



# THE IMPACT OF BIOFUELS ON GLOBAL AGRICULTURAL MARKETS

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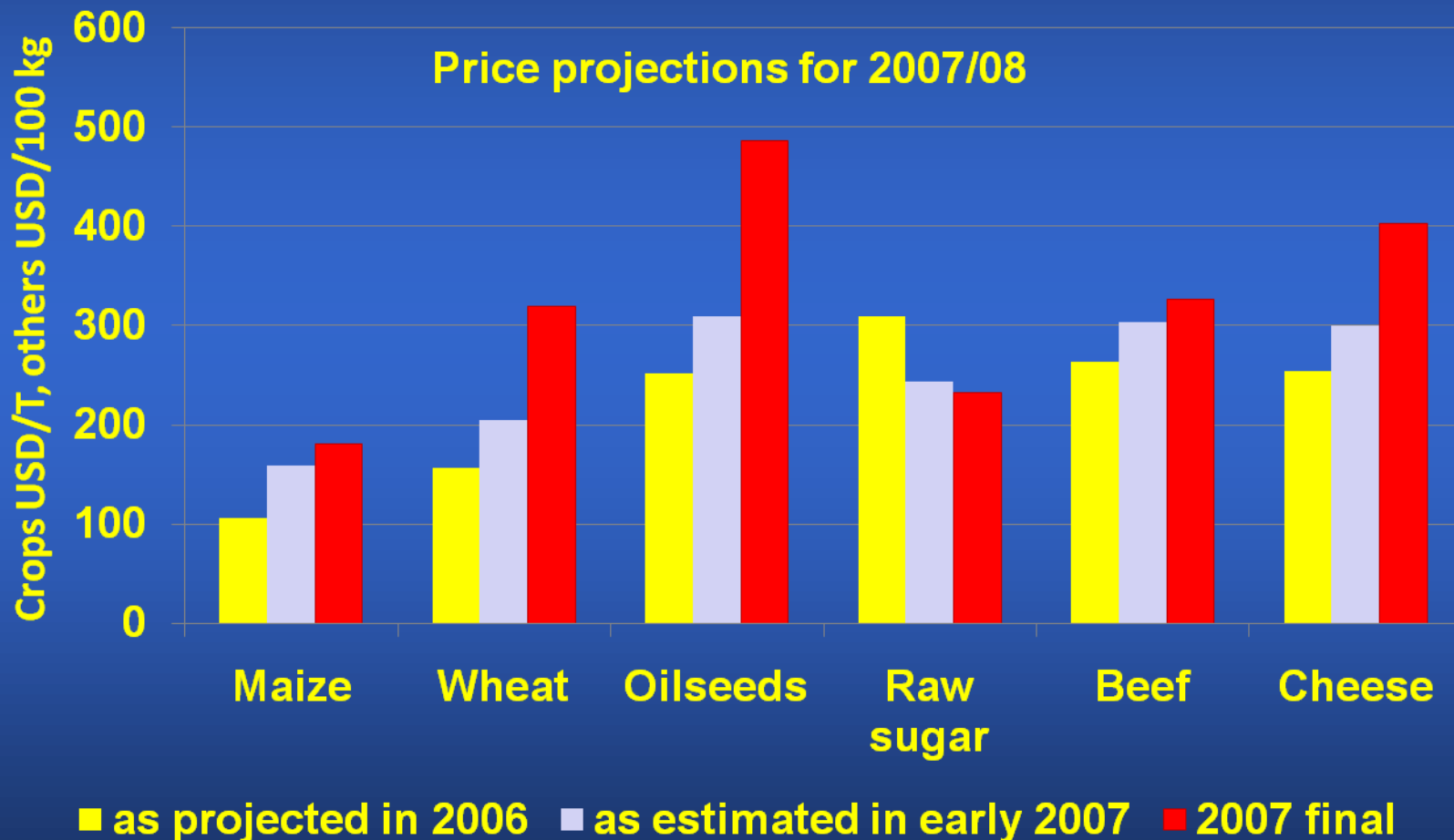


# Outline of the presentation

- Current commodity prices: what is going on???
- Price projections: a higher plateau for world prices
- What explains medium term price trends?
  - Factors impacting the trend slope
  - Factors impacting the trend level
- The role of biofuels in raising prices: how confident can we be?
- Some (trade) policy implications



# Current commodity prices: what's going on?





# Current commodity prices: what did we miss?

- **Cereal markets**
  - Australia: continued drought and lower yields
  - Europe drought reduced output in EU and CIS
  - Canada: lower than expected wheat area and yields
  - USA: stronger than expected land shift from oilseeds to maize.
- **Oilseed markets**
  - Further drop in US soybean area

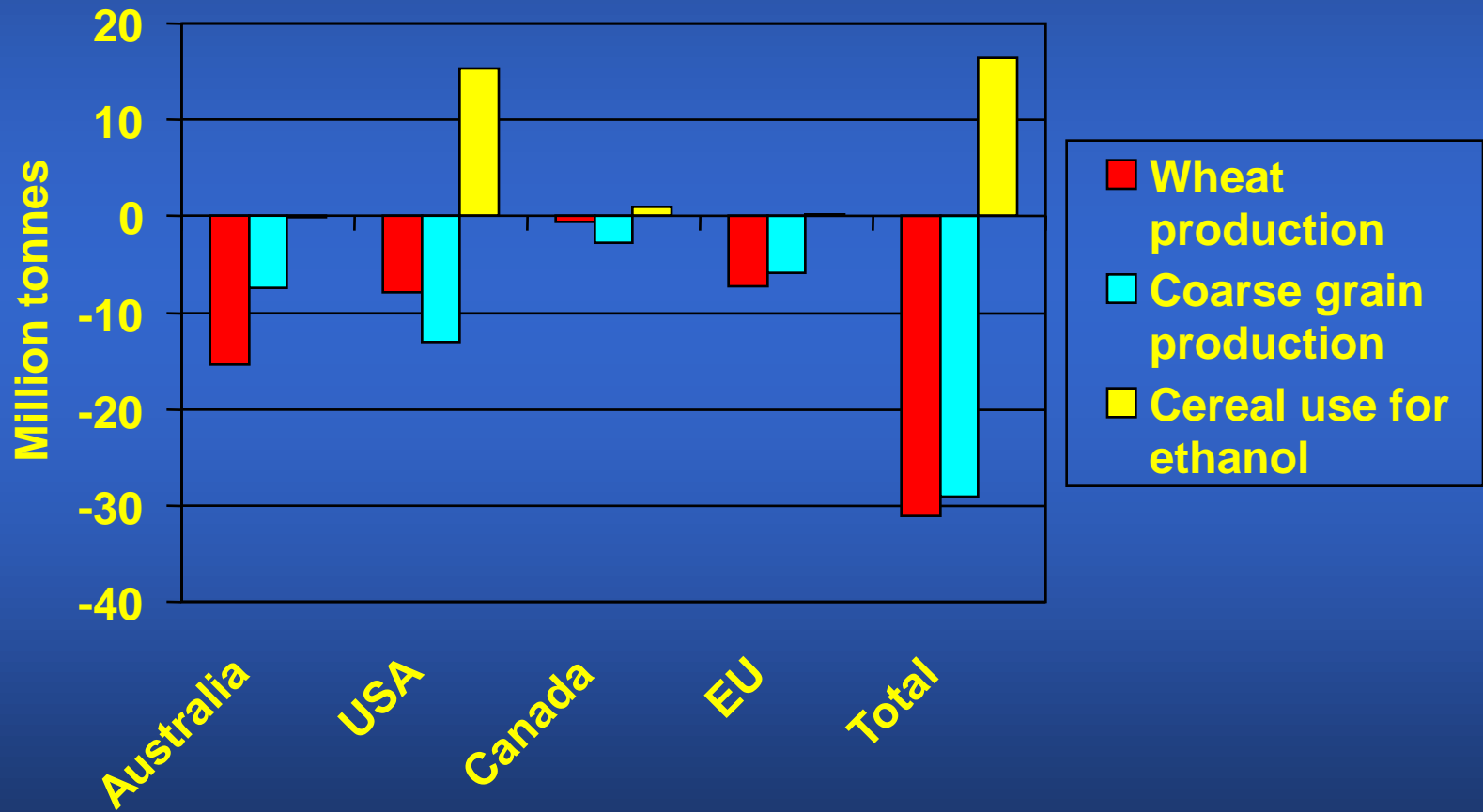


# Current commodity prices: what did we miss?

- **Dairy markets**
  - The EU dairy quota underfilled in 2007
  - Drought reduced milk production in Australia
  - Argentina: soybeans preferred over milk
- **Macro variables**
  - Much higher crude oil prices than assumed
  - Substantially weaker USD
- **Conclusion**
  - Supply shocks have strongly affected current prices
  - Other factors have played a role as well



# Supply-demand shocks in world cereal markets: 2006-07





# Price projections: a higher plateau for world prices

	<b>Av. world price 2007 baseline (2007-2016)</b>	<b>% change from 2006 baseline (2006-2015)</b>	<b>% change from average over 1997-2006</b>
<b>Wheat</b>	<b>188</b>	<b>19</b>	<b>29</b>
<b>Maize</b>	<b>145</b>	<b>29</b>	<b>40</b>
<b>Oilseeds</b>	<b>301</b>	<b>14</b>	<b>20</b>
<b>Veg. Oils</b>	<b>615</b>	<b>4</b>	<b>22</b>
<b>Sugar</b>	<b>239</b>	<b>-18</b>	<b>12</b>
<b>Cheese</b>	<b>304</b>	<b>16</b>	<b>34</b>
<b>Butter</b>	<b>203</b>	<b>8</b>	<b>27</b>
<b>Pigmeat</b>	<b>157</b>	<b>8</b>	<b>17</b>
<b>Beef</b>	<b>291</b>	<b>9</b>	<b>10</b>



# What explains medium term price trends: factors impacting the slope

## Upward pressure

- Continued income and population growth





# Where population and income is expected to grow

	Population		Income		
	1997-2006	2007-2016	1997-2006	2007-2016	2006 income share
<b>World</b>	<b>1.23</b>	<b>1.08</b>	<b>2.86</b>	<b>3.05</b>	<b>100</b>
<b>Africa</b>	<b>2.20</b>	<b>2.04</b>	<b>4.21</b>	<b>4.32</b>	<b>1.8</b>
<b>Latin America &amp; Caribbean</b>	<b>1.40</b>	<b>1.17</b>	<b>2.27</b>	<b>3.79</b>	<b>5.7</b>
<b>North America</b>	<b>1.02</b>	<b>0.86</b>	<b>2.81</b>	<b>2.62</b>	<b>32.3</b>
<b>Europe</b>	<b>0.29</b>	<b>0.06</b>	<b>2.20</b>	<b>2.13</b>	<b>27.6</b>
<b>Asia</b>	<b>1.15</b>	<b>0.98</b>	<b>3.55</b>	<b>4.02</b>	<b>30.3</b>
<b>Oceania</b>	<b>1.36</b>	<b>1.08</b>	<b>3.33</b>	<b>2.72</b>	<b>2.0</b>



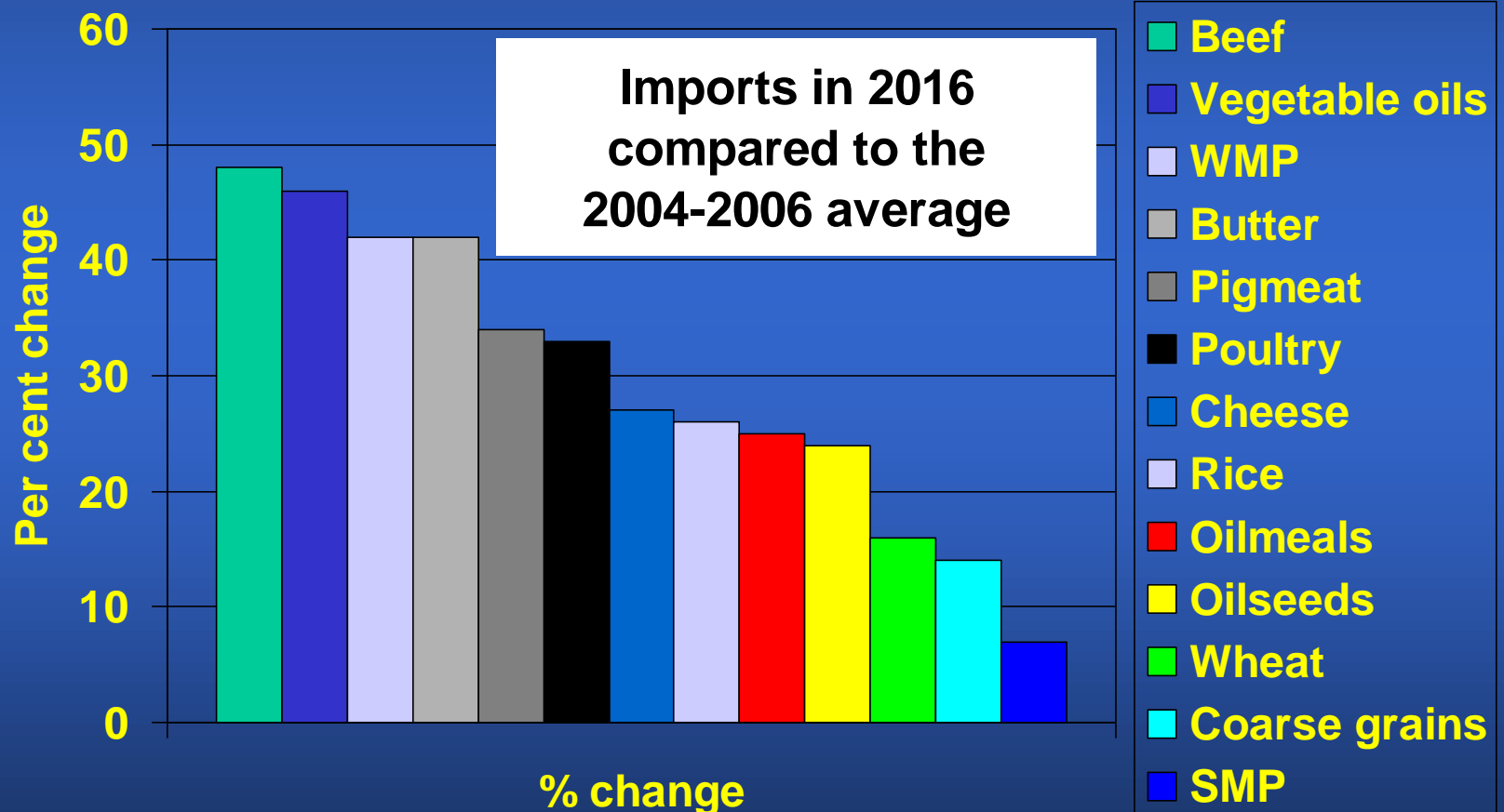
# What explains medium term price trends: factors impacting the slope

## Upward pressure

- Continued income and population growth
- Demand and import growth in emerging countries



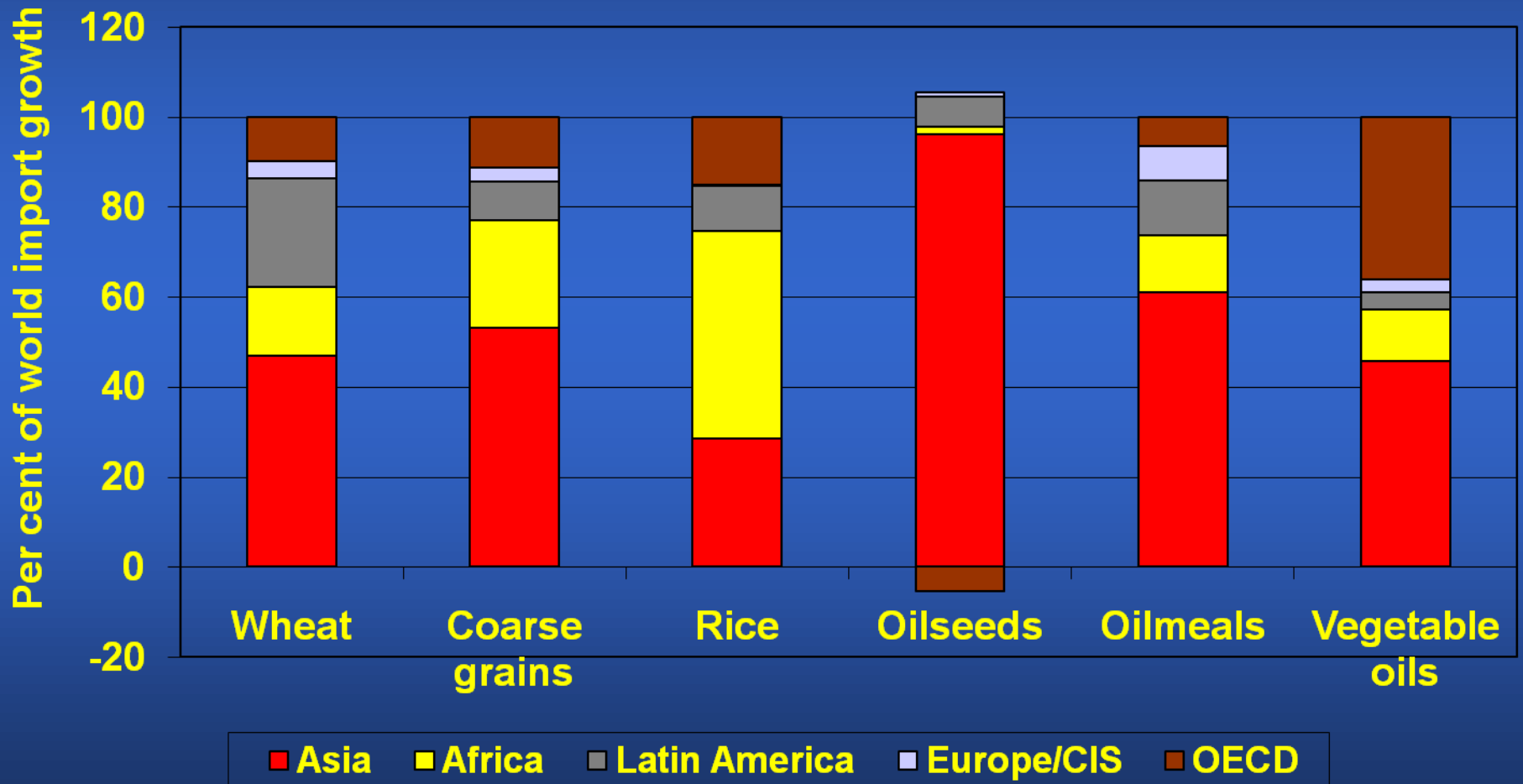
# Mostly strong growth in world trade





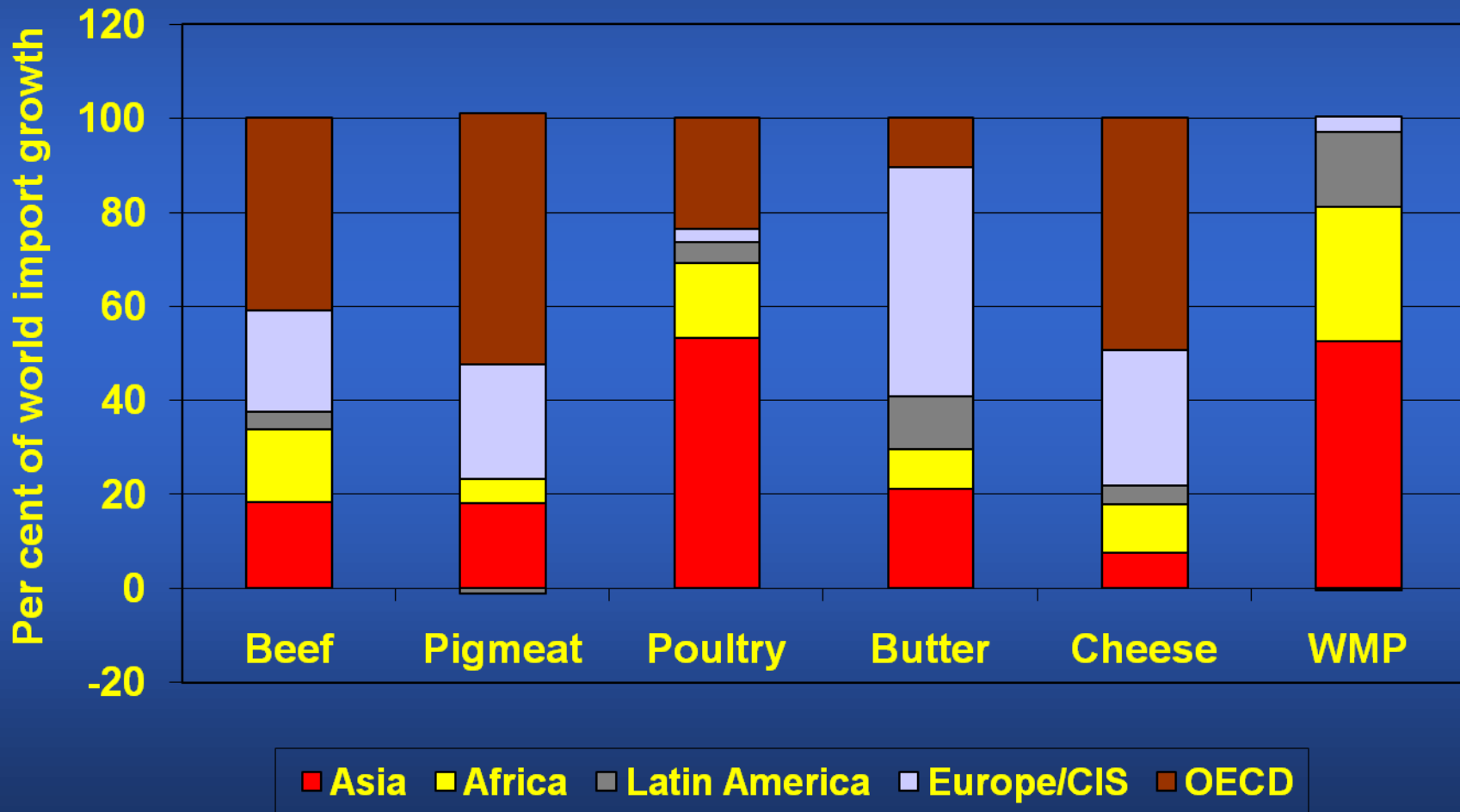
# Where are crop imports growing?

(% change 2016 – Average 2004-06)



# Where are meat and dairy imports growing?

(% change 2016 – Average 2004-06)





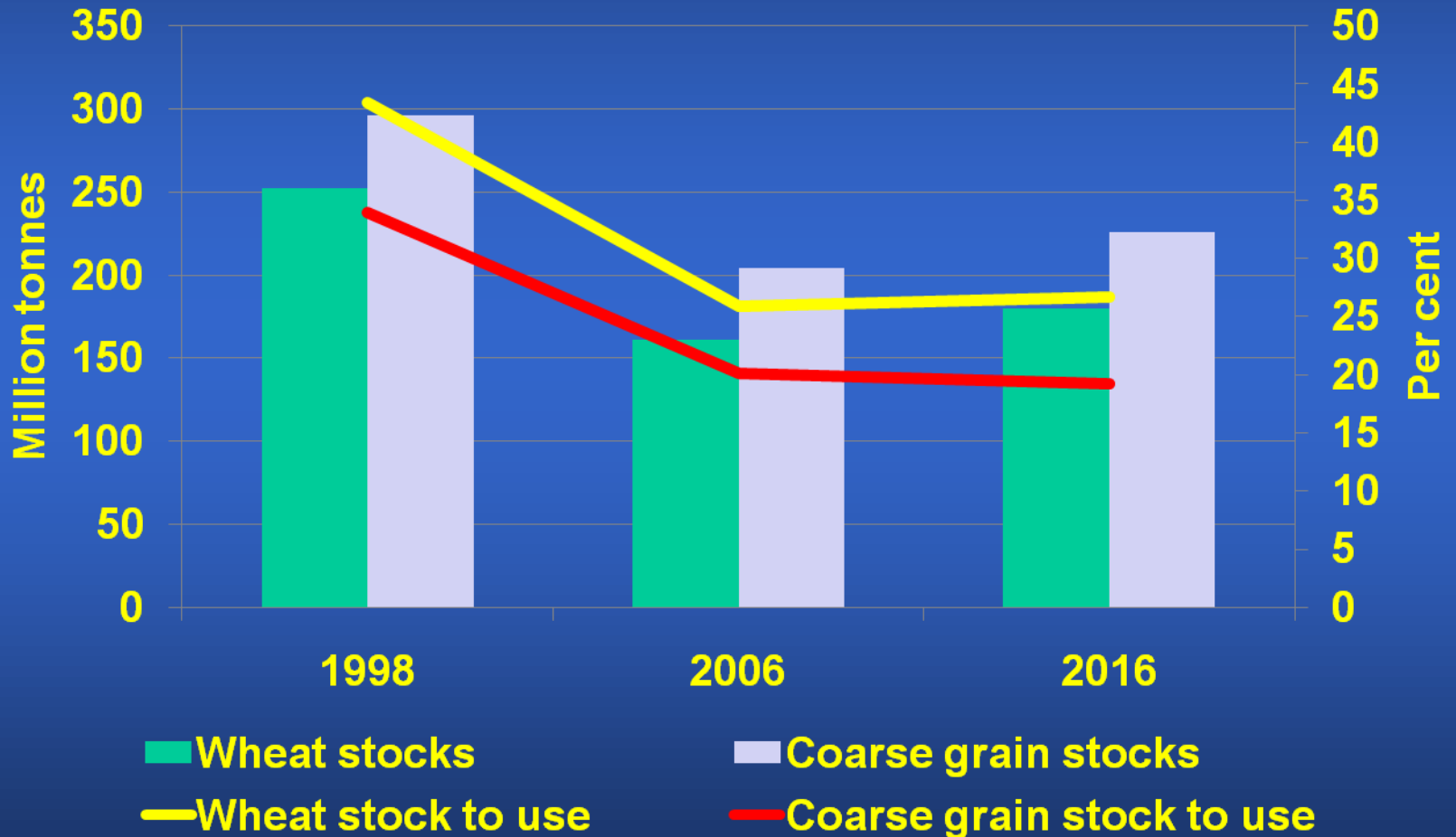
# What explains medium term price trends: factors impacting the slope

## Upward pressure

- Continued income and population growth
- Demand/import growth in emerging countries
- Low cereal stocks



# Substantial drop in global grain stocks





# What explains medium term price trends: factors impacting the slope

## Upward pressure

- Continued income and population growth
- Demand/import growth in emerging countries
- Low cereal stocks
- **Water scarcity and land losses**
- Policy reform

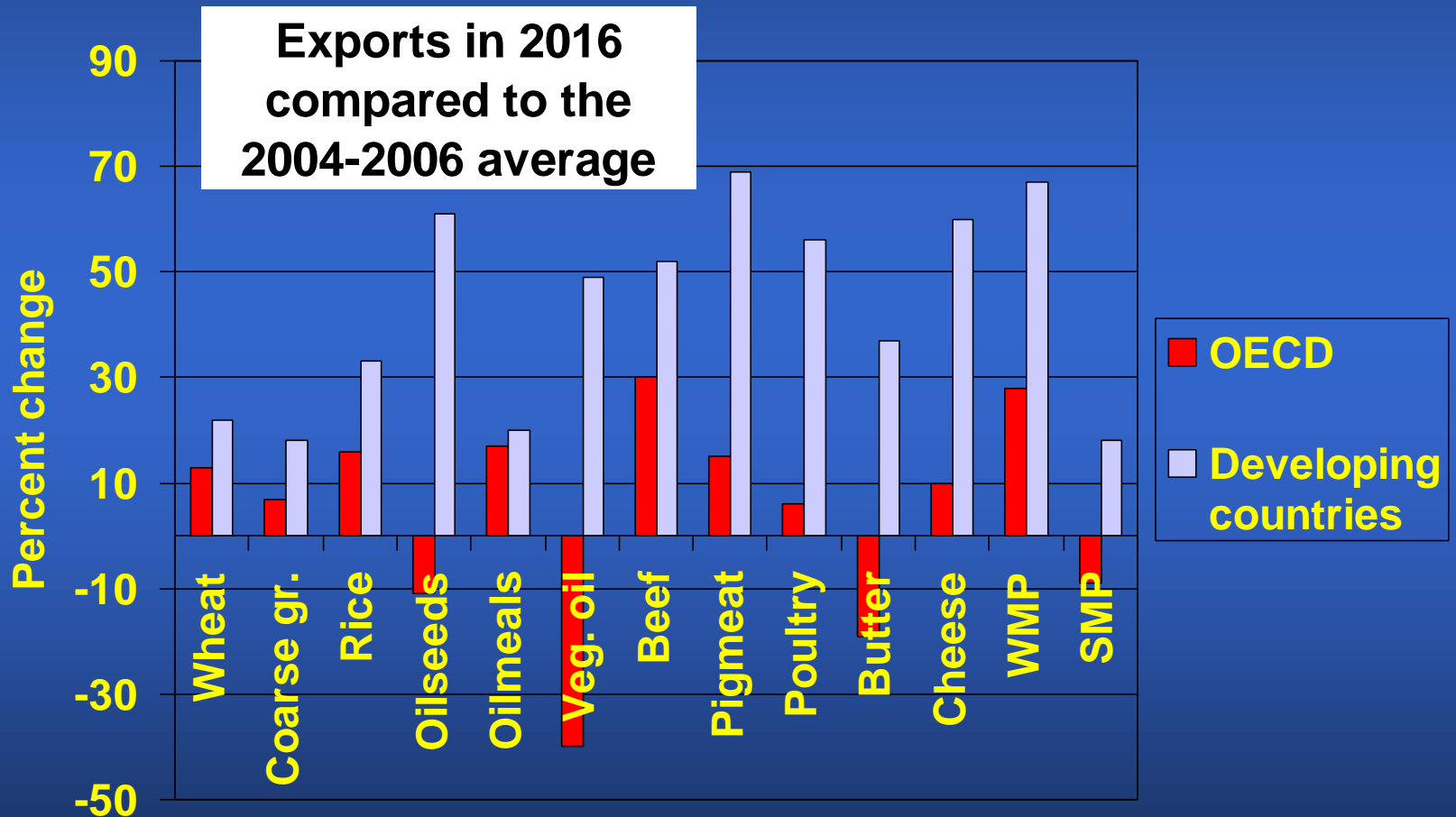
## Downward pressure

- Continued productivity growth and land use
- Increasing competition in trade





# Increased competition in trade from developing countries





# What explains medium term price trends: factors impacting the level

## Upward pressure

- High crude oil prices
- Growing production of biofuels

## Downward pressure

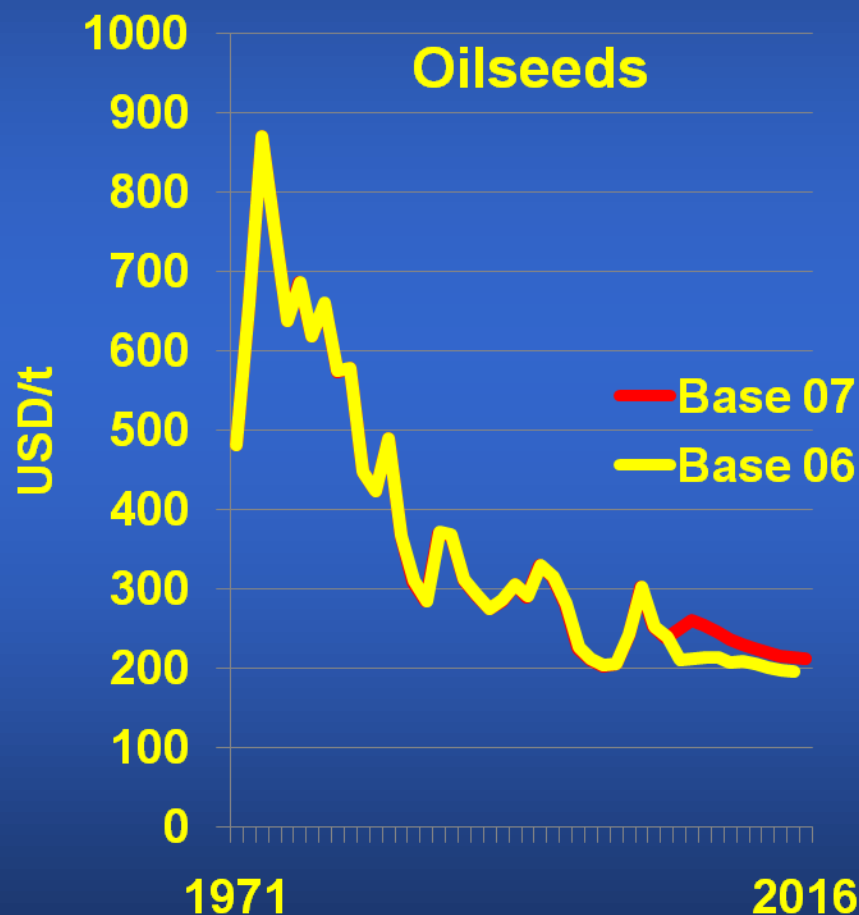
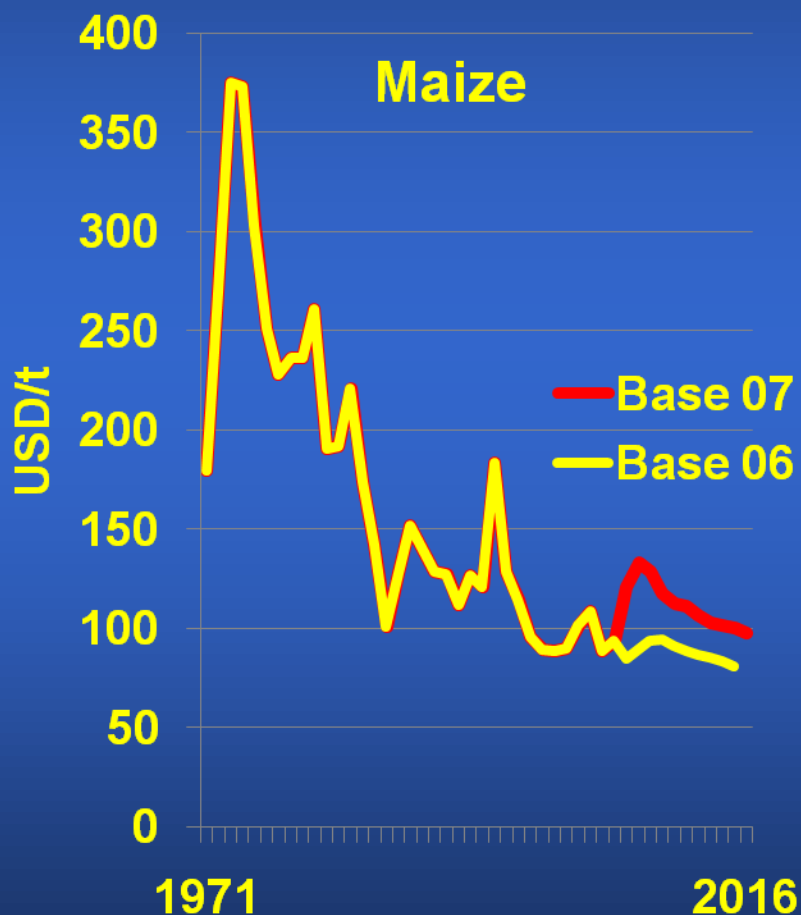
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## Overall

- Slow-down in the decline in real prices
- Real world prices lifted to a higher level

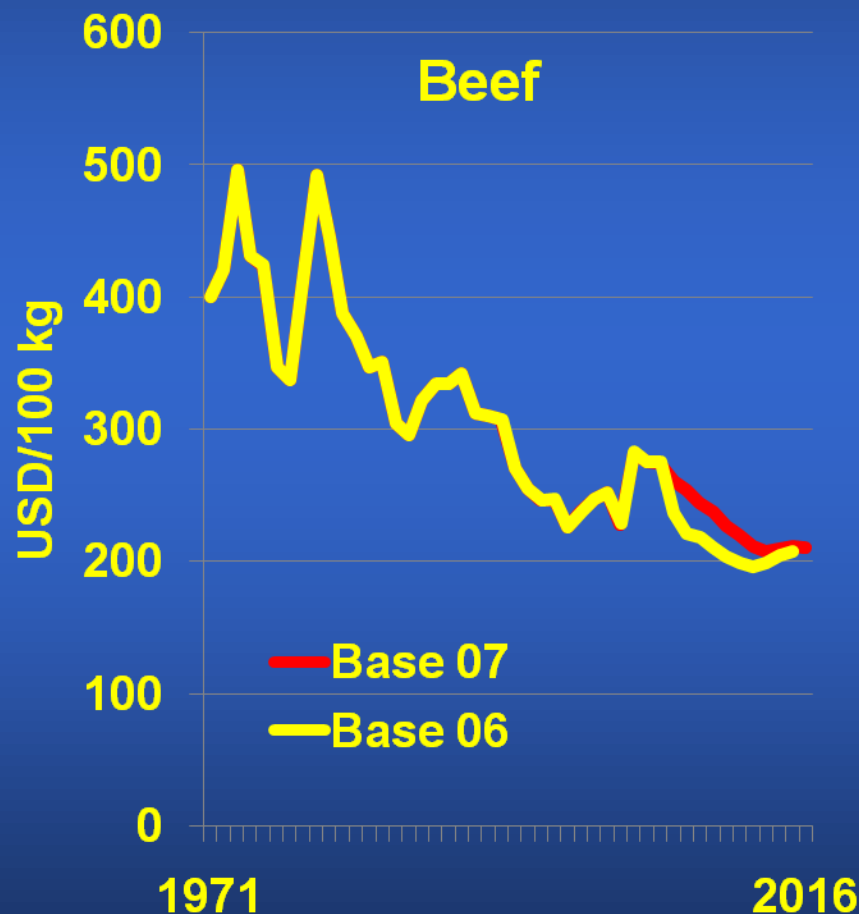


# Projections for real world prices: A slowing decline at a higher plateau





# Projections for real world prices: A slowing decline at a higher plateau



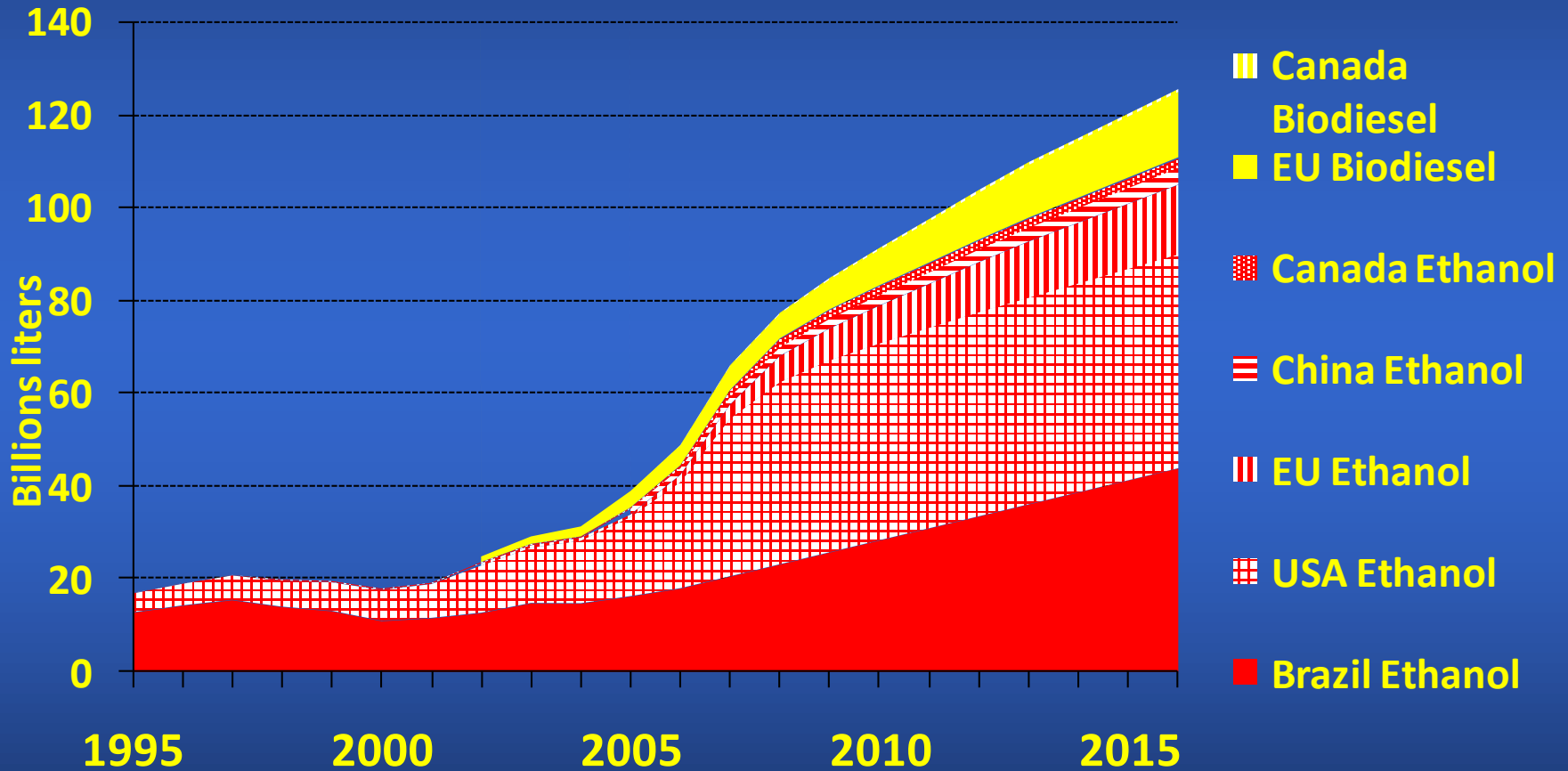


# The role of biofuels in raising prices: how confident can we be? Some positive elements

- Strong projected growth in biofuel production



# Global biofuel production to expand



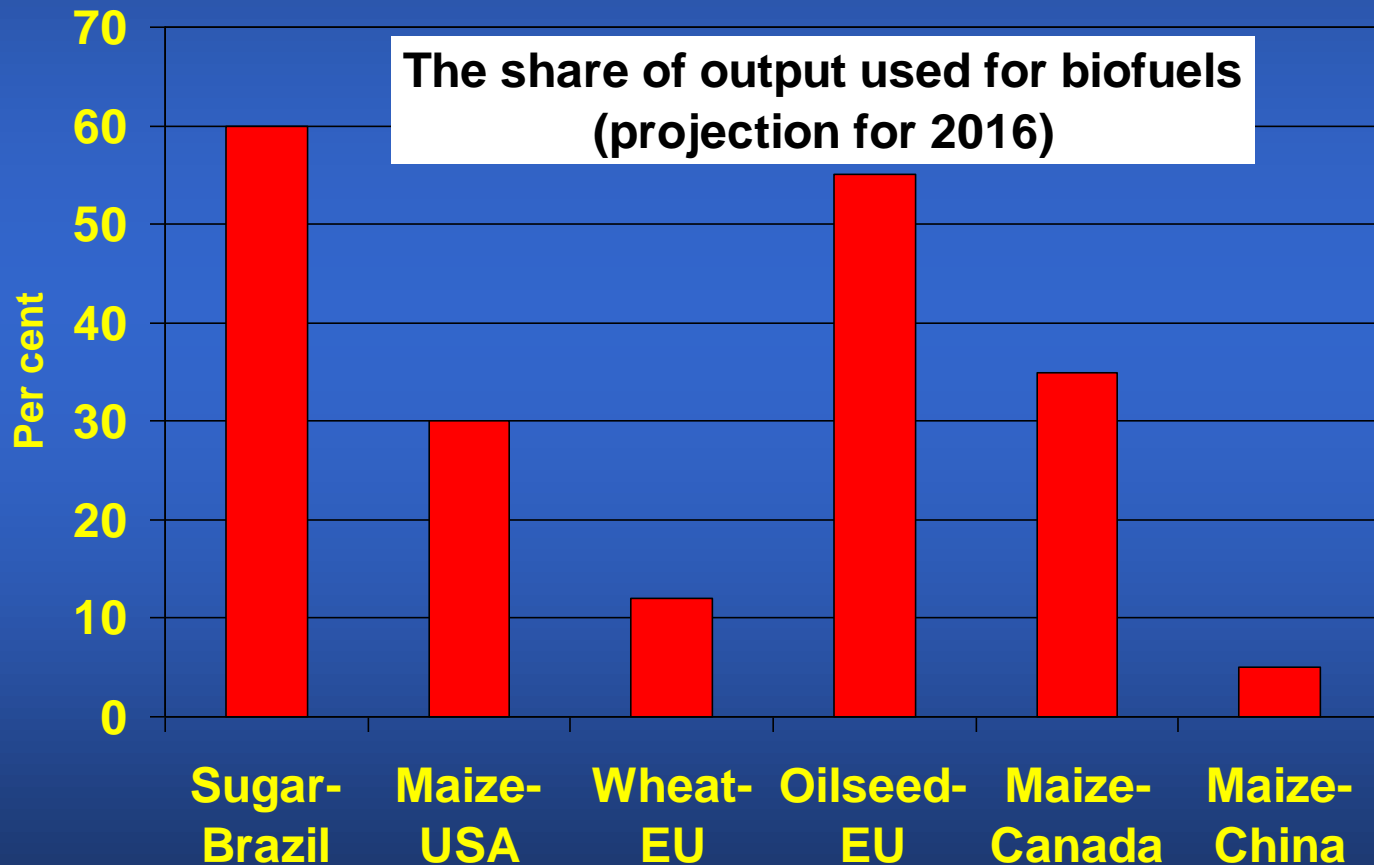


# The role of biofuels in raising prices: how confident can we be? Some positive elements

- Strong projected growth in biofuel production
- Biofuel feedstock: a major **NEW** source of demand



# Feedstock requirements for bio fuels become a major new source of demand







# The role of biofuels in raising prices: how confident can we be? Some positive elements

- Strong projected growth in biofuel production
- Biofuel feedstock: a major **NEW** source of demand
- **Current biofuel policies**
  - Stimulate industry development and feedstock demand
  - Underpin farm prices



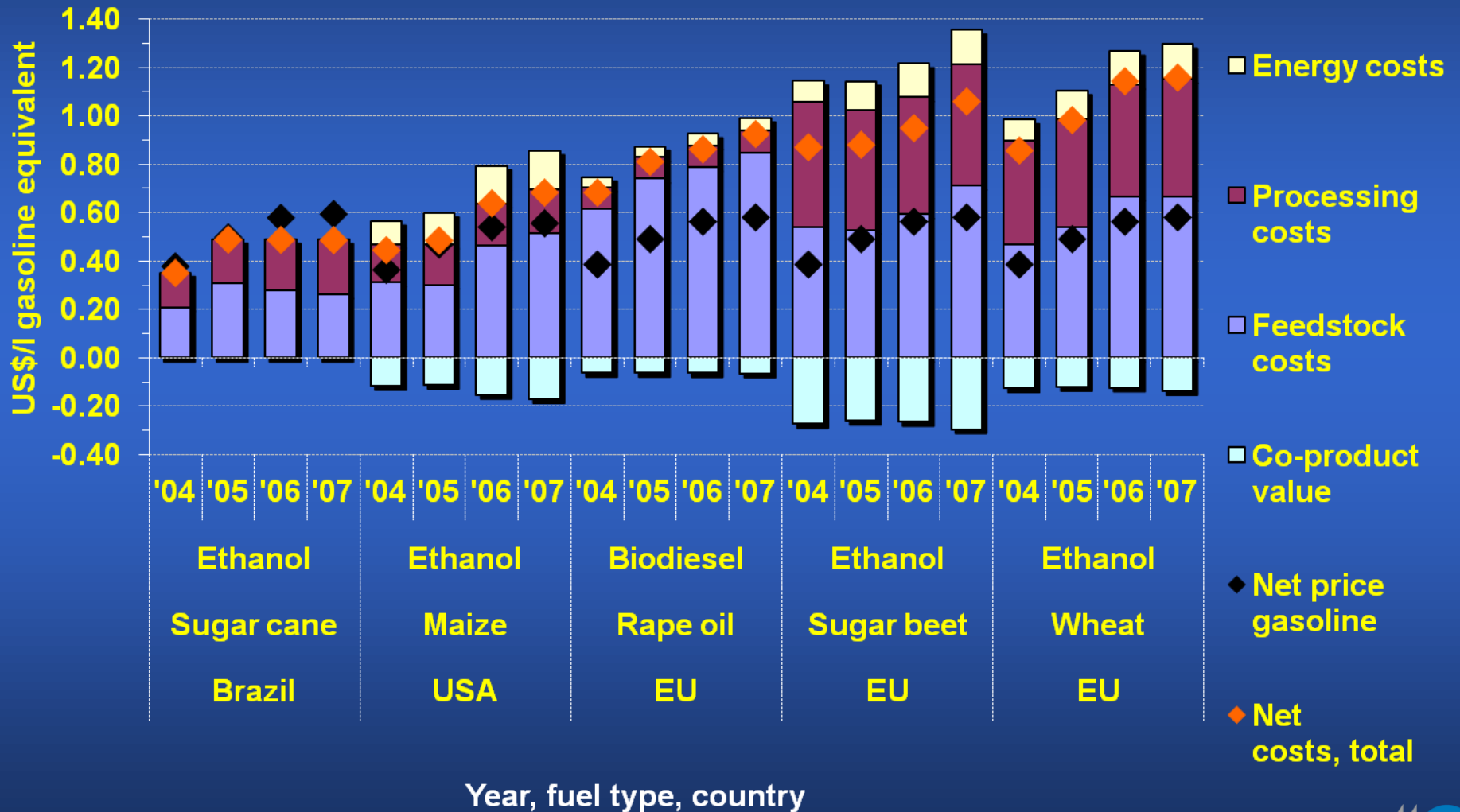
# The role of biofuels in raising prices: how confident can we be?

## Some negative elements

- In many countries, the biofuel industry is not viable without support



# A major challenge: Production costs





# The role of biofuels in raising prices: how confident can we be?

## Some negative elements

- In many countries, the biofuel industry is not viable without support
- The arguments for support are questioned
  - Environmental benefits?
  - Farm and rural income benefits?
  - Energy security?
  - Unintended side effects.
- Savings achieved at a huge cost



# There are GHG and energy savings, but they come at a huge cost

	GHG savings	Fossil oil savings
Biodiesel from rapeseed oil	~ 40%	~ 50%
Ethanol from cereals & s. beet	~ 30 to 50%	~ 20 to 40%
Ethanol from sugar cane	~ 80%	~ 90%

- Public cost of GHG saving ranges from 375 to over 3000 € per tonne CO<sub>2</sub>.
- CO<sub>2</sub> trades at 24€/tonne at ETS



# The role of biofuels in raising prices: how confident can we be?

## Some negative elements

- In many countries, the biofuel industry is not viable without support
- The arguments for support are questioned
  - Environmental benefits?
  - Farm and rural income benefits?
  - Energy security?
  - Unintended side effects.
- Savings achieved at a huge cost
- A change in policies and/or lower oil prices will change the agricultural price outlook

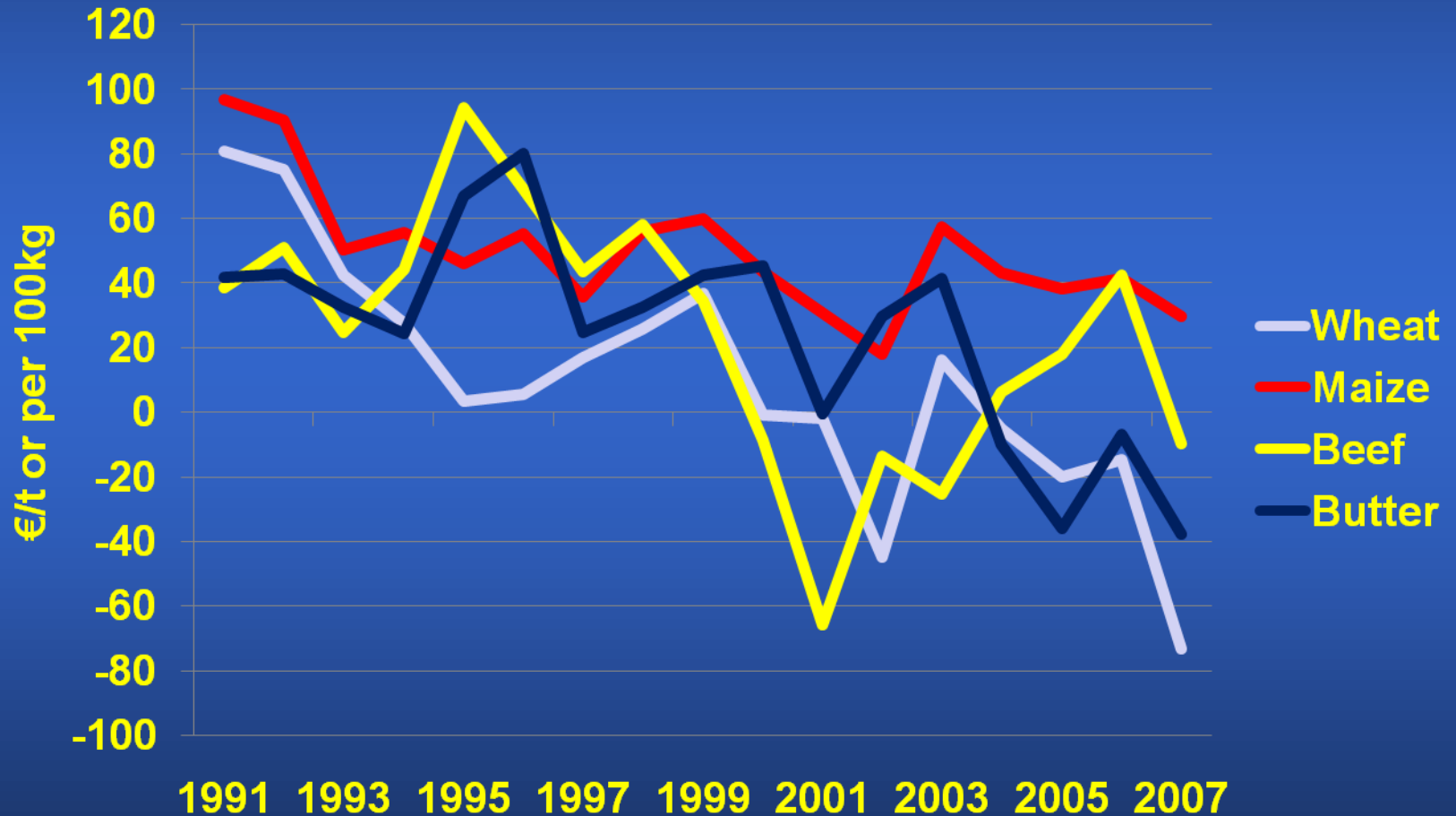


## Some implications for EU policy

- Higher world prices reduce the need for border protection and for market price support



# Gap between EU and world prices is declining







## Some implications for EU policy

- Higher world prices reduce the need for border protection and for market price support
- If world markets drive up internal EU prices, non-MPS payments can also be reduced.
- Sensitive products: can the list be reduced with higher world prices?
- Impacts on WTO talks?



## Some broader policy issues

- High prices are not only an issue for domestic and trade policy in the EU
- How is food security in developing countries affected by OECD energy policies?
- A re-think of biofuel policies is needed