# Global agricultural inputs markets: What next?

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# Our purpose this afternoon

- First, to understand, briefly, how developments in global grain and energy markets affect inputs
- Second, to determine how input market values, and thus crop profitability, are likely to evolve going forward
- Finally, to interpret Australian competitiveness in light of these developments

**A brief history of world input markets:**
What determines the value of inputs?

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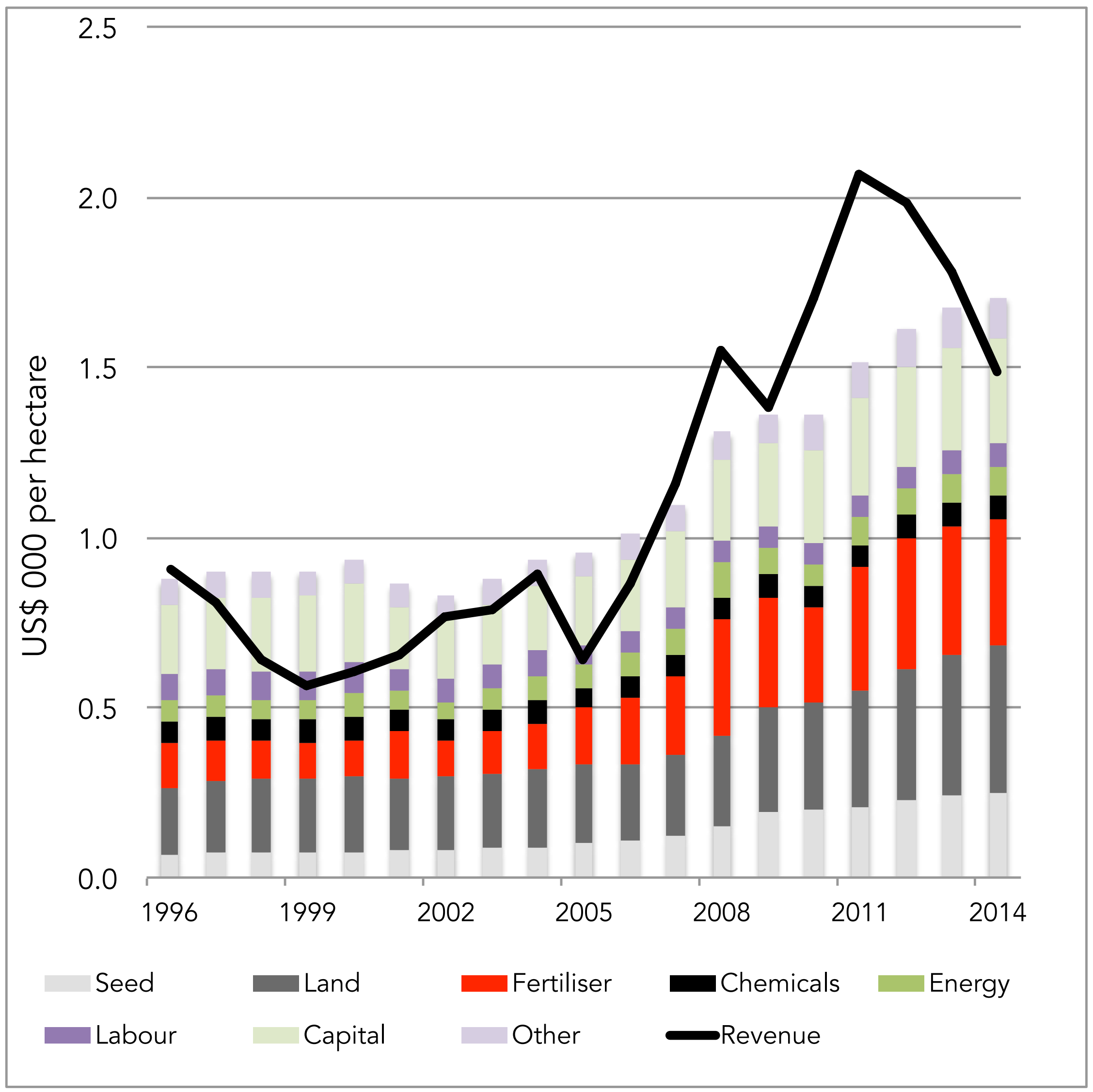
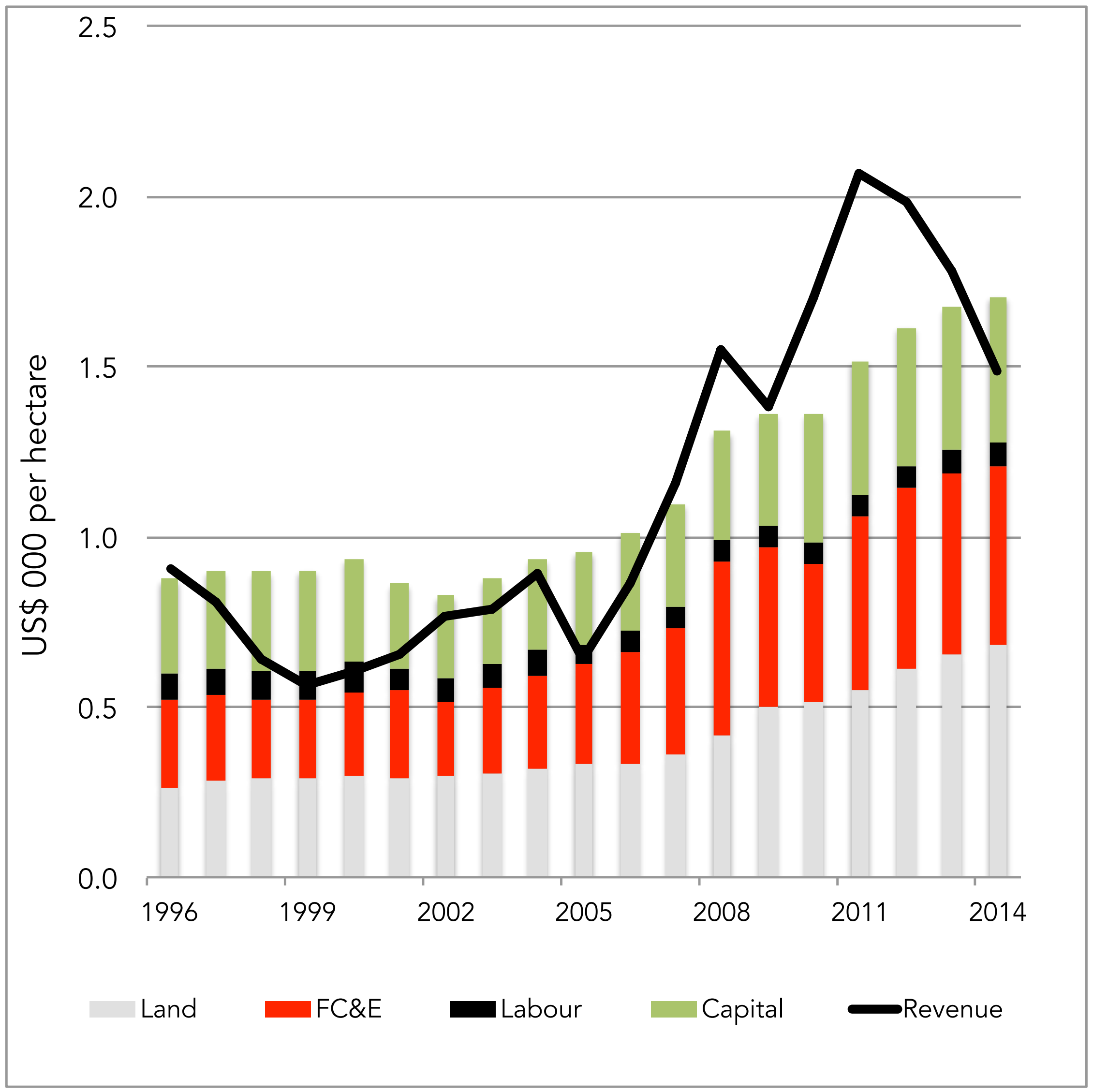
# US corn costs have more or less moved in line with crop revenues

## Seven years of profitability ended in 2014




US corn costs




Simplified costs

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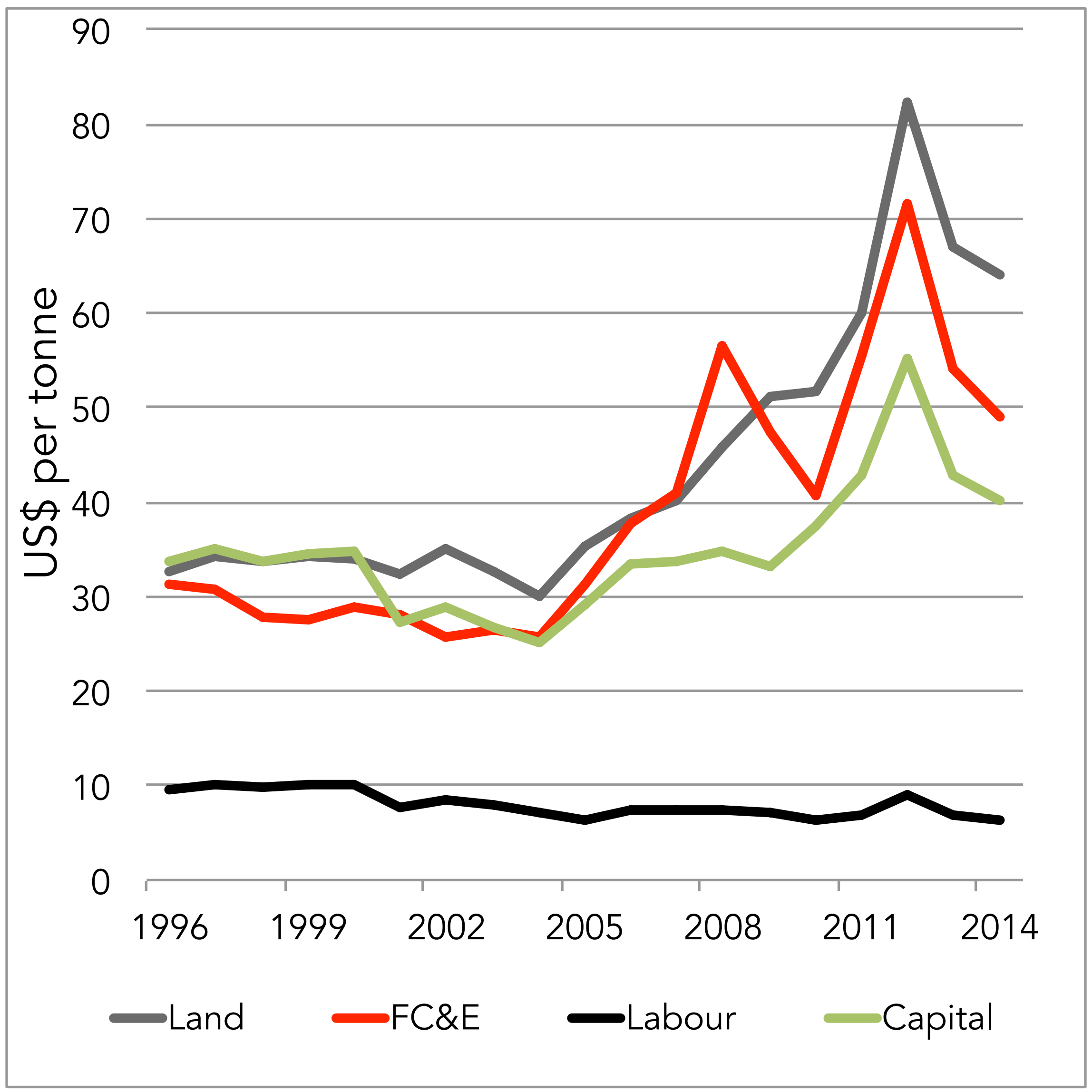
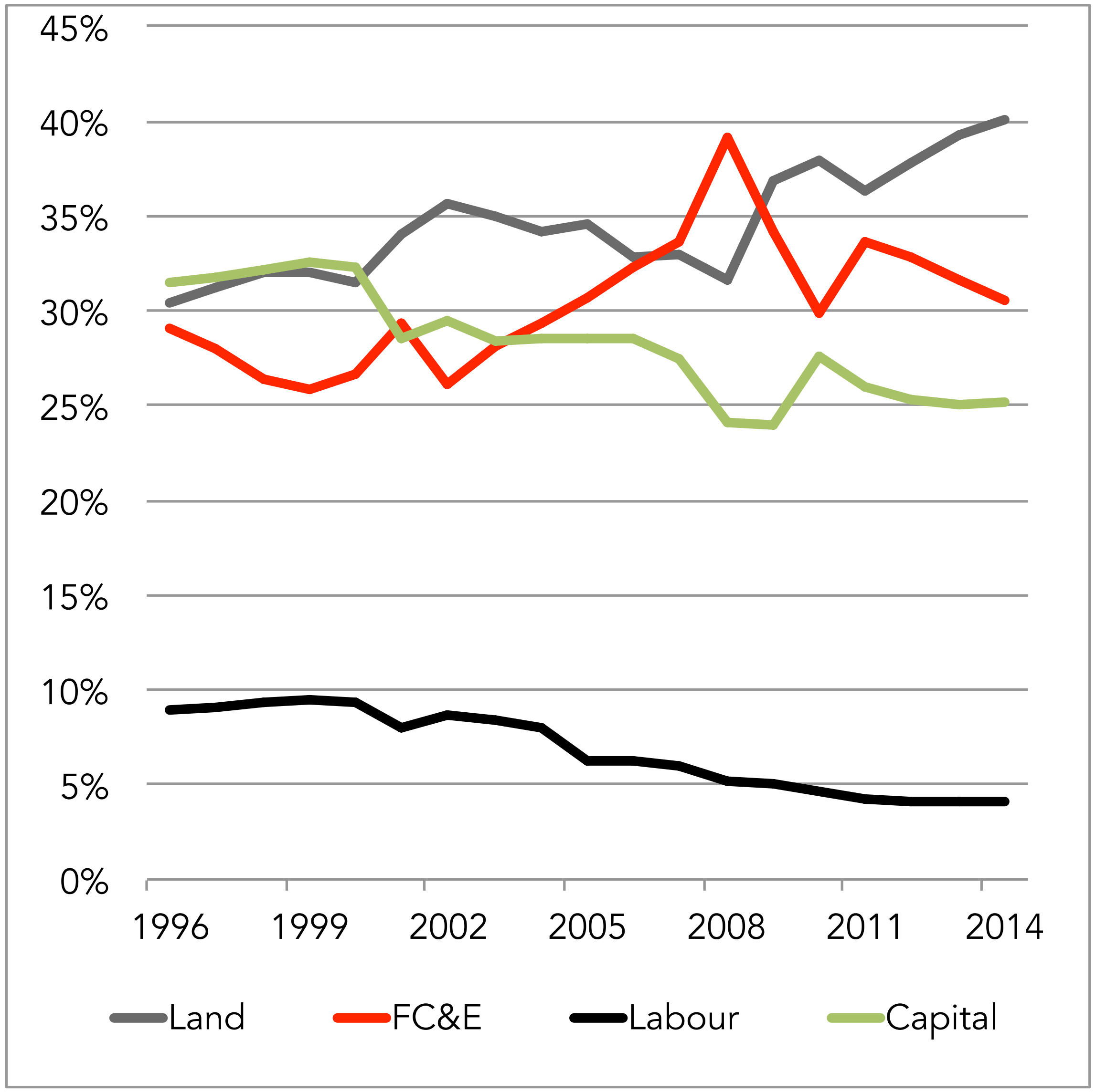
# Land is the shortest resource and it has captured most value, followed by fertilisers and chemicals

Labour appears to be an unconstrained input




US$ per tonne




Share of total cost

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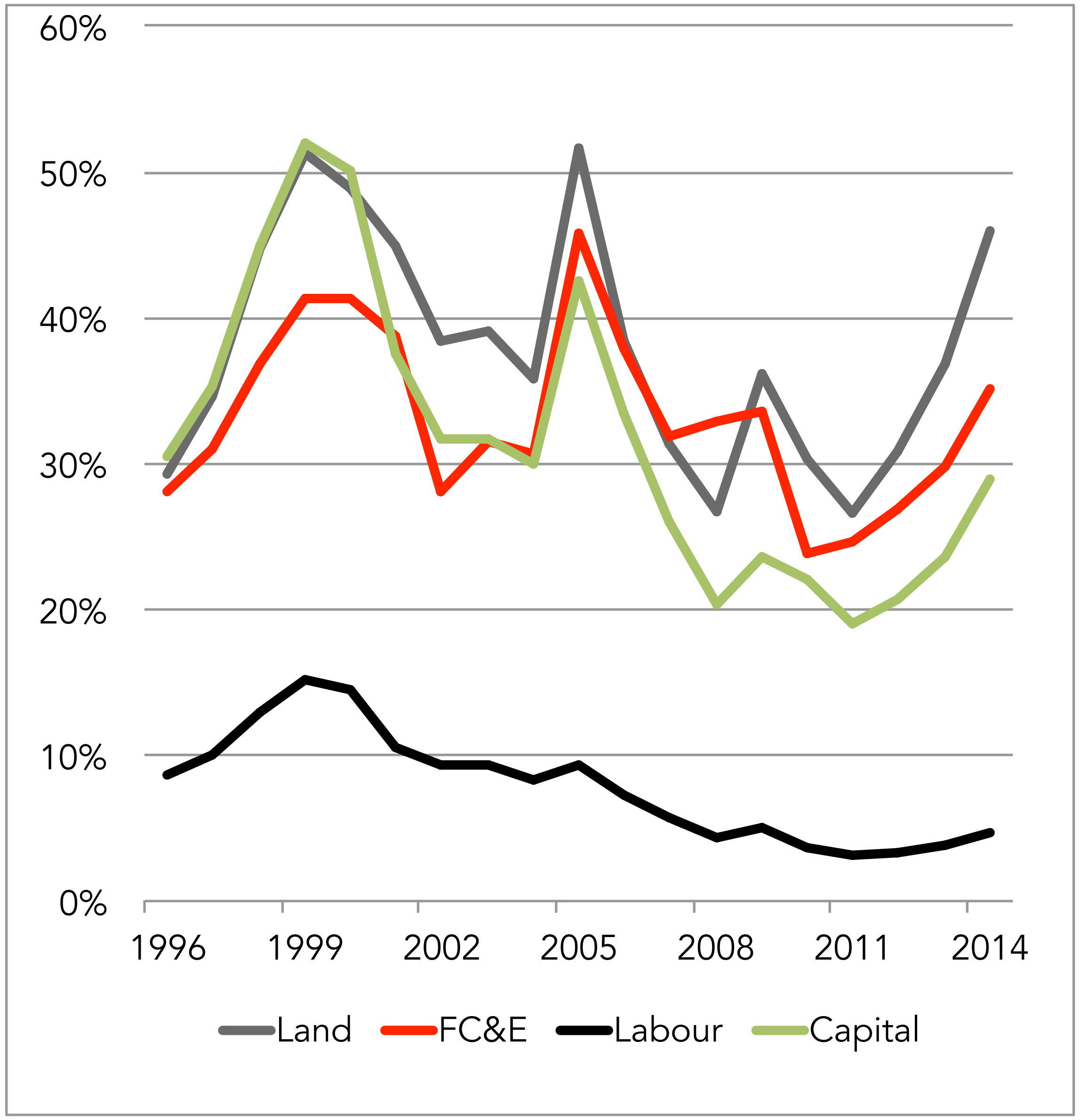
# After a period of decline, costs are reaching a "more normal" level with respect to prices




Share of revenues

- Global pressure on agricultural resources has flowed back into input markets
- Valuations have been largely determined by which resources are most inelastic or least flexible
- Land and energy/fertilisers stand out as having captured most value
- With pressure on agricultural markets declining, along with energy prices, input prices must also now fall
- How much is an interesting question

## Short term outlook

Has demand collapsed, or supply increased?

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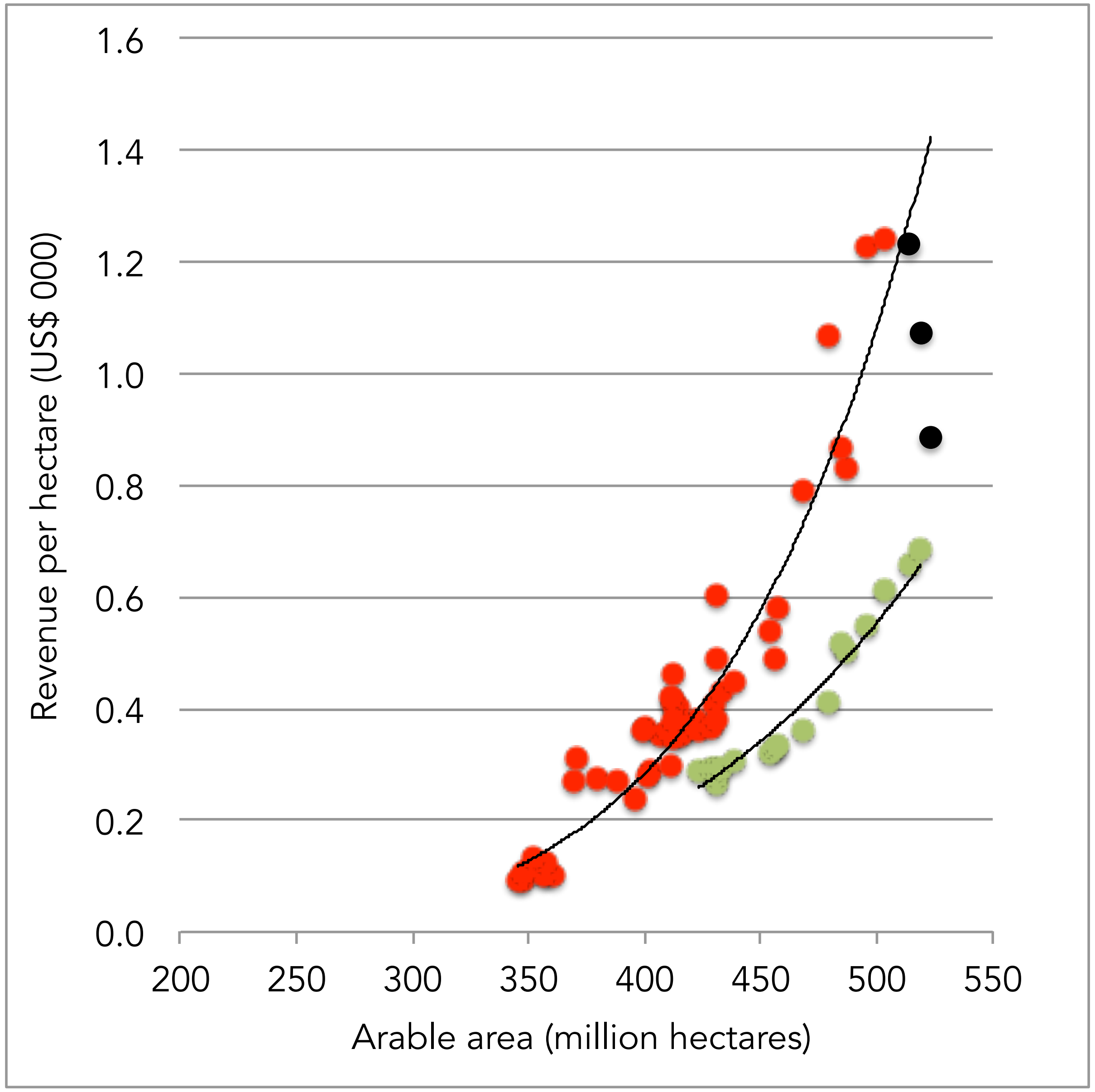
# A puzzle: we seem to have fallen off the global supply curve

- It seems clear that we have been climbing a global supply curve for crop area, which explains land prices

- However, after peaking at around US$1,200/ha, revenues collapsed

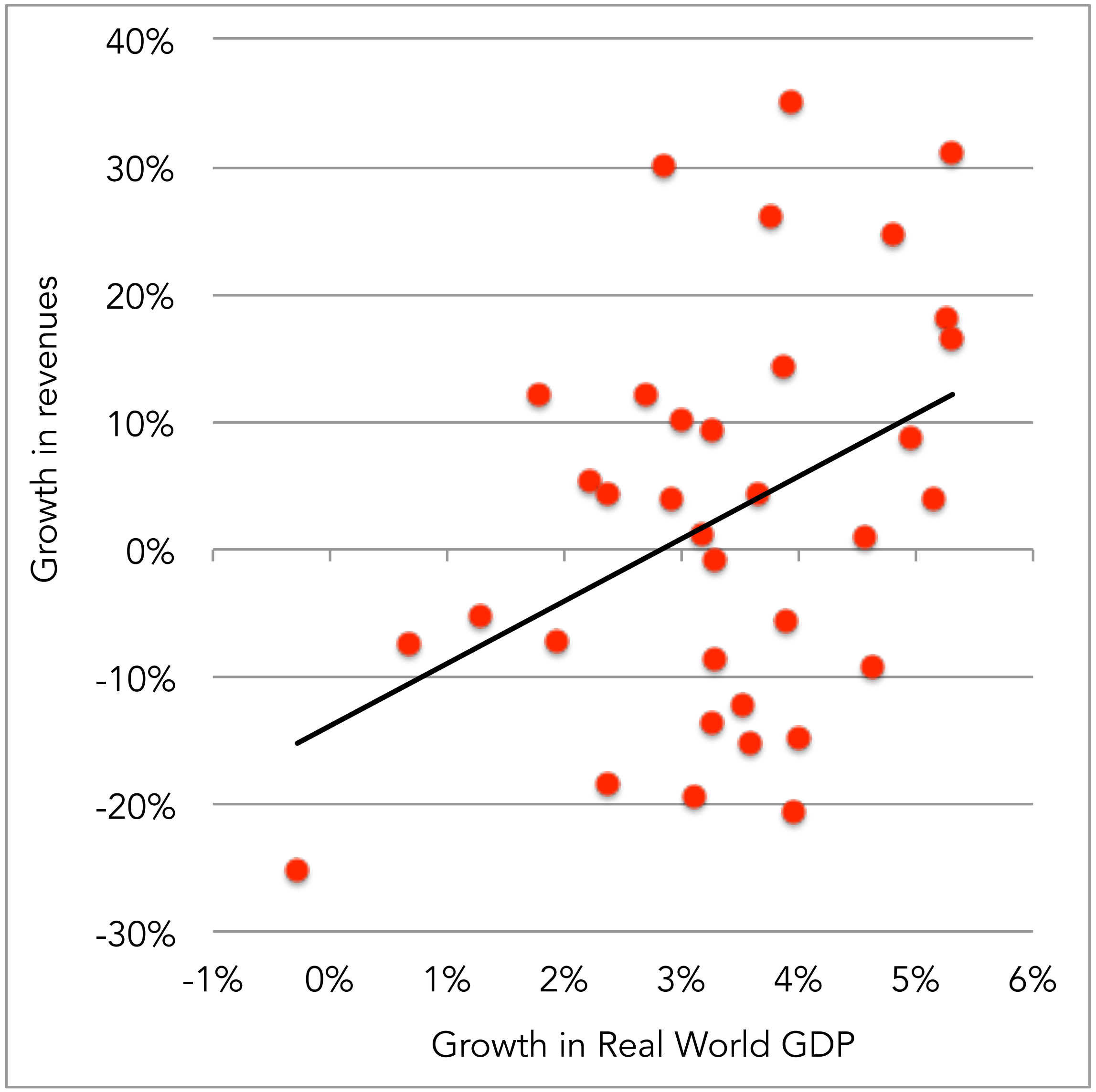
- So why are values adjusting but not area?




Global revenues per hectare

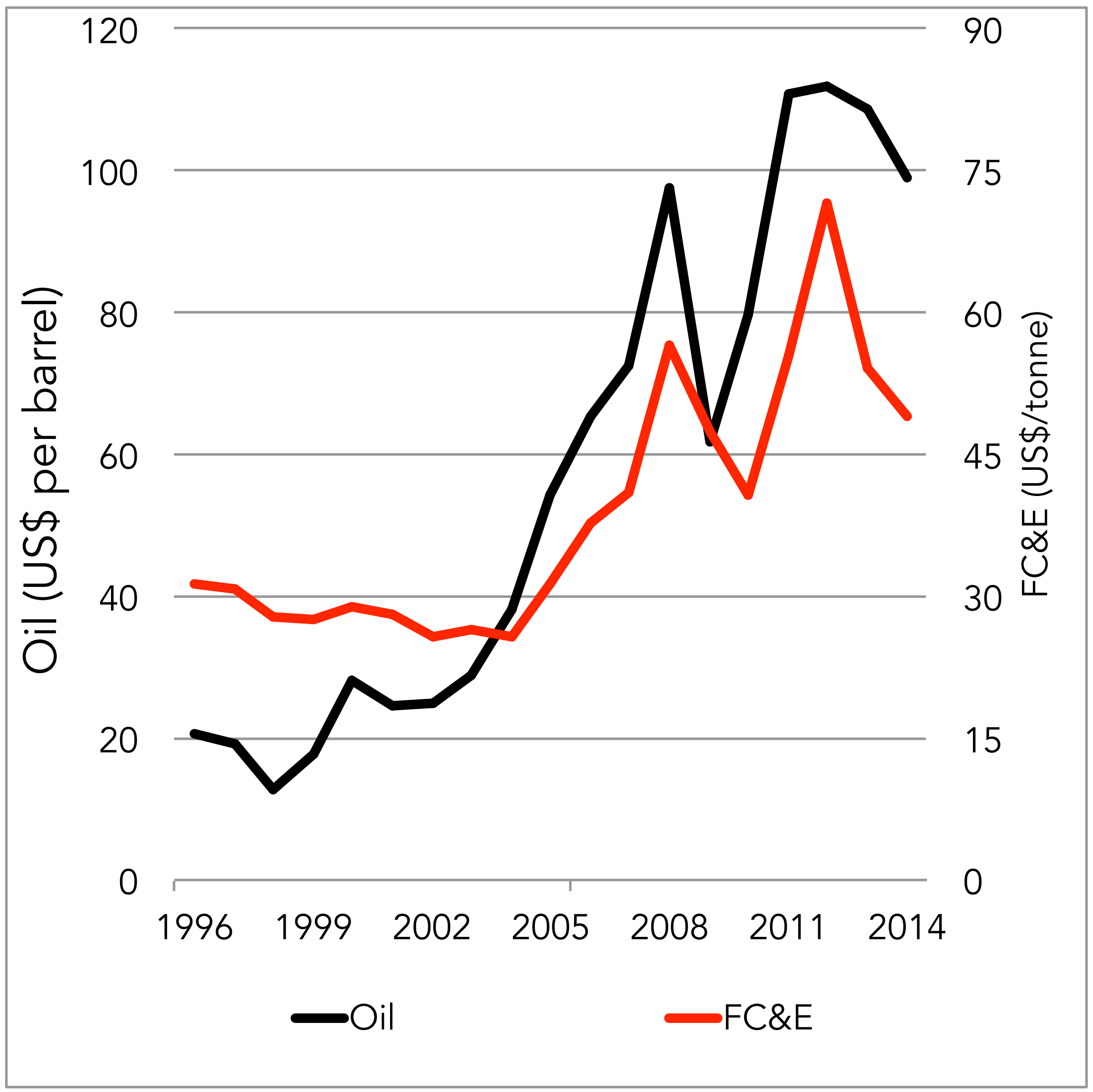
# Nevertheless crop revenues broadly follow world real GDP growth

- Real crop revenues would seem to stabilise at around 3.1% real global growth
- They are also very sensitive to changes in growth
- While it is hard to pick what level revenues should be, we can say with more confidence that they should stabilise going forward barring economic melt down
- This suggests some adjustment in land values

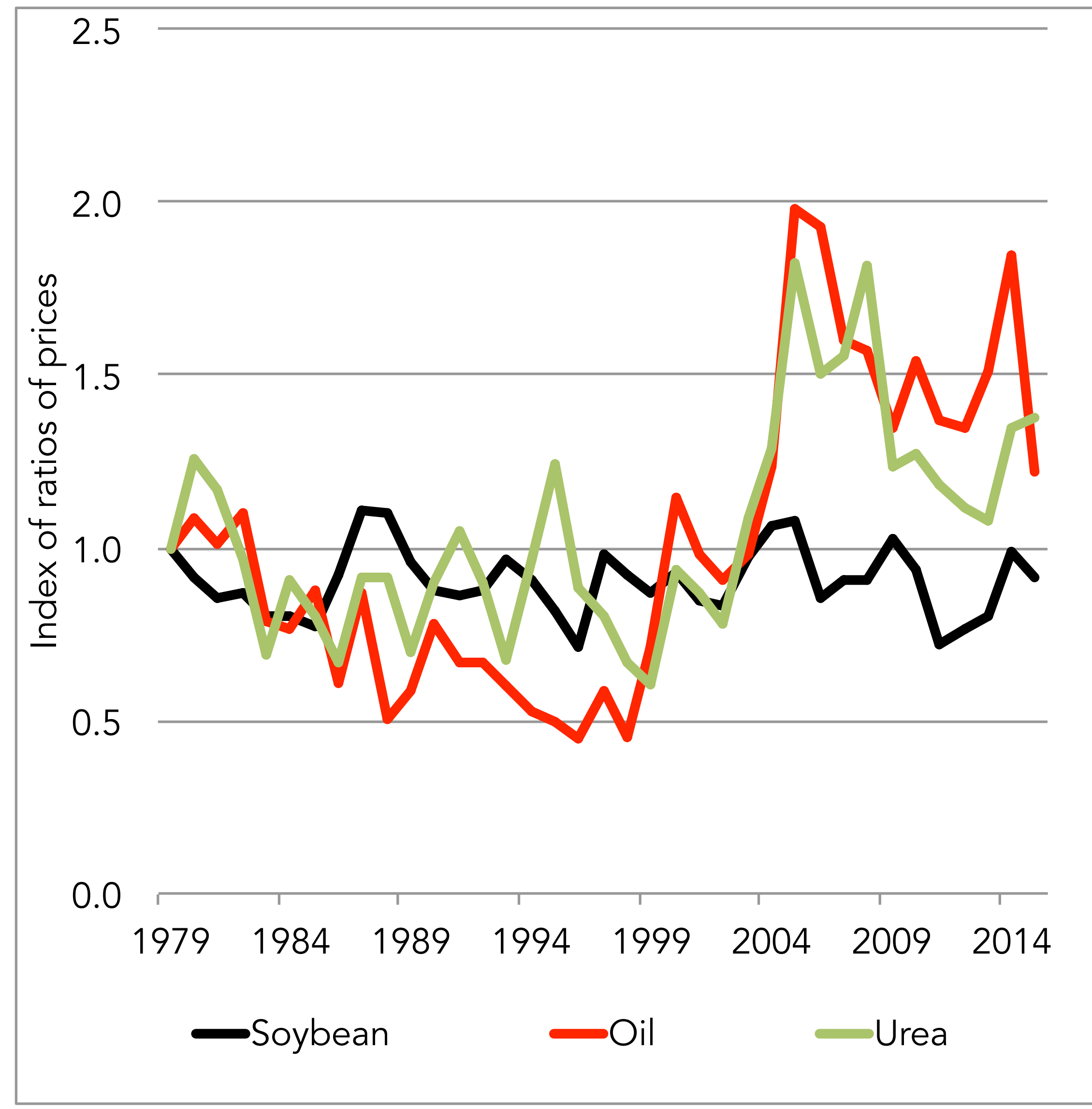



Global revenues per hectare

# FC&E prices clearly follow the energy market and have broken away from the grain markets

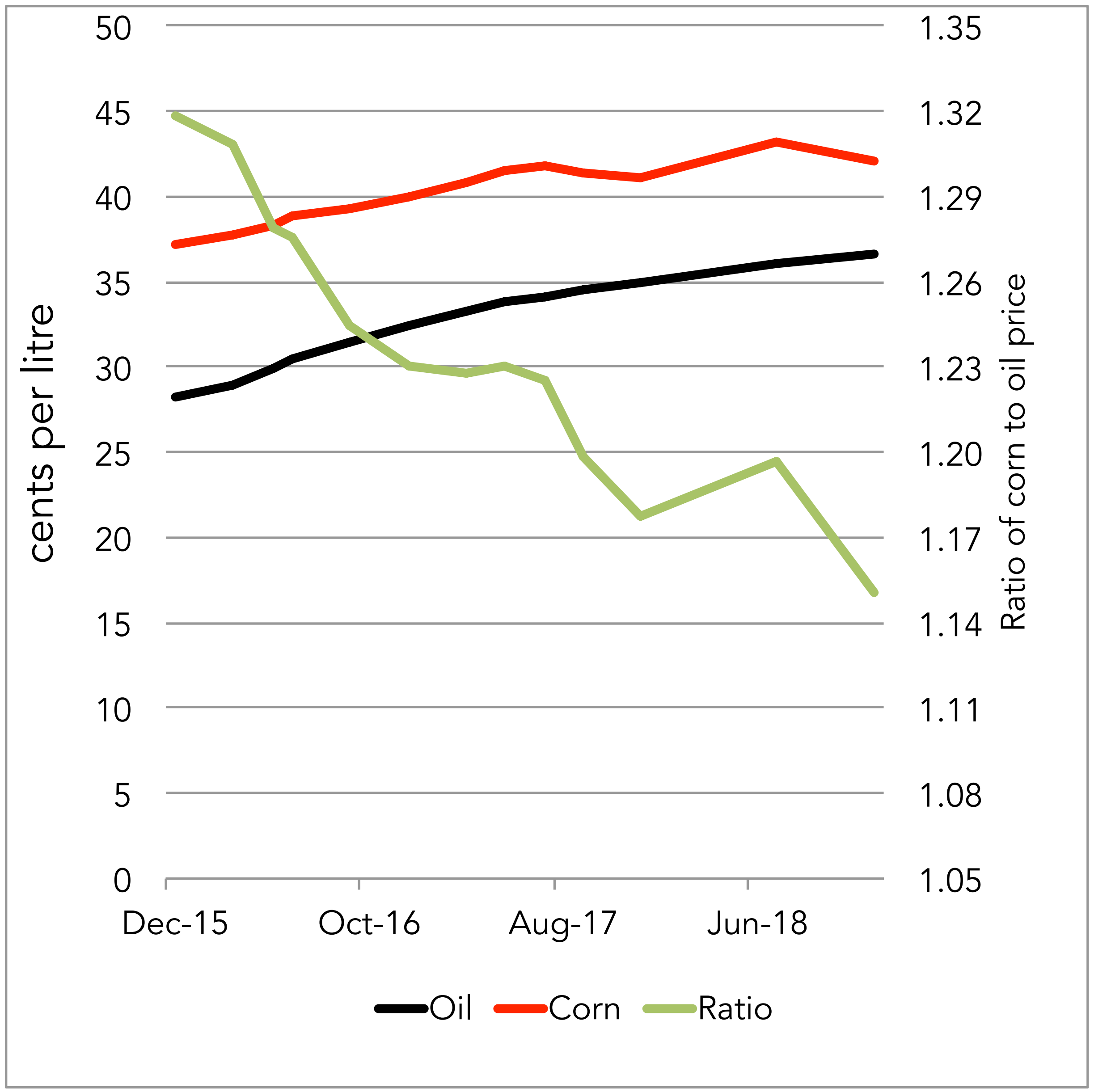



Oil and FC&E costs

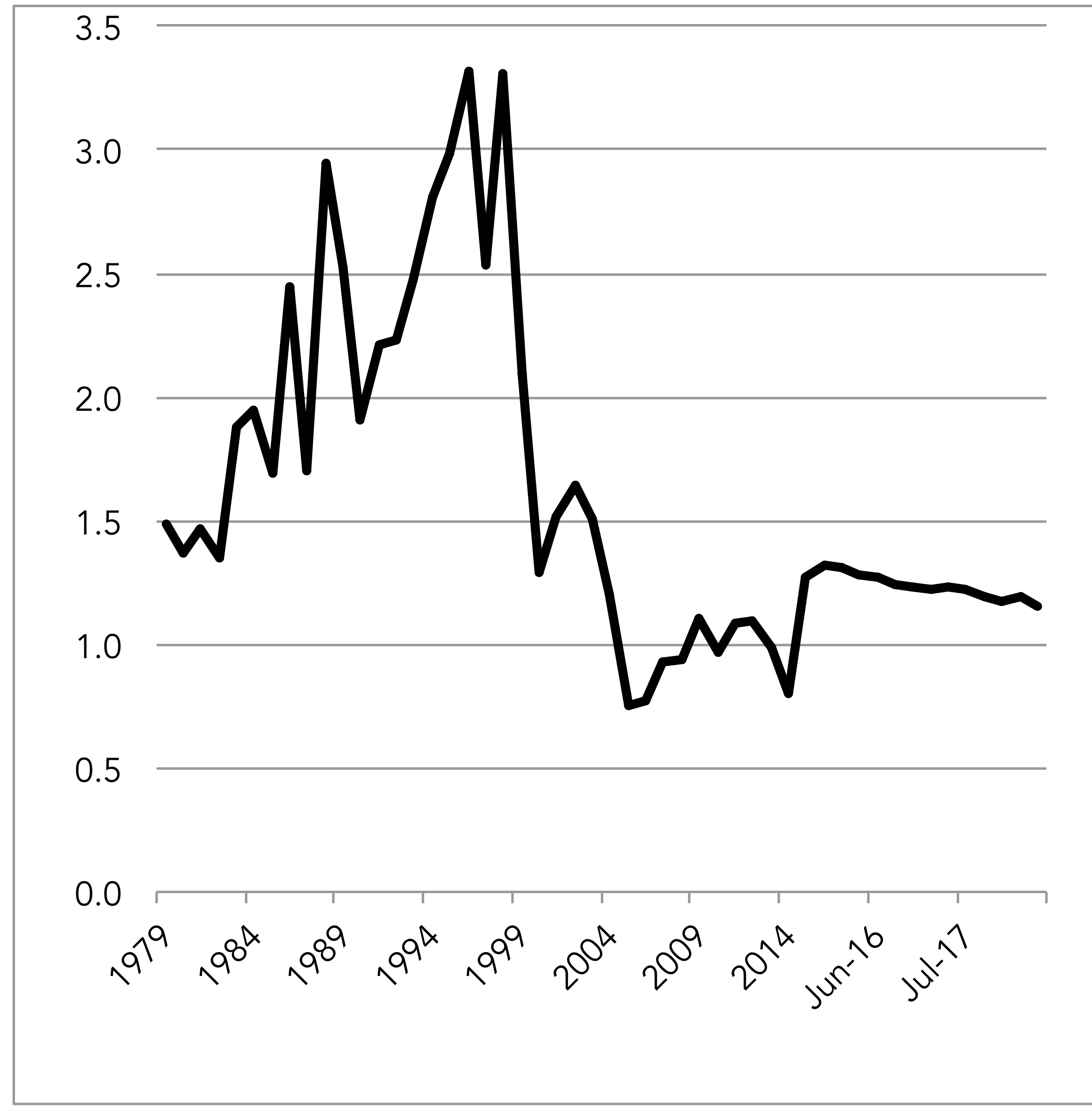



Index of ratios of prices

# Forward markets for corn and oil suggest that corn has a little further to fall towards oil

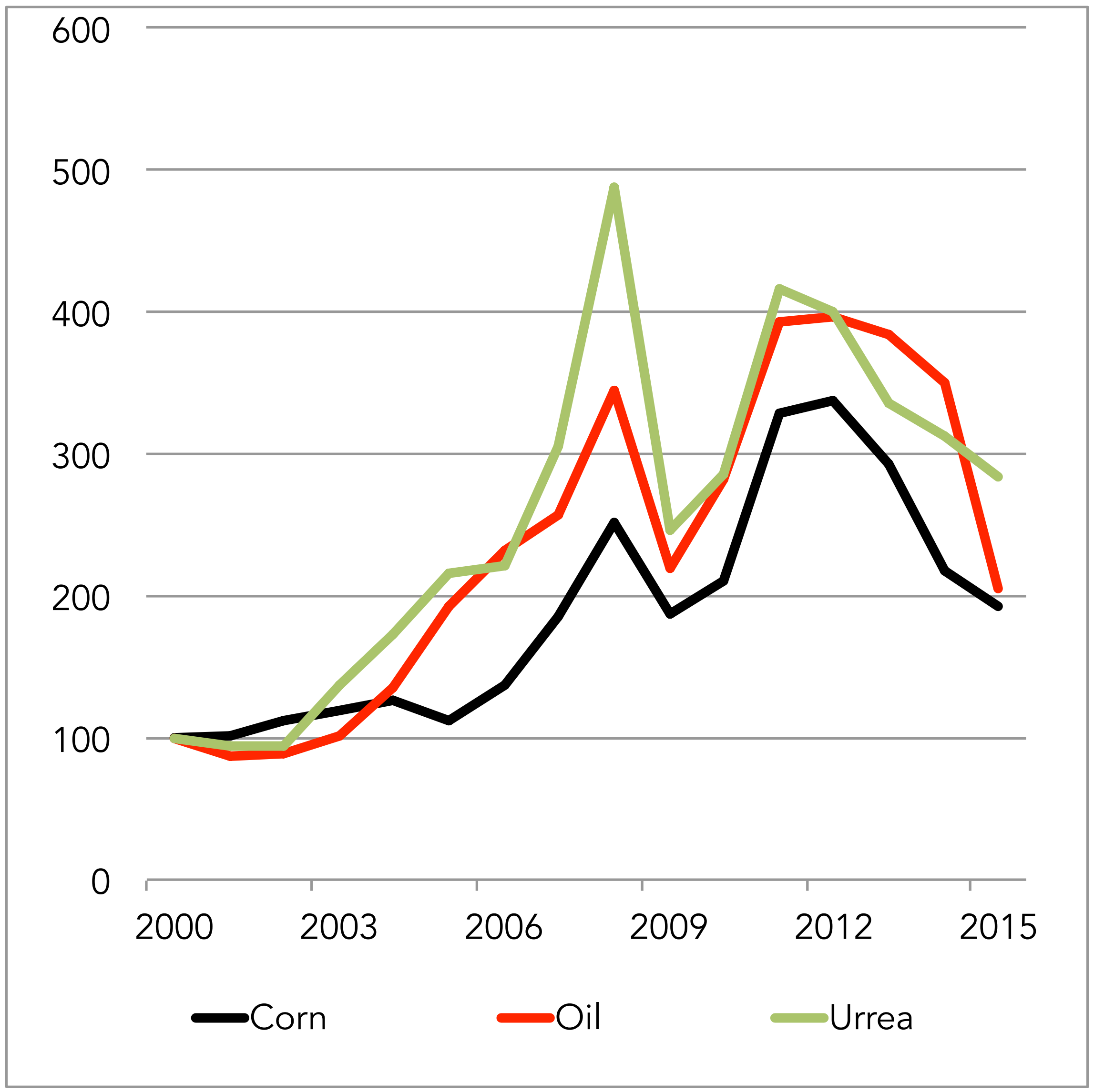



Oil and FC&E costs

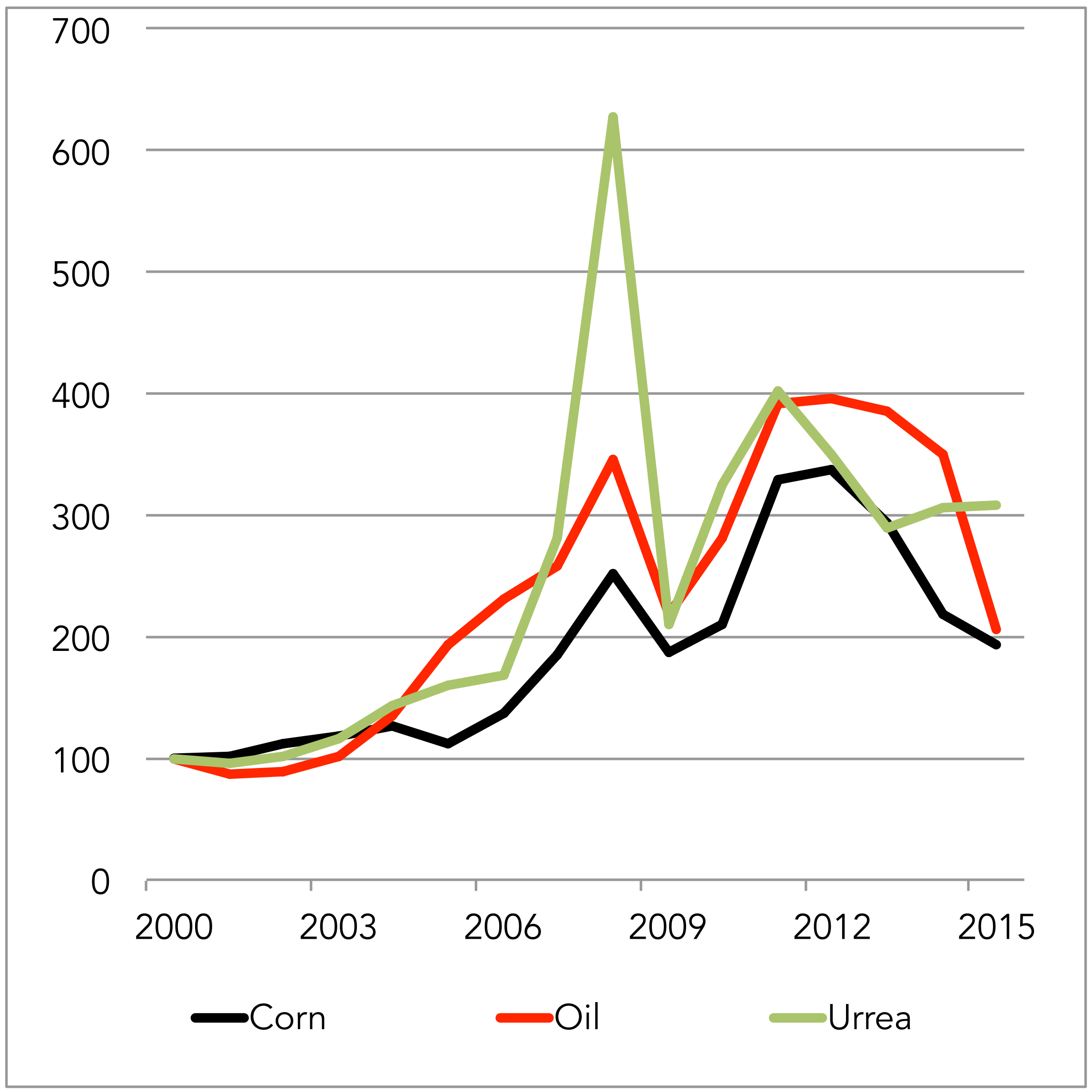



Index of ratios of prices

# However, fertilisers rose most quickly against corn and oil. Further adjustment is likely




Urea

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# Outlook

- Forward markets suggest FC&E prices have some support against corn due to oil. Nevertheless, short term, negative margins, the need to ration crop area and the approach of the winter period in the northern hemisphere all point to pressure on fertiliser prices as suppliers will likely want to sell down inventories

- The broader outlook is one of continued adjustment for input markets as crop area adjusts to demand. Possible rallies could come from US weather next season or an oil shock. Neither will likely move markets immediately.

# How efficient is Australian agriculture?

The cost of inputs

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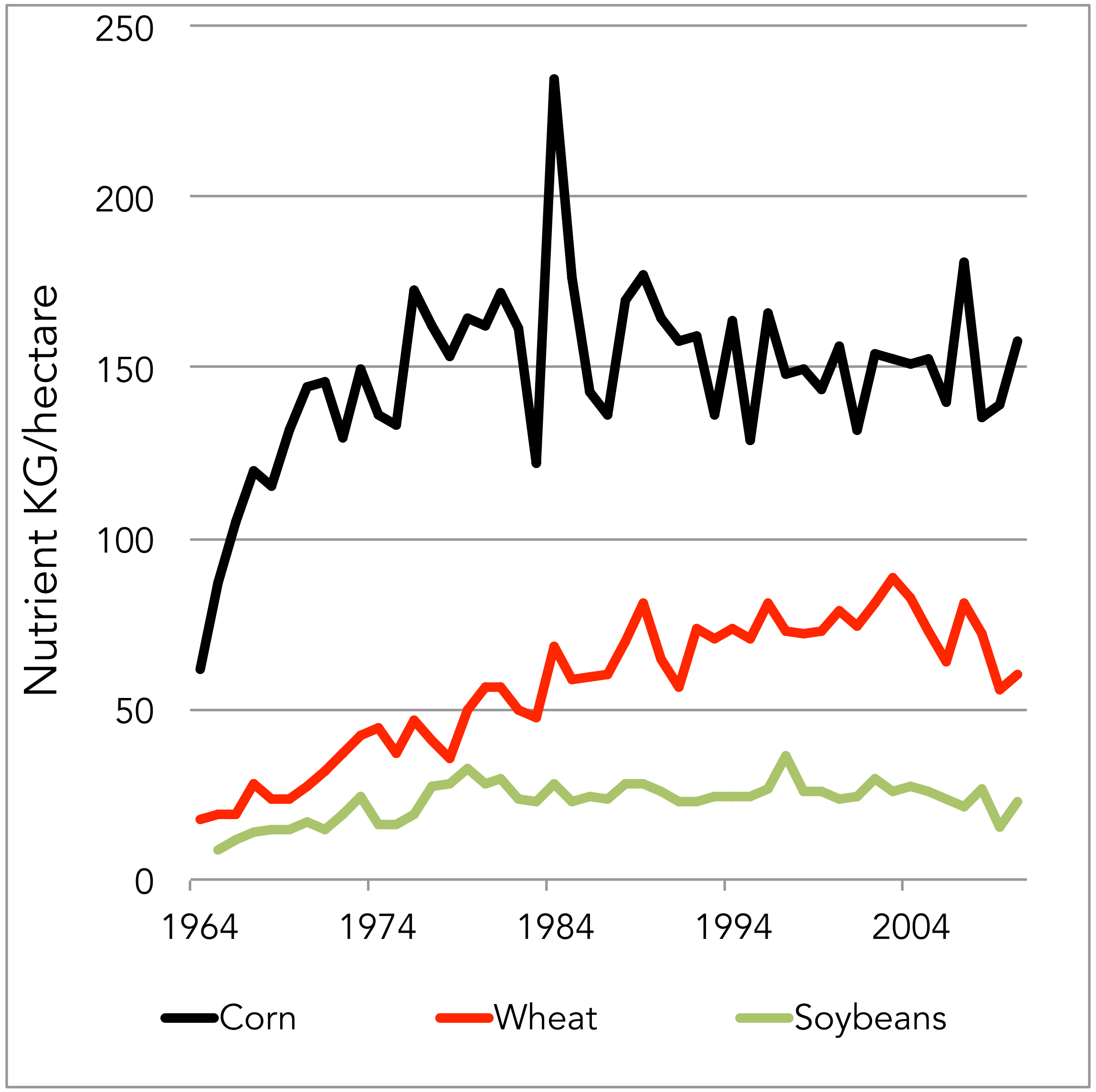
# Yield matters most for productivity of inputs

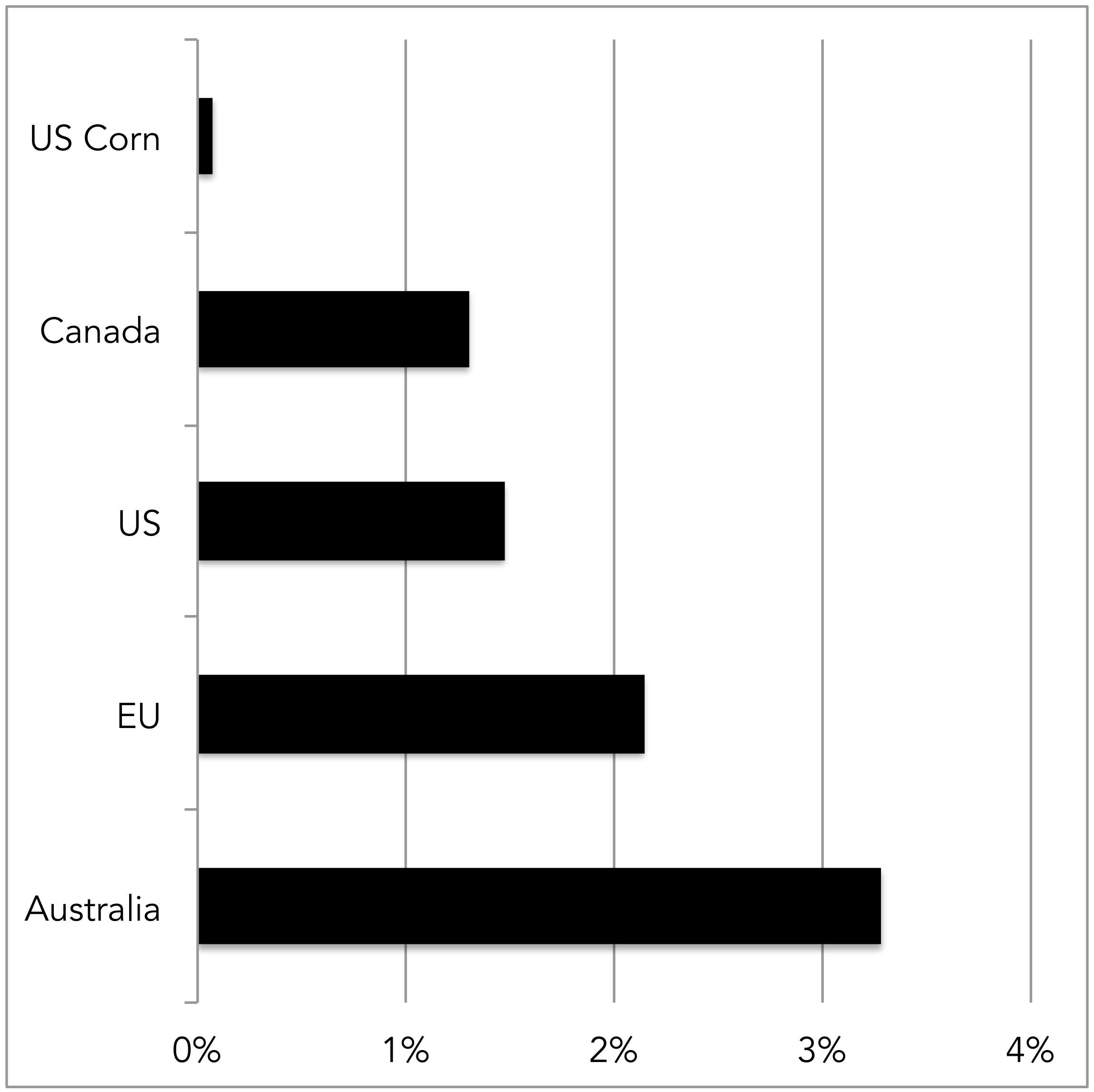
- Nutrient use per hectare has flatlined in developed agriculture
- Most fertiliser and chemical prices are tied to global benchmarks
- So it is local yields that determine the progression of local costs



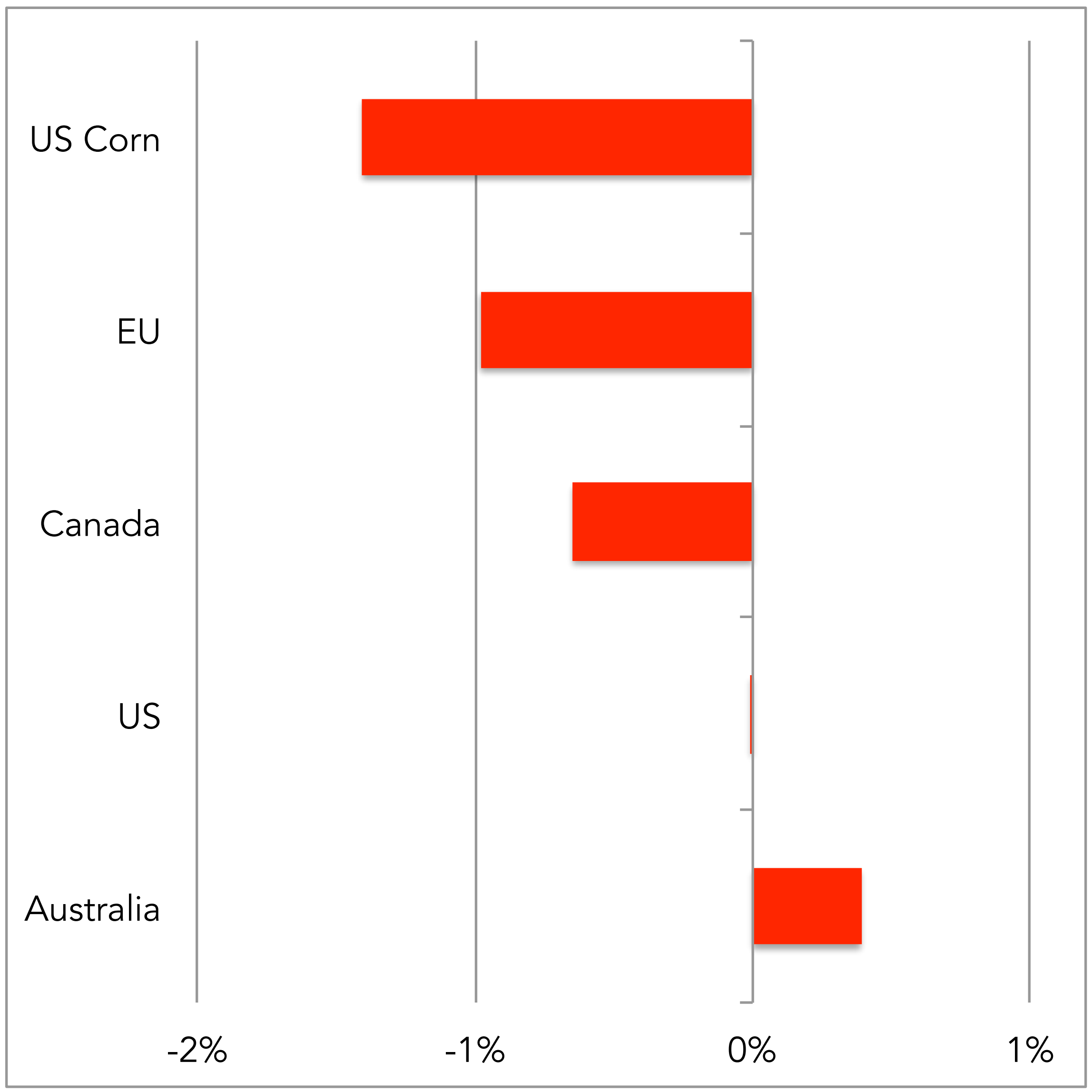

Use of nutrients

# Against a global benchmark, Australia has the highest relative growth in both wage and fertiliser costs

Yield is again the driver of relative cost




Wage costs




Fertiliser costs

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