



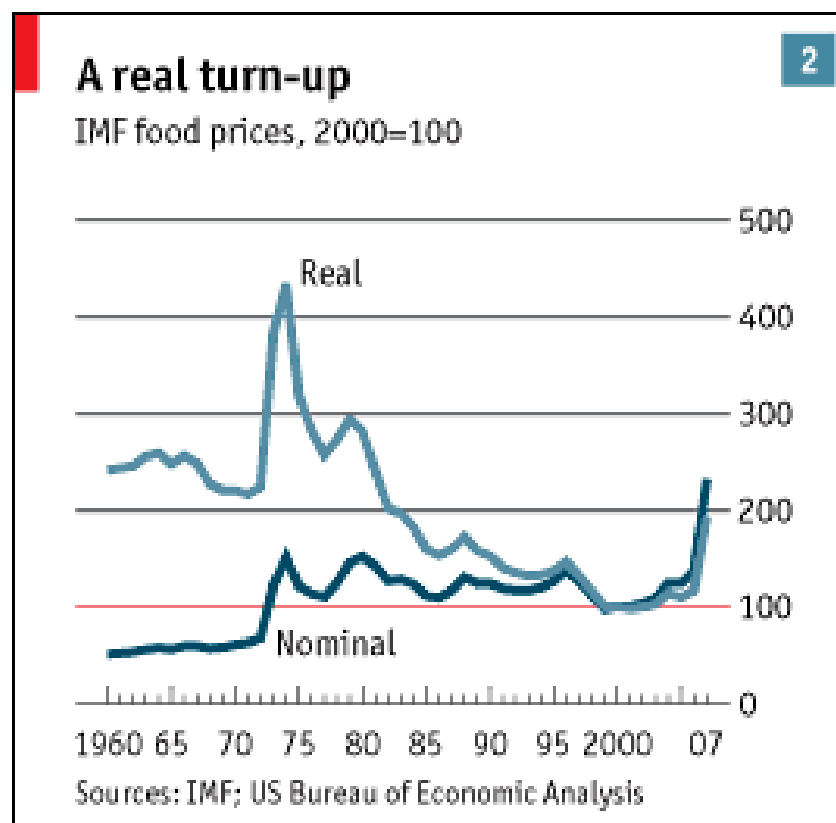
Farmers & Biofuels

Fintan Conway IFA

Evolution of Farming in the EU

- Historically
 - Food, fuel and fibre
 - Since the 2nd world war – food
- Future
 - Food, fuel, fibre and much more ?
 - Biorefining

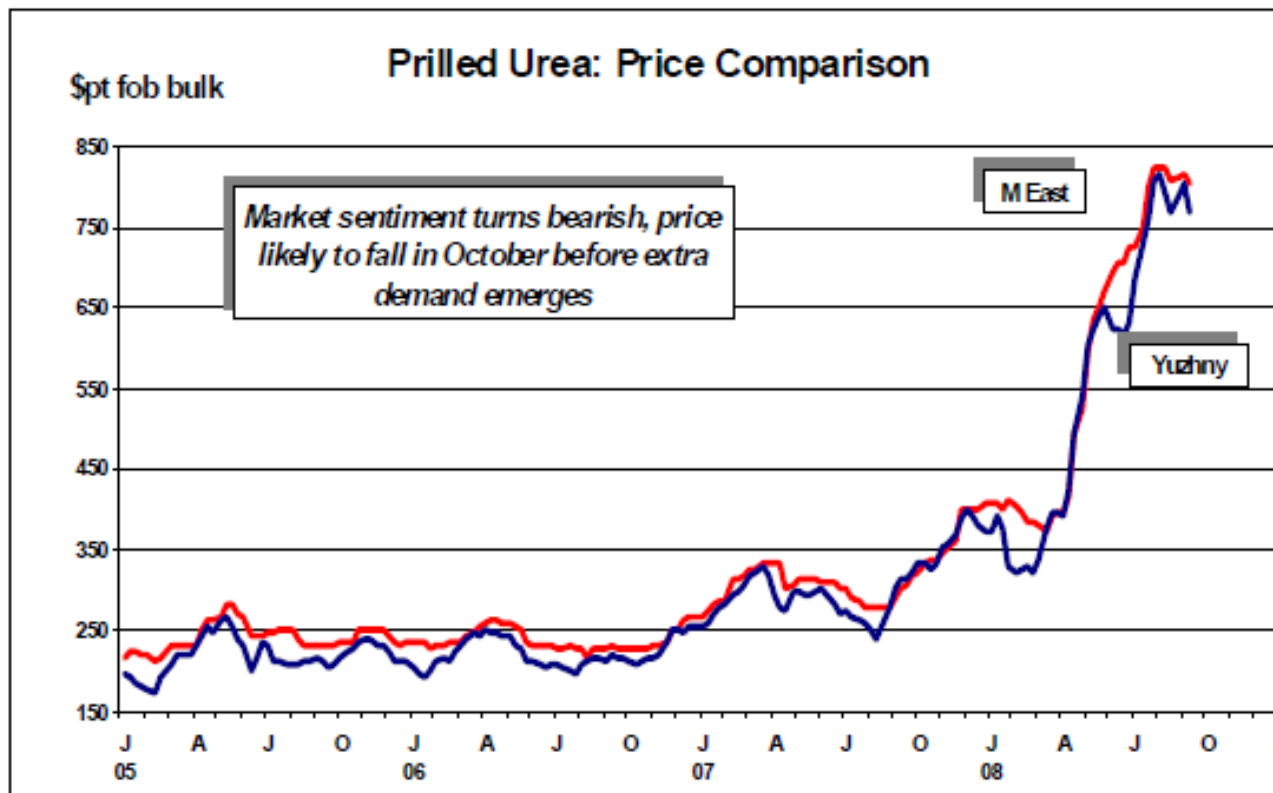
30 years of falling real food prices



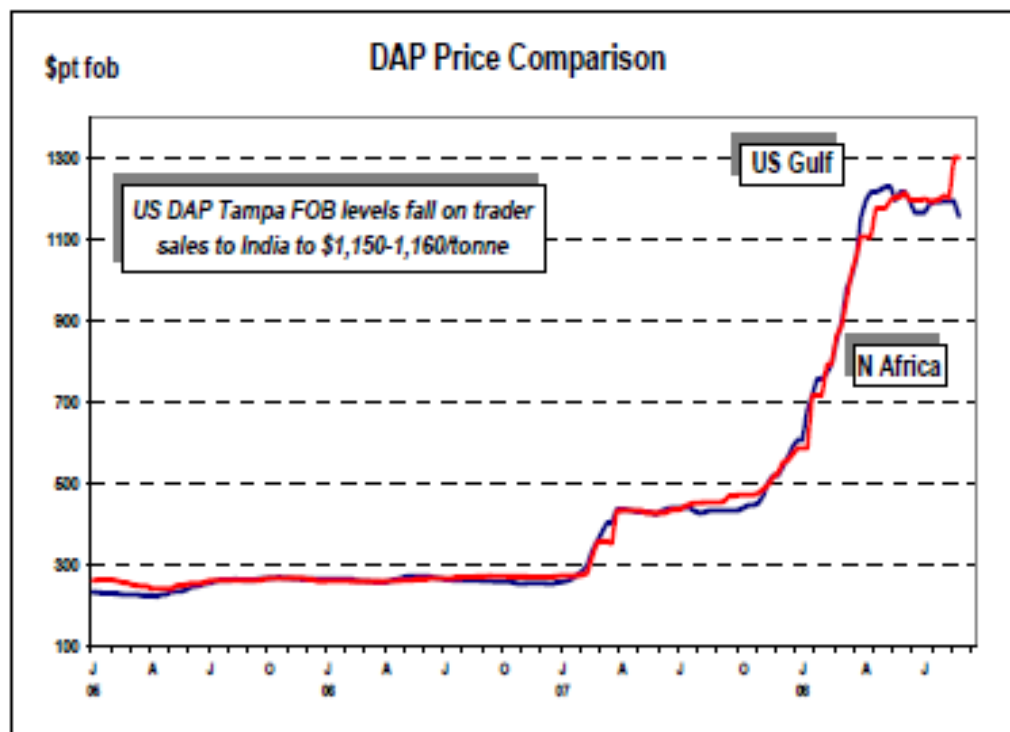
Rising Input Costs Eroding Profits

- Higher energy / input costs
 - 70-80 litres of diesel to produce an acre of cereals (plough, till, sow, fertilise, spray and harvest, excl.drying)
 - Diesel: 15c/lt in '99 vs 79c/lt '08 (excl. vat) - 560% increase
 - Nitrogen: €127/t in '99 vs €350/t '08 – 275% increase
 - NPK's €200/t in '99 vs €490/t '08 – 245% increase
 - Result production costs up €250/ha
- Further increases in the pipeline
 - Fertiliser + 50%
 - Grain prices + 12.5%

World Nitrogen Prices



World Phosphorous Prices



Food vs Fuel Debate

- Increasing demand
 - Increasing affluence
 - meat consumption doubled in China & India since 1980
 - Population growth - 78m / yr
- Higher distribution / transport costs
 - Accounts for 20c in every US\$ spent on food
- Lower stock levels
 - Stock to use ratios at 16% vs 34% in '00
 - Abandonment of public storage
 - Eg interevention for cereals
 - Abandonment of land
 - 4m+ ha in the EU
 - 22m+ in the CIS
 - Why - Production uneconomic

Food vs Fuel Debate

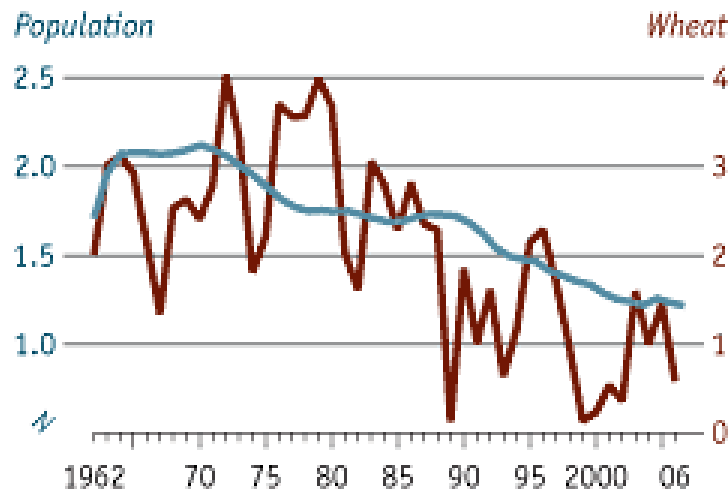
- Biofuel production –
 - 5% of world's grains
 - US maize 25%, EU cereals <1%
 - < 3% when biproduct fed to livestock accounted for
 - Impact on food prices
 - USDA: 2% to 3%
 - IMF: 20% to 30%
- Negative weather events in Sthrn and Nrthrn hemispheres
 - CIS, EU minus 17Mt
 - Australia minus 11 Mt
- Speculation

Increasing affluence – Changing diets

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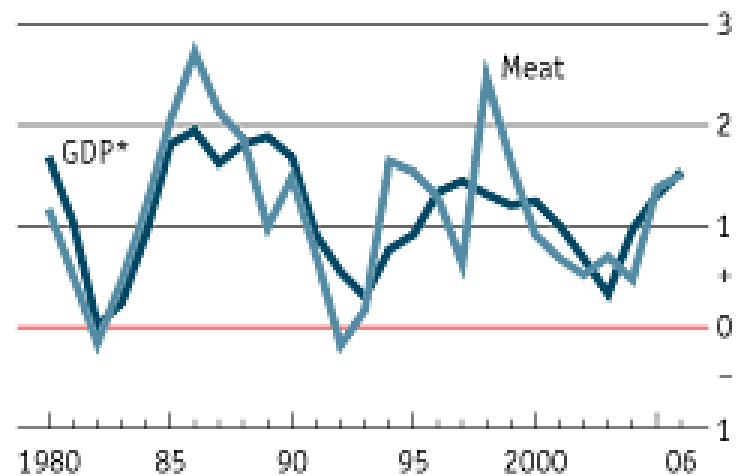
More people, more grain; more money, more meat

World wheat demand and population growth
% increase on previous year



Source: Goldman Sachs

World meat consumption and GDP growth*
% change on previous year

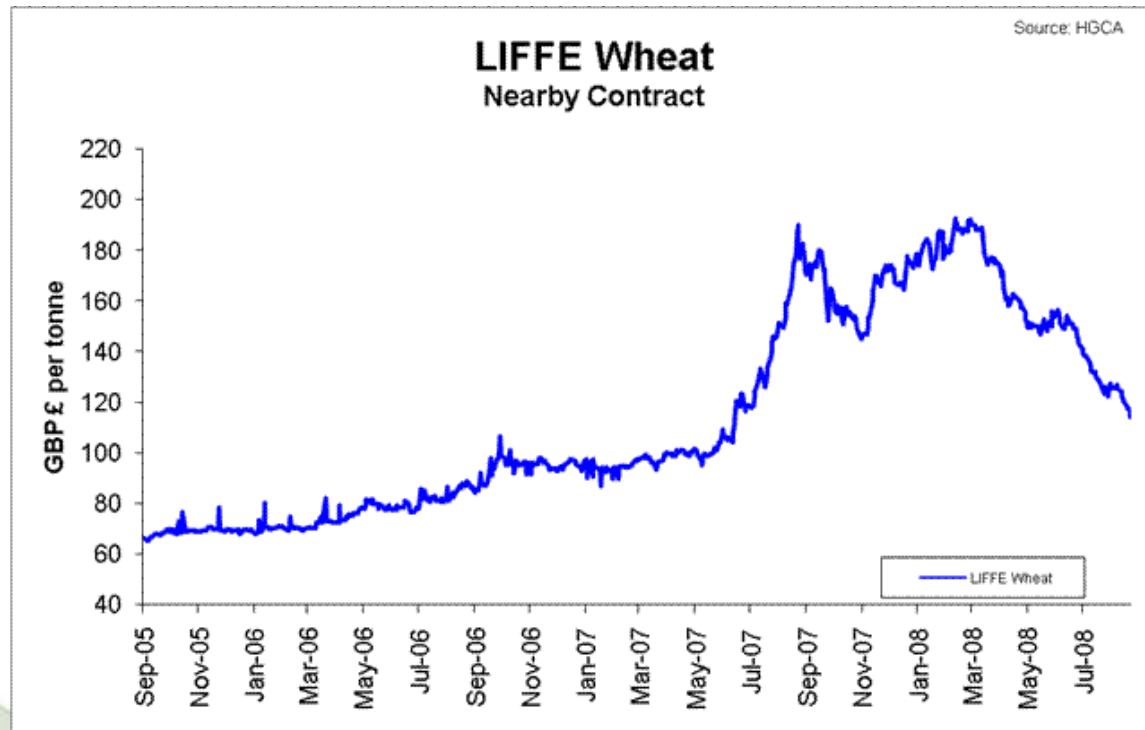


*Estimates based on GDP per person

Impact of changing diets

- Chinese meat consumption
 - 1985 20kg meat / person
 - 2007 50kg meat / person
- Calorie for calorie need more grain if you eat it as meat
 - 3kg of cereal = 1kg of pork
 - 8kg of cereal = 1kg of beef
- Today 200 – 250 Mt more grain fed to livestock vs 20 years ago

LIFFE Feed Wheat Futures



'08 / '09 Sowing Intentions

- Financial risk, rising input costs driving decisions
- US farmers 3.5 – 4 m ac less wheat
 - > \$6.95/bu to break even (\$13.70 to \$7.51)
 - Nitrogen \$1,200 /t ('06 - \$393/t)
 - Phosphorous \$1,250 /t ('06 - \$285/t)
- US fertiliser + fuel
 - Wheat = 71% of total variable costs
 - Corn = 56% of total variable costs
 - Soya = 27% of total variable costs
- Likely 20 mt plus reduction in wheat

'08 / '09 Sowing Intentions

- UK - marginal land to be dropped
 - Swing to oilseeds
- Ireland
 - 10% reduction in area
 - Oilseeds ?
- EU – increased yields offset full impact of price drop?

Potential for increased production

- Brazil 100 M+ ha
- EU 5M+ha
- CIS 22 M+ha
- Ireland?

Crop Choice ?

– Crop Choice?

- Bioenergy market opportunities for tillage & grassland farmers
 - Liquid biofuels from arable crops: OSR, SB & cereals
 - Biomass – arable + grassland farmers
- Profitability & Limitations
 - Crop returns (ROI)
 - Establishment cost
 - Crop rotation
 - Market outlets

OSR vs Willow / Miscanthus

- OSR
 - Crop knowledge
 - Little additional mechanisation
 - Complements & enhances existing crop mix
 - Beneficial use of SA
 - Market opportunity
 - Positive margin
- Willow / Miscanthus
 - Limited knowledge
 - Reliance on contractors &/or additional investment
 - Long term land commitment (15 yrs)
 - Beneficial use of SA
 - Market opportunity – emerging
 - Margins dependent on planting grant and gate fees

Crop Fit - Arable

- OSR best fits current cropping mix
- Miscanthus / willows require 100% planting grant + substantial gate fees.
- Scale & location critical for biomass crops
- Substantial increase needed in energy payment for all crops
- Market creation through mandatory renewable offtake
- No energy crop viable without Government action

Market Issues to be Addressed

- ✓ Increased volatility
 - ✓ Pension & Speculative funds
 - ✓ Exchange rate movements
- ✓ Risk management
 - ✓ Forward selling
 - ✓ Controlling costs
- ✓ Supply chain management
 - ✓ Development of long term supply relationships
 - ✓ Alternative markets - biofuels
- ✓ Farmers need a margin over costs

Conclusion

- Growers will respond to price signals
- Potential to increase agricultural production
- Research & investment in agriculture needed
- Adoption of new technologies required
- Future of farming: fuel, food, fibre & more
- Farming must be profitable

We ain't going back!!!

