

A glass of milk and a bottle of milk in a field of daisies under a blue sky with clouds.

New Zealand Dairy Institutions:

LEANZ, Wellington

4 September 2019



Discussion Points

by

Tony Baldwin

4 September 2019

Nature of NZ's dairy business

- Very niche
- Small amount traded – inherently volatile
- Major threats – synthetics, methane, change in competition





Framework for good design

Goal:

Promote productive,
allocative and dynamic efficiency

Framework for good design

Mechanism:

Relentless dynamic
of people and firms –





Framework for good design

Regulatory framework:

Low cost, non-distortionary
(neutral, level playing field)

Framework
for good
design

Regulatory framework *(cont'd)* :

Owners' choice of generic
organisational forms

Framework for good design

Cooperatives:

“...[they] are not anomalies, but competitive institutions that form an integral part of a healthy market economy...

[However], co-operatives are “disadvantaged in the innovation race”.

Bengt Holmstrom,
Prof of Economics at Massachusetts Institute of Technology
Co-winner, 2016 Nobel Prize in economics

Framework for good design

Cooperatives:

Cooperatives are a distinct organisational form lying somewhere between a spot market and vertically--integrated firm — Evans and Meade

Framework for good design

Cooperatives:

Dairy co-operatives are well adapted to certain purposes. With a focus on shifting large volumes of milk for supplier-shareholders, they tend to dominate milk collection and dairy commodity markets around the world.

Framework for good design

Cooperatives:

However, when products become highly differentiated and performance centres on **capital** rather than members' milk, dairy cooperatives are less well adapted

Framework for good design

Regulatory framework *(cont'd)*

Competition is the primary discipline
on resource allocation

“Strong and positive link” between
competition and productivity –
Productivity Commission

Framework
for good
design

Regulatory framework *(cont'd)*

Price externalities,
in particular environmental costs



Outcome:

An ever evolving diversity
of ideas and strategies



“Adapting to a complex changeable world is best achieved by a **multiplicity of experiments** from many different players” –

Tim Harford, Economist

No one firm, or small group of people inside a firm, have a monopoly on good ideas – Kerzner and Sautet



$$L(\gamma) = \int_I \|\gamma'(t)\| dt$$

$$(u(x))' = 60xx$$

$$\int 60xx dx = 30x^2 / 2$$
$$\int 60xx dx = \dots$$



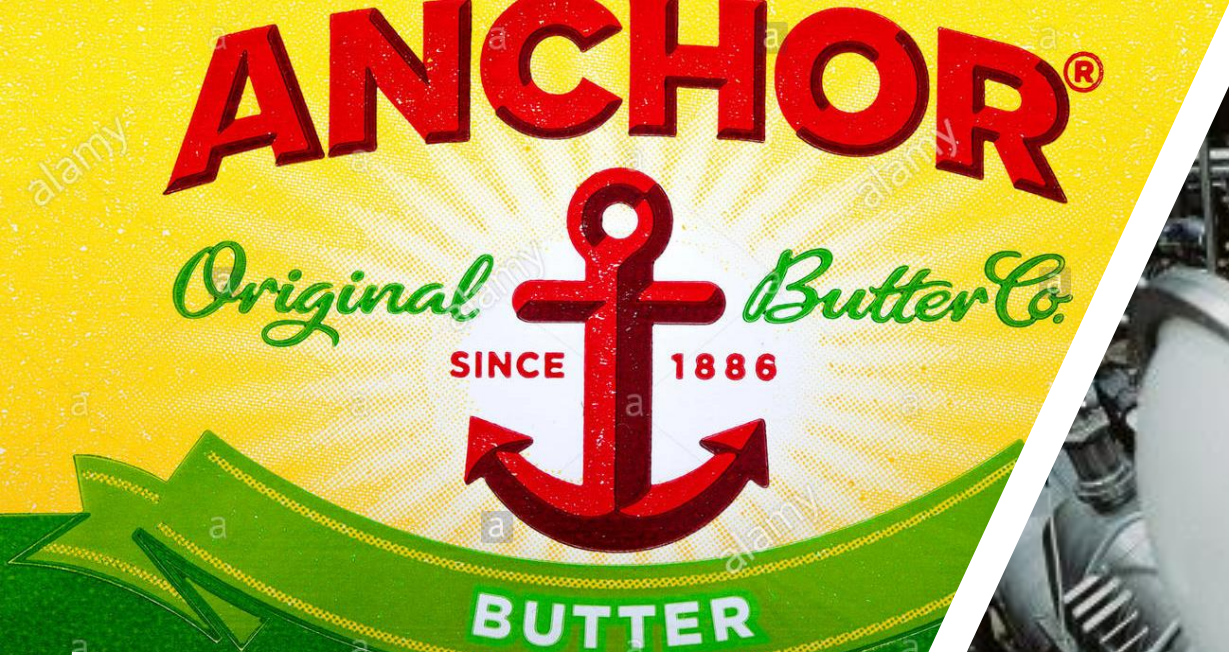
On-farm – outstanding innovation



Experimentation with –

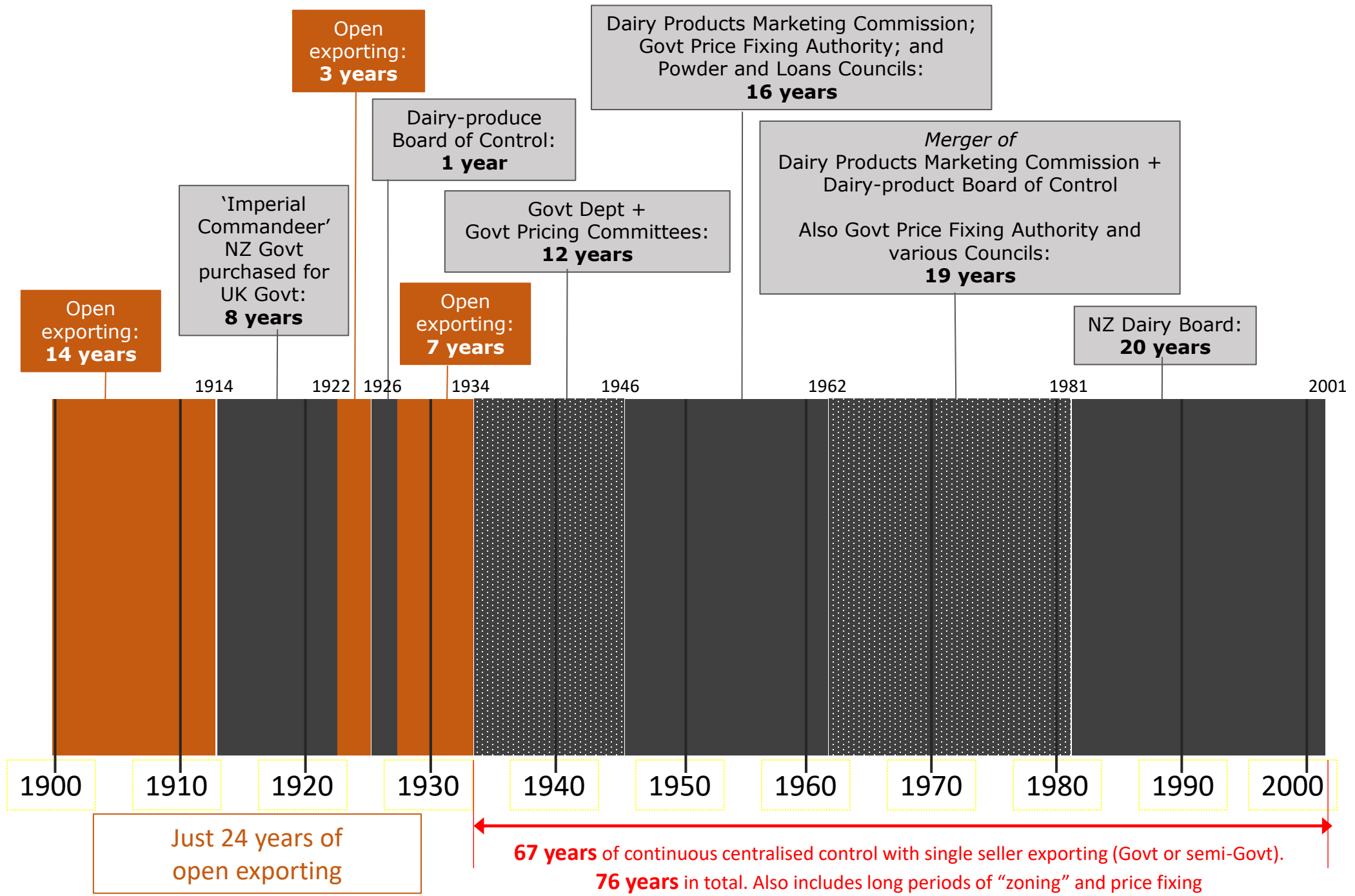
- Cow milking technologies
- Various cow breeds
- Artificial insemination
- Grass cultivars
- Fertilising compounds and techniques
- Animal health strategies
- Supplemental feed
- Adapting farm systems to local conditions
- Evolution of share-milking and equity partnerships
- Electric fencing





Off-farm – centralisation, homogeneity + cut competition





Myriad of market opportunities not
seen by a handful of decision-makers



Relatively minimal
trailing by different
parties in:

- Aggregating capital
- Pricing
- Managing risk
- Using global value chains
- Understanding customers' preferences
- Product development

Imagine if there had been...



...a myriad of experiments
in those fields over the
last 100 years

Opportunity Cost: Contrast Two Henrys

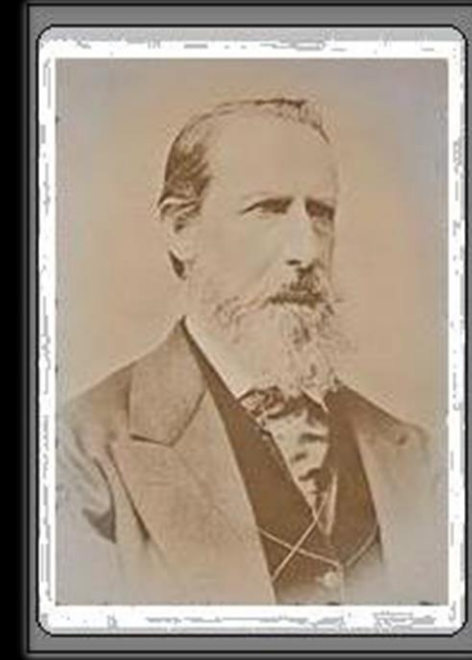


Henry Reynolds

1886 – “Anchor” brand
(for butter)

1896 – Sold factories to NZ Dairy
Association (then NZ Dairy Group)

Few other international brands developed



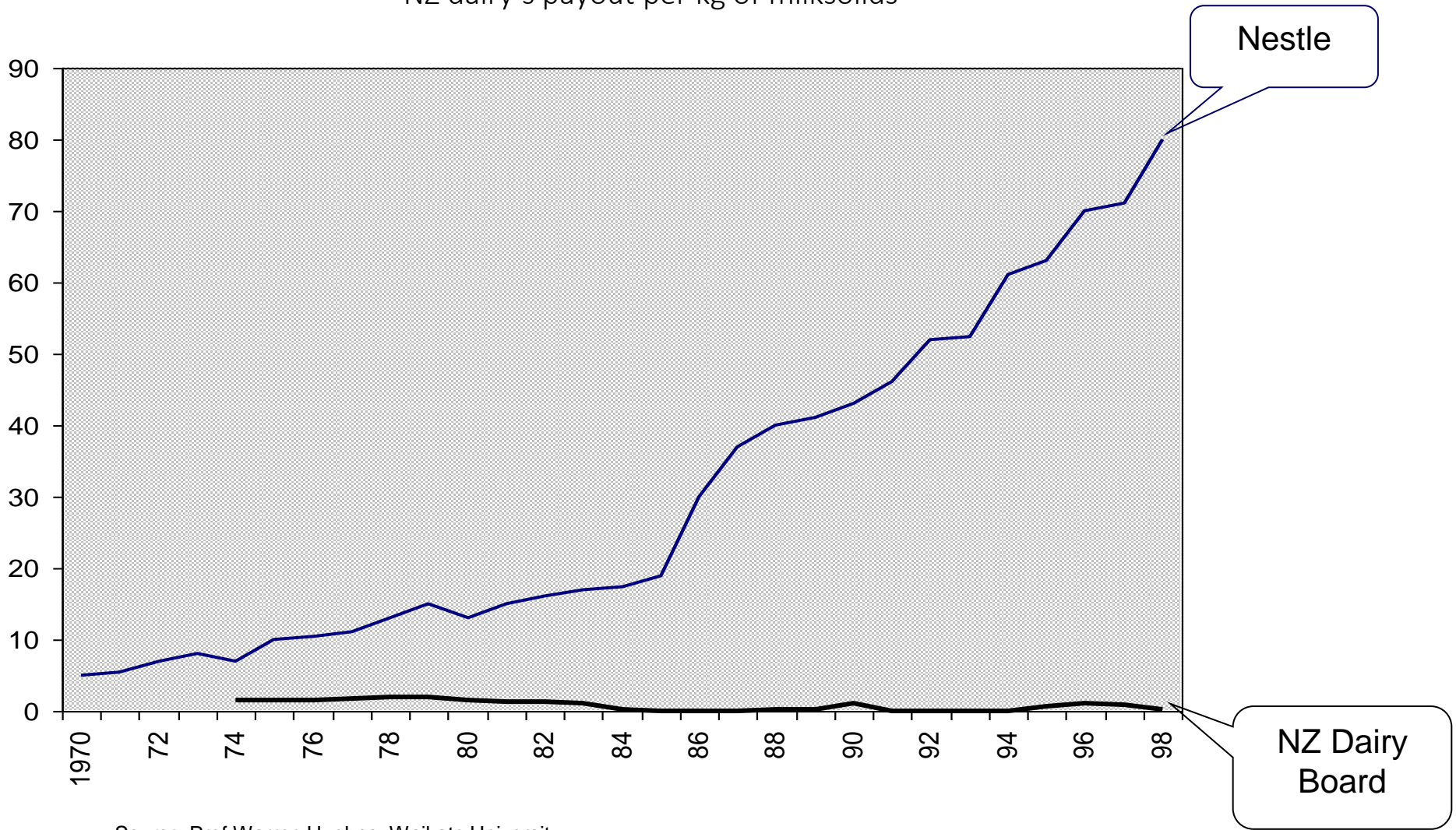
Henry Nestle

1867 – “Nestle” brand
(world’s first solid infant formula using
Swiss milk)

Multitude other global brands and products

Comparison of Earnings

Nestle's earnings per shares
NZ dairy's payout per kg of milksolids



Source: Prof Warren Hughes, Waikato University
Note: Both lines exclude capital gains (on Nestle shares or suppliers' land)

Two exceptions



Joseph E Nathan, 1875
mercantiler and entrepreneur

Nathans – Glaxo

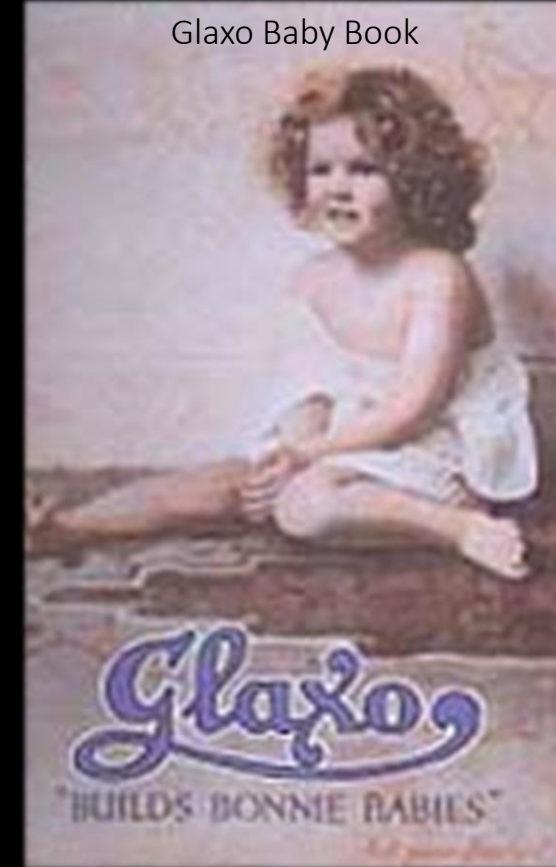
1904 – First roller-drying plant – making skim milk – at
Bunnythorpe – world’s first baby food factory – “Glaxo”
(based on “Lacto”)

1924 – Glaxo launched its first pharmaceuticals

By 1945 – Glaxo was known across five continents

1995 – Glaxo and Wellcome Foundation merge to form
Glaxo Wellcome

2000 – Glaxo Wellcome and SmithKline Beecham merge to
form GlaxoSmithKline (GSK) – third largest pharmaceutical
company in the world



“Builds Bonnie Babies”

By 1922, a million copies of the baby
welfare books were published

1929 – Sir William Goodfellow – Empire Dairies



- Combined Amalgamated Dairies and the Australian Producers' Wholesale Cooperative Federation
- Sold dairy products from NZ, Australia and other countries of the Empire in Britain
- Held the Anchor brand
- Acquired by NZ Dairy Board in 1953

Why the difference in approach –
On-farm vs Off-farm?

Role of Government



Settlement of new
immigrants into dairying



MAORI FARM - NORTH H. I.S. -
NEW ZEALAND



Government Dairy Experts,
who urged farmers into
cooperatives



“The untold enduring wealth of NZ lies upon the surface and the **cow** is the first factor in the way of securing it.

We have only to make the prime article...and no power on earth can stay the flow of **white gold**”

William Bowron, Chief Dairy Expert,
NZ Government, 1894

The “white gold” dream of those early days has endured for 125 years

“As Waikato's white gold builds to a record flush”
Waikato Times,
11 October 1997

“The great silver trucks glide up and down Ashburton's West Street... to fill their bellies with white gold”
The Press
14 October 2000



“A recent trip through the white gold fields of the South Island...”
NZ Herald, **14 August 2014**

“White gold: Dairy exports set to jump \$3 billion”
NZ Herald, **4 April 2018**

“It's about focusing literally on the white gold that we have here in New Zealand”
— Fonterra's CEO, NZ Herald,
4 July 2021

“...nothing but **intense farming** will pay in the future applied to every branch” **1900 NZ Yearbook**

NZ Geographic:
Peter Quinn, 2002



Two large herds of about 650 cows each

Hostility to competition



Mr Cuddie
Dairy Commissioner, 1914

Competition between
dairy factories is seen as
“pernicious”

Zoning process ran from
mid 1930s to around 1960
– 25 years



Photo: NZ Geographic - PJ Quinn

“...while mostly good farmers, [they] were in no position to judge the markets or marketing organisation.”

Mr G.M.Pottinger


Director of State Marketing Dept, and then
NZ Dairy Products Marketing Commission
(1940s)

Other Government involvement



- Legislation for dairy cooperatives
- Financial assistance for dairy factories
- Legislation on dairy processing and standards
- Government sales representatives in London
- Restrictions on non-dairy alternatives like margarine (1895 – 1970s)

(outlawed sale of any processed oil to be sold as a butter substitute)

A surreal image featuring a man in a dark suit walking up a stone staircase. The staircase is shaped like a large, dark arrow pointing to the right. The background is a bright blue sky with scattered white clouds. The text "Cultural drivers: Industry myths and beliefs" is centered over the arrow.

Cultural drivers:
Industry myths and beliefs



“When so-called cooperation had started the factory system and brought it to a standstill through bad management, it was the 'syndicator' who stepped in, bought up the discredited factories and built new ones, offered the public a fair price for their milk and put the industry on a sound financial basis” –

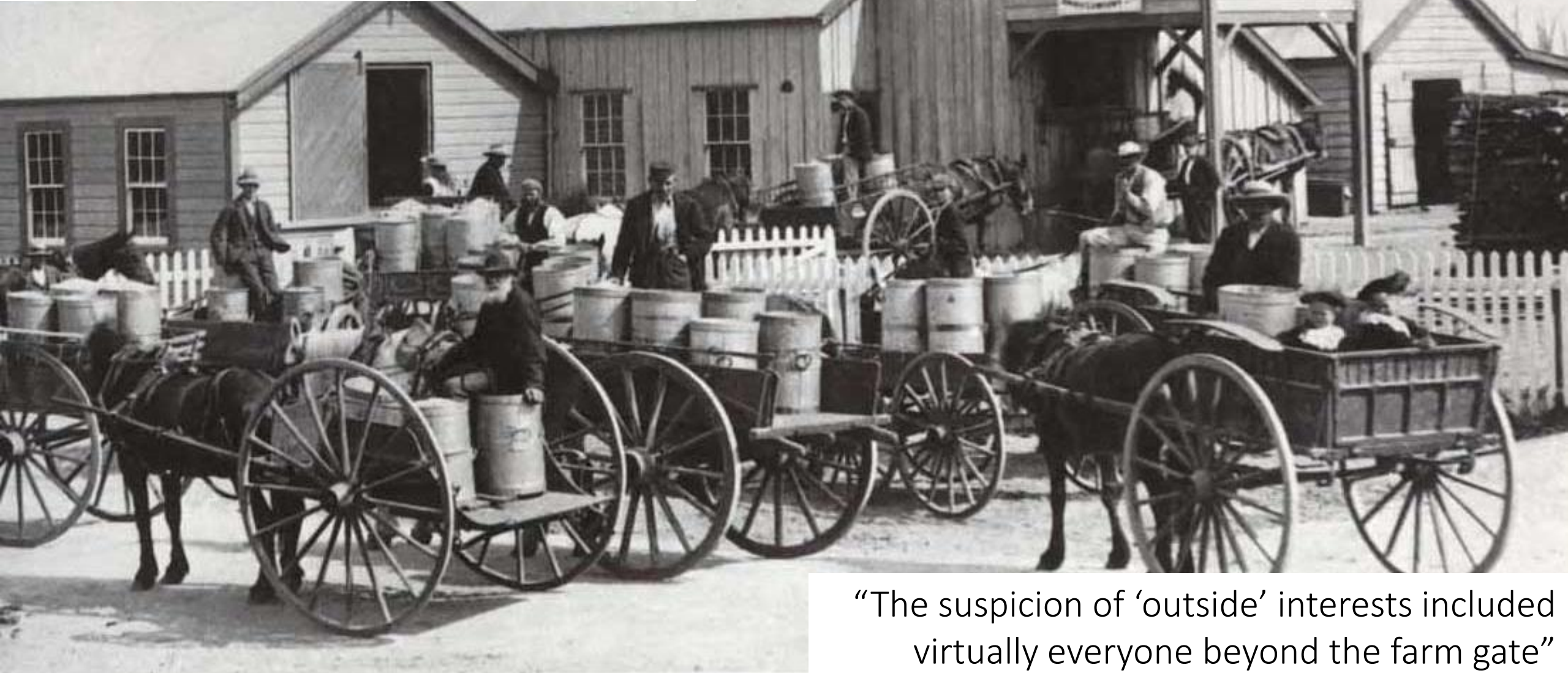
Department of Agriculture, 1897

“The risks taken by the earlier proprietary processors and their courage in supporting the industry in periods of at least doubtful future potential were steadily forgotten” –

A H Ward, “A command of Cooperatives”

“Dairy farmers would congregate for hours and reinforce each other’s prejudices”

Gordon McLaughlan




“The suspicion of ‘outside’ interests included virtually everyone beyond the farm gate”

David Yerex

Marise James

Director, Baker Tilly Staples Rodway
founding director of Fonterra, and
director of FMG Insurance Limited,
Landcorp Farming Limited and
TSB Bank

A portrait of Marise James, a woman with short brown hair, smiling. She is wearing a light blue blazer over a dark blue top. The background is a blurred brick wall. The portrait is framed by a white, torn-paper-like border.

‘outside’ investors will only lead to
farmers becoming “marginalised”
and “turn their children into
peasants”

Nuffield Report, 1998/99

Andrew McGiven

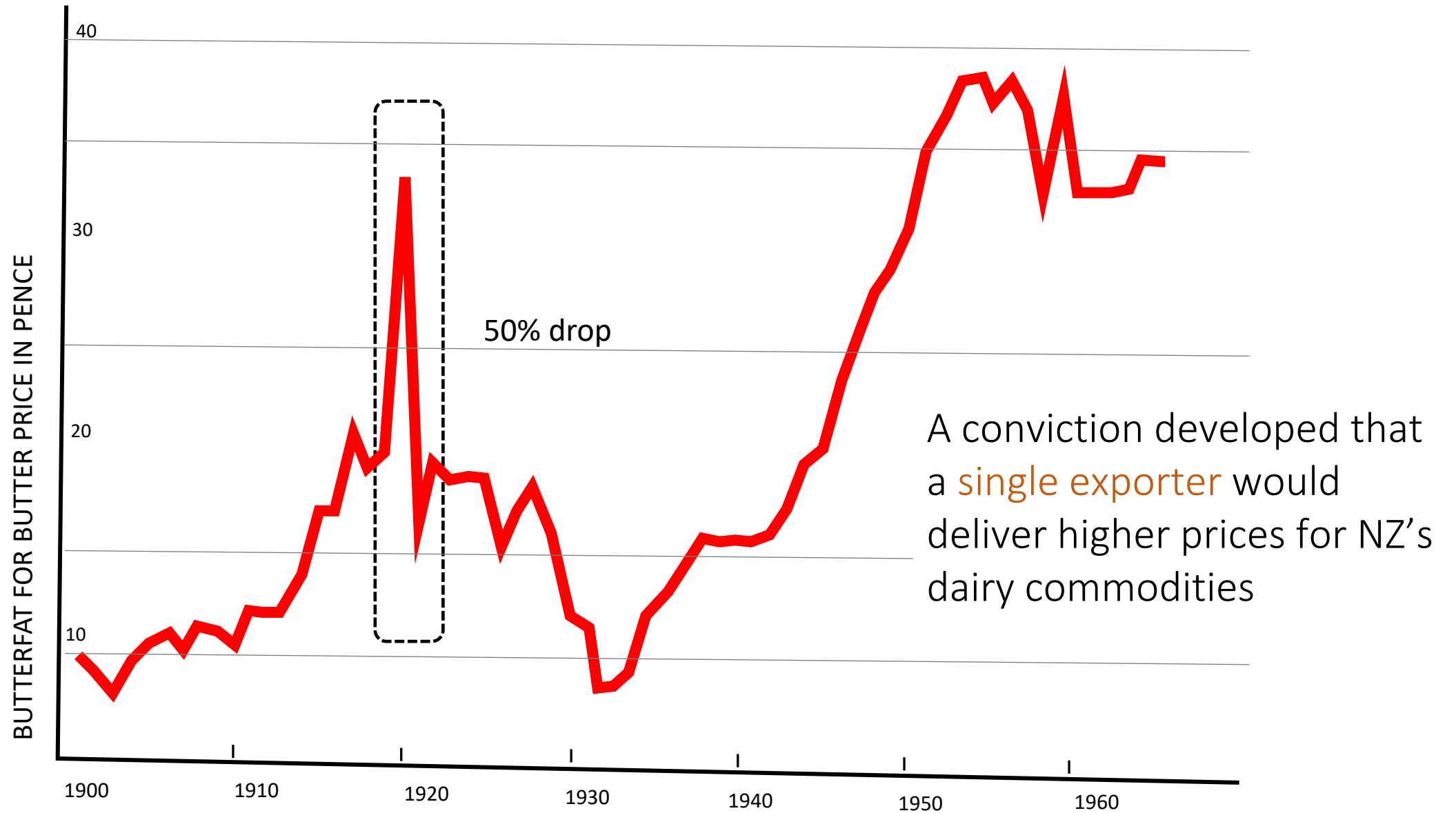
Federated Farmers
Waikato President



“...desert a strong co-operative...we all lose our collective strength. We'd likely become **peasants** in our own land”

Stuff, May 2015

Monopsony myth



Prof Jacqueline Rowarth

Director, DairyNZ



“New Zealand farmers would be **peasants**” if they don’t have a near-monopoly dairy exporter

Radio NZ, 2016/18

Drive to a near-monopoly vertically
integrated dairy cooperative

1970s – Murray Gough

“...Reducing dependence on bulk commodities was the overriding objective”



Murray Gough, Former CEO, NZ Dairy Board

Early 1980s – Warren Larsen

...lead to the formation of one truly major company – made up of most if not **all** cooperative companies, and the Dairy Board...

Source: Clive Lind,
“Till the Cows Come Home”
)



Warren Larsen, Former CEO, NZ Dairy Board

1989 – Sir Dryden Spring

Dairy Board's core strategy for the 1990s is to sell all milk "as close to 100% as we can get as soon as possible" as value-added products



Sir Dryden Spring, Former Chairman, NZ Dairy Board

1997 – Warren Larsen

“...simply ‘finding homes’ for product is not what we are in business of doing.

Our aim is to develop high value branded or specialised products and take them into positions of market leadership...

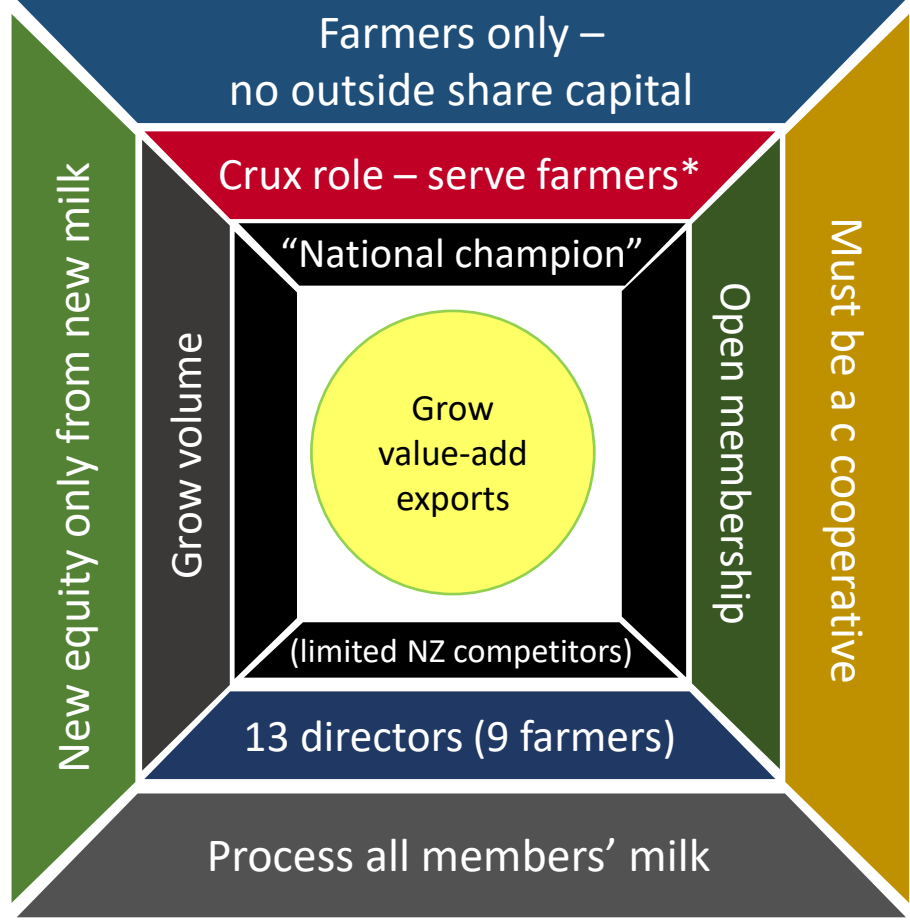
...Higher returns will not be won by simply producing and processing more milk”



Why Fonterra in 2001?

For **Fonterra** – an apex expression of 100 years of evolution

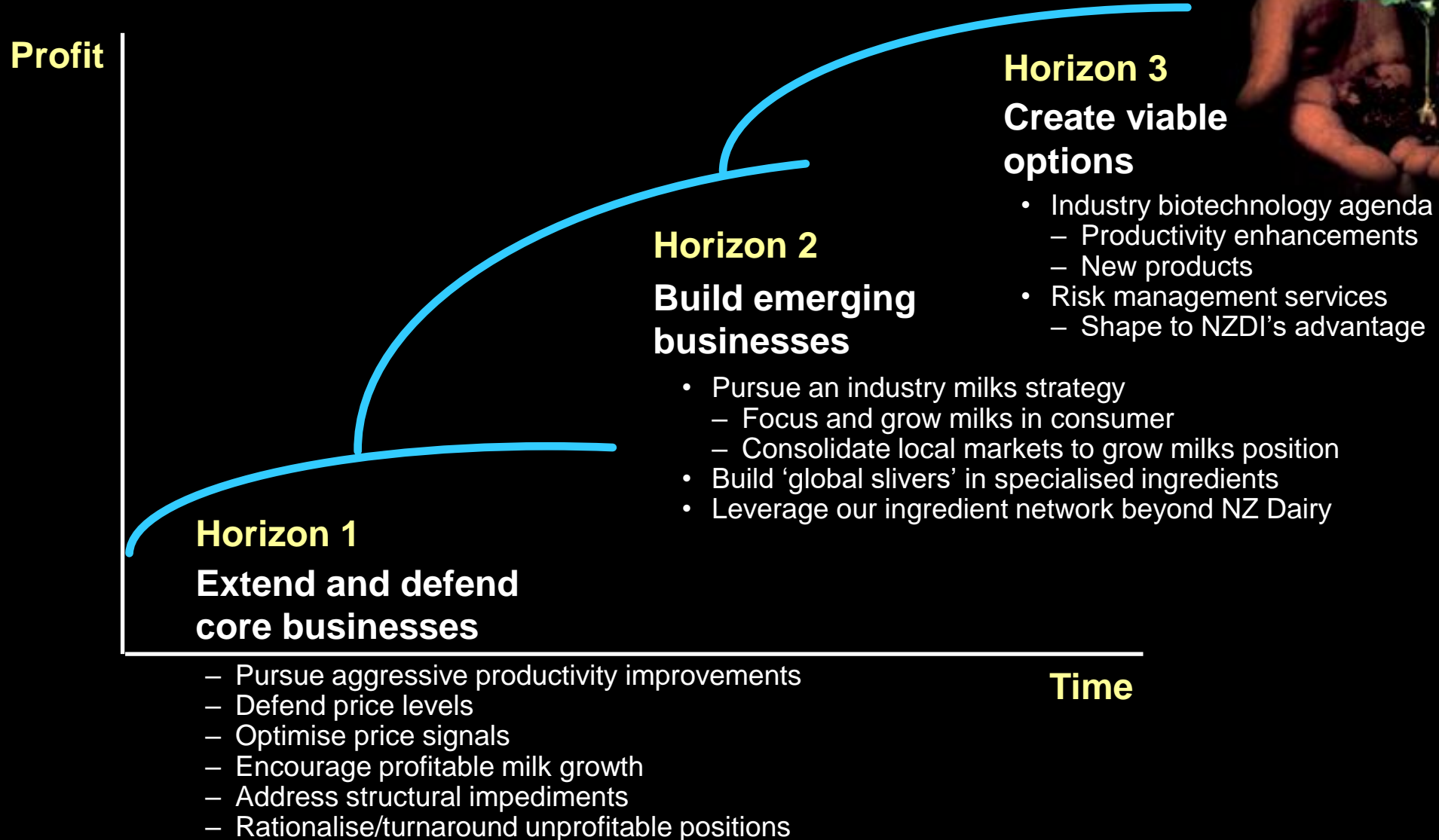
For **public welfare** – a (suboptimal) pragmatic transition path to competition and orthodox settings



* Ahead of customers

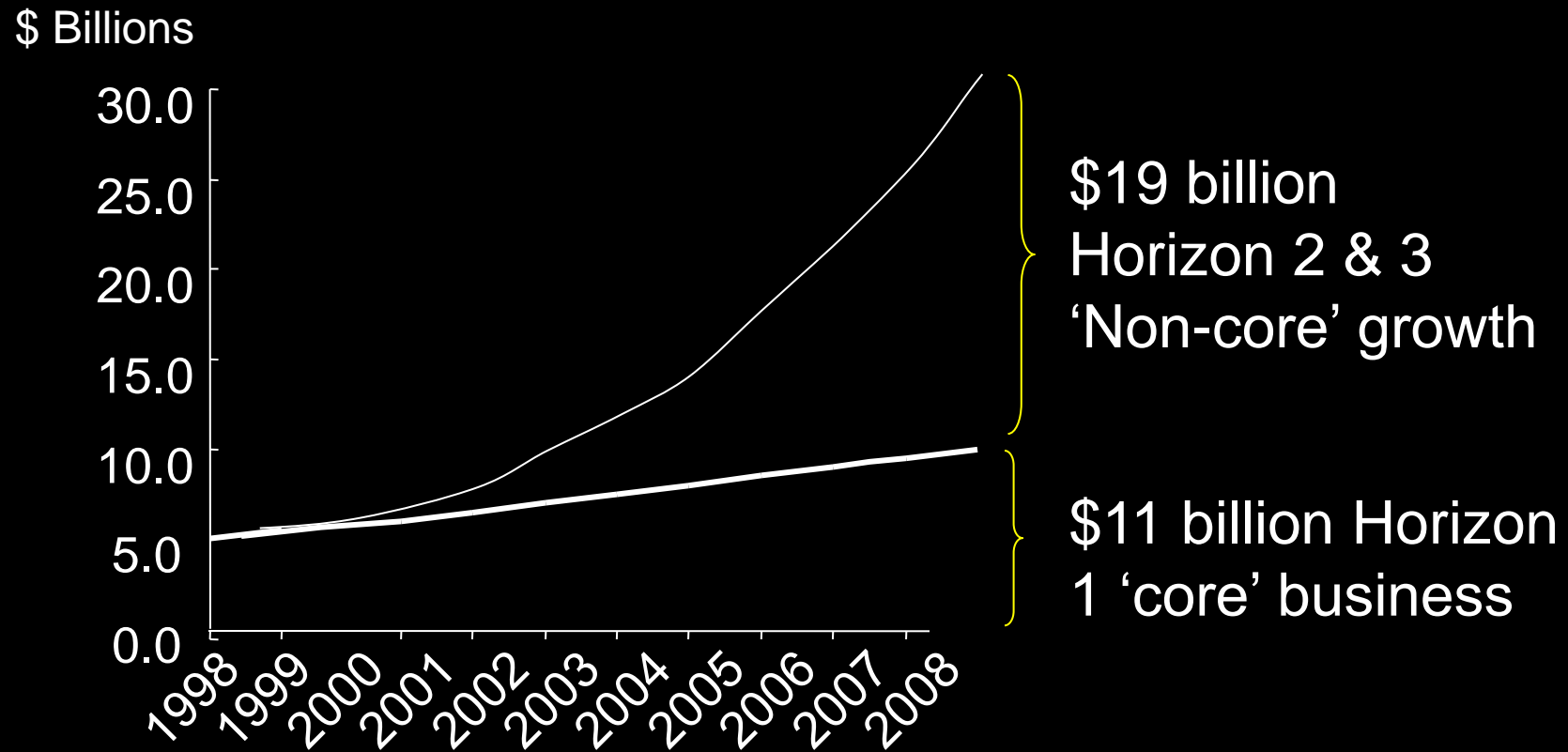
Defining the Three Horizons

1999 – Dairy Industry Leadership to Government



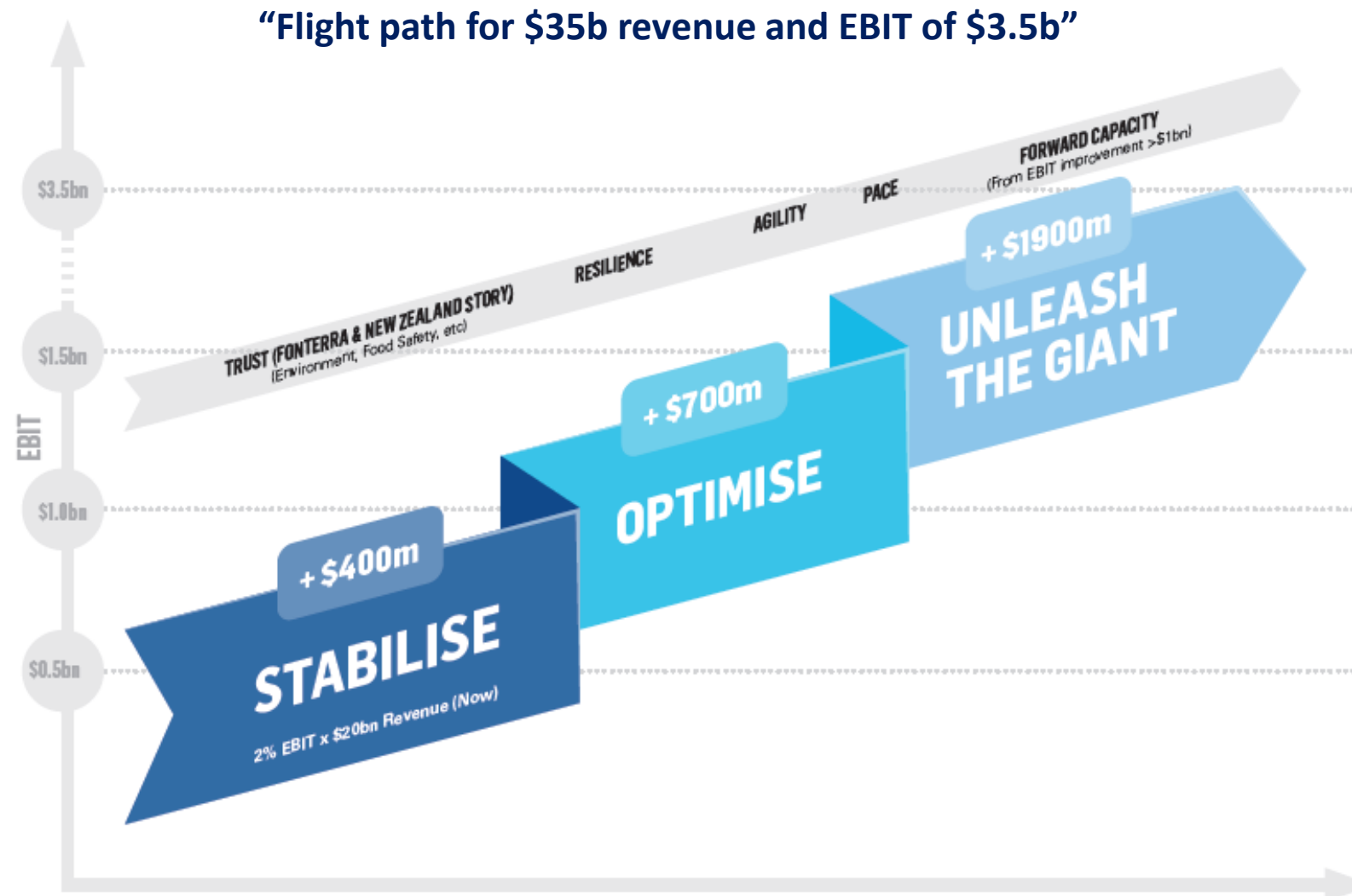
Industry Strategic Plan Revenue Growth

1998 - 2008 1999 – Dairy Industry Leadership to Government



“Prosperity, Dairying and Unleashing the Giant”

KPMG, 2015

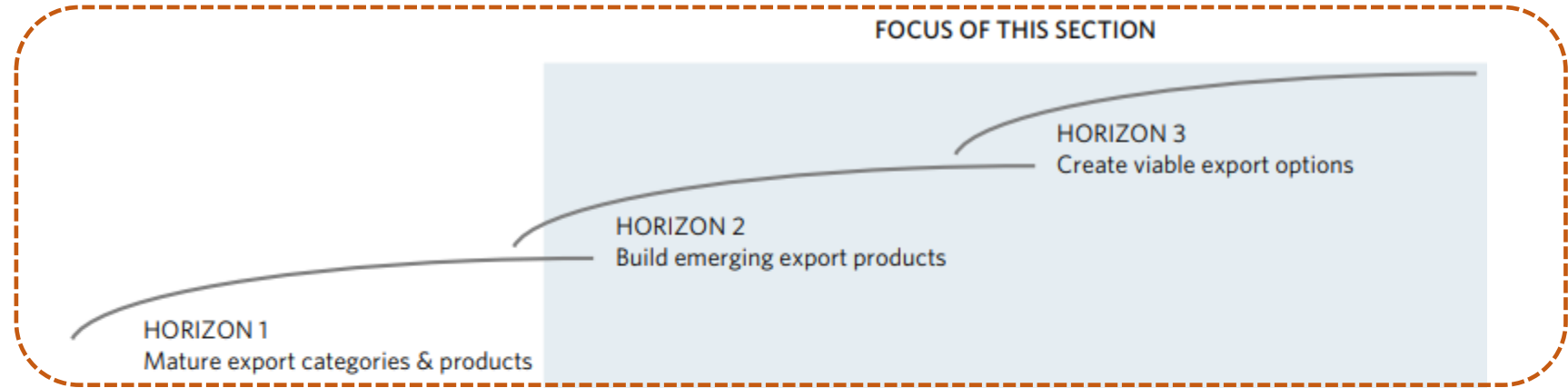


» **It makes sense.** Fonterra is capitalising on the advantage of its integrated business model and superior access to milk pools to systematically build its position through key brands in a limited number of critical markets and product segments (Food Service and High Value Ingredients are part of this). At the same time, it is leveraging its commodity business to flex and adapt where there are supply, demand or price changes.

MBIE, Coriolis, 2017

THREE HORIZONS OF GROWTH FRAMEWORK: NEW ZEALAND DAIRY INDUSTRY

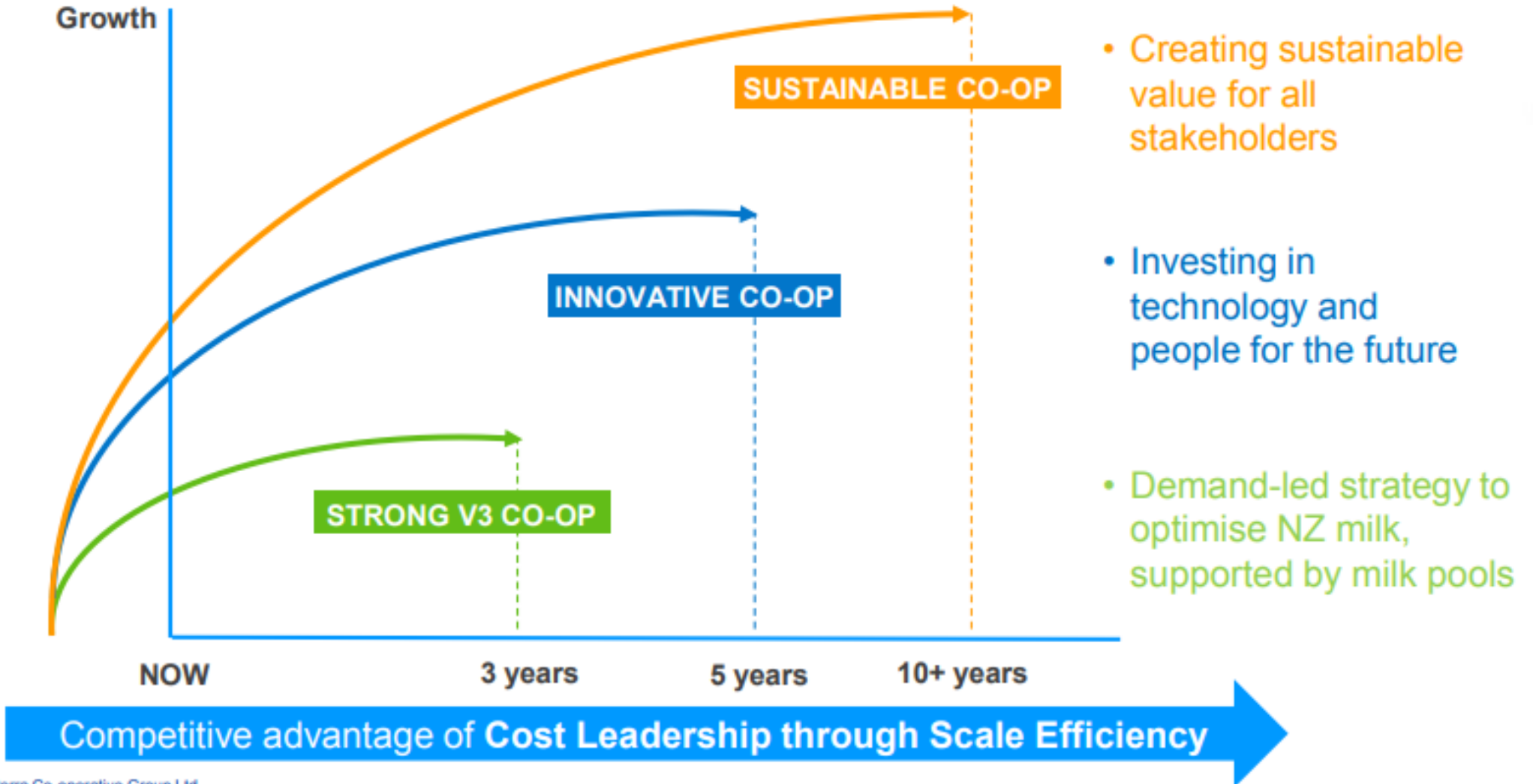
Model; 2017



Strategic Focus	<ul style="list-style-type: none"> - Defend and extend profitability of core business 	<ul style="list-style-type: none"> - Expand and grow emerging businesses & products 	<ul style="list-style-type: none"> - Develop and discover new options for growth
Key success factors	<ul style="list-style-type: none"> - Efficiency & cost control - Process innovation - Scale - Supply chain 	<ul style="list-style-type: none"> - Customer acquisition - Speed & flexibility - Execution - Resources/funding 	<ul style="list-style-type: none"> - Risk taking - Market insight - Business model innovation - Culture & incentives
Key metrics	<ul style="list-style-type: none"> - Profits, margins, costs 	<ul style="list-style-type: none"> - Market share, growth 	<ul style="list-style-type: none"> - Milestones
Example products	<ul style="list-style-type: none"> - Whole milk powder - Butter - Lactose 	<ul style="list-style-type: none"> - Yoghurt - UHT Milk/Fluid Milk - Also a range of processed foods with significant dairy ingredients (e.g. Sport nutrition, infant) 	<ul style="list-style-type: none"> - Alternative dairy (e.g. plant-based) - Sheep milk products - Dairy-based nutraceuticals - New unique cheeses - New unique milk based beverages

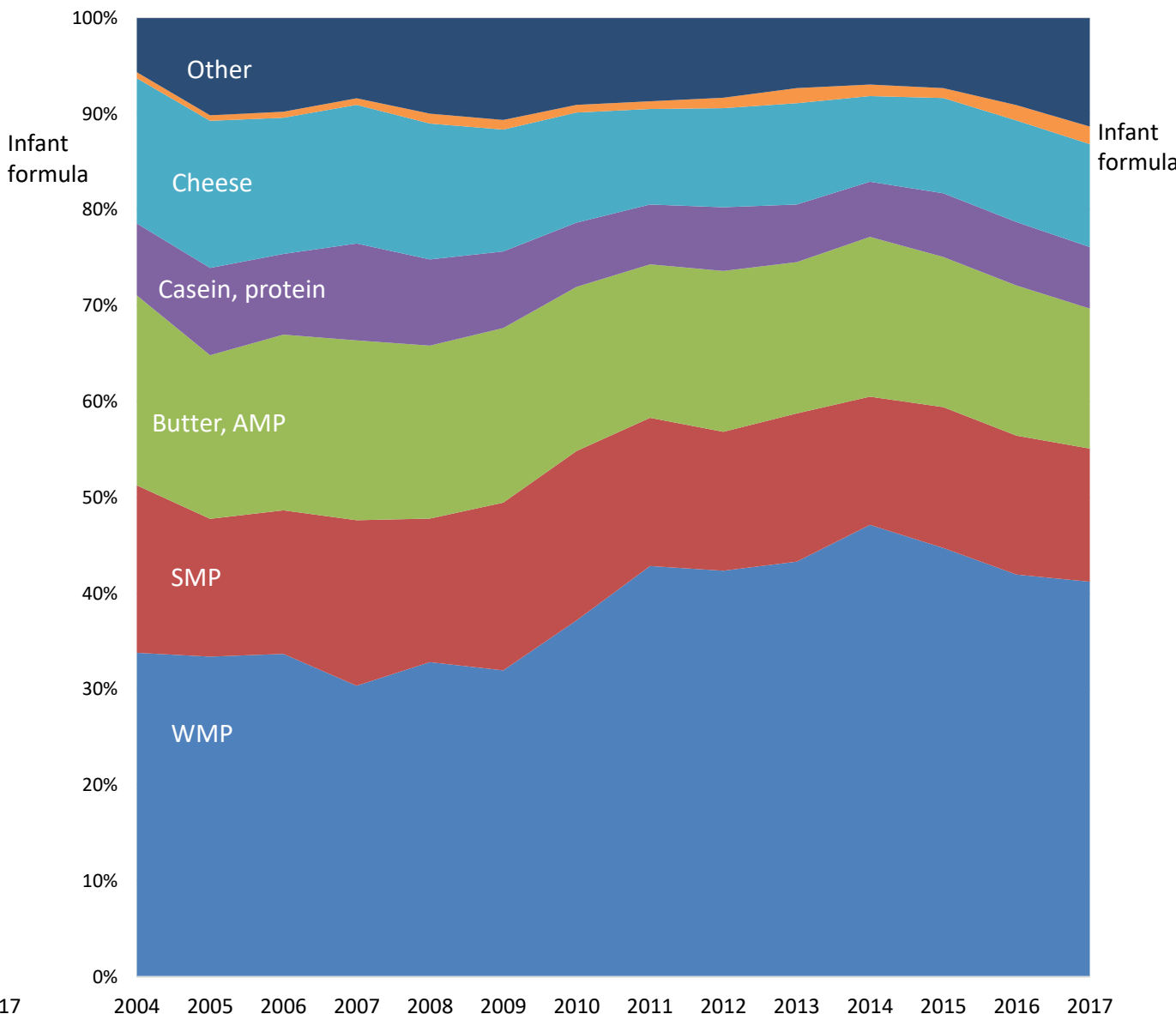
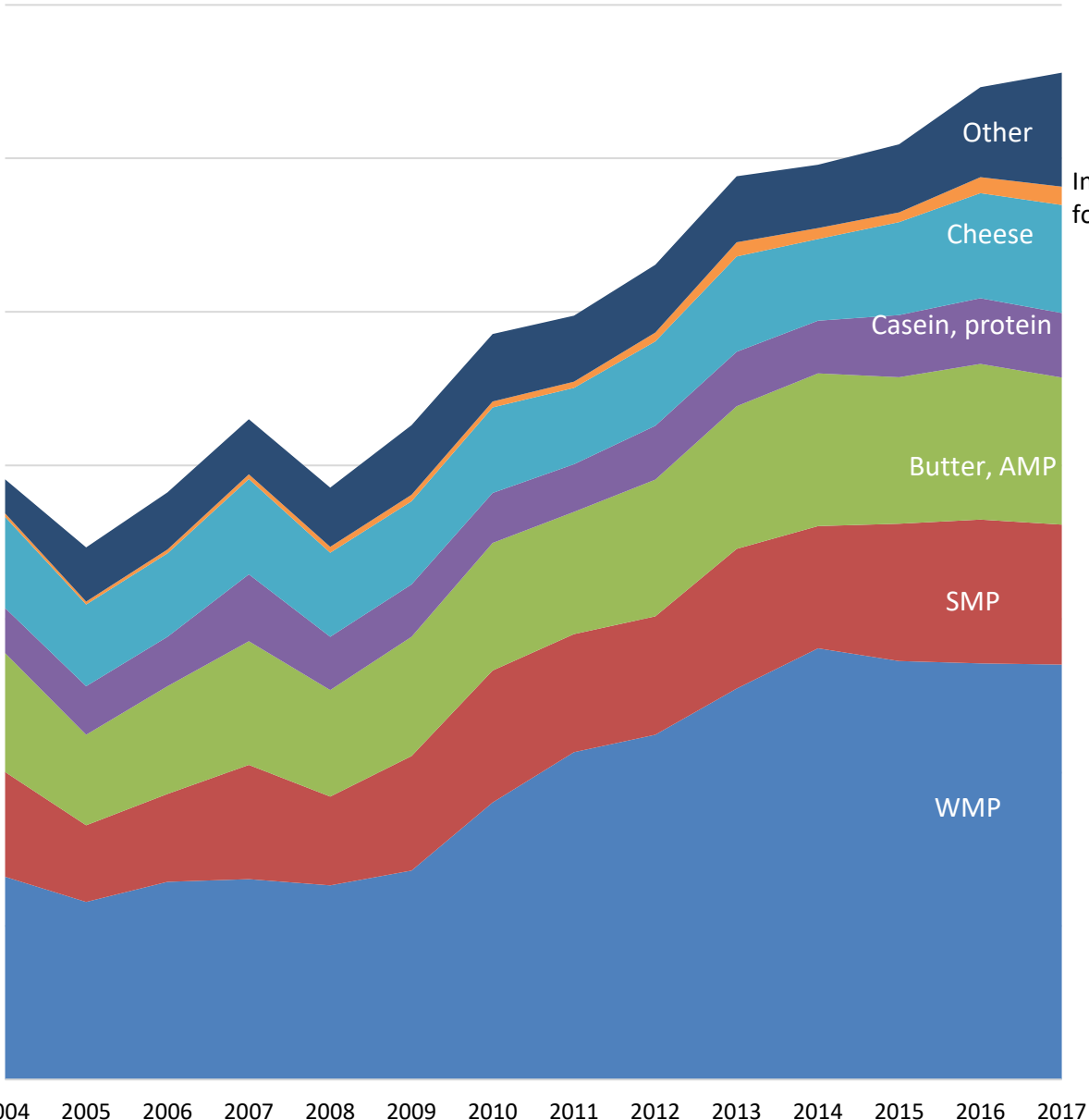
Strategy focused on achieving our ambition

Three strategic horizons

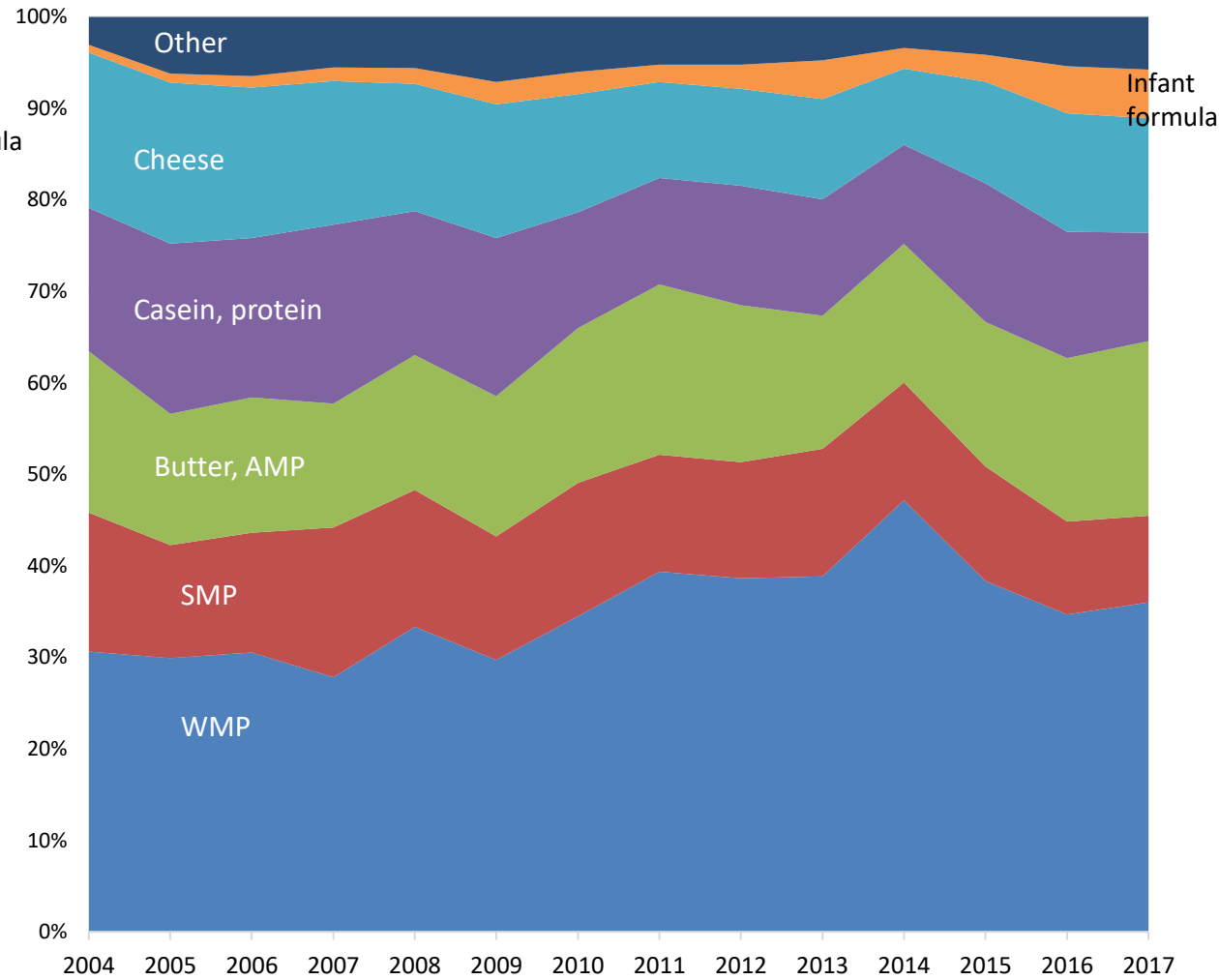
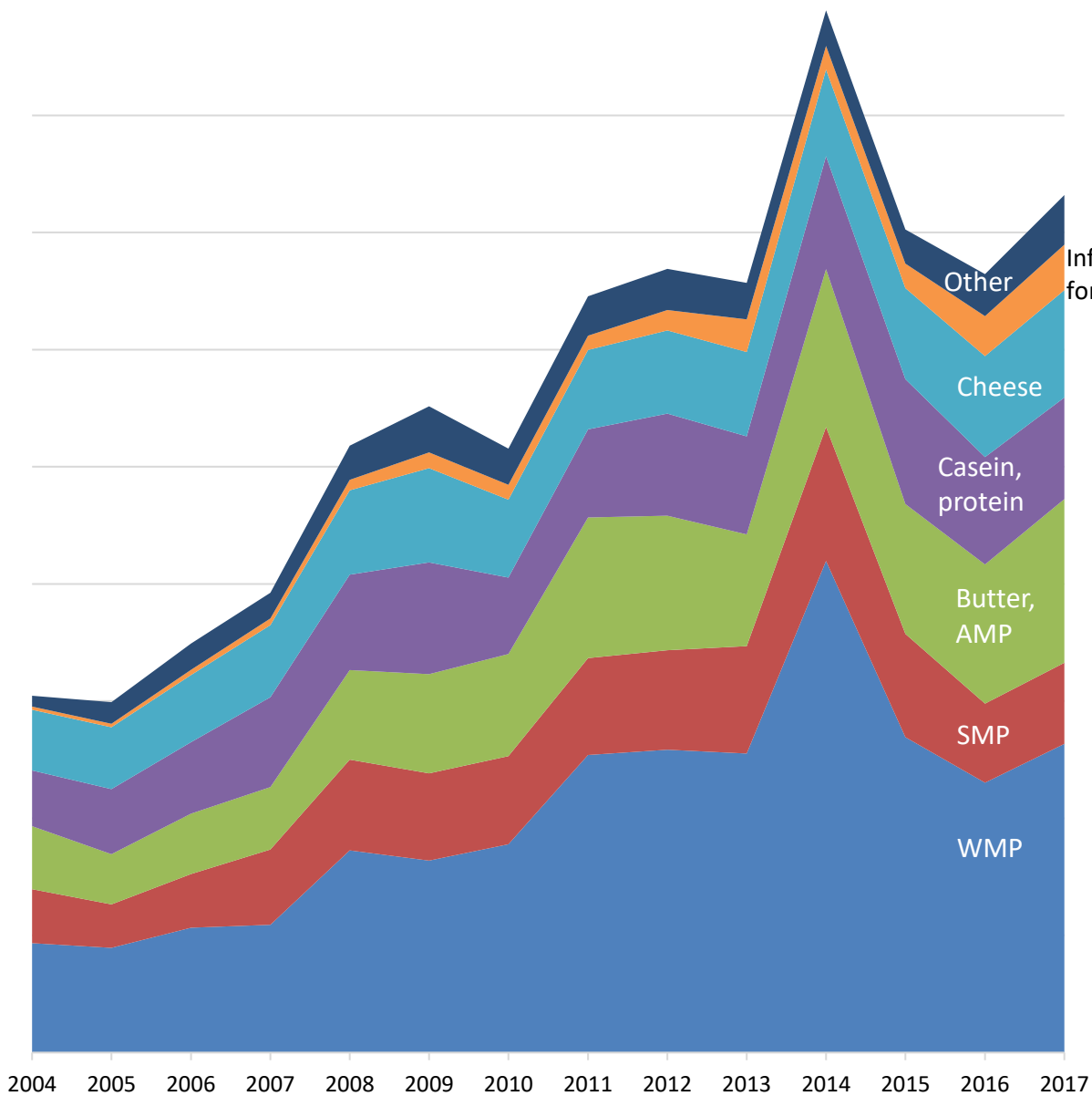


Outcomes

Dairy Exports (by volume)



Dairy Exports (by revenue)





“Appropriate investments have had to be made to...**find competitive markets** for the increased volume [45% increase in milk collections]

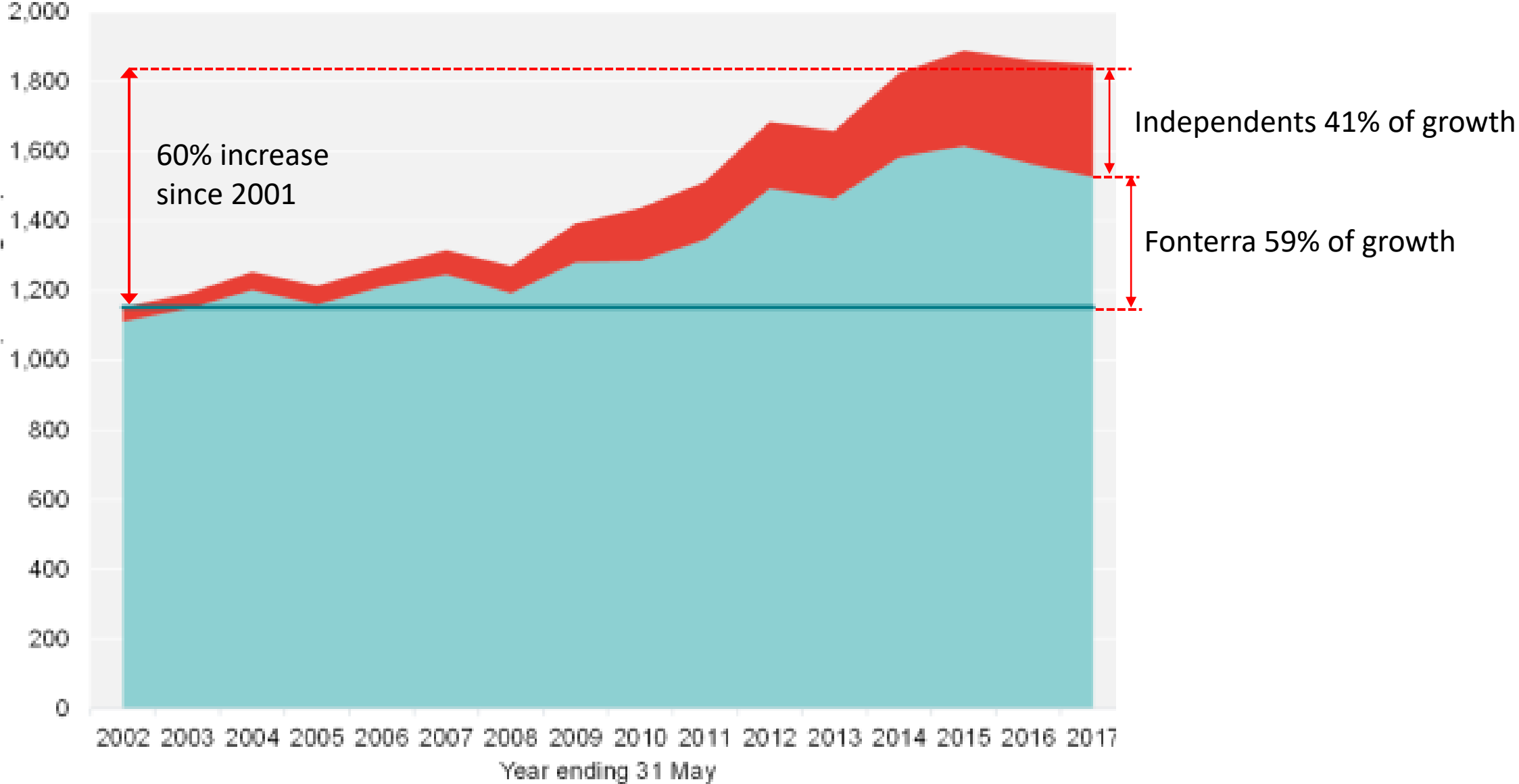
Shareholders Council, **2018**

“...simply **‘finding homes’** for product is not what we are in business of doing...”

Warren Larsen, **1997**



Milk Solids Collected



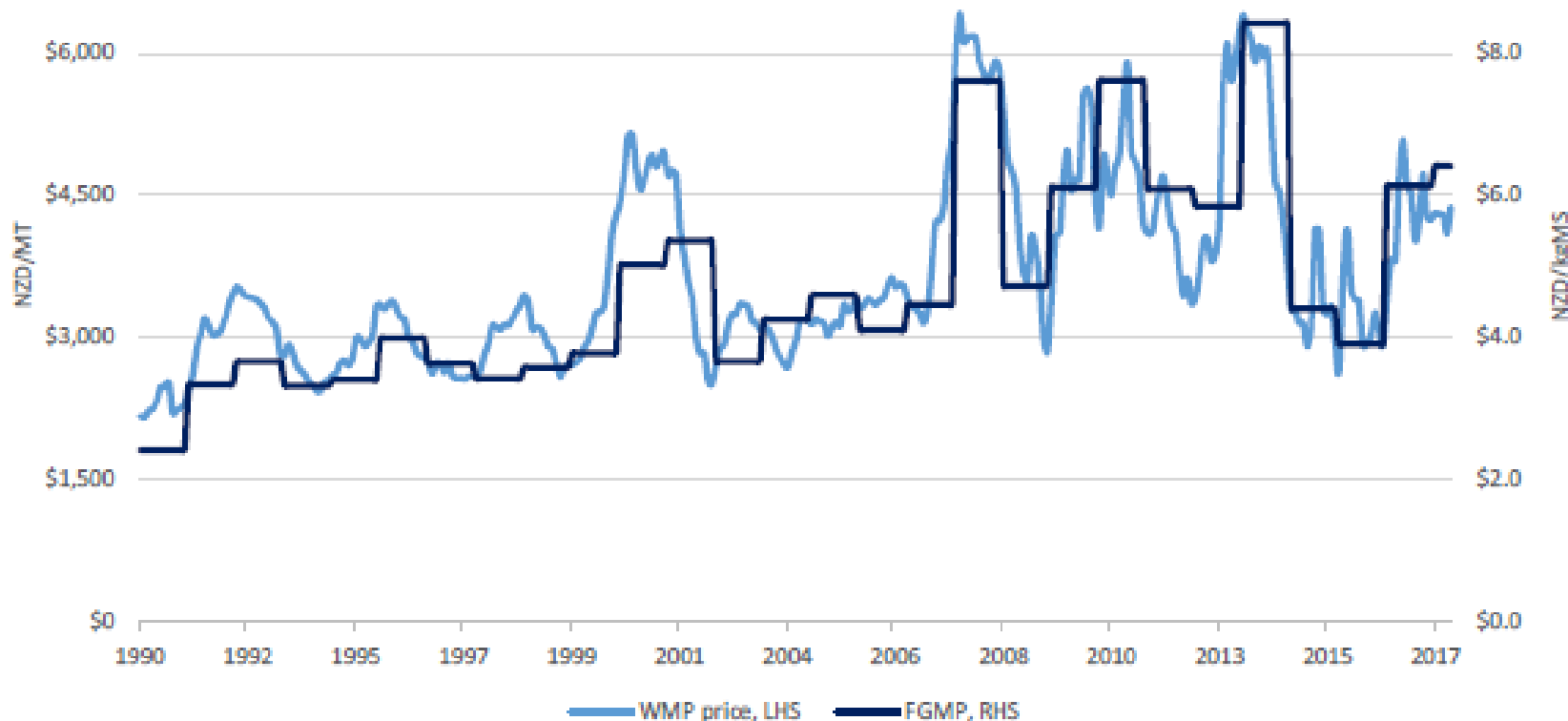
Fonterra Independent processors 2002 volumes

Source: Frontier Economics, Aug 2018

Commodity price v Farmgate price

“It is hard to argue that the creation of a national champion in Fonterra has led to a sustained material upwards impact on the farm gate returns received by farmers over the last 20 years” –

Arie Dekker, First NZ Capital

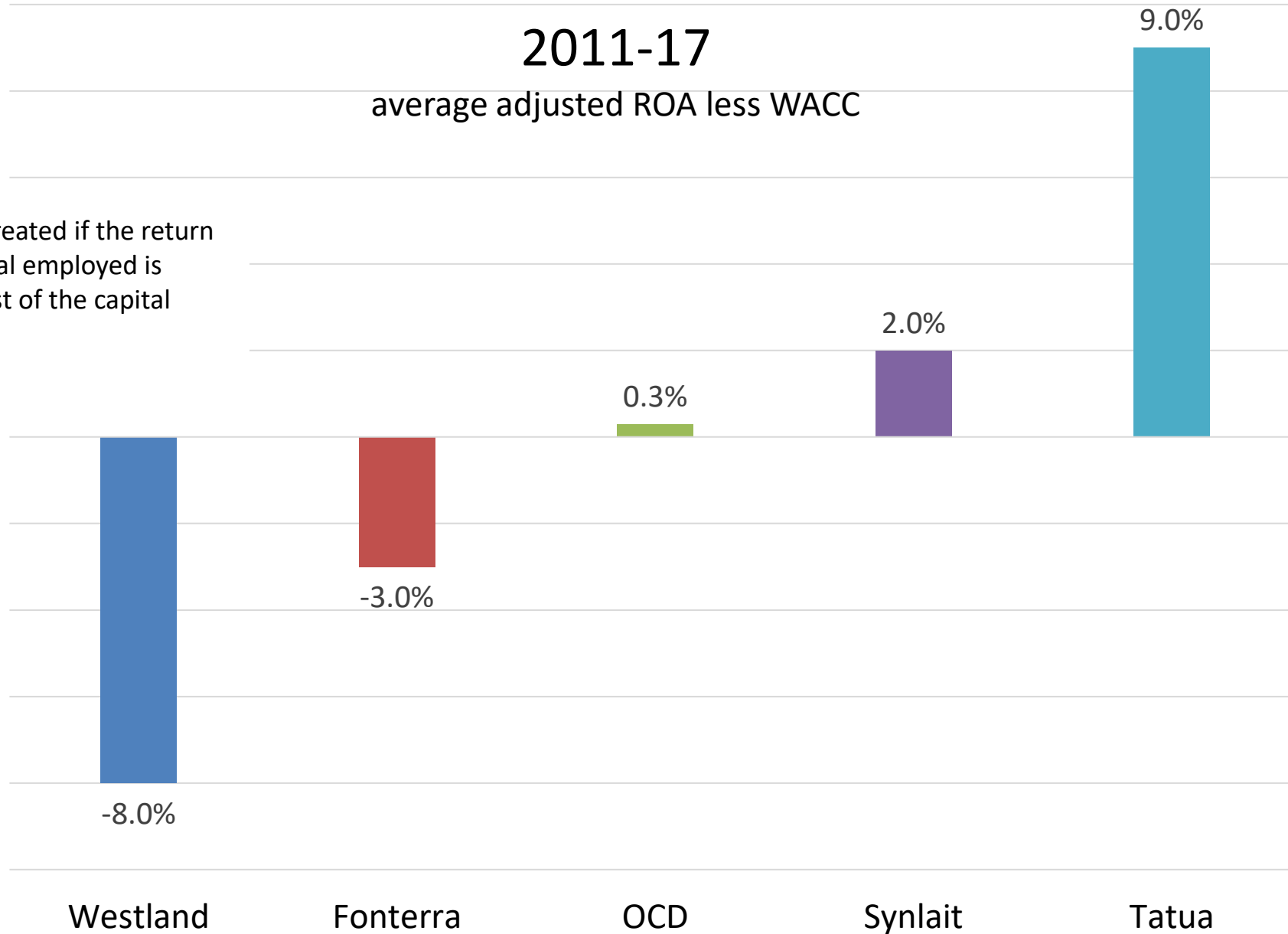


Economic value created

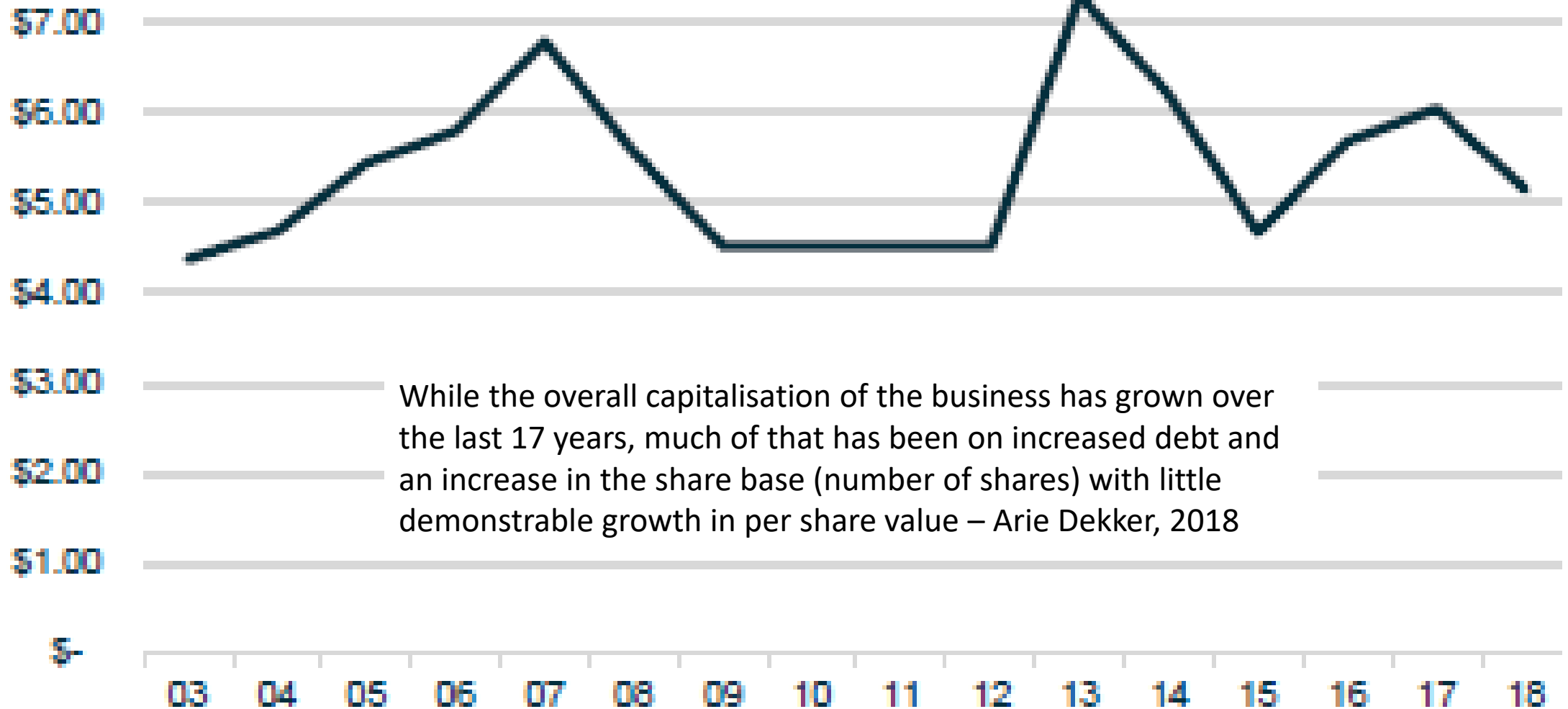
2011-17

average adjusted ROA less WACC

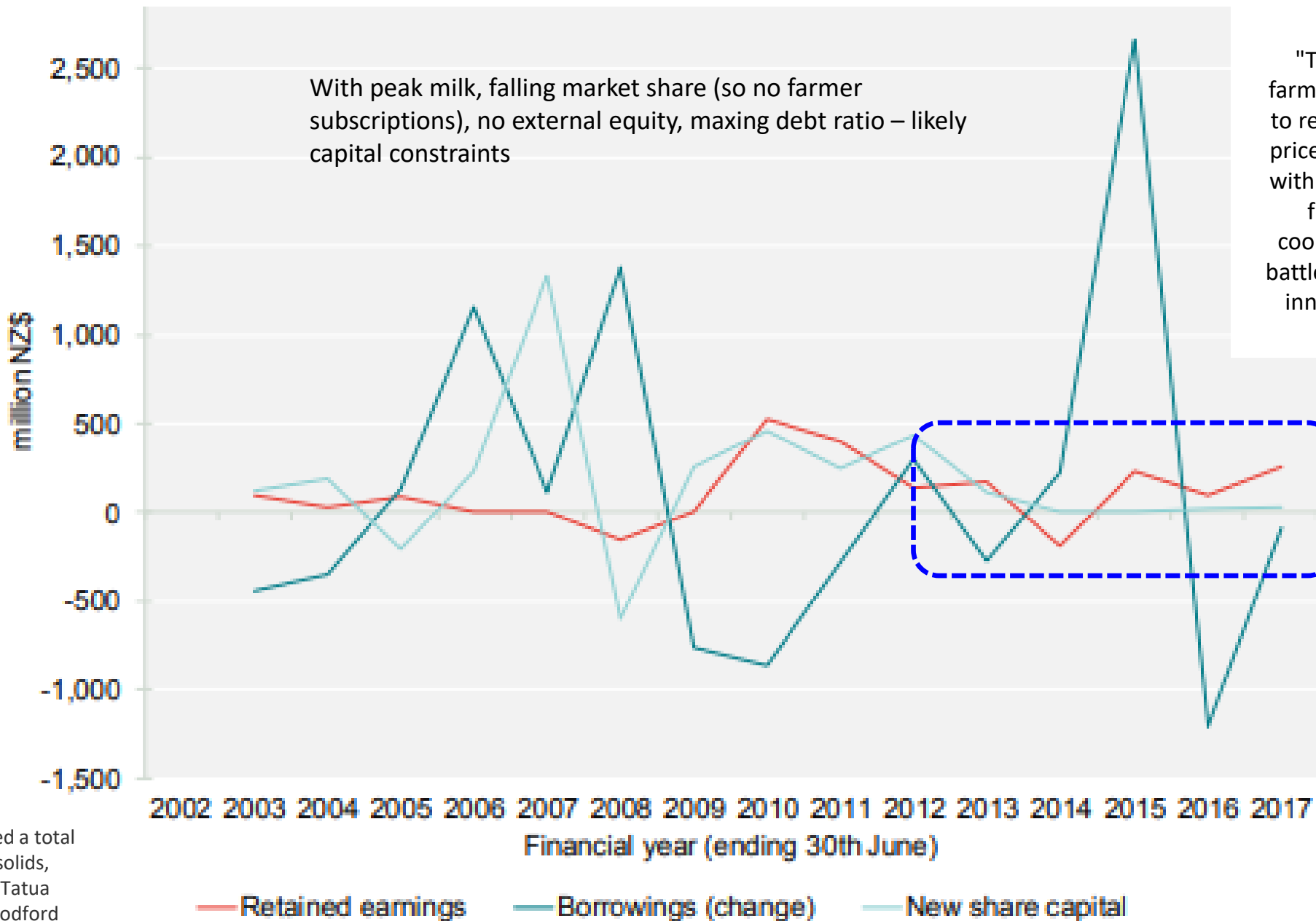
Economic value is created if the return earned on the capital employed is greater than the cost of the capital employed



Fonterra fair value share price and post TAF year end share price



Fonterra capital inflows and outflow

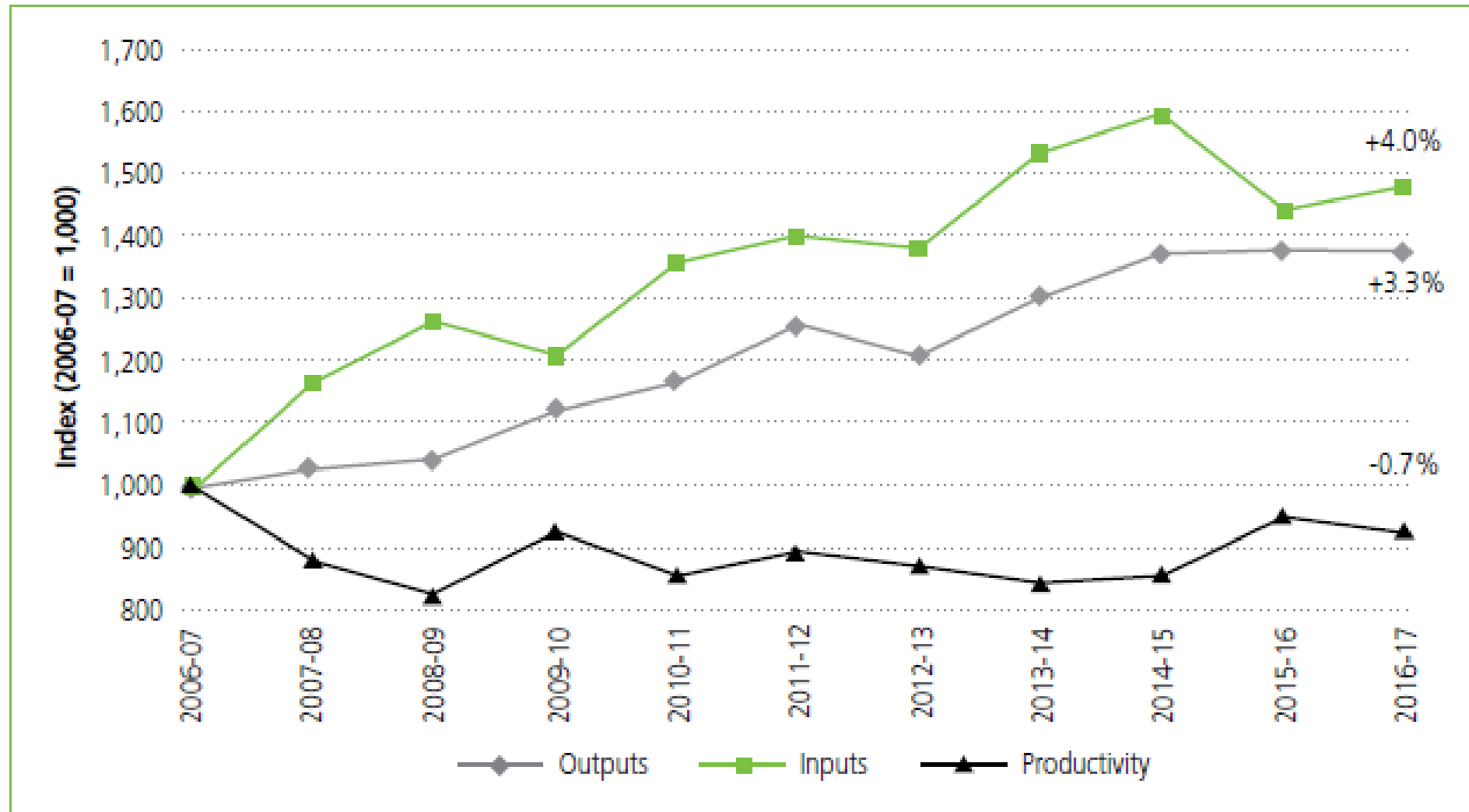


2010-2017: Fonterra retained a total of 70c of capital per kg milksolids, Westland retained 84c, and Tatua retained \$4.85. Source: Woodford

Rabobank:

"The expectations of many farmer-cooperative members to receive the maximum milk price has left the cooperative with limited funds to support future growth. Also, dairy cooperatives face a constant battle to find the right and/or innovative structure to help access outside capital"

Dairy Farm Output, Inputs and Productivity



Overview

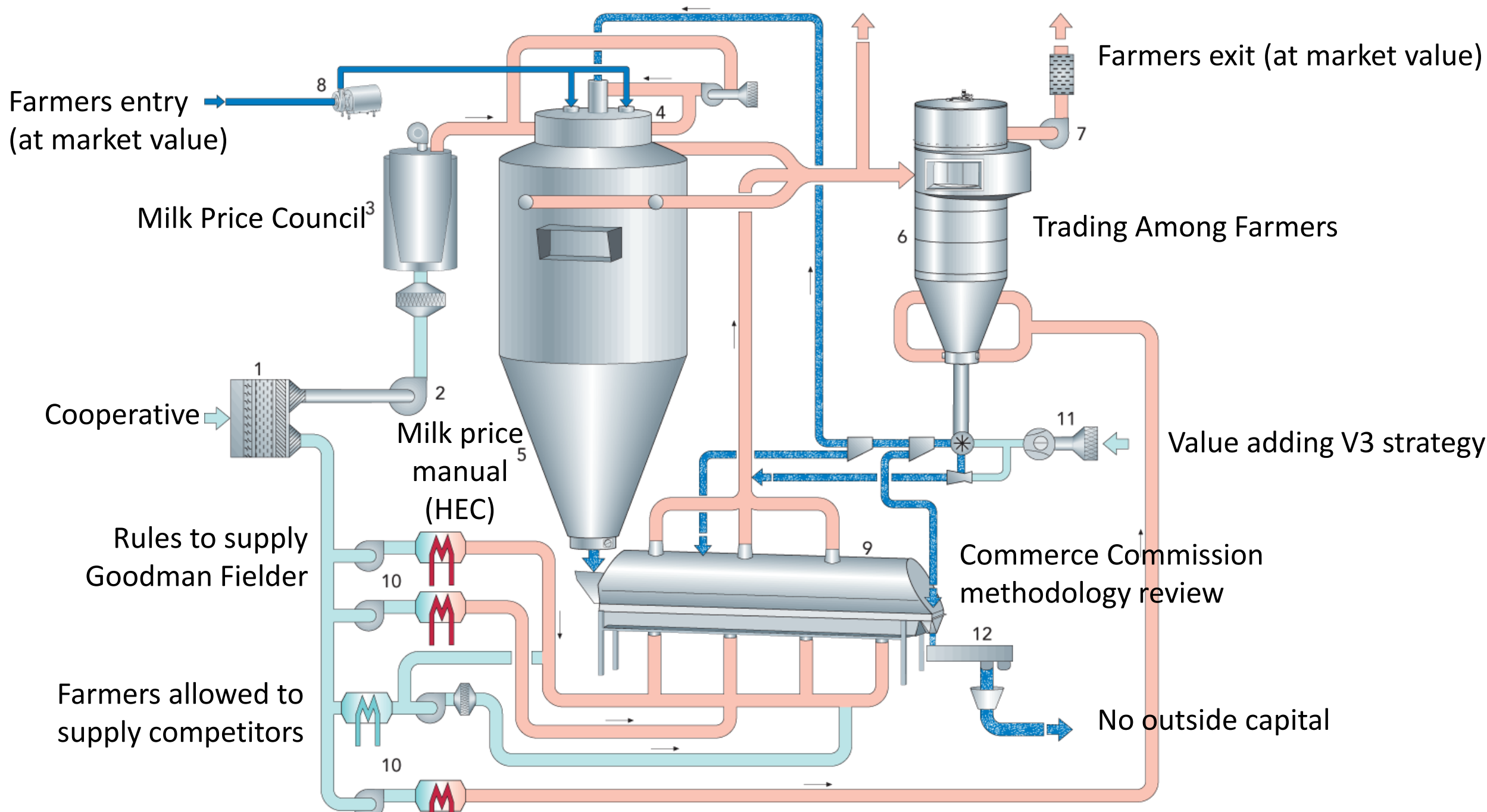


“ We are a dairy farmers' co-operative.
And we are a multinational marketing company.
And we are also an international capital investor”

Graham Stuart, 2002

“In fact, Fonterra is an oxymoron –
a tangled knot of contradictions and
wishful thinking”

Tony Baldwin, August 2018



A **serious mismatch** between

- Fonterra's aspirations and strategy

and

- its capability, resources and shareholders' structural requirements

What to do?



“Persistently false beliefs stem from issues closely tied to our conception of self”

Dr Matt McCrudden (VUW)
Dr Brendan Nyhan (Dartmouth)

Illustration by Gérard DuBois for The New Yorker

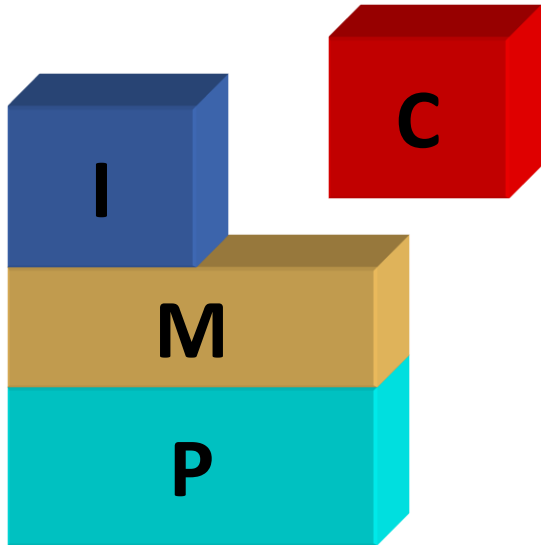


Related

<https://www.nzherald.co.nz/business/dairy-giant-fonterra-looks-to-offset-bovine-decline-with-plant-based-milks/7B6DTXTCMBRGPPT7WGBEN7YYY/>

Before Fonterra's much-vaunted business reset in 2019, the buzzwords were the three Vs - "volume, velocity and value".

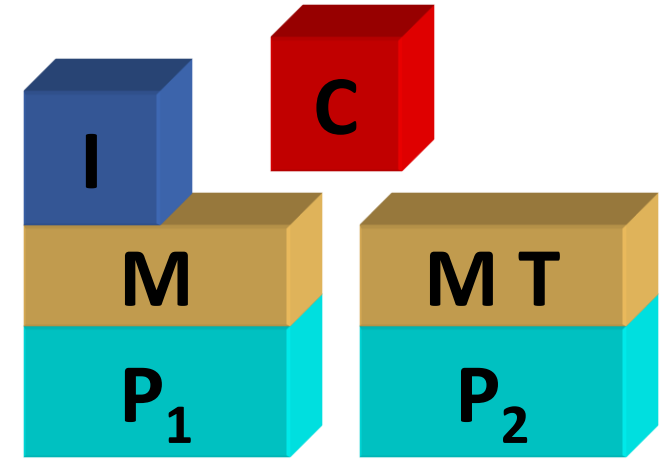
Now it's "innovation, sustainability and efficiency".



OPTION 6

Single mega cooperative

If the monopoly-like costs could not be eliminated, **two competing co-operatives** would be preferable to a single mega co-op by \$300 million.



OPTION 3

Two competing cooperatives

SUMMARY

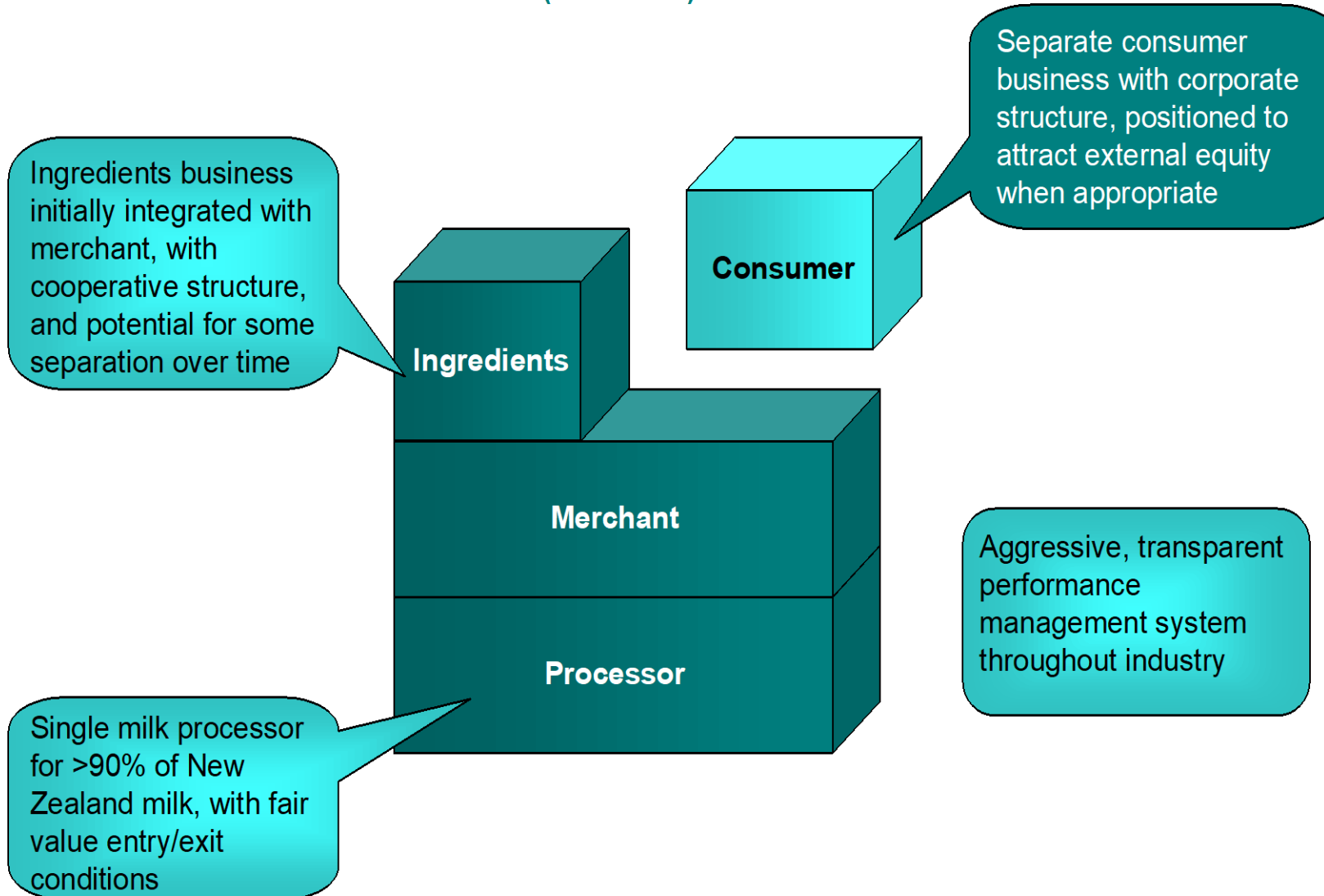
Option 6 is preferable to a pure Option 3 by \$800 million if x-inefficiency can be eliminated

Otherwise a pure Option 3 is preferable to Option 6 by \$300 million if breakdown of Option 3 can be prevented

We believe that the x-inefficiency can be managed under Option 6

Exhibit 1

INTEGRATED INGREDIENTS COMPANY (OPTION 6)



Source: McKinsey

Exhibit 4

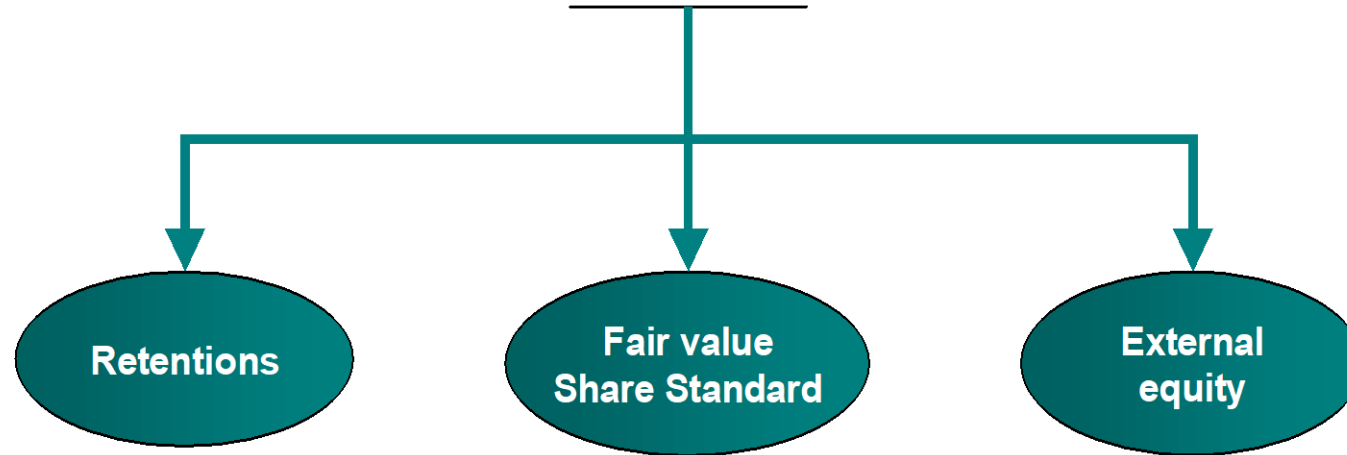
CAPITAL REQUIREMENTS AND SOURCES

NZ\$ Billions

Total capital required 12

Less debt capacity 8

Additional capital required 4



Key history sources

- **Lind, C.** “Till the Cows Come Home – Inside the battle that built Fonterra”, Overland Publishing Ltd, Wellington, NZ, 2014
- **McLauchlan, G.** “The farming of New Zealand: The People and the Land”. Auckland: Penguin, 2006.
- **McLauchlan, G.** “The Farming of New Zealand - An Illustrated History of New Zealand Agriculture”. Australia & New Zealand Book Co, New Zealand, 1981.
- **Nightingale, T .** “White Collars and Gumboots. A History of the Ministry of Agriculture and Fisheries, 1892-1992”. New Zealand Ministry of Agriculture and Fisheries, 1973
- **Philpott, H G.** “A history of the New Zealand dairy industry, 1840-1935”, Government Printer, 1937
- **Stringleman, H and Scrimgeour, F.** “Dairying and dairy products - Beginnings of New Zealand’s dairy industry”. Te Ara - The Encyclopedia of New Zealand, updated 13-Jul-12 - <http://www.TeAra.govt.nz/en/dairying-and-dairy-products/page-1>
- **Ward, A H.** “A command of cooperatives: The development of leadership, marketing and price control in the cooperative dairy industry of New Zealand”, New Zealand Dairy Board, 1975
- **Yerex, D.** “Empire of the Dairy Farmers”. New Zealand Dairy Exporter Books, 1989