

A REVIEW OF FUTURE PROSPECTS FOR DAIRYING



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A Review of Future Prospects

“ It is difficult to make predictions,
especially about the future ”

Contents

- Current World Dairy Situation
- Projections – Demand growth
- Projections – Dairy, Production, Consumption, Trade, Price
- Ireland's Competitiveness
- Price Volatility
- Conclusions

A Review: Sources include

- E Comm. Conference: The EU Dairy Sector: Developing Beyond 2015, Sept. 2013,
- especially E and Y, H Vesteylen, E. Comm., Thiele et al, EDA
- OECD-FAO Dairy Outlook 2013-2022
- Internat. Dairy Fed: World Dairy Situation
- Rabobank
- Teagasc/FAPRI-Agmemod

Current World Dairy Situation

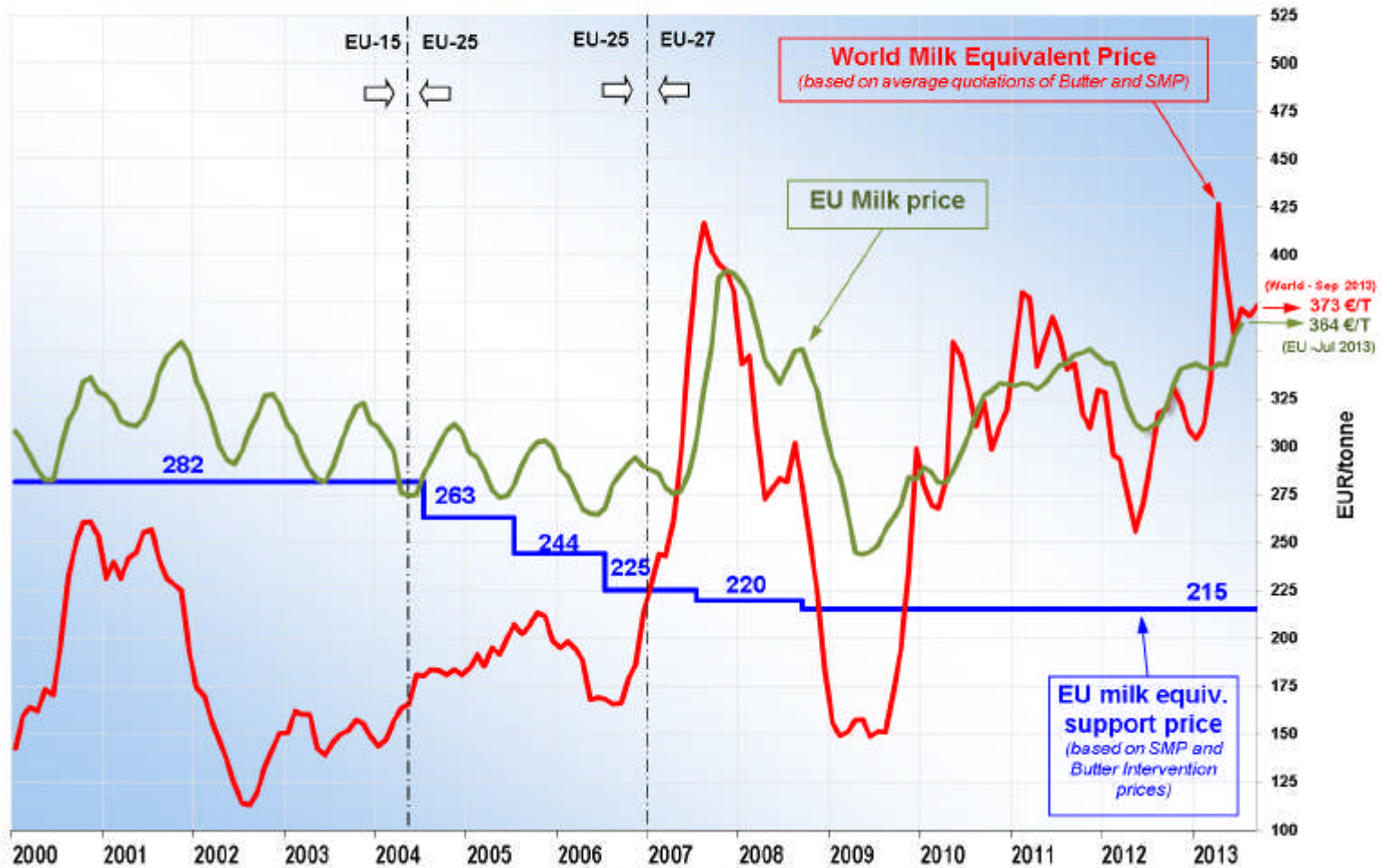
- World Milk/Milk Products Production and Consumption

-c750 mill. Tonnes (av. 2011-2012), growing by 2.3% (c 15 mt) pa over last decade

- World Milk Products Trade

- c 60 Million Tonnes Milk Equiv. = c8 % of World Production (excl. Intra EU Trade)

EU competitiveness - Milk



Demand Growth

- Population Growth
- Income Growth
- Changes in Tastes and Preferences

Projected Population Growth

(U.N. medium projections)

• <u>Region</u>	<u>2012</u>	<u>2050</u>	
• World	7,053	9,150	+ 30%
• Africa	1,072	1,998	+ 86%
• Asia	4,216	5,231	+ 24%
• Latin America	596	729	+ 22%
• North America	346	448	+ 29%
• Europe	740	691	- 7%

Population Growth

• <u>Region</u>	<u>1950</u>	<u>2012</u>	
• World	2,529	7,053	+ 280%
• Africa	227	1,072	+ 470%
• Asia	1,403	4,216	+ 300%
• Latin America	167	596	+ 360%
• North America	172	346	+ 200%
• Europe	547	740	+ 35%

Dynamics of Global Food Demand

- 1.25 billion people live on less than \$1/day; close to 1 billion suffer under-nutrition or hunger.
- 2.8 billion people live on less than \$2/day; by \$2 per day, most hunger (calorie) problems solved.
- Between \$2 and \$10 per day people eat more meat, dairy products, fruits, vegetables & edible oils, causing rapid growth in raw ag. commodity demand.
- After \$10 per day, people buy more processing, services, packaging, variety, and luxury forms, but not more raw ag commodities.

Projected World Food Demand

- World food demand could grow by 70% by 2050
 - 30% increase from world population growth – all in developing countries
 - 40% increase from broad-based economic growth in low income countries
- How many presently low income consumers are lifted out of poverty will be the *most important* determinant of the future global demand for food.
- The World Bank estimates that the number of people in developing countries living in households with incomes above \$16,000/year will rise from 352 million in 2000 to 2.1 billion by 2030.

Food Demand Growth- Conclusions

- The future is in developing countries, where there are many more people to be fed and incomes are growing.
- High-income country markets are mainly stable or even shrinking

Projections

- Milk and Dairy Products
 - Production
 - Consumption
 - -Trade

EU Milk Production/Deliveries Post 2015

	Mill. Tonnes	%
• OECD-FAO (Prodn.) (2010/2012-2022)	+8	+5
• Thiele et al. (Dels.) (2011-2022)	+ 7.1	+5
• Versteijlen, E.Comm (Prodn.) (2011-2022)	+8.3	+6
• M Johnson, Rabobank (Prodn) (2015-2020)	+10	+6.5
• E and Y (6 studies, 2008-2011)		Prodn: + 3-5 Price - 5-10

EU Exports post 2015

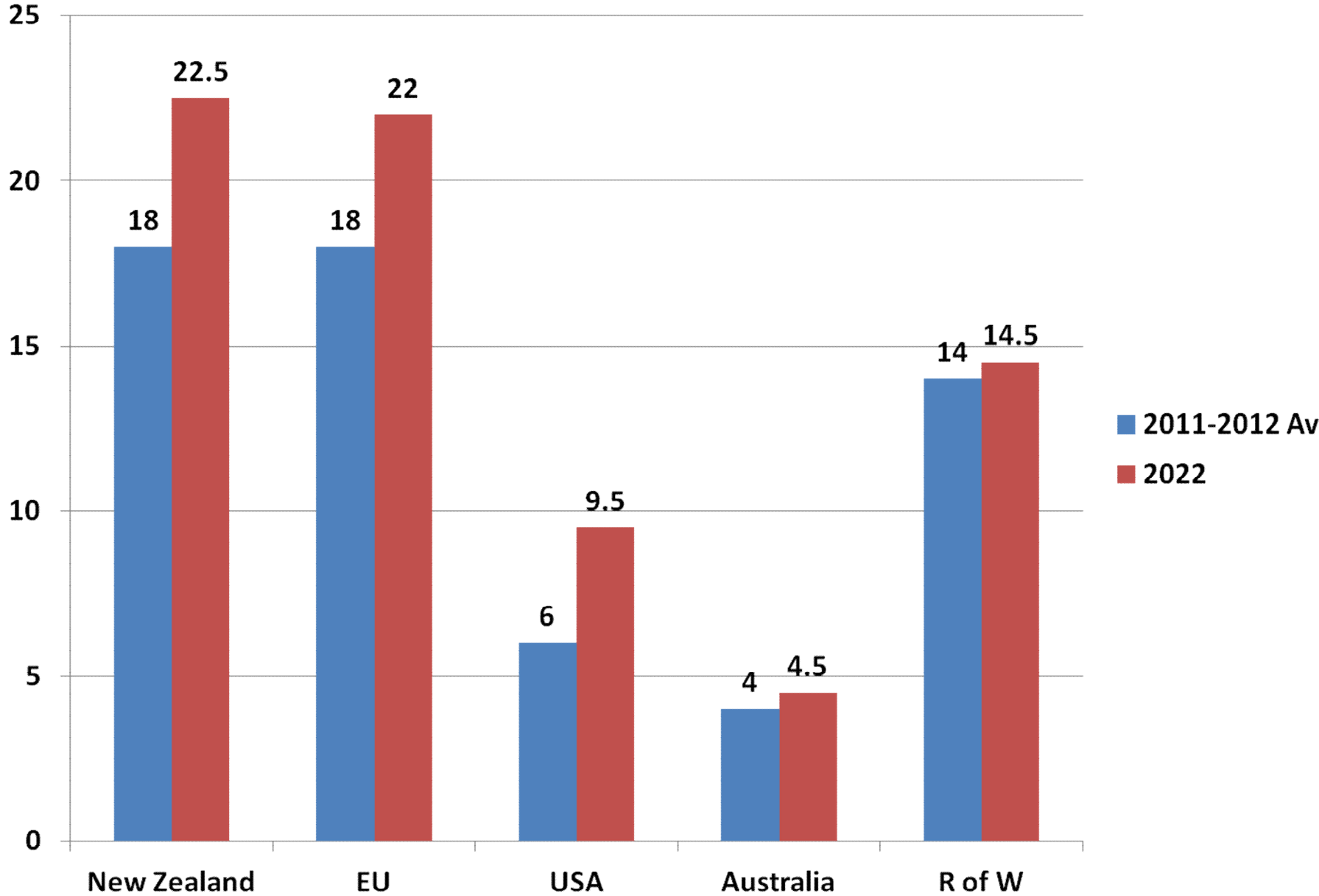
MI Tonnes Milk Equiv.

	OECD-FAO	Thiele et al.
Base (2010-2012)	18	19.1
2022	22	22.6
Increase	4	3.5
% Increase	22	18

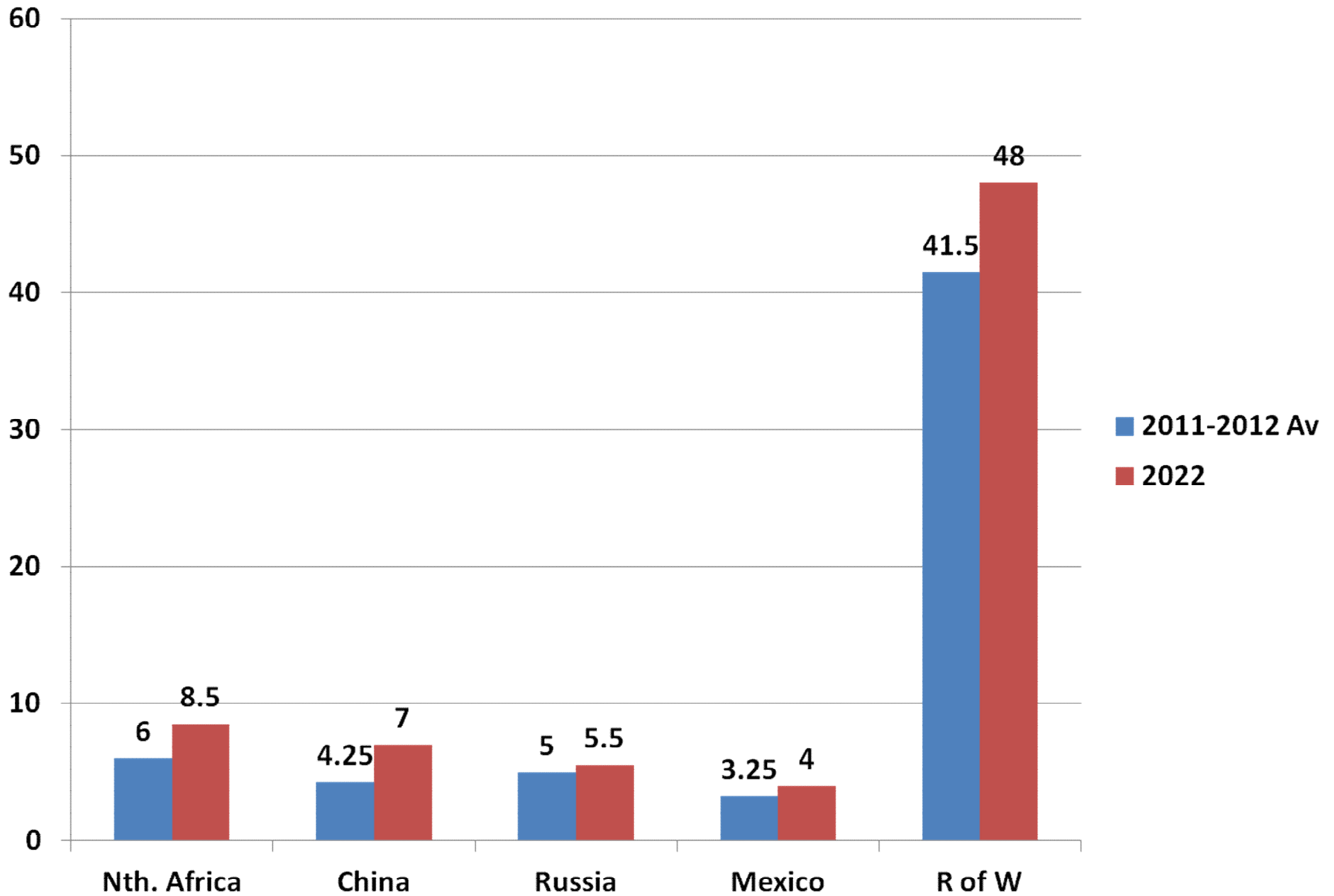
World Dairy Trade Projections, Ml Tonnes Milk Equiv, Derived from OECD-FAO 2013

- World Trade to increase from c60 ml, tonnes to c73 ml tonnes in 2022, + 13 ml tonnes (c+20%)
- Leading 4 exporters = c75% of total
(New Zealand 30, EU 30, USA 10, Australia 7)
- Leading 4 importers = c33% of total
(Nth. Africa, China, Russia, Mexico, all 6-10%)

World Exports, MI Tonnes Milk Equiv.
OECD-FAO 2013 (derived)



World Imports, MI Tonnes Milk Equiv.
OECD-FAO 2013 (derived)



Conclusions



- **No shocks expected in terms of production at the end of quotas in 2015**
- **Increasing share of EU milk exported**
- **Remain competitive at international level will be essential for internal market balance**

Thank you for your attention !

COMPETITIVENESS

The International Competitiveness of the Irish Dairy Sector at Farm Level

Trevor Donnellan, Thia Hennessy,
Michael Keane & Fiona Thorne

Report Launch

AIB Bankcentre 23rd June 2011

Conclusions – Teagasc 2011

- **Very competitive on a cash cost basis**
 - Ireland had one of the lowest costs per unit of production
 - Positive outlook in the short to medium term
- **Deterioration when total economic costs are calculated**
 - Implications for competitiveness in the longer term
 - Warning signal for average size Irish dairy farm
- **But, the larger size Irish farm does have a competitive advantage within EU & internationally**

Ireland's Dairy Competitiveness

- Teagasc Competitiveness Study 2011
 - Data: FADN and IFCN
 - Averages; 2008-2010; 2005-2007
 - 15year trend 1996-2010
- 2011, 2012
 - Ireland has maintained competitiveness ranking (IFCN)
- Proposal
 - Complete future 3 year averages, 2011- 2013, etc

New Zealand – Cost Increases

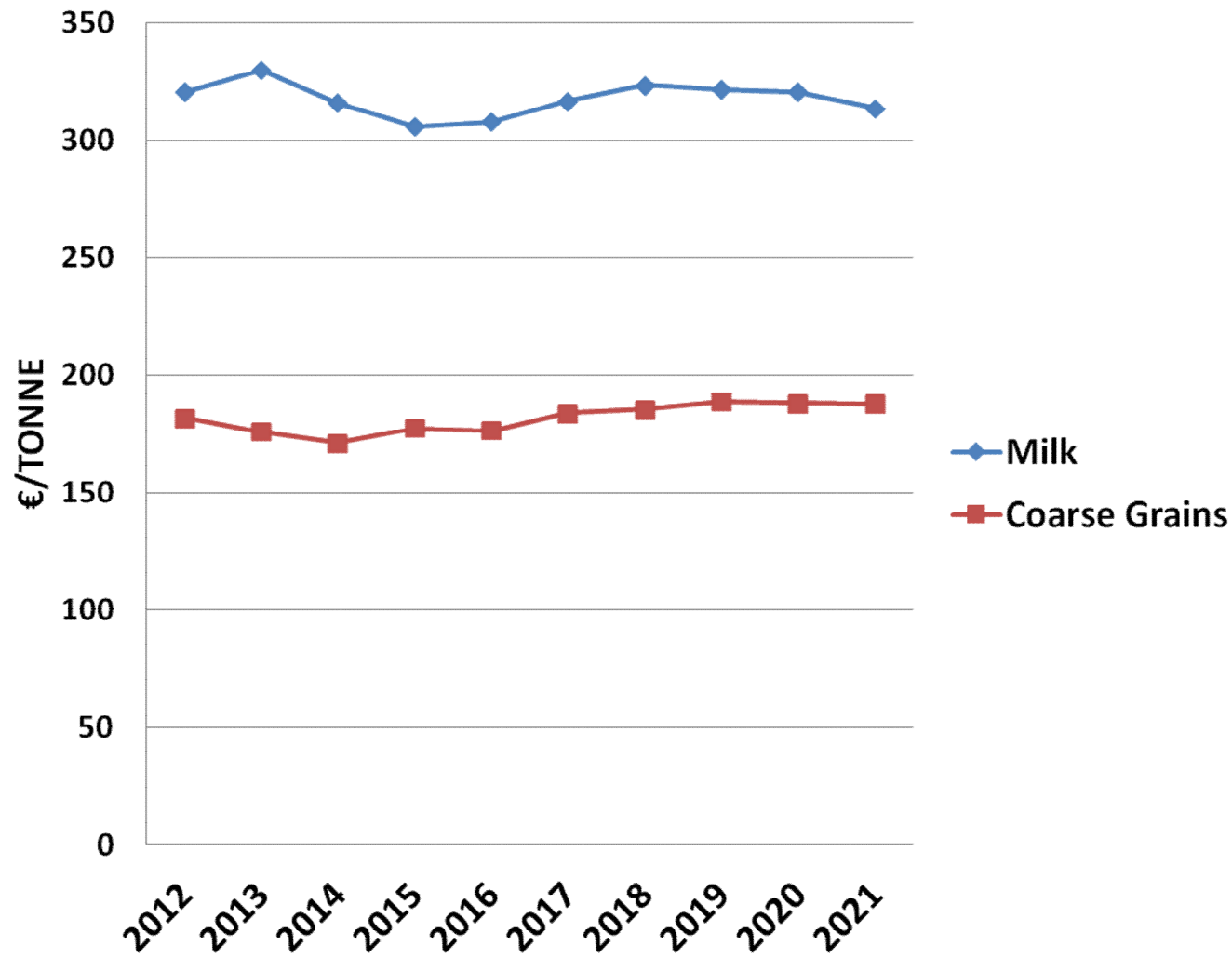
- “N Z dairy farm operating expenses consistently about NZ\$4 per kg ms from 2002-2007, but increased to a consistent NZ\$5 from 2008-2012, plus an increase in average cost of debt to NZ\$0.7 per kg ms”,
Mackle 2013
- “NZ dairy farm cost increases over last decade;
 - fuel +120%,
 - electricity 95%,
 - feed, grazing, cultivation, harvesting, 65%, etc.... Dairy farms with liquidity risks averaged 13.5% over last 5 years and those with cash flow issues are double the 5 year average”,
Williams, 2013

New Zealand and Competitors

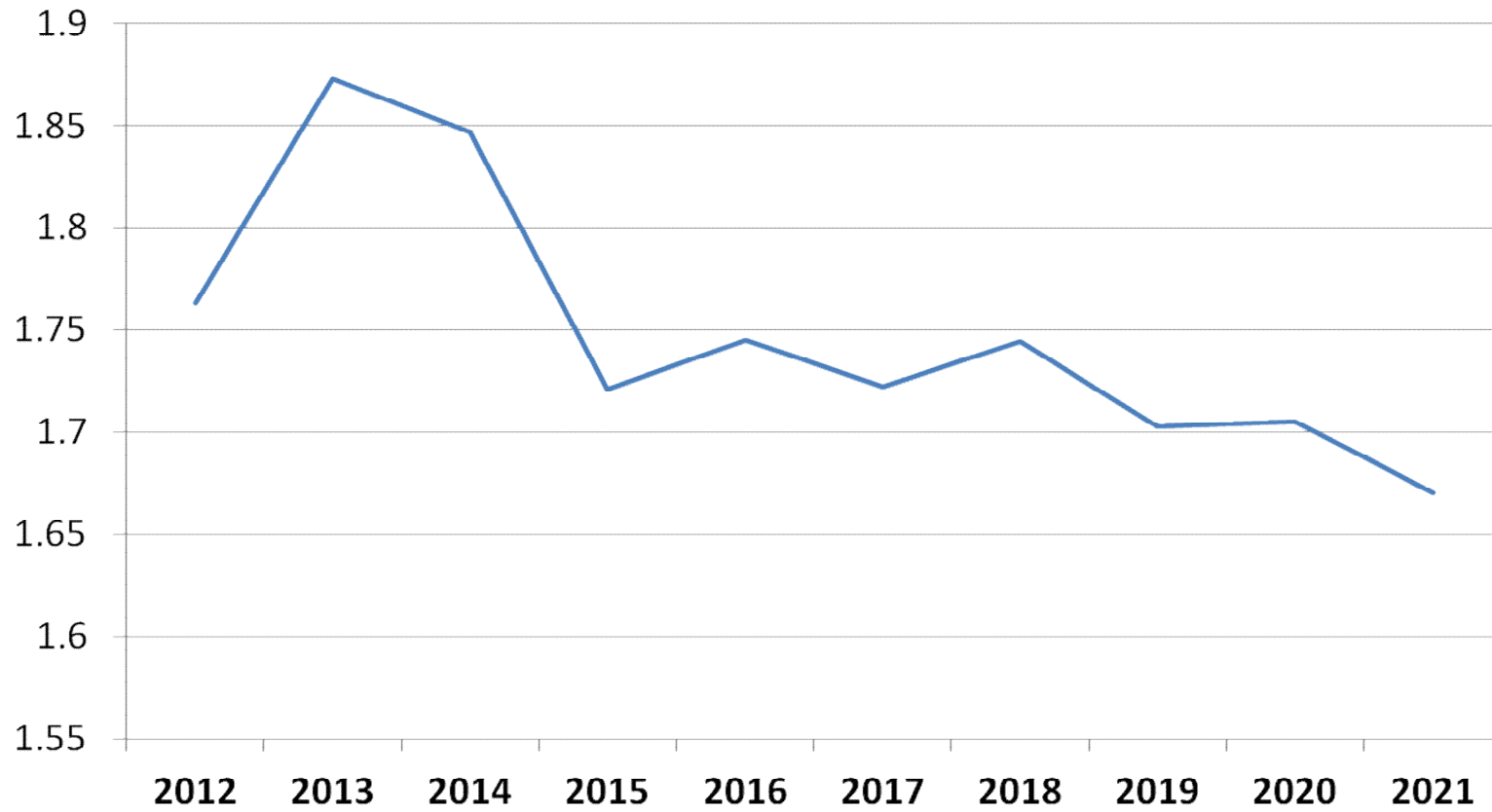
- “The cost advantage New Zealand used to enjoy against competitors such as Australia, the US and the Netherlands has narrowed”,
Moynihan, Rabobank, NZ, 2013
- “NZ cost of milk production at US\$32.5 milk equiv. higher than Australia at about 30 and Argentina and Uruguay at about 24
“due to us taking our eyes off the ball”,
Mackle 2013

Price Projections

EU Price Projections , OECD-FAO



EU : Price Ratio milk: coarse grains, OECD-FAO



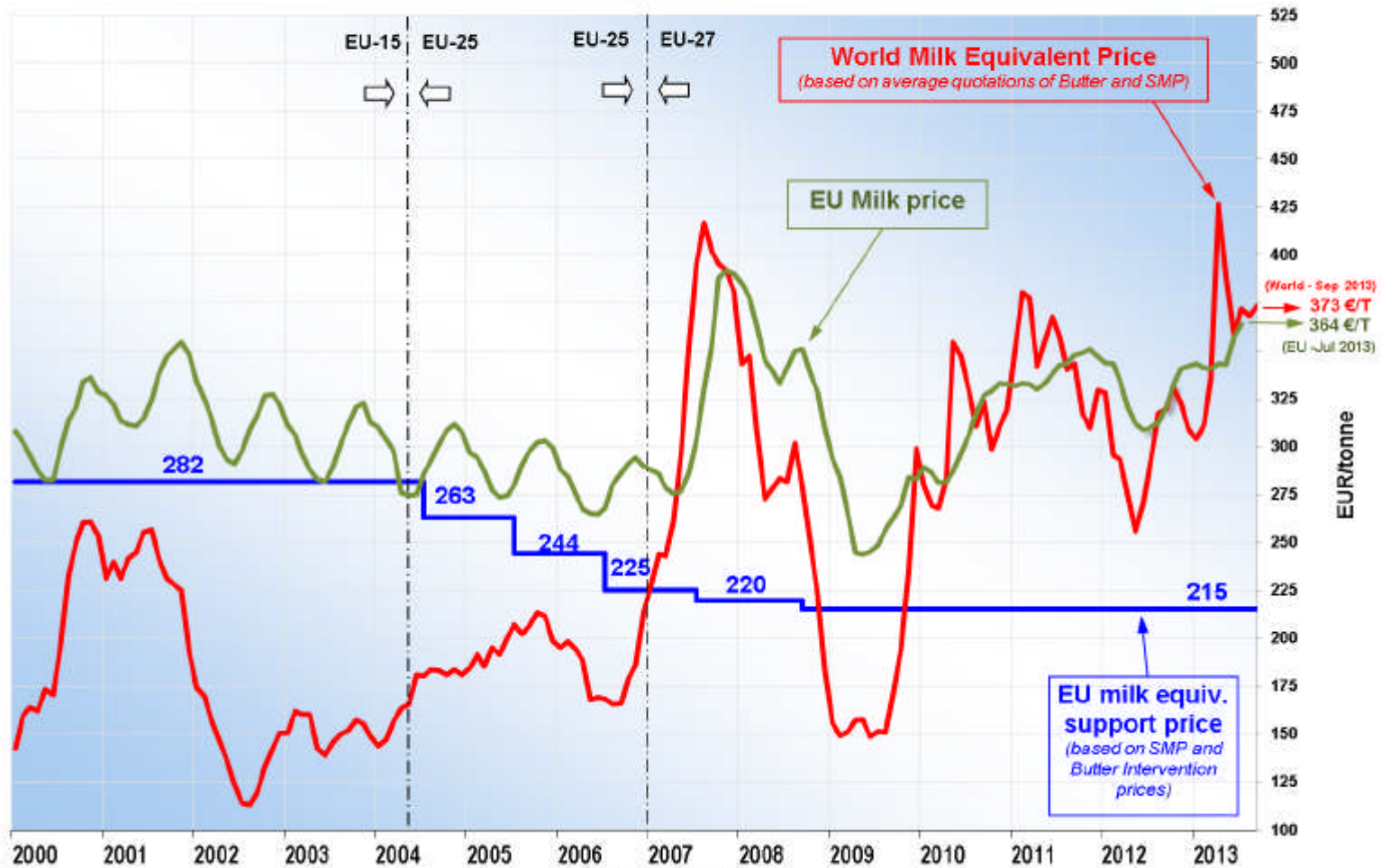
Price Projections - Conclusions

- EU milk price projections show a fairly stable milk price to 2022 in the €300-350/tonne range (30-35 cent/litre approx.), with a modest dip in the 2015-2016 post quota period
- The reality however is that the price pattern is likely to be much more volatile with a couple of severe price spikes up and down due to unforeseen shocks. Models cannot capture the timing or severity of these events.
- The projected price pattern for coarse grains is a little more positive than for milk suggesting that , on this aspect at least, grass based milk production may improve its competitiveness relative to grain based production over the decade ahead.

Price Volatility

(with Declan O'Connor, CIT, Cork)

EU competitiveness - Milk



Causes of Price Volatility

- Economic Fundamentals,
 - Demand, Supply
- Policy Change
 - e.g. Luxembourg Agreement (2003)
- Market Speculation
 - Hedge Funds, Index Traders

Economic Fundamentals

- Highly Inelastic Demand and Supply
- Unanticipated shocks
 - droughts, floods, etc
 - food/dairy consumption scares, recessions
- Lags in production response

CAP Reform 2013

Options	Tools	Changes
Strengthening current tools	Insurance , mutual funds support	Expanding to include Revenue and Index Insurances and reducing the limitations for payouts
IST	Income stabilisation tool	New tool
Crisis fund	Agricultural calamity fund	New tool

Private Risk Management Options

- **Futures Markets**
- **Options (Put and Call)**
- **Over the Counter (OTC) Contracts**
- **Forward Contracting**
- **Insurance Products**
- **Mutual Funds**

Benefits of Dairy Futures Markets

- **Facilitates hedging “to lock in floor prices”.**
- **Facilitates price discovery.**
- **Counter party risk is minimal.**
- **Greater price transparency in supply chain (contracts)**
- **Further benefits include derivatives (e.g. options)**
- **Futures can offer reference prices for insurance products**
- **It is possible to close out the initial position at any point.**

Limitations of Dairy Futures Markets

- **Emerging futures markets initially require an index price**
- **Margin payments tie up working capital**
- **Liquidity in market requires time**
- **Profiting from favourable spot market may be lost.**
- **Basis risk may be difficult to hedge.**
- **Contract size too large? Pooling possibilities?**
- **Novelty of these instruments in EU dairy**
- **Fear futures may encourage excessive speculation**

Dairy Futures Markets and Contracts

- **Eurex**
- **EU Butter (Financially Settled)**
 - EU SMP (Financially Settled)
 - EU Feed Whey (Financially Settled)
- **NYSE Liffe**
 - EU SMP (Physically Settled)
- **NZX (New Zealand)**
 - WMP (Financially Settled to GDT auction prices)
 - AMF (Financially Settled to GDT auction prices)
 - SMP (Financially Settled to GDT auction prices)
- **CME (US Market)**
 - Non-Fat Dry Contract
 - Class III / Butter / Cheese etc.

OTC Markets Flexible Contracts

Conclusions - Volatility

- Volatility in EU dairy is a relatively new phenomenon.
- As well as being more volatile prices are reaching new highs and lows.
- Volatility affects the entire supply chain.
- Unlikely there will be a policy led solution.

Conclusions Volatility - continued

- Futures, options and OTC can facilitate risk management.
- However there are gaps
 - Data: New E Comm. Observatory
 - Education
 - Critical Mass
- Reward is competitive advantage.
 - Early mover advantage (GDT/NZX?).
- Learn from others (USDA subsidised trades, data, education).

Overall Conclusions

Irish Dairy- the Future

- Strengths: a lot
- Weaknesses: a few
- Opportunities: many
- Threats: a few



Thank You

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