# Webinar #2

## What is the single dominant factor that has driven improvements in profit in South Africa over the last 20 years compared to other countries…and what is South Africa's 'Achilles Heel' limiting profit in the future?

**What more needs to be done to confidently establish the industry's international competitiveness and provide a potential platform to becoming an exporting country?**

**David Beca**

**11 & 12 November 2020**

**Eastern Cape & KwaZulu-Natal**

Standard Bank

BARENBRUG

# Presentation outline

- Confirm basis for countries being reviewed and compared
- What are the trends in production and profitability?
- What are South Africa's strengths and weaknesses?
- What is the dominant factor that drove growth for the last 20 years?
- What is the major weakness…the "Achilles Heel" of the industry?
- What strategies would be required to develop an export industry?

# Country comparisons

**Countries include: South Africa, New Zealand, Australia, Argentina, Uruguay and United States…and Ireland? (Laurence Shalloo & Mark Neal)**

**Published paper:**

Beca, D. (2020), 'Evaluating the Loss of Profitability and Declining Milk Production in the Australian Dairy Industry', *Australasian Agribusiness Perspectives* 23, Paper 9, pp. 136-164.

https://blog.une.edu.au/australasian-agribusiness-perspectives/2020/07/09/evaluating-the-loss-of-profitability-and-declining-milk-production-in-the-australian-dairy-industry/

**Unpublished addendum with additional data and commentary**

Beca, D. (2020 unpublished), 'Addendum to Evaluating the Loss of Profitability and Declining Milk Production in the Australian Dairy Industry'.

http://redskyagri.com/page/redsky_51.html

# Data sources

| COUNTRY | National Statistics | Farm Performance Analysis |
|---|---|---|
| South Africa | MPO | Intelact, Red Sky |
| New Zealand | DairyNZ | DairyBase, Red Sky |
| Australia | Dairy Australia | Dairy Farm Monitor Project, Red Sky |
| Argentina | MAGYP | AACREA |
| Uruguay | INALE | FUCREA |
| United States | USDA | Genske Mulder |
| Ireland | CSO | Teagasc |

# Categorisation of countries for milk market focus, climate and level of government support or subsidies

| MILK MARKET | | |
|---|---|---|
| Primary export focus | Combined export and domestic focus | Primary domestic focus |
| New Zealand, Uruguay | Australia, Argentina, United States, Ireland | South Africa |

| CLIMATE | |
|---|---|
| "Cool" temperate | "Moderate-Hot" temperate (some areas subtropical) |
| New Zealand, Ireland | Australia, Argentina, Uruguay, South Africa, United States |

| GOVERNMENT SUPPORT / SUBSIDIES | |
|---|---|
| Some / Significant | Very little to none |
| Argentina, United States, Ireland | Australia, New Zealand, Uruguay, South Africa |

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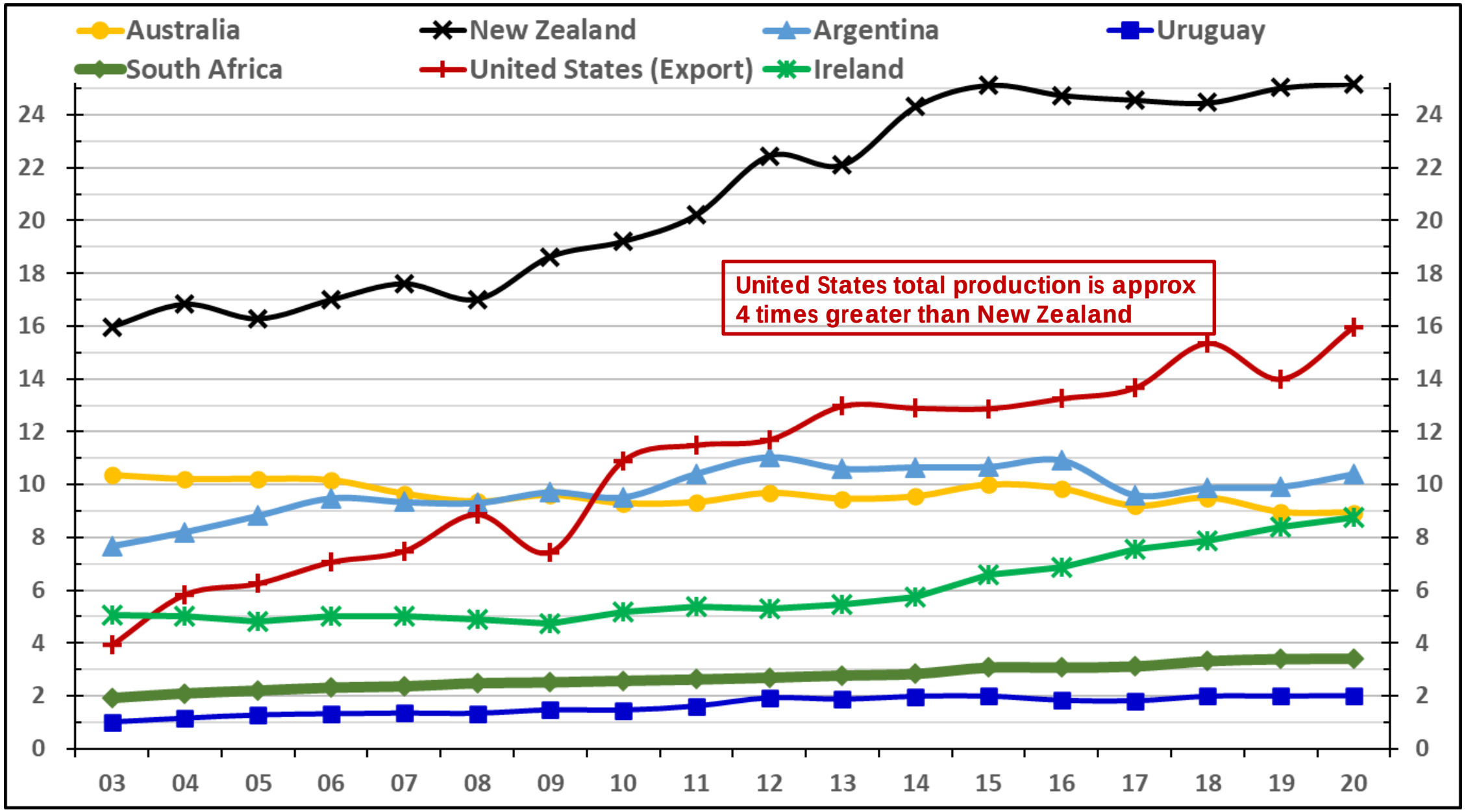
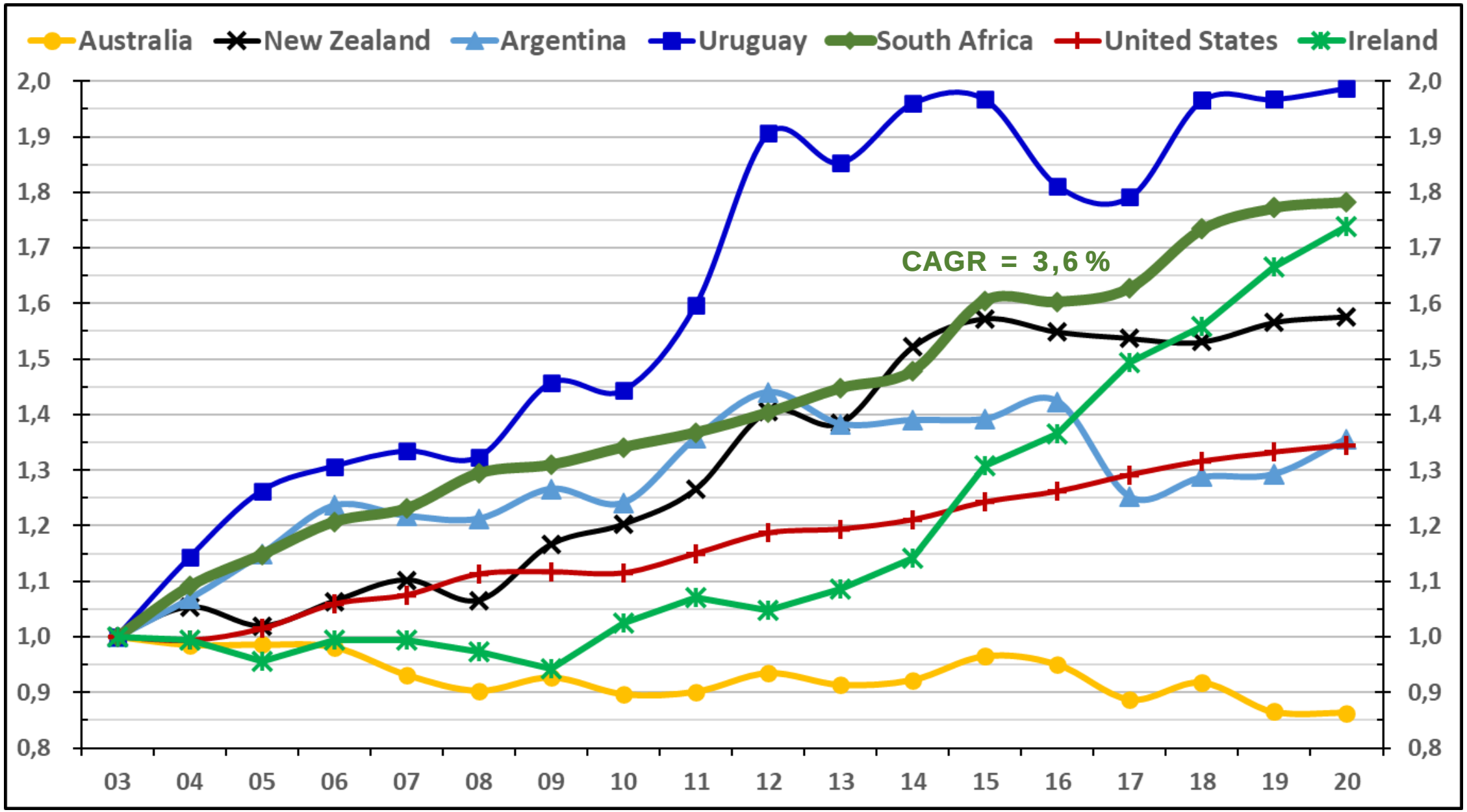
# Total annual milk production (billion litres ECM)



# Annual milk production growth (2002/03 Base = 1,0 ECM)



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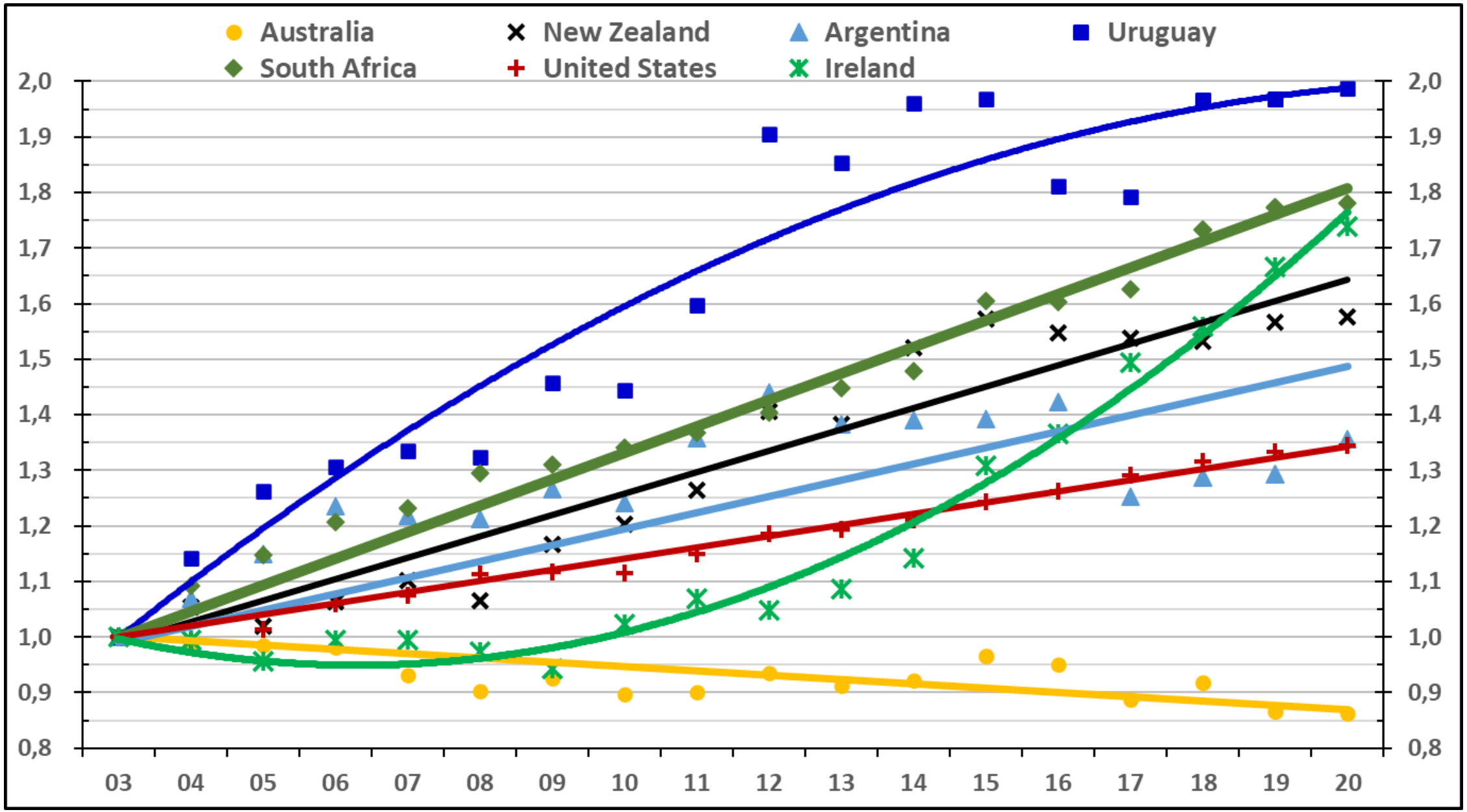
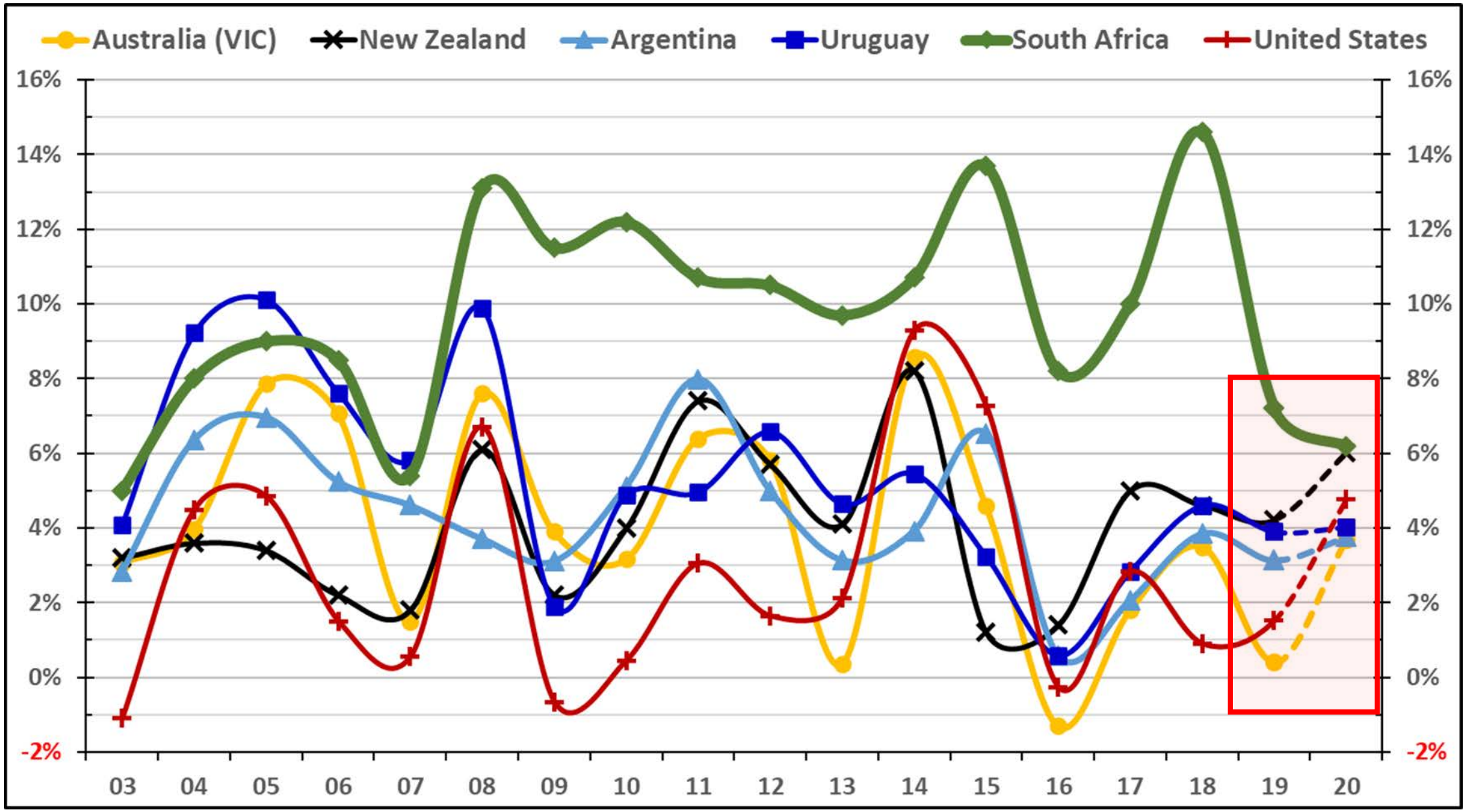


# Return on capital (%)



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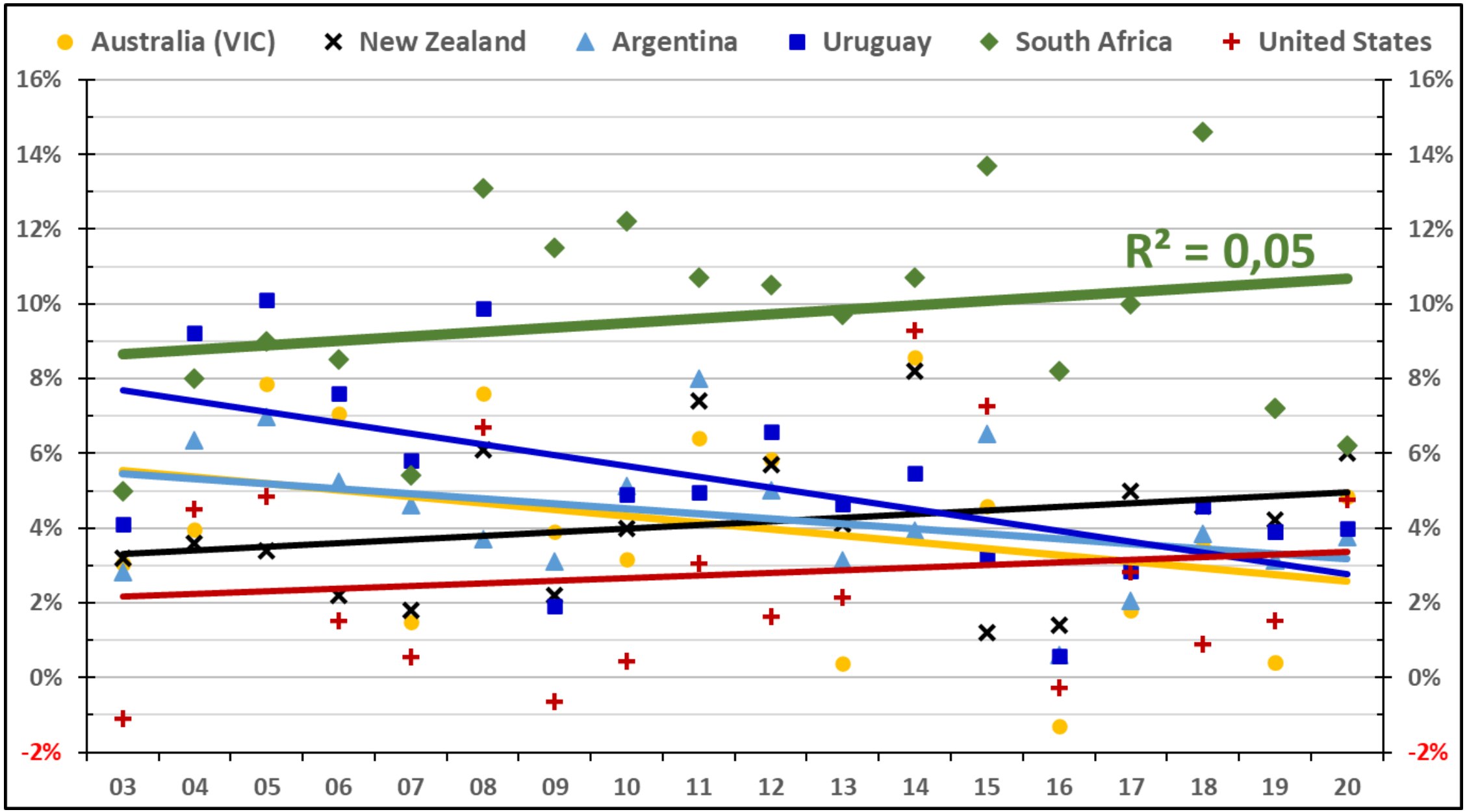

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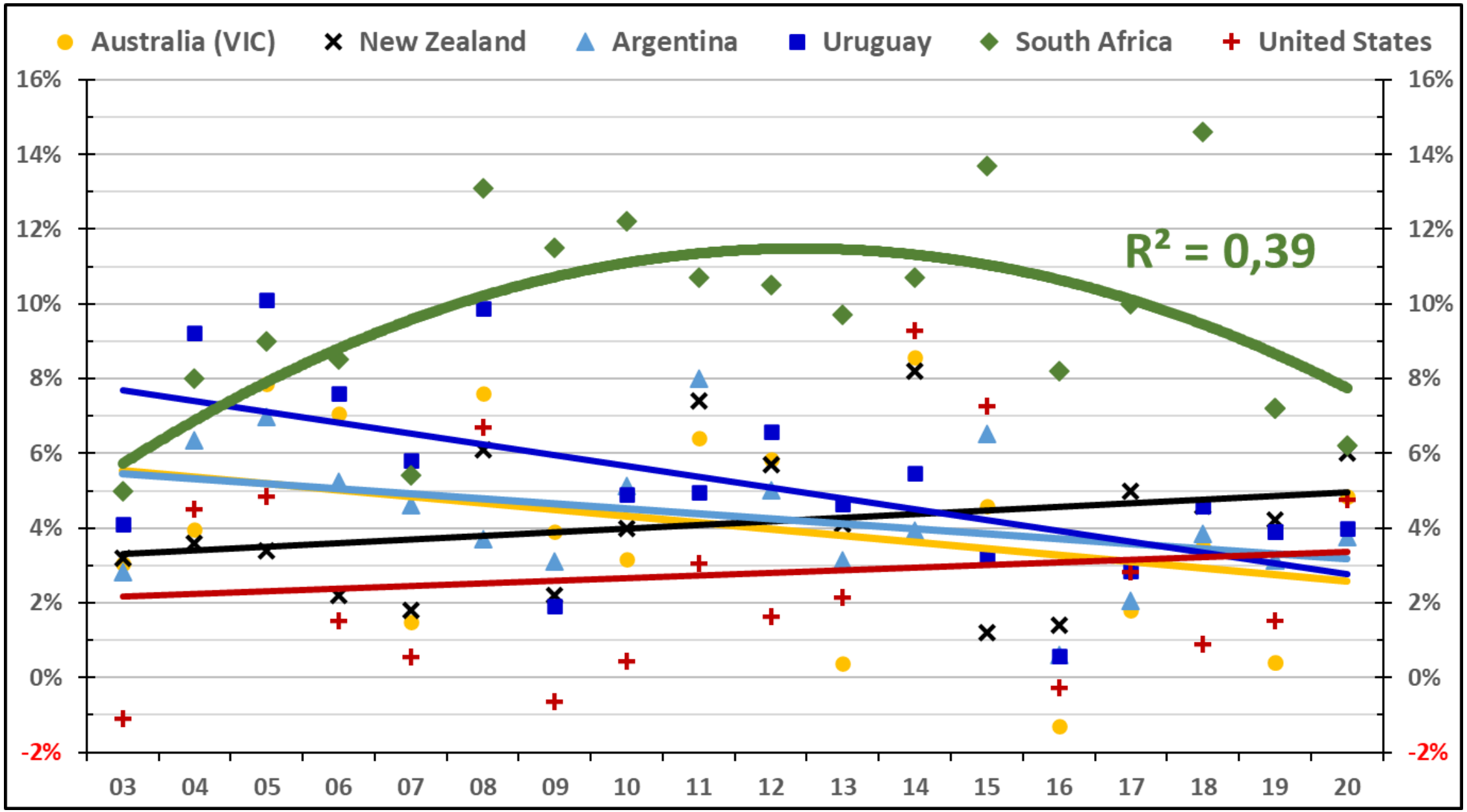
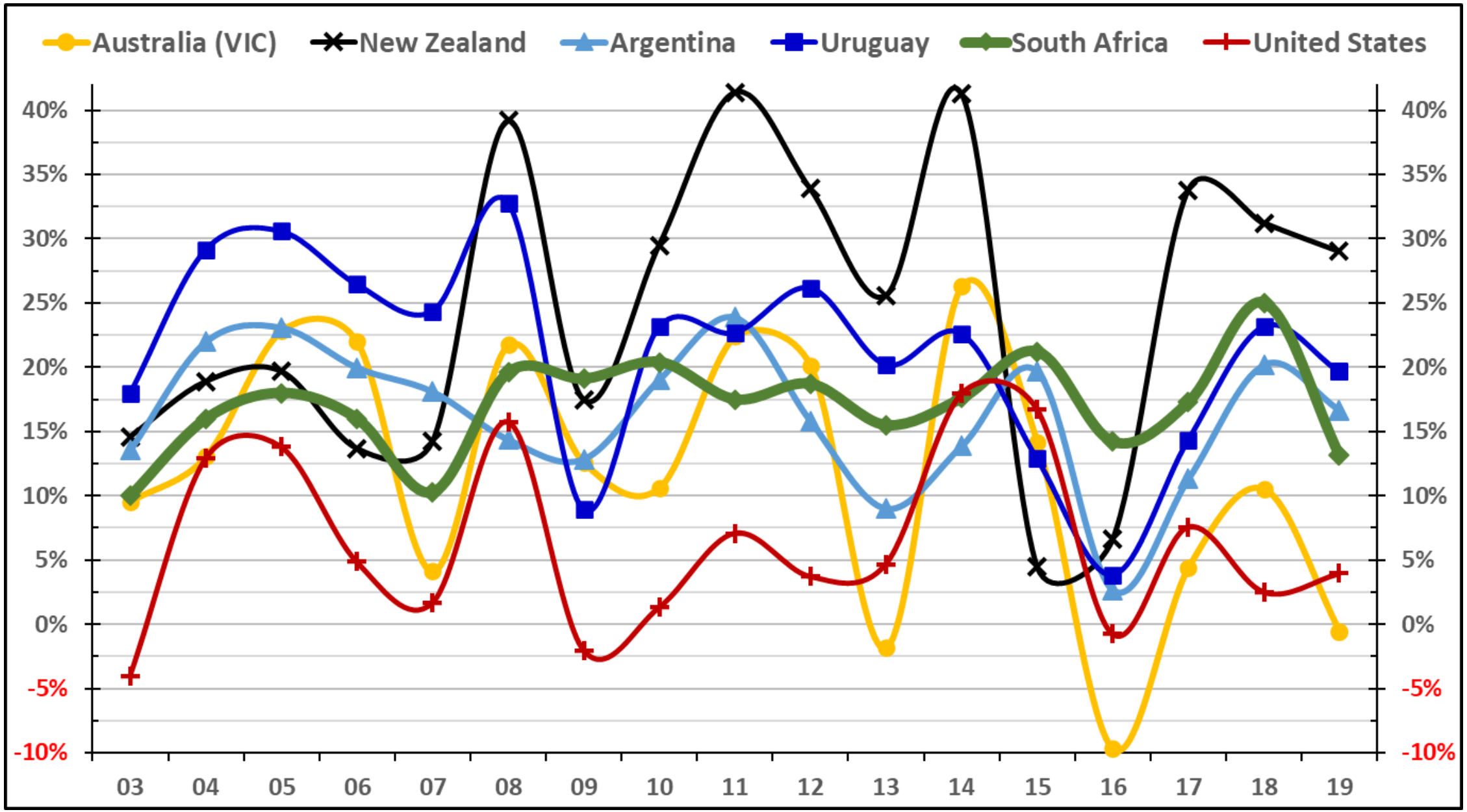


# Operating profit margin (%)



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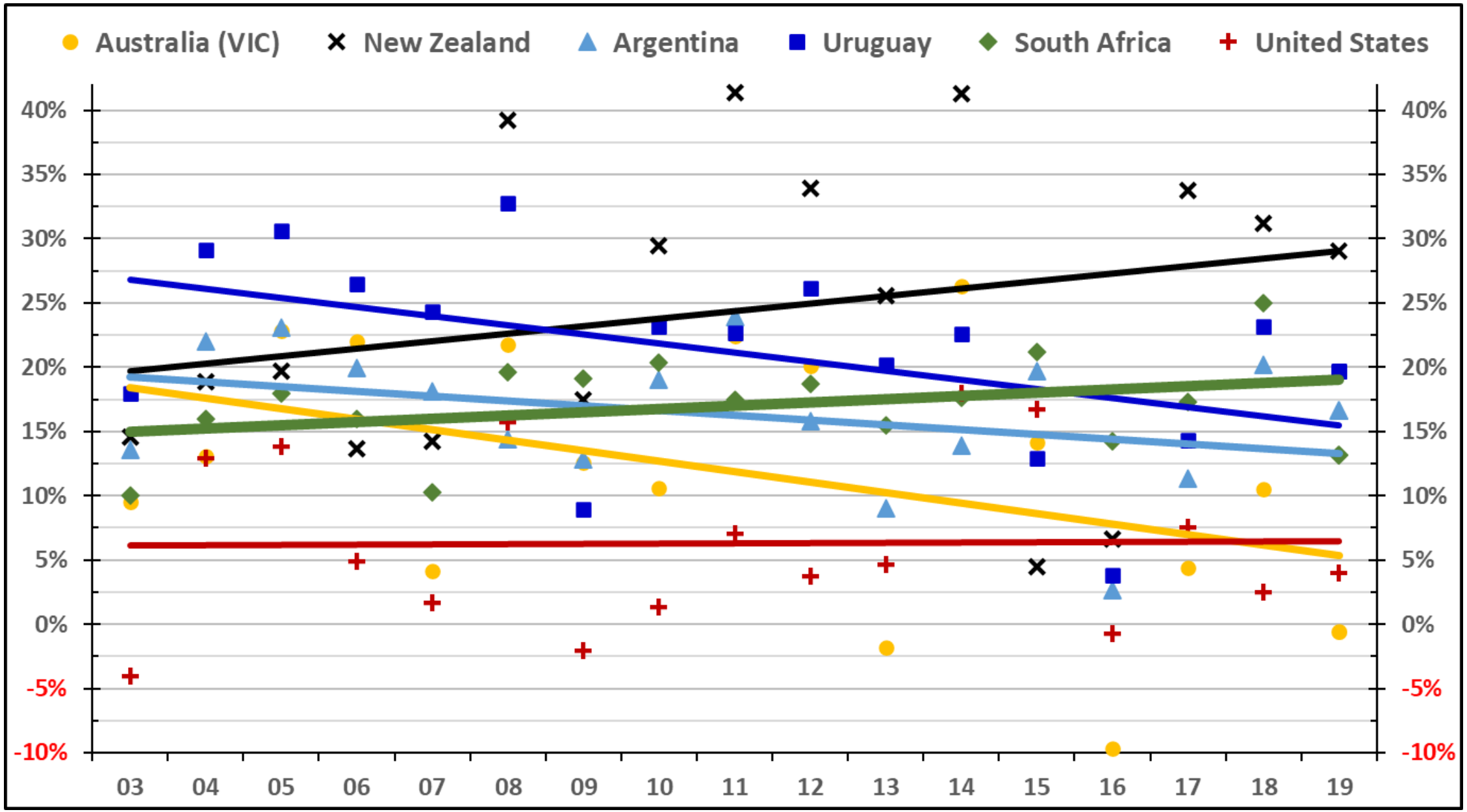
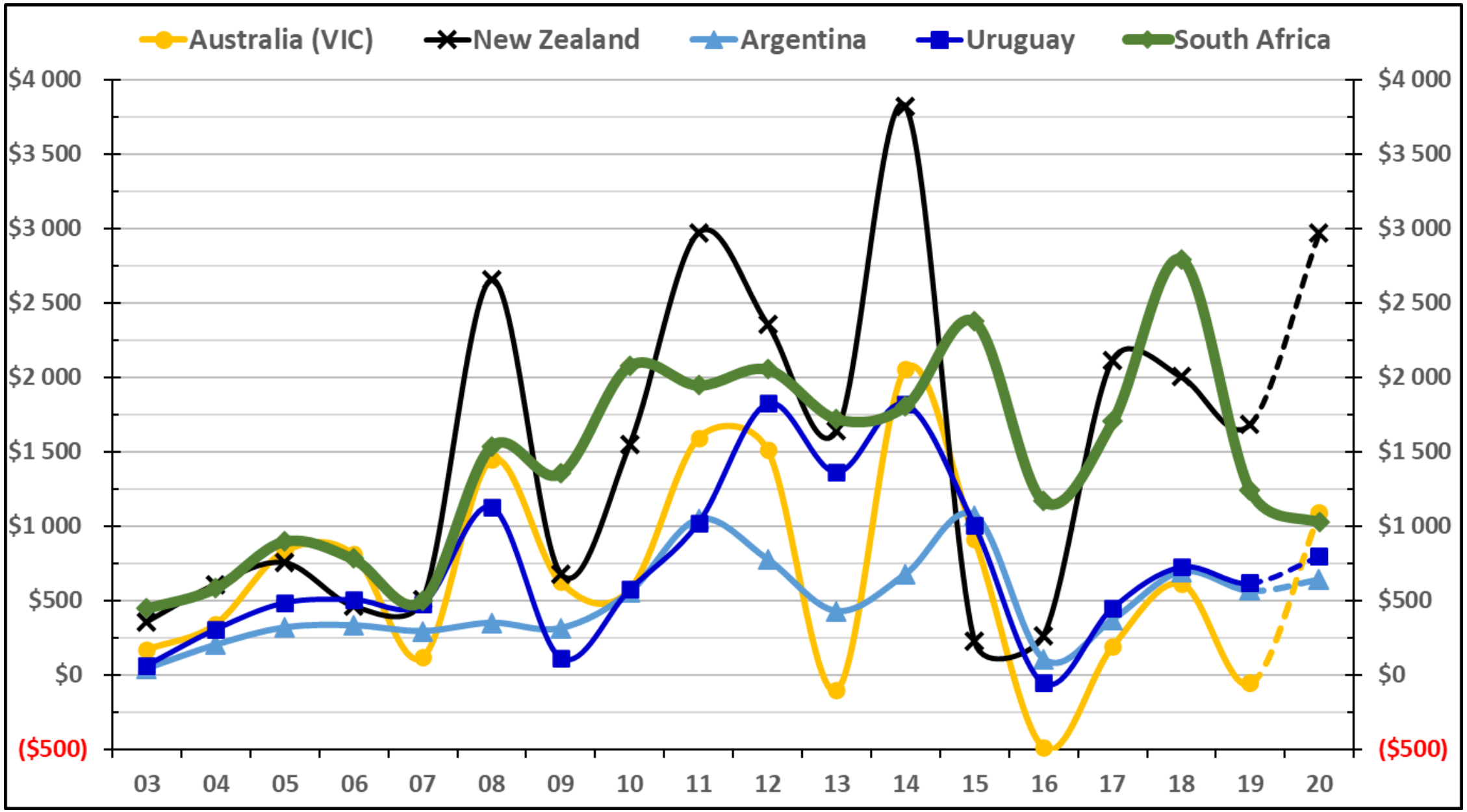


# Profit per hectare (USD/hectare)



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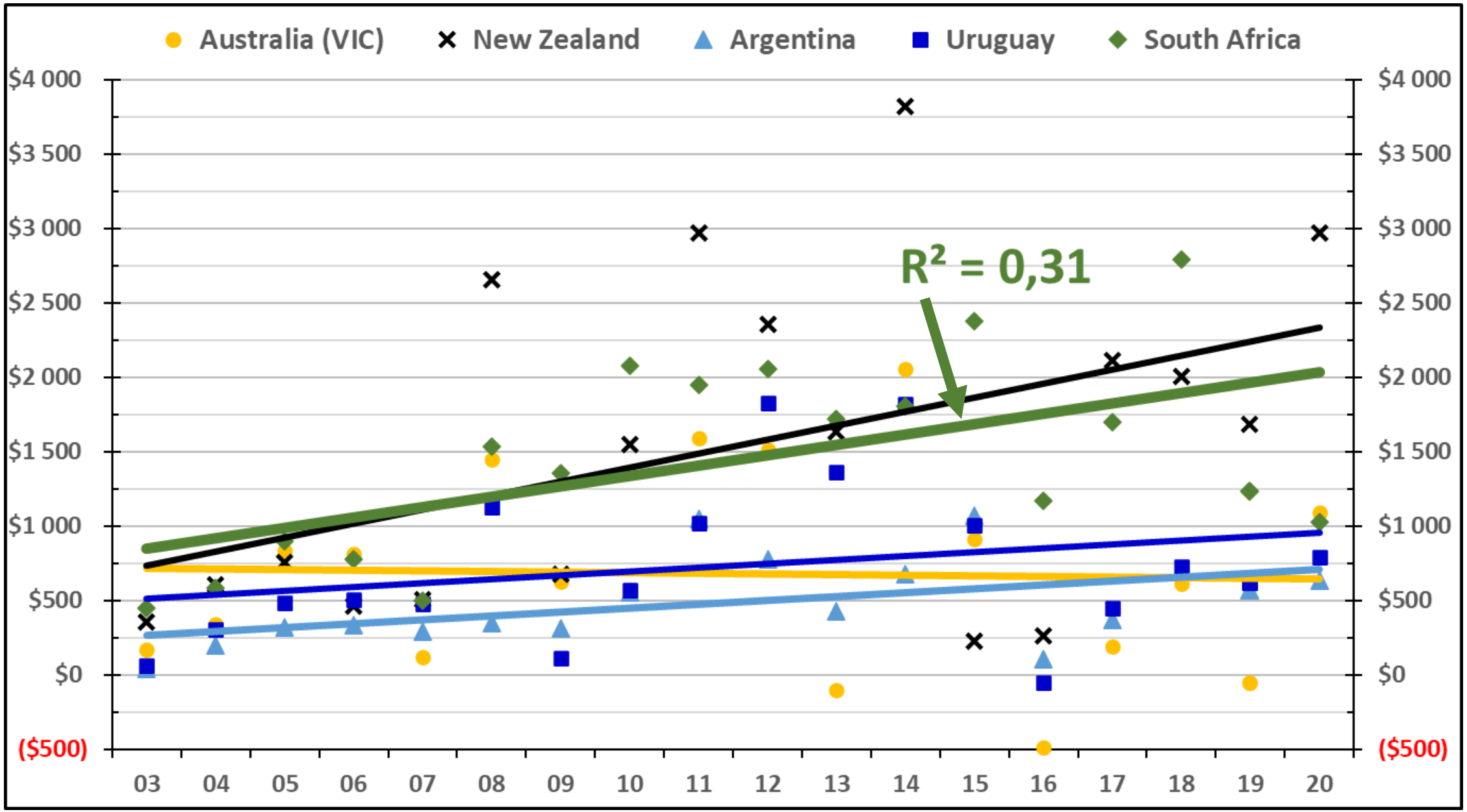

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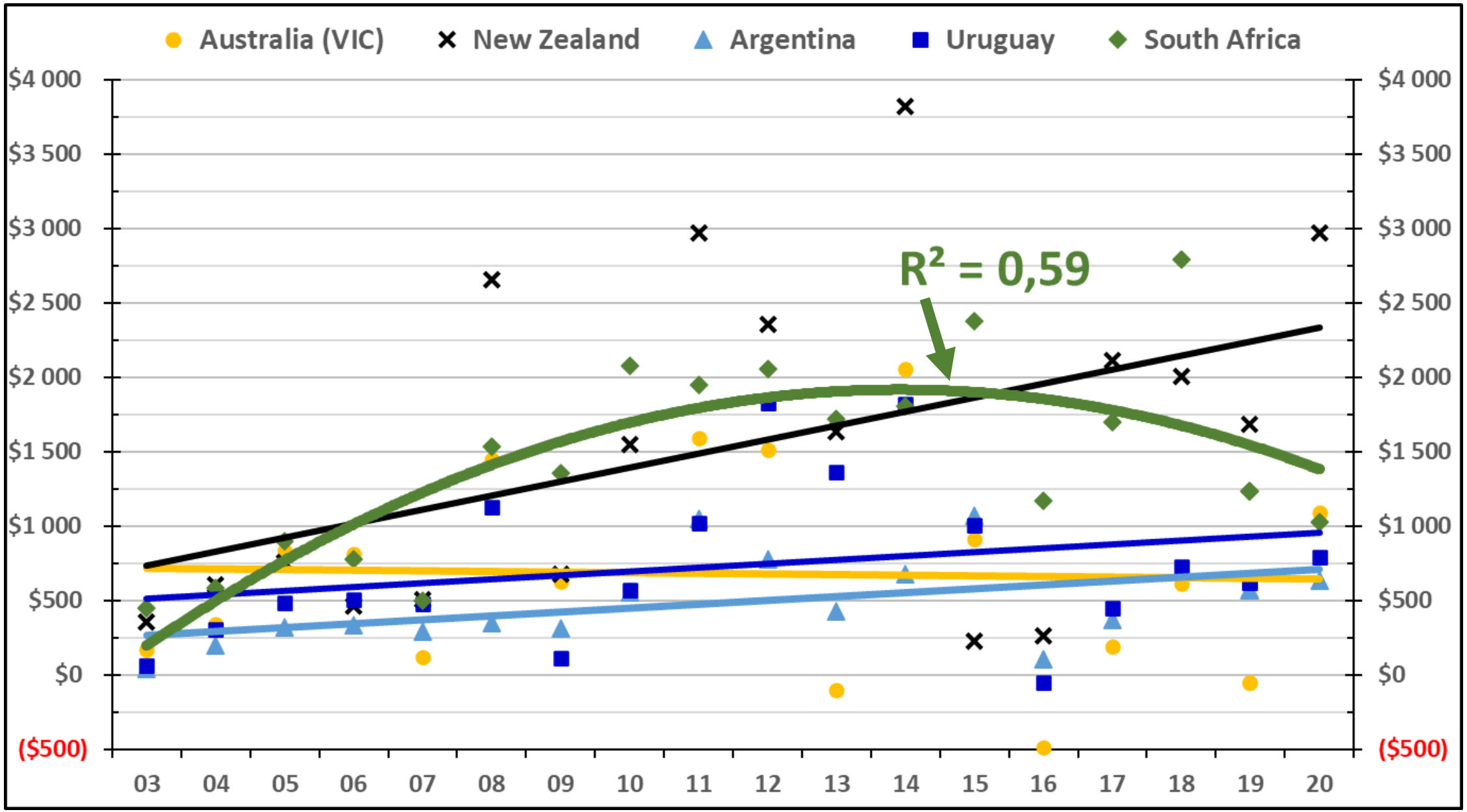
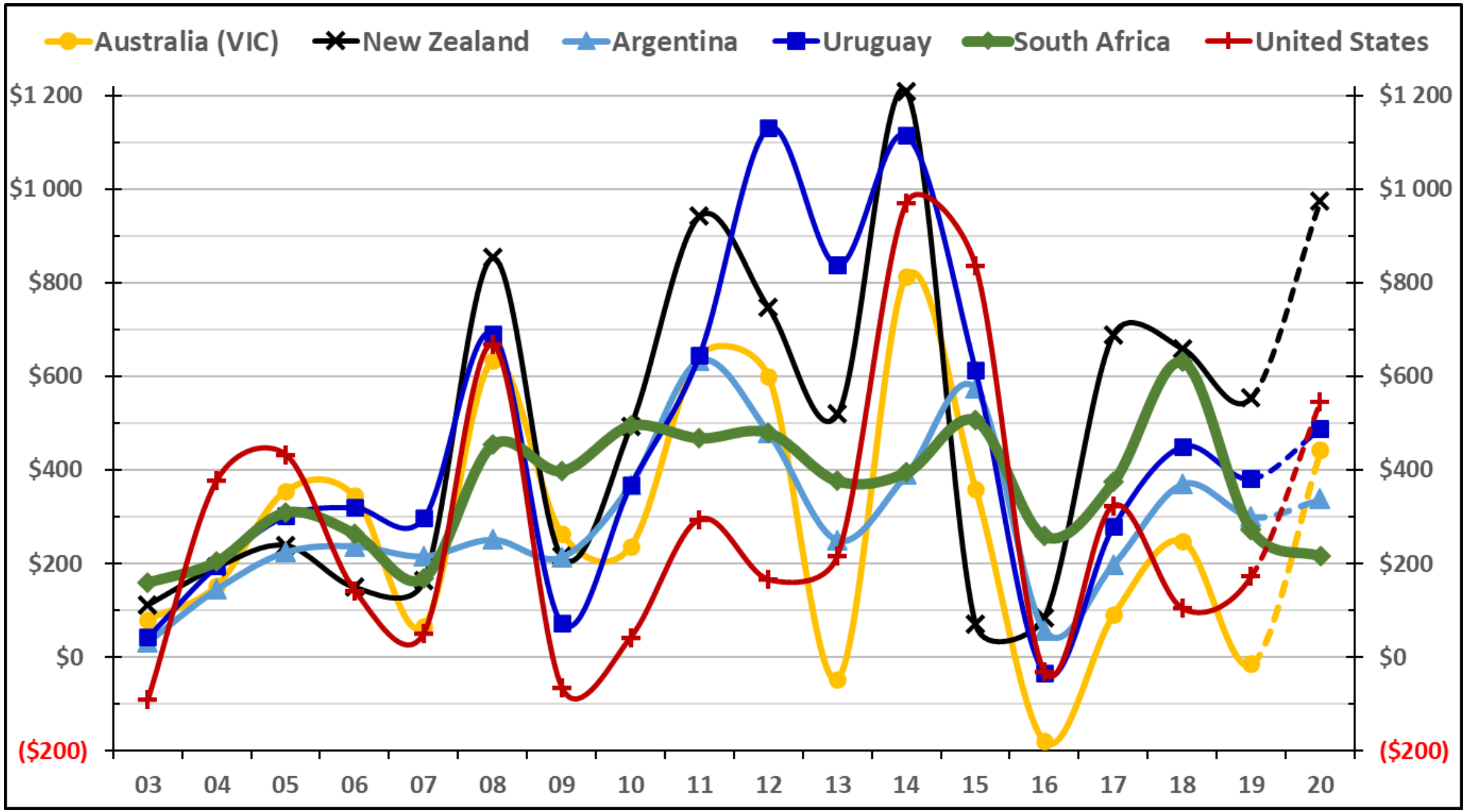


# Profit per cow (USD/cow)



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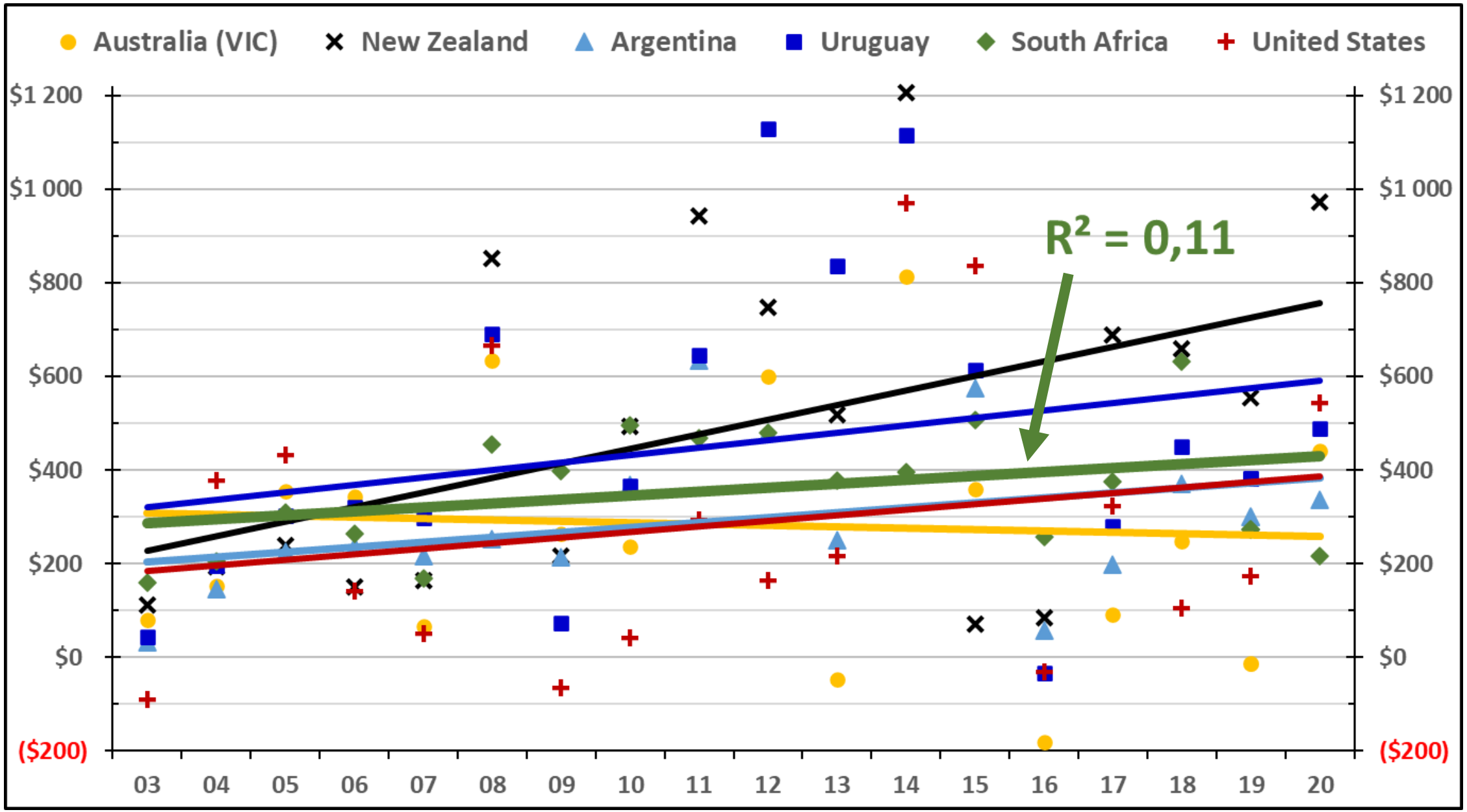

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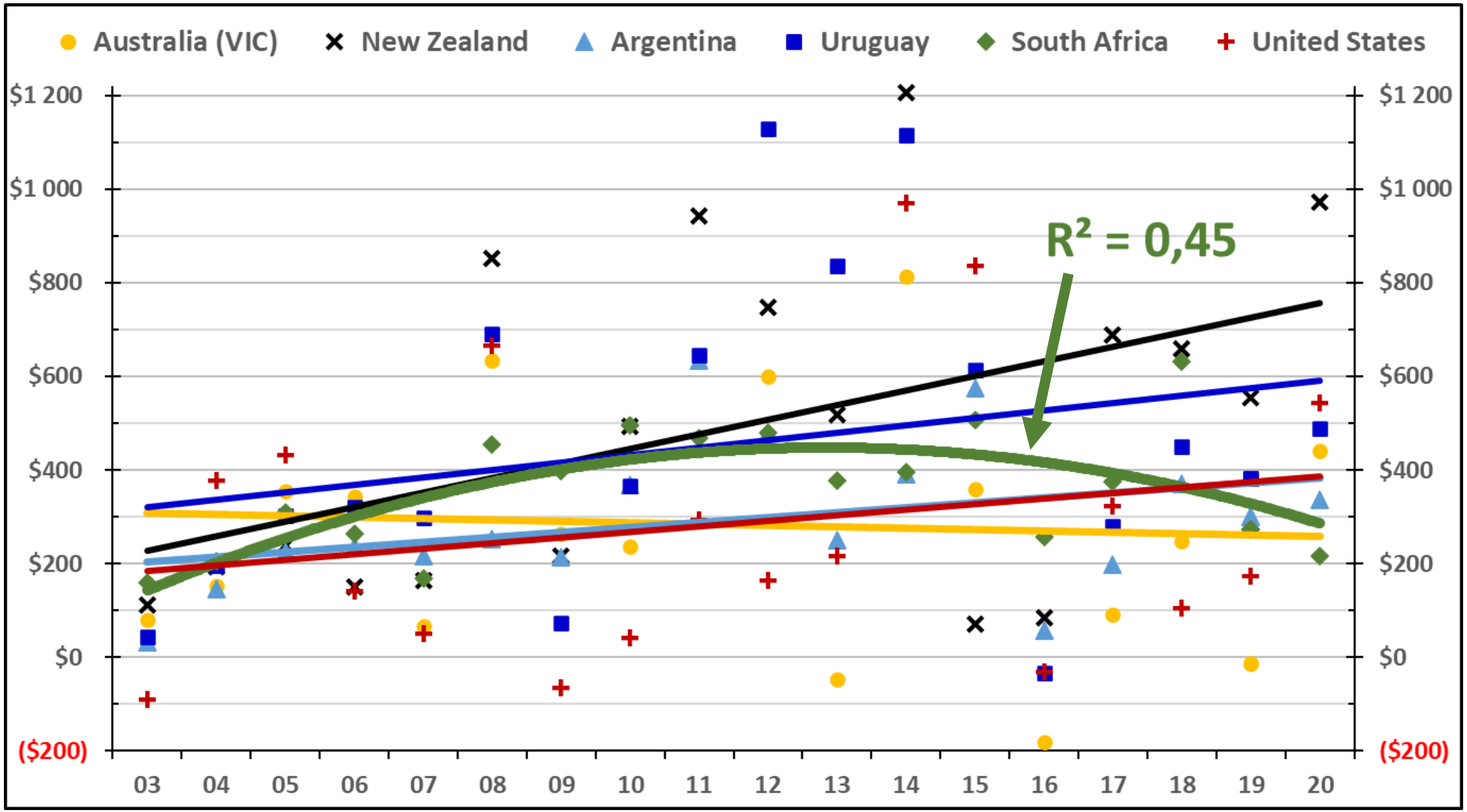
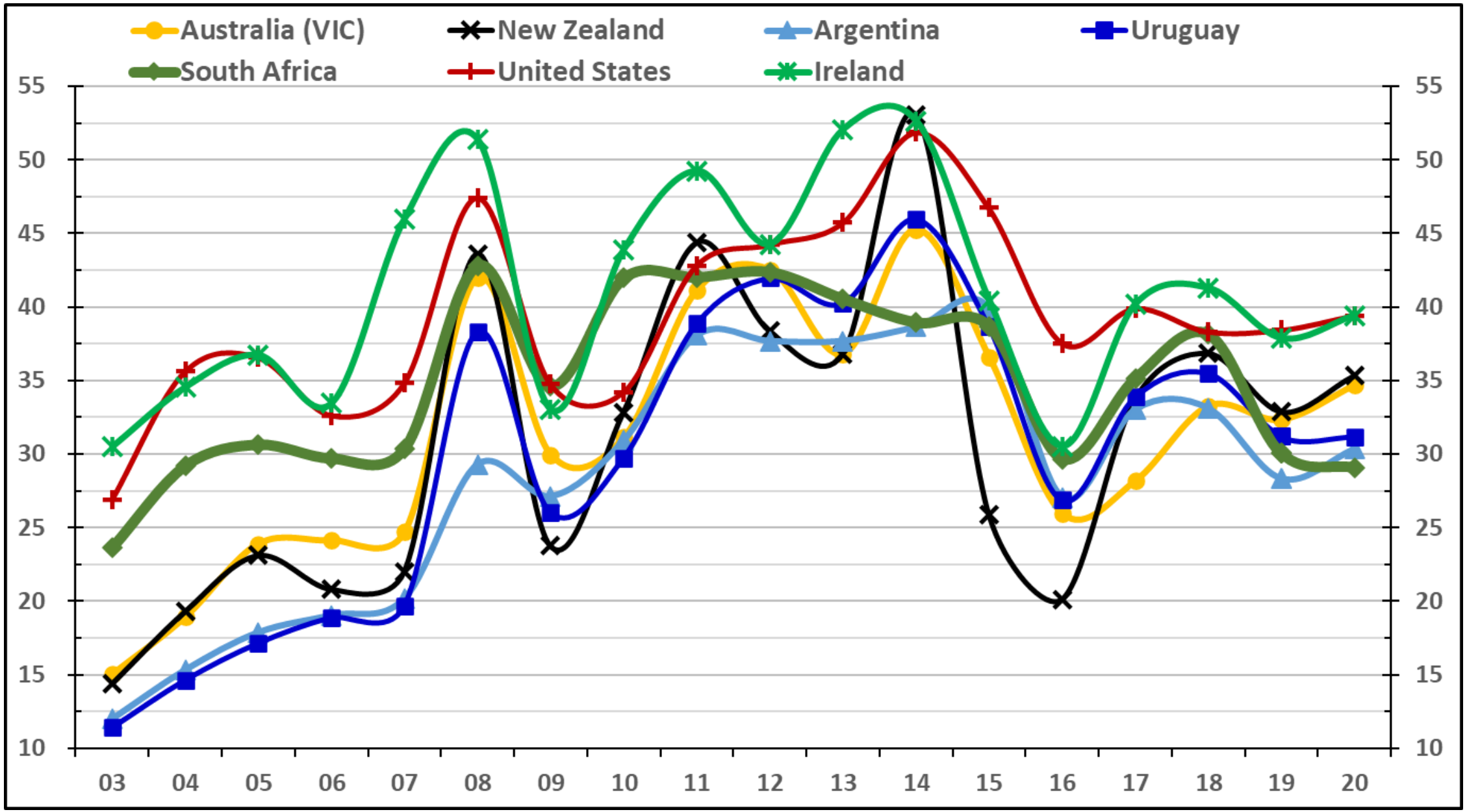


# What are the ‘external’ factors limiting profitability?

## Milk price…supermarkets, milk buyers?

# Milk price (USD c/litre ECM)



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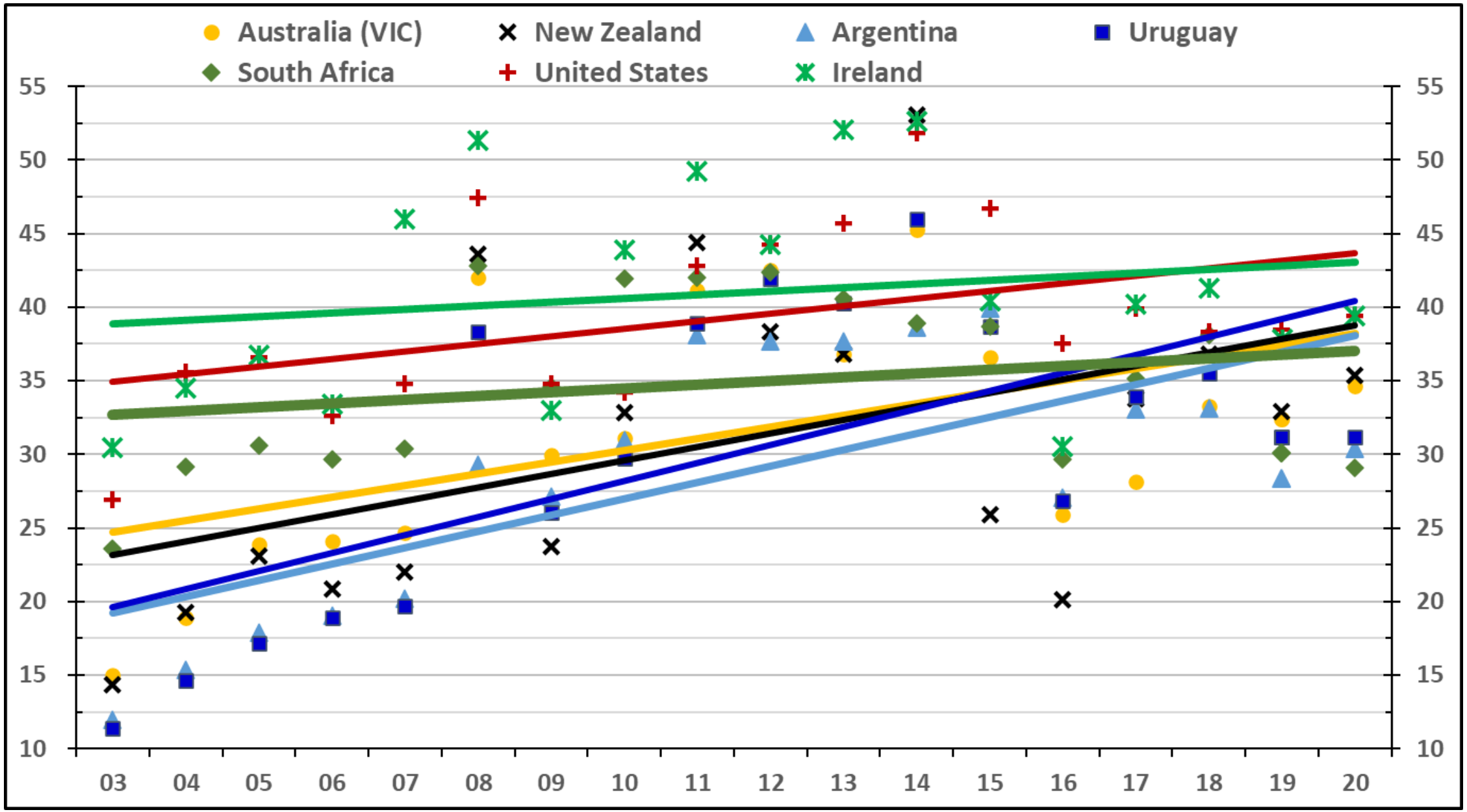
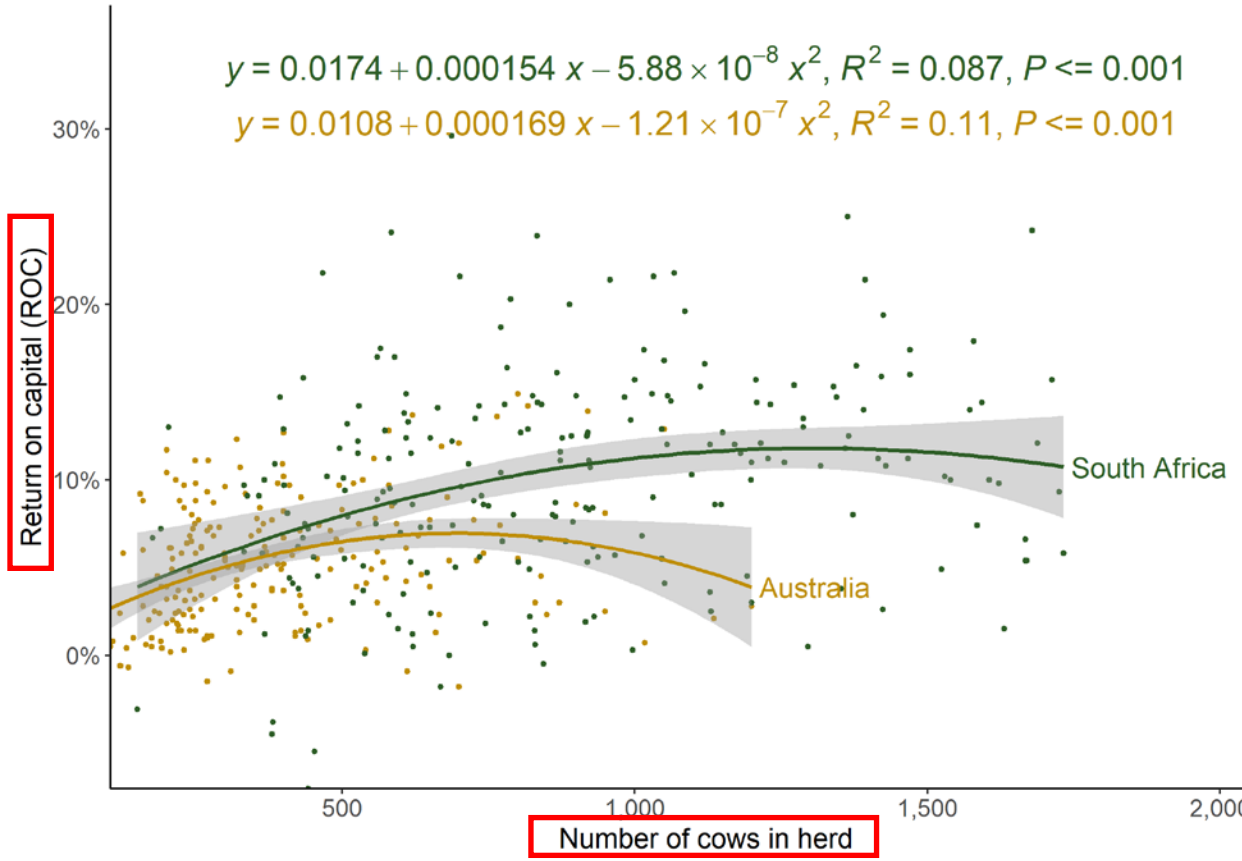


# What are the ‘external’ factors limiting profitability?

## Milk price…supermarkets, milk buyers?

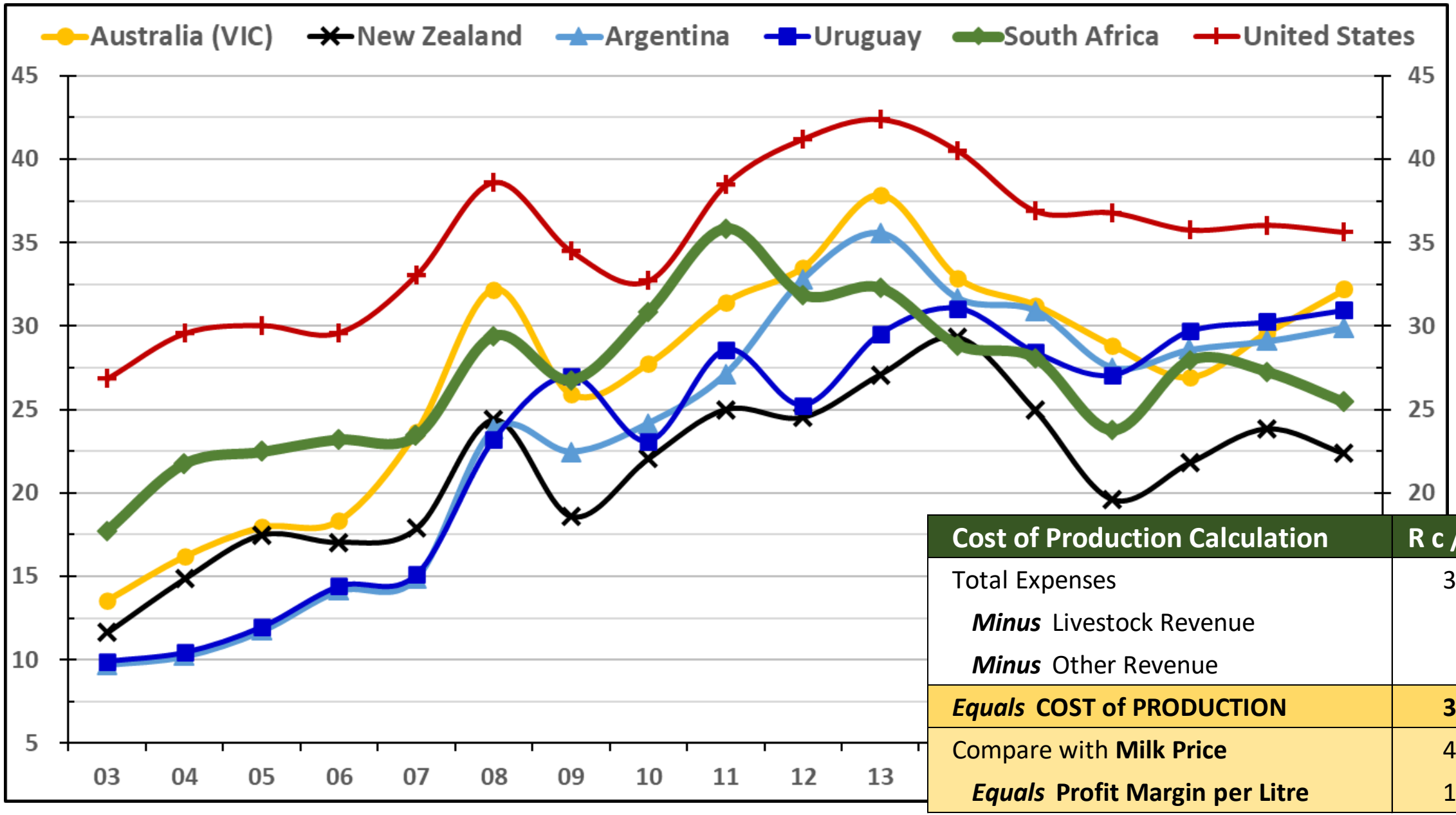
## Climate/drought?

## Size of dairy farm?



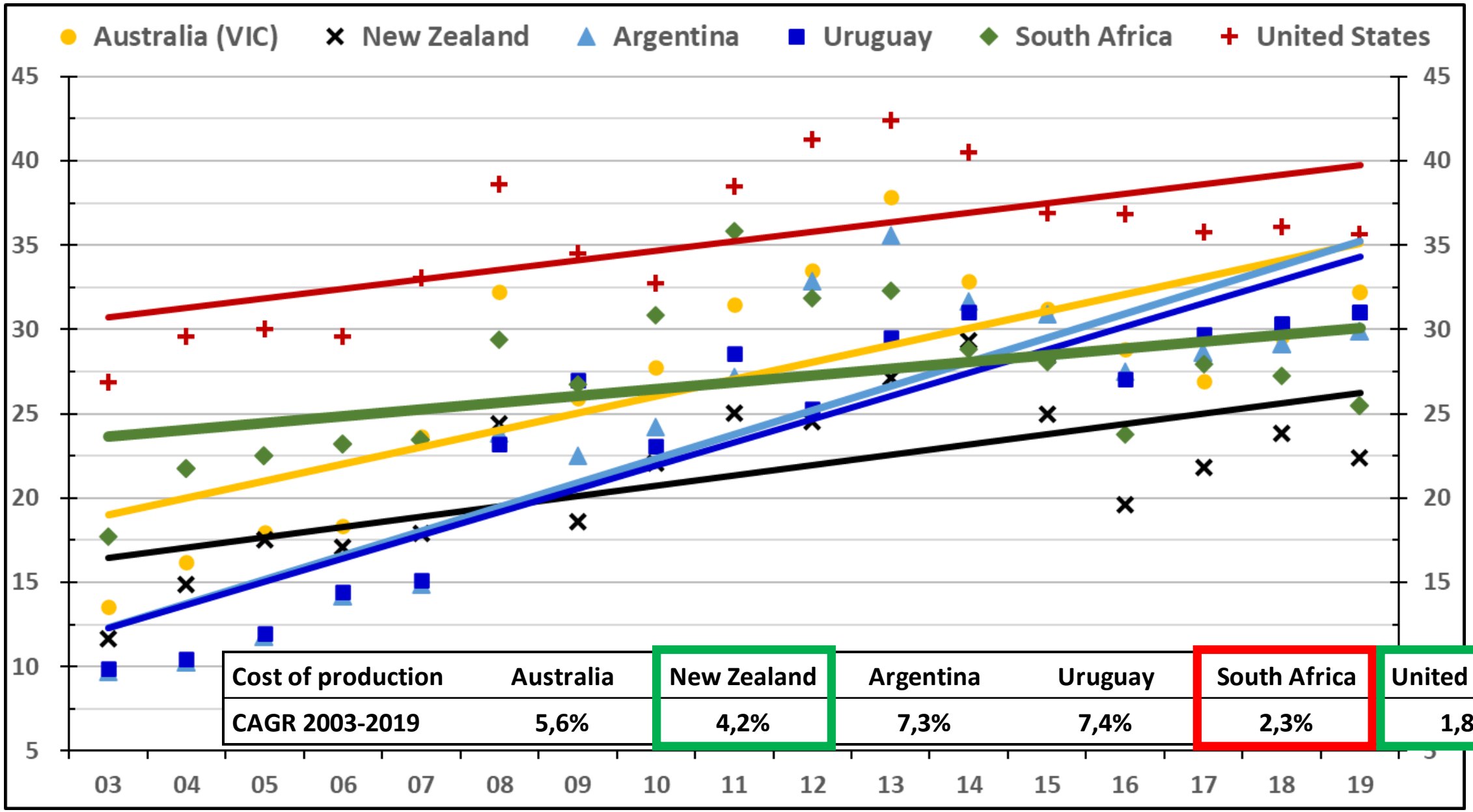

| Avg. No. Cows in Herd | Australia | New Zealand | Argentina | Uruguay | South Africa | United States |
|---|---|---|---|---|---|---|
| 2017/18 | 271 | 431 | 160 | 2014 150 est. | 2014 353 | 234 |
| 2018/19 | 276 | 435 | 162 est. | 158 est. | 370 est. | 236 est. |

# Cost of production (USD c/litre ECM)



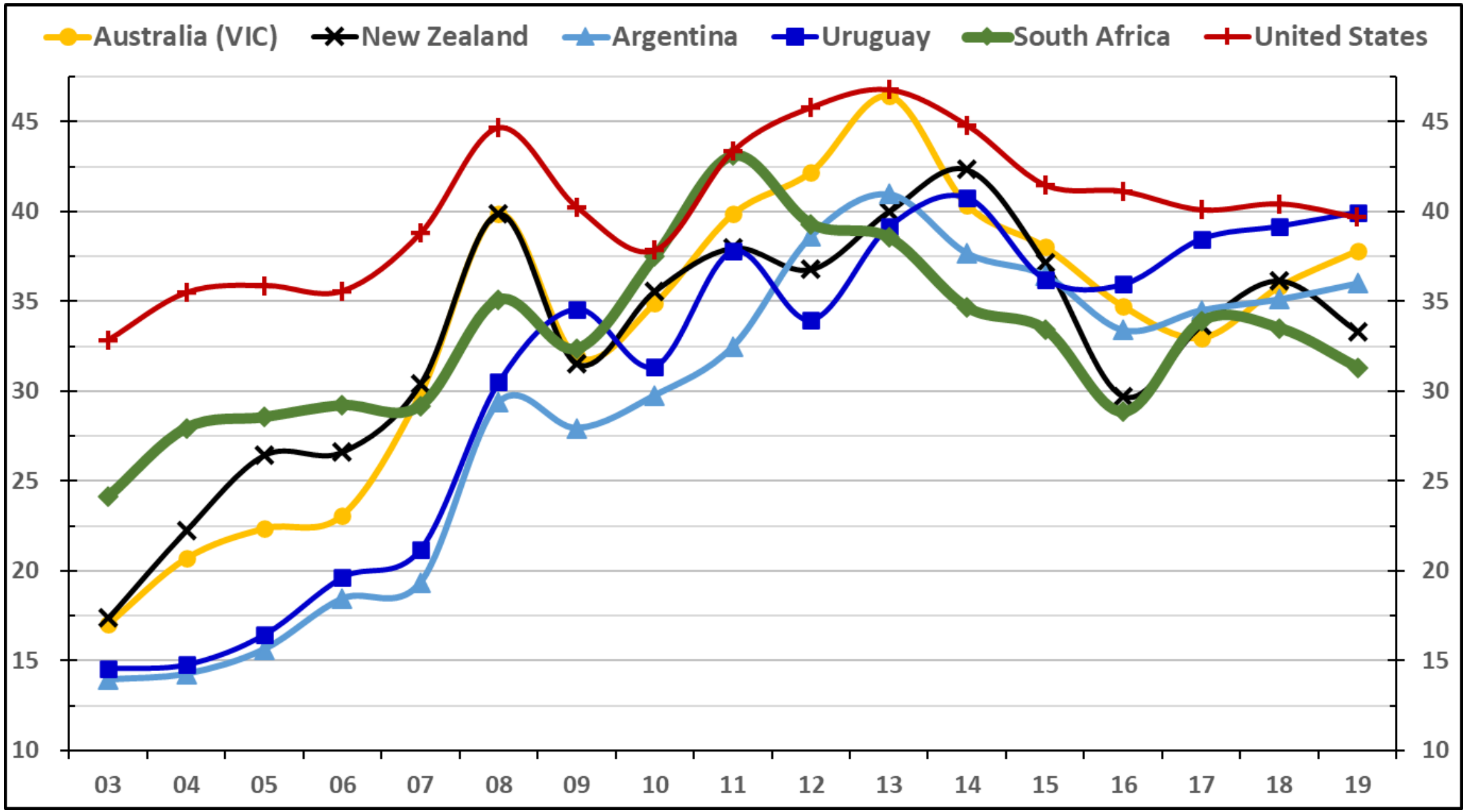

| Cost of Production Calculation | R c / litre |
|---|---|
| Total Expenses | 341 |
| ***Minus*** Livestock Revenue | 30 |
| ***Minus*** Other Revenue | 3 |
| ***Equals*** **COST of PRODUCTION** | **308** |
| Compare with **Milk Price** | 454 |
| ***Equals*** **Profit Margin per Litre** | 146 |

# Cost of production (USD c/litre ECM)

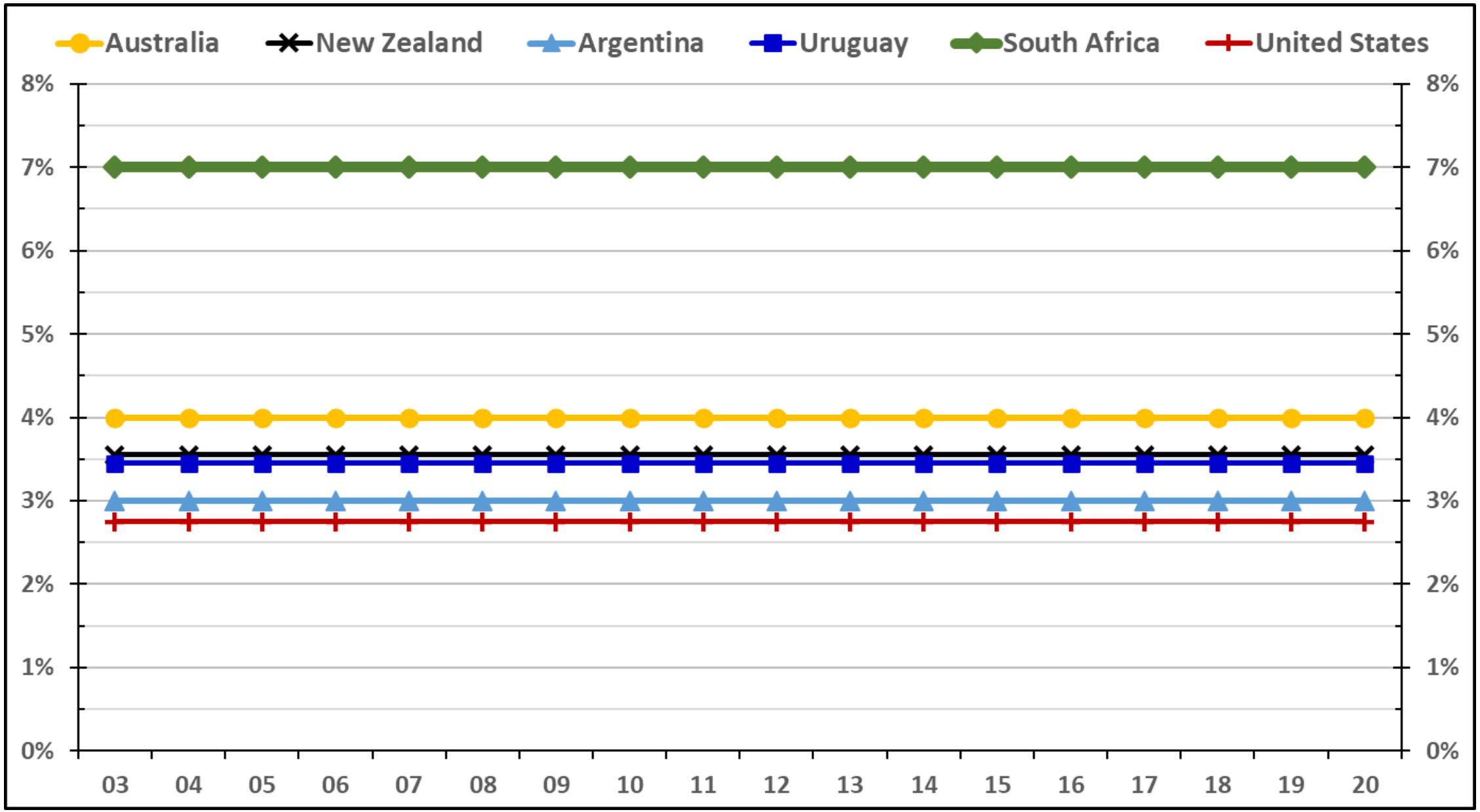



| Cost of production | Australia | New Zealand | Argentina | Uruguay | South Africa | United States |
|---|---|---|---|---|---|---|
| CAGR 2003-2019 | 5,6% | 4,2% | 7,3% | 7,4% | 2,3% | 1,8% |

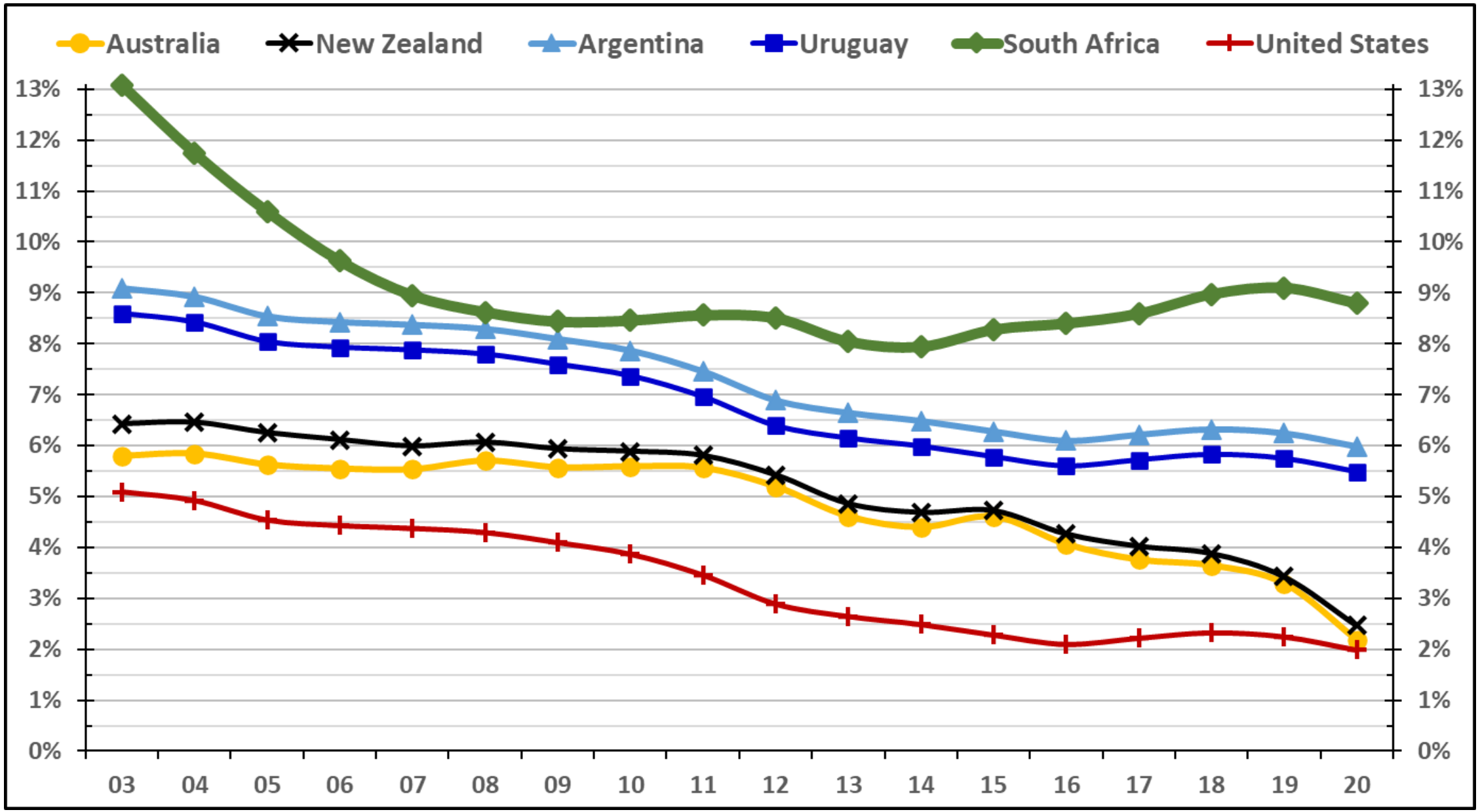
# Economic Cost of production (USD c/litre ECM)



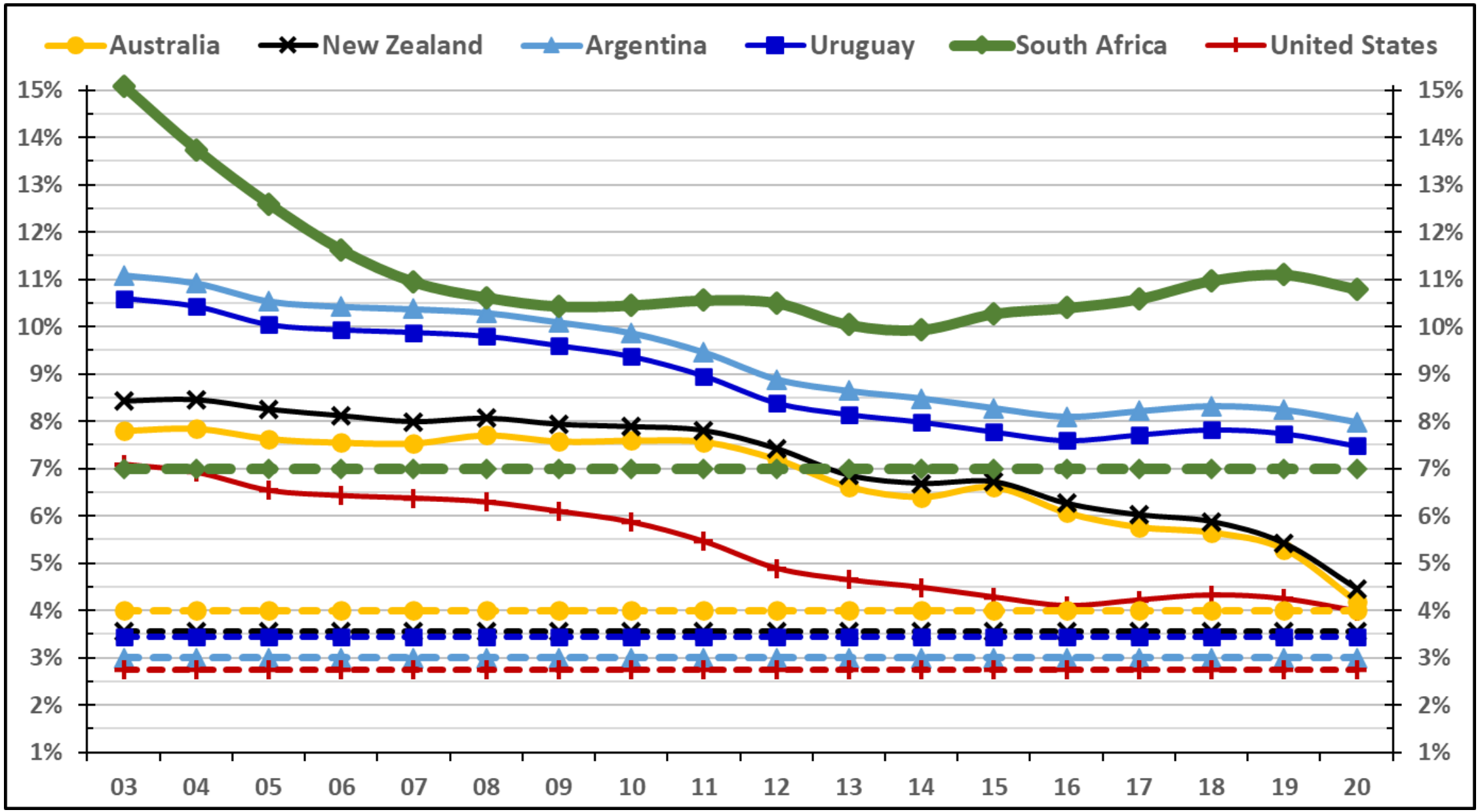
# Long-term lease rates – percent of land value



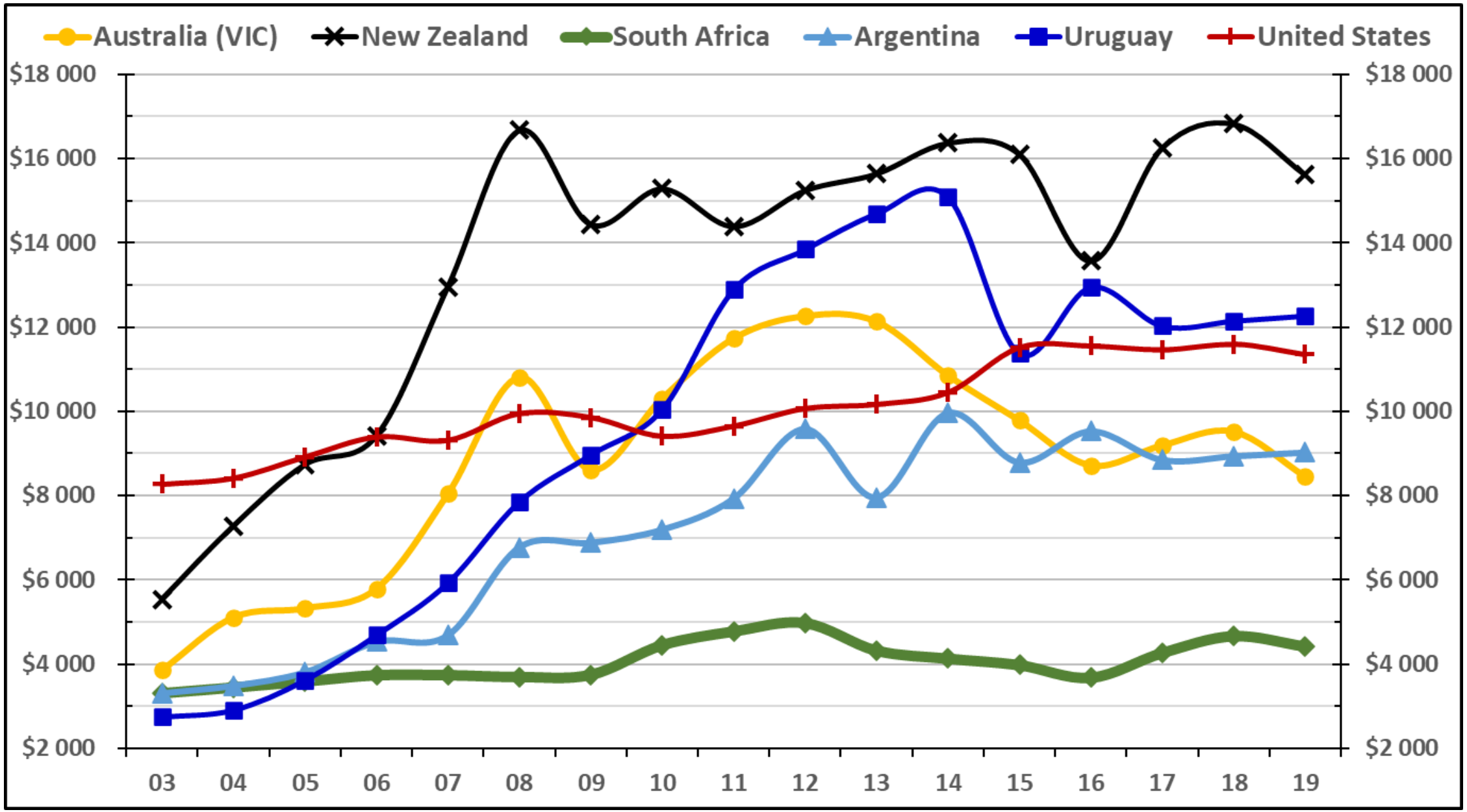
# Risk free interest rates (5-yr rolling average of 10-yr bond rate)



# Opportunity cost return rates for land (dashed line) and other assets (solid line)



# Total assets per cow (USD/cow)



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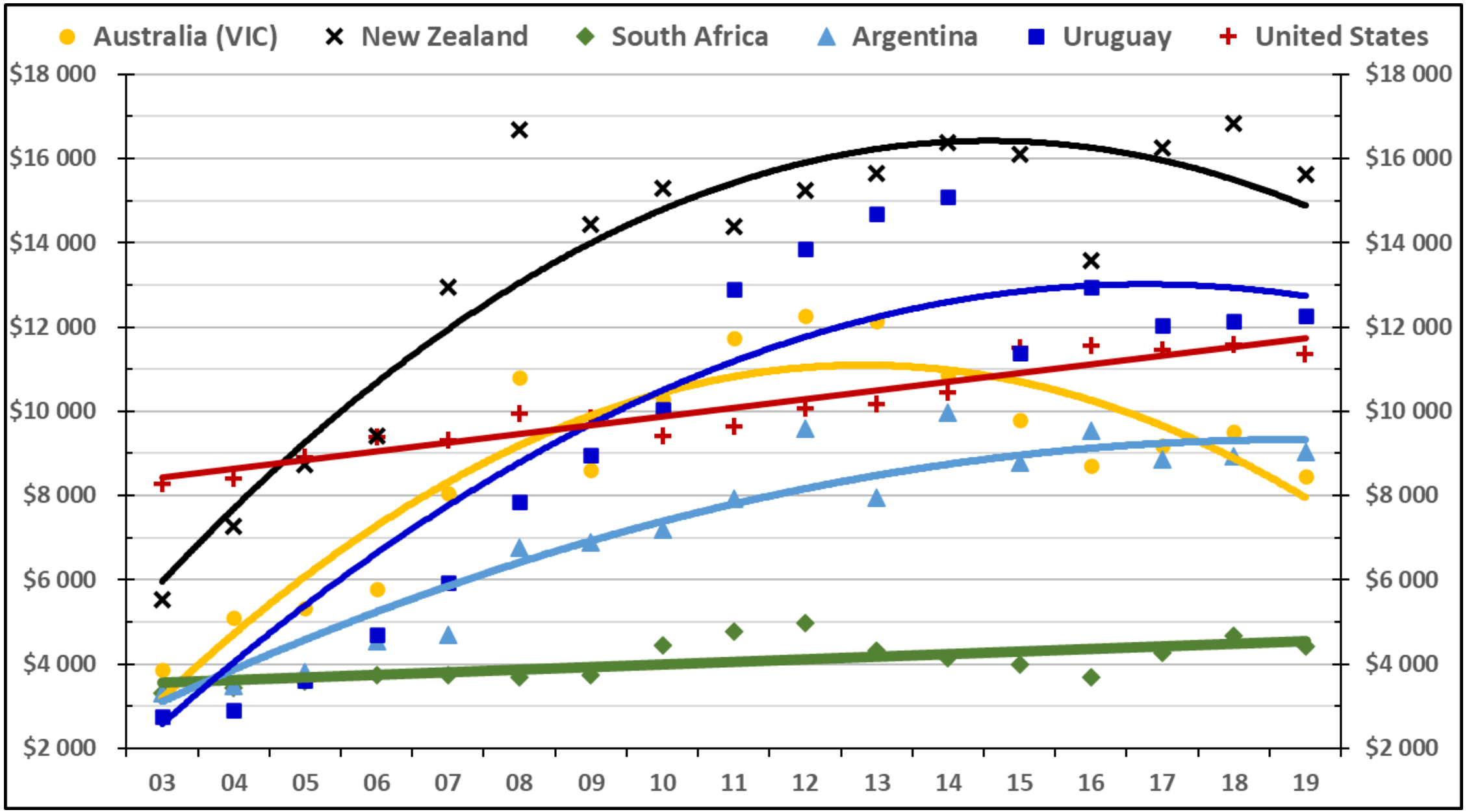
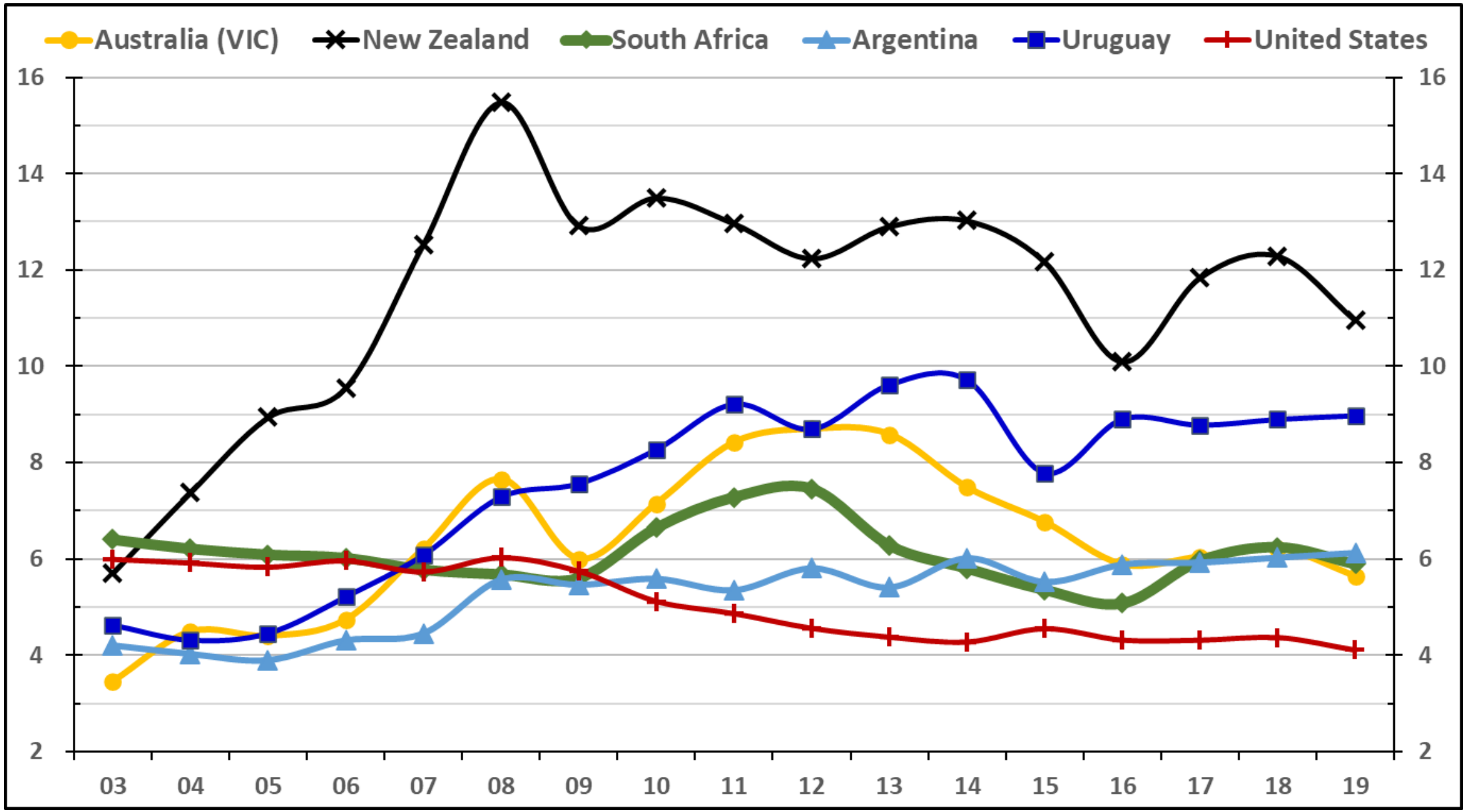


# Opportunity cost of capital (USD c/litre ECM)



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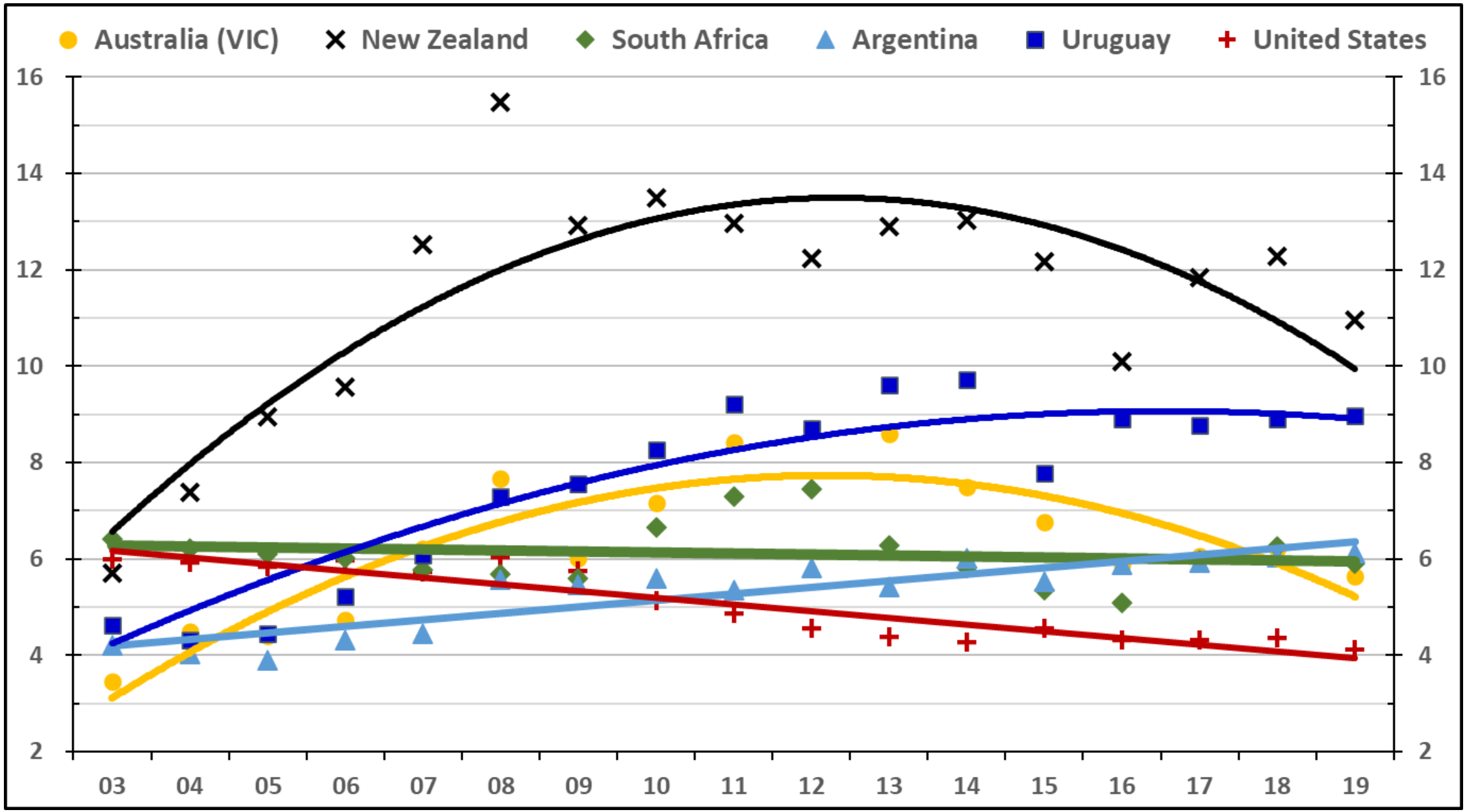

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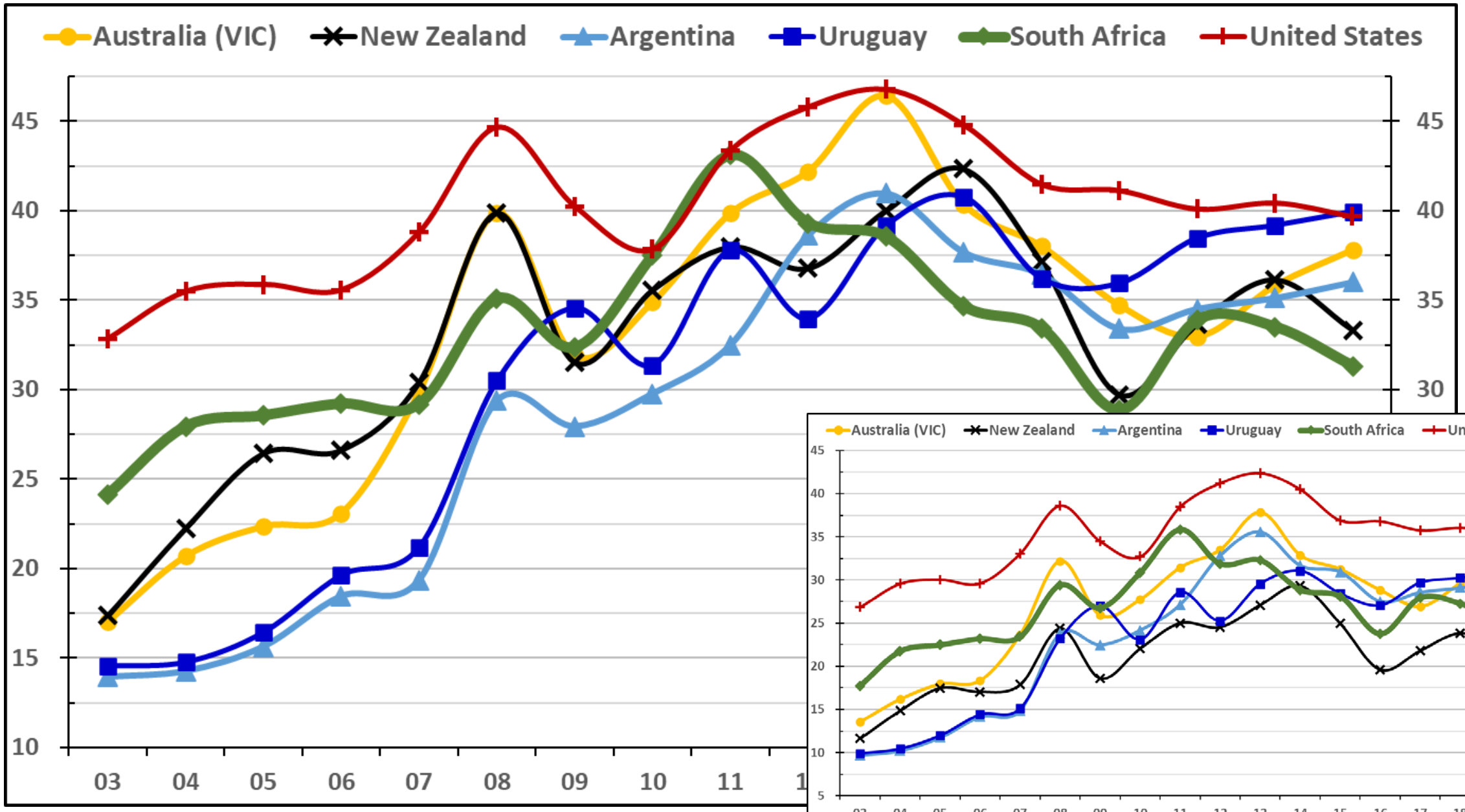

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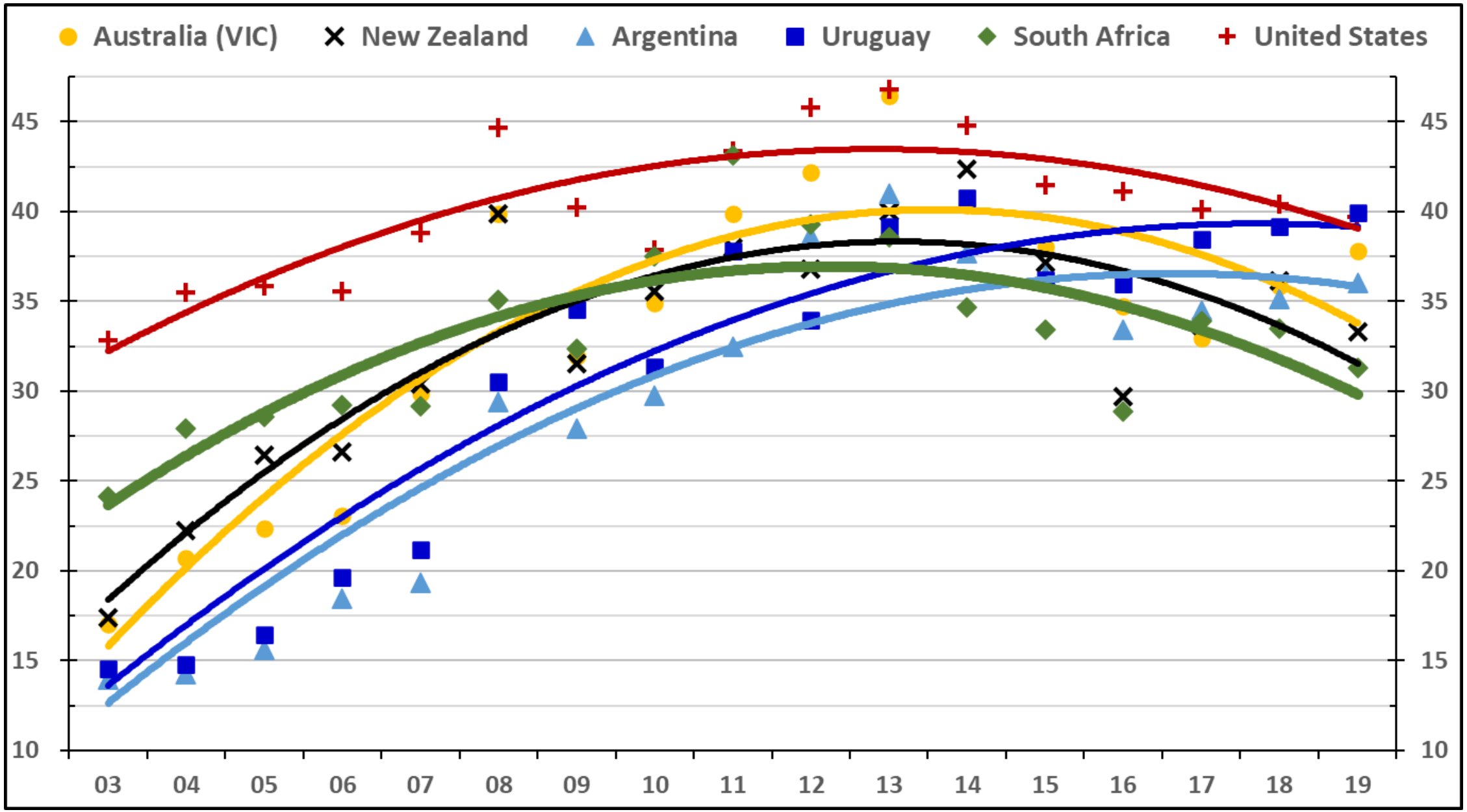
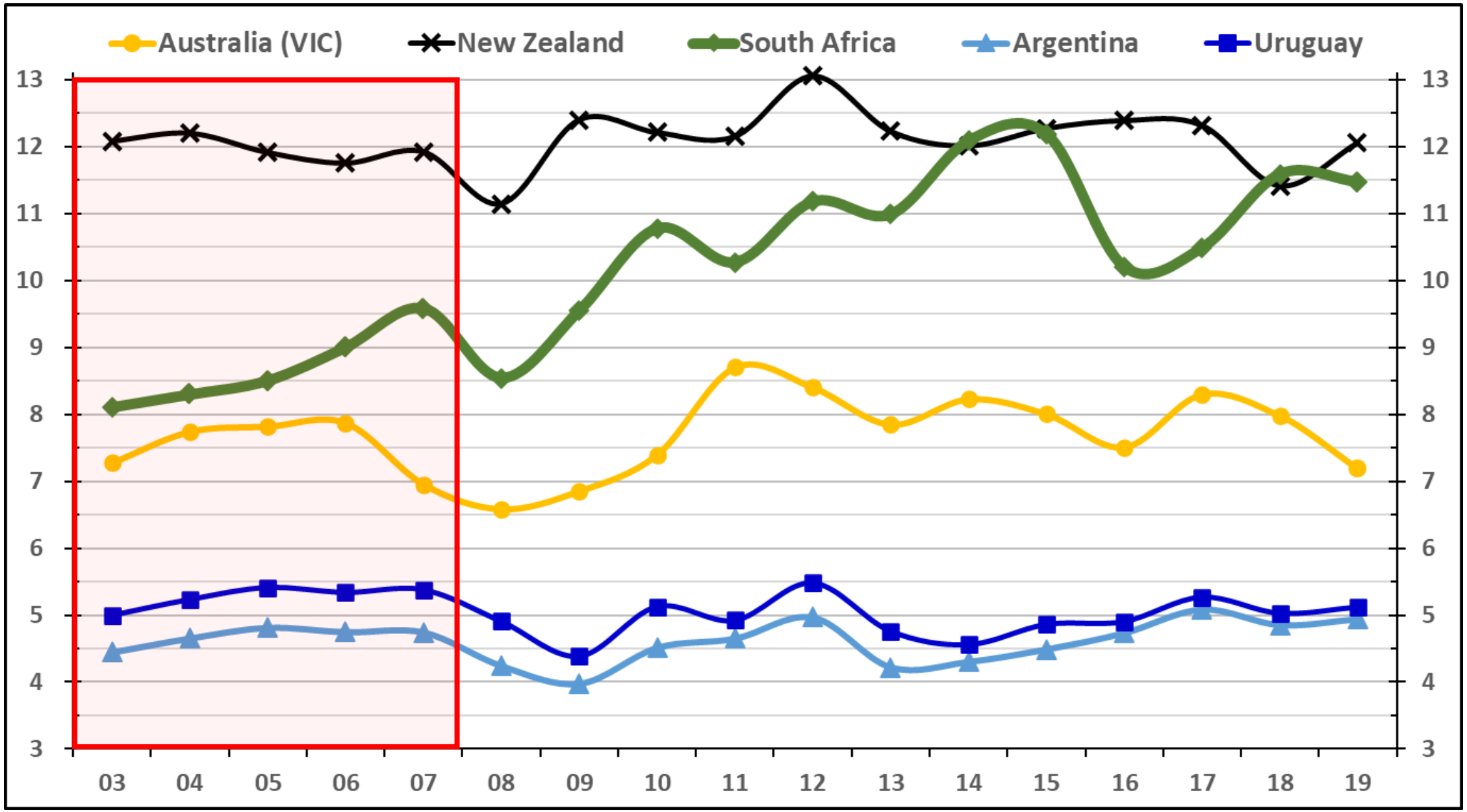


# Pasture harvest (tonne dry matter per hectare per year)



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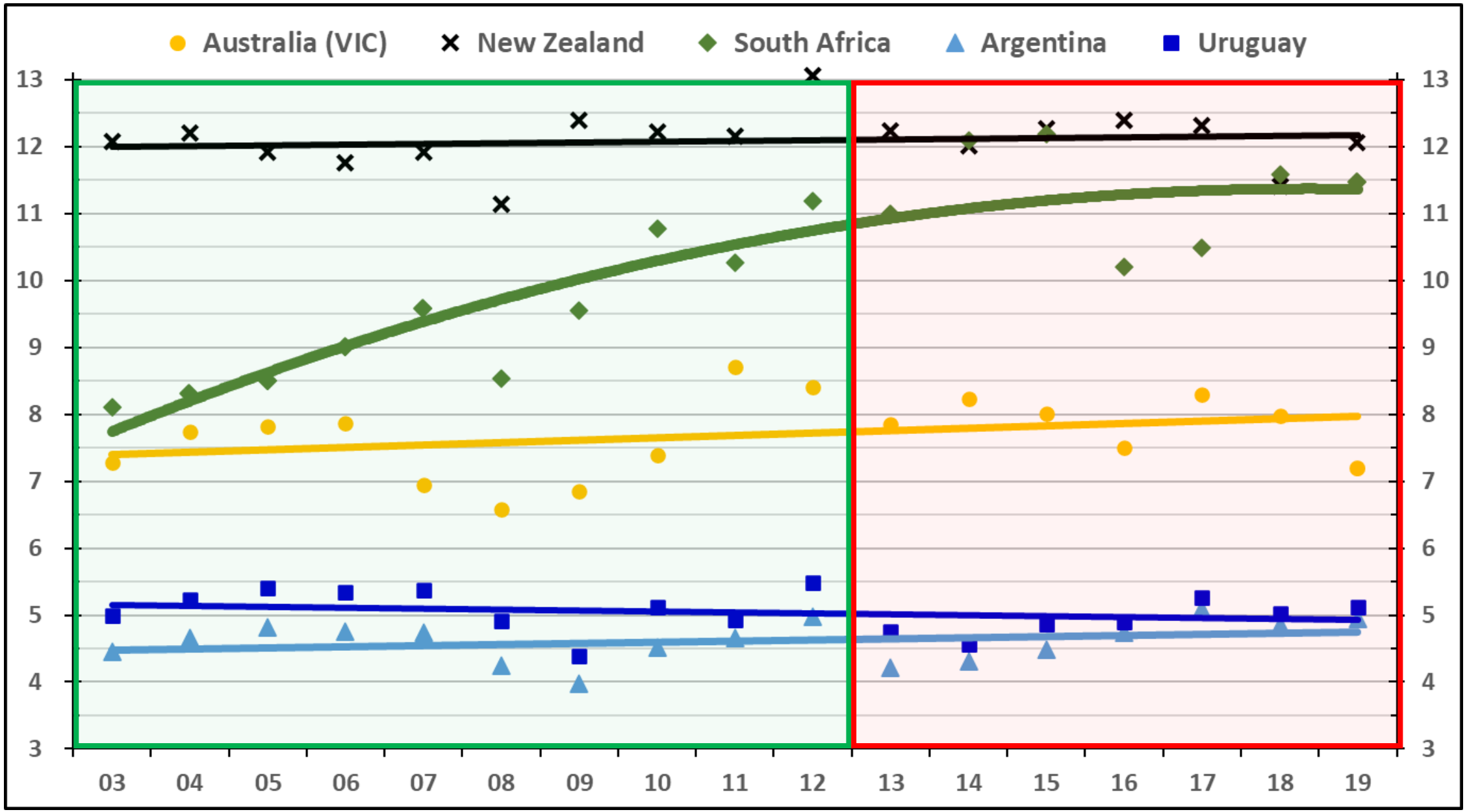
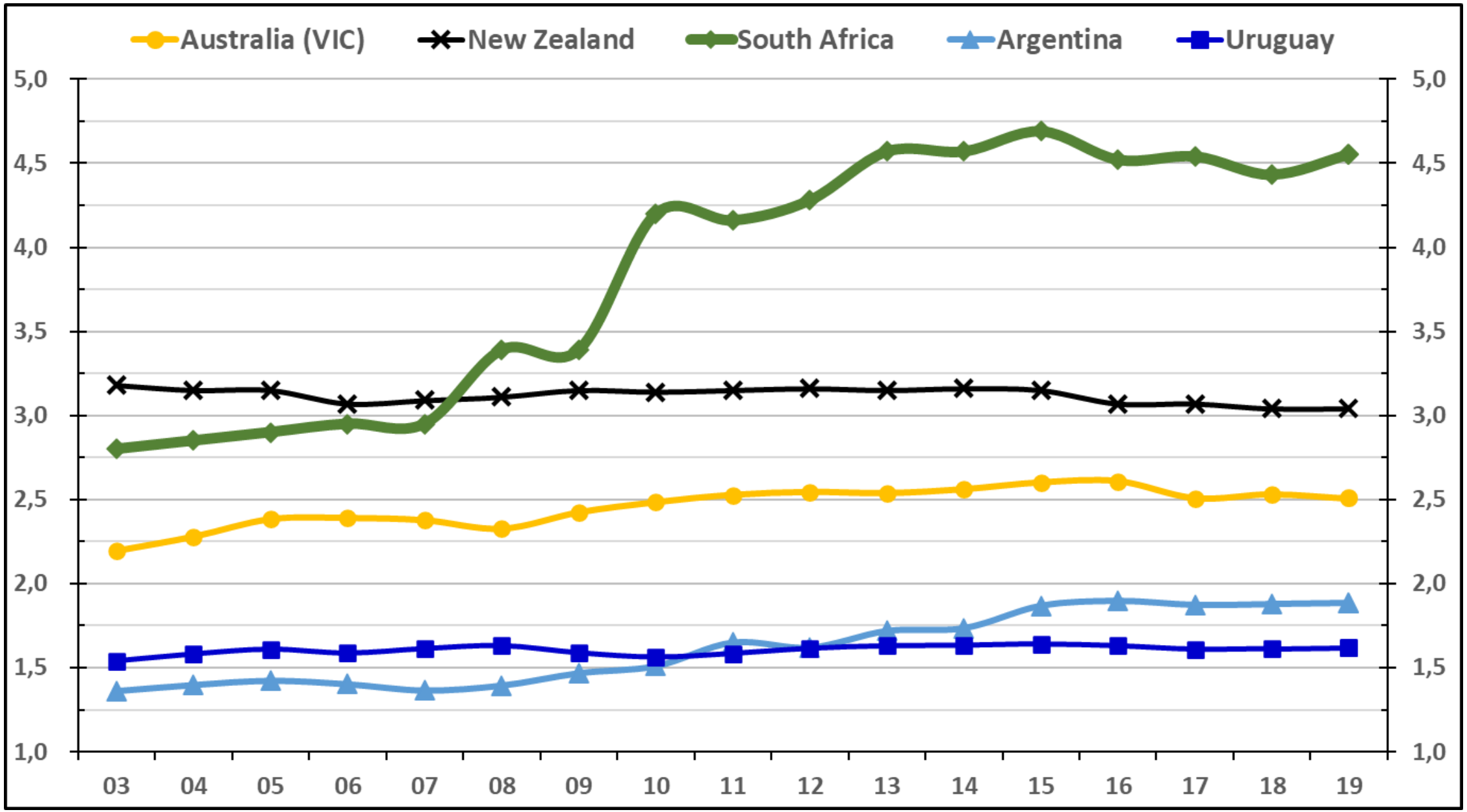


# Stocking rate (cows per hectare)



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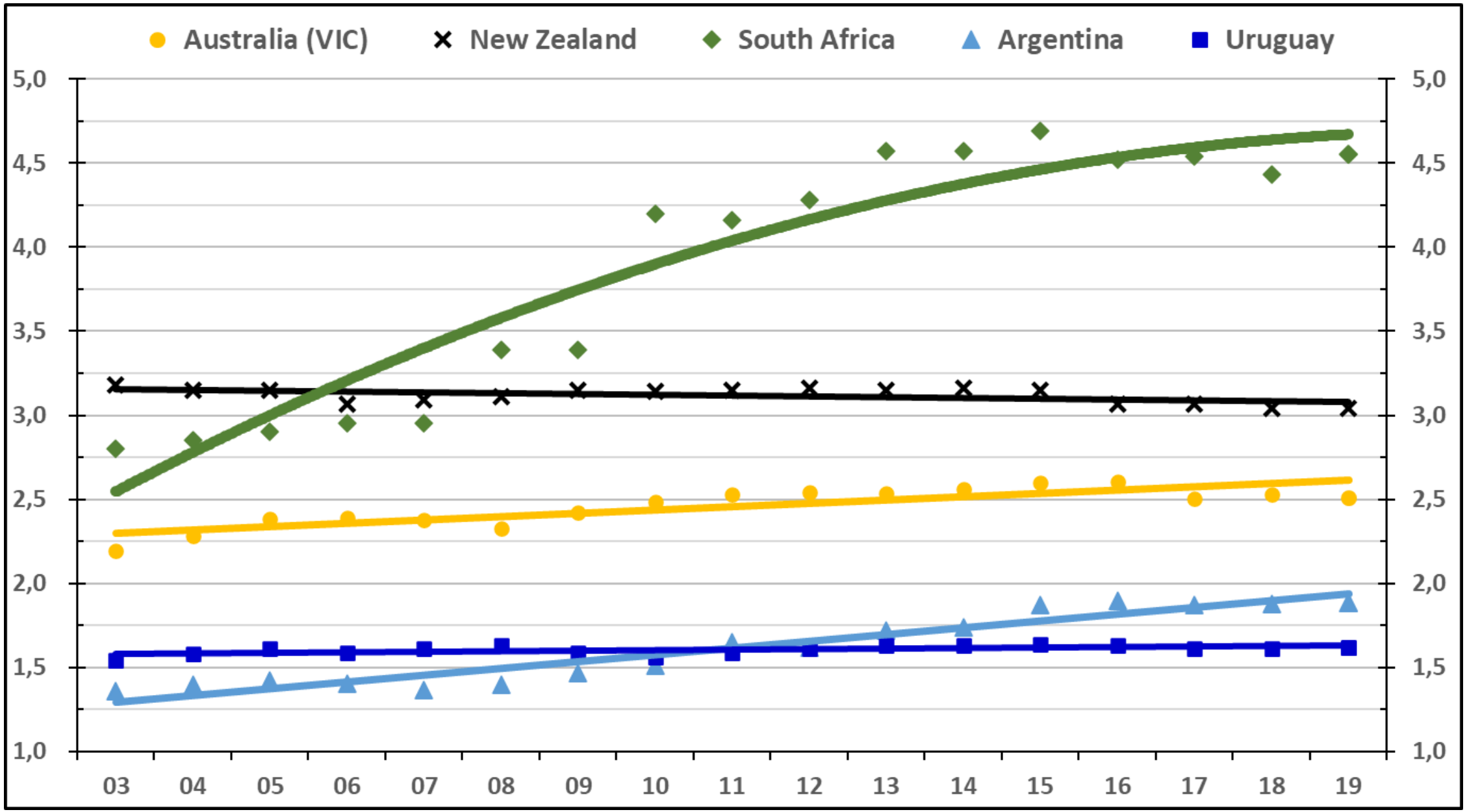
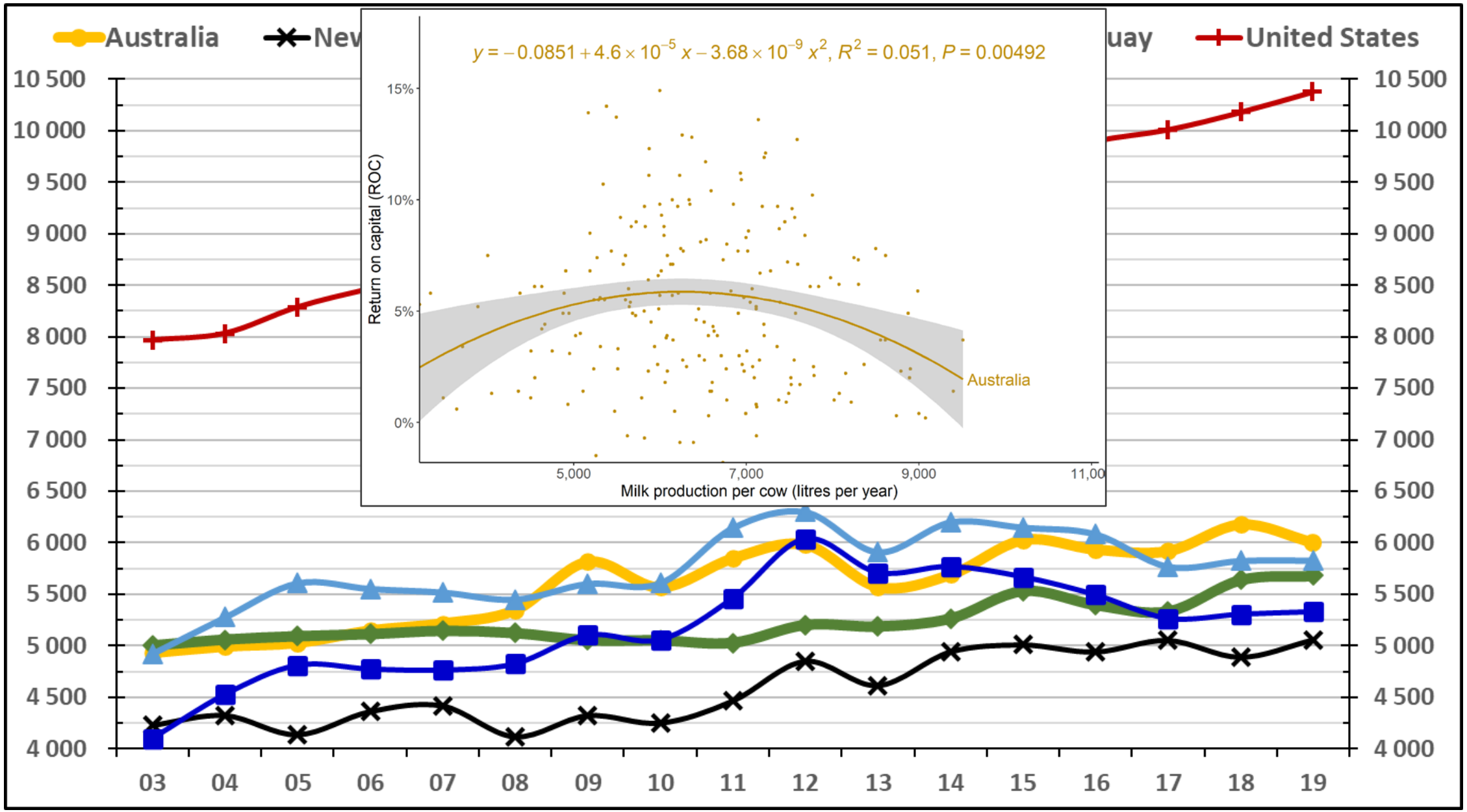


# Milk production per cow (litres ECM)



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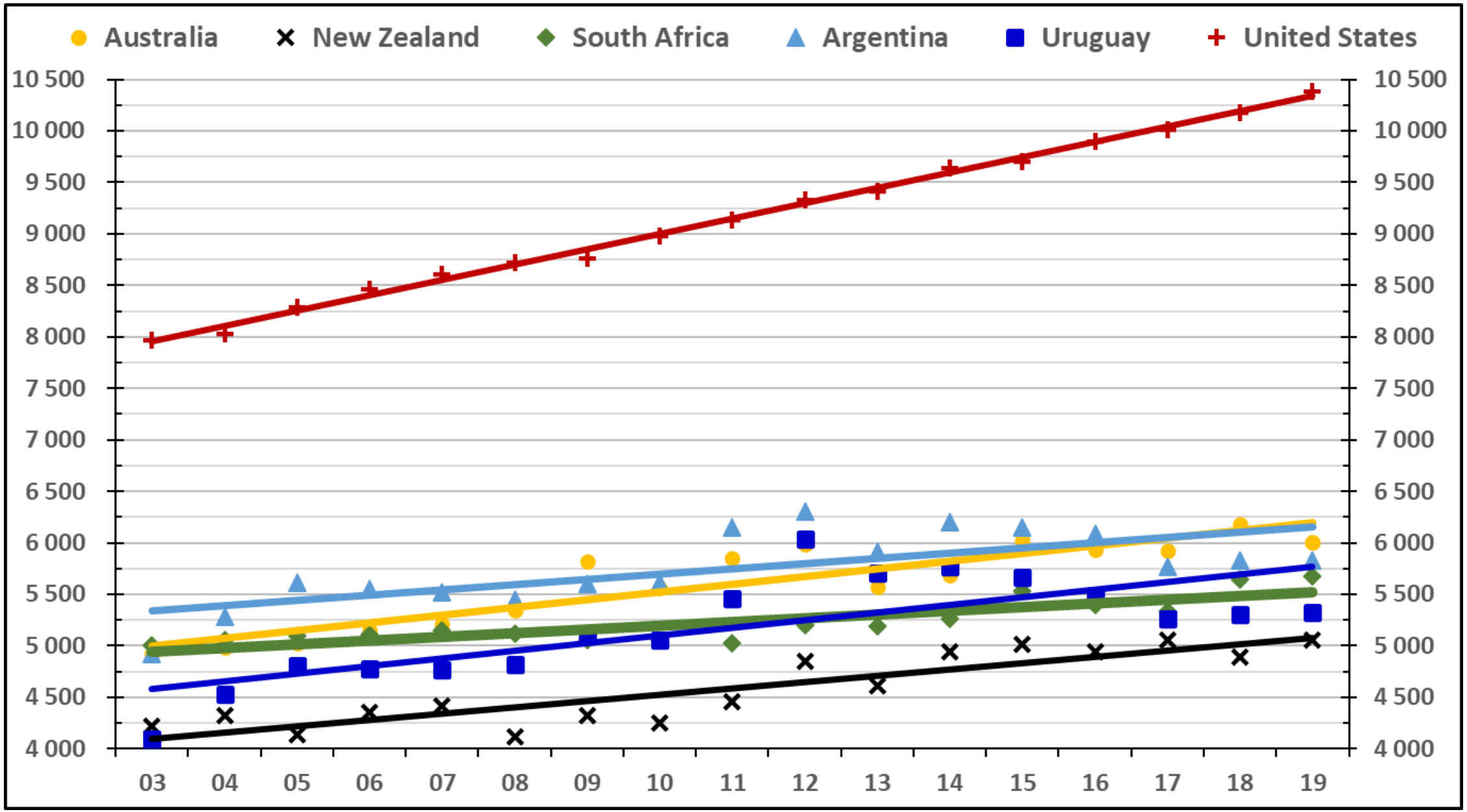
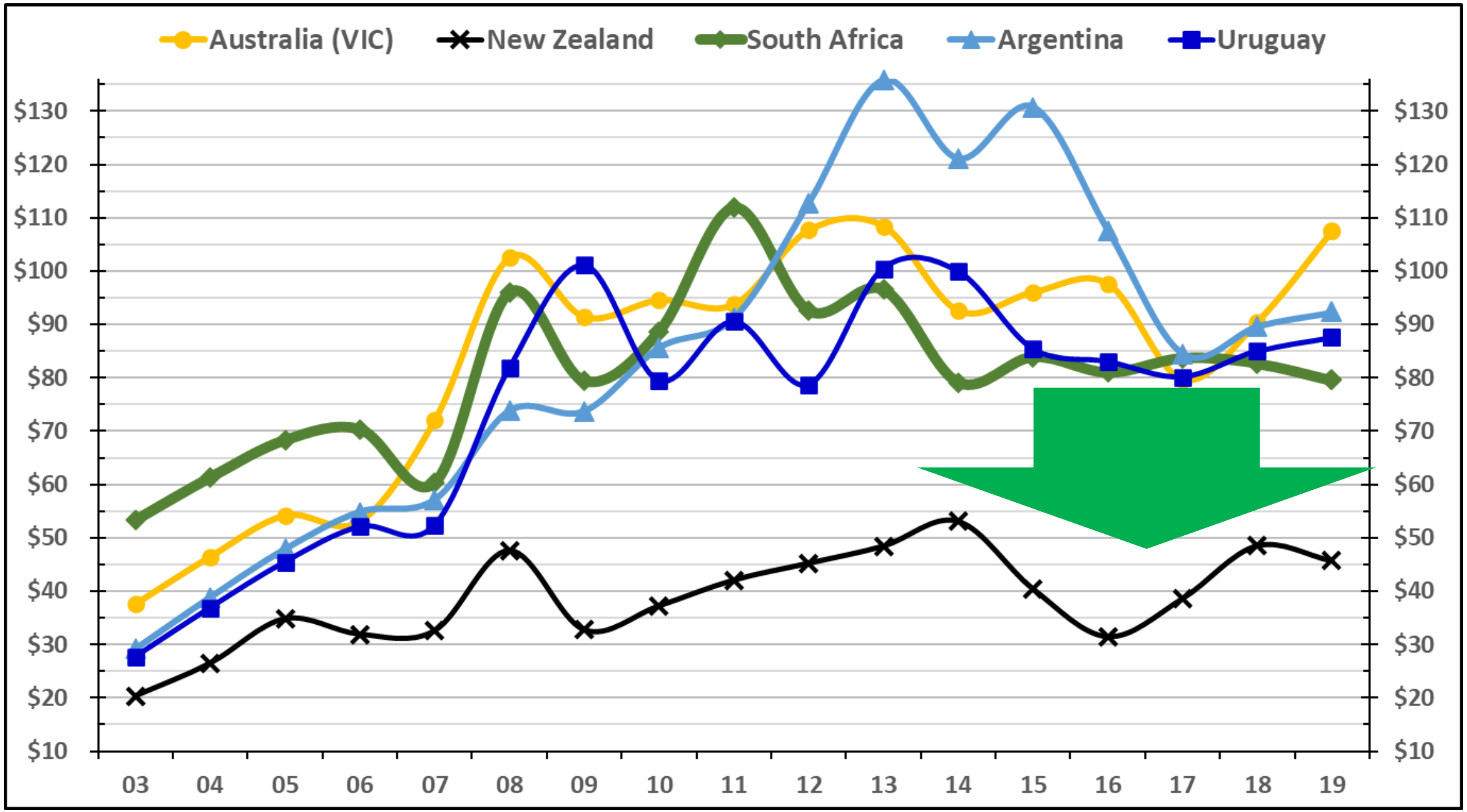


# Pasture cost (USD/tonne dry matter)



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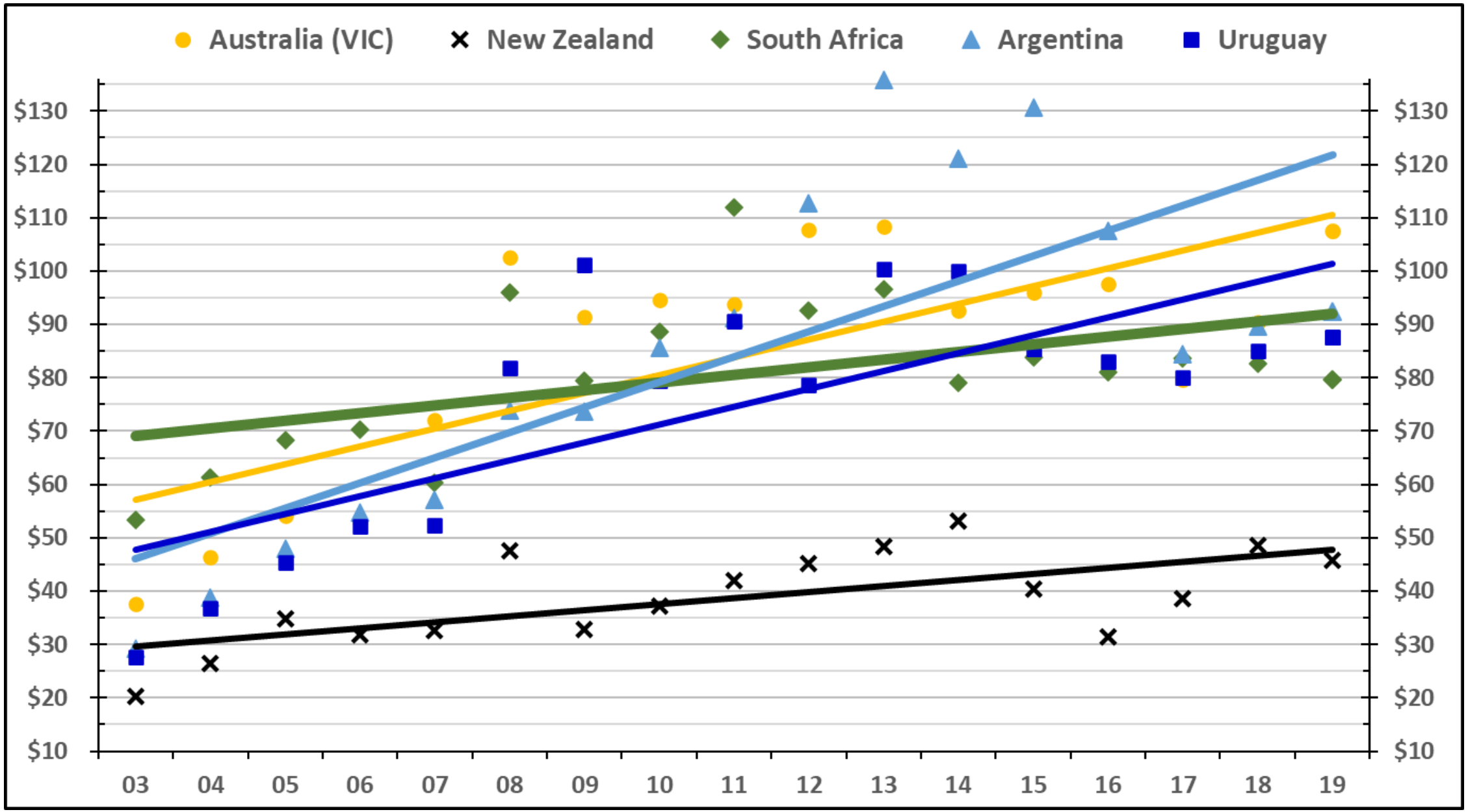
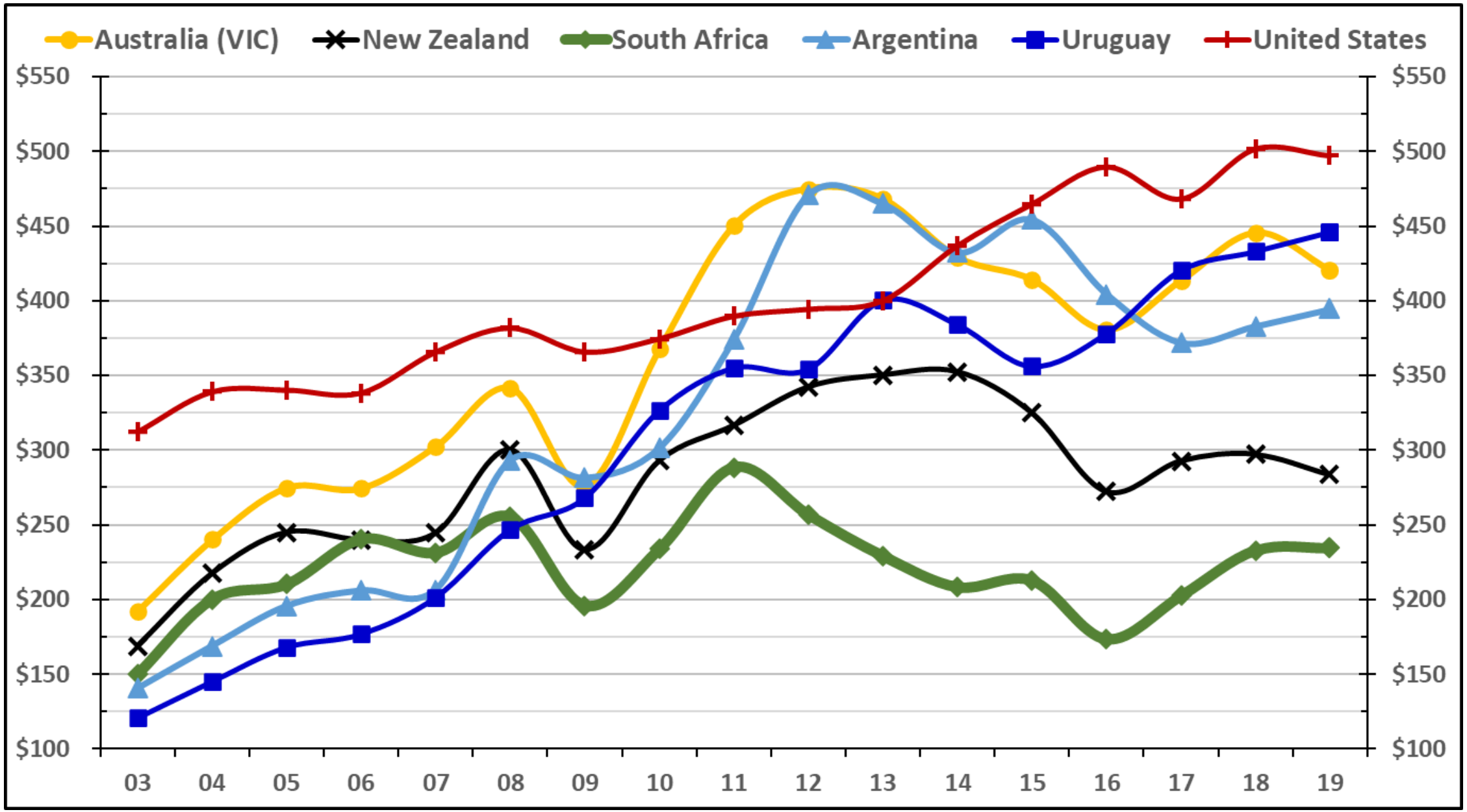


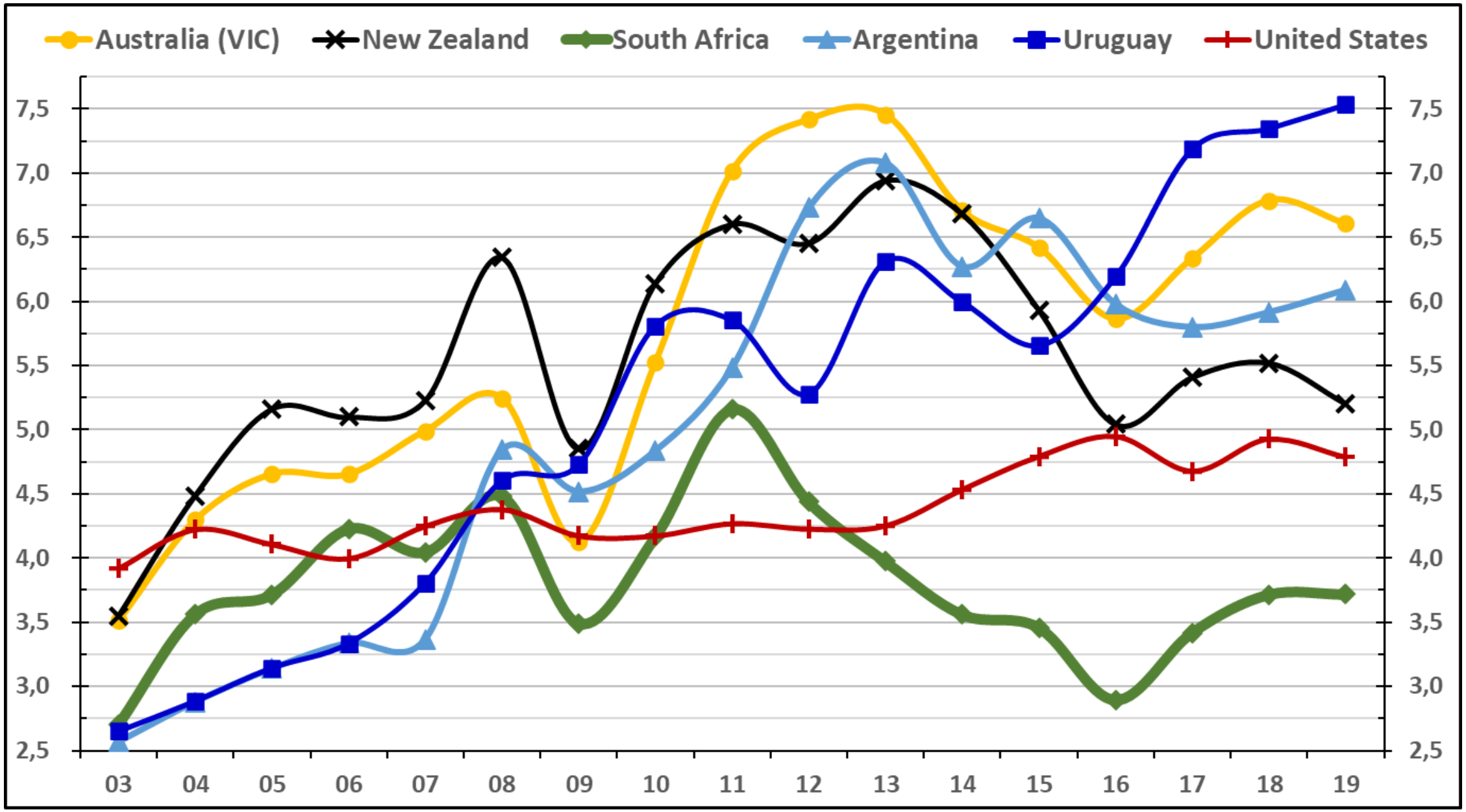
# Primary cost areas in USD cents/litre and as percentage of total expenses

| 2010-2019 | Total Expenses per Litre | Total Feed Cost/litre | Total Labour Cost/litre | "All Other" Costs/litre | Feed Cost as % Total Exp. | Labour Cost as % Total Exp. | "Other" Costs as % Total Exp. |
|---|---|---|---|---|---|---|---|
| **Australia** | 34,0 | 18,9 | 6,6 | 8,5 | 55,6% | 19,4% | 24,9% |
| **New Zealand** | 27,0 | 11,9 | 6,0 | 9,1 | 44,1% | 22,2% | 33,7% |
| **United States** | 41,8 | 28,2 | 4,6 | 9,0 | 67,5% | 10,9% | 21,6% |
| **Argentina** | 32,9 | 19,3 | 6,1 | 7,4 | 58,8% | 18,5% | 22,6% |
| **Uruguay** | 36,6 | 20,3 | 6,3 | 10,0 | 55,4% | 17,3% | 27,3% |
| **South Africa** | **32,3** | **20,0** | **3,8** | **8,5** | **61,9%** | **11,9%** | **26,2%** |
| **Pasture-based farms** | | | | | **40%-60%** | **15%-25%** | **20%-35%** |
| **Feedlot / confinement farms** | | | | | **60%-70%** | **10%-15%** | **15%-30%** |

# Labour cost per cow (USD/cow)



# Labour cost per litre (USD c/litre ECM)



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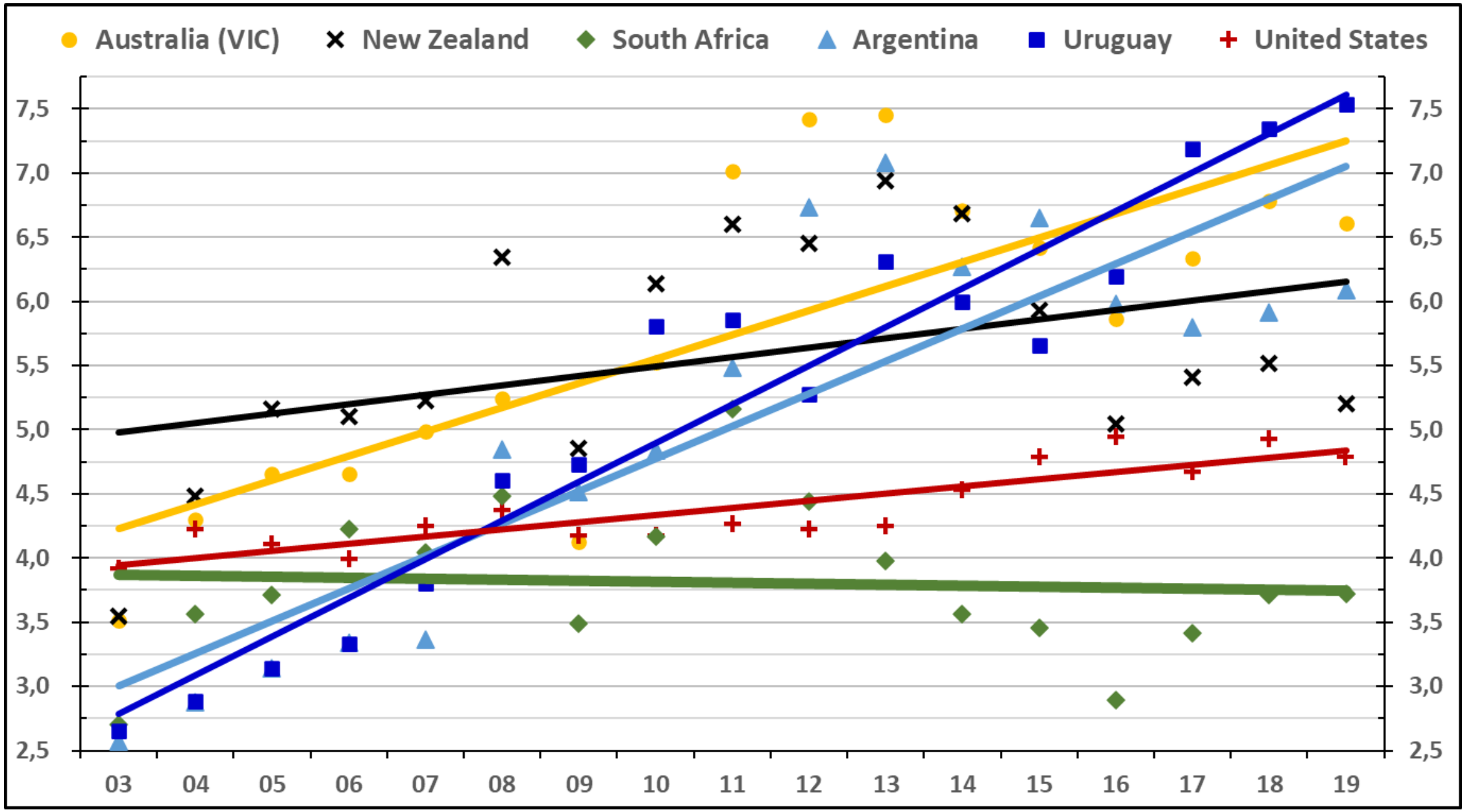

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|---|---|---|---|---|---|---|---|
| **Australia** | 34,0 | 18,9 | 6,6 | 8,5 | 55,6% | 19,4% | 24,9% |
| **New Zealand** | 27,0 | 11,9 | 6,0 | 9,1 | 44,1% | 22,2% | 33,7% |
| **United States** | 41,8 | 28,2 | 4,6 | 9,0 | 67,5% | 10,9% | 21,6% |
| **Argentina** | 32,9 | 19,3 | 6,1 | 7,4 | 58,8% | 18,5% | 22,6% |
| **Uruguay** | 36,6 | 20,3 | 6,3 | 10,0 | 55,4% | 17,3% | 27,3% |
| **South Africa** | **32,3** | **20,0** | **3,8** | **8,5** | **61,9%** | **11,9%** | **26,2%** |
| **Pasture-based farms** | | | | | **40%-60%** | **15%-25%** | **20%-35%** |
| **Feedlot / confinement farms** | | | | | **60%-70%** | **10%-15%** | **15%-30%** |

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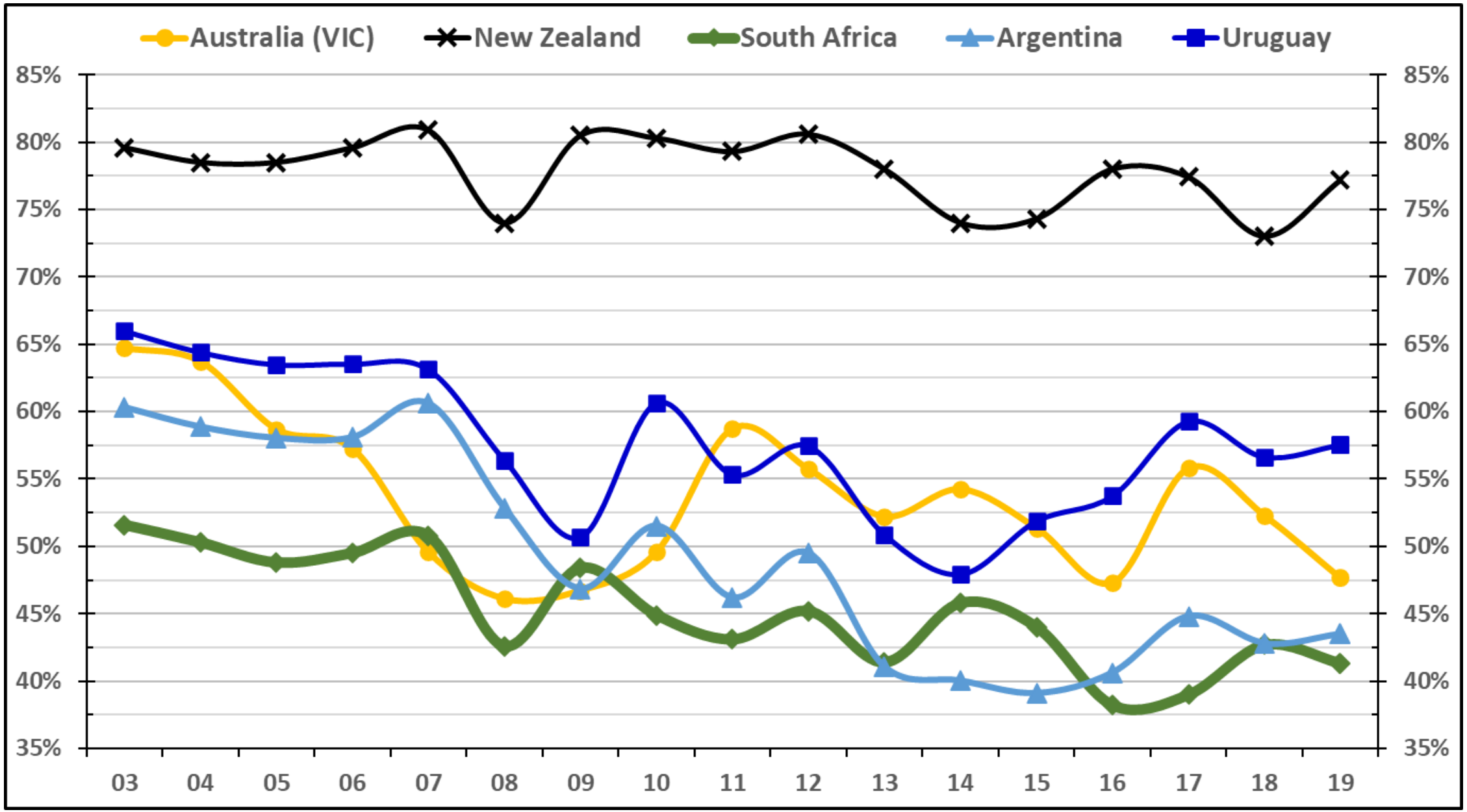
# Pasture, concentrate and forage cost in USD per tDM plus ratios of concentrate and forage cost as percentage of pasture cost (forage cost excludes any pasture cost)

| 2010-2019 | Pasture Cost | Concentrate Cost | Concentrate to Pasture Ratio | Forage Cost | Forage to Pasture Ratio |
|---|---|---|---|---|---|
| Australia | $97 | $329 | 240% | $183 | 89% |
| New Zealand | $43 | $284 | 560% | $231 | 436% |
| Argentina | $105 | $196 | 86% | $145 | 38% |
| Uruguay | $87 | $280 | 222% | $155 | 78% |
| **South Africa** | **$88** | **$336** | **282%** | **$142** | **62%** |

# Pasture as % of cow's diet (US not on graph as 0%)



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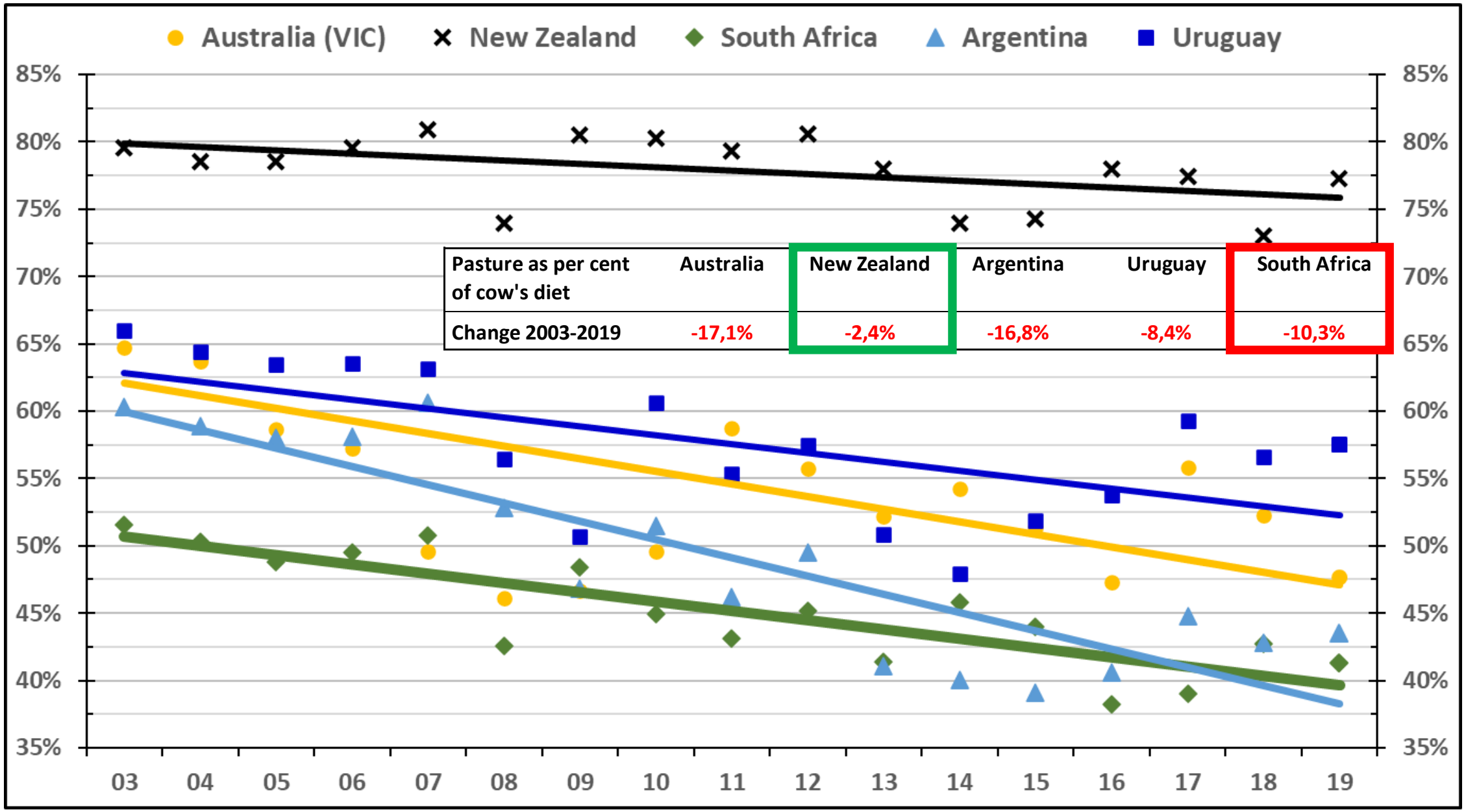
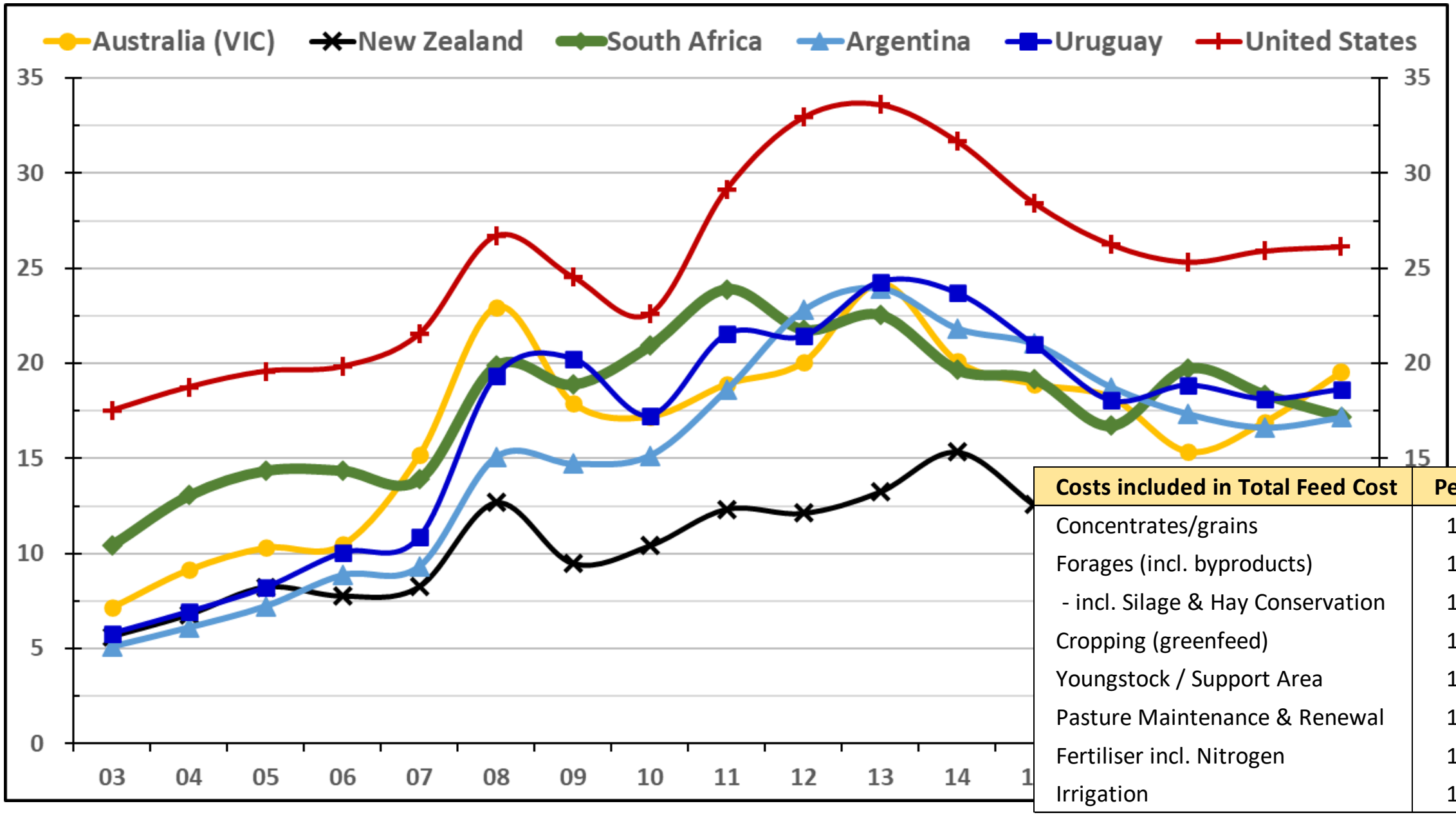



| Pasture as per cent of cow's diet | Australia | New Zealand | Argentina | Uruguay | South Africa |
|---|---|---|---|---|---|
| Change 2003-2019 | -17,1% | -2,4% | -16,8% | -8,4% | -10,3% |

# Cost of total feed (supplement & pasture) (USD c/litre ECM)




| Costs included in Total Feed Cost | Percent |
|---|---|
| Concentrates/grains | 100% |
| Forages (incl. byproducts) | 100% |
| - incl. Silage & Hay Conservation | 100% |
| Cropping (greenfeed) | 100% |
| Youngstock / Support Area | 100% |
| Pasture Maintenance & Renewal | 100% |
| Fertiliser incl. Nitrogen | 100% |
| Irrigation | 100% |

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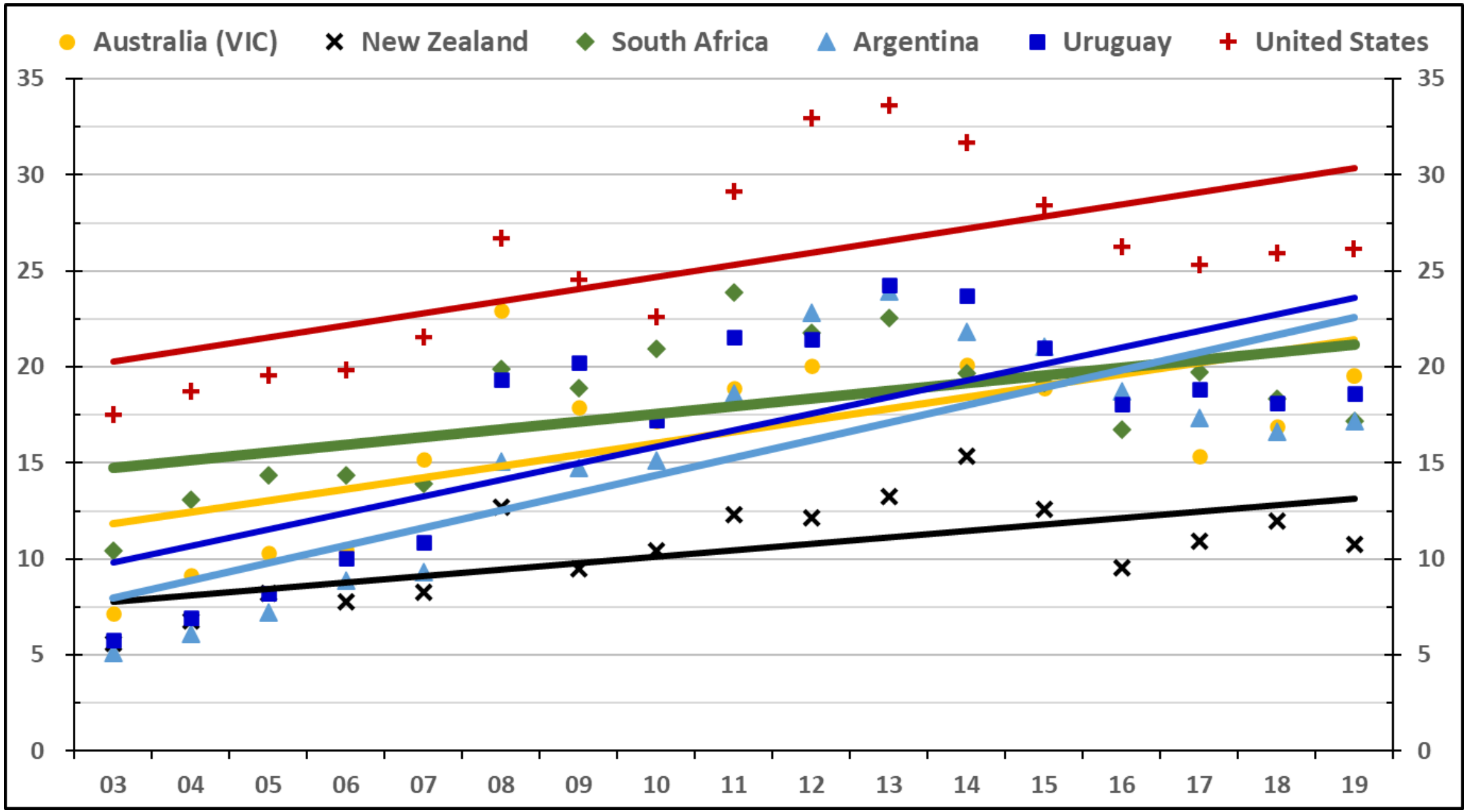
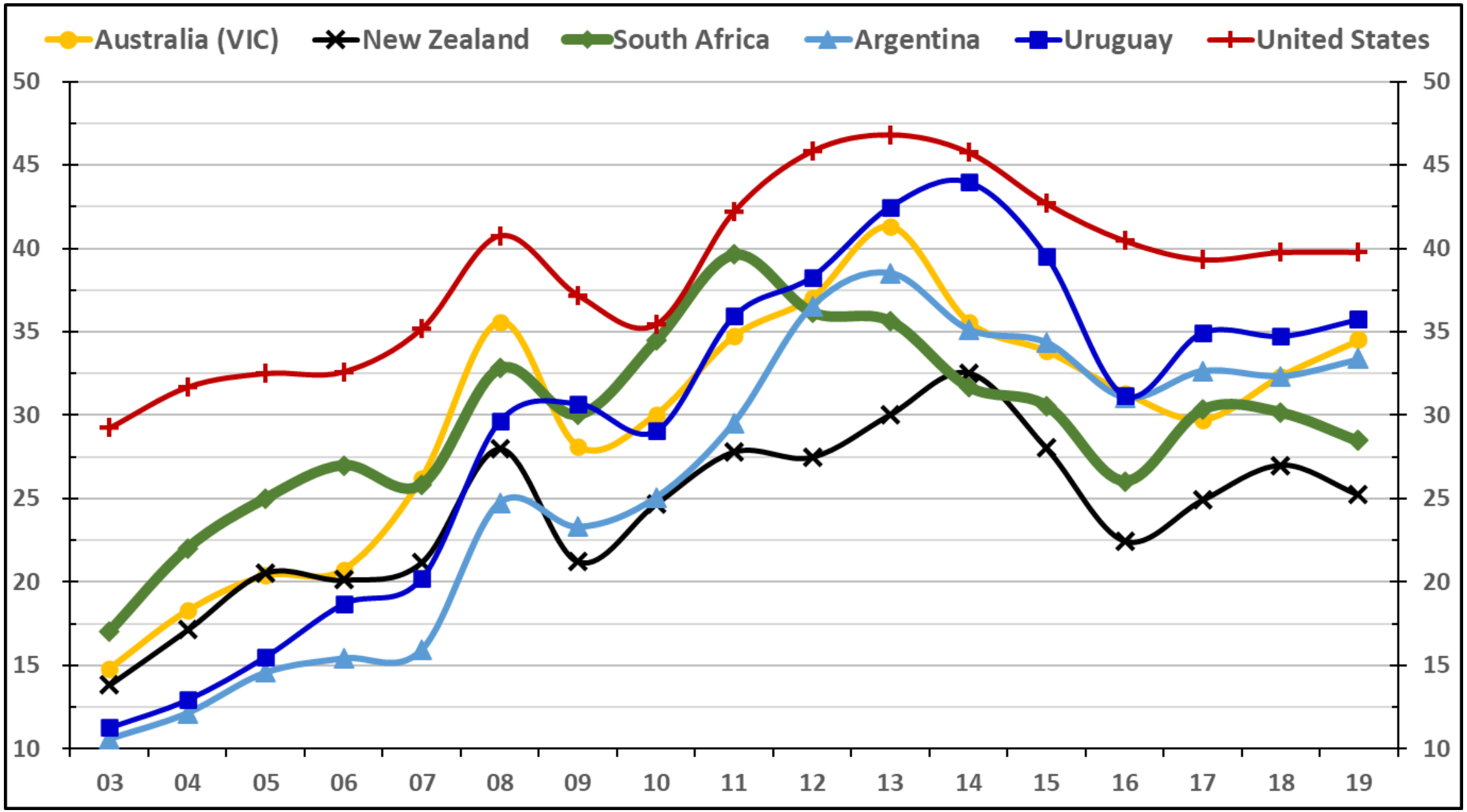


# Total operating expenses per litre (USD c/litre ECM)



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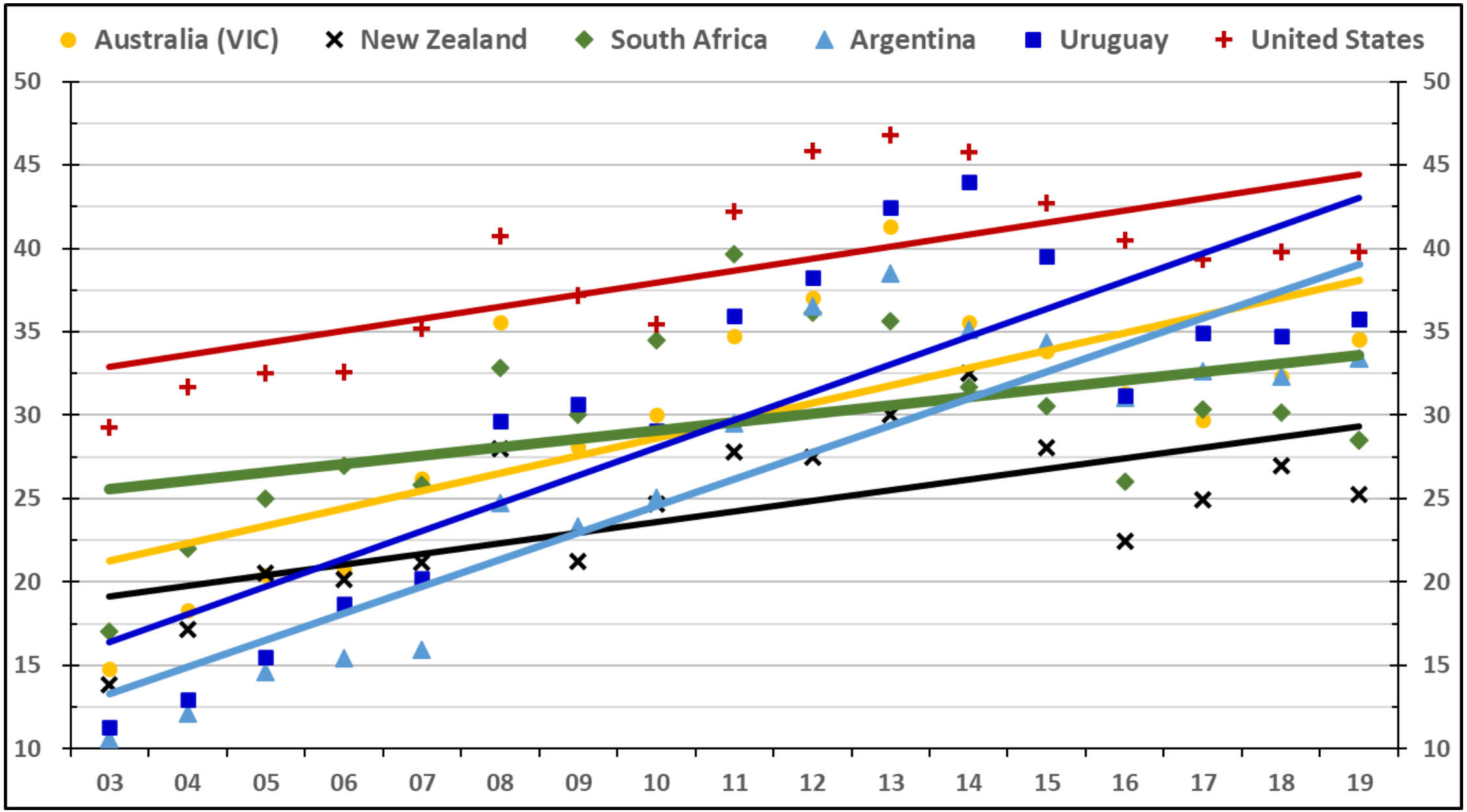
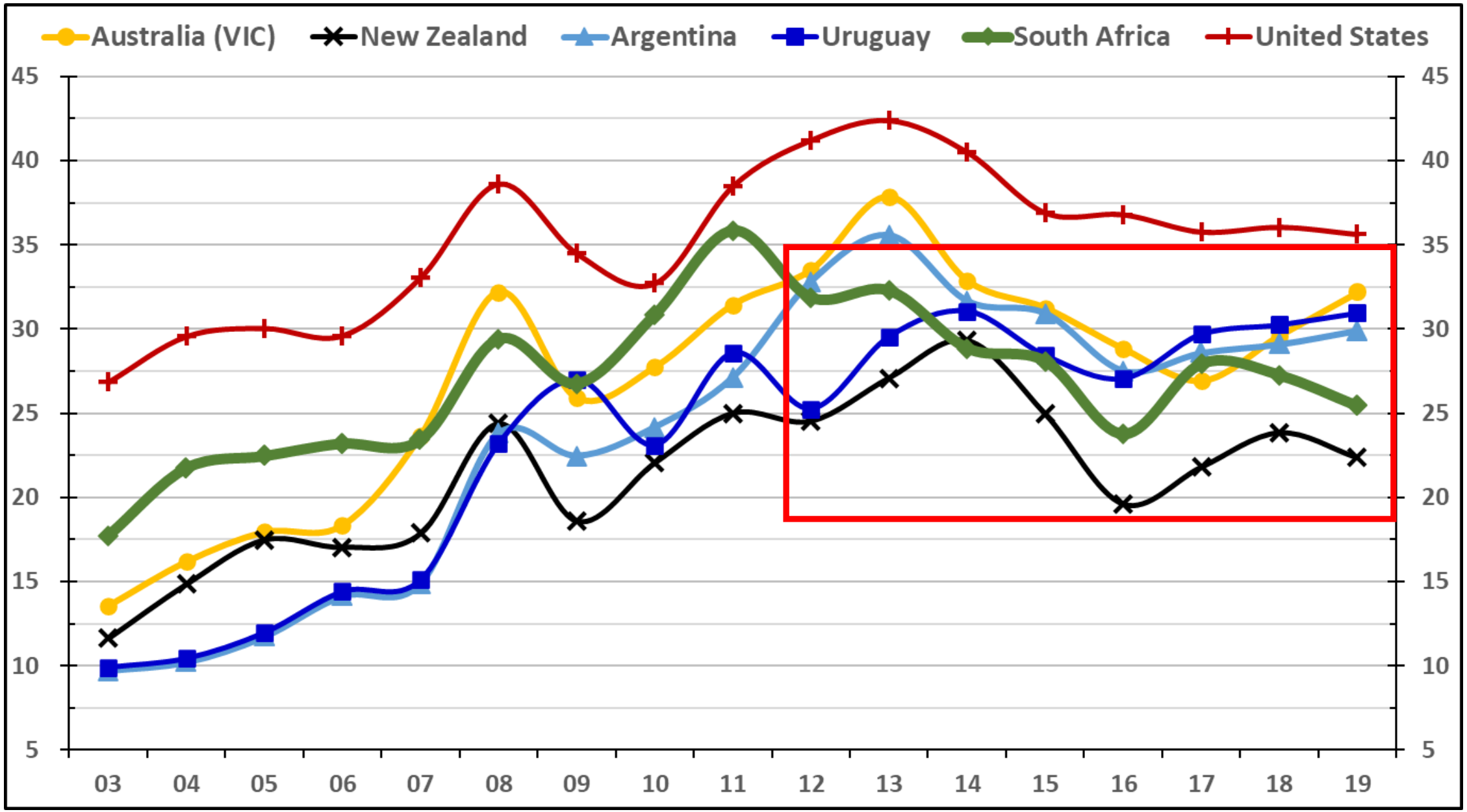


# Summary of South African dairy industry performance

## Strengths

1. High pasture harvest
2. Low labour cost
3. Comparatively low cost of production

# Cost of production (USD c/litre ECM)



# Summary of South African dairy industry performance

## Strengths

1. High pasture harvest
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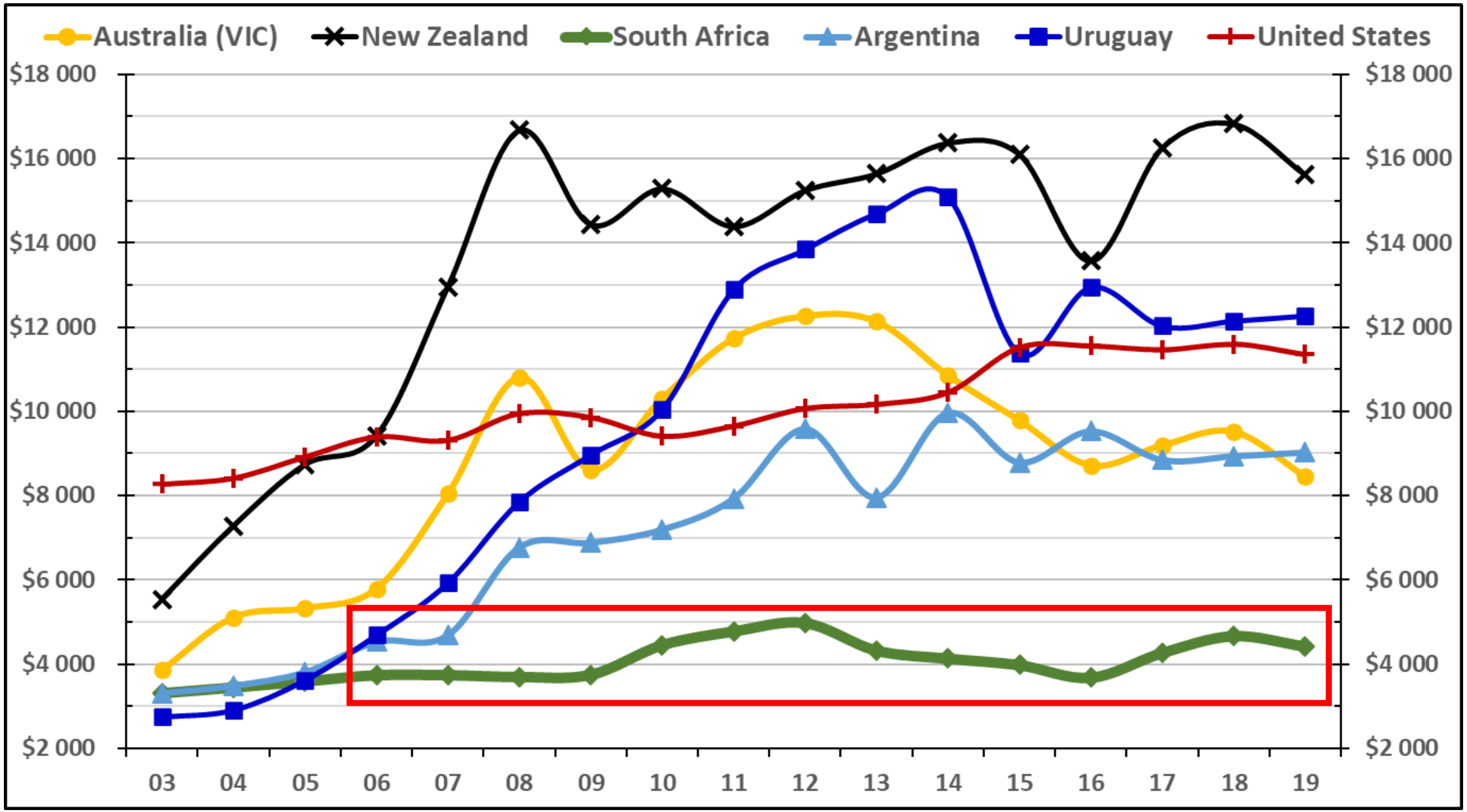
4. Low invested dairy asset value per cow

# Total assets per cow (USD/cow)



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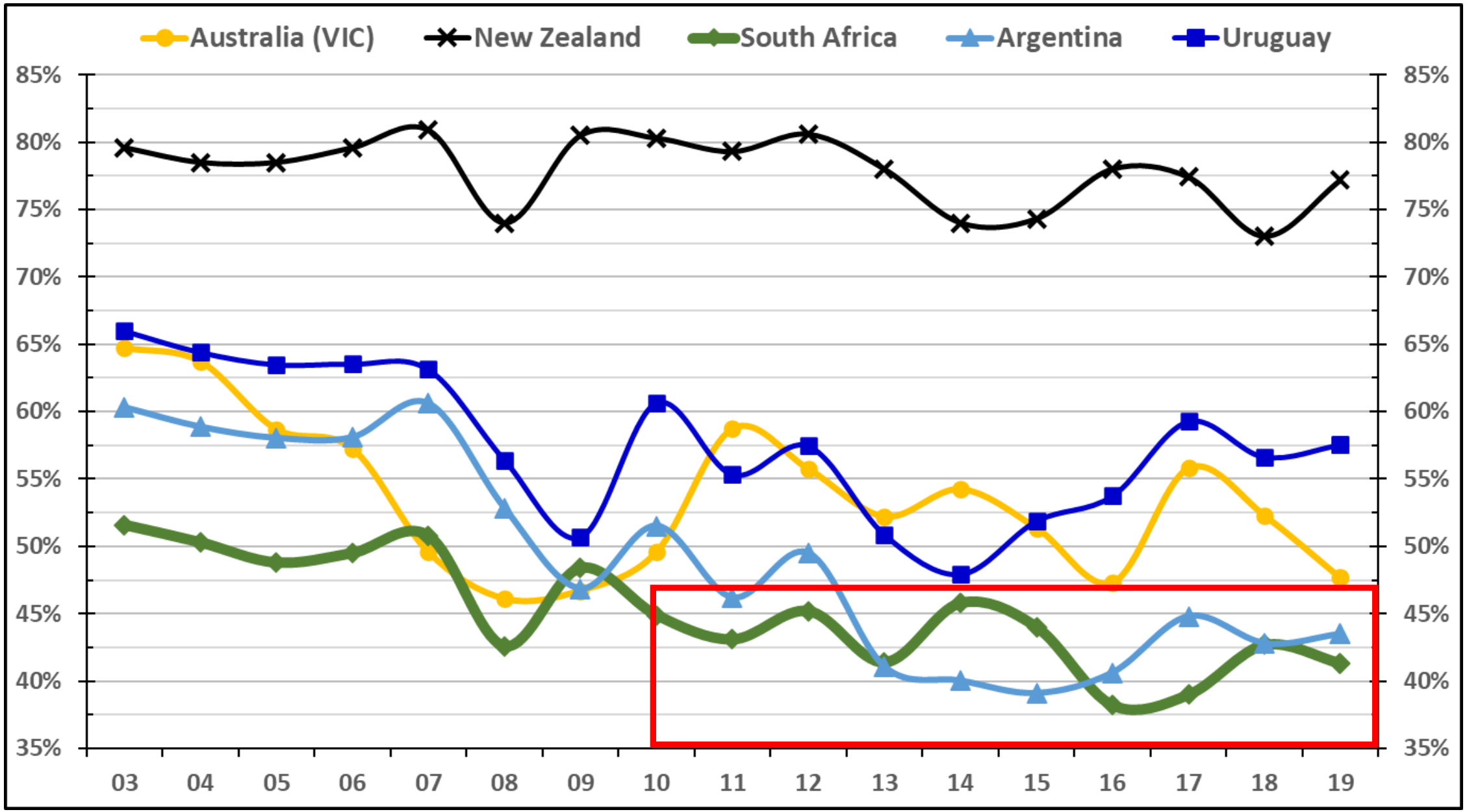
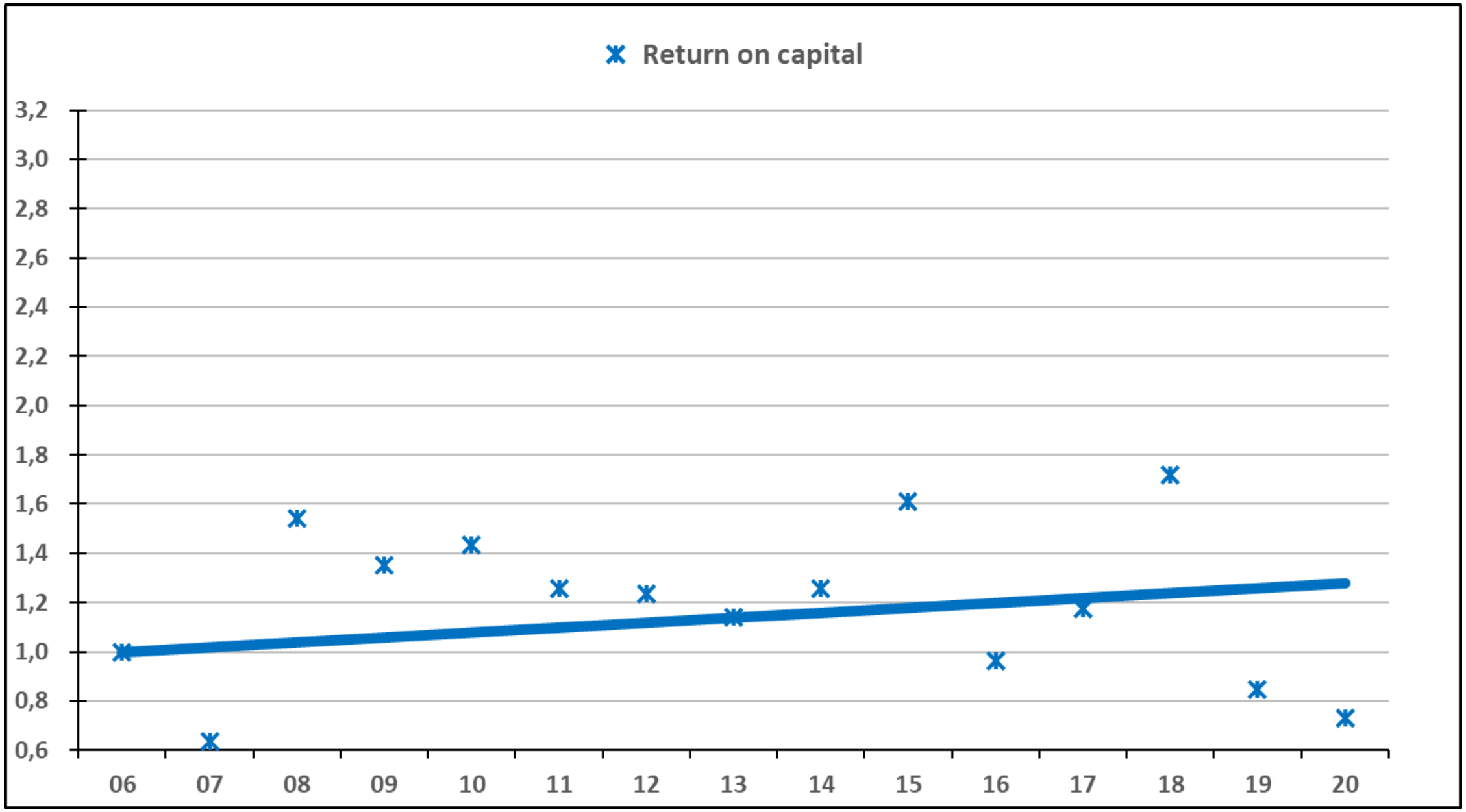


# Trends in profit and asset values (2005/06 Base = 1,0)



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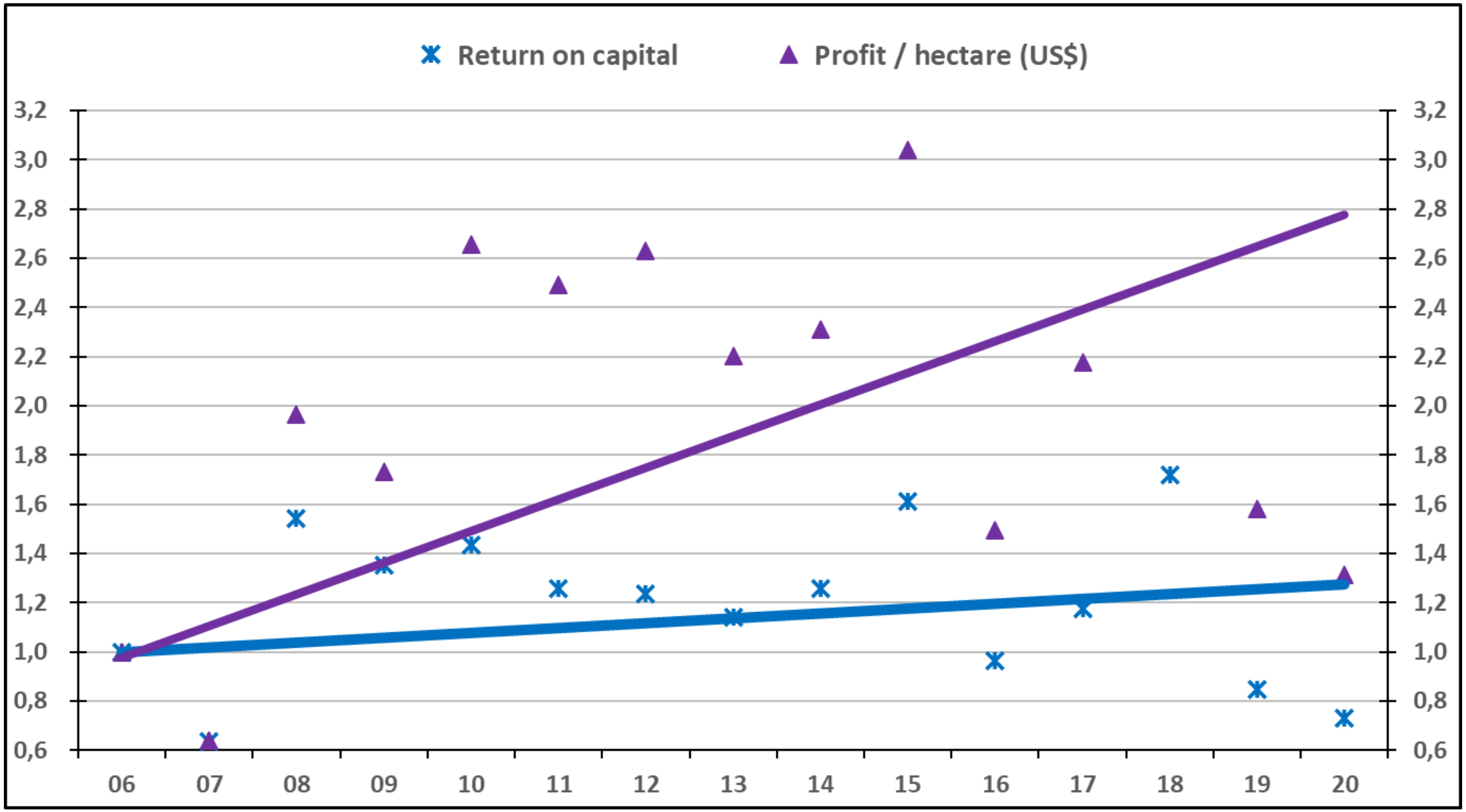

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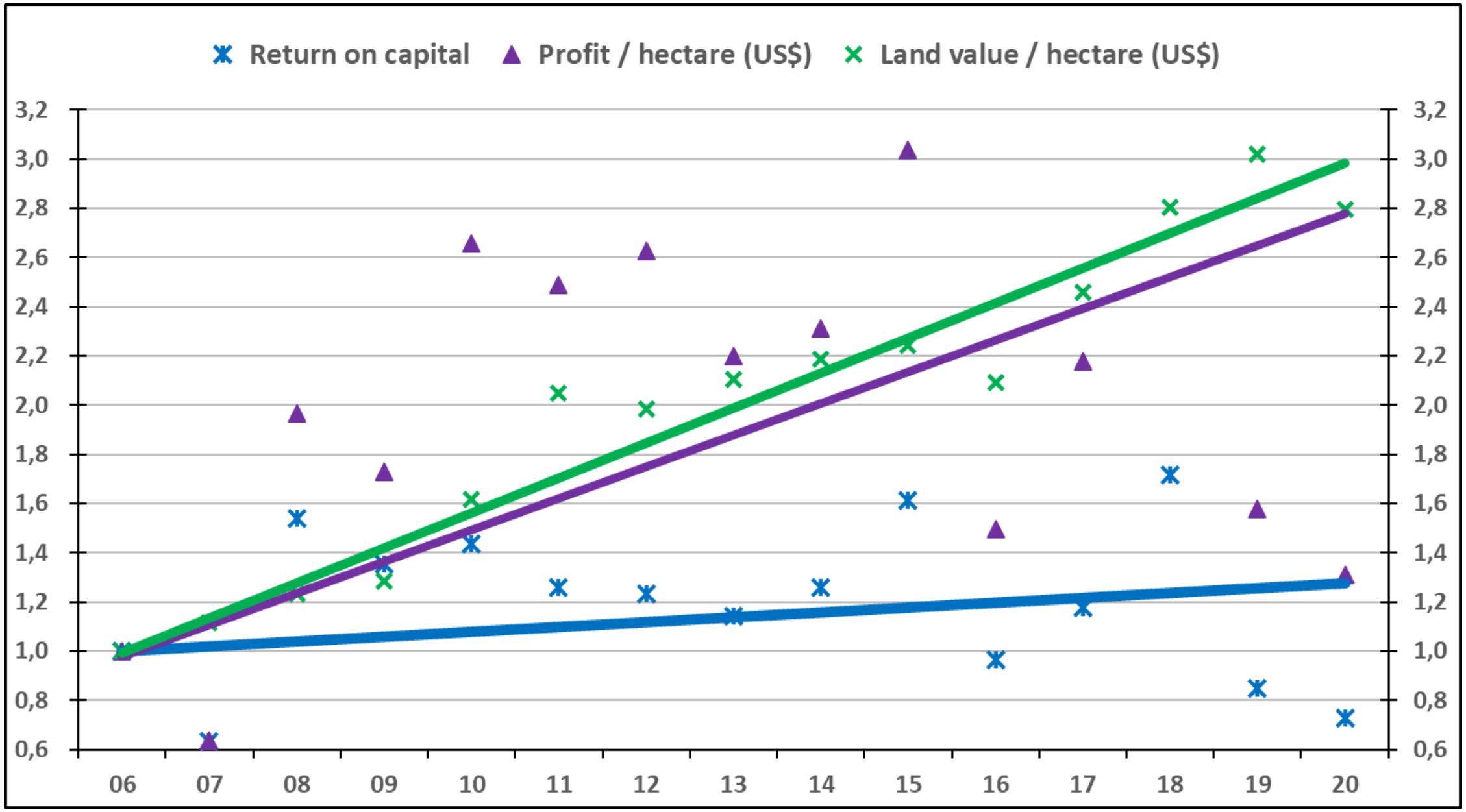

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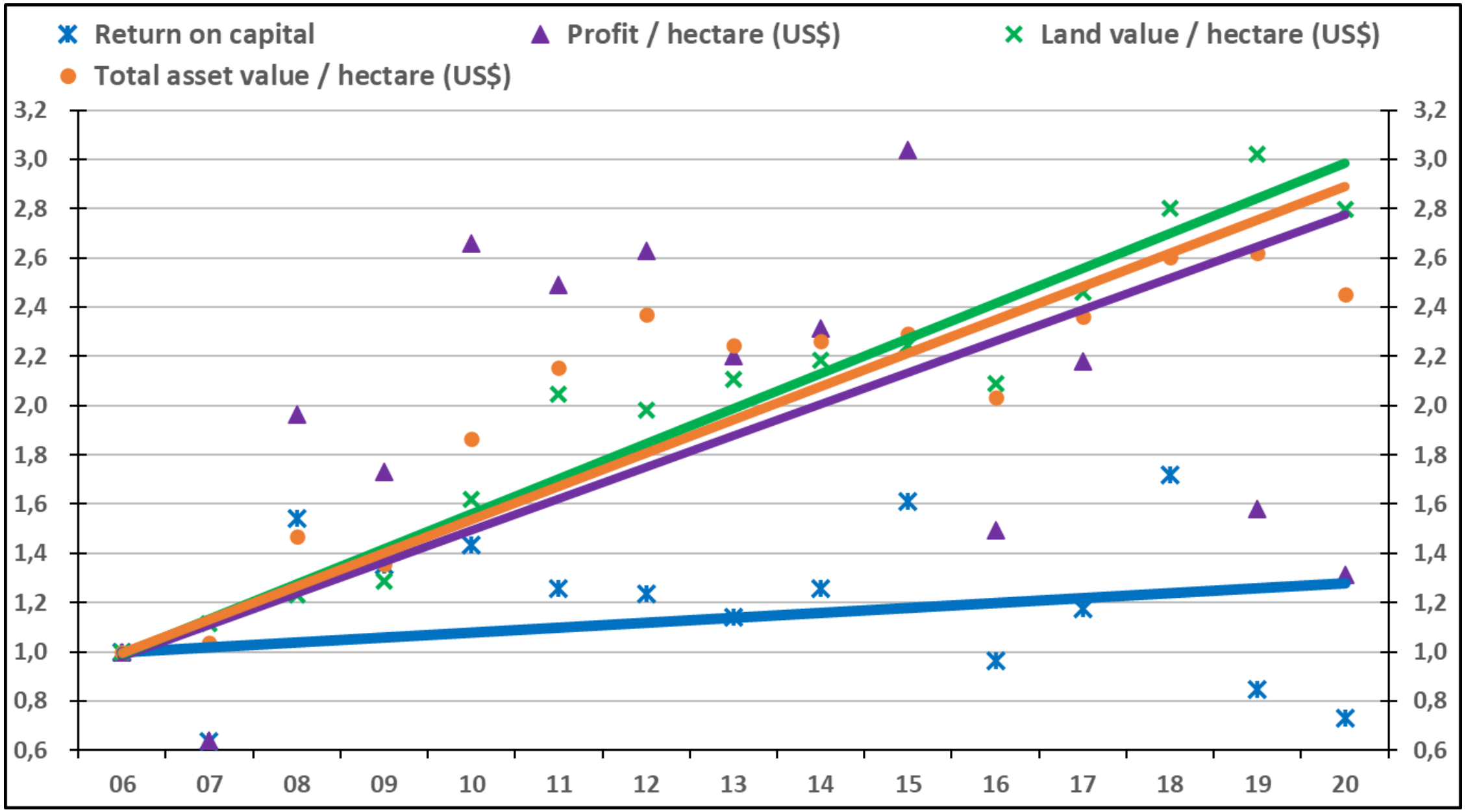

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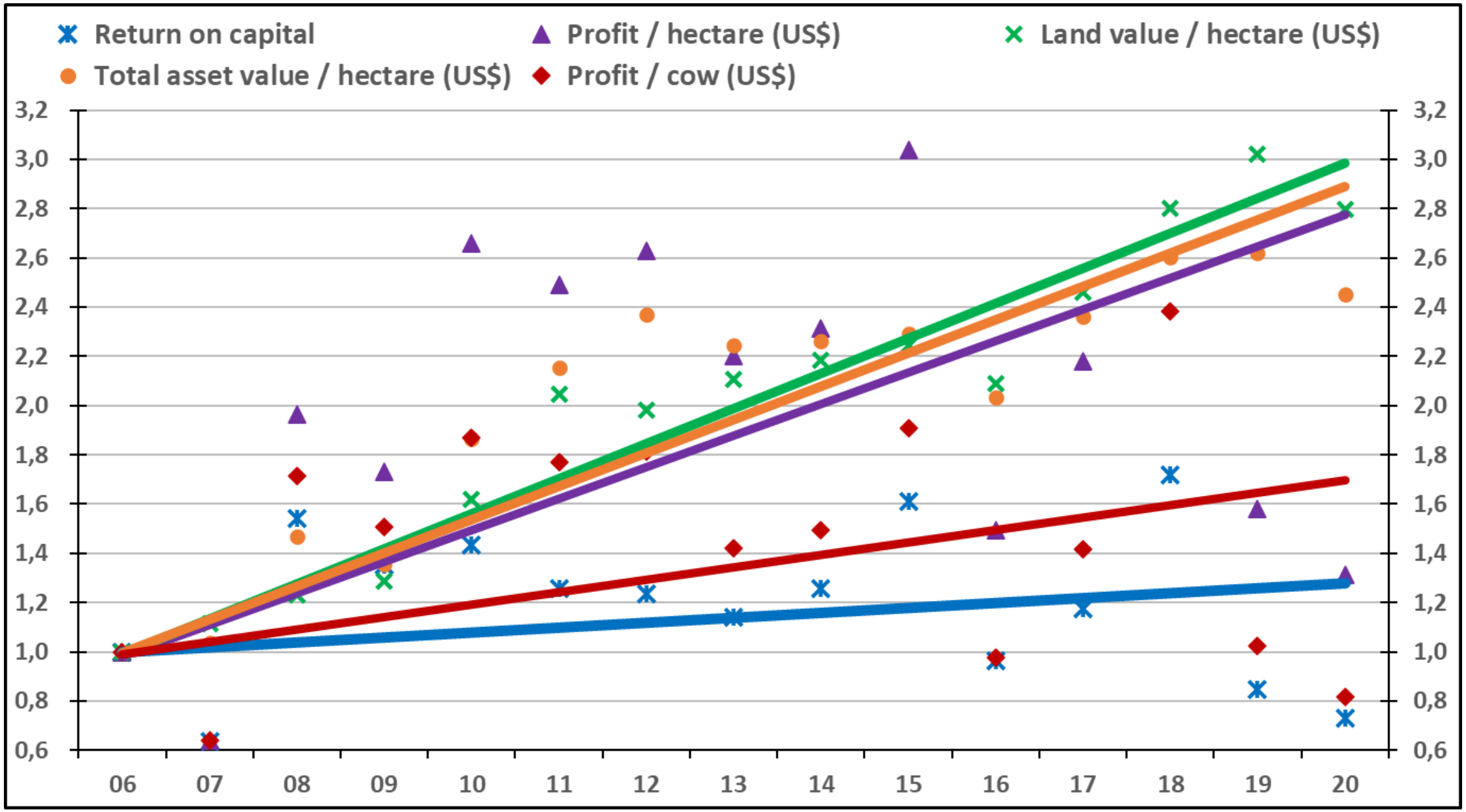

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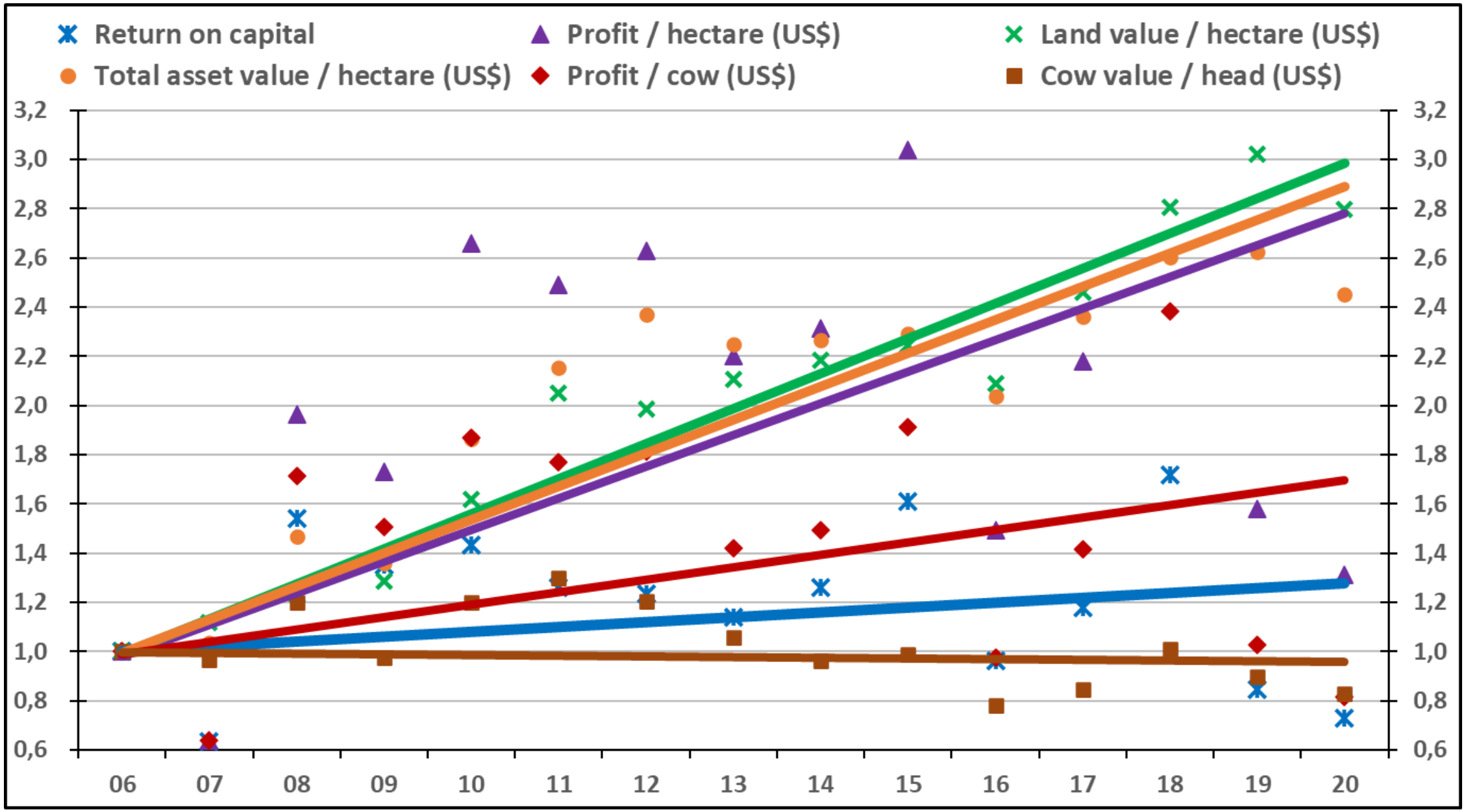

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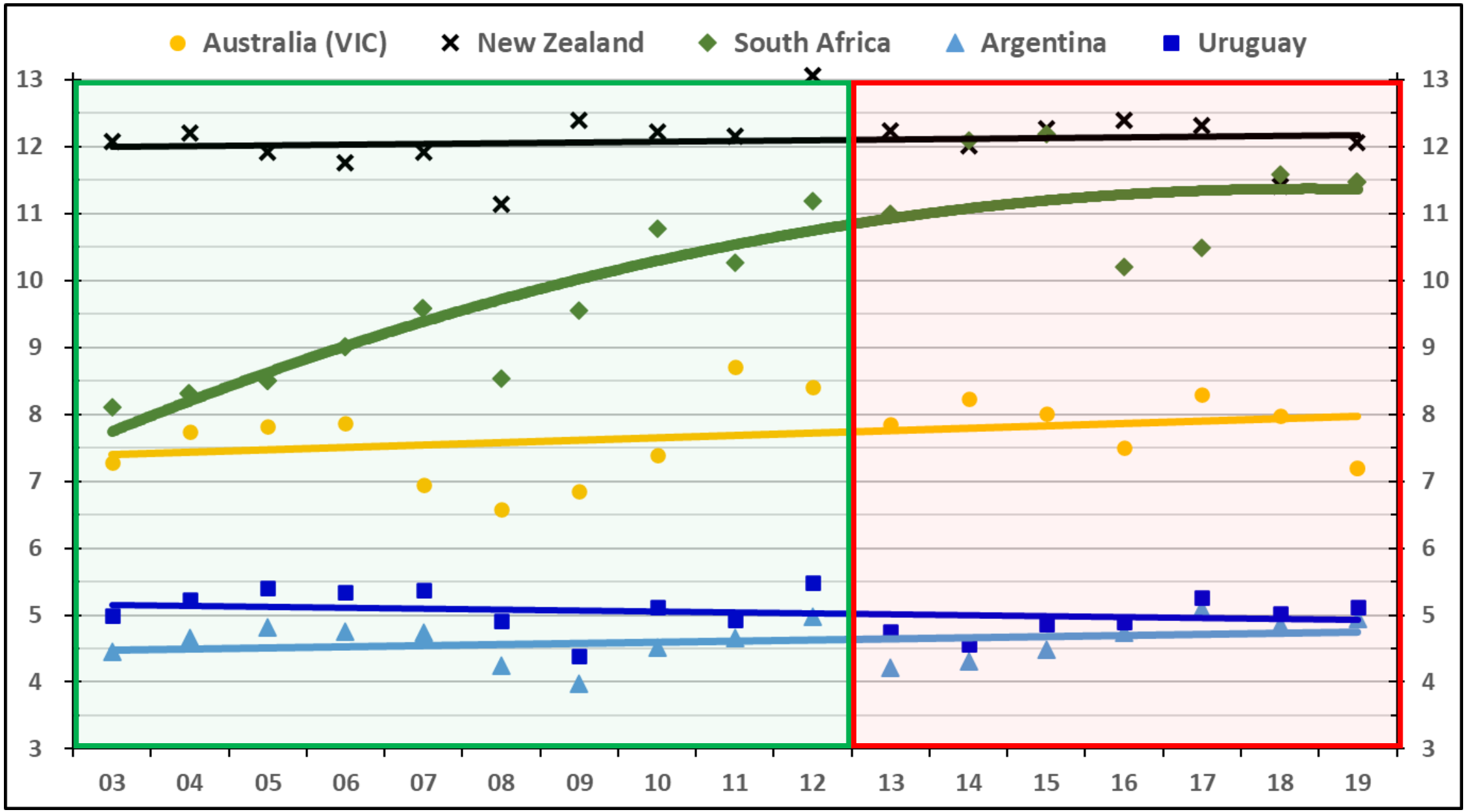
2. Gains from increasing pasture harvest now largely realised

# Pasture harvest (tonne dry matter per hectare per year)



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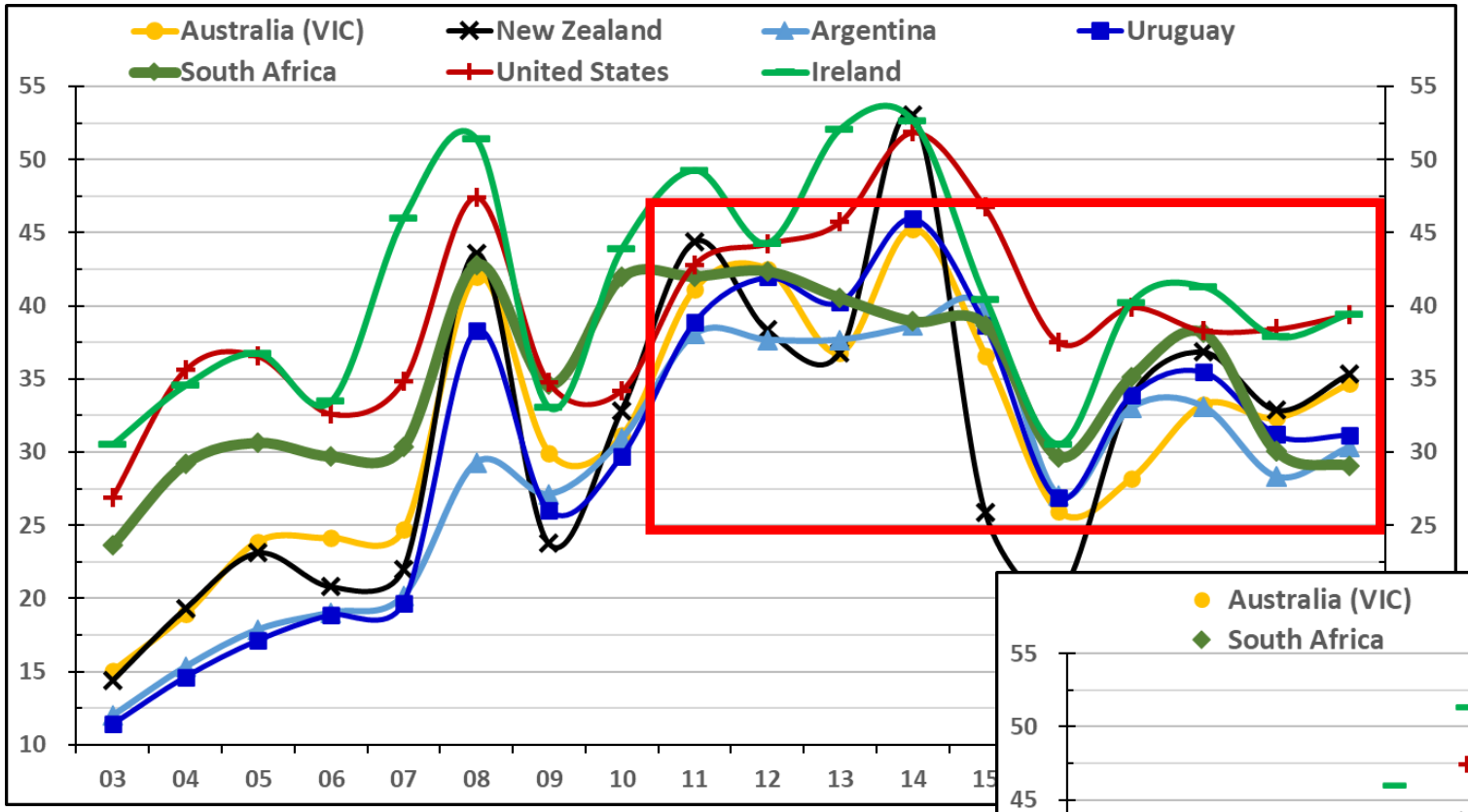
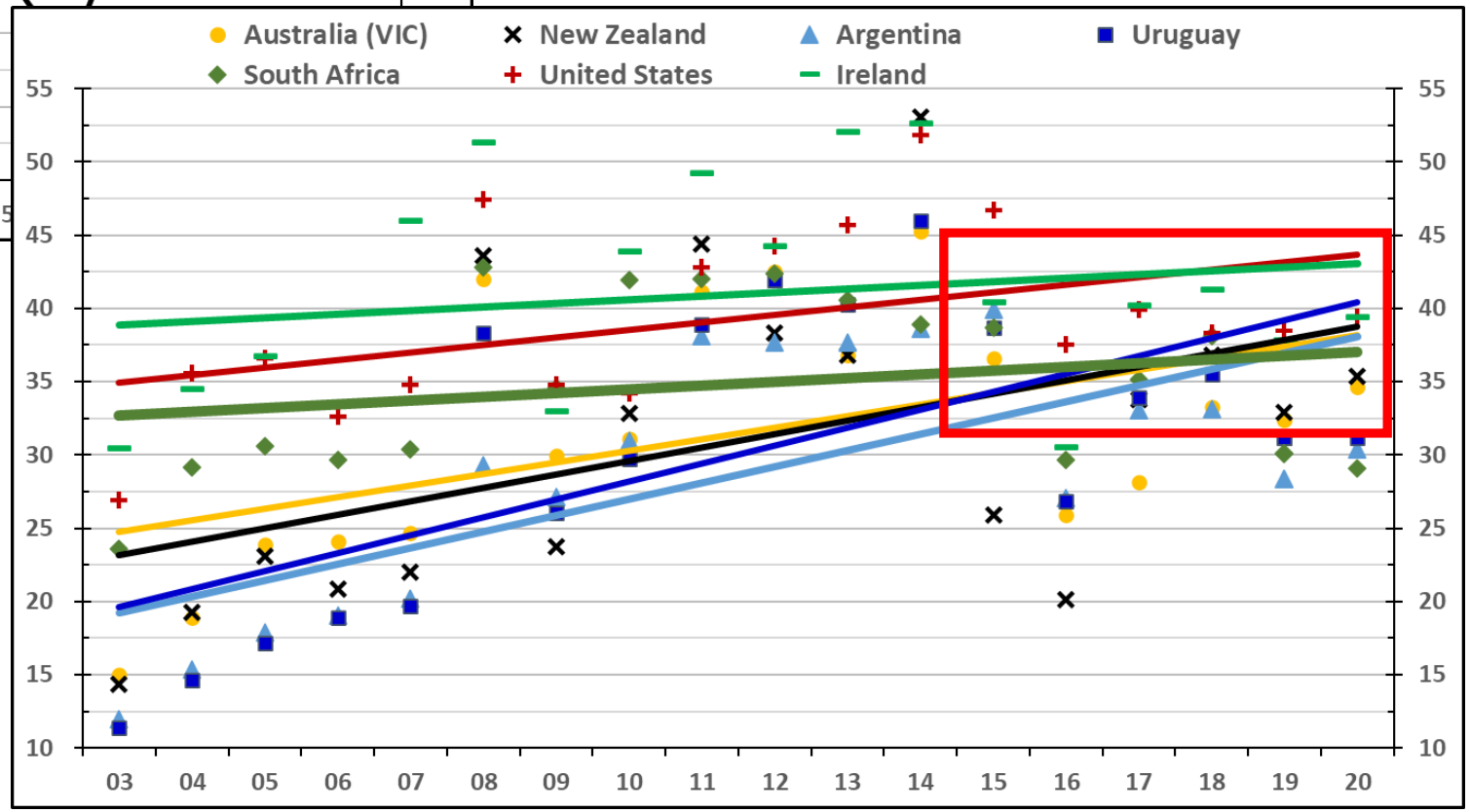



# Milk price

## (USD c/litre ECM)




**No longer any milk price differential in South Africa between domestic and export milk production…?**

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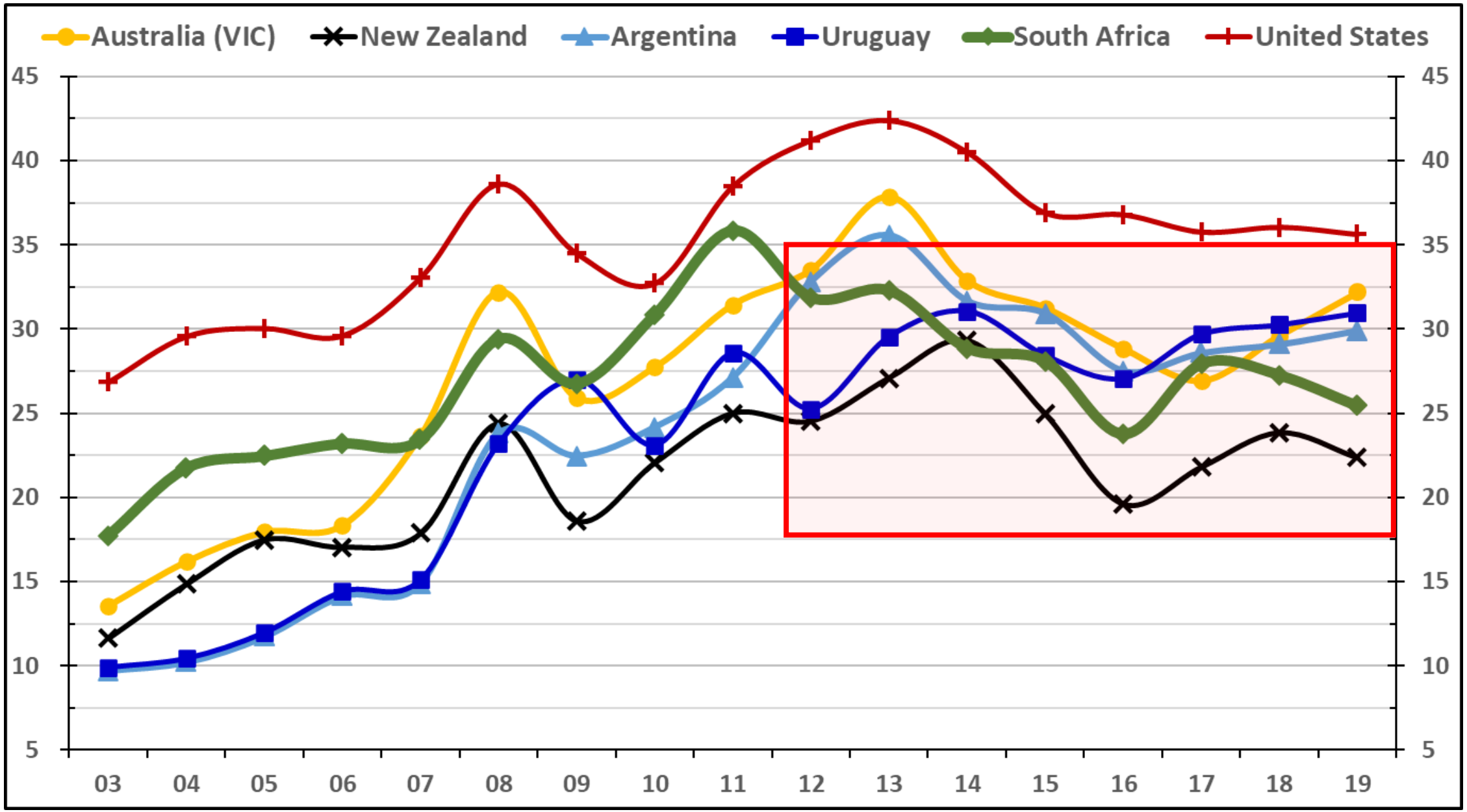


# Steps for South Africa to become a milk exporter

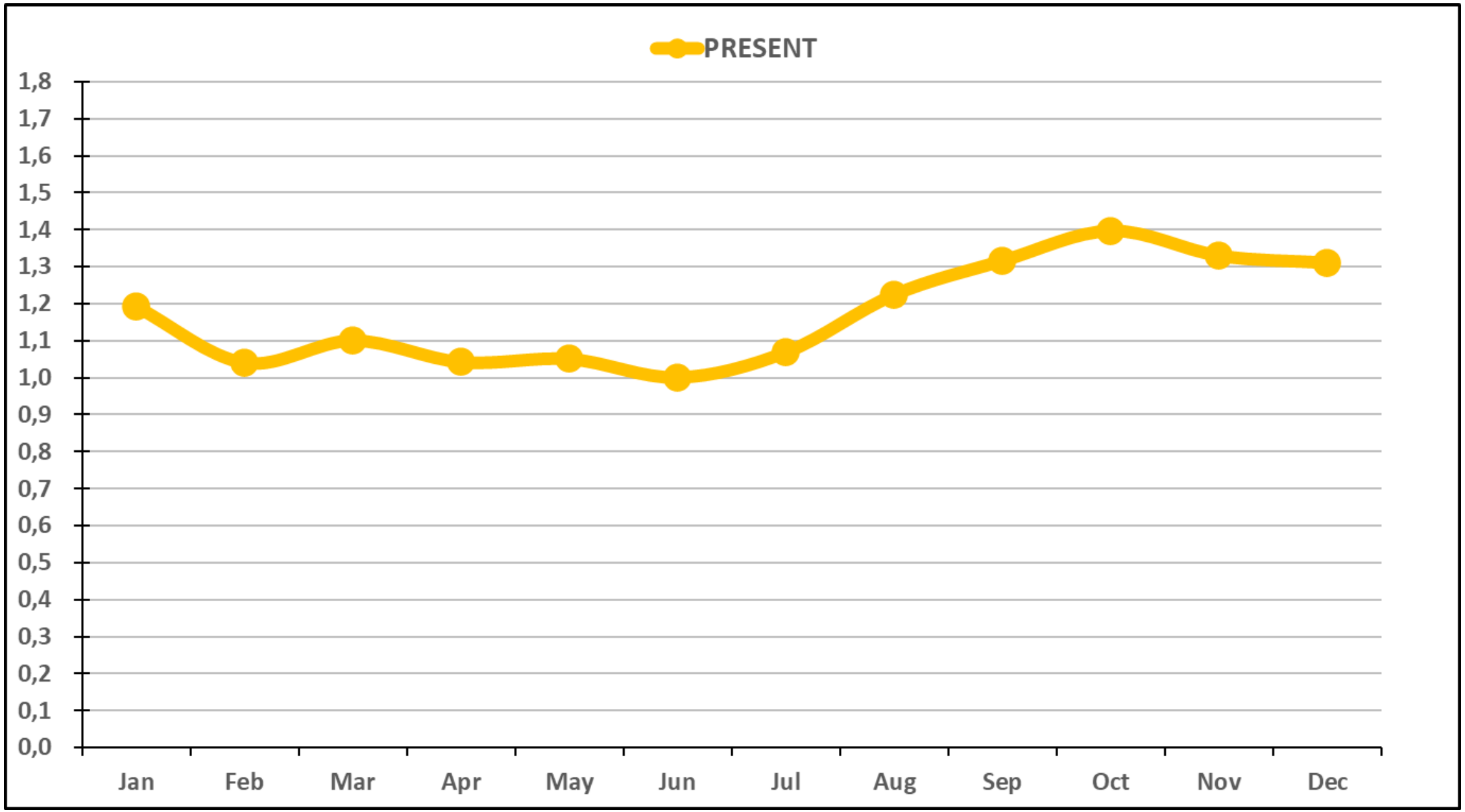
Time required to develop and sustain an export “channel”

Initially requires a processing facility of sufficient capacity

Processing facility requires sufficient milk all year round

- Not just for ‘disposing’ of seasonal surpluses

# Transitioning national milk production to an export industry



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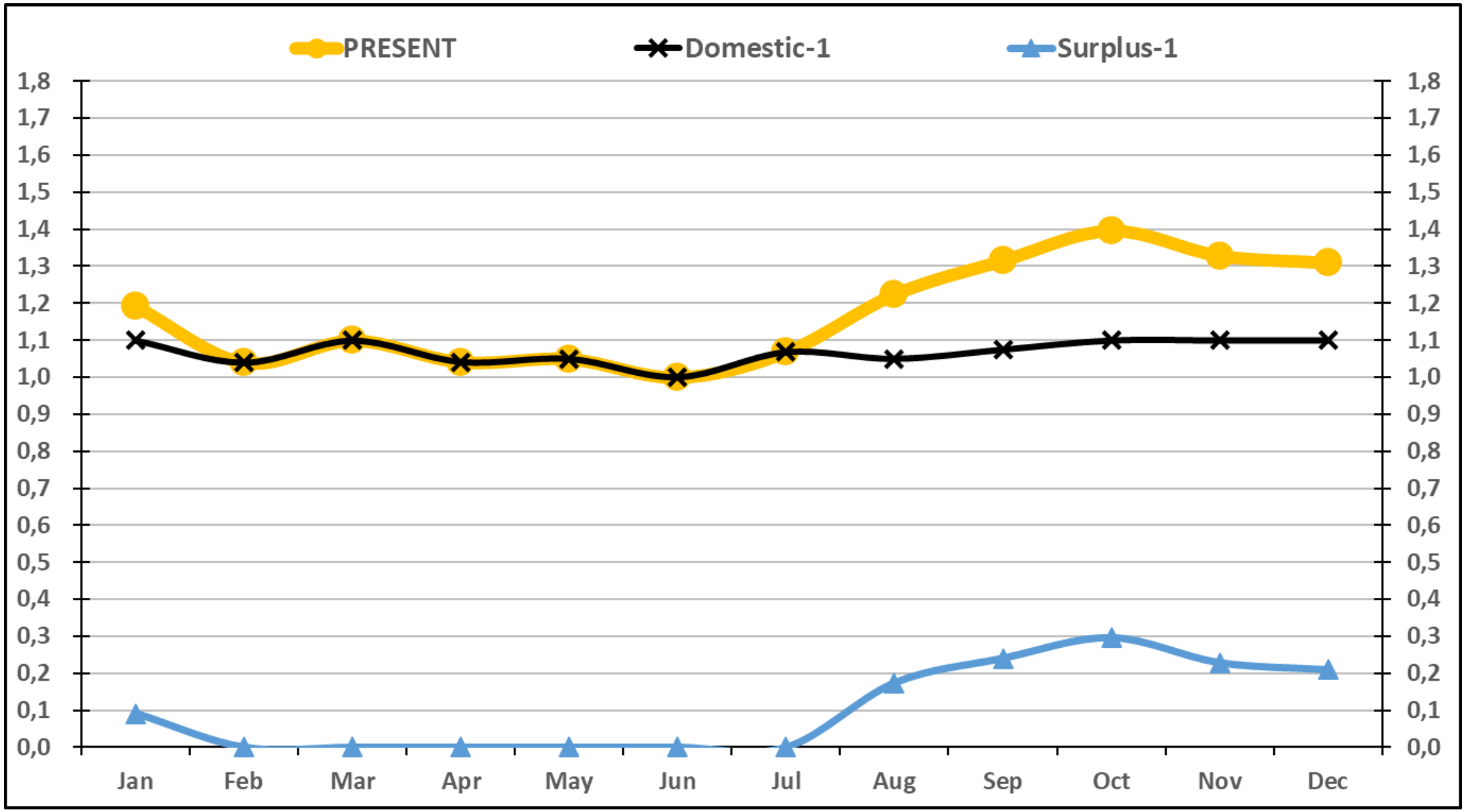

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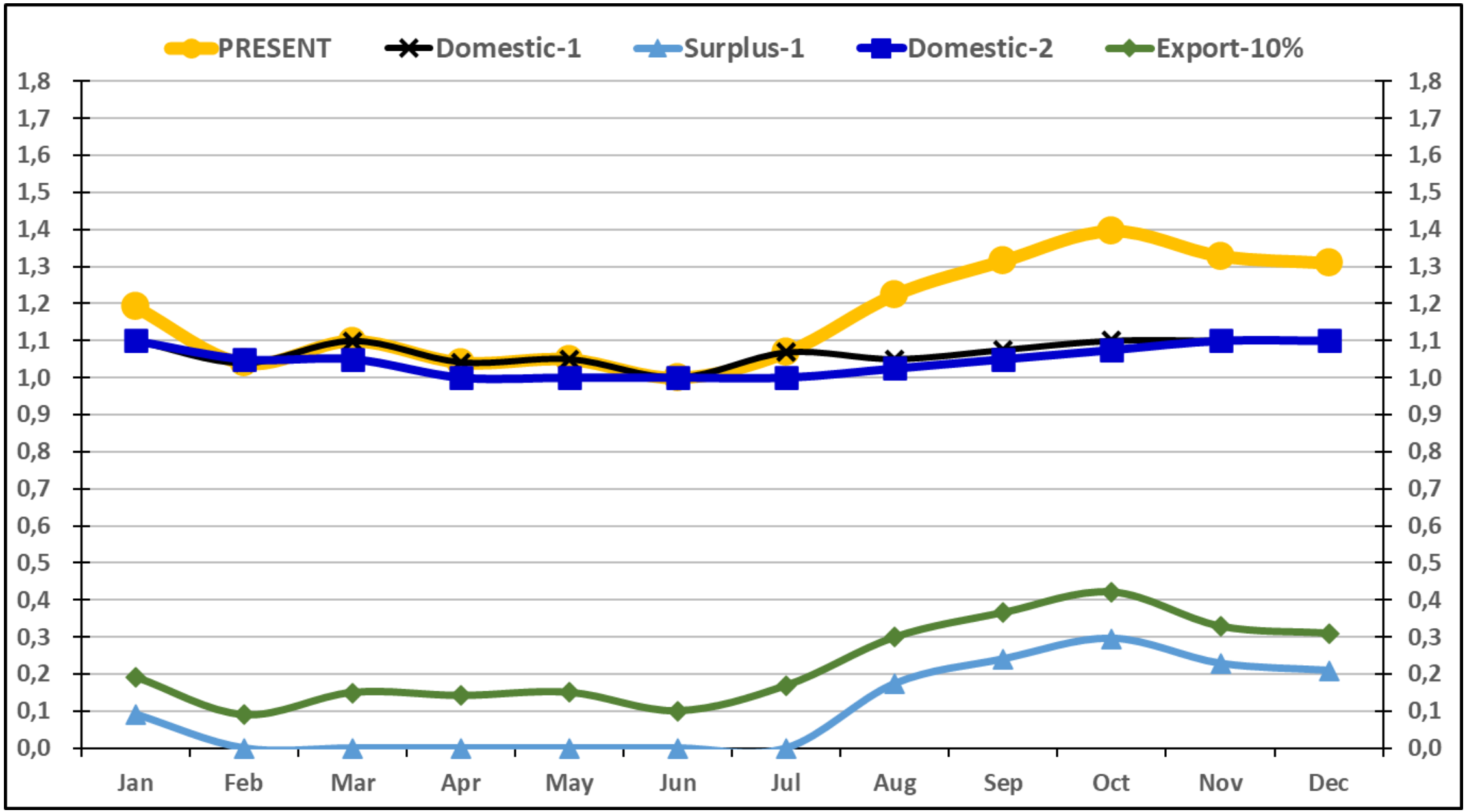

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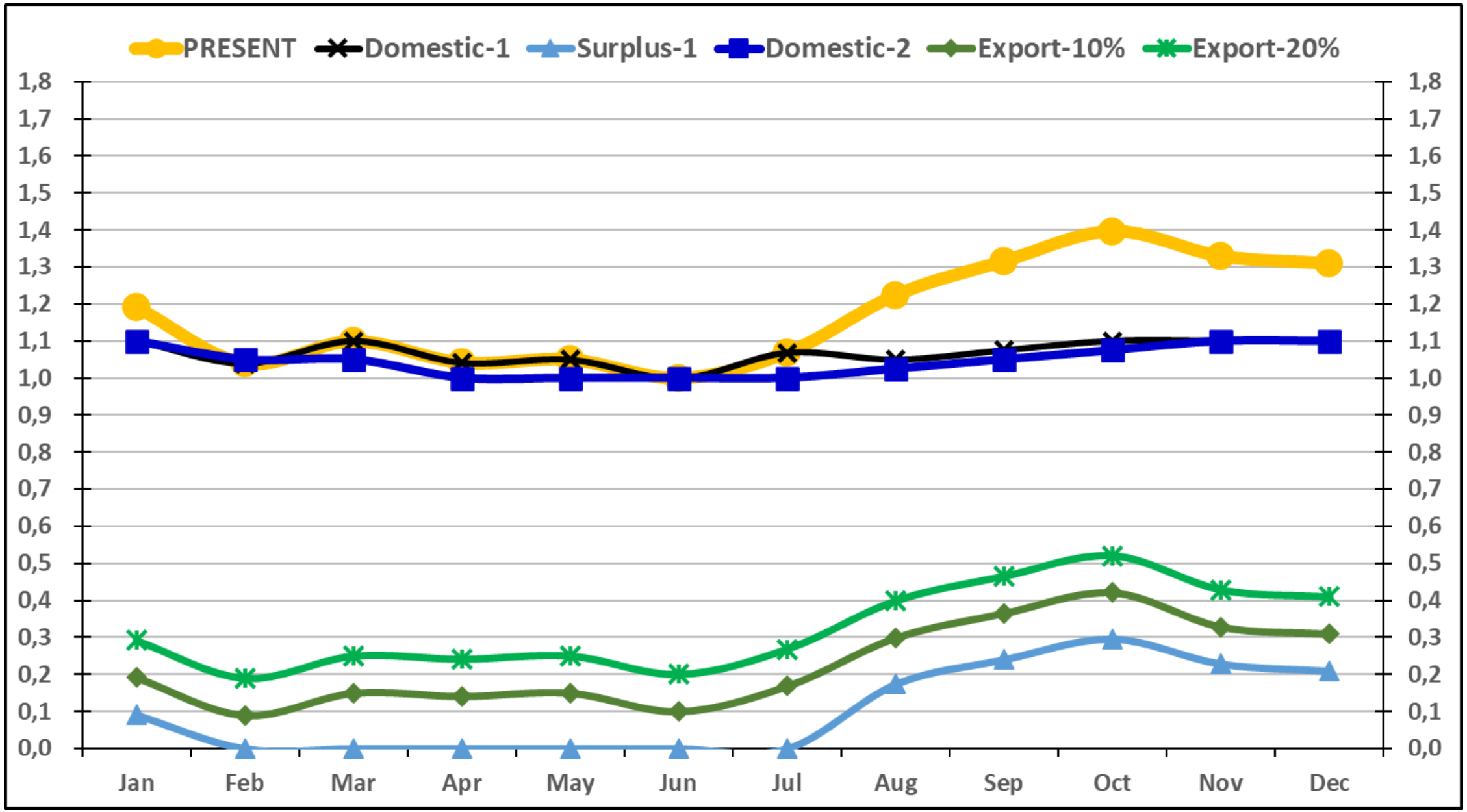

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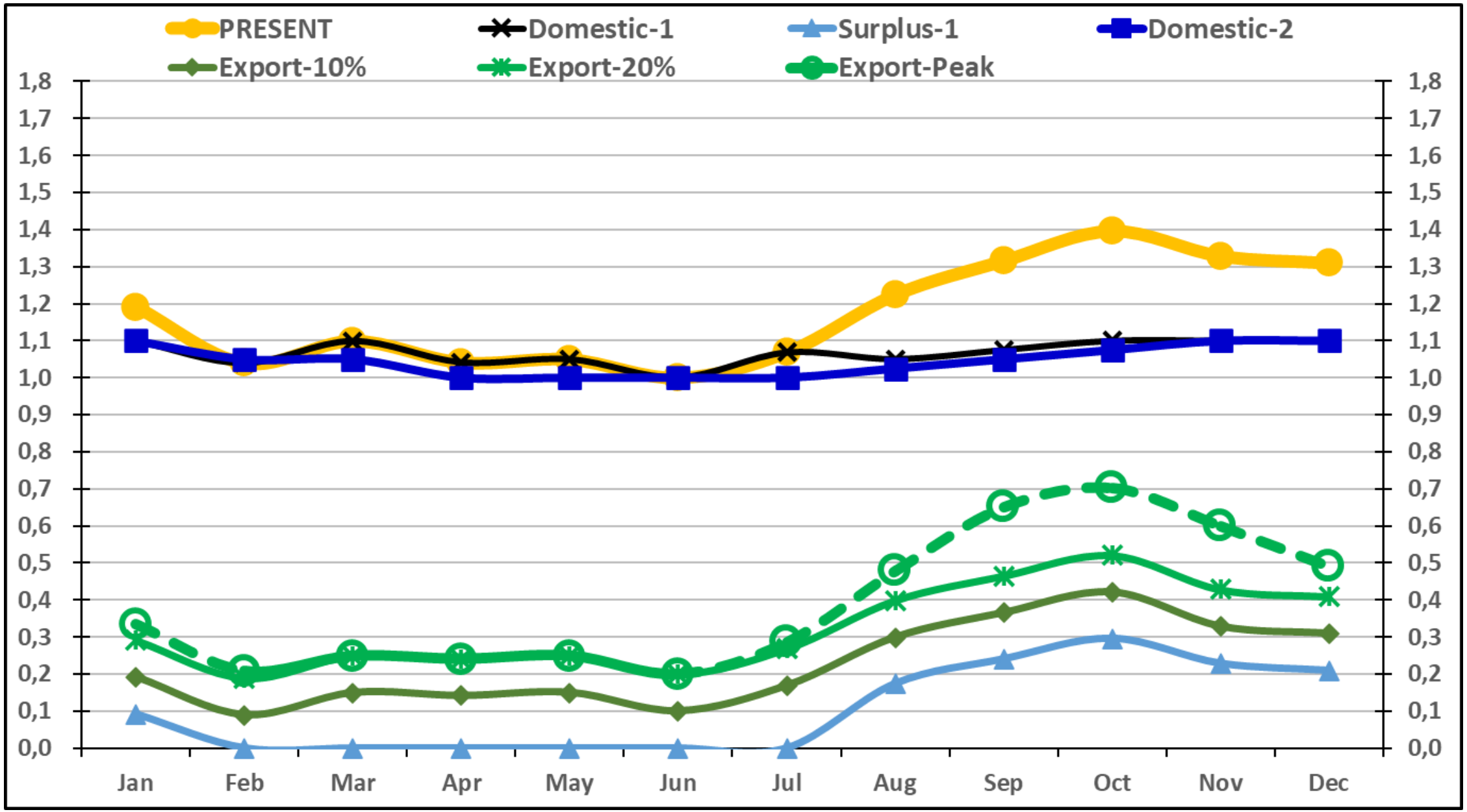

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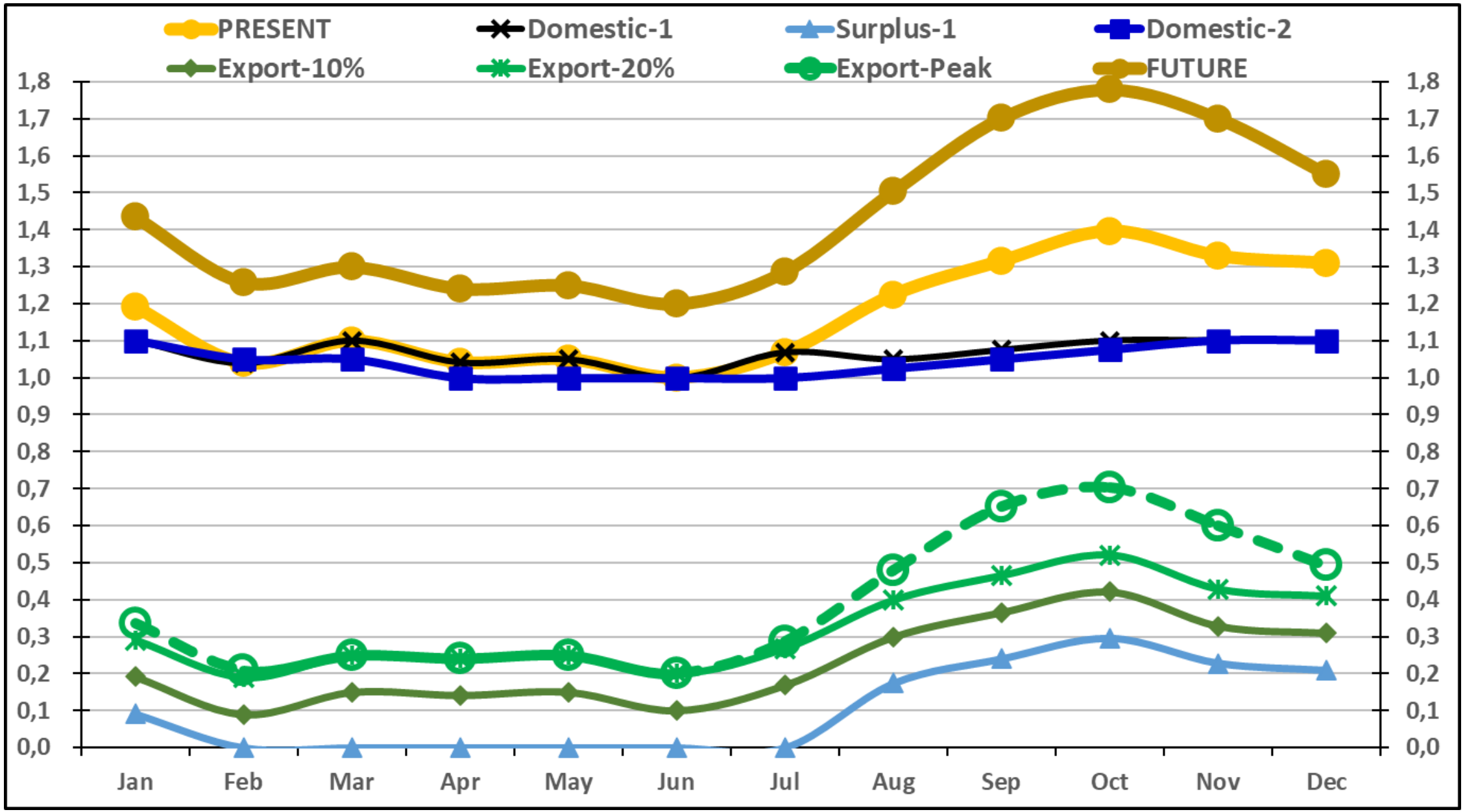

# Steps for South Africa to become a milk exporter

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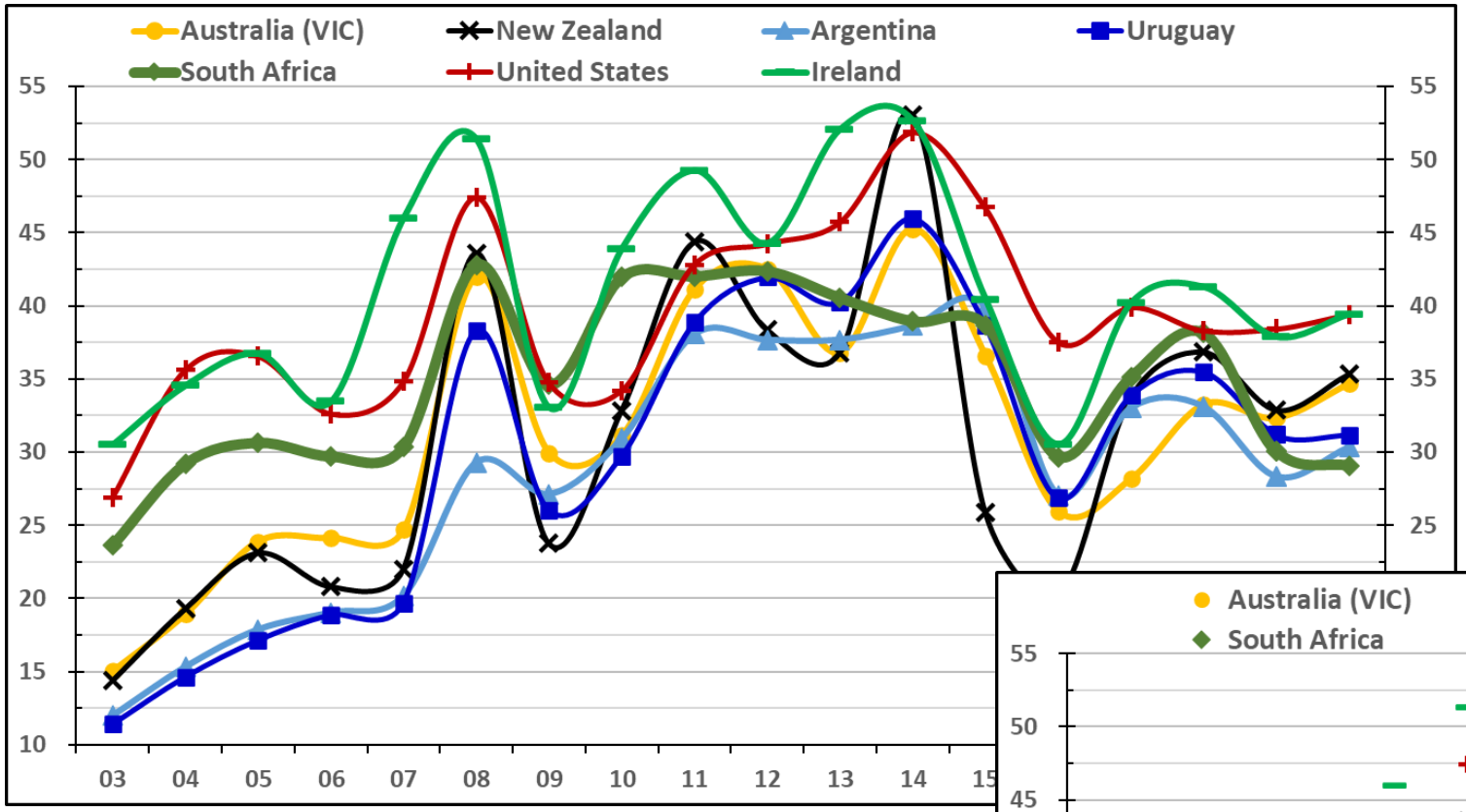
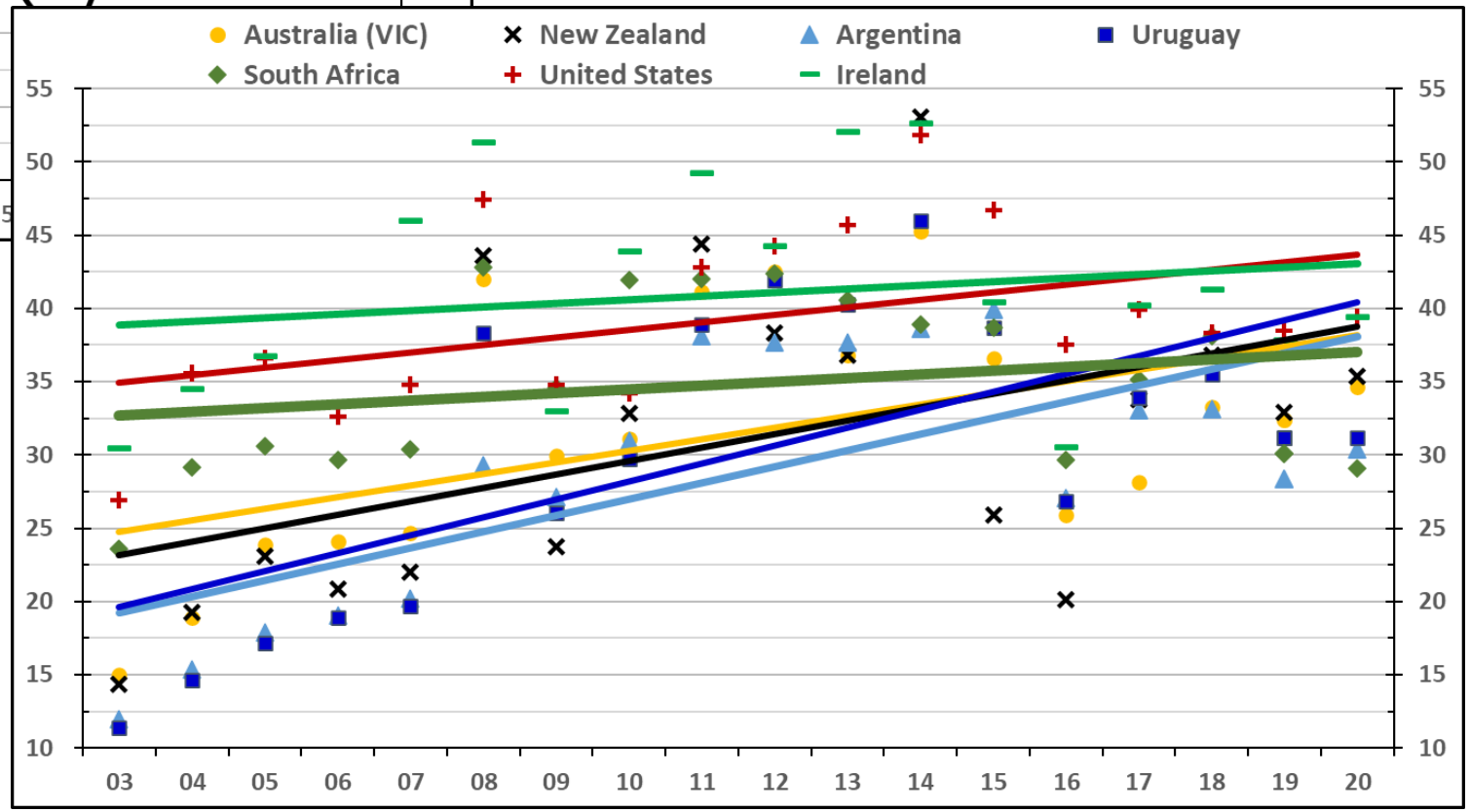
Owners of processing facility require financial support to bridge gap between export and domestic market milk prices…or do they?




# Milk price

## (USD c/litre ECM)




**No longer any milk price differential between domestic and export milk production in South Africa?**

# Steps for South Africa to become a milk exporter

Standard Bank

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Support required for a defined period over which national milk supply grows so that exporting operation becomes established and secure

Opportunity for the dairy industry to become a significant milk exporter and earner of foreign exchange…

…so is industry and even government support possible?

## Thank you

BARENBRUG