Evolution of dairy production systems in leading exporting countries plus South Africa …and what can be forecast for the next 5 years

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Standard Bank

Presentation outline

- ❑ Confirm countries to be reviewed and compared
- ❑ Observe trends over last 17 years
- ❑ Forecast forward for next 5 years
- ❑ Draw conclusions including specific to countries
- ❑ Summarise conclusions

Countries to compare

Countries include:

1. **South Africa (non-exporting)**
2. **New Zealand**
3. **Australia**
4. **Argentina**
5. **Uruguay**
6. **United States (recent major exporter)**

Sources of data

1. South Africa → MPO, Red Sky (Intelact)
2. New Zealand → DairyNZ, DairyBase, Red Sky (Intelact)
3. Australia → Dairy Australia, Dairy Farm Monitor Project, Red Sky
4. Argentina → MAGYP, AACREA
5. Uruguay → INALE, FUCREA
6. United States → USDA, Genske Mulder

All data converted to the same format and methodology that Red Sky utilises, which is very similar to DairyBase and Dairy Farm Monitor Project

US data required more substantial ‘conversion’ due to methodology for calculating livestock revenue

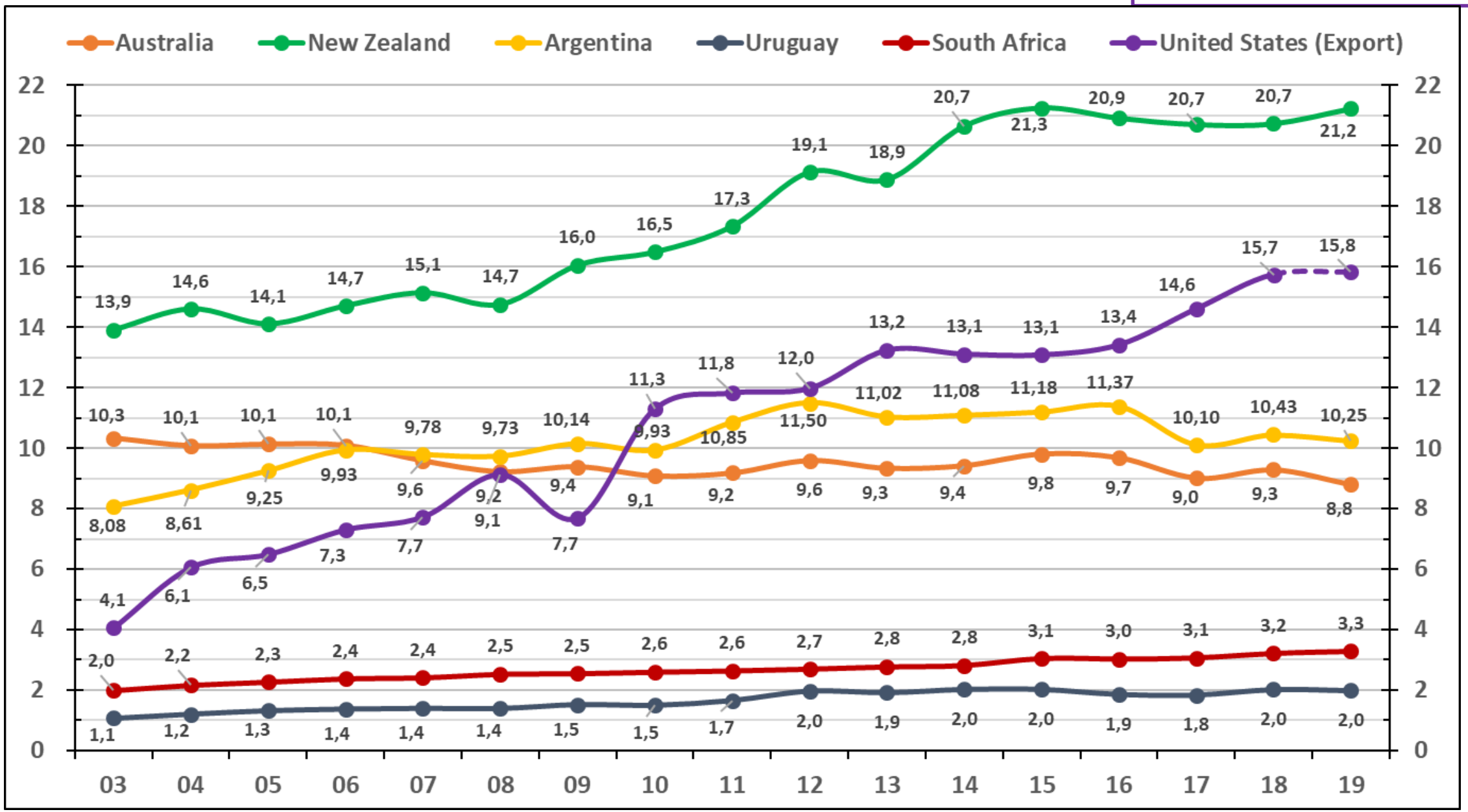
General trends within the countries

Reviewing the trend data over the last 17 years:

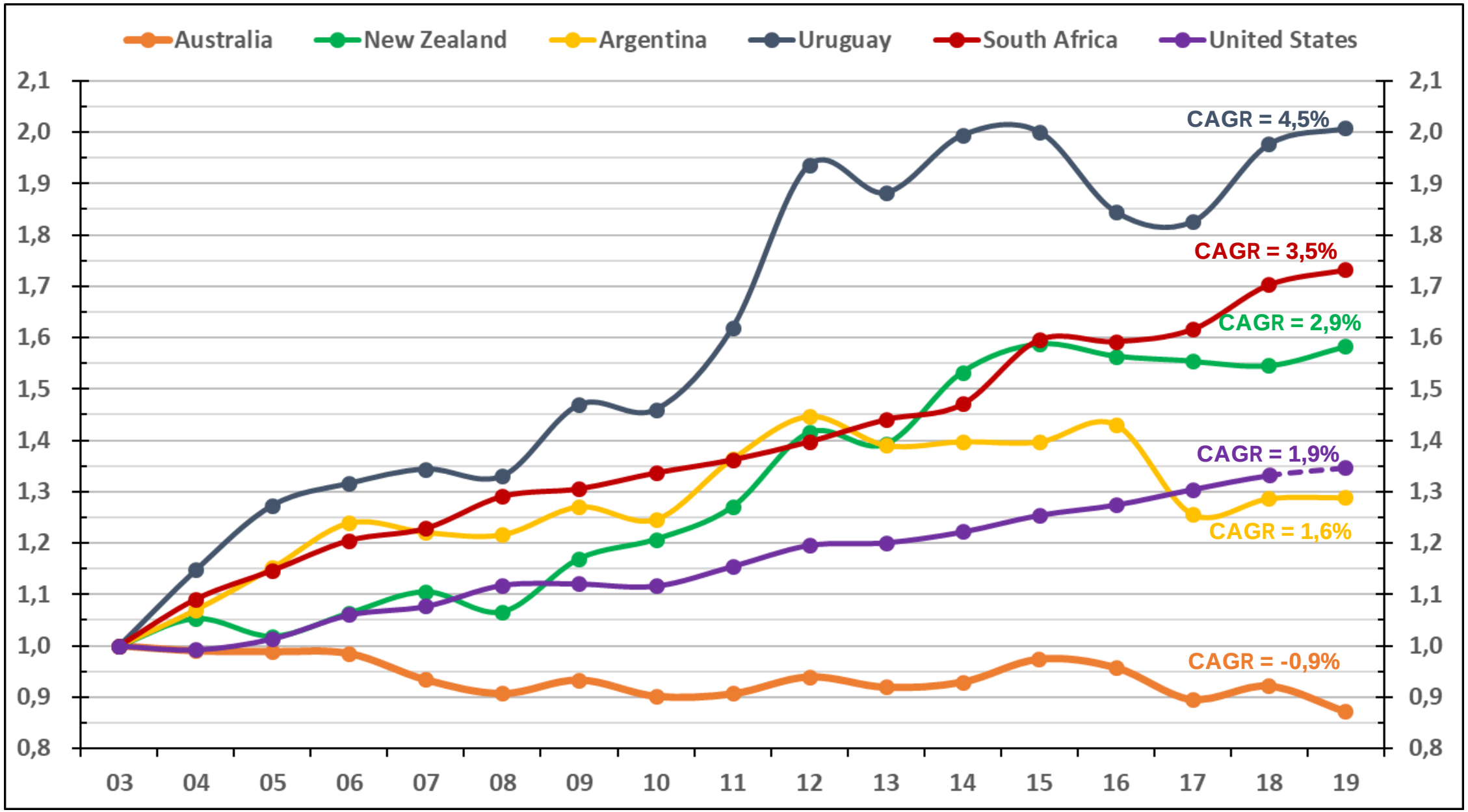
- South Africa; poor → excellent
- New Zealand; good → GREAT
- Australia; good → terrible
- Argentina; excellent → poor
- Uruguay; excellent → problematic/poor
- United States; good → excellent

Annual milk production (billion litres)

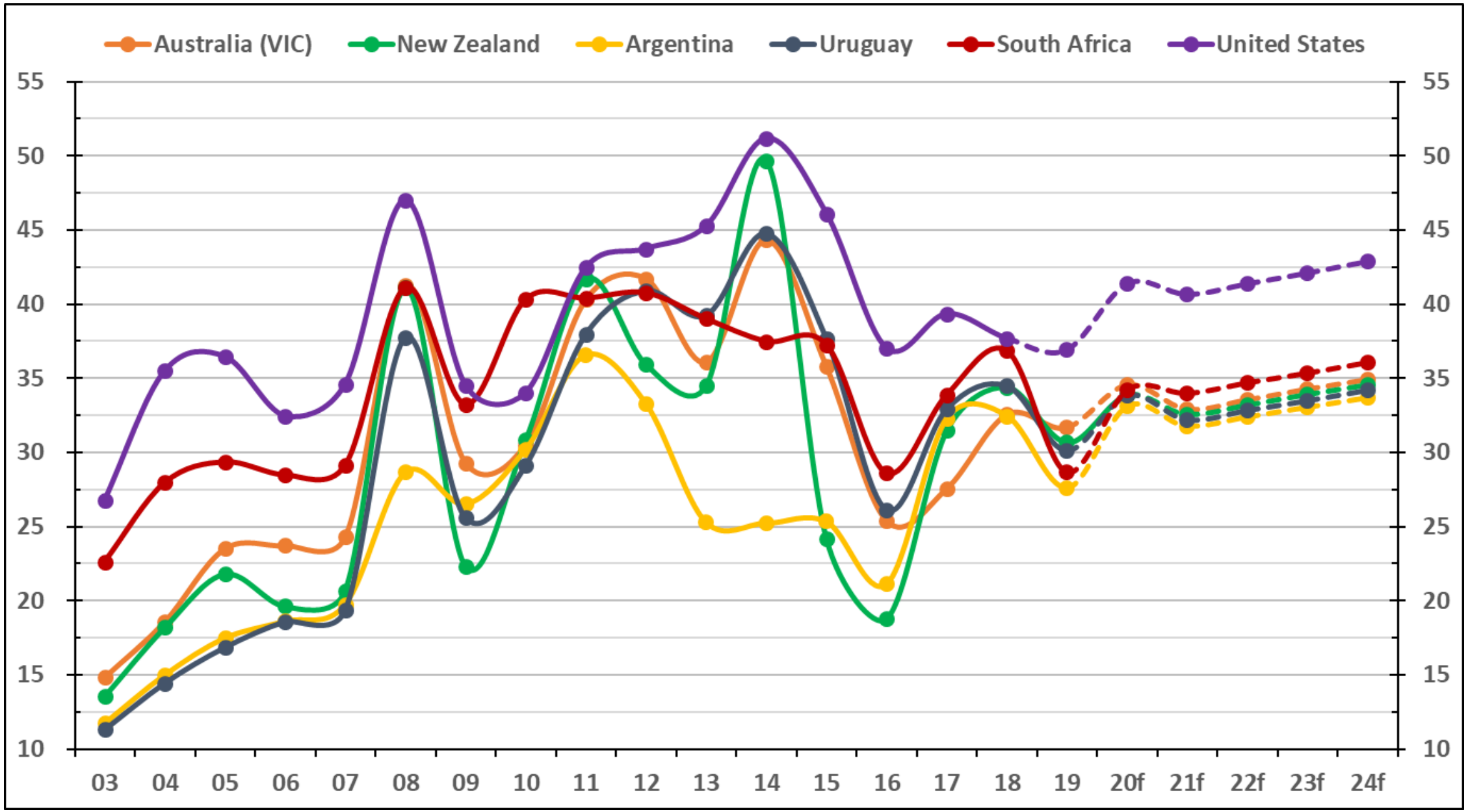
United States total production is approximately 4 times greater than New Zealand



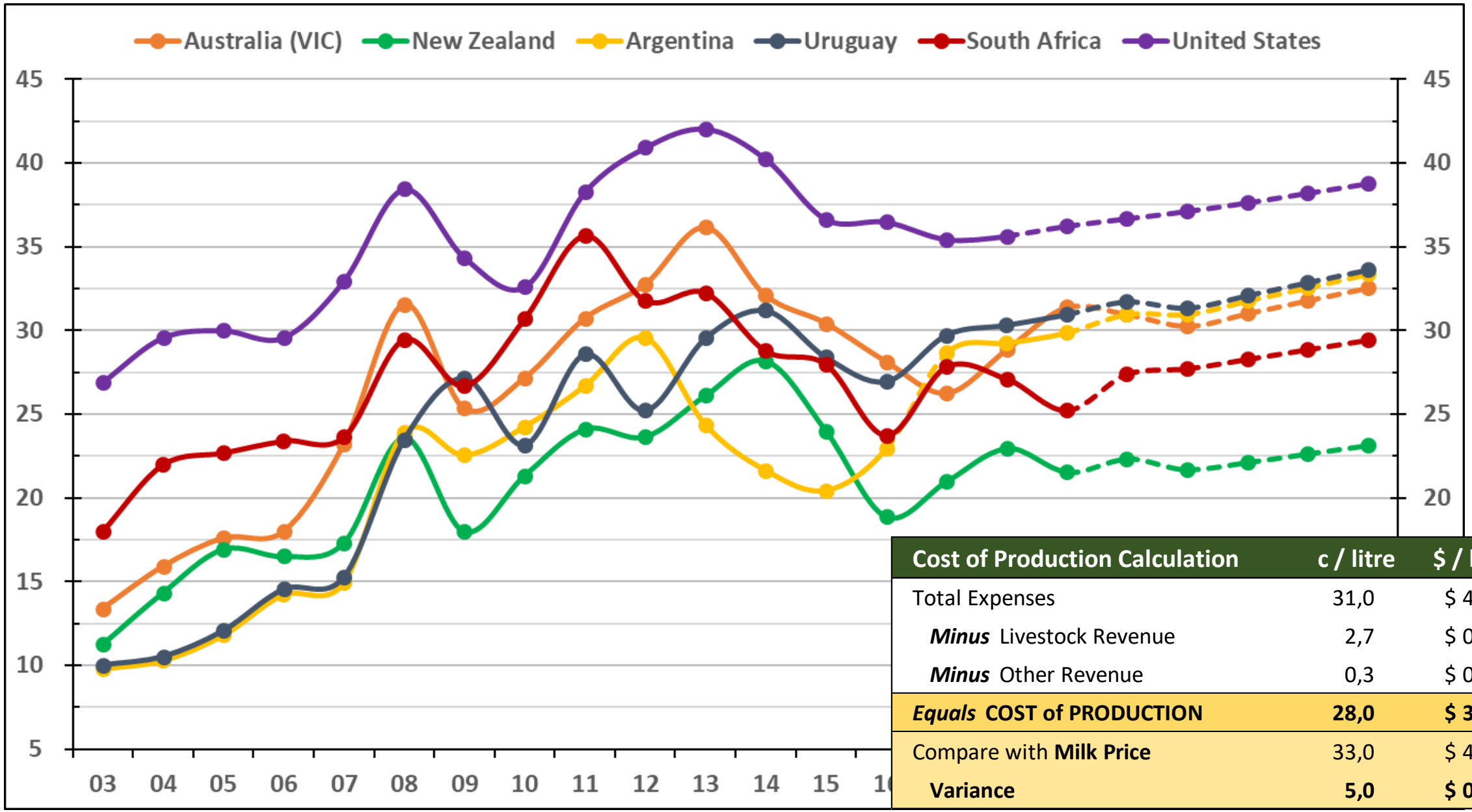
Annual milksolids production (2002/03 Base = 1,00)



Milk price (US$ c/litre standardised to 7,2% milksolids)



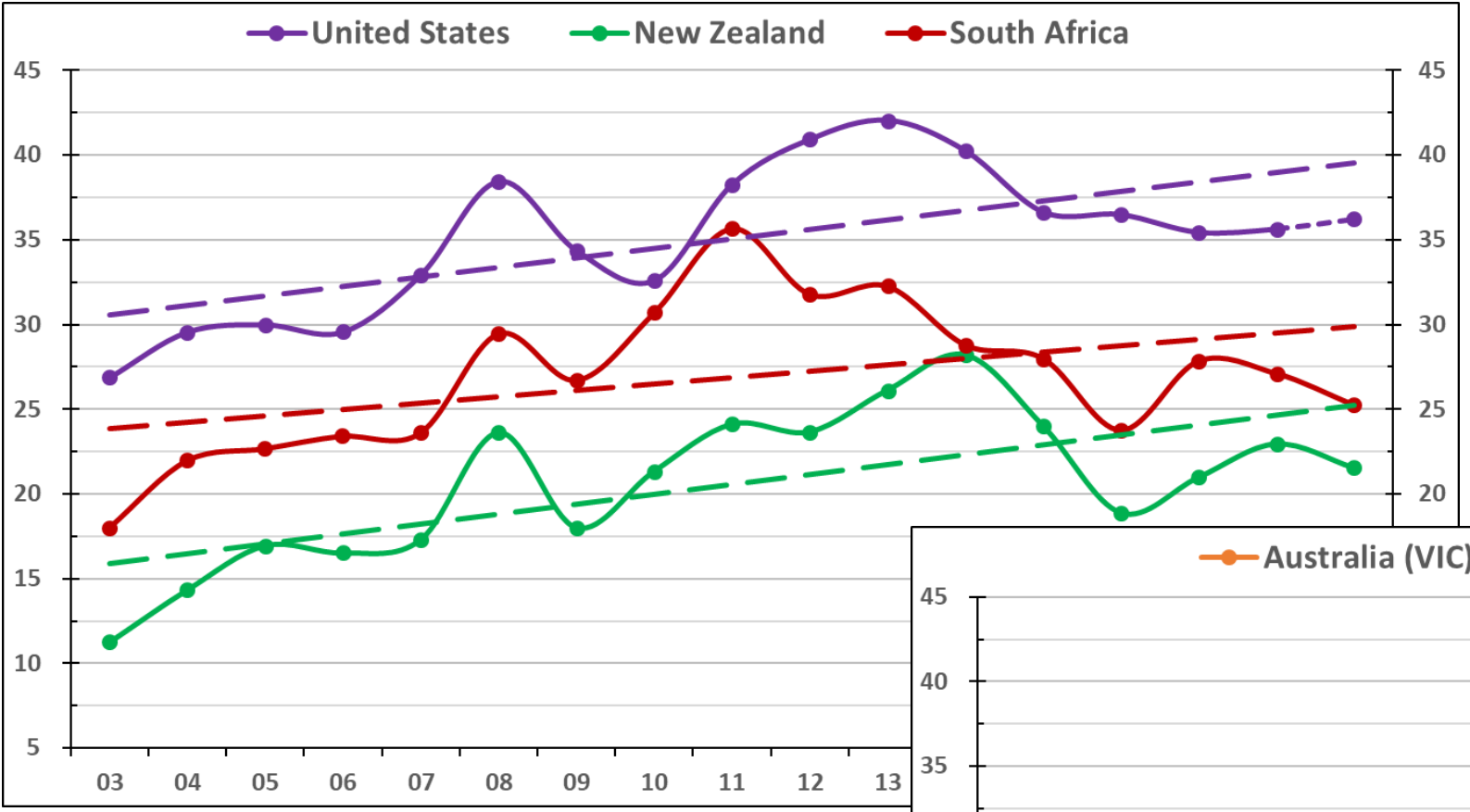
Cost of production (US$ c/litre standardised to 7,2% milksolids)

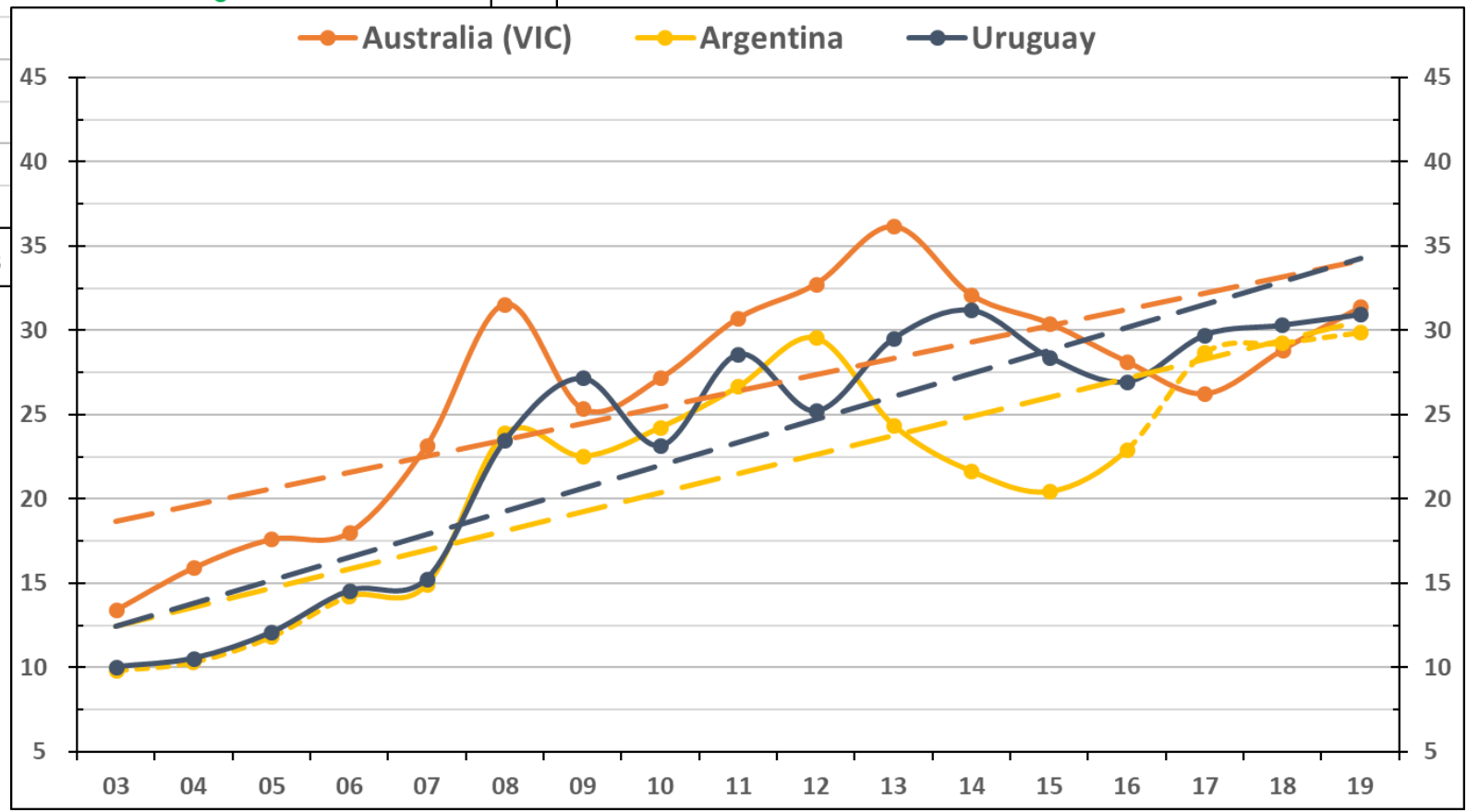


Cost of Production Calculation	c / litre	$ / kgMS
Total Expenses	31,0	$ 4,31
Minus Livestock Revenue	2,7	$ 0,38
Minus Other Revenue	0,3	$ 0,04
Equals **COST of PRODUCTION**	**28,0**	**$ 3,89**
Compare with **Milk Price**	33,0	$ 4,58
Variance	**5,0**	**$ 0,69**

Cost of production

(US$ c/litre at 7,2% MS)



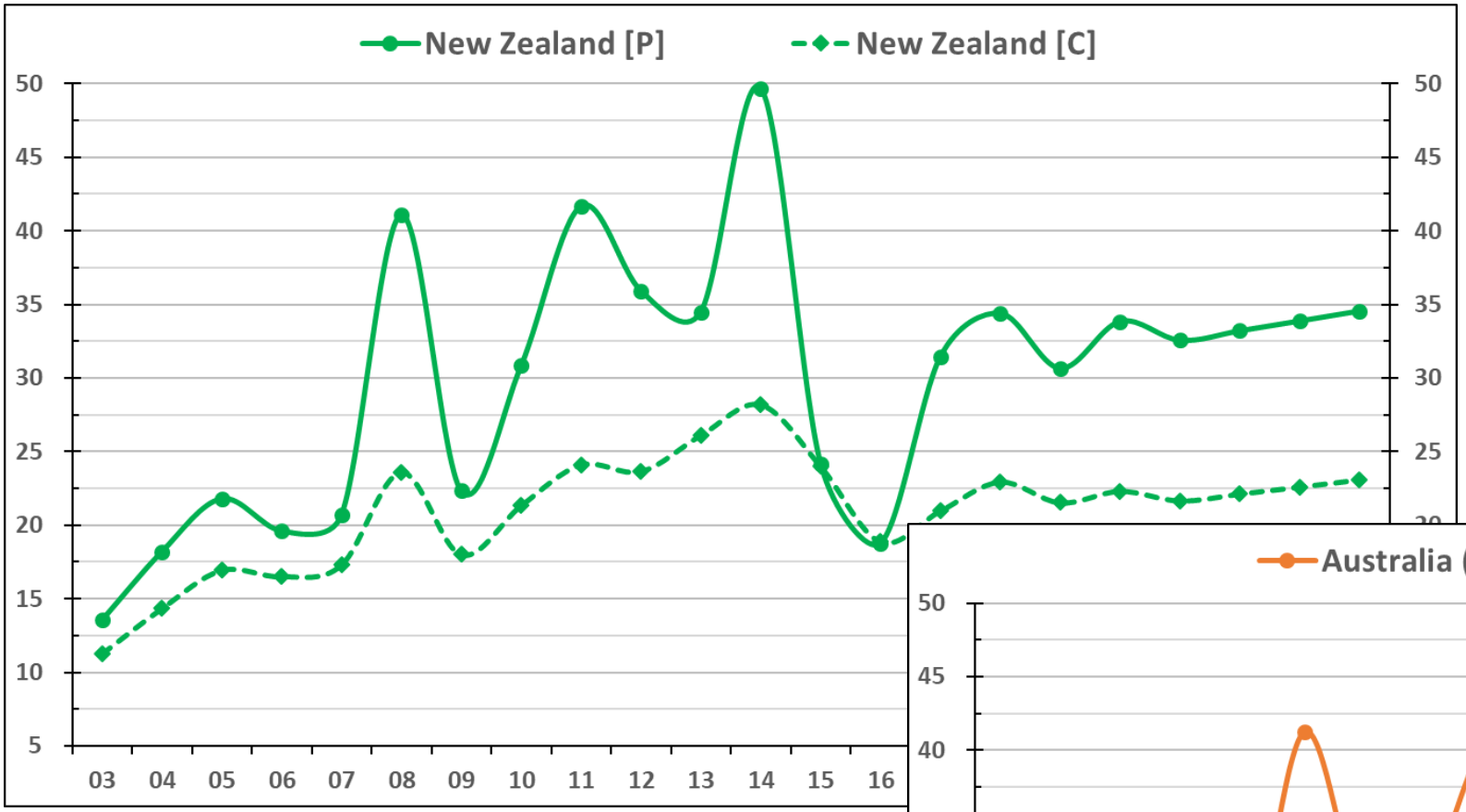


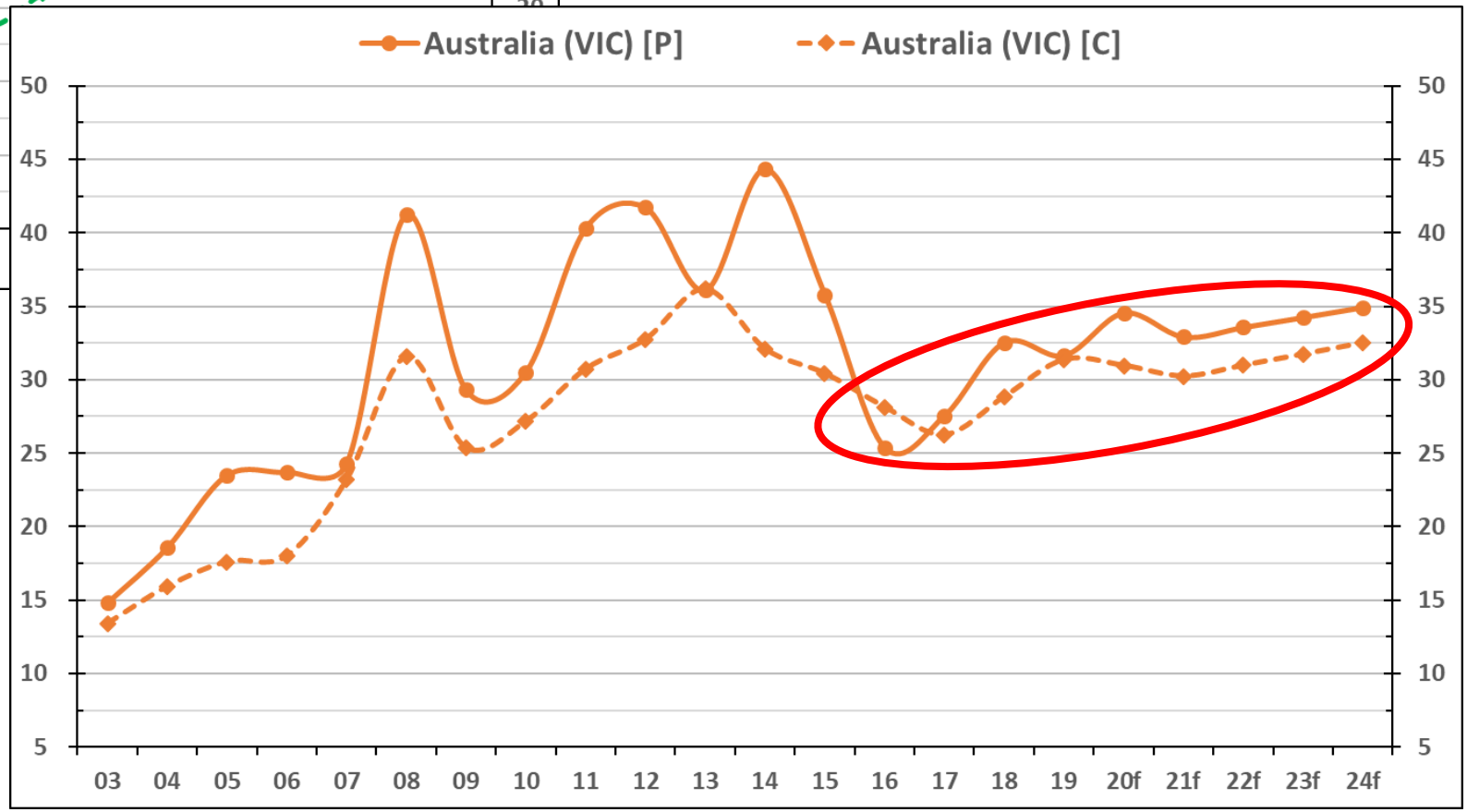
Milk price [P] vs Cost of production [C]

(US$ c/litre at 7,2% MS)

New Zealand &

Australia



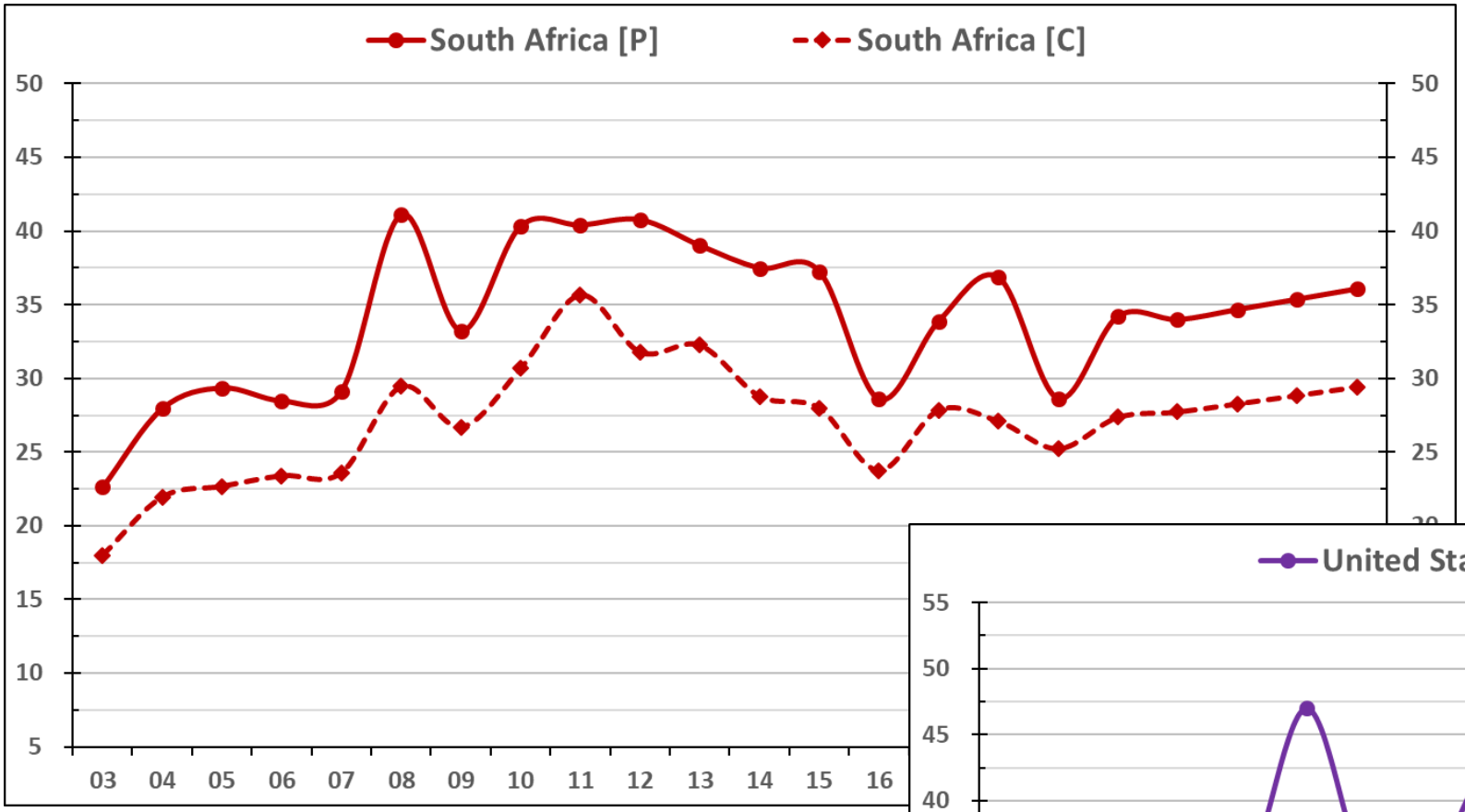


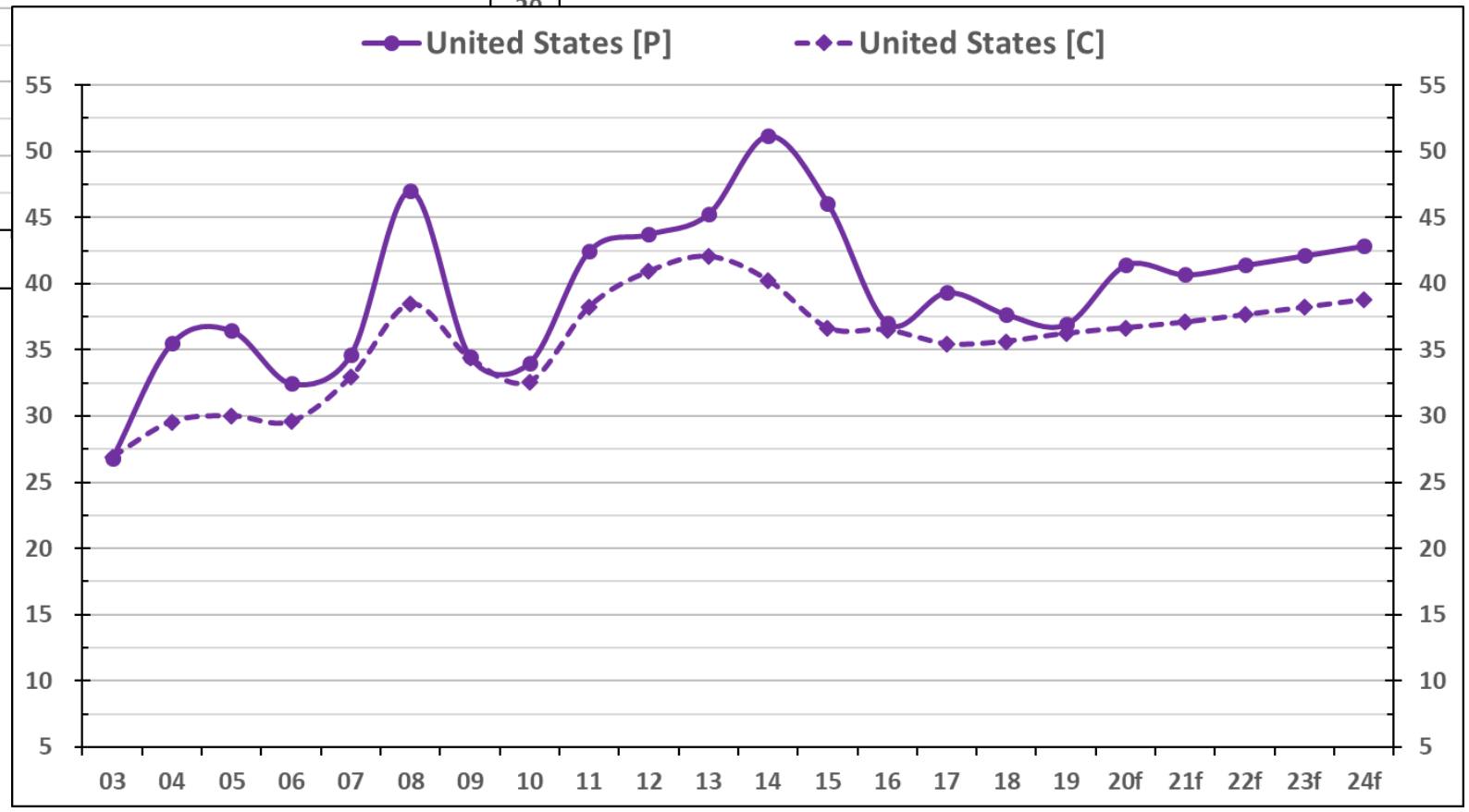
Milk price [P] vs Cost of production [C]

(US$ c/litre at 7,2% MS)

South Africa &

United States



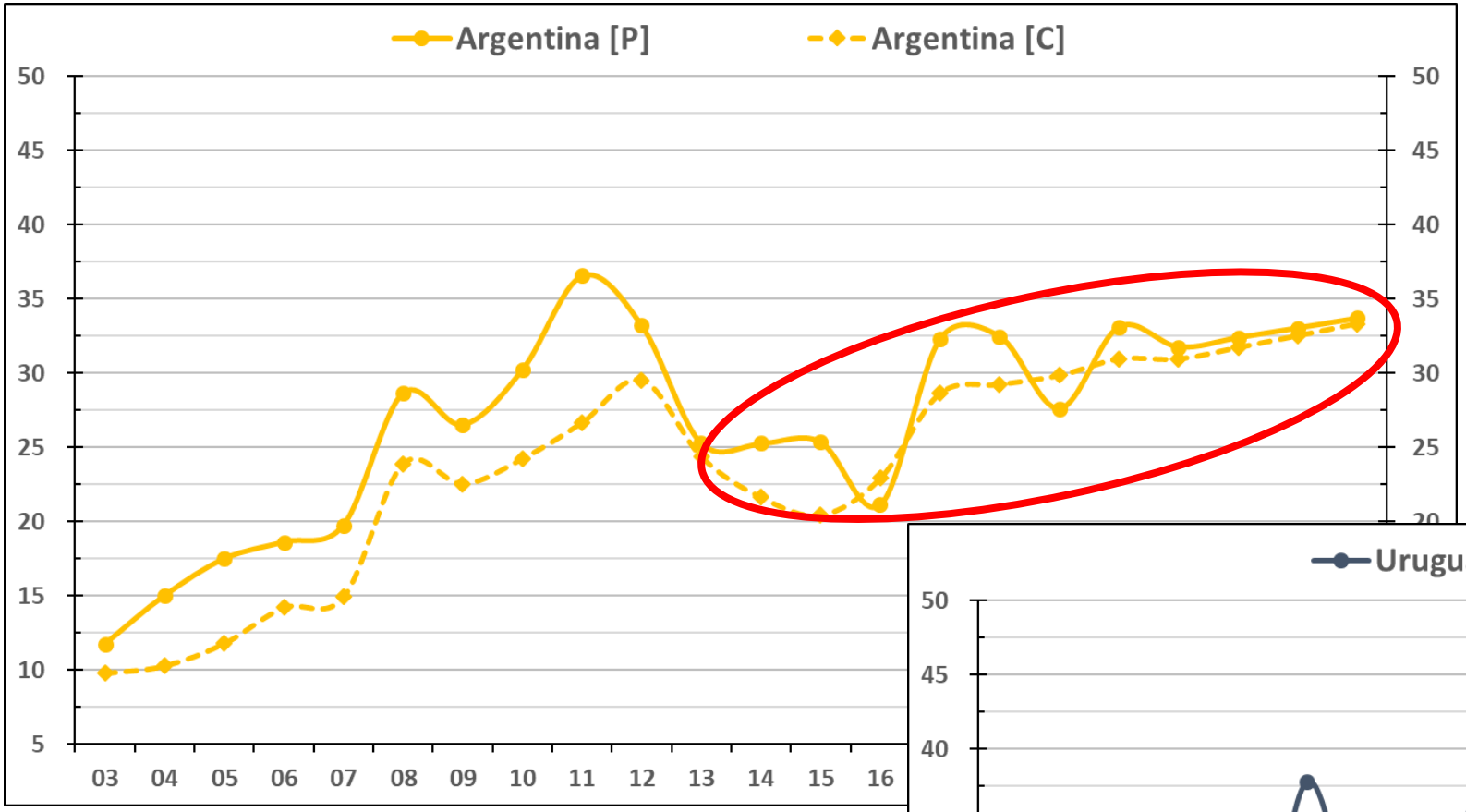


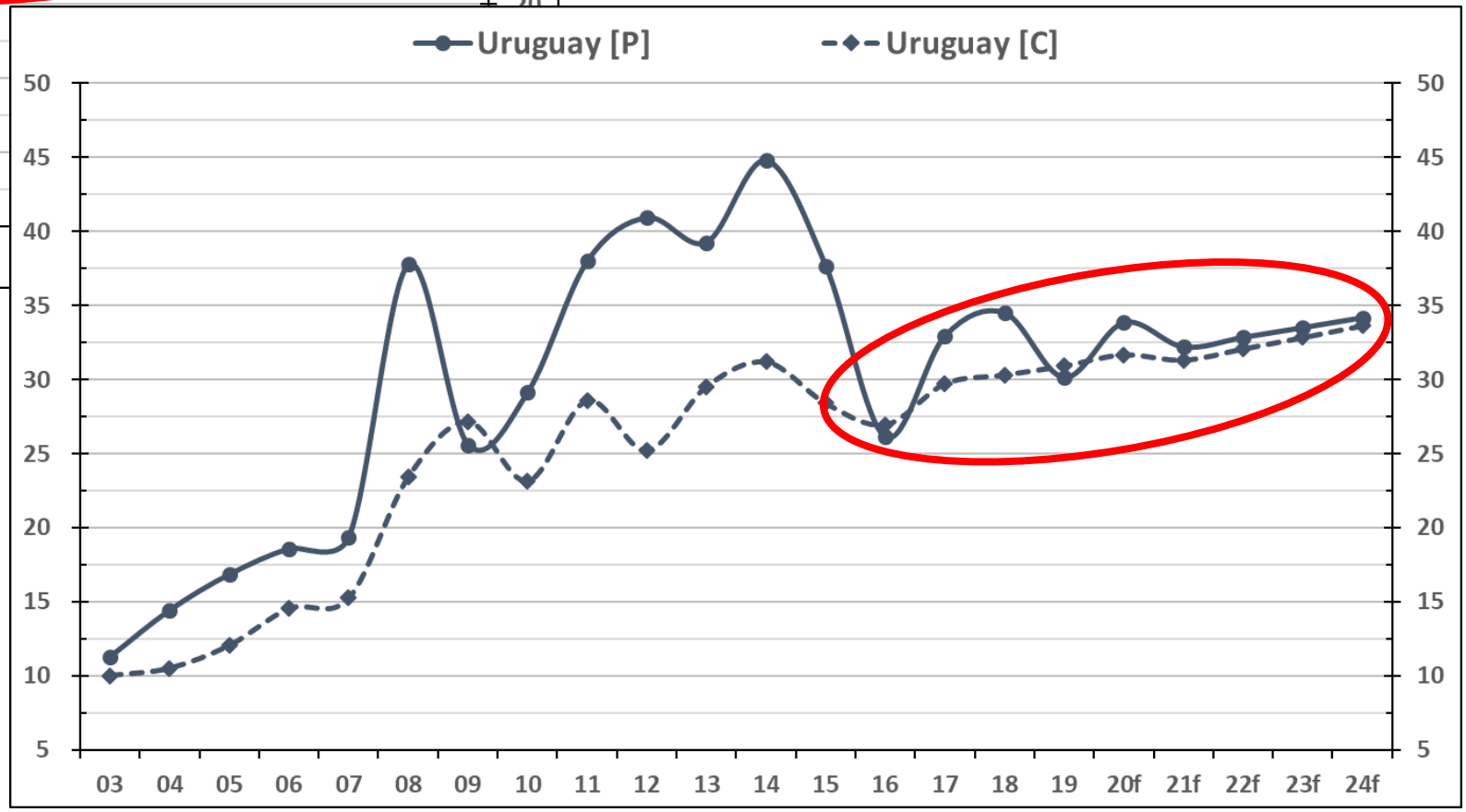
Milk price [P] vs Cost of production [C]

(US$ c/litre at 7,2% MS)

Argentina &

Uruguay





Why the differences between countries?

What is creating New Zealand's huge advantage…and supporting growth in South Africa and United States

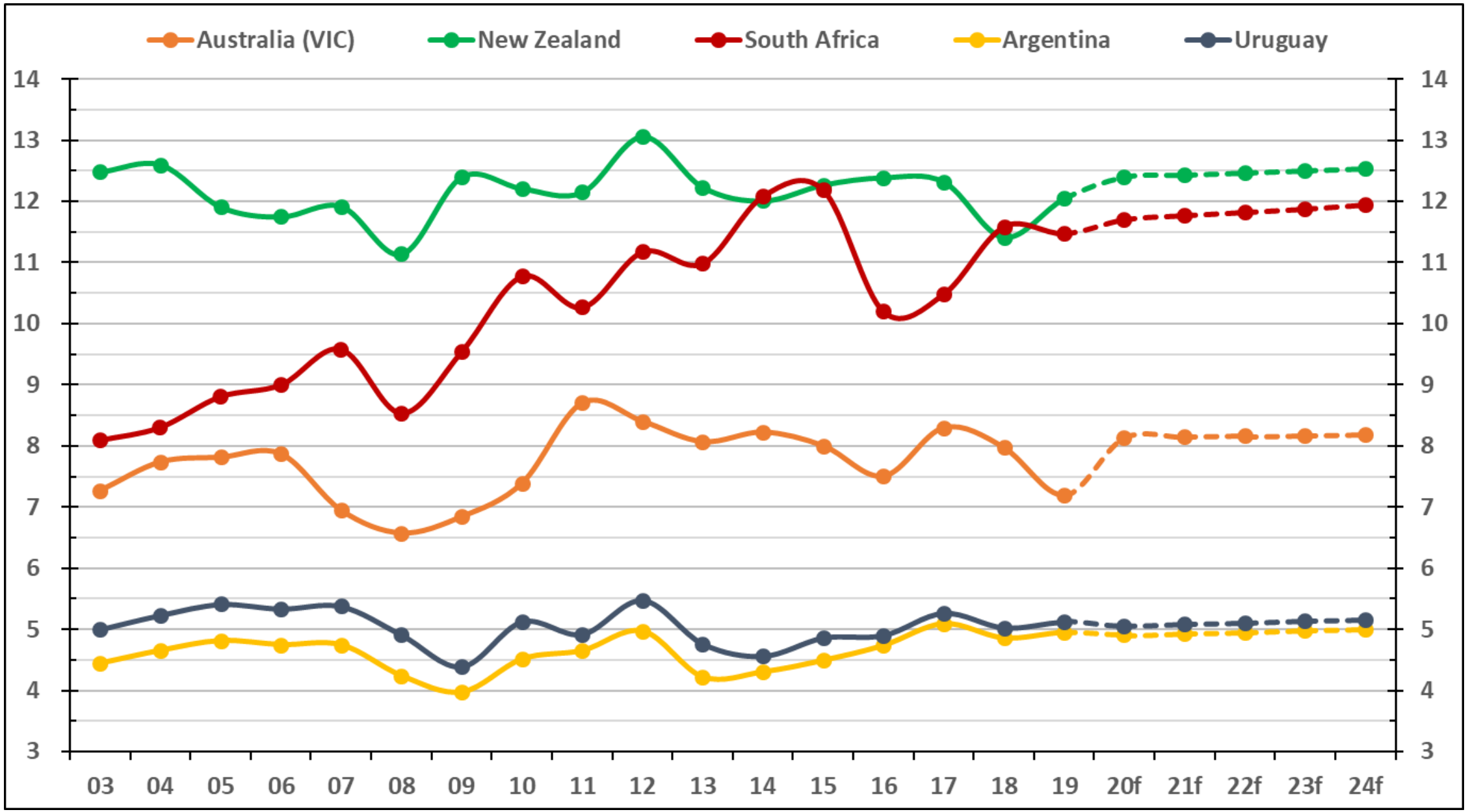
And what is creating the existing problems in Australia and Argentina…and the emerging problems in Uruguay

Firstly, what are the impacts on pasture production levels?

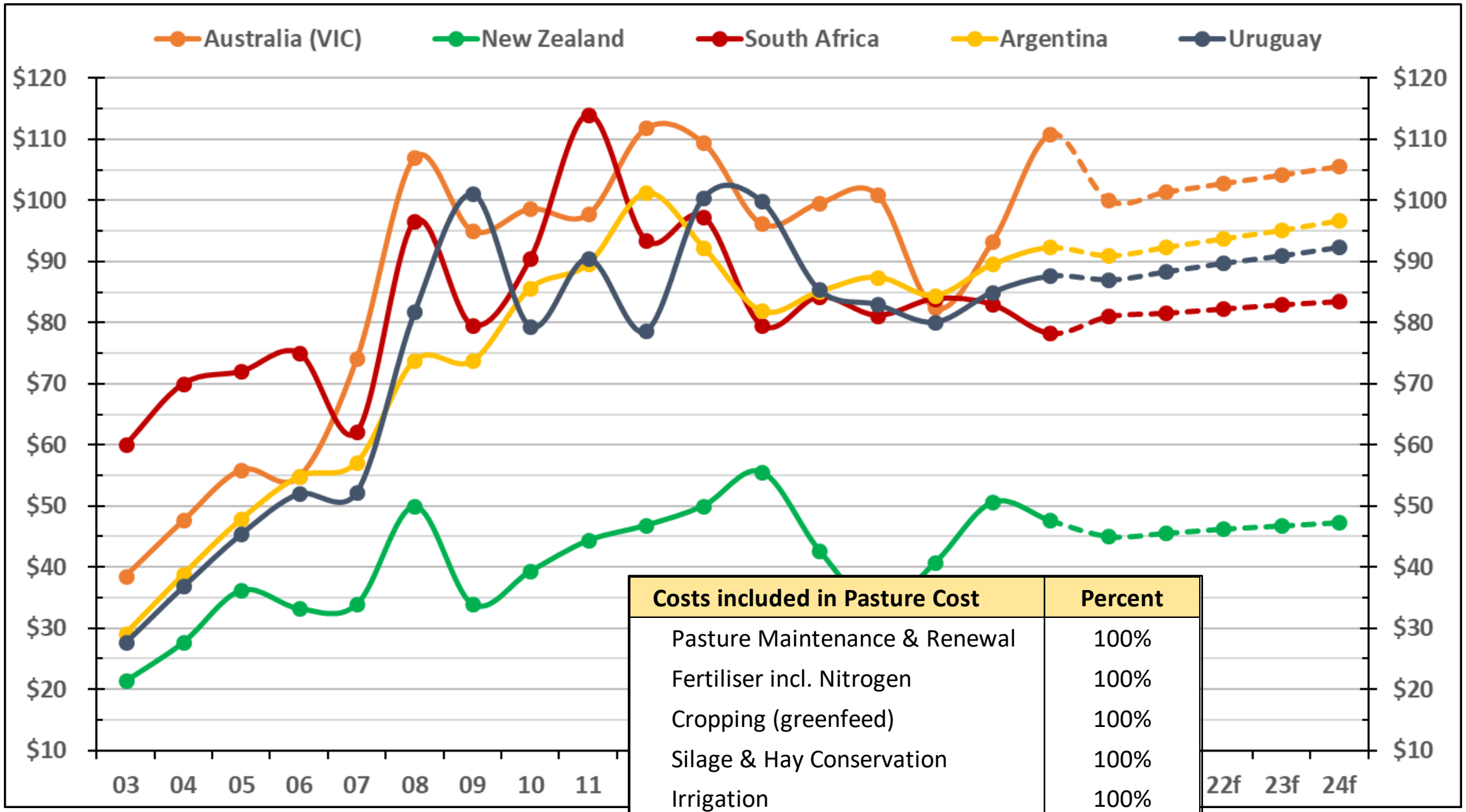
…and stocking rate?

…and pasture cost per ton dry matter?

Pasture harvest (ton dry matter per hectare per year)



Cost of pasture per ton dry matter (USD)



Costs included in Pasture Cost	Percent
Pasture Maintenance & Renewal	100%
Fertiliser incl. Nitrogen	100%
Cropping (greenfeed)	100%
Silage & Hay Conservation	100%
Irrigation	100%

What is the impact of farm production systems?

What has been happening to the farm production systems?

What are the impacts of changing production systems?

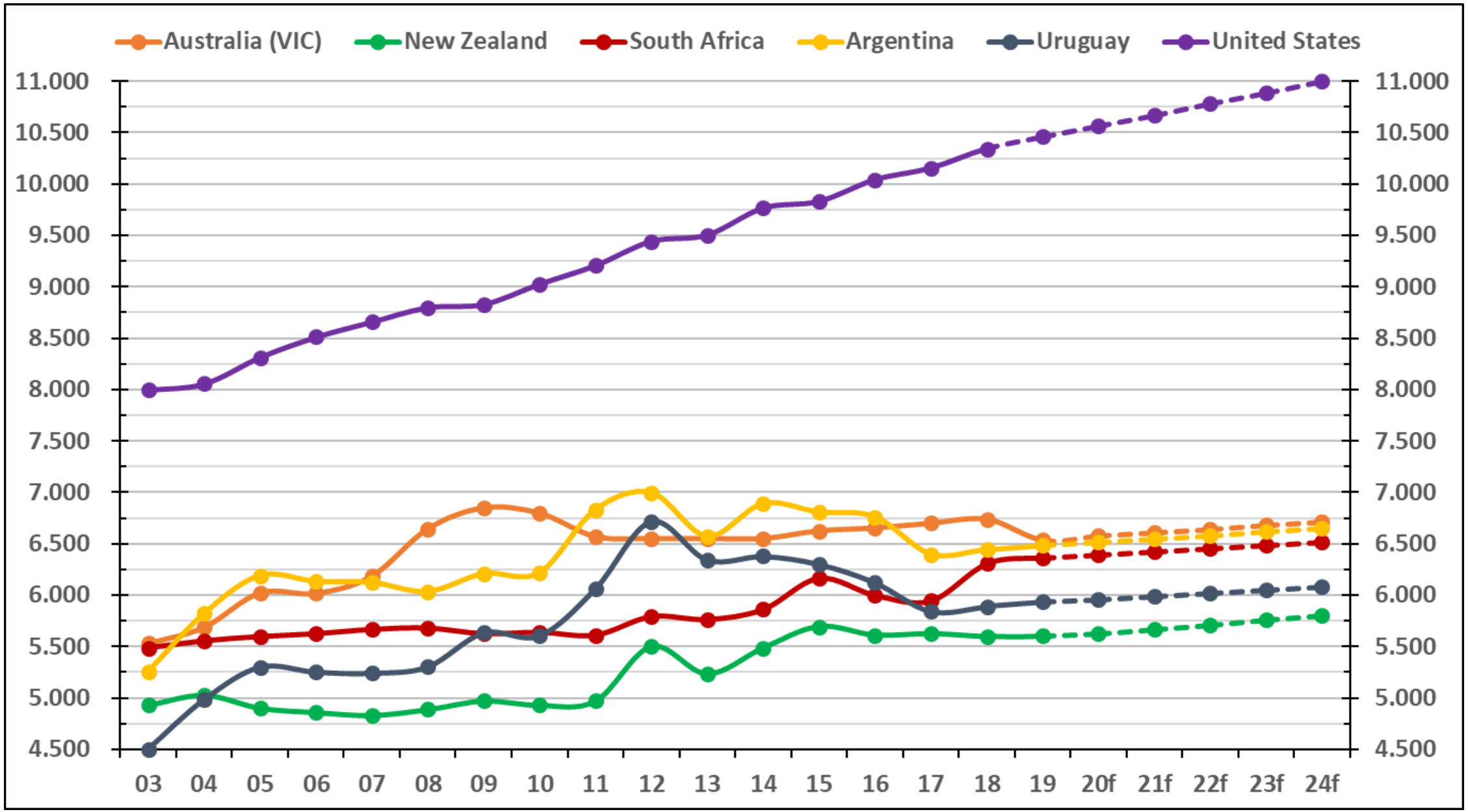
Firstly, what are the impacts on milk production per cow?

…and milk components (fat % & protein %)?

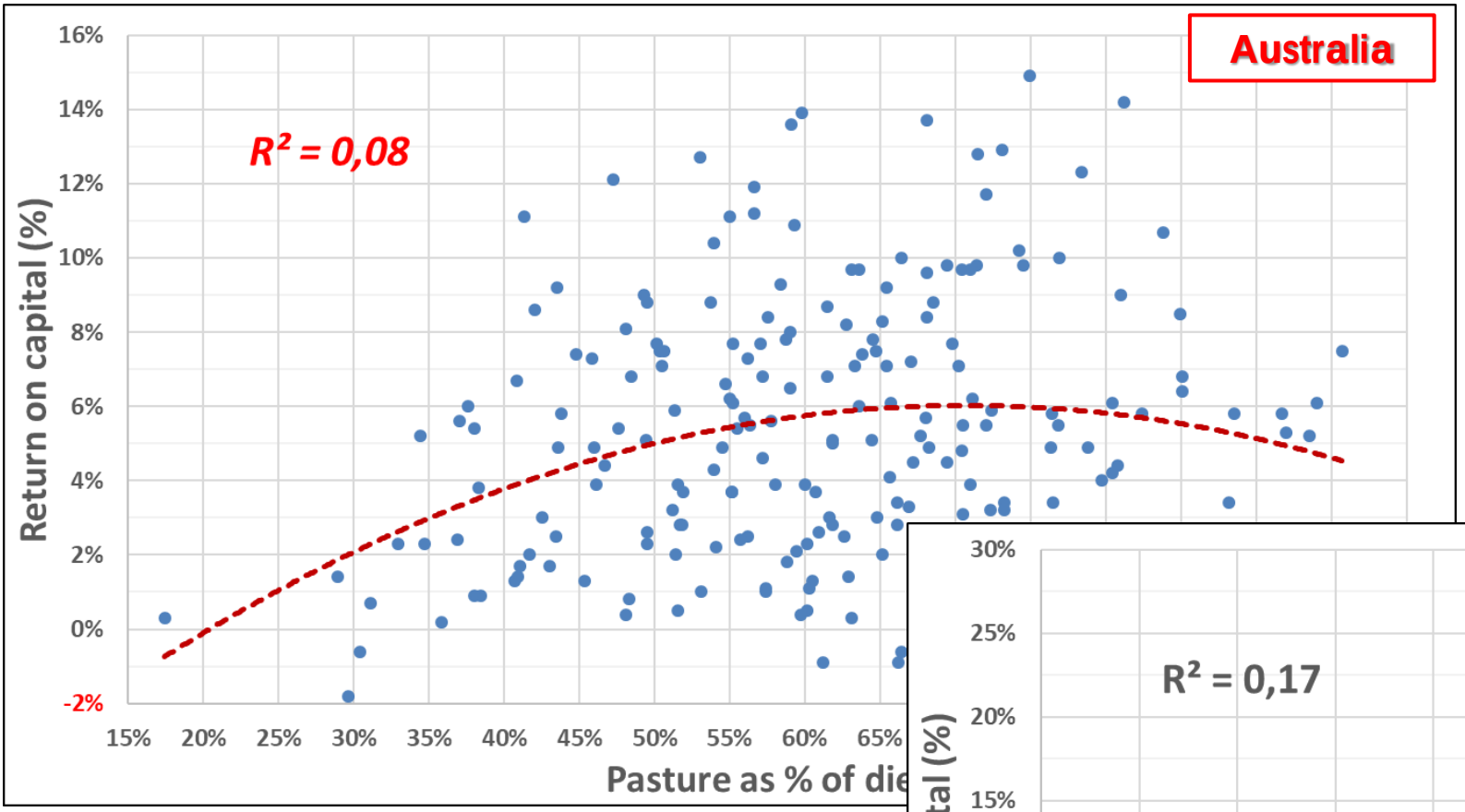
…and milk production per hectare?

…and pasture as % of diet?

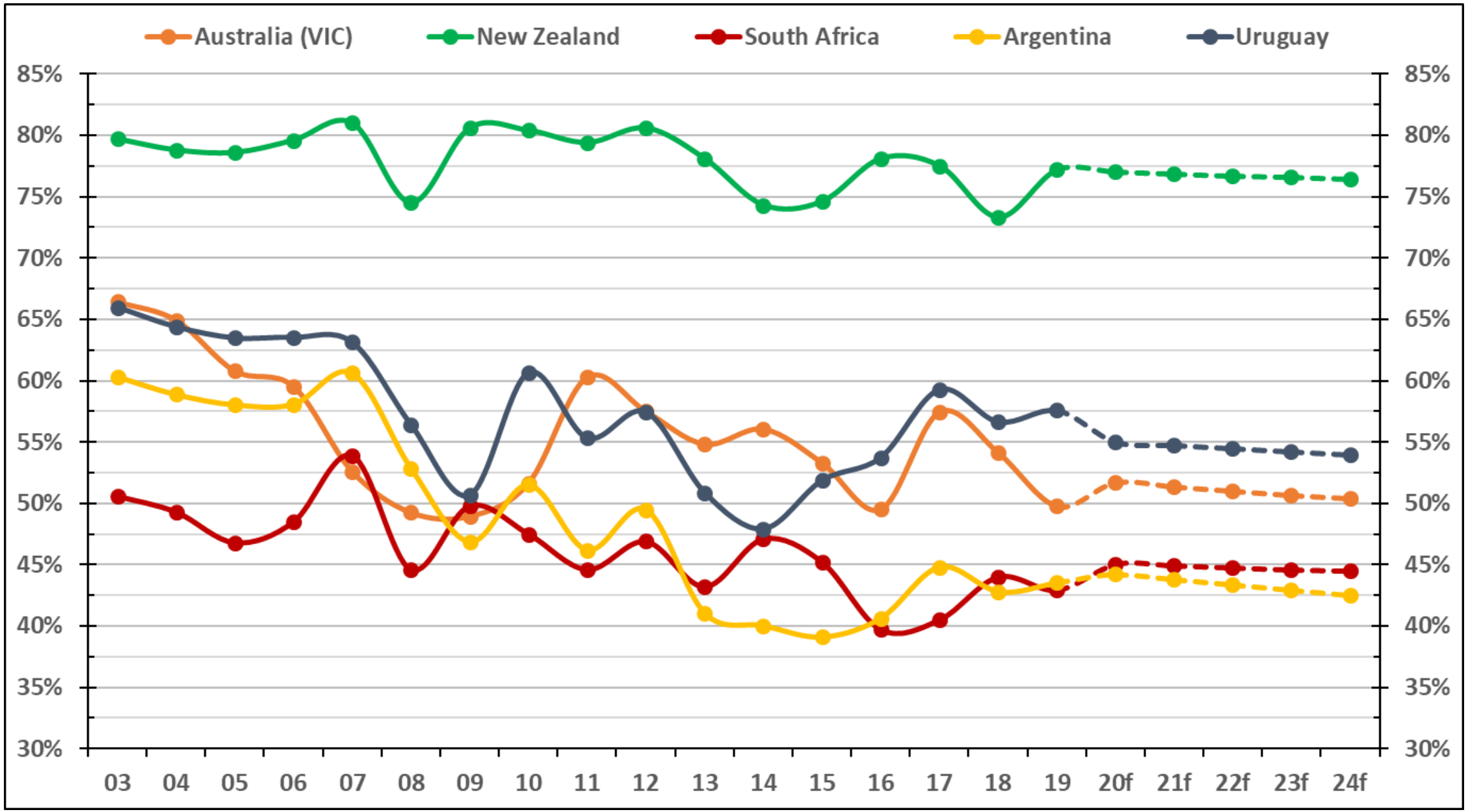
Milk production per cow (litres standardised to 7,2% milksolid)



Pasture as % of diet *impact on* profit



Pasture as % of diet



What are the financial impacts of these changes?

What has been happening to farm costs/expenses?

And what is creating these variations between countries?

Firstly, what are the impacts on cost of supplements per litre?

…and cost of total fed (supplements & pasture) per litre?

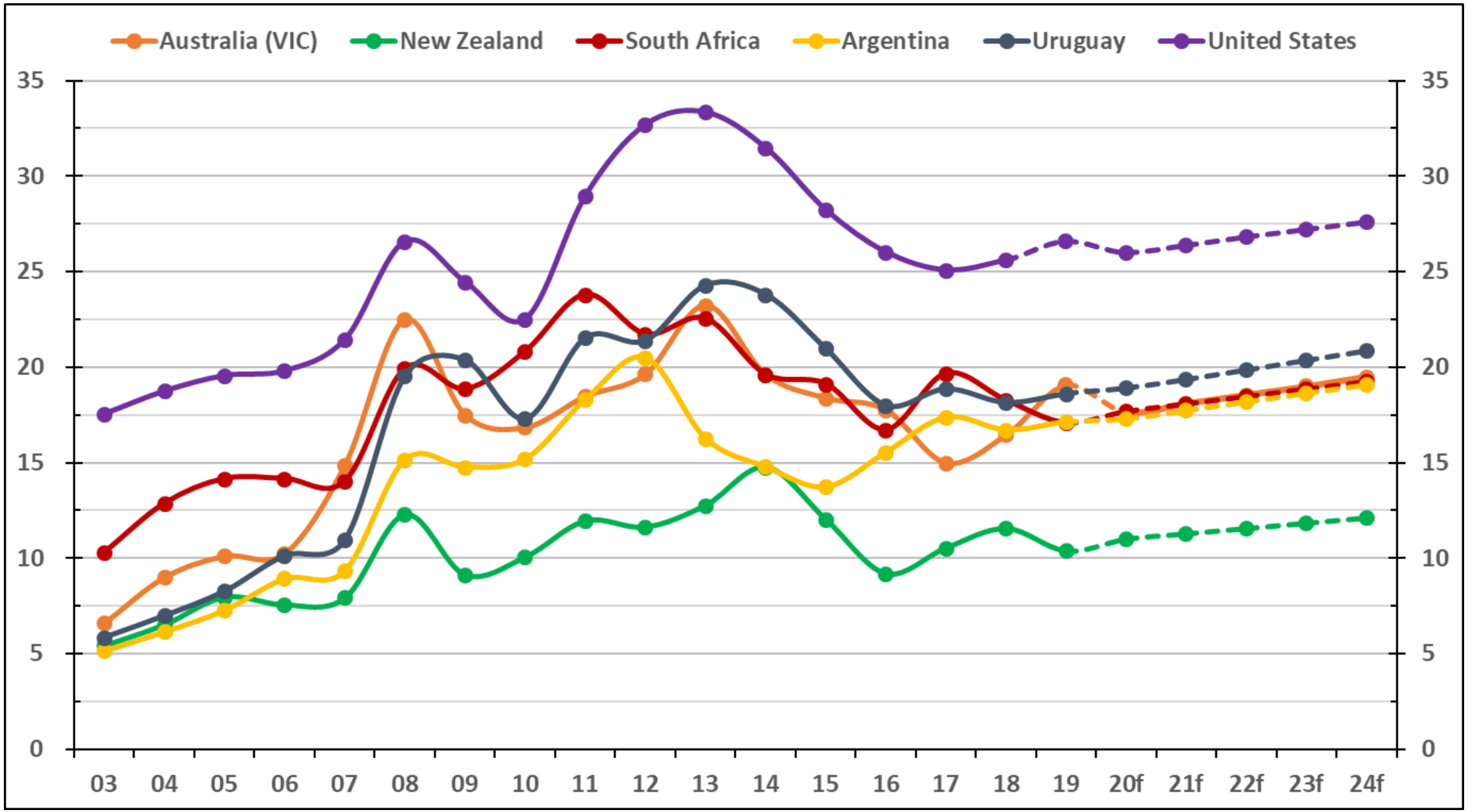
…and core per cow cost?

…and core per hectare cost per ton dry matter of pasture?

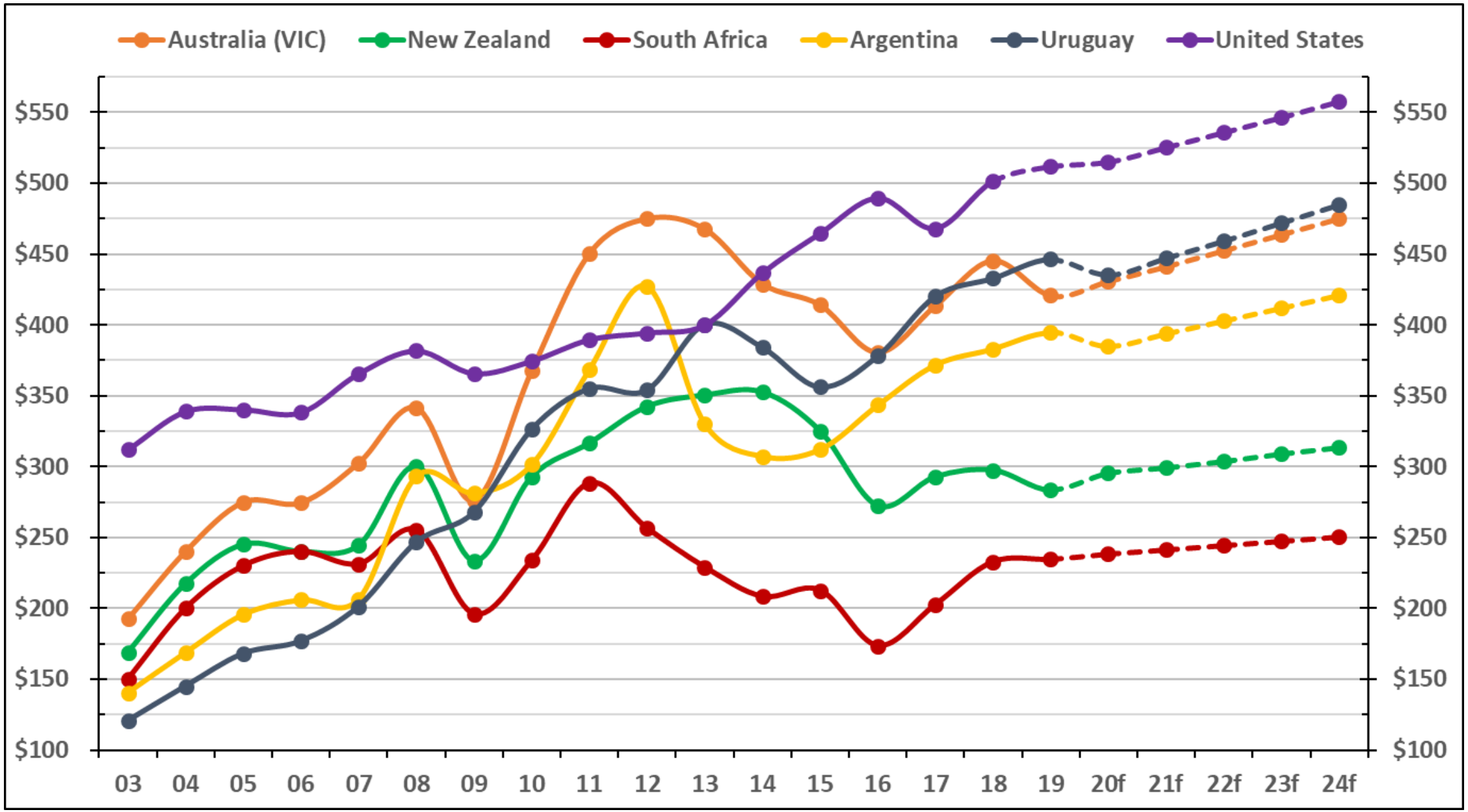
…and labour cost per cow?

…and total expenses per litre?

Cost of supplements per litre (USD c/litre at 7,2% MS)



Labour cost per cow (USD/cow)



What are the impacts on profitability?

What has been happening to farm profitability?

And what are the variations between countries?

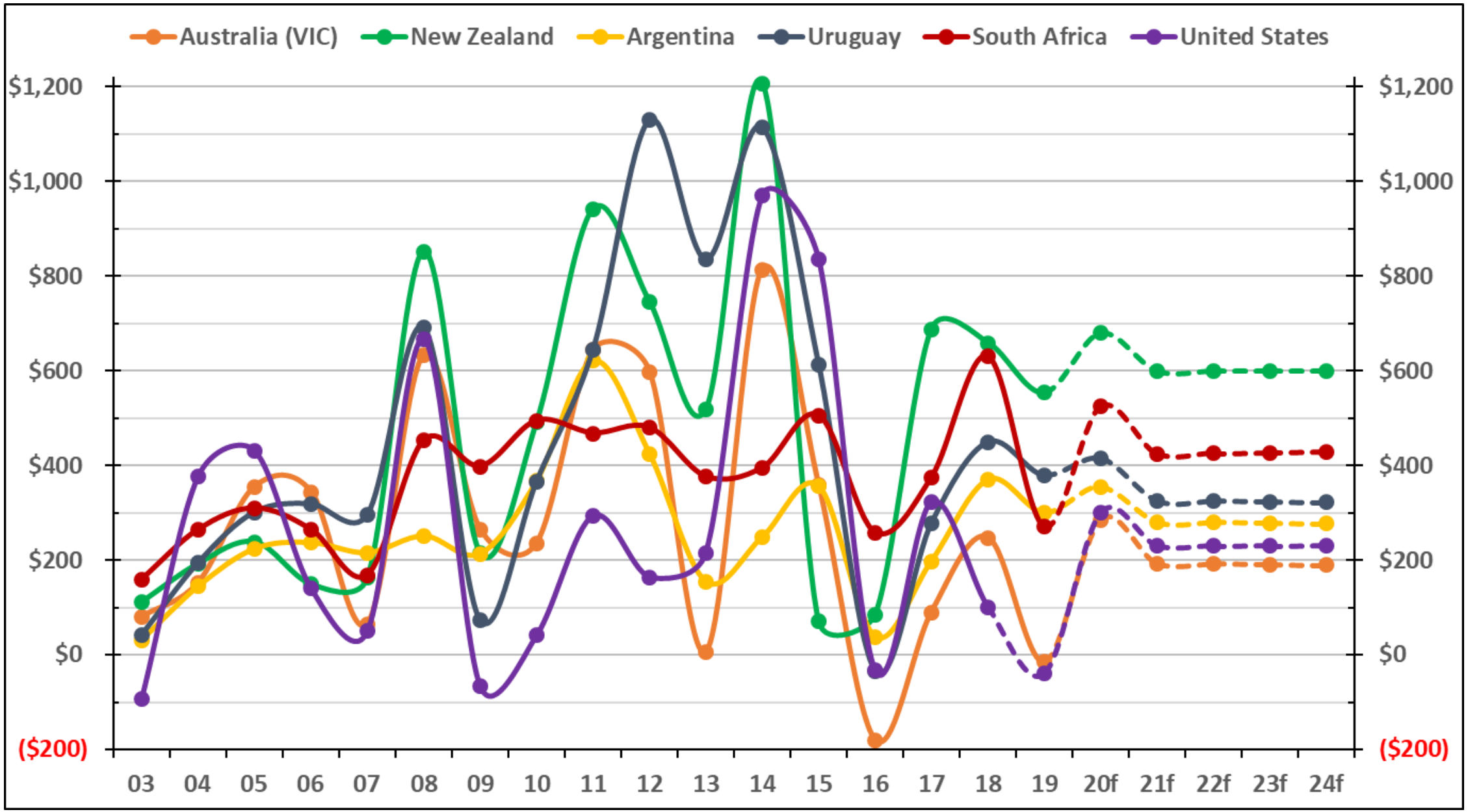
Firstly, what are the impacts of profit per cow?

…and profit per hectare?

…and operating profit margin?

…and return on capital?

Profit per cow (USD/cow)

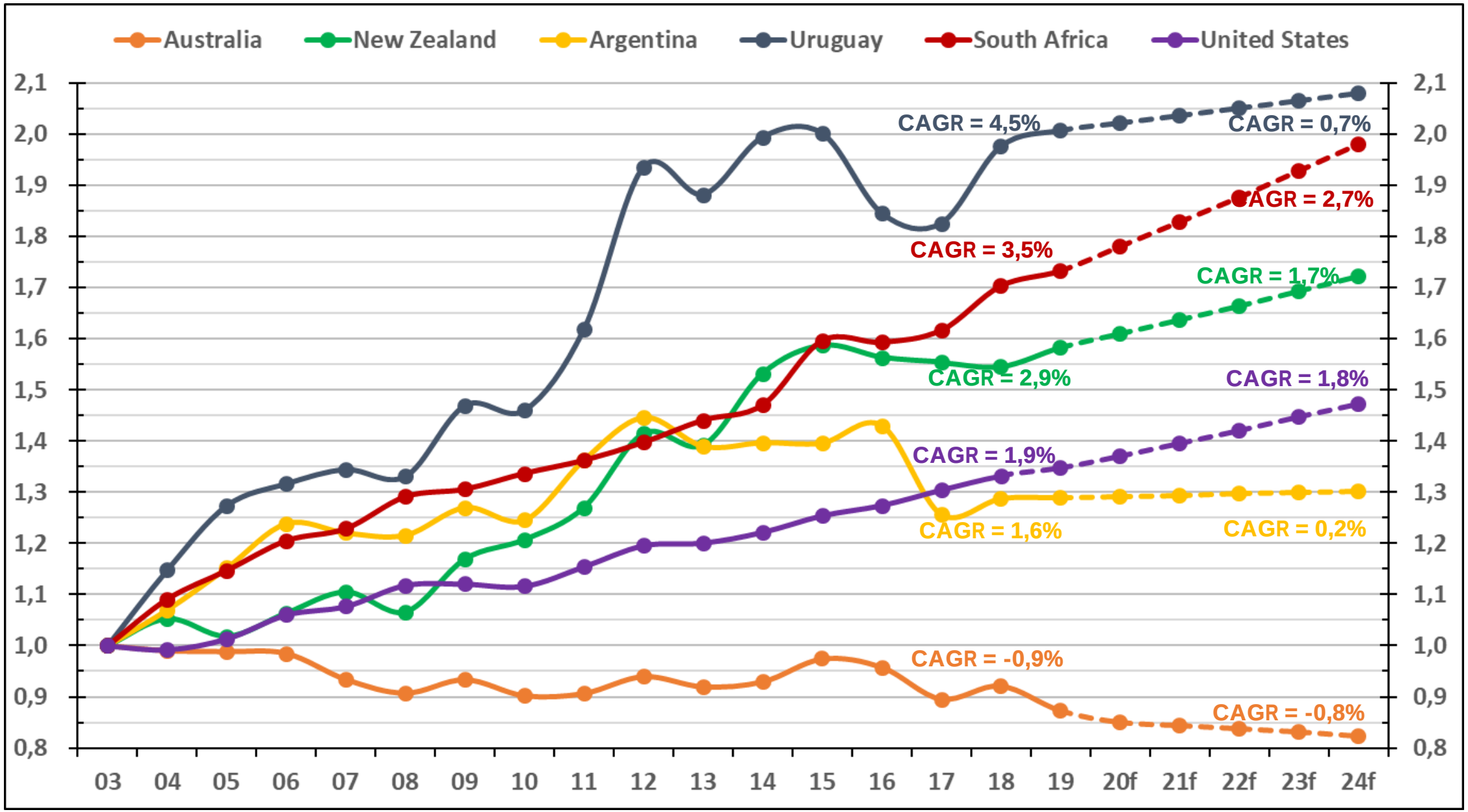


What does the future hold?

What is the likely result of all of these factors?

What is the probable outcome in regards to milk production growth?

Annual milksolids production (2002/03 Base = 1,00)

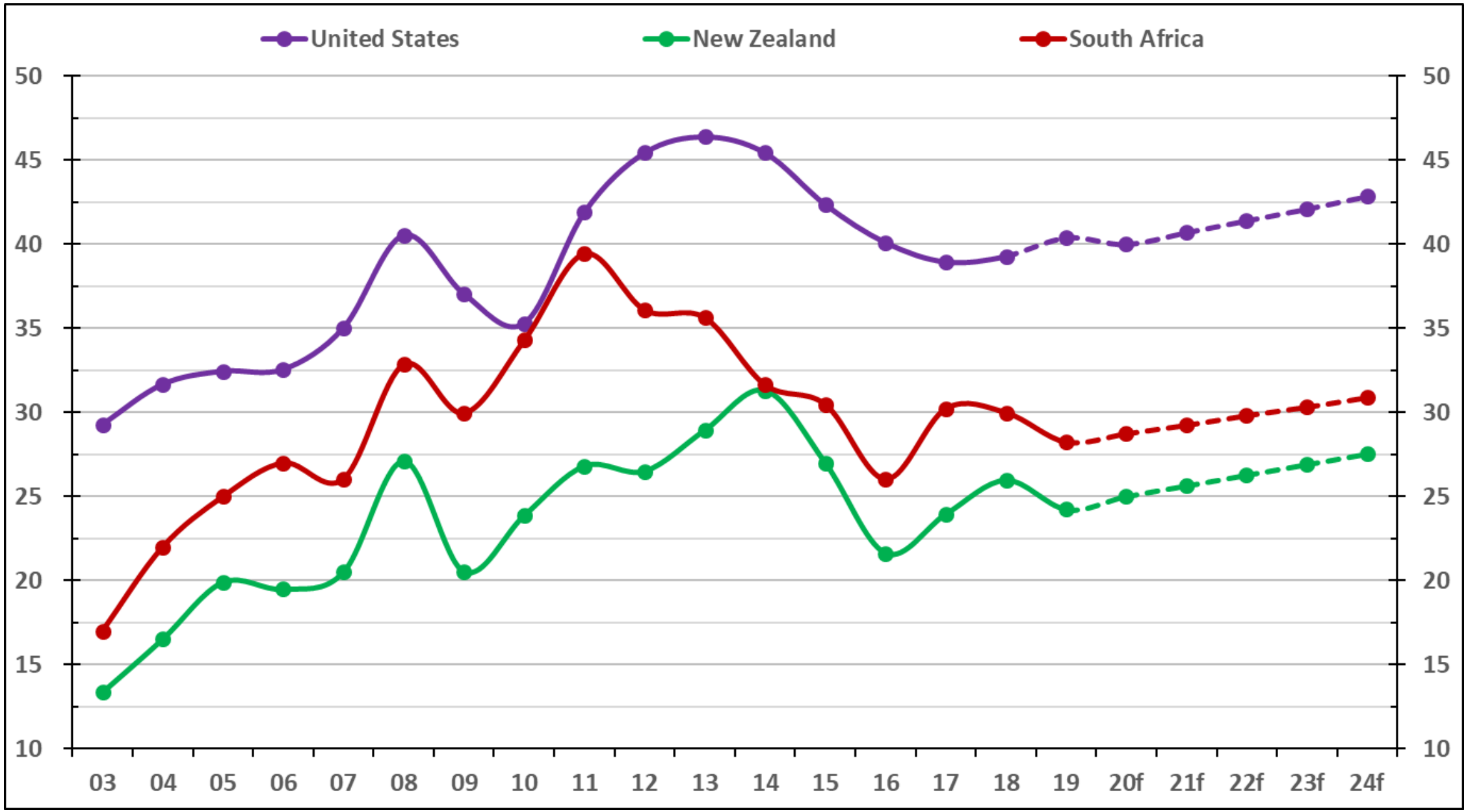


Where are South Africa's potential 'achilles heel'

1. Increases in pasture harvest and related improvements in productivity now largely in the past

So where to from here…? Learn from the US or NZ…?

Total expenses per litre – US or NZ…?



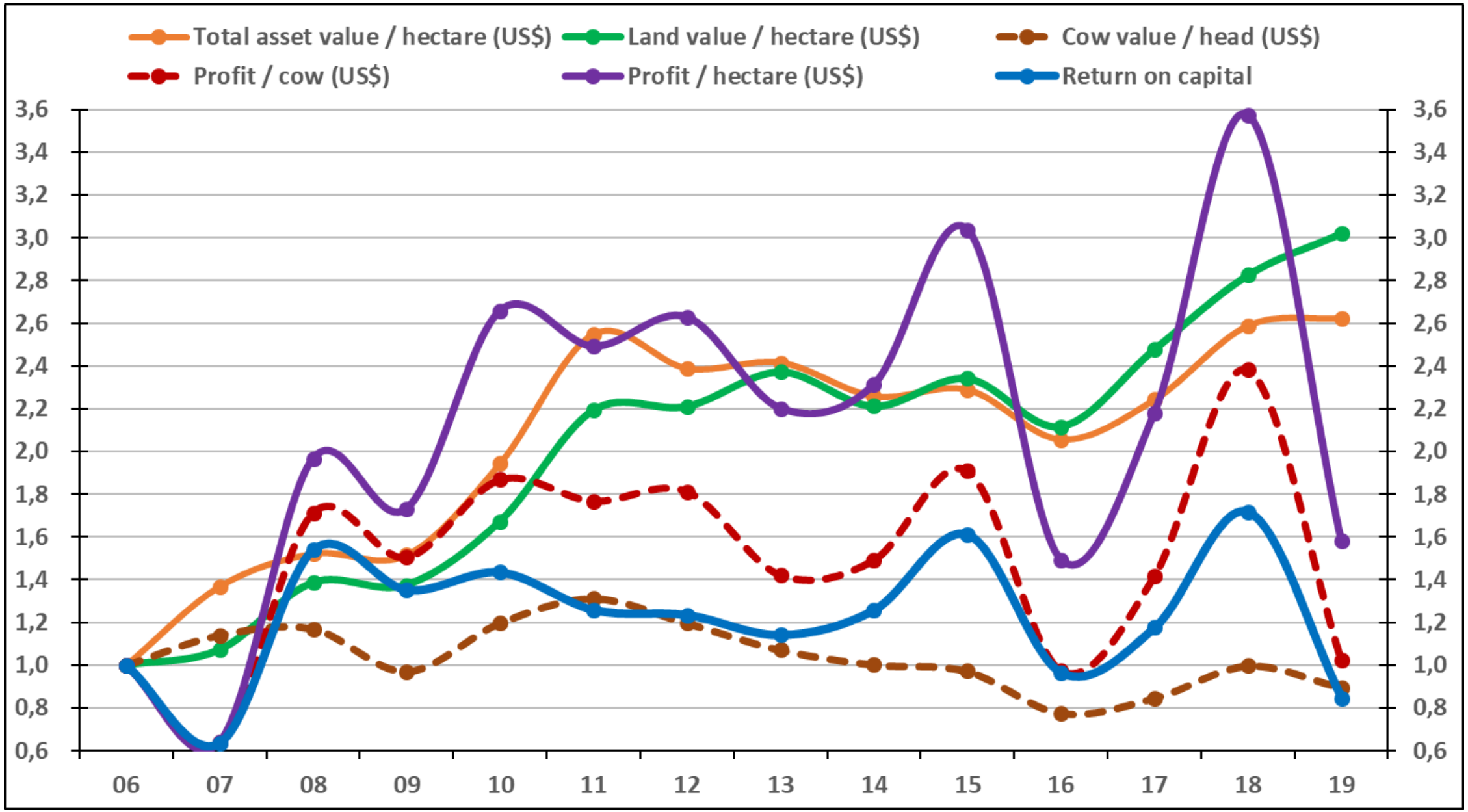
Where are South Africa's potential 'achilles heel'

1. Increases in pasture harvest and related improvements in productivity now largely in the past

So where to from here…? Learn from the US or NZ…?

2. Adopting US-type production systems will result in unsustainably high cost of production as these systems are only profitable with large milk price premiums and very low supplement costs per ton
3. Most obvious opportunity for reducing cost of production now related to lower supplement cost per litre…from higher percent of pasture in the diet → so a production system change
4. New Zealand demonstrated how to retain a low cost of production, a high profit margin, and high levels of profitability…without significant improvements in pasture harvest or productivity

South Africa dairy farm asset values & profitability (2006 Base=1,00)



Summary

1. Evolution in international farm production systems are causing major changes to the competitiveness of different countries
2. Individual countries choices in production system will determine the internal comparative advantage and growth rate of their dairy industry
3. Australia, Argentina and Uruguay have developed production systems that have reduced internal comparative advantage and reduced international competitiveness
4. New Zealand (export focused), South Africa (domestic focused) and United States (mixed focus) have developed production systems that presently provide comparative advantage
5. Will South Africa address its production system and potential cost of production ‘weakness’ so that profitability is retained?