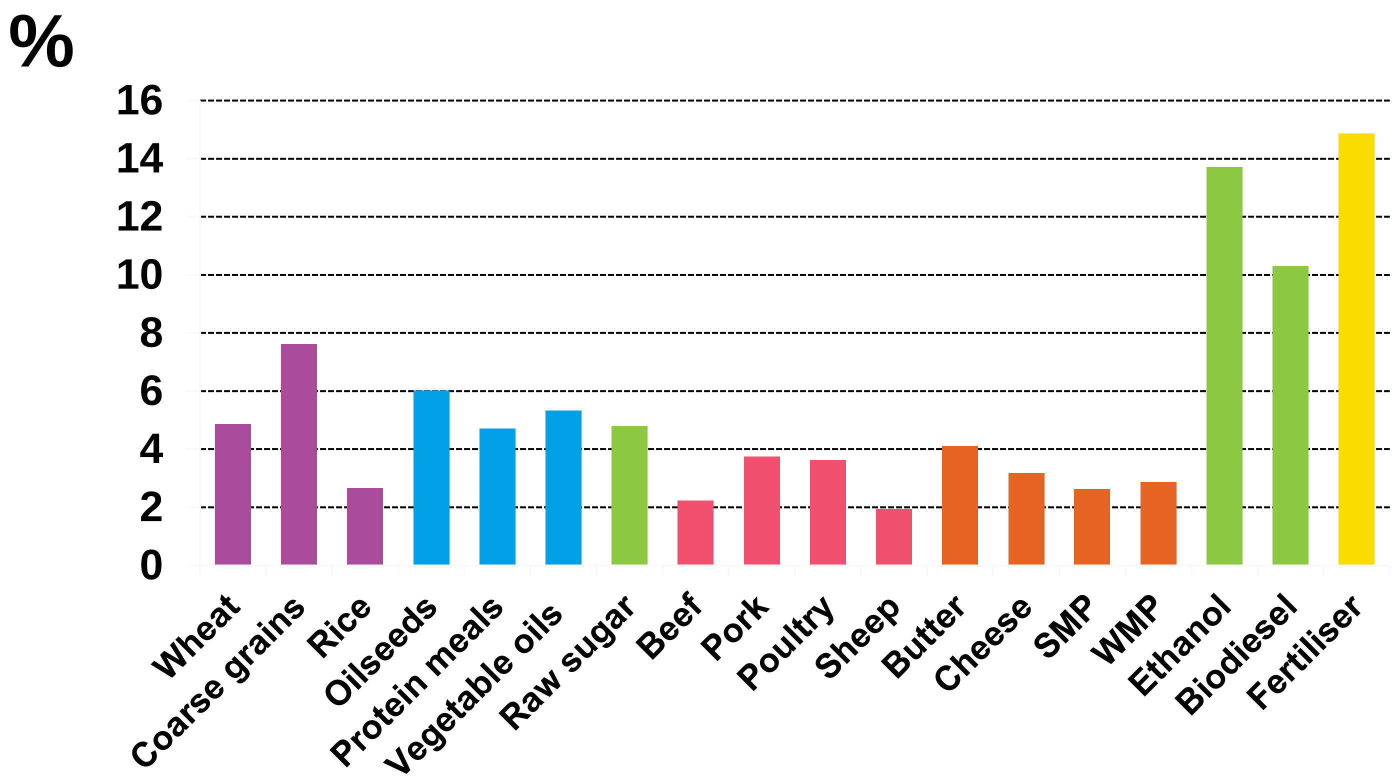


3. Is price volatility increasing ?

- **Greater prod'n variability**
- **Less stable macroeconomy**
- **More inelastic demand**
- **Ag and trade policy**

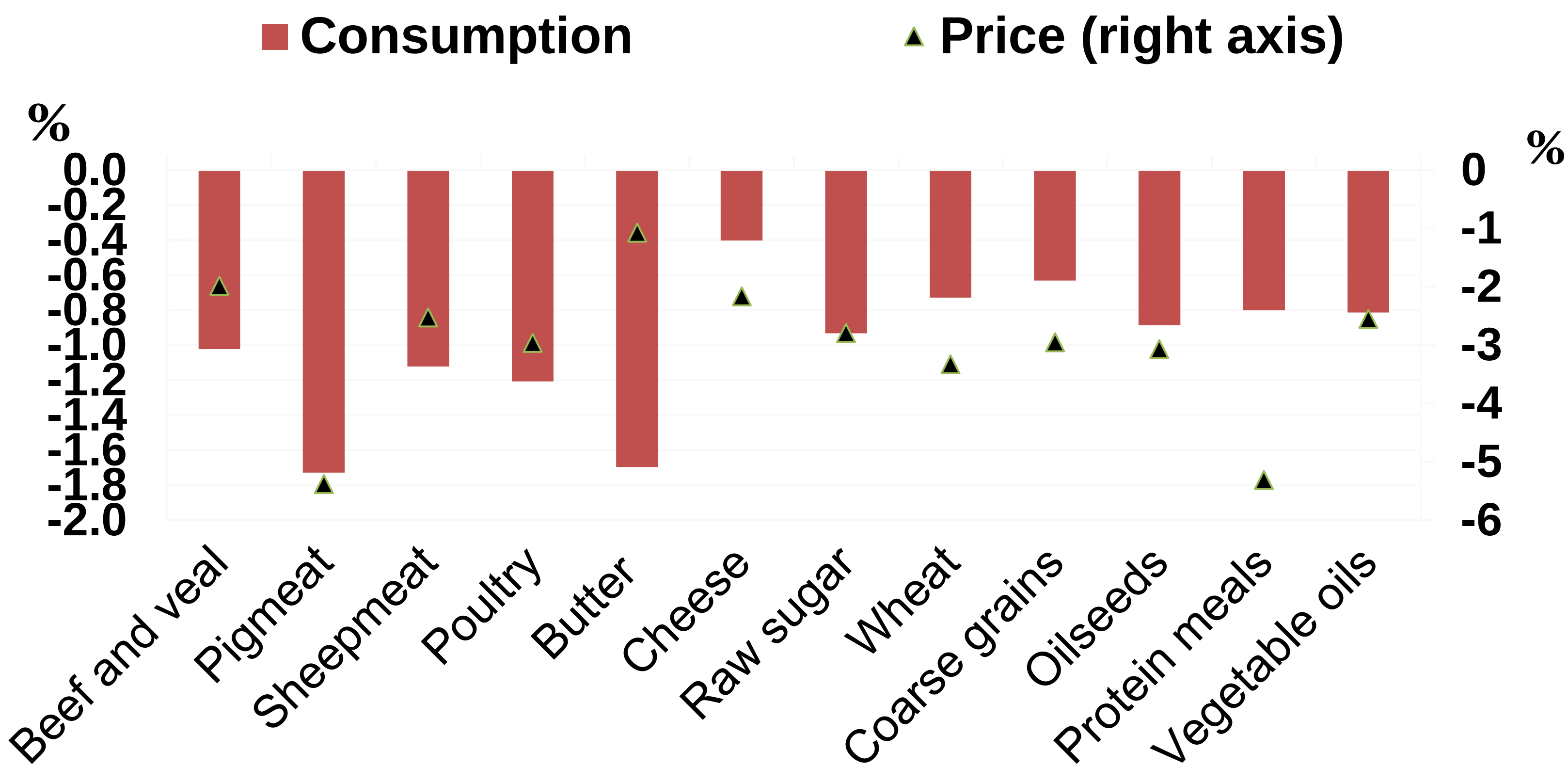
Volatility from crude oil prices

Price impact of 25% increase in crude oil price



Volatility from GDP growth

Price impact of 10% lower GDP growth in BRICs



Measures to reduce price volatility

- **Market information**
- **Futures markets**
- **Buffer stocks**
- **Domestic/trade policies**

Measures to mitigate price volatility

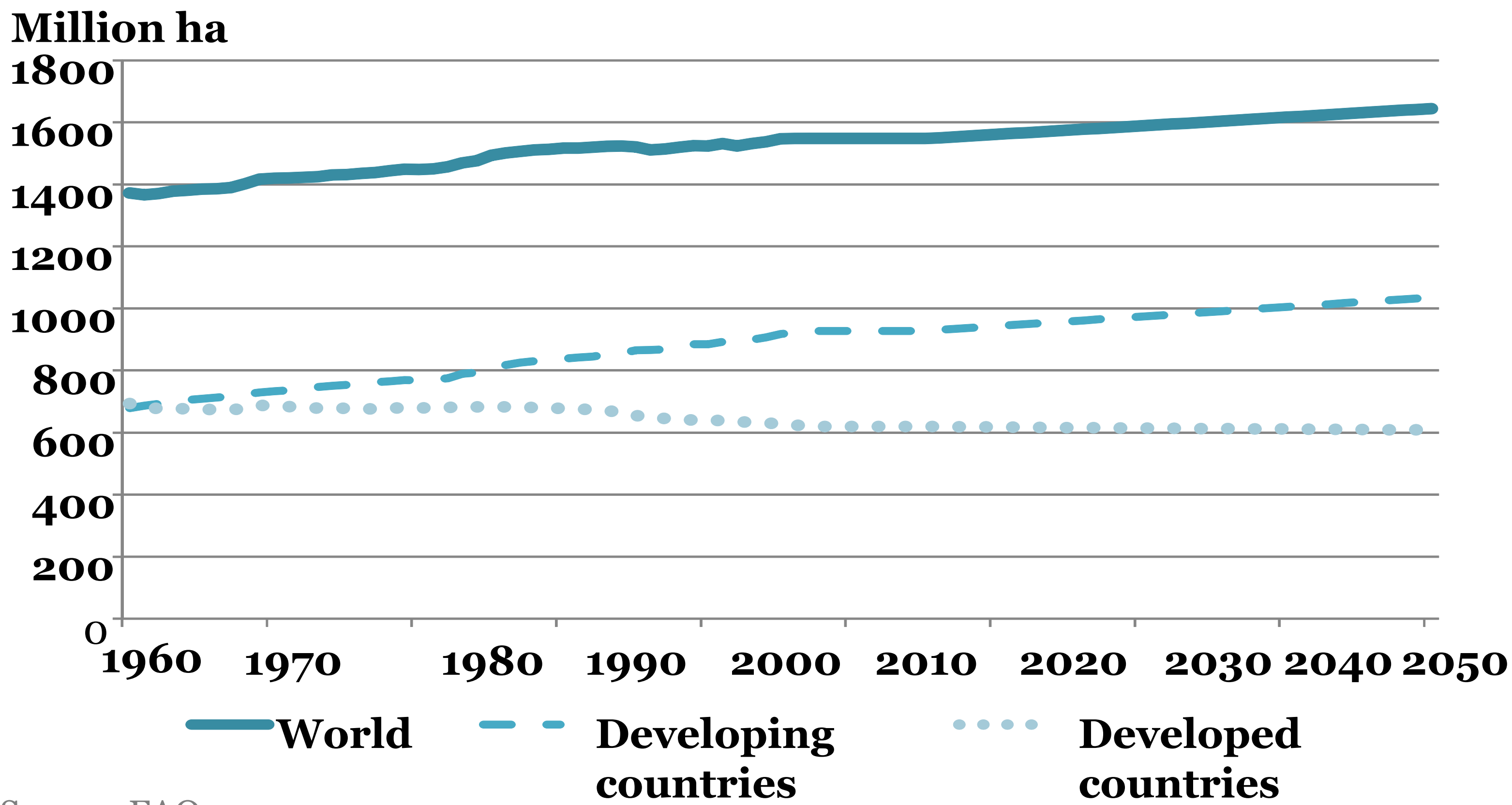
- **Safety nets**
- **Risk management**
- **Int'l policy coordination**

4. Can supply keep up with demand?

- **Need 60% prod'n increase by 2050**
- **Little scope for area expansion**
- **Slowing rate of productivity growth**

Arable land to increase only 5% by 2050

Estimated/projected global arable land 1960 - 2050



Source: FAO

Past output increases from yield gains

Average annual growth rates in world rice, wheat and maize production

	1992-2001	2002-2011
Production	**0.9**	**2.5**
Yield	**1.4**	**1.9**
Area	**-0.5**	**0.7**

Source: OECD-FAO

Total factor productivity growth in agriculture has continued to rise

Average annual growth rate by period

Period	Developed countries	Developing countries
1961-1970	0.99	0.69
1971-1980	1.64	0.93
1981-1990	1.36	1.12
1991-2000	2.33	2.22
2001-2009	2.44	2.21

Source: Fuglie, 2012

Constraints to productivity growth

- **Rising input costs**
- **Land degradation**
- **Water shortages**
- **Environmental pressures**
- **Climate change**

Potential exists to reduce yield gap

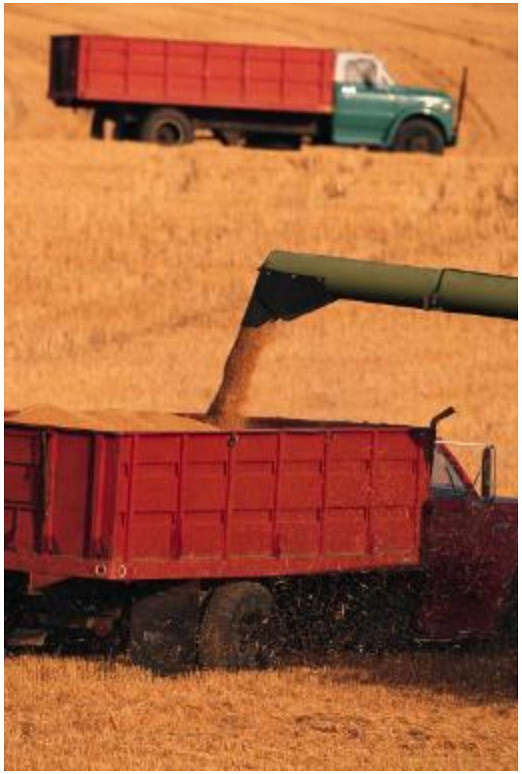
Actual yields in 2000 as % of attainable yields

All Crops	Yield Gap (%)
North America	33
West /Central Europe	36
Eastern Europe/Russia	63
South America	52
South Asia (India)	55
Sub Saharan Africa	76

Source: Fischer, Hizsnyik, Prieler, Wiberg, 2010.

Yield gap reduction scenario

20% cereal yield gap reduction in developing countries



- **World cereal prod'n increases 5%**
- **World cereal prices fall 5-20%**
- **33% of additional grains goes to biofuel**

Source: OECD FAO Agricultural Outlook, 2012

What needs to be done?

- **Better agronomic practices**
- **Create enabling environment**
- **Strengthen innovation system**
- **Reduction crop losses/food waste**

Closing thoughts on food security

- **Reducing extreme poverty is key**
- **Much food produced is lost/wasted**
- **Productivity and sustainability are linked**

For governments

Invest in improving the productivity, profitability, sustainability and long-term competitiveness of the food & agriculture sector

For more information

- Visit our website: **www.oecd.org/agriculture**
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