FAO's Long-term Outlook for Global Agriculture

Factors driving prices and volatility

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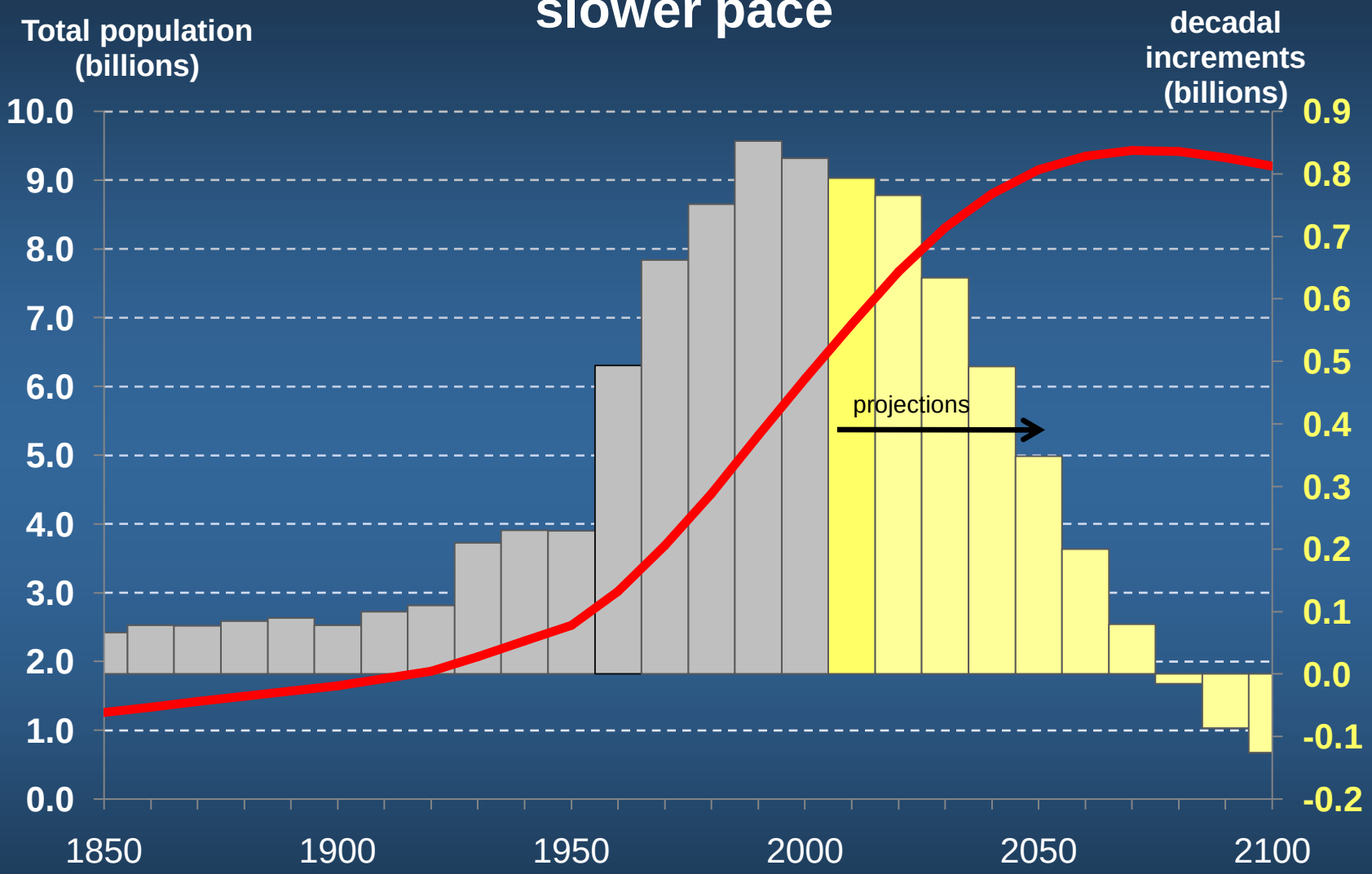
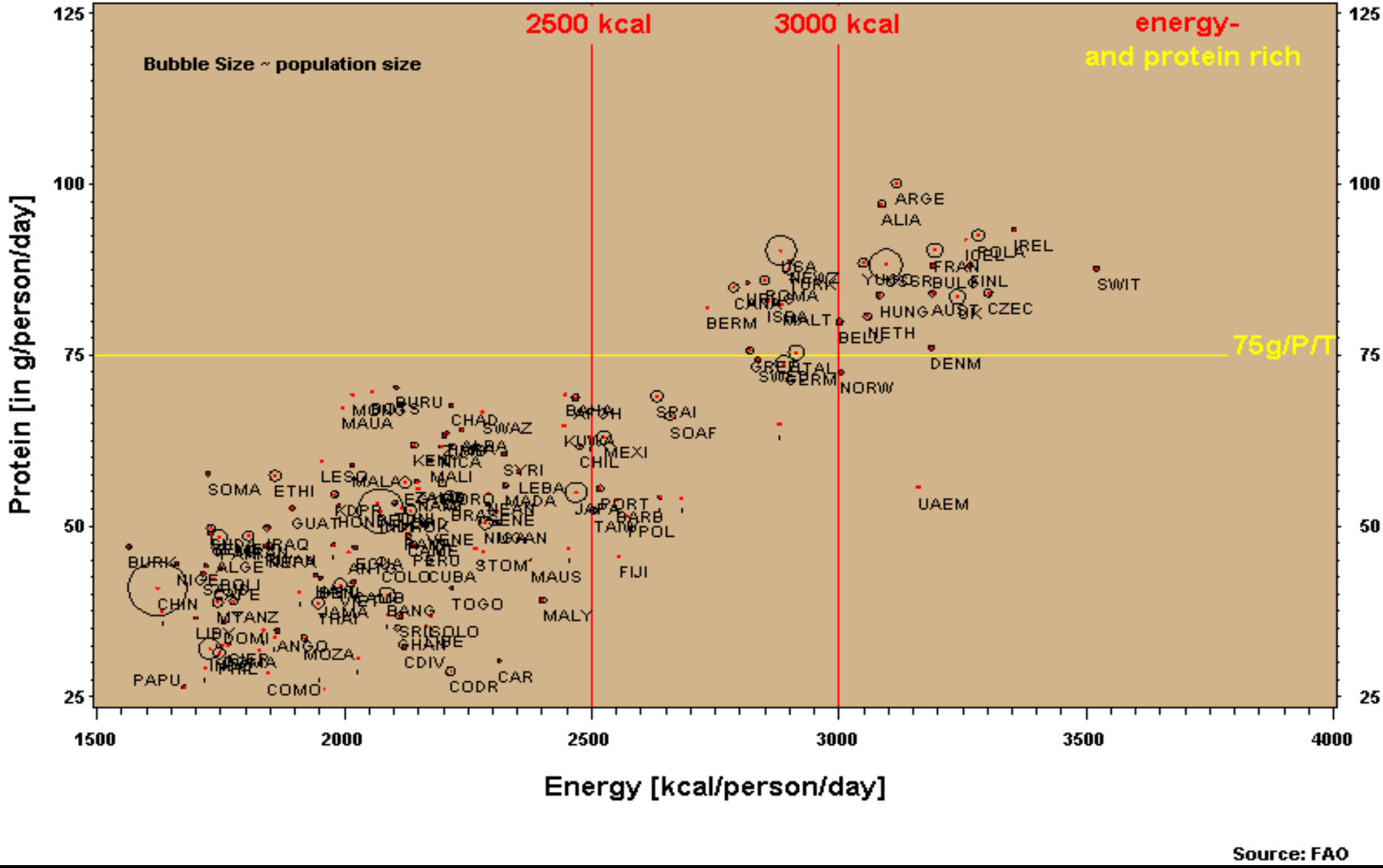
Population growth to continue, but at a slower pace



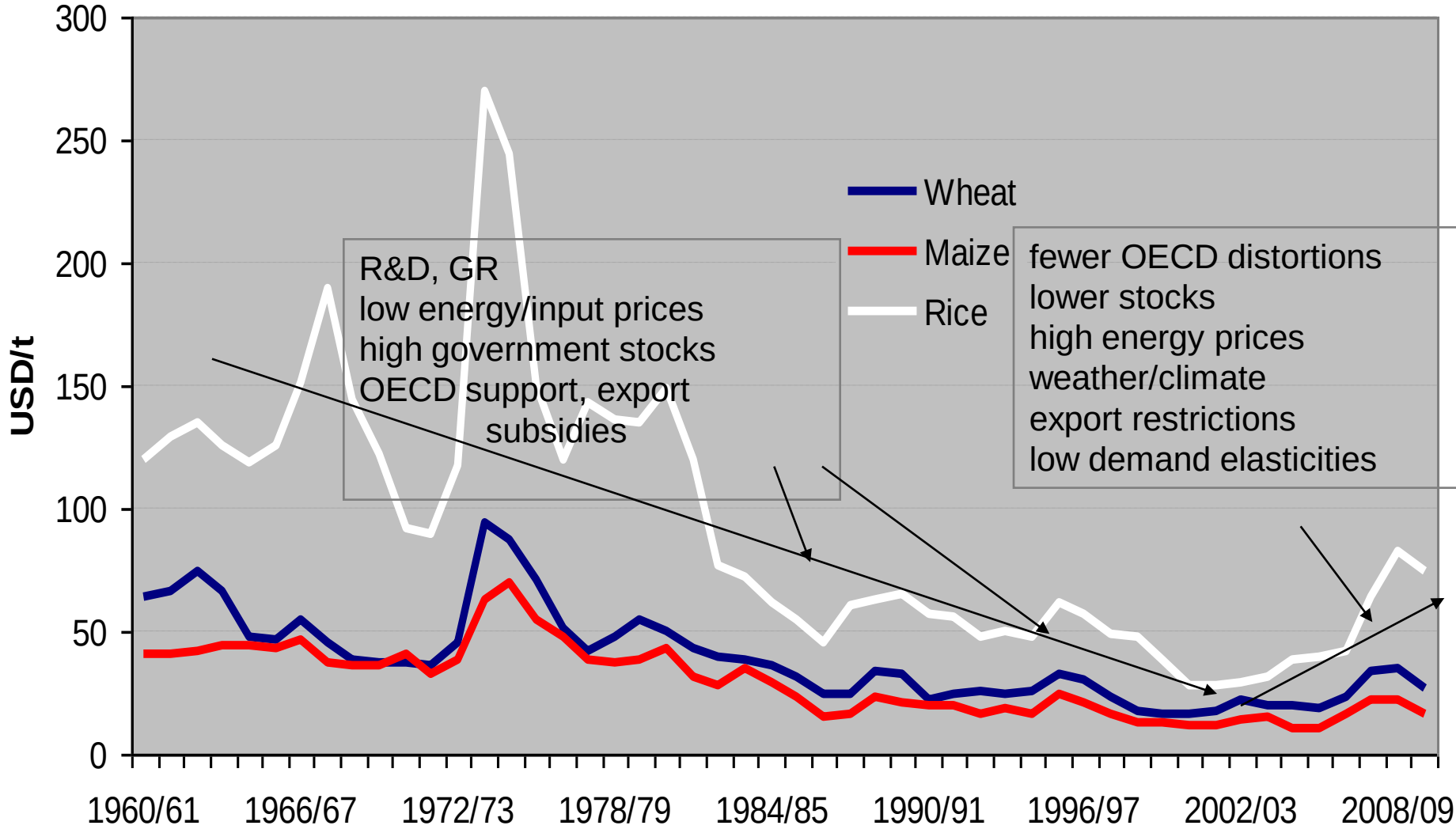
Energy- and Protein Content of the Diet, Total Availability

1961

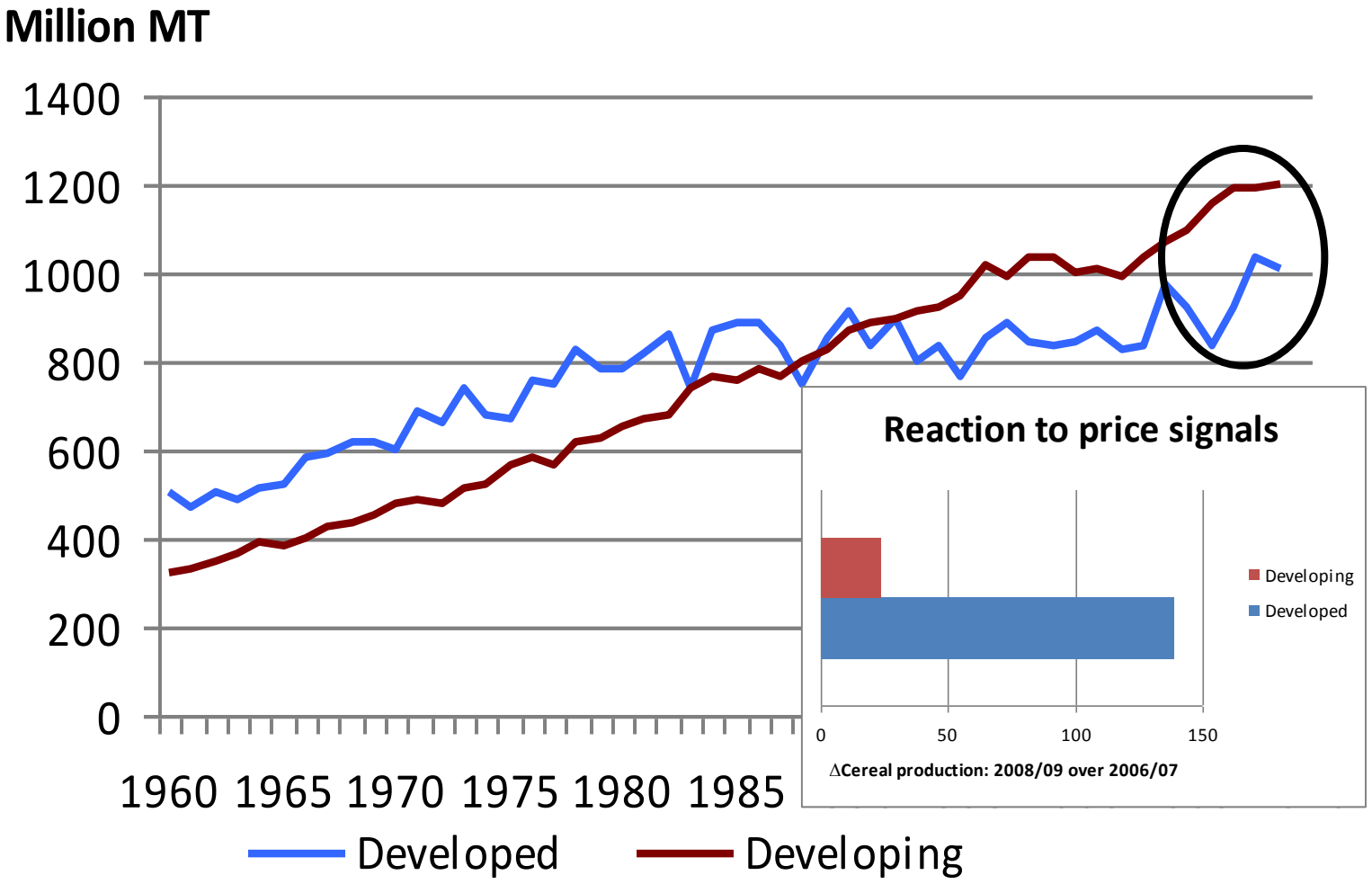


Source: FAO

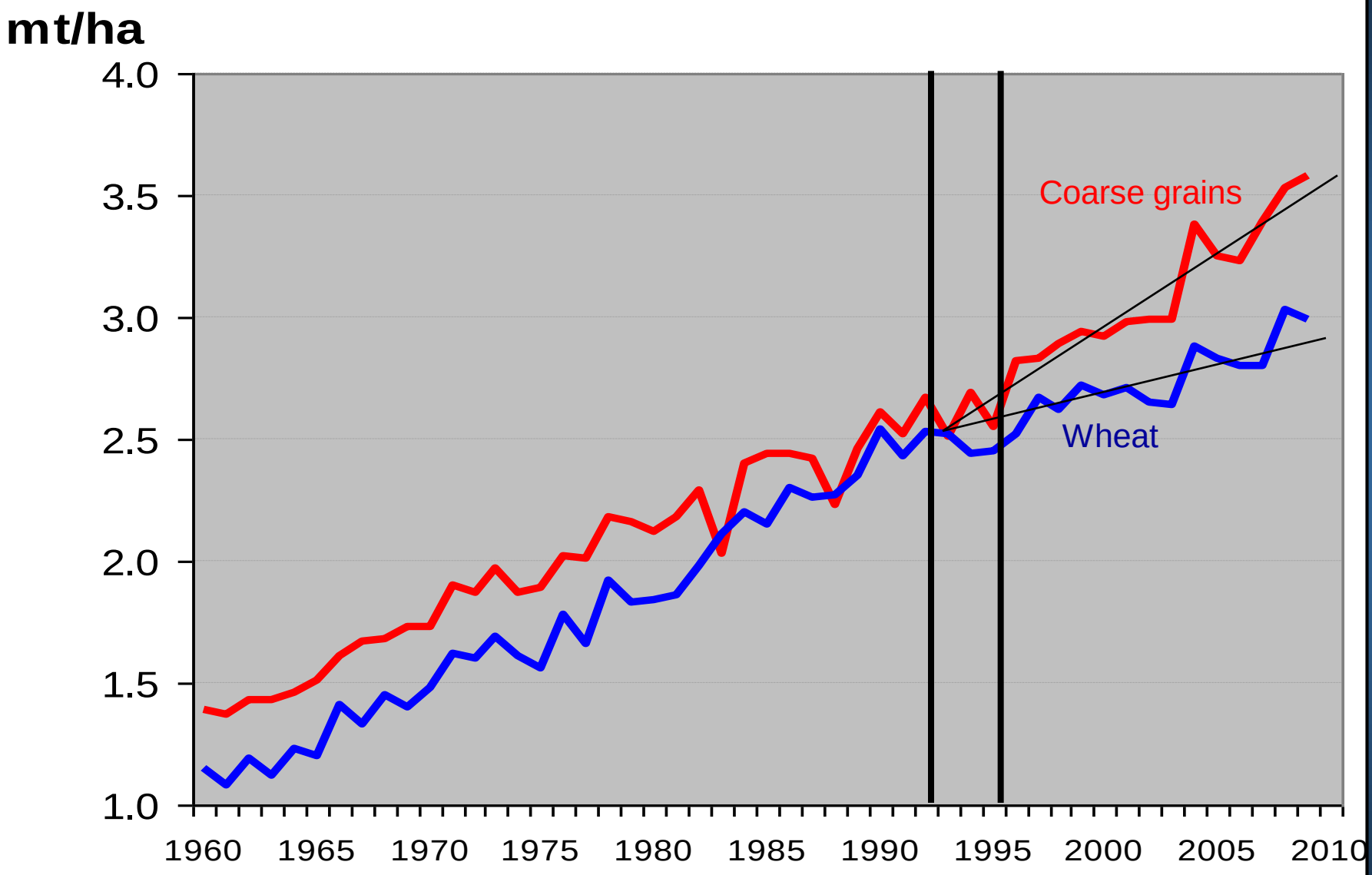
Real prices for wheat, maize and rice
(US CPI deflated)



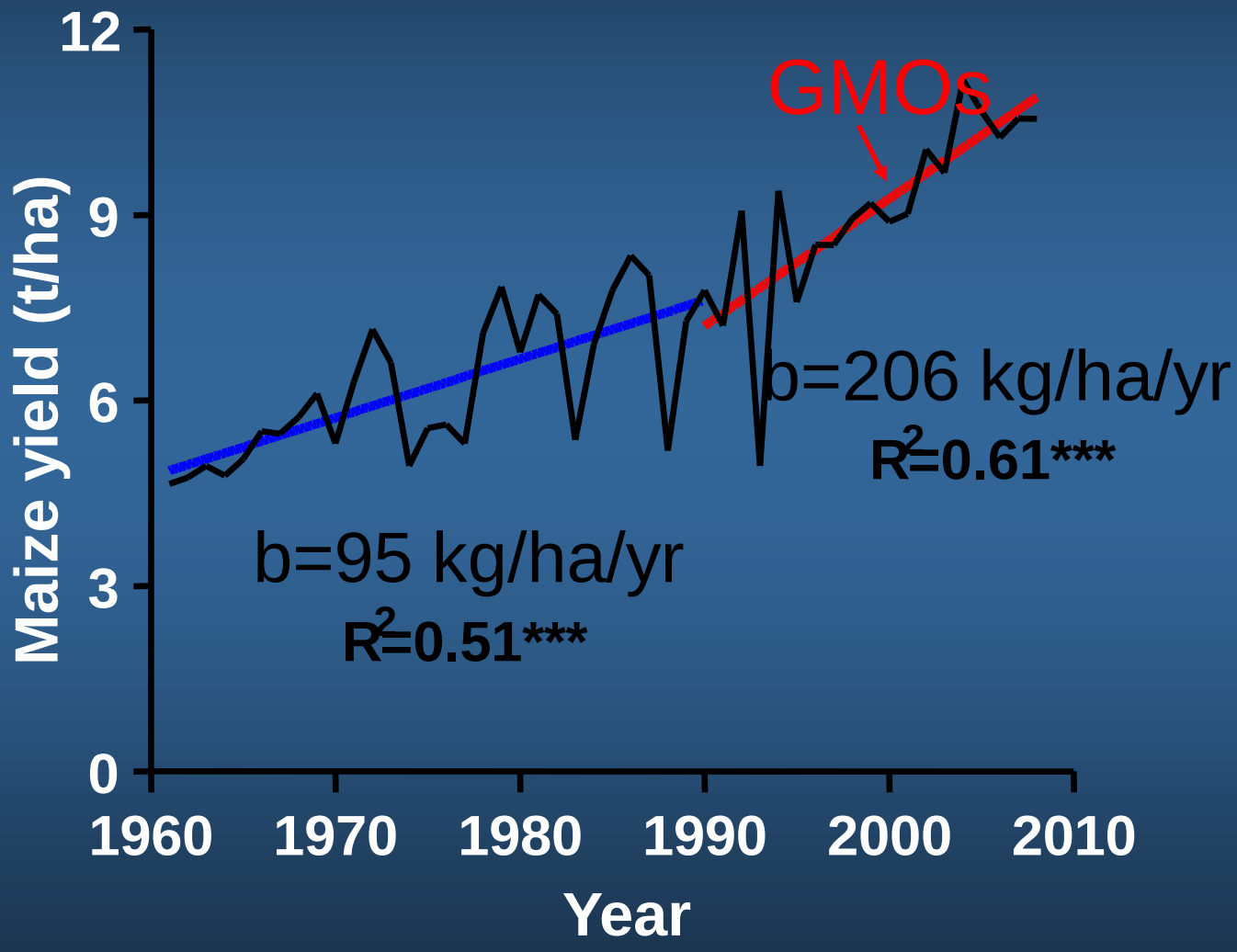
Cereal production, developed v developing countries



Yields of wheat and coarse grains, global



Iowa maize yield 61-90; 90-08

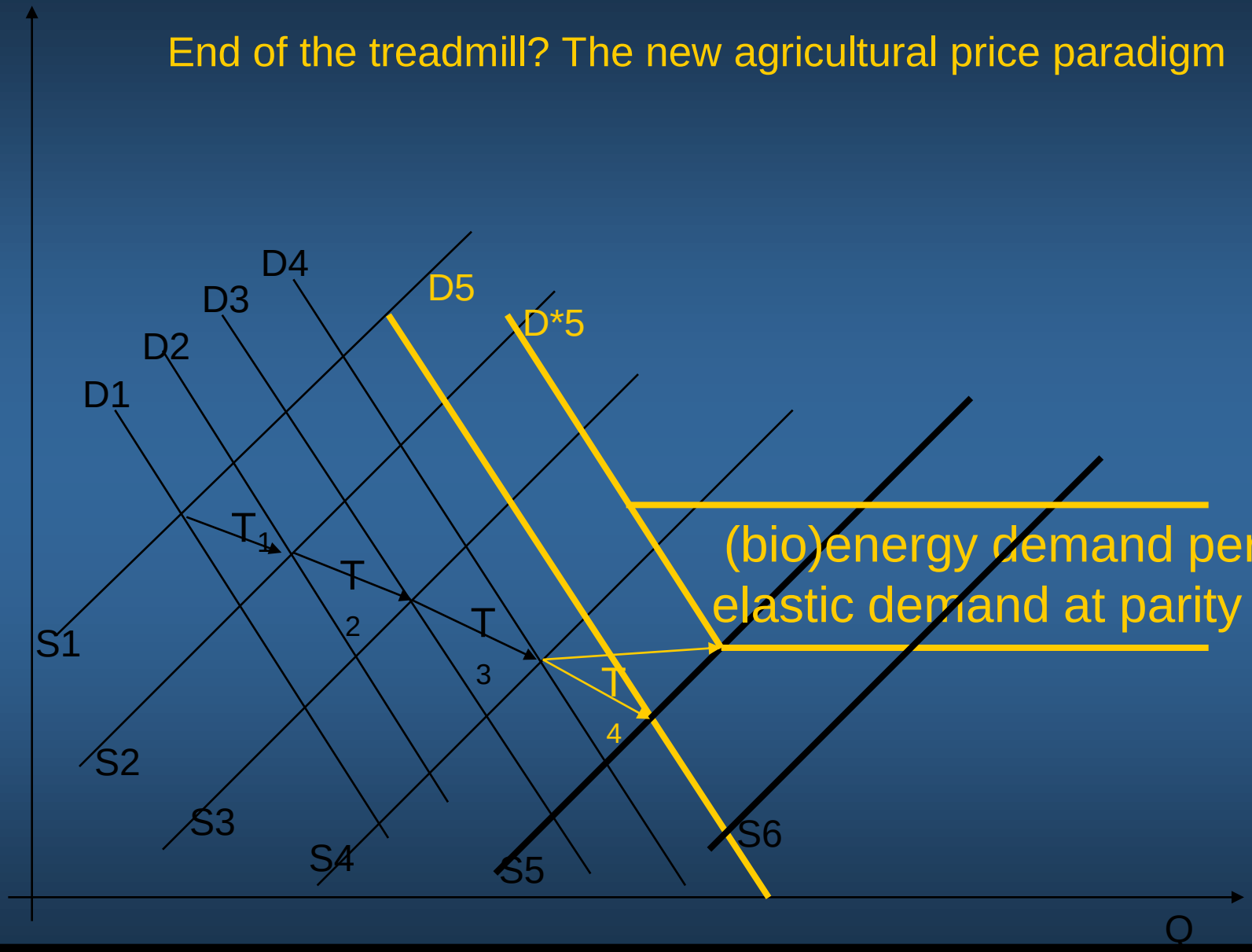


How would high energy prices change the outlook?

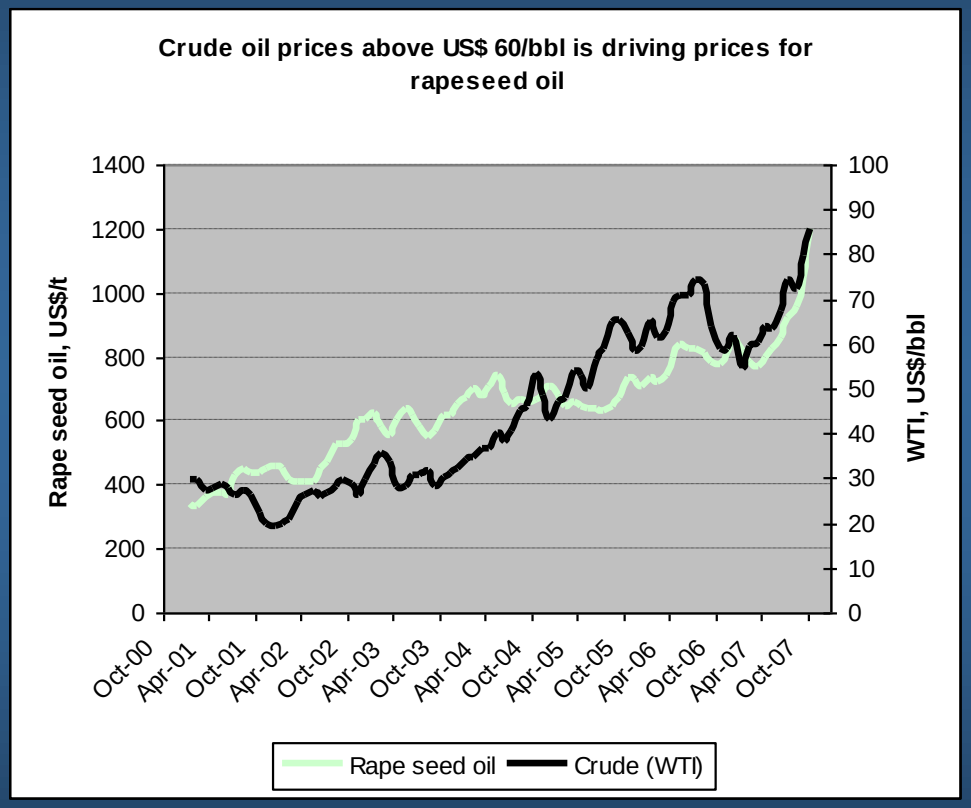
How big is the energy market?

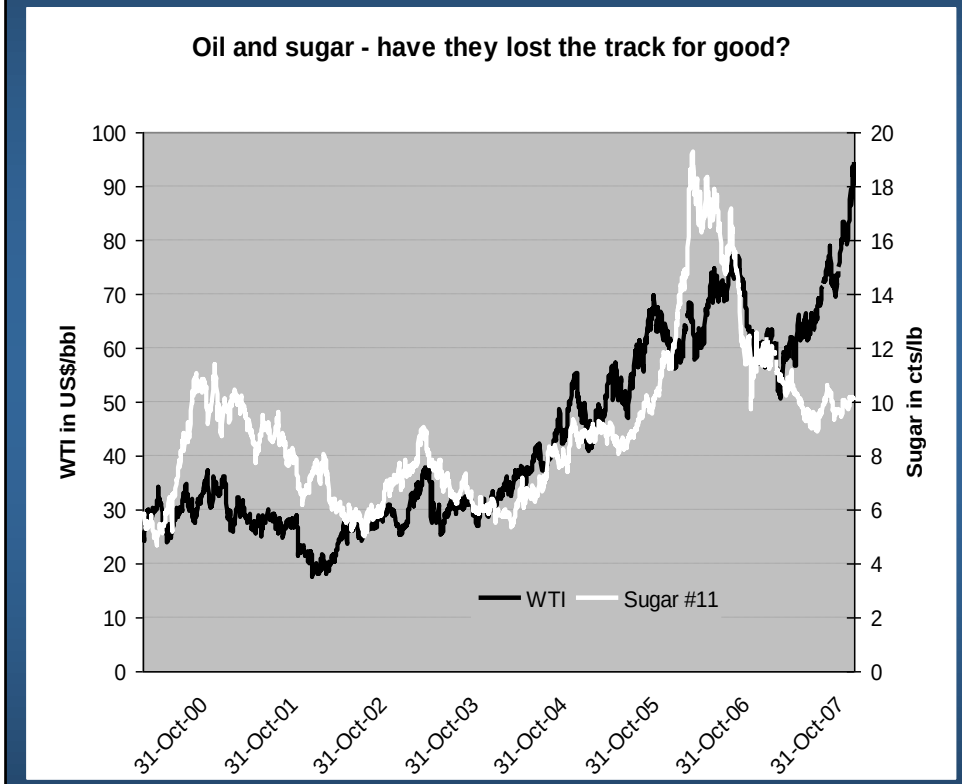
1. Energy market (TPES): nearly 500 EJ
2. Biomass: 50 EJ (80% in developing countries)
3. Biofuels: 2.1 EJ, on ca. 26 million ha
4. Transport energy needs: ca. 95 EJ
5. Crop area to cover transport energy needs: >1000 million ha, i.e. 2/3 of global crop area.
6. Energy market is large, creates perfectly elastic demand for agricultural produce at break-even points (parity prices).

End of the treadmill? The new agricultural price paradigm



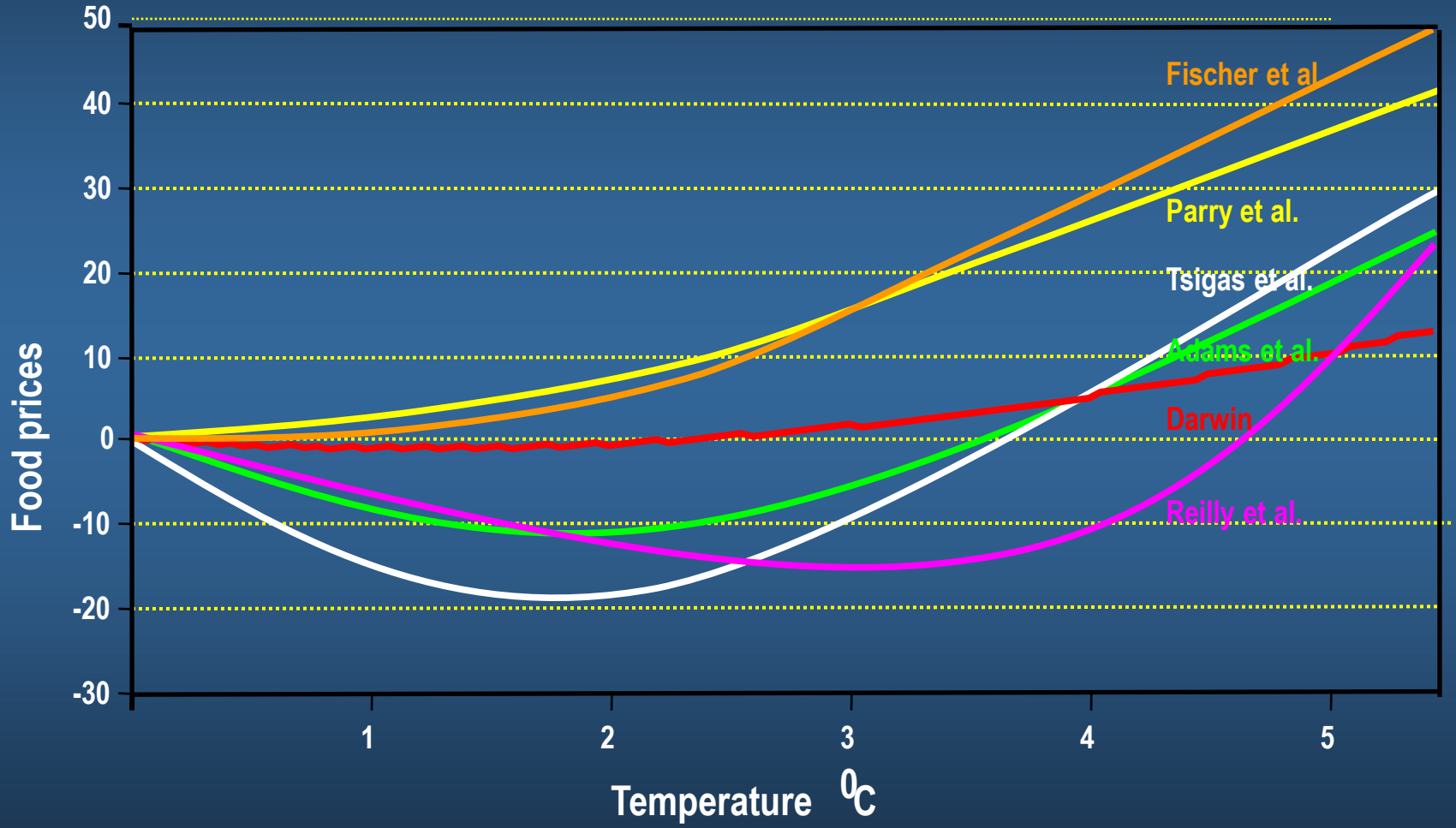
At high oil prices, price volatility may swap over to agricultural prices





The impacts of climate change

Percentage change in world food (cereal) prices in relation to changes in temperatures



Summary of the most important points

1. Volatility drivers
   - Stocks and stock allocation (private/public, exporter/importer)
   - Export restrictions, import subsidies
   - Technology (GMOs, PA)
   - Growing wealth and lower demand responsiveness amid poverty
   - Climate change and extreme weather events
   - Energy markets and spill-over on levels and volatility in agriculture
   - Pro-cyclical public investment policies
2. Investment policies
   - Avoid pro-cyclical public investments
   - Invest in true public goods, infrastructure, R&D
   - Invest in people, capacity building, know how
   - Invest in equal installments in pursuance of a long-term development goal, rather than chasing the flavour of the day (high prices) and disengage when prices have fallen
   - Prepare poor farmers for climate change, invest in the resilience of their systems

Summary of the most important points

1. Demand
   - Slower demand growth, slower population growth, saturation
   - Anti-Malthusian outcome for the world as a whole masks Malthusian islands (Niger)
   - Energy markets could drive agricultural price levels and affect swings
2. Supply:
   - Land: sufficient globally, but local limits and need to minimize land expansion
   - Water: sufficient globally, but local and regional limits, growing competition with industrial and urban needs
   - Yields: High productivity potentials remain, but not necessarily for the crops needed for the poor. R&D important to ensure a safety margin for output growth.
   - Technology: PA, GM
3. Price variability:
   - Lower public stocks, impact of energy markets, pro-cyclical public investments, climate change, wealthier world and lower demand elasticities
   - New technologies (GMOs, PA) could reduce production variability
4. The world has always been able to produce enough, and has the resources to do in the future. But: 70% of the poor live in rural areas, most of them depend on agriculture for their livelihoods. Agriculture needs to become more productive, sustainable.
5. Food insecurity amid ample global resources can continue. To end hunger, invest ***steadily and sustainably*** in poor people/agriculture, their natural resources and their skills.

Thanks.
Questions?