

OPPORTUNITIES IN DAIRY IN SOUTH- EAST ASIA

November 2014 (พฤษภาคม ๒๕๕๘)

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OPPORTUNITIES FOR NEW ZEALAND DAIRY PRODUCTS IN SOUTH EAST ASIA

Part of the New Zealand Government's Food & Beverage Information Project;

Analysis completed Nov 2014; Released Mid 2015

www.foodandbeverage.govt.nz

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MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HIKINA WHAKATUTUKI



NEW ZEALAND
TRADE & ENTERPRISE



NEW ZEALAND
FOREIGN AFFAIRS & TRADE

Ministry for Primary Industries
Manatū Ahu Matua



THIS IS A SUMMARY DOCUMENT; NEW ZEALAND FIRMS SHOULD CONTACT CORIOLIS FOR ACCESS TO THE FULL REPORT

The Food and Beverage Information Project

The Food & Beverage Information Project is the first comprehensive overview of the state of New Zealand's Food & Beverage (F&B) industry. Part of the Government's Business Growth Agenda (BGA), it is an integrated programme of work focusing on the six key inputs businesses need to succeed, grow and add jobs; export markets, capital markets, innovation, skilled and safe workplaces, natural resources and infrastructure.

Essentially, the BGA Export Markets goal will require lifting the ratio of exports from today's rate of 30% of GDP to 40% by 2025. This equates to doubling exports in real terms (or tripling exports in nominal non-inflation adjusted terms). This in turn equates to achieving a 7% per annum growth rate over the next twelve years.

This five-year project analyses the main sectors in F&B, including dairy, meat, seafood, produce, processed foods, and beverages, as well as providing an overview of how the industry is fairing in our major markets. It also conducts in-depth sector reviews on a rotating basis. The information is updated annually and feedback from users shows the project is acting as a vital tool for companies looking to expand and grow exports.

Why Food & Beverage?

The Food & Beverage industry is vitally important to the New Zealand economy. Food & Beverage accounts for 56% of our merchandise trade exports and one in five jobs across the wider value chain. In addition, F&B acts as a vital ambassador for the country, being in most cases the first exposure global consumers get to "Brand New Zealand."

New Zealand's F&B exports are growing strongly and the country's export performance is strong and improving relative to peers. In the 15 years leading up to 2010, New Zealand's food and beverage exports grew at a compound annual rate of 7% per annum. So one way to look at the challenge is to ask - can we continue to grow our food & beverage exports at the same rate? To understand if this is possible we need to know what has been driving our success.

What is the purpose of the food and beverage information project?

The project pulls together the available information on the food and beverage industry into one place, in a form which is familiar and useful to business. The reports contain analysis and interpretation of trends and opportunities to materially assist with business strategy and government policy.

The information will be of vital use to businesses, investors, government, and research institutions as the industry expands and diversifies. This industry view will be very useful to government, enabling better dialogue and the opportunity to address issues collectively.

What benefit will this bring to businesses?

The Project will have many uses for businesses. These include:

- As a base of market intelligence to enable business to be much more targeted in their own market research
- Reviewing and informing offshore market development (including export and investment) strategies
- Assisting in identifying areas of innovation and R&D for the future
- Identifying strategic partners and collaborators
- Enabling a company to benchmark performance with that of its competitors
- Monitoring industry activity
- Gaining a better understanding of their own industry sector
- Identifying internal capability needs or external inputs

How will government use the reports?

This information will provide much greater insight into the industry, which is useful for a range of policy developments, from regulatory frameworks to investment in science and skills and facilitating access to international markets. In particular, a single source of factual information will enable government agencies to better coordinate their efforts across the system and be more responsive to addressing industry issues.

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PROJECT OBJECTIVE & SCOPE

OBJECTIVE

This project seeks to provide strategic leadership and direction leading to the growth of New Zealand made packaged, consumer-ready dairy product exports.

The project focuses on retail dairy products in the South East Asia region. The research assesses six key markets in SE Asia (Thailand, Malaysia, Indonesia, Vietnam, the Philippines and Singapore) across seven key product groups (drinking milk, yoghurt, condensed/evaporated milk, cheese, butter/spreads, Infant food and ice cream).

SCOPE/OUT OF SCOPE

The research is market-focused, rather than from a New Zealand production perspective. The research focuses on branded retail products - products found on the shelves in SE Asian retail stores.

Firm level market share, particularly that of New Zealand firms was defined as out of scope.

For budget reasons, the research did not purchase and analyse item-level category scan data. While it touches on foodservice, it does not deeply analyse the sector, as there is no good "off-the-shelf" firm/brand data available. Industrial/ingredient use was out of scope, as "NZ Inc." was assumed to have this under control.

This project uses data from a wide range of Euromonitor (www.euromonitor.com) reports (multiple product categories across multiple countries). Euromonitor is an excellent source of consistent, high level data across global markets. This research does not present firm market shares across these markets or categories; please purchase this directly. Any organisation serious about exporting to these markets should become a Euromonitor subscriber.

LIMITATIONS

This report uses a range of information sources, both qualitative and quantitative.

The numbers in this report come from multiple sources. While we believe the data are directionally correct, we recognise the limitations in what information is available. In many cases different data sources disagree (e.g. Statistics New Zealand vs. FAO* vs. UN Comtrade). Many data sources incorporate estimates of industry experts.

As one example, in many cases, the value and/or volume recorded as exported by one country does not match the amount recorded as being received as imports by the counterparty [for understood reasons].

In addition, in some places, we have made our own clearly noted estimates.

Coriolis has not been asked to independently verify or audit the information or material provided to it by or on behalf of the Client or any of the data sources used in the project.

- The information contained in the report and any commentary has been compiled from information and material supplied by third party sources and publicly available information which may (in part) be inaccurate or incomplete.
- Coriolis makes no representation, warranty or guarantee, whether express or implied, as to the quality, accuracy, reliability, currency or completeness of the information provided in the report.

All trade data analysed in all sections of the F&B Information project are calculated and displayed in US\$ (other than a few places where detailed data is not available). This is done for a range of reasons:

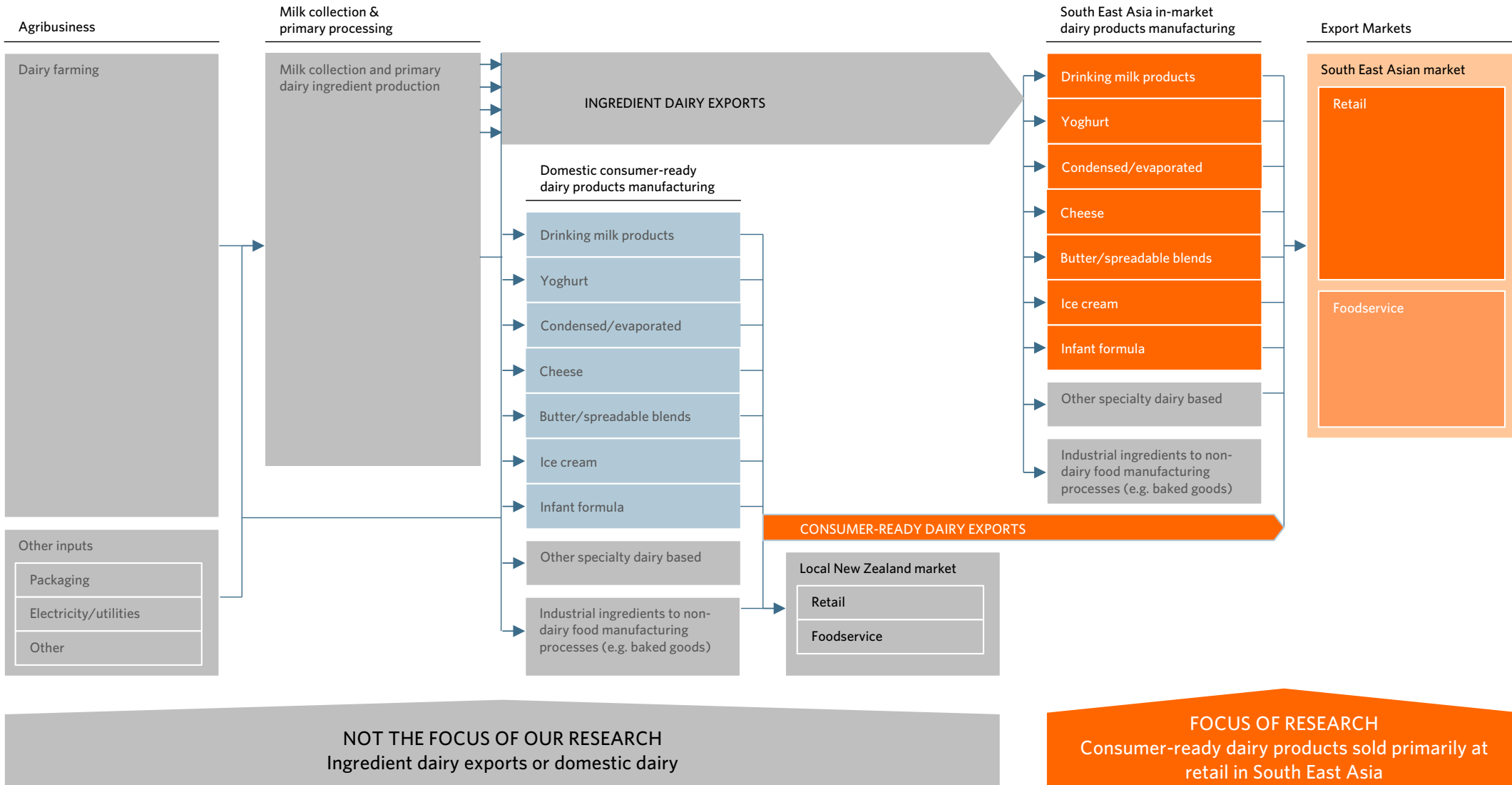
- It is the currency most used in international trade
- It allows for cross country comparisons (e.g. vs. Denmark)
- It removes the impact of NZD exchange rate variability
- It is more comprehensible to non-NZ audiences (e.g. foreign investors)
- It is the currency in which the United Nations collects and tabulates global trade data

The opinions expressed in this report represent those of the industry participants interviewed and the authors. These do not necessarily represent those of Coriolis Limited or the New Zealand Government.

This project was completed in November 2014.

This project is focused on consumer-ready dairy products sold at retail in South East Asia; it is not looking at ingredient dairy exports

SIMPLIFIED MODEL OF THE DAIRY CHAIN FROM FARM TO PLATE



DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

South East Asia is the next logical market for New Zealand consumer-ready exporters with a strong presence in their home market (New Zealand, Australia and the Pacific Islands)

Situation

South East Asia is a highly attractive market for New Zealand consumer-ready dairy exporters

- Next closest market after Australia
- Population of 583m (more than all of Central and South America)
- Increasing wealth leading to increased demand for imported food and beverages

South East Asia is a natural trading partner for New Zealand

- Tropical environment unable to efficiently produce dairy and many other temperate foodstuffs

New Zealand has a relatively strong presence in the region

- Awareness by some consumers of New Zealand as a quality supplier
- Long term (100 year+) supply of dairy and meat
- Particularly into former co-members of the British Empire

Significant trade agreements in place or in development

- AANZFTA¹, 2010 (12 member) linkage in development
- Malaysia NZ FTA, 2010
- Thailand NZ, CEP, 2005
- Singapore NZ CEP, 2001
- TPP (In progress)

Recommended market entry strategy

Start in Singapore

- High income country with rule-of-law that speaks English
- Only 5m people so “do-able” for New Zealand manufacturing to scale-up to supply without major capital expenditure
- Modern supermarket sector consolidated into 3 chains
- Commit to the market; treat as a “region of New Zealand”; put salespeople in the market; regularly call on retailers; run promotions
- Central location that is a natural regional base and distribution hub
- Already imports proportionally a lot of F&B from New Zealand

Expand into Malaysia

- Slightly larger population than Australia (28m people)
- Already imports proportionally a lot of F&B from New Zealand
- Easily serviced from Singapore

Expand into other key markets in the region

- Thailand, Indonesia, the Philippines and Viet Nam

South East Asian markets have similar cuisine with common building blocks; markets also face a similar set of issues

OVERVIEW OF KEY CHARACTERISTICS OF THE SOUTH EAST ASIAN FOOD & BEVERAGE MARKET ENVIRONMENT

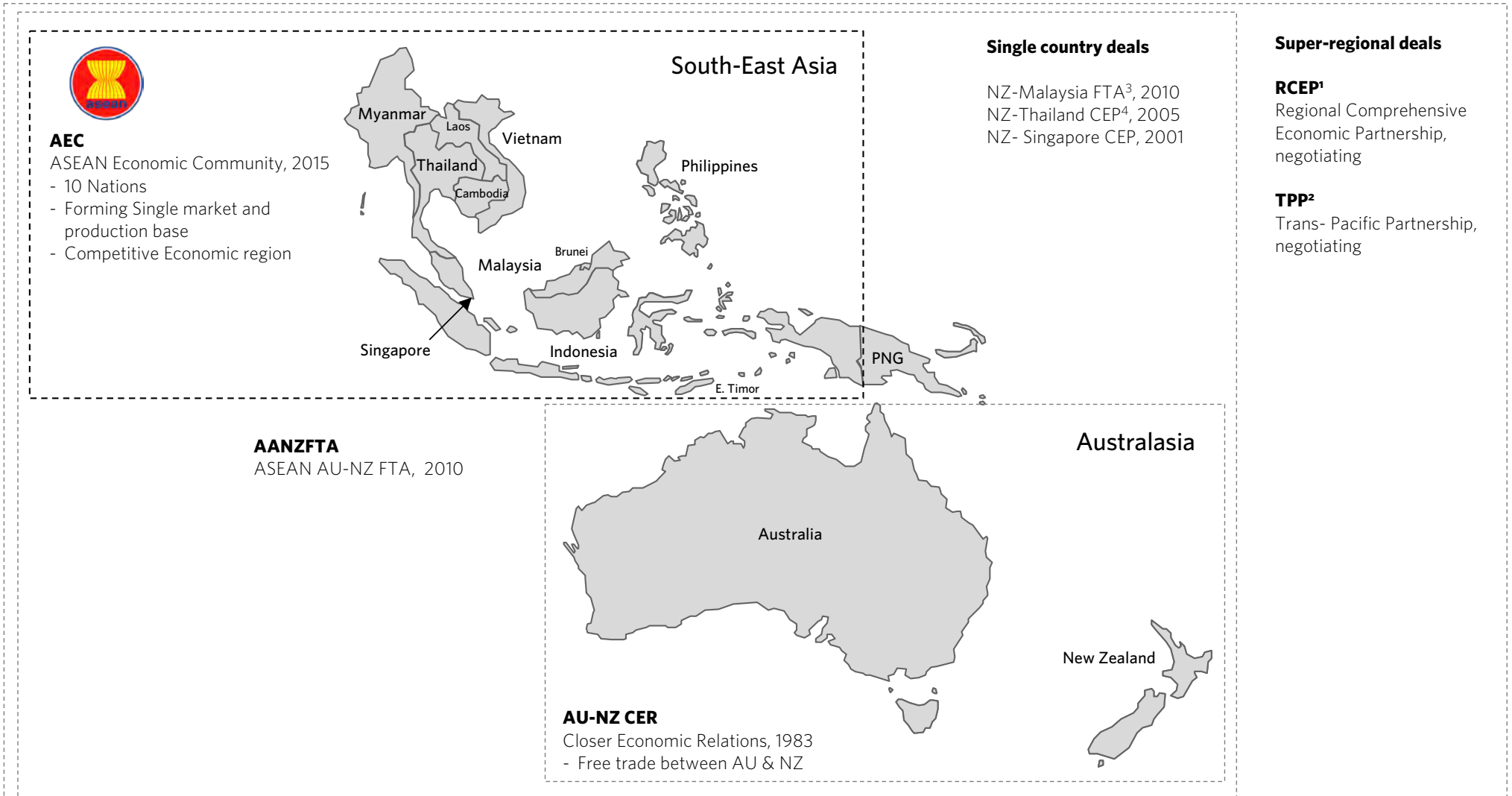
(2011)

Cuisine and culture	Distribution	Competitive environment
Food building blocks <ul style="list-style-type: none"> - Rice - Tropical fruit (rambutan, durian, etc.) - Tropical/Asian vegetables - Chicken, seafood - Sauces (e.g. fish sauce) - Beer and local spirits 	Market characteristics <ul style="list-style-type: none"> - Continuing strong presence of wet markets and fresh specialists - Supermarket sector consolidated within markets but less so across markets - Expenditure on foodservice/food away larger than retail food (i.e. "spend more in restaurants than in supermarkets") 	Key imported temperate foods and beverages <ul style="list-style-type: none"> - European spirits (Brandy, Whisky, Gin) - Ingredient milk powder for local manufacturers to turn into consumer dairy items (e.g. yoghurt drinks, infant formula) - Apples - Beef
Cultural & regulatory characteristics <ul style="list-style-type: none"> - Religious limitations on protein consumption (Muslim peoples don't eat pork and require meat to be halal) - Multiple languages across region leading to requirement for packaging by country - No common regional food standards or regulations - Muslim restrictions on alcohol consumption - Various degrees of alcohol intolerance (ALDH2 deficiency) within population (particularly those of East Asian origin) 	Supply chain issues <ul style="list-style-type: none"> - Markets somewhat bi-polar with world-class, best practice retailers (e.g. Tesco) alongside wet markets - Modern supply chains developing in higher income countries with spread of chain supermarket operators - Sophistication of supply chain more variable elsewhere - Convoluted supply chain to support continuing significant role of numerous wet markets selling fresh meat, seafood, fruit and vegetables 	Key suppliers of temperate foods and beverages <ul style="list-style-type: none"> - Australia - China - United States - Europe - New Zealand

New Zealand is effectively part of a wider South East Asian/Australasia super-region; regional trade blocks are deepening and merging

MAP OF SOUTH EAST ASIA AND AUSTRALASIAN REGION

2014

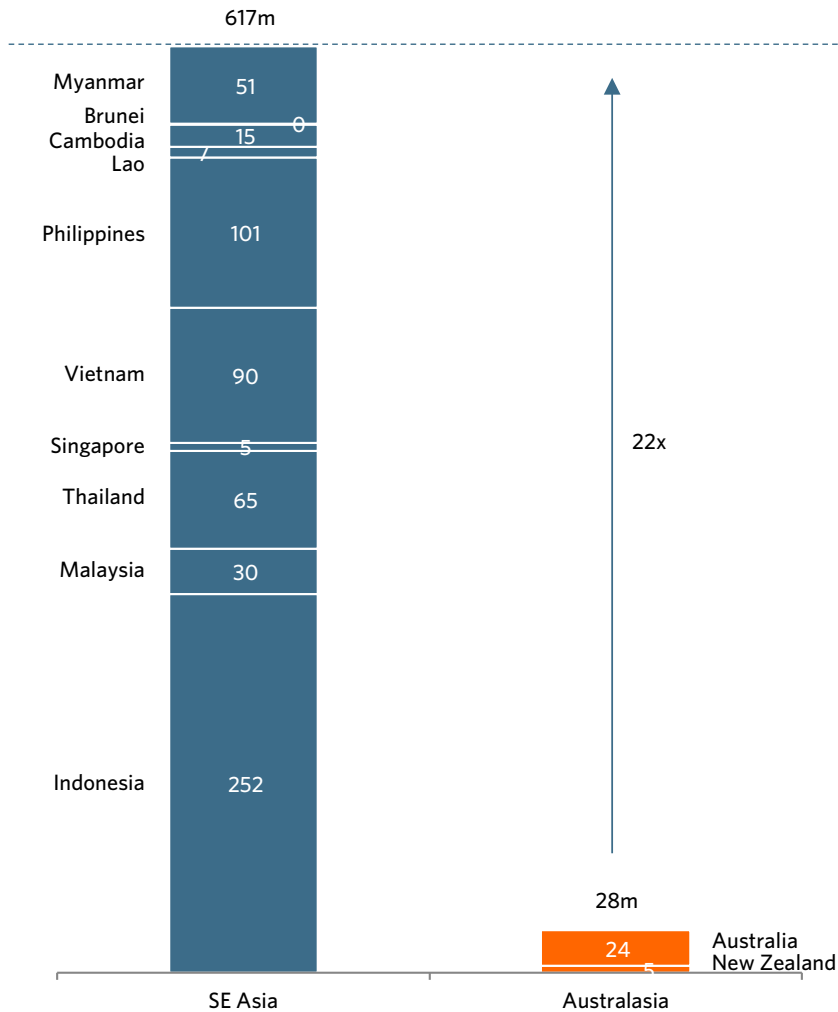


1. RCEP also includes India, China, South Korea & Japan; 2. TPP also includes Chile, Peru, USA, Canada, Mexico, Japan; 3. FTA Free Trade Agreement; CEP Closer Economic Partnership; Note: All 21 pacific island nations not shown or named; Source: Coriolis, MFAT,

South East Asia has 22 times the population of Australasia and is forecast to experience faster GDP growth

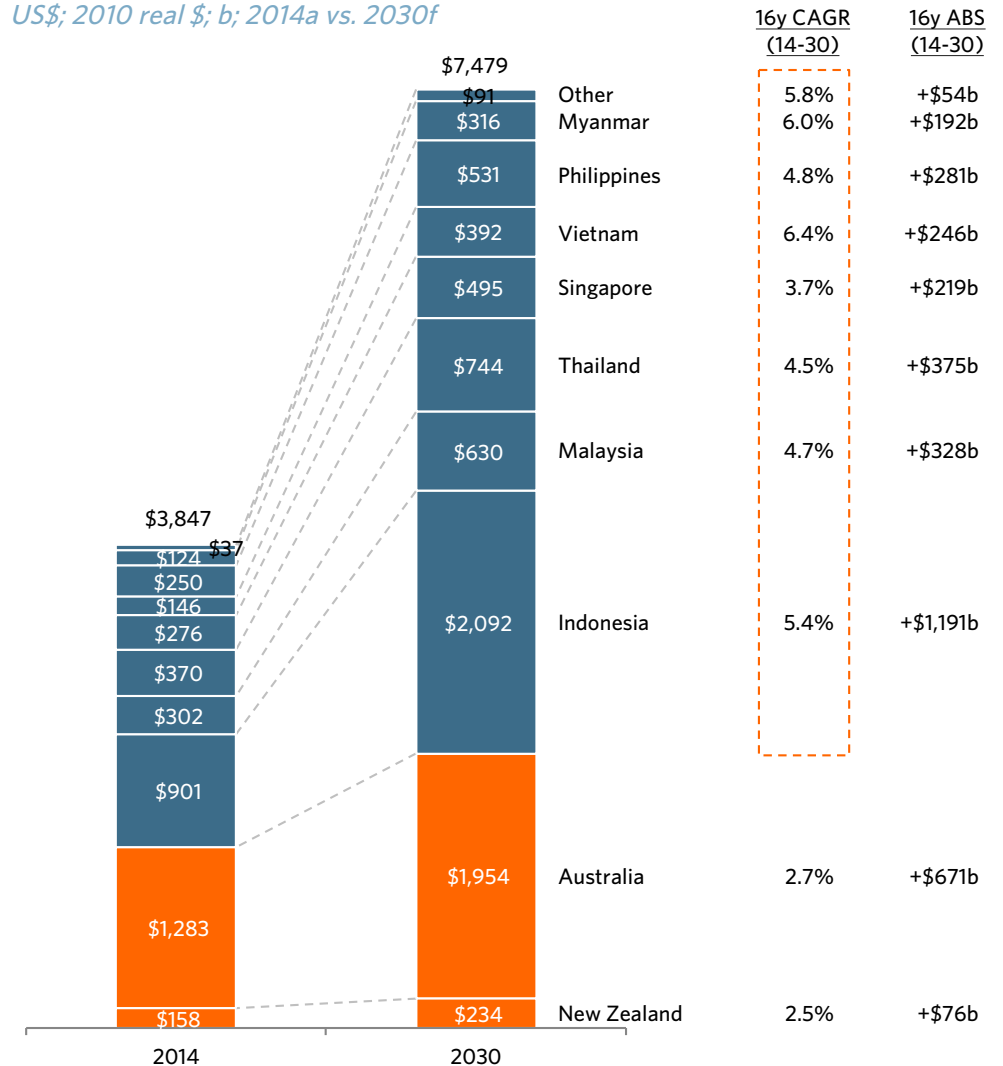
POPULATION: SE ASIA VS. AUSTRALASIA

People; m; 2014



REAL (INFLATION ADJUSTED) GDP

US\$; 2010 real \$; b; 2014a vs. 2030f



New Zealand has been active in the South East Asian regional dairy market for over 120 years

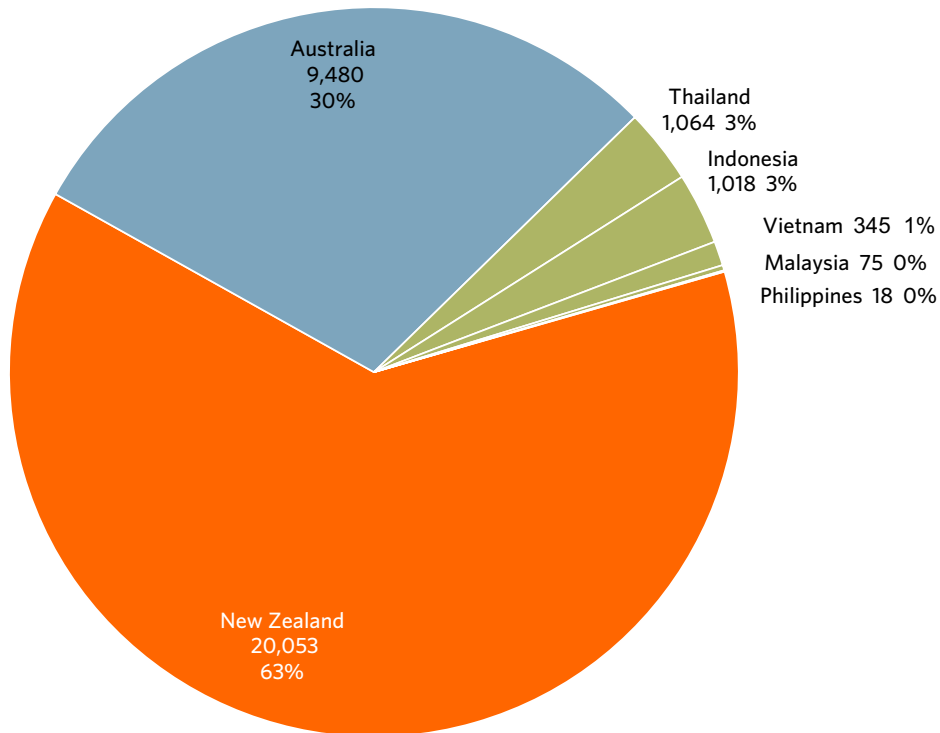
FIRST RECORDED NZ SHIPMENTS TO REGION

1891-1904

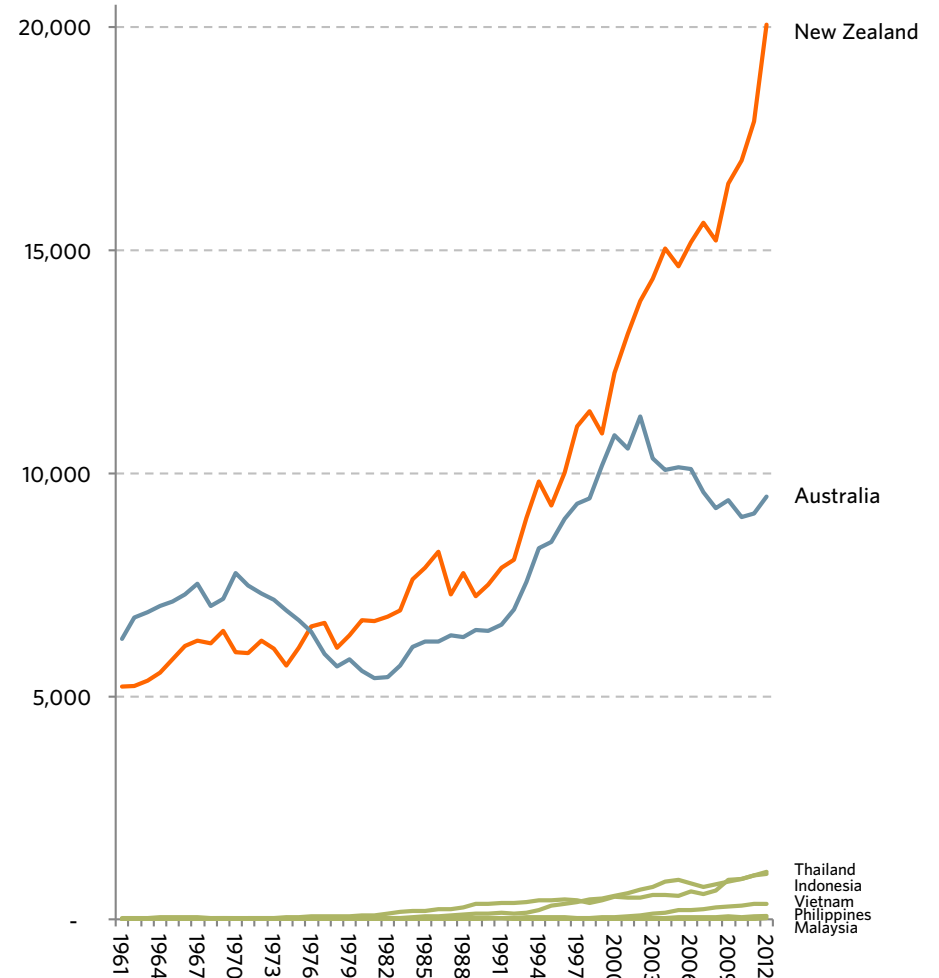
Country/Region	Product	Year of first recorded export	Therefore in the market for...
Sumatra (now part of Indonesia)	Butter/Cheese	1891	123 years
Straits Settlements (now Singapore & Malaysia)	Butter Cheese Milk*	1892 1892 1904	122 years
Java (now part of Indonesia)	Milk*	1902	112 years
Philippine Islands (now Philippines)	Cheese Butter Milk*	1902 1903 1904	112 years
Hong Kong	Cheese Milk* Butter	1902 1902 1904	112 years
Siam (now Thailand)	Butter	1904	110 years

New Zealand produces 63% of all raw milk in the SE Asia/Australasia super-region; New Zealand is the only regional producer significantly increasing production

RAW WHOLE FRESH MILK PRODUCTION VOLUME
Tonnes; 000; 2012

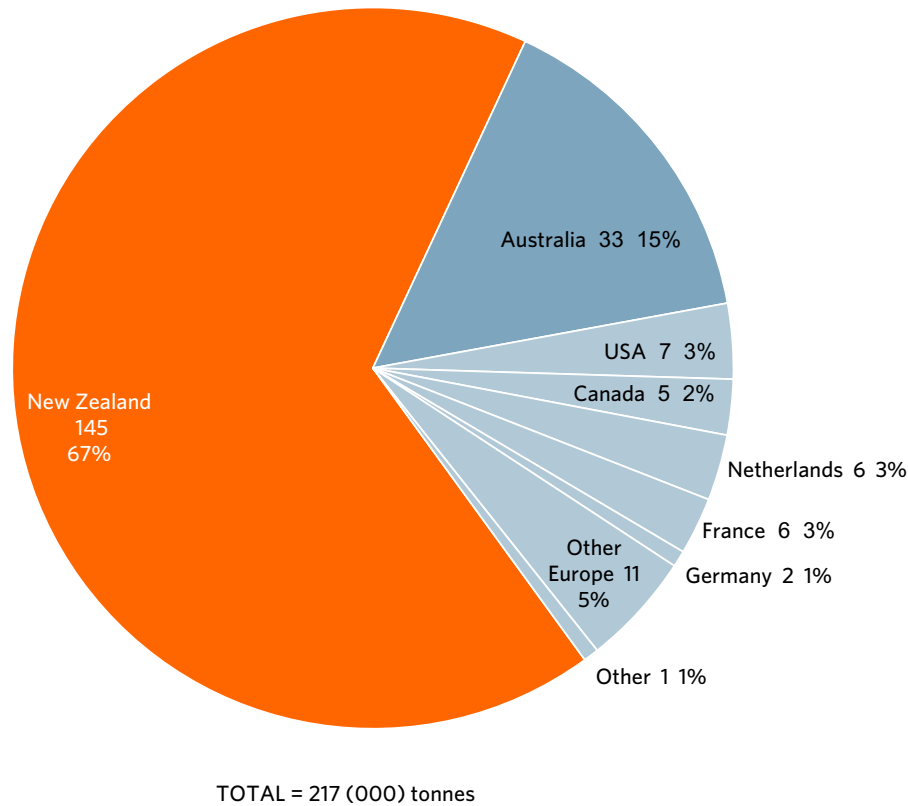


RAW WHOLE FRESH MILK PRODUCTION VOLUME
Tonnes; 000; 1961-2012

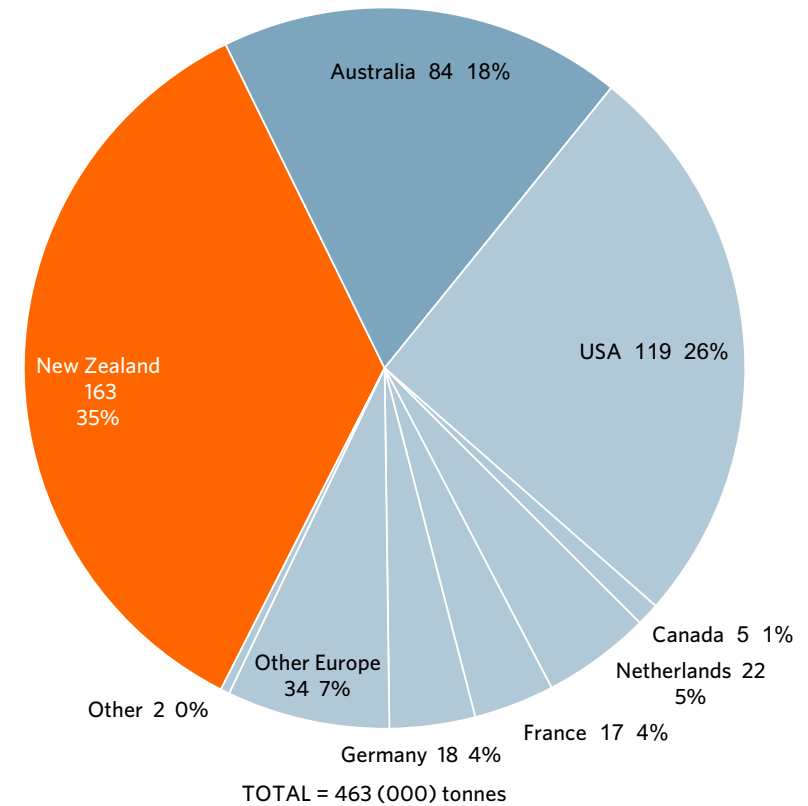


New Zealand is the largest supplier of milk powder to South East Asia

SE ASIA WHOLE MILK POWDER IMPORT VOLUME BY SOURCE
Tonnes; 000; 2012



SE ASIA SKIM MILK POWDER IMPORT VOLUME BY SOURCE
Tonnes; 000; 2012

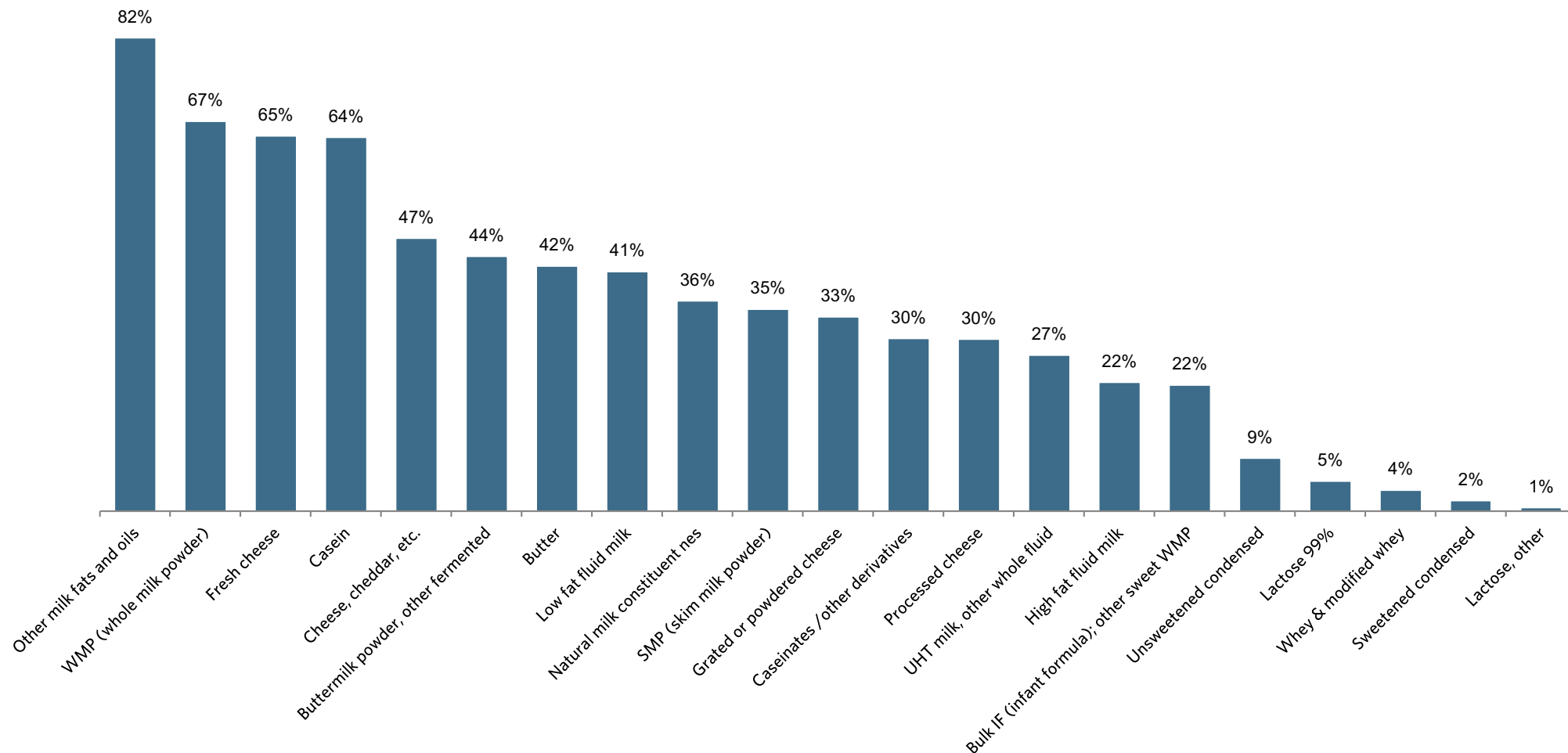


Note: Excludes inter-regional trade (e.g. Singapore to Malaysia); WMP (Unsweetened 040221 & Sweetened 040229); SMP (040210); 040229 includes some amount of bulk infant formula (IF) inseparable at source. Source: UN Comtrade database (custom job); Coriolis analysis

New Zealand achieves a strong import share into South East Asia across most major dairy ingredients

NEW ZEALAND SHARE OF TOTAL SE ASIAN REGIONAL IMPORT VOLUME: SELECT INGREDIENT DAIRY CODES

% of tonnes; 2012

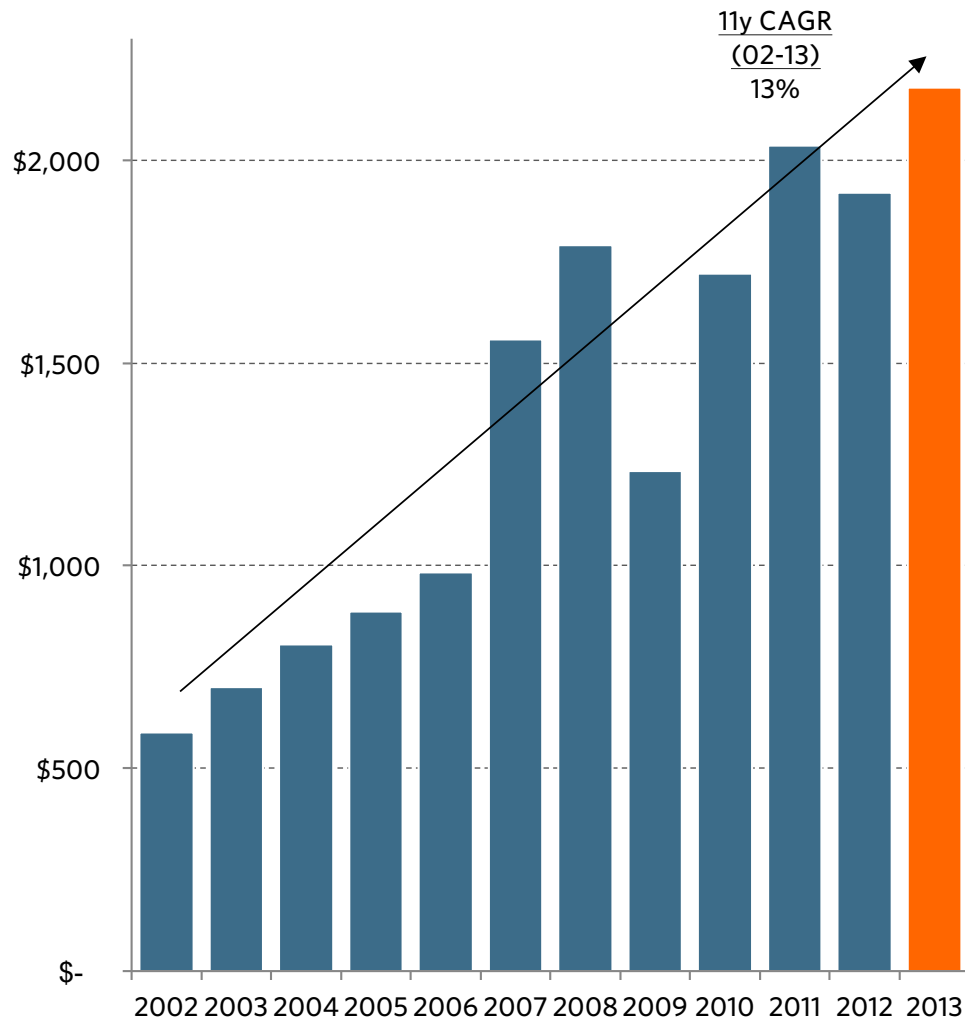


Note: Includes inter-regional trade

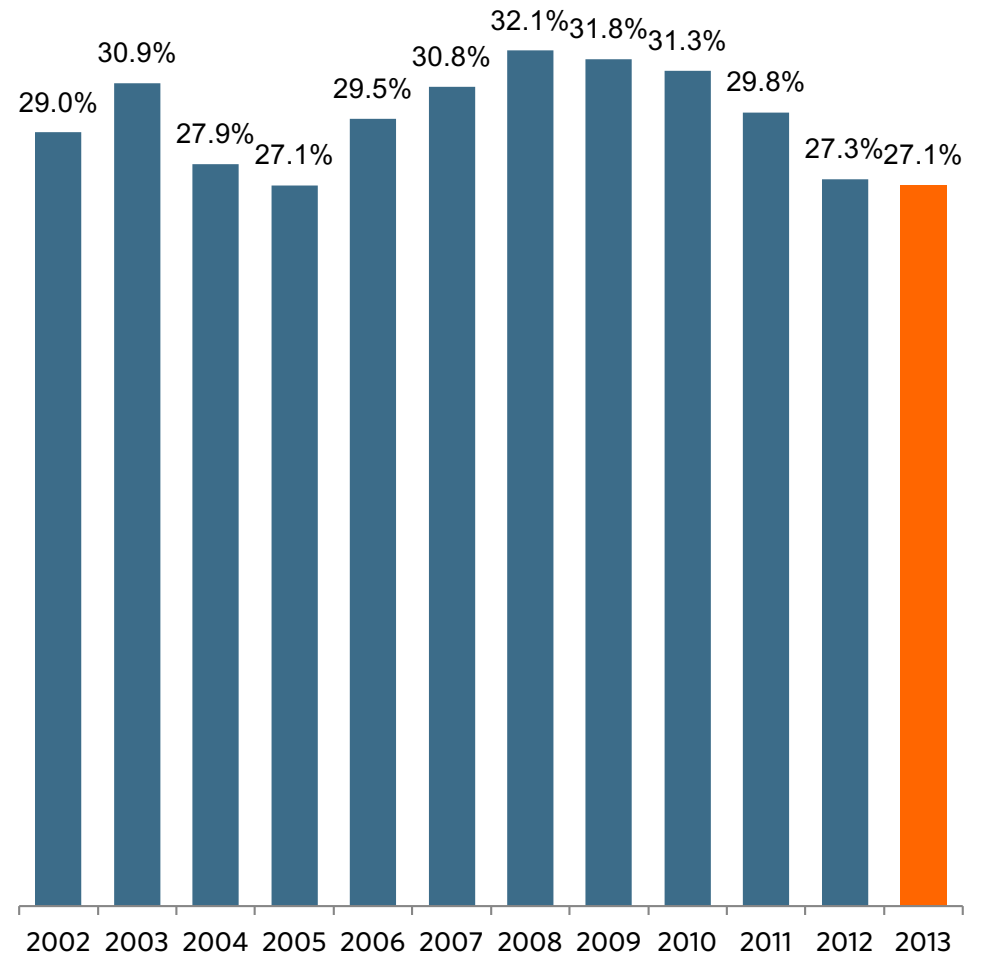
Source: UN Comtrade database (custom job); Coriolis analysis

SE Asia is a large and growing market for New Zealand total dairy exports

VALUE OF TOTAL NZ DAIRY EXPORTS TO SE ASIA
US\$m; 2002-2013



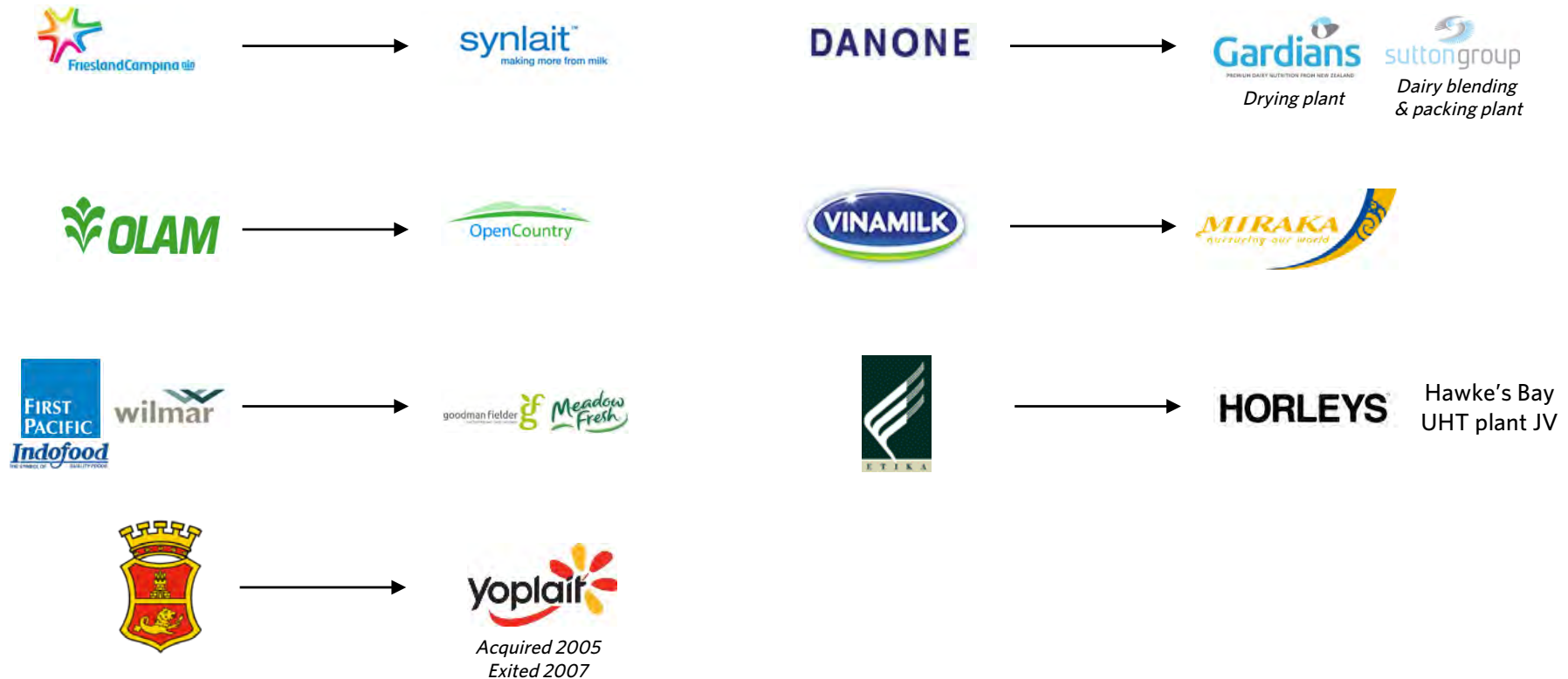
NEW ZEALAND SHARE OF TOTAL REGIONAL DAIRY IMPORTS
% of value; 2002-2013



Leading firms in SE Asia are backwards integrating into New Zealand

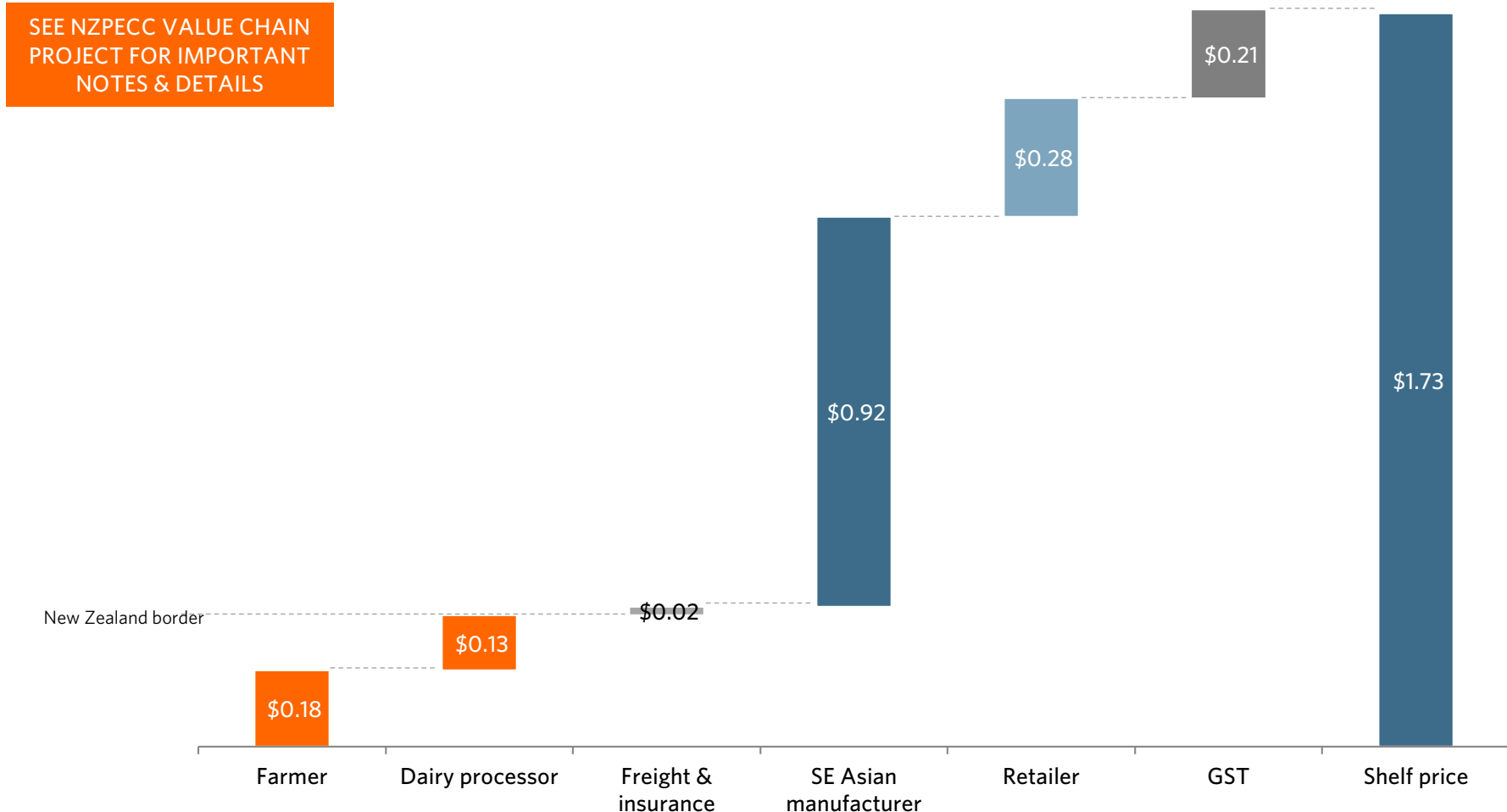
INVESTMENTS BY DAIRY FIRMS WITH SIGNIFICANT OPERATIONS IN SE ASIA IN NEW ZEALAND

As of Nov 2014



However, the vast majority of the final value of New Zealand dairy ingredients is being captured by non-New Zealand firms beyond the border

EXAMPLE VALUE CHAIN: RETAIL SHELF PRICE OF UHT MILK CARTON THROUGH TO FARM GATE VALUE TO NZ DAIRY FARMER
NZ\$; actual; 2012



DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

SE Asia is a growth region for dairy - all categories and markets are forecast to grow, albeit at varying rates

5 YEAR FORECAST RETAIL DAIRY SALES GROWTH BY CATEGORY AND COUNTRY

CAGR %; 2014-2018f

	Drinking Milk Products	Yoghurt	Cond./ Evap. Milk	Cheese	Butter/Spreadable	Infant Formula/Baby Food	Ice Cream
Thailand	6%	7%	4%	6%	6%	6%	7%
Malaysia	5%	7%	4%	6%	5%	7%	4%
Singapore	4%	6%	2%	4%	3%	7%	5%
Indonesia	7%	9%	4%	10%	7%	7%	12%
Philippines	5%	5%	4%	4%	5%	5%	6%
Vietnam	14%	12%	7%	14%	12%	14%	16%
TOTAL	8%	8%	4%	7%	7%	8%	8%

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Cheese

Butter

Ice cream

Infant milk formula

Drinking milk products are a large and growing category in SE Asia where New Zealand provides much of the raw material

FOR

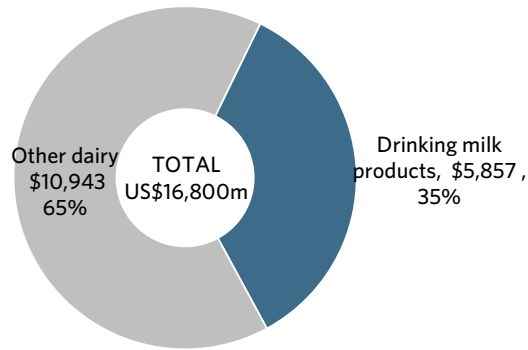
- Powder and UHT products can be packed to final form in New Zealand
- Large category in SE Asia: US\$5.9b
- Value growth forecast at 8% per annum (13-18)
- Significant per capita upside across all markets; particularly Indonesia, Philippines & Vietnam
- A major user of NZ dairy ingredients, particularly milk powder
- Reasonably fragmented beyond top two firms (Nestle & Friesland); consolidation opportunities going forward

AGAINST

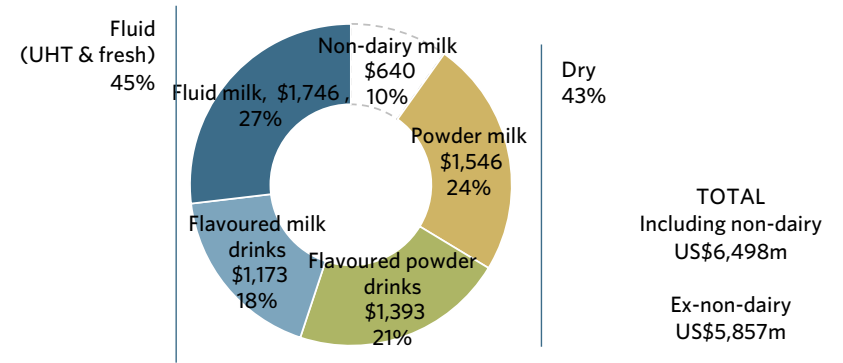
- Region in long term transition to fresh/liquid with spread of refrigerators; "fresh" products must be produced in market
- Highly competitive with significantly more SKU on shelf and a wider range of competitors (than NZ domestic)
 - Price competitive (e.g. UHT cheaper at retail vs. NZ)
- Despite domestic NZ "hype," no clear demand for "Brand NZ" or New Zealand milk apparent on shelf in market
- Significantly more innovation going on in the category in SE Asia than in NZ; no clear technological/product leadership available to leverage
- Capital intensive nature of emerging/ongoing industry consolidation does not play to NZ strengths
- Lack of strong brands (e.g. Milo in flavoured powder drinks)

In total, drinking milk products account for more than a third of SE Asian dairy expenditure at retail (US\$5.86b); unlike New Zealand or Japan, most SE Asian countries are more heavily weighted to dry drinking milk products; all markets are large and growing

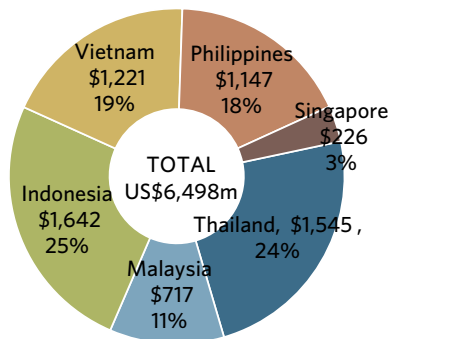
SHARE OF TOTAL SE ASIA RETAIL DAIRY SALES
US\$m; 2013



SE ASIA RETAIL DRINKING MILK SALES BY PRODUCT
US\$m; 2013

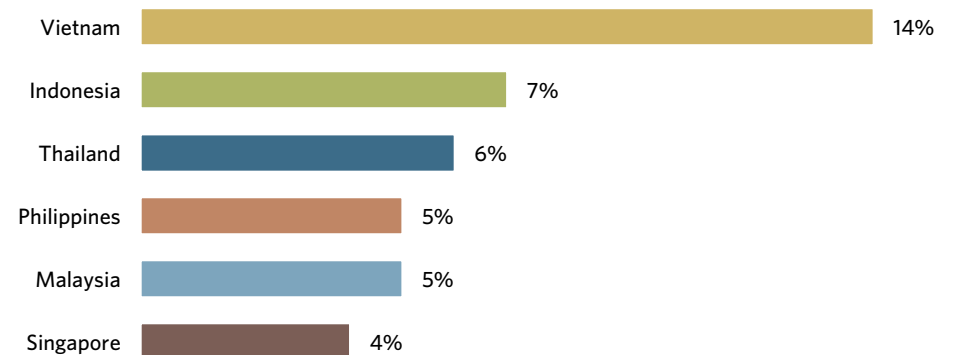


SE ASIA DRINKING MILK SALES BY PRODUCT COUNTRY
US\$m; 2013



Includes non-dairy






5Y FORECAST GROWTH RATE
% CAGR; 13-18f



Milk is either sold as a fresh/UHT liquid or a reformulated product in many flavours and forms

PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

Example; 2014

Product	Example product	Example Ingredients	Typical products claims	Typical usage in SE Asia
Fresh milk		Milk	Contains calcium Source of protein Low fat Halal GMP/HACCP	Beverage
UHT milk		Milk	From natural fresh milk Long life Skimmed All natural goodness No preservatives Refrigerate after opening	Beverage
Flavoured fluid milk		Milk Solids, Sucrose, Permitted Stabiliser and Emulsifier, Calcium Carbonate, Permitted Flavouring, Strawberry Juice Concentrate, Vitamin C, Vitamin E, Nicotinamide, Calcium-D-Pantothenate, Pyridoxine (Vitamin B6), Thiamine (Vitamin B1), Permitted Colouring, Vitamin A, Vitamin K1, Vitamin D3	High calcium High protein Low fat Improve bone strength	Beverage
Flavoured powdered milk drinks		Protomalt Malt Extract (Contains Barley), Skimmed Milk, Sucrose, Cocoa, Palm Oil, Actigen-E (Dicalcium Phosphate, Magnesium Carbonate, Ascorbic Acid, Ferric Pyrophosphate, Nicotinamide, Calcium D-Pantothenate, Pyridoxine Hydrochloride, Thiamine Mononitrate, Riboflavin, D-Biotin), Disodium Phosphate, Vanillin and Cyanocobalamin	Rich in protein Energy food drink Rich in vitamins & minerals	Beverage
Powdered milk		Whole Milk Powder, Maltodextrin, Whey Powder, Lactose, Calcium Carbonate, Lecithin, Sodium Ascorbate, Ferric Pyrophosphate, Vitamin E Acetate, Calcium Pantothenate, Nicotinamide, Vitamin D3, Vitamin A Acetate, Pyridoxine Hydrochloride, Thiamine Hydrochloride	Instant Full cream High calcium Low fat Halal	Beverage

In all forms of milk, SE Asia has a wider range of brands on the shelf from a wider range of firms and companies than New Zealand

EXAMPLE: MILK POWDER FOR ADULTS: TESCO (MALAYSIA) VS. COUNTDOWN (NEW ZEALAND)
 SKU; actual; Oct 2014

FairPrice
 Singapore



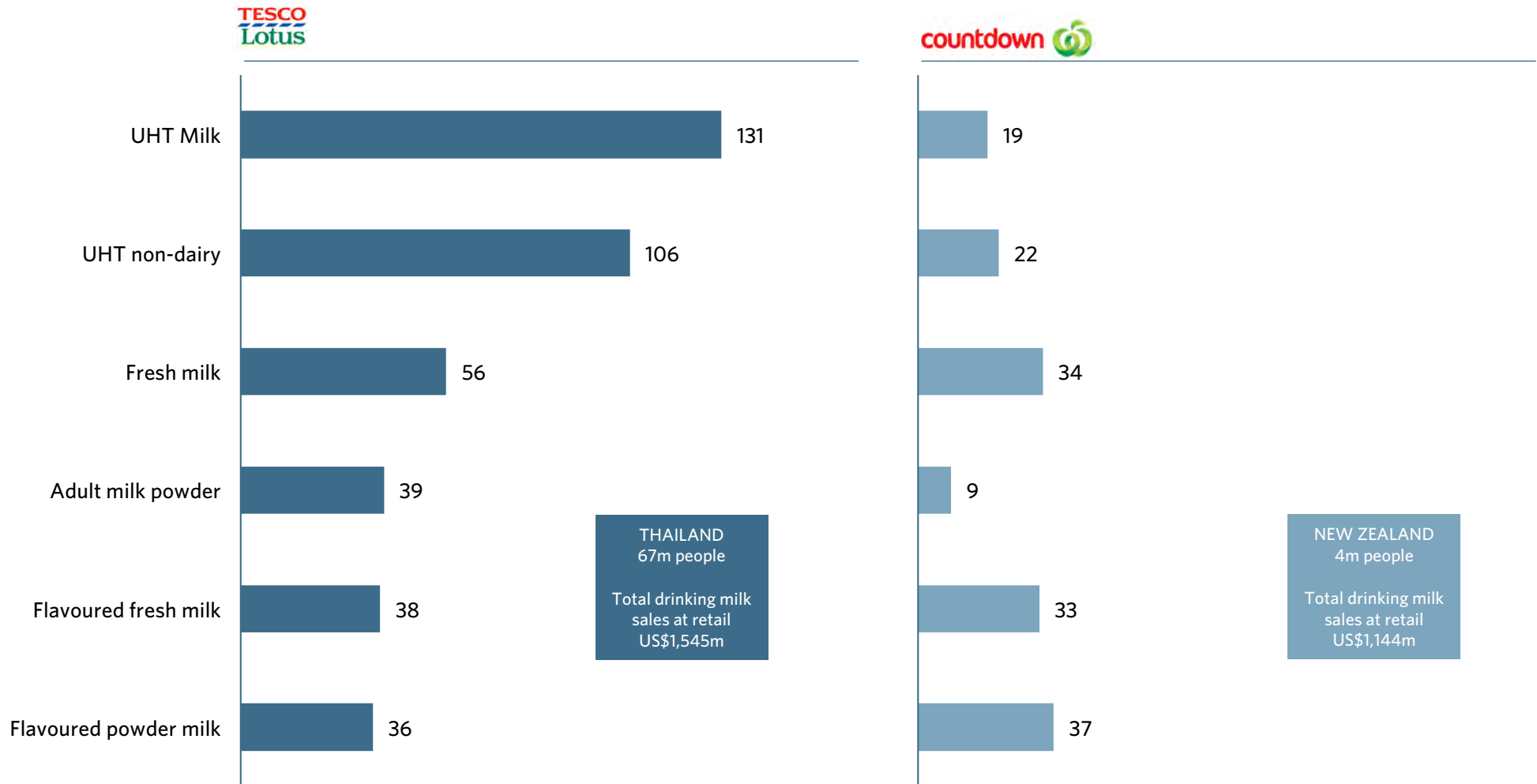
+ three Tesco store brands

countdown
 New Zealand



Category level SKU counts suggest SE Asia is highly competitive, with a much higher range density in almost every category

EXAMPLE: NUMBER OF SKU IN SELECT MILK CATEGORIES: TESCO LOTUS (THAILAND) VS. COUNTDOWN (NEW ZEALAND)
 SKU; actual; Oct 2014



Milk pricing is highly competitive in SE Asia

EXAMPLE: SHELF PRICE PER LITRE OF SELECT UHT MILK BRANDS BY SELECT RETAILERS/COUNTRIES
 NZ\$/l; 10/2014



Source: various online stores; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Milk innovation primarily around wider health message - and most available innovation being implemented in SE Asia

Observed in SE Asia region

Observed in Anglo-Saxon markets (but not SEA)

Health



Indulgence



Convenience



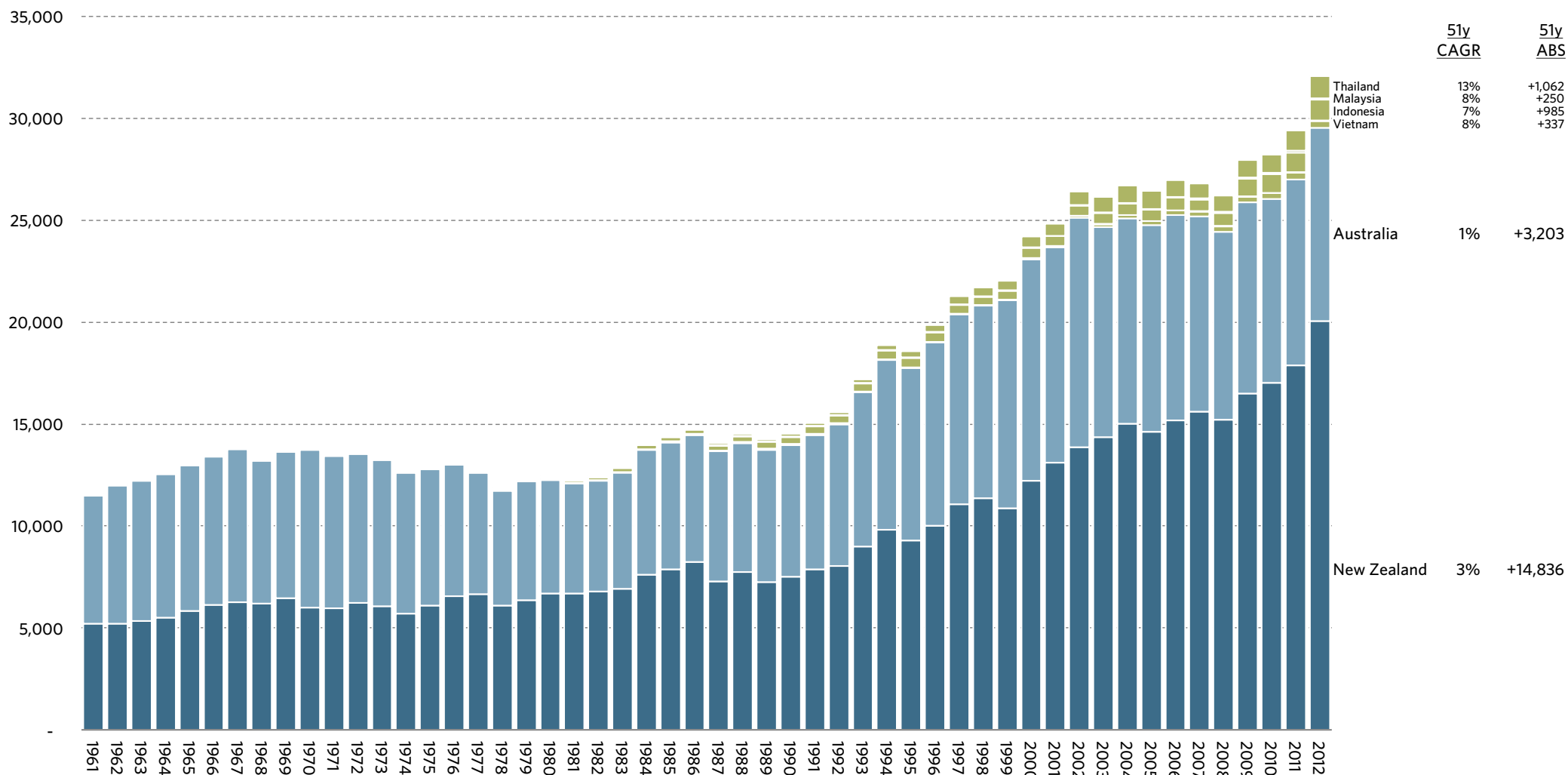
There were only very limited unoccupied positions available for new market entrants and niche players to create a point-of-difference

	Observed in SE Asia region				Observed in Anglo-Saxon markets (but not SEA)		Potential unoccupied position(s)	
Health	Added Omega 3 & DHA	Added plant sterols	Aged care	Free range grass fed	A2	Reduced cholesterol	Hormone/ Antibiotic-free	Sheep/Goat
	Organic	Lactose-free	Low fat	Vitamin fortified				
	High fibre							
Indulgence	Country specific	Full cream	Flavoured	"Pure" All natural	Region specific	Co-branded		
	Non-cow				Café branded			
Convenience	Bulk pack	Concentrate	Resealable	Easy pour	Bagged Low waste			

Regional production of whole fresh cow milk dominated by New Zealand and Australia; other countries are minor very minor producers

SE ASIA & AUSTRALASIA REGIONAL TOTAL PRODUCTION VOLUME OF WHOLE FRESH COW MILK (RAW; ALL USES)

Tonnes; 000; 1961-2012



Note: Philippines shown (almost invisible) but not labeled for clarity

Source: UN FAO AgStat database; Coriolis analysis

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There are opportunities across all categories of the SE Asian dairy sector

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Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

Yoghurt is a large and attractive dairy category in SE Asia; however it is highly competitive with an unclear fit with NZ capabilities

FOR

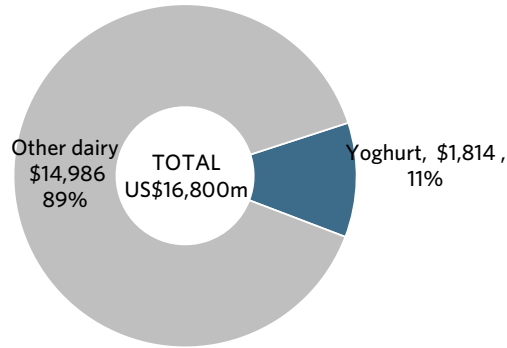
- Some shelf stable products exist (e.g. UHT drinking yoghurt; EasiYo yoghurt powder)
- Large category in SE Asia: US\$1.8b
- Growing at 8% per annum
- Significant per capita upside in Indonesia, Vietnam and the Philippines
- A major user of NZ dairy ingredients (e.g. Skim milk powder (SMP))
- Spoonable (23% of category) growing faster than drinking (10% vs. 7%), though tiny outside Thailand & Vietnam
- Range of product innovation not yet implemented in SE Asia (or, unfortunately, NZ)

AGAINST

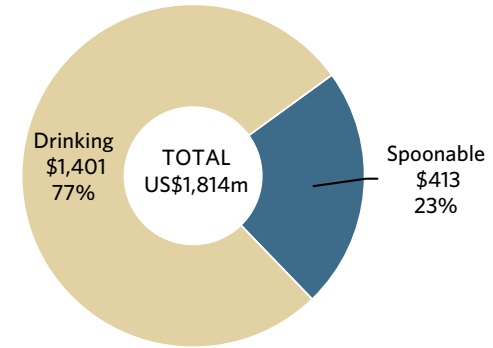
- Category already consolidated across SE Asia; 5 firms ~75%
- Highly competitive with significantly more SKU on shelf and a wide range of competitors (more than NZ domestic)
 - Price competitive (e.g. cheaper at retail vs. NZ)
- Despite domestic NZ "hype," no clear demand for "Brand NZ" yoghurt apparent on shelf in market
- No long history (vs. France or Switzerland) with the product; not a global center for shelf-level innovation
- Domestic NZ yoghurt "innovation" typically imported or copied from elsewhere (typically Europe)
- Almost no domestic NZ drinking yoghurt products or brands (7 SKU in Countdown); drinking is 77% of sales in SE Asia

Yoghurt accounts for 11% of SE Asian dairy expenditure at retail (US\$1,814m); more than three quarters of yoghurt sales are drinking (not spoonable)

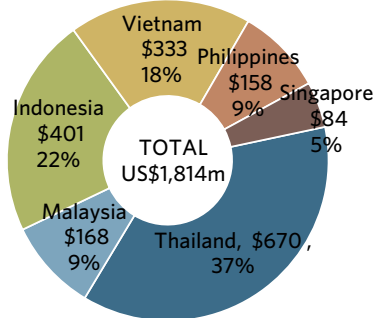
SHARE OF TOTAL SE ASIA RETAIL DAIRY SALES
US\$m; 2013



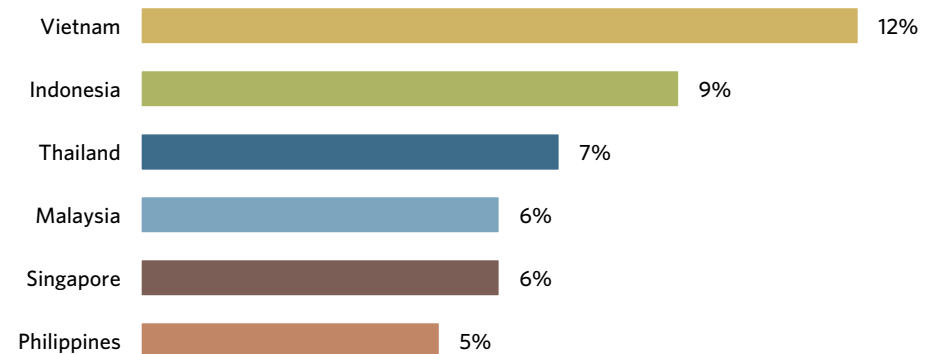
SHARE OF TOTAL SE ASIA RETAIL YOGHURT SALES BY FORM
US\$m; 2013



SE ASIA RETAIL YOGHURT SALES BY COUNTRY
US\$m; 2013






5Y FORECAST GROWTH RATE
% CAGR; 13-18f



SE Asian consumers are drinking most of their yoghurt as a sweetened, formulated beverage

PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

Example; 2014

Product	Example product	Example Ingredients	Typical products claims	Typical usage in SE Asia
Drinking yoghurt		Water, Sucrose, Nata De Coco (Coconut Water, Acetobacter Aceti), Milk Solids, Strawberry Concentrate, Permitted Stabilisers, Permitted Flavouring, Citric Acid, Calcium Phosphate, Permitted Preservative, Permitted Colouring (E129) and Live Cultures (Streptococcus Thermophilus, Bifidobacterium BB-12, Lactobacillus Acidophilus LA-5, and Lactobacillus Delbruecki Subsp. Bulgaricus)	Low/no fat Made with fruit juice Halal	Beverage
Cultured sour milk/yoghurt		Water, Fructose, Maltitol, Dried Skim Milk, Glucose, Flavouring, Live Lactobacillus Casei Shirota Strain	Halal	Beverage
Spoonable yoghurt, plain		Pasteurised Skimmed Cows' Milk, Live Active Yoghurt Cultures (L. Bulgaricus, S. Thermophilus, L. Acidophilus, Bifidus, L. Casei)		Snack Dessert

SE Asia has a wider range of brands on the shelf from a wider range of firms and companies than New Zealand, as this example from cultured, probiotic yoghurt drinks shows

EXAMPLE: CULTURED, PROBIOTIC DRINKING YOGHURT: TESCO (MALAYSIA) VS. COUNTDOWN (NEW ZEALAND)
 SKU; actual; Oct 2014

TESCO
 Malaysia



countdown
 New Zealand



Source: Countdown online (New Zealand); Tesco Lotus online (Thailand); photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Similar picture in drinking yoghurt

EXAMPLE: DRINKING YOGHURT: TESCO (MALAYSIA) VS. COUNTDOWN (NEW ZEALAND)

SKU; actual; Oct 2014

TESCO

Malaysia



countdown

New Zealand

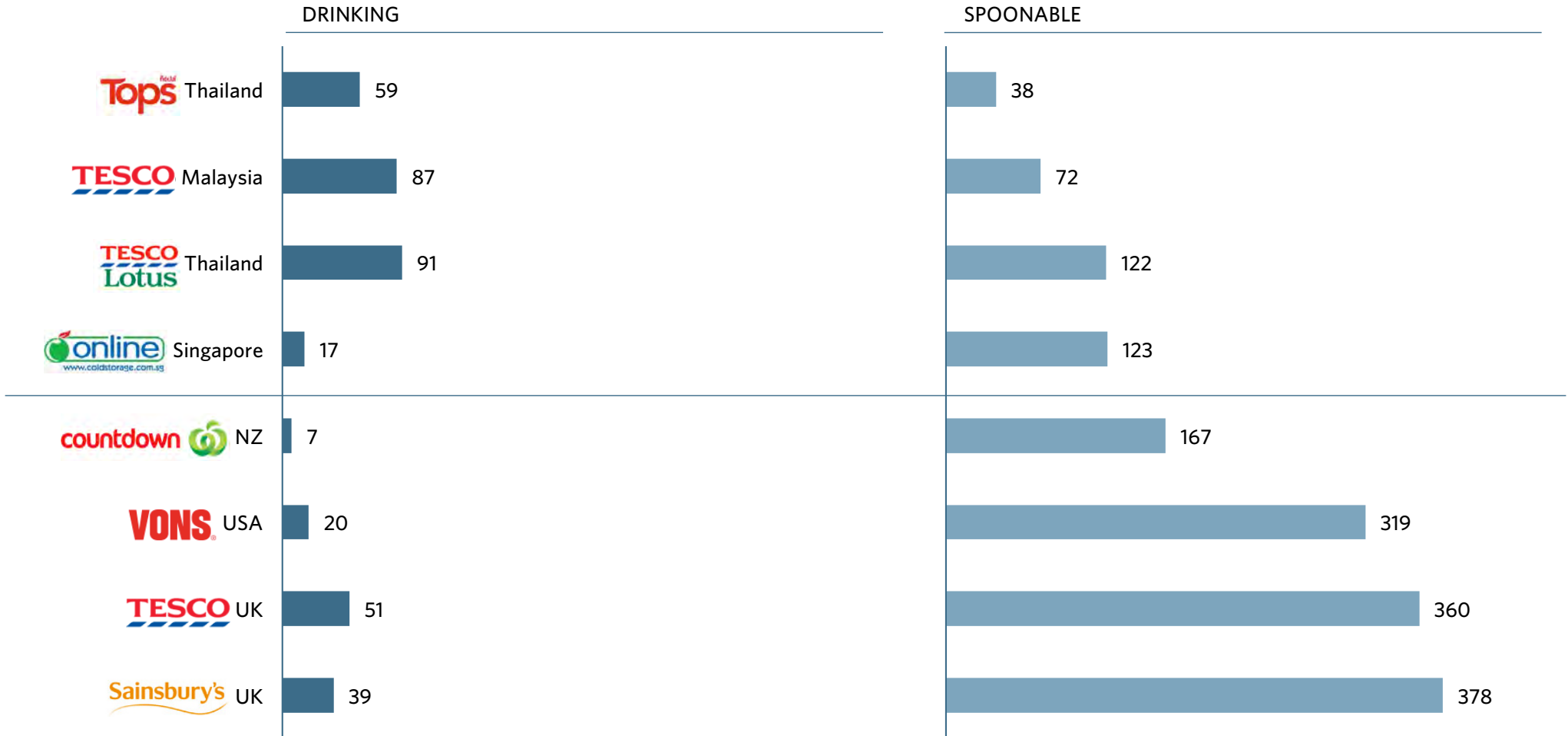


Source: Countdown online (New Zealand); Tesco online (Malaysia); photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Category level SKU counts suggest SE Asia is highly competitive in drinking, but retailers generally carry a much smaller range of spoonable

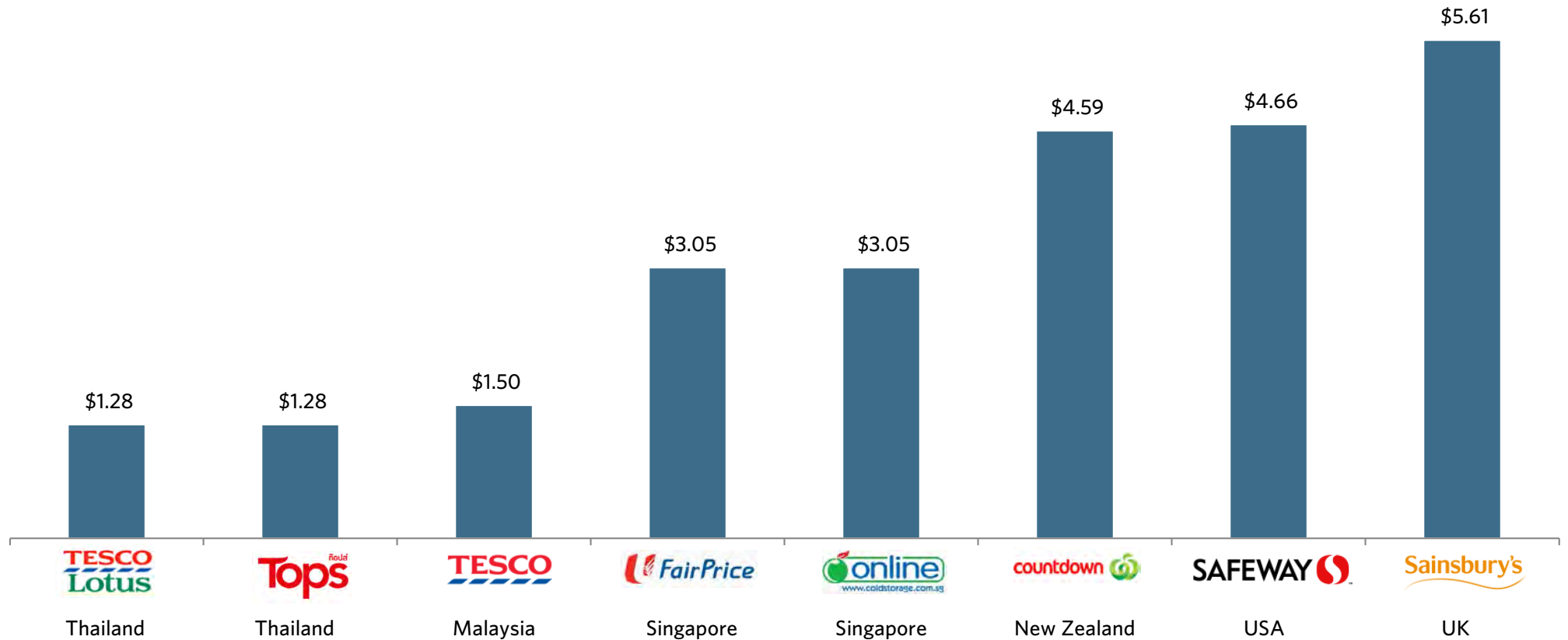
EXAMPLE: NUMBER OF SKU IN YOGHURT: SELECT RETAILERS

SKU; actual; Oct 2014



Drinking yoghurt product pricing highly competitive in SE Asia

EXAMPLE: SHELF PRICE OF SIX COUNT CULTURED PROBIOTIC YOGHURT DRINK BY SELECT RETAILERS/COUNTRIES
NZ\$/6ct.; 10/2014



Lowest priced item on shelf (before specials)

Product/category range expansion and innovation happening in SE Asian yoghurt category, but generally behind US/EU (as in New Zealand)

Observed in SE Asia region

Observed in Anglo-Saxon markets (but not SEA)

Health



Indulgence



Convenience



There were only very limited unoccupied positions available for new market entrants and niche players to create a point-of-difference

	Observed in SE Asia region			Observed in Anglo-Saxon markets (but not SEA)			Potential unoccupied position(s)	
Health	Low fat	Non fat	No added sugar	Bone-health claim	Bircher	Lactose free	Hormone/An tibiotic-free	Sheep/Goat
	Probiotics	Natural		Organic	Non-dairy		Free range grass fed	
Indulgence	Greek style	Lassi type	Honey sweetened	Honey layer	Corner/flip	Cereal top		
	Country specific	Thick & creamy		Added cereal	Branded flavour	Fruit layer		
				Named source region ingredient	Non-cow	Fromage fraise		
Convenience	Multi-pack			Large pack	Pouch/tube			

DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

Condensed/evaporated milk is a large and growing category in SE Asia; however it is highly competitive and with an unclear fit with NZ capabilities

FOR

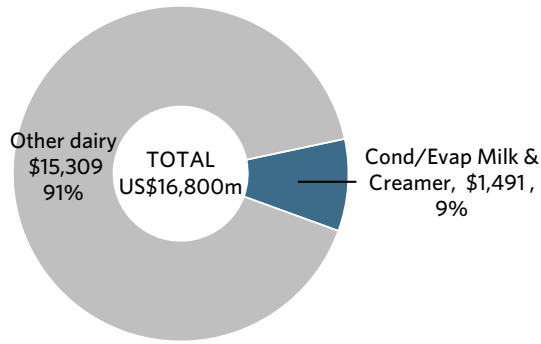
- Shelf stable; can be packed to final form in NZ
- Large category in SE Asia; US\$1.5b vs. US\$11m in NZ
- Growing at 5% per annum
- Significant per capita upside in Indonesia, Vietnam and the Philippines
- Sleepy category ripe for innovation
- A major user of NZ dairy ingredients (e.g. Skim milk powder, Buttermilk powder, Whey powder, Anhydrous milk fat)

AGAINST

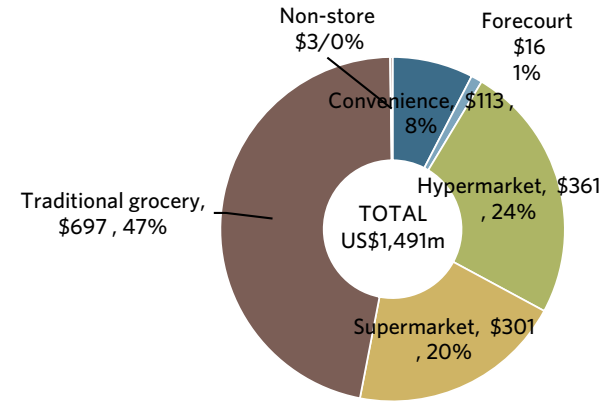
- Mature industry (condensed milk invented in 1853 by Gail Borden)
- Price competitive (-63% cheaper at retail in SE Asia vs. NZ)
- Highly competitive (9 brands on shelf in Thailand vs. 2 in NZ)
- Price fighting end of market using palm oil and sugar to keep price down
- Not a strong category in NZ; no obvious "gift" or "flair" for the category or the product; sunset category in NZ controlled by Nestle
- Starting from scratch; no longer manufactured in New Zealand; all product for sale manufactured in Australia

Condensed/evaporated milk & creamer is a \$1.5b category in SE Asia at retail, representing 9% of regional dairy spend; category showing moderate growth across all markets

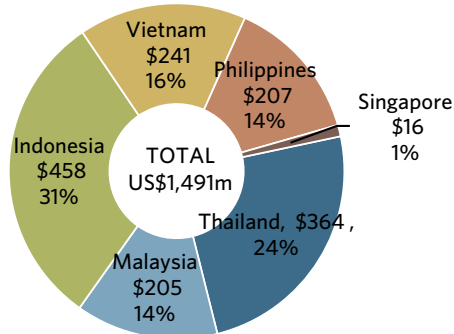
SHARE OF TOTAL SE ASIA RETAIL DAIRY SALES
US\$m; 2013



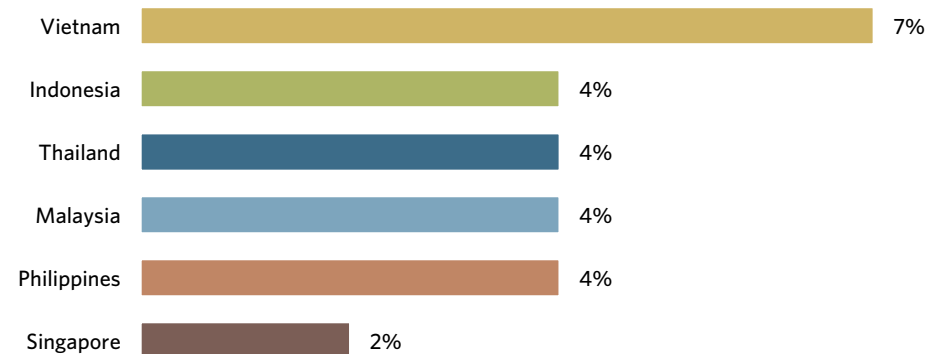
SE ASIA RETAIL COND./EVAP. MILK SALES BY CHANNEL
US\$m; 2013



SE ASIA RETAIL COND./EVAP SALES BY COUNTRY
US\$m; 2013






5Y FORECAST GROWTH RATE
% CAGR; 13-18f



Products contain milk products and a range of other ingredients; wide ranging consumer usage, particularly of evaporated milk, however all are used in beverages (coffee & tea)

PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

Example; 2014

Product	Example product	Example Ingredients	Typical products claims	Typical usage in SE Asia	Example specific product usage
Evaporated milk		Milk Solids, Milk Fat, Permitted Stabilisers (Soya Lecithin), Stabiliser, Vitamin A Palmitate, Vitamin D3	High calcium High in Vitamin A & D3 Full cream Premium Halal	Baking, cooking & desserts Added to beverages Substitute for coconut milk Reconstituted into liquid milk	Egg custard Rice pudding Cakes Curries & kurma Coffee Tea
Condensed milk		Sugar, Water, Milk Solid (Skim Milk Powder, Buttermilk Powder, Whey Powder), Anhydrous Milk Fat, Vitamin A Palmitate, Vitamin D3 and Vitamin B1 (Thiamine Hydrochloride)	High calcium Premium Full cream Low fat Halal	Desserts Added to beverages	Oat porridge Spread on bread Coffee Tea
Creamer (powder + liquid)		Sugars, Milk Solids, Palm Oil, Stabilisers, Vitamins (A, D3, B1)	Coffee creamer For richer and creamier coffee Halal Non-Dairy	Added to beverages	Coffee Tea Cocoa

There are a wide range of products for sale in the market, from a wide range of suppliers and countries; none from New Zealand

EXAMPLE: RANGE OF PRODUCTS FOR SALE AT FAIR PRICE SINGAPORE

Oct 2014

	Global brands	Regional	Private Label
Evaporated Milk	 <p>400g Malaysia</p>  <p>385g Thailand</p>	 <p>400g Thailand</p>  <p>385g Singapore</p>  <p>395g Singapore</p>	 <p>385g Singapore</p>
Condensed Milk	 <p>392g TBD</p>  <p>392g TBD</p>	 <p>387g Singapore</p>	 <p>387g Singapore</p>
Dairy Creamer	 <p>450g Thailand</p>  <p>Thailand</p>	 <p>390g Malaysia</p>  <p>380g Singapore</p>  <p>388g Thailand</p>  <p>1kg Singapore</p>  <p>450g Singapore</p>	 <p>380g Singapore</p>

Source: Fair Price online (Singapore); photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Unlike New Zealand, there are a wide range of brands and products; the category is not dominated by Nestle

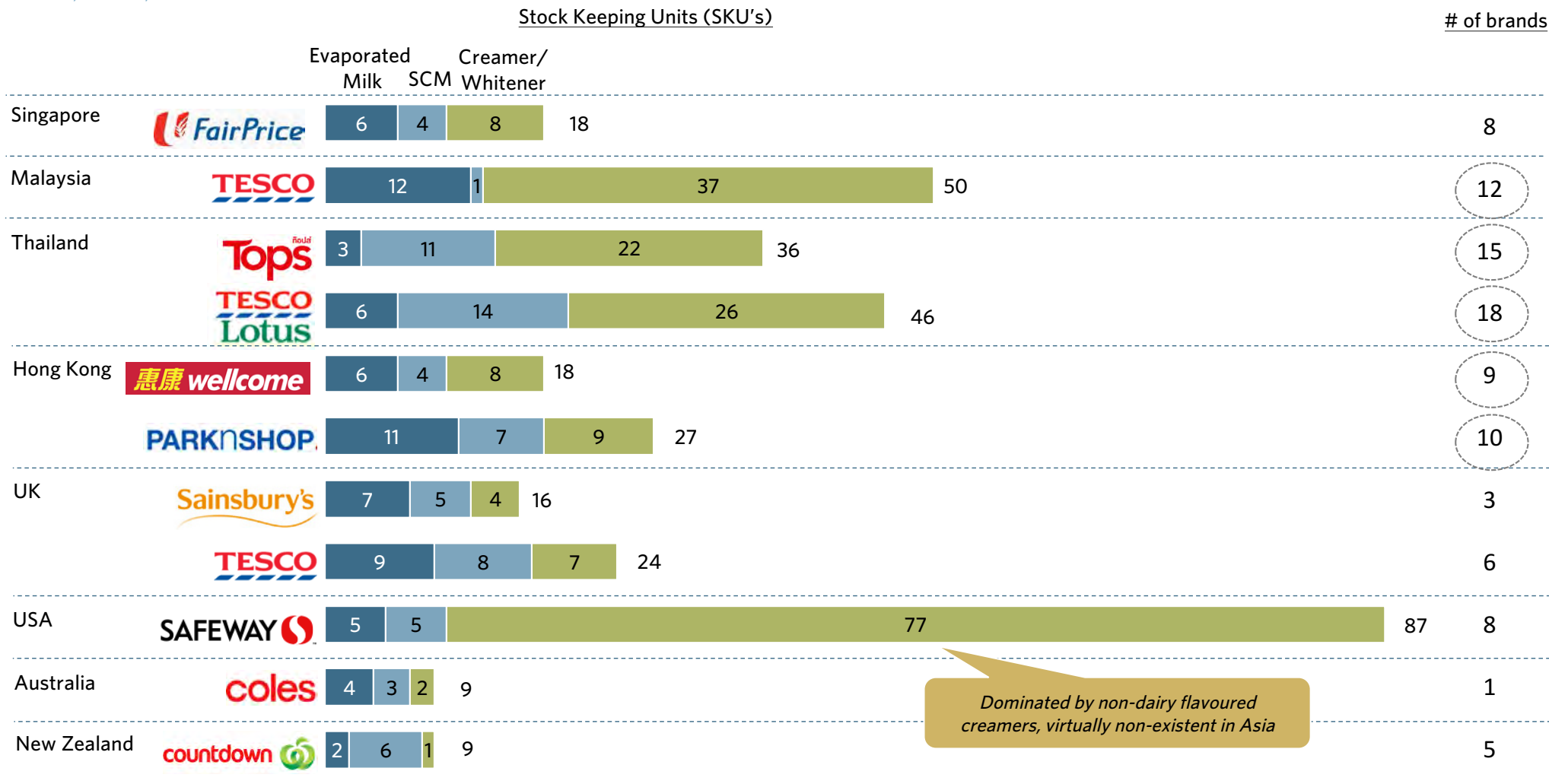
EXAMPLE: EVAPORATED/CONDENSED MILK RANGE: TESCO (THAILAND) VS. COUNTDOWN (NEW ZEALAND)
 SKU; actual; Oct 2014



Asian markets have more brands and SKU's on the shelf; USA a clear standout with strong creamer range, primarily non-dairy flavoured creamers

EXAMPLE: "OTHER DAIRY" STOCK KEEPING UNIT COUNTS BY SELECT COUNTRIES

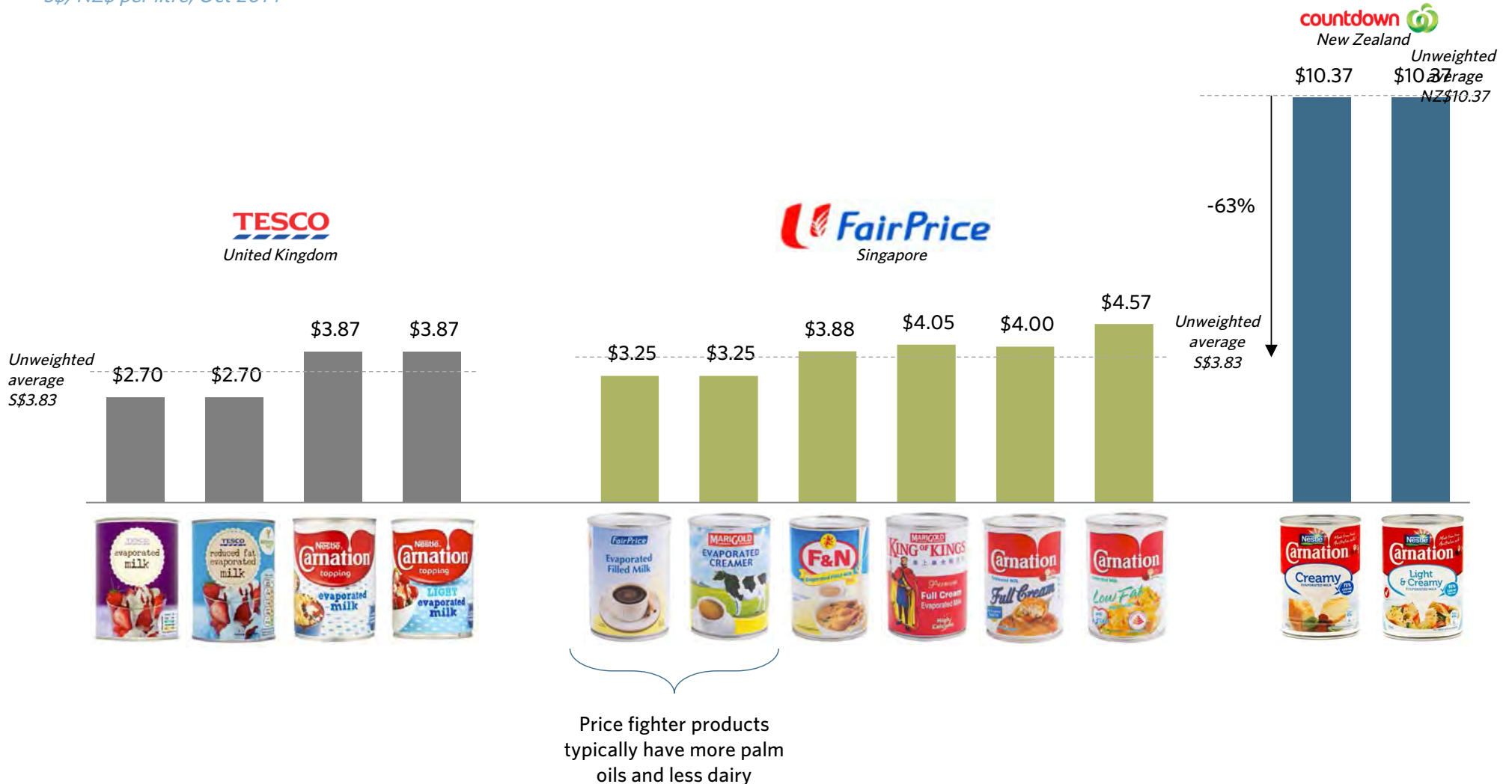
SKU's; brands; Oct 2014



Products are significantly cheaper at retail in SE Asia (and elsewhere) relative to New Zealand

EXAMPLE: EVAPORATED MILK SHELF PRICE PER LITRE: SINGAPORE VS. NEW ZEALAND


S\$/NZ\$ per litre; Oct 2014



Note: The NZ\$ generally trades at parity to the S\$; GBP uses NZ\$2.01 exchange rate of Oct 2014

Source: Countdown online (New Zealand); NTUC Fair Price online (Singapore); photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Product/category innovation limited relative to Anglo-Saxon markets

	Observed in SE Asia region	Observed in Anglo-Saxon markets (but not SEA)
Health	 <p>Low fat Reduced calorie Vitaminised High calcium</p>	 <p>Fat-free "Fat free and sugar free" "all natural"</p>
Indulgence		 <p>Wide and deep flavour range (e.g 50+ creamer flavours in USA: white chocolate mocha, Cinnabon, peppermint pattie, hazelnut and pecan, spiced pumpkin etc.)</p>
Convenience	 <p>Tube Squeezy</p>	 <p>Resealable/pourer Easy pour Single serve</p>

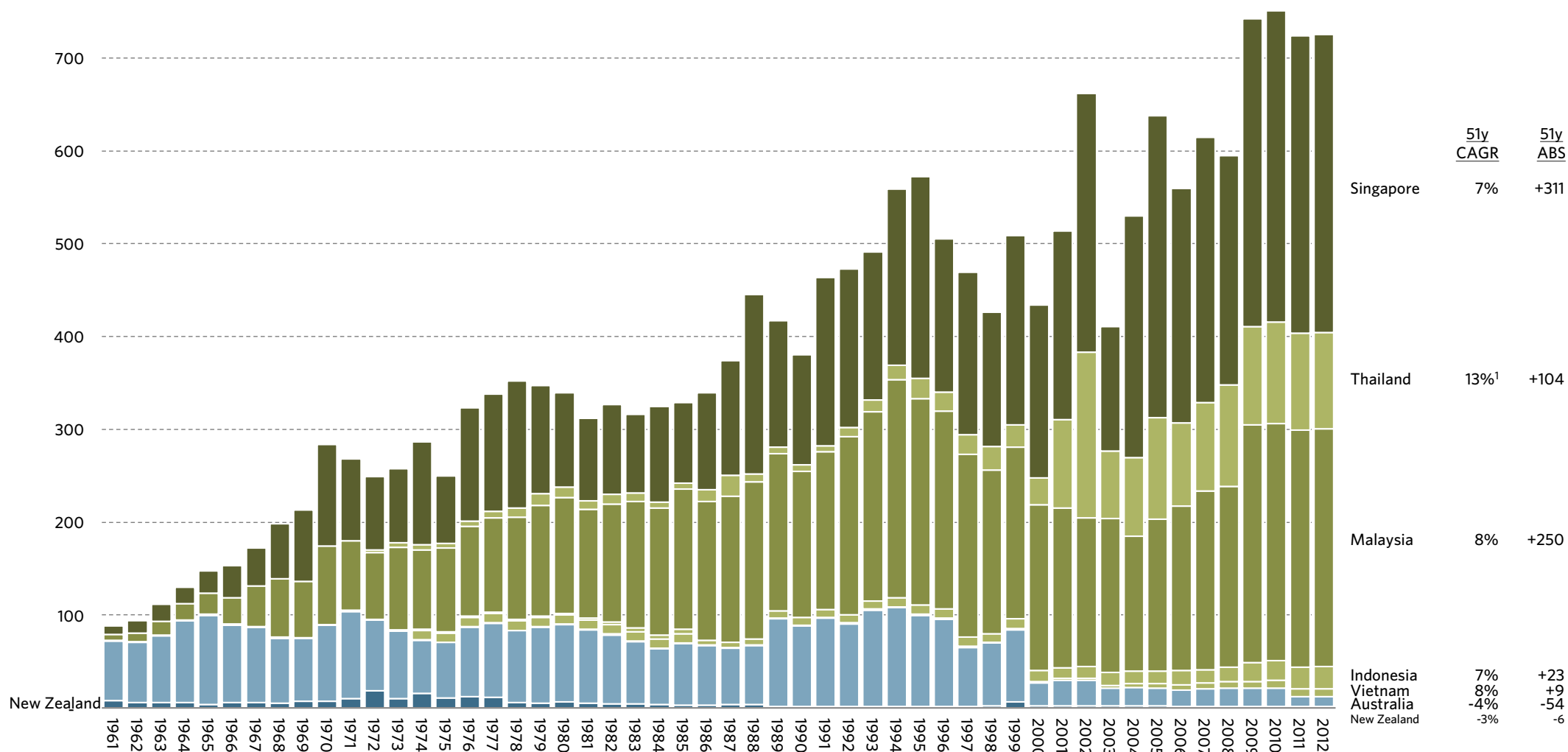
There are a number of unoccupied positions available for new market entrants and niche players to create a point-of-difference

	Observed in SE Asia region			Observed in Anglo-Saxon markets (but not SEA)			Potential unoccupied position(s)		
Health	Low fat	Added vitamins	Reduced calorie	Fat-free	Fat and sugar free	All natural	Organic	Free range Grass fed	Hormone/ Antibiotic-free
							Lactose-free		
Indulgence				Flavours			100% dairy	Source region specific	Sheep or goat
Convenience	Tube	Squeezy		Easy pour	Resealable	Single serve			

Regional production of condensed & evaporated milk is growing, driven by Singapore, Malaysia and Thailand; historic producers Australia and New Zealand have basically exited production

SE ASIA & AUSTRALASIA REGIONAL PRODUCTION VOLUME OF EVAPORATED & CONDENSED MILK

Tonnes; 000; 1961-2012



1. Uses 1972-2012; note: Philippines shown (almost invisible) but not labeled for clarity

Source: UN FAO AgStat database; Coriolis analysis

DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

Cheese may not be as large or attractive as some other categories, but NZ is relatively well positioned

FOR

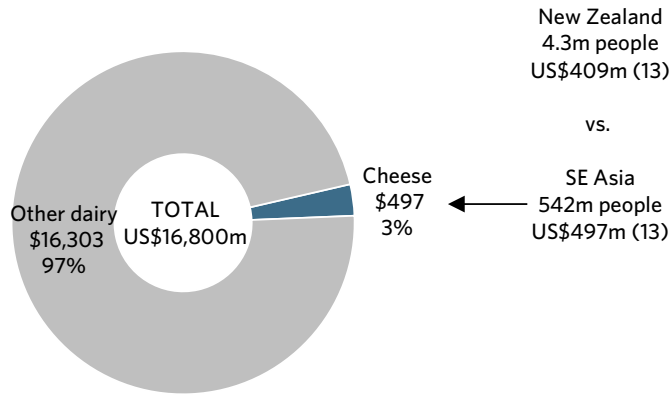
- Shelf stable; can be produced to final, shelf-ready form in New Zealand
- Growing at 7% per annum
- Significant long term per capita upside across all markets
- Region is a major importer of NZ cheese (mostly spec. foodservice, contract packed or reprocessed in market)
- Market is 88% processed cheese; natural cheese a small component that is growing slowly
- Market leader Kraft distracted (cf. Mondelez) and appears to have "taken their eyes off the ball"

AGAINST

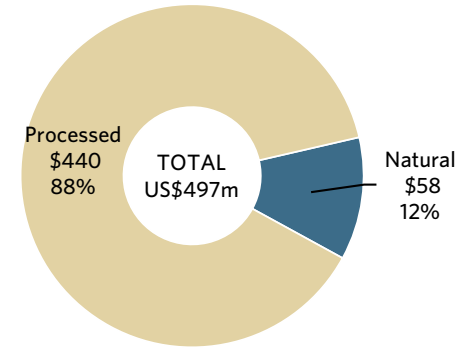
- Absolutely small category at retail: SE Asia (542m people) spends US\$497m; NZ (4m) spends US\$409m; all markets small other than Philippines
- Category already consolidated across SE Asia; 5 firms ~80%; talented consolidator Lactalis likely to roll-up remainder (1955: 50 employees; today global #3 in dairy)
- Processed cheese (88%) highly competitive with lower prices, more SKU on shelf and a wide range of competitors (than in NZ)
- Natural cheese microscopic at US\$58m, yet fully stocked with wide range of European brands and products
- No obvious fit between "Brand NZ" or iconic Kiwi farmers Ches&Dale and pitching American-style processed cheese slices to the children of the emerging SE Asian middle class
- No long history (vs. Italy or France) with the product; not a global center for shelf-level innovation NZ not a hotbed of processed cheese "wow"
- Limited domestic NZ cheese product-level innovation on which to draw, particularly in processed cheese

Cheese is a relatively small (US\$497m) category in SE Asia at retail; market is primarily (88%) processed; Philippines accounts for half the market; other markets quite small, though Vietnam and Indonesia stand out for growth

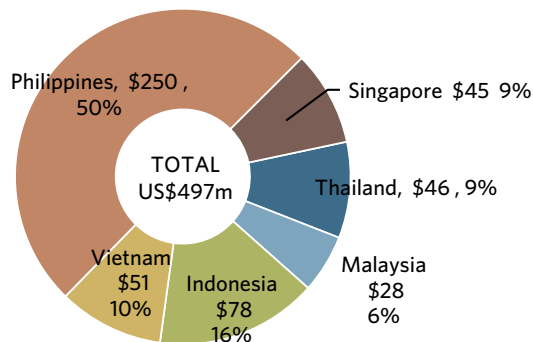
SHARE OF TOTAL SE ASIA RETAIL DAIRY SALES
US\$m; 2013



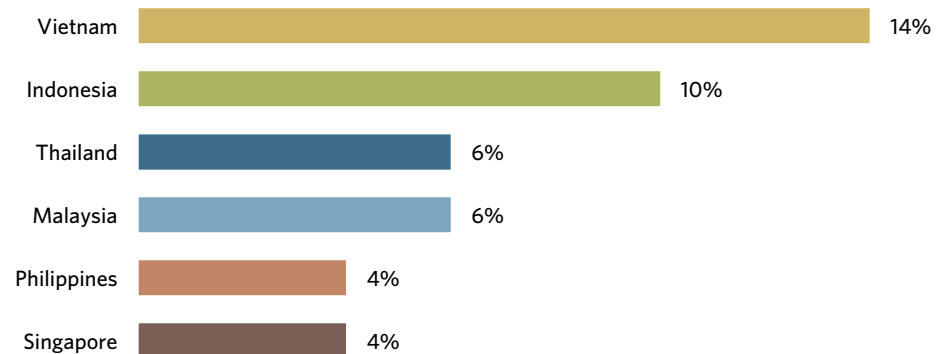
SE ASIA RETAIL CHEESE SALES BY FORM
US\$m; 2013



SE ASIA RETAIL CHEESE SALES BY COUNTRY
US\$m; 2013







5Y FORECAST GROWTH RATE
% CAGR; 13-18f



“Natural cheese” typically has a shorter list of ingredients than “processed cheese”; both are used primarily by consumers as a snacking product in SE Asia

PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

Example; 2014

Product	Example product	Example Ingredients	Typical products claims	Typical usage in SE Asia	Example specific product usage
Natural cheese		Pasteurised Cow's Milk, Salt, Lactic Culture, Microbial Rennet, P. Candidum	Made in...	Snack Dessert	On a cheeseboard
Natural cheese, shredded		Pasteurised Cow's Milk, Lactic Culture, Salt (1.6%), Microbial Rennet, COLOUR: Annatto (E160B), ANTI-CAKING: Potato Starch	Refrigerate after opening	Topping	Topping on pasta
Spreadable cheese		Rehydrated Skimmed Milk, Butter, Cheeses, Milk Proteins, Emulsifying Salts: Sodium Polyphosphates (E452), Citrates (E331), Diphosphates (E450), and Phosphates (E339), Salt, Acidity Regulator: Citric Acid (E330)	Spreadable All natural 60% less fat than butter Halal	Snack Spread	Snack for children
Processed cheese		Cheddar Cheese (Milk, Salt, Starter Cultures, Enzymes - Rennet), Water, Milk Solids, Emulsifiers (E339li, E339l, E341lii), Acidity Regulator (E270, E331lii), Salt, Preservative (E200), Natural Colour (E160B)	High calcium Reduced fat Value pack Halal 100% Australian Sliced	Snack	Snack for children

SE Asia has a wider range of brands on the shelf from a wider range of firms and companies than New Zealand

EXAMPLE: SLICED PROCESSED CHEESE: TESCO (MALAYSIA) VS. COUNTDOWN (NEW ZEALAND)
 SKU; actual; Oct 2014

TESCO
 Malaysia



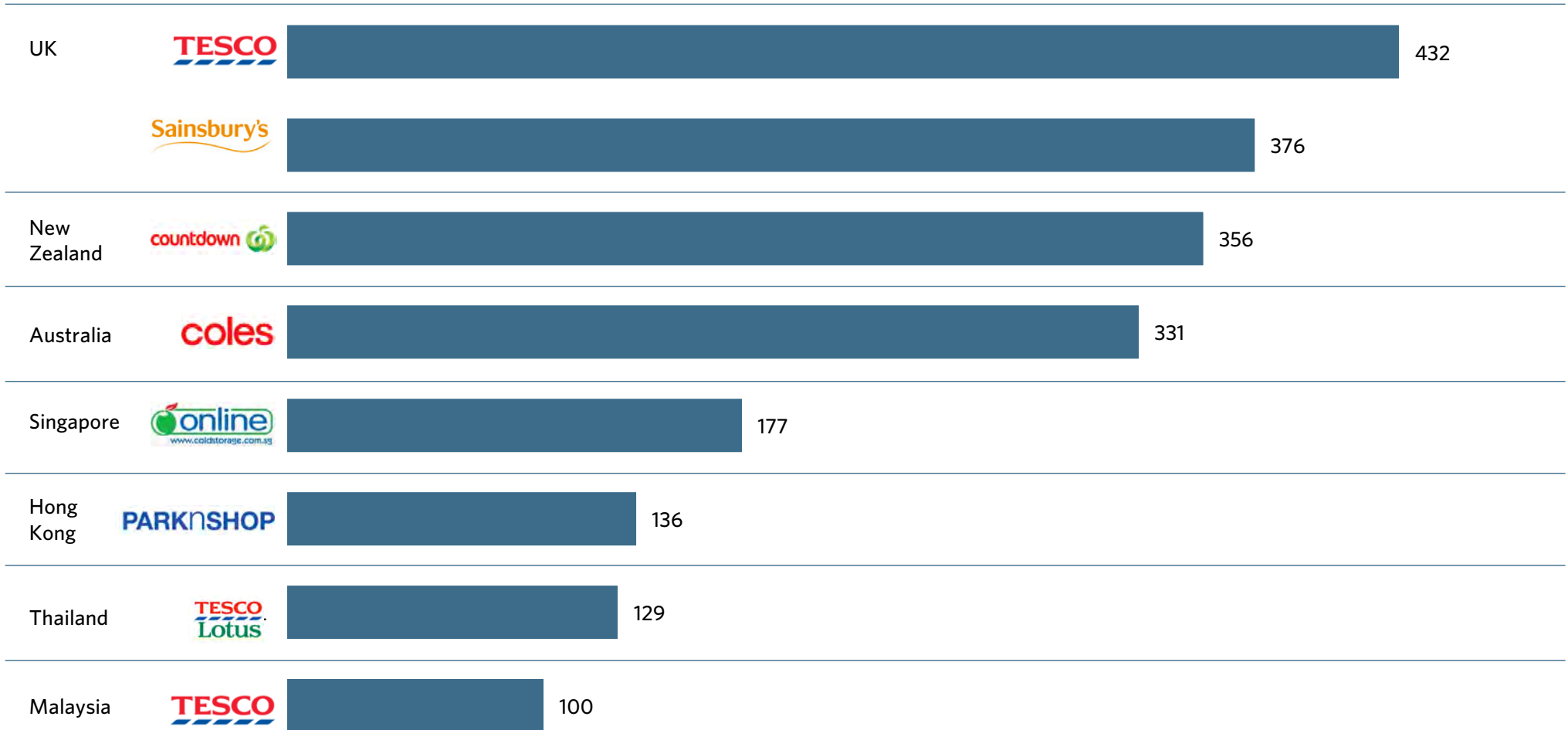
countdown
 New Zealand



The total range of cheese carried by retailers in SE Asia is lower than in Anglo-Saxon countries, driven primarily by lower natural/specialty cheese ranges

EXAMPLE: TOTAL CHEESE STOCK KEEPING UNIT COUNTS BY SELECT RETAILERS/COUNTRIES

SKU's; brands; Oct 2014



Processed cheese pricing is highly competitive in SE Asia

EXAMPLE: SHELF PRICE PER KILOGRAM OF SELECT SLICED PROCESSED CHEESE BRANDS BY SELECT RETAILERS/COUNTRIES
 NZ\$/kg; 10/2014



Source: various online stores; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Product/category range expansion and innovation robust in SE Asian cheese category – though typically imported from another region

Observed in SE Asia region

Observed in Anglo-Saxon markets (but not SEA)

Health



Organic



Low fat



Light



Lactose-free



Low salt

Indulgence



Meal kit



Flavoured



Bulk wheel



Aged



"Barrel aged"



Breaded portions



Cheese board



Branded flavour



Assorted



"Candy cheese"



Region-specific



Non-cow



Smoked



Full fat

Convenience



Shredded



Portions



Resealable



Pre-sliced



Shaker



Aerosol



Easy pour



Squeezeable



Value pack



Specific use



Kids pack



Spreadable

There were only very limited unoccupied positions available for new market entrants and niche players to create a point-of-difference

	Observed in SE Asia region	Observed in Anglo-Saxon markets (but not SEA)	Potential unoccupied position(s)															
Health	<table border="1"> <tr> <td>Organic</td> <td>Light</td> <td>Low fat</td> </tr> </table>	Organic	Light	Low fat	<table border="1"> <tr> <td>Lactose-free</td> <td>Reduced salt</td> <td>All natural</td> </tr> </table>	Lactose-free	Reduced salt	All natural	<table border="1"> <tr> <td>Hormone/An tibiotic-free</td> <td>Sheep/Goat</td> </tr> <tr> <td>Free range grass fed</td> <td></td> </tr> </table>	Hormone/An tibiotic-free	Sheep/Goat	Free range grass fed						
Organic	Light	Low fat																
Lactose-free	Reduced salt	All natural																
Hormone/An tibiotic-free	Sheep/Goat																	
Free range grass fed																		
Indulgence	<table border="1"> <tr> <td>Meal kit</td> <td>Flavours</td> <td>Bulk wheel</td> </tr> <tr> <td>Assorted</td> <td>"Candy cheese"</td> <td>Aged</td> </tr> <tr> <td>Country/regi on specific</td> <td></td> <td></td> </tr> </table>	Meal kit	Flavours	Bulk wheel	Assorted	"Candy cheese"	Aged	Country/regi on specific			<table border="1"> <tr> <td>"Barrel aged"</td> <td>Breaded portions</td> <td>Cheese board</td> </tr> <tr> <td>Branded flavour</td> <td>Non-cow</td> <td>Full fat</td> </tr> </table>	"Barrel aged"	Breaded portions	Cheese board	Branded flavour	Non-cow	Full fat	
Meal kit	Flavours	Bulk wheel																
Assorted	"Candy cheese"	Aged																
Country/regi on specific																		
"Barrel aged"	Breaded portions	Cheese board																
Branded flavour	Non-cow	Full fat																
Convenience	<table border="1"> <tr> <td>Shredded</td> <td>Portions</td> <td>Resealable</td> </tr> <tr> <td>Pre-sliced</td> <td>Value-pack</td> <td>Kids pack</td> </tr> <tr> <td>Spreadable</td> <td></td> <td></td> </tr> </table>	Shredded	Portions	Resealable	Pre-sliced	Value-pack	Kids pack	Spreadable			<table border="1"> <tr> <td>Shaker</td> <td>Aerosol</td> <td>Easy pour</td> </tr> <tr> <td>Squeezable</td> <td></td> <td></td> </tr> </table>	Shaker	Aerosol	Easy pour	Squeezable			
Shredded	Portions	Resealable																
Pre-sliced	Value-pack	Kids pack																
Spreadable																		
Shaker	Aerosol	Easy pour																
Squeezable																		

DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

Butter, and the wider spreadable oil/fat category, is highly competitive, particularly at the price end of the market; however New Zealand has a strong position on which to build

FOR

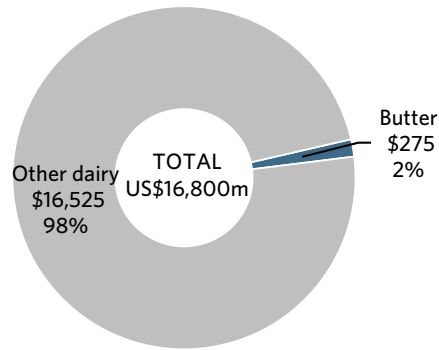
- Butter is a pure import not produced in region; New Zealand is a major global producer with growing volume
- Semi-shelf stable; can be packed to final form in NZ
- Pure butter is a premium product with a unique flavour profile that sells at a significant premium to margarine
- Butter/vegetable oil blends give the ability to moderate price relative to margarine
- European brands setting a high pricing umbrella in pure butter

AGAINST

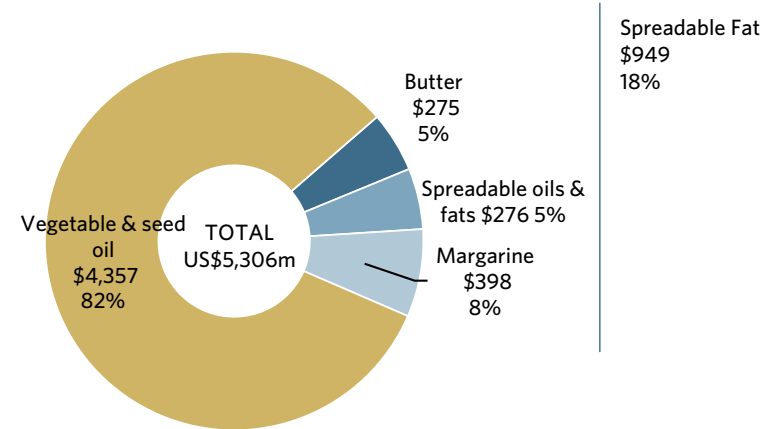
- Not major consumers of either pure butter or spreadable blends; primarily used in cooking
- Japan suggests limited long-term upside
- Highly competitive category
 - Premium European brands
 - Price competitive Australian supply
 - Low cost local fat blends (palm, coconut, soy)
- Potential to be squeezed between global category leader (Unilever) and a wide array of low cost, local fat producers
- Cooking use price constrained by the price of substitutes (palm oil and palm margarines) which is significantly lower

Butter is a relatively small (US\$275m) category in SE Asia; part of wider oils & fats super-category, where it forms 5% of value; Indonesia and Philippines stand out for total market size; Vietnam for growth

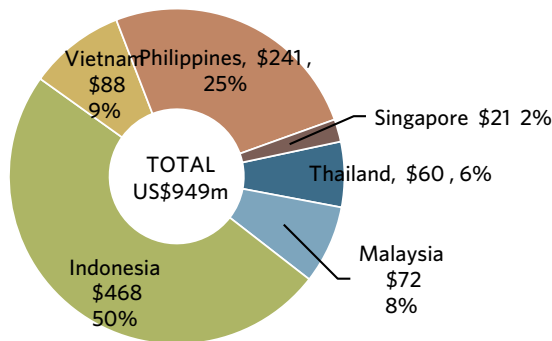
% TOTAL SEA RETAIL DAIRY SALES
US\$m; 2013



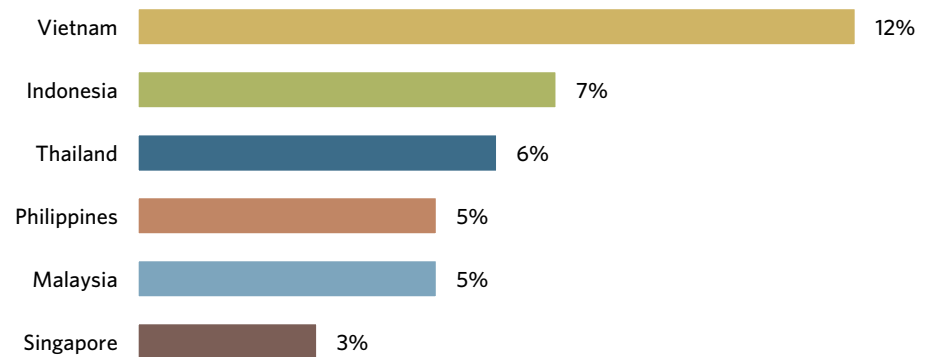
% SEA OIL & FAT \$ BY FORM
% US\$M; 2013



SE ASIA RETAIL SPREADABLE FAT SALES BY COUNTRY
US\$m; 2013



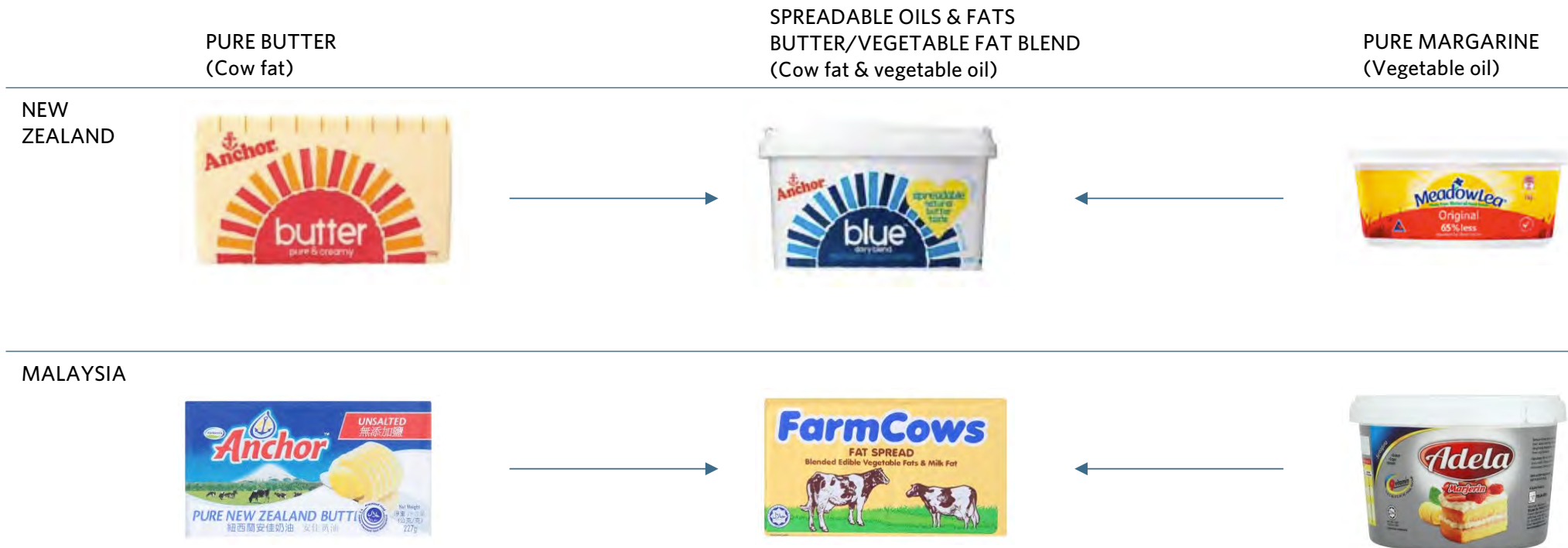
5Y FORECAST GROWTH RATE
% CAGR; 13-18f



By definition, butter is 100% pure butter and spreadable oil & fats includes butter/vegetable fat blends

EXAMPLES OF PRODUCTS IN VARIOUS DEFINED CATEGORIES IN THE DATA

2014







NOTE: Margarine is used to mean any purely vegetable fat based product (i.e. effectively pure "partially hydrogenated vegetable oil")

Source: various online websites; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Products vary in terms of butter content

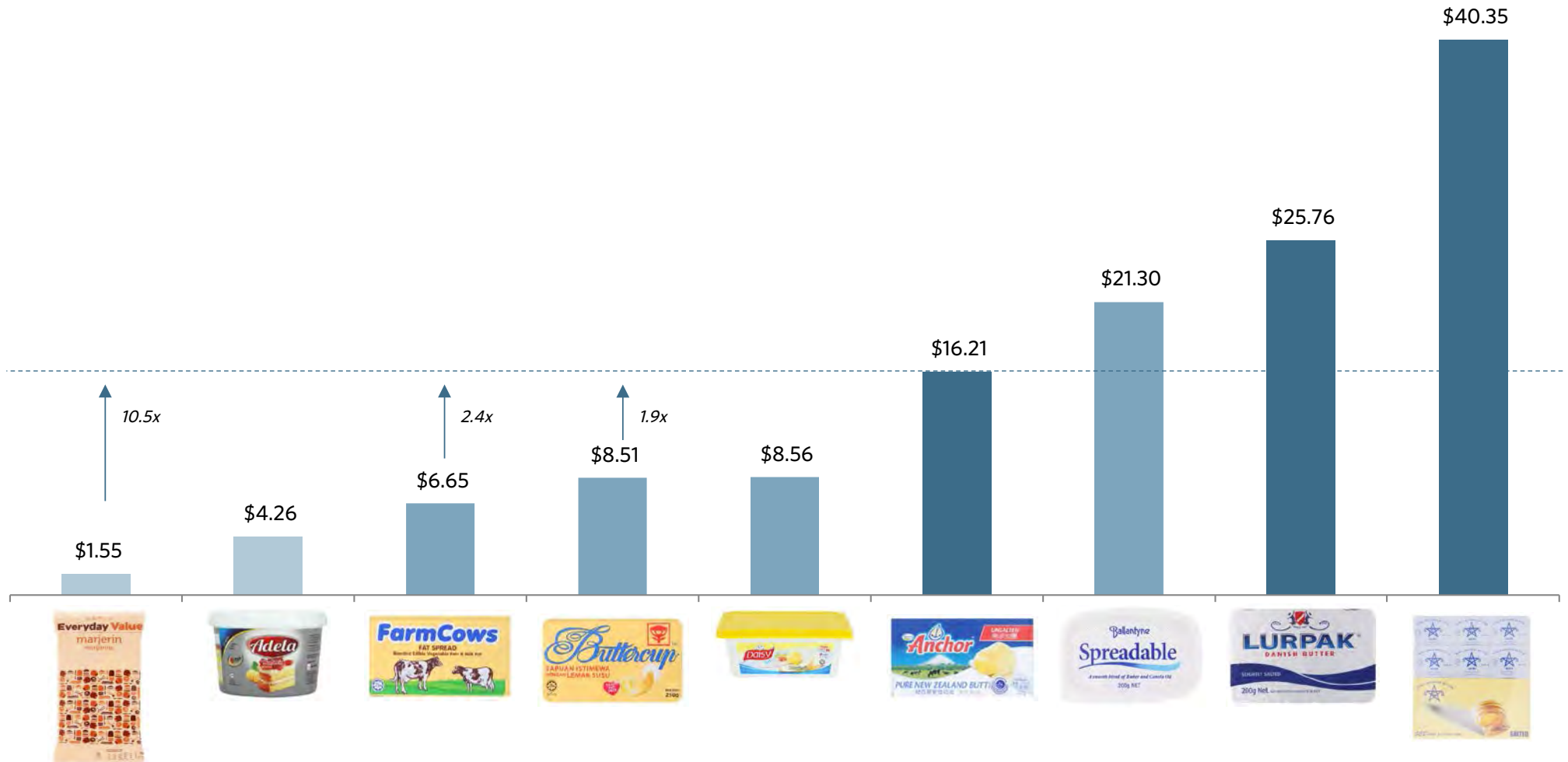
PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

Example; 2014

Product	Example product	Example Ingredients	Typical products claims	Typical usage in SE Asia	Example specific product usage
Pure butter		Pasteurised Cream (Min 80% Milk Fat), Water, Salt	Creamy Pure creamery Unsalted/salted Low salt Spreadable Halal	Ingredient in baking, cooking, sauces etc. Non-stick oil/fat for frying Spread (on toast)	<ul style="list-style-type: none"> - Cakes & pastry - Spread on toast and pancakes - Fry onions at beginning of cooking
Spreadable butter		Butter, water, canola oil, salt	Spreadable		
Blend		Palm Oil, Palm Kernel Oil, Milk Fat, Milk Product, Salt, Soya Lecithin, Contains Permitted Emulsifier, Flavourings and Colouring (Beta Carotene)	Halal Transfat-free		
Margarine		Vegetable Oils (65%) (Containing 52% Canola & Sunflower Oil), Water, Milk Solids, Salt, Emulsifiers (E471, E322 (Soya Lecithin)), Preservative (E202), Acidity Regulator (E270), Colour (E160A), Vitamin A & D, Flavour	Halal Transfat-free Vegetarian		

Butter sells at a significant premium to margarine – up to ten times as much per kilogram; butter/margarine blends have intermediate pricing between the two

EXAMPLE: RETAIL SHELF PRICE PER KILOGRAM OF SELECT BUTTER/SPREADABLE OILS & FATS/MARGARINE IN TESCO MALAYSIA
NZ\$/kg; 11/2014



Source: various online websites; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

There are a wide range of different butter brands available in SE Asia, as this example from Thailand shows

EXAMPLE: BLOCK BUTTER RANGE: TESCO LOTUS (THAILAND) VS. COUNTDOWN (NEW ZEALAND)

SKU; actual; Oct 2014

TESCO Lotus

Thailand



countdown

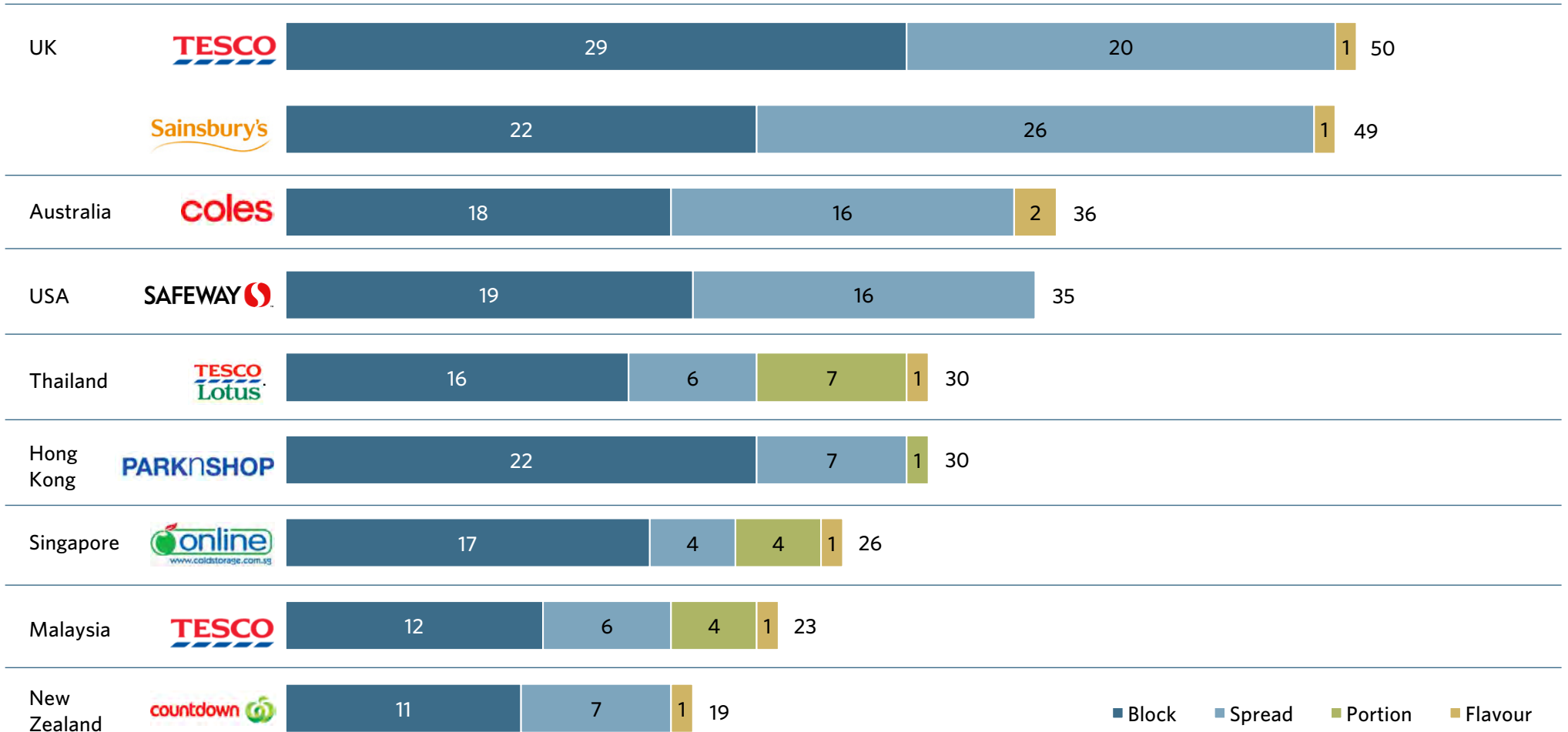
New Zealand



SE Asian retail shelves appear well stocked with a wide range of SKU, particularly when considered proportional to per capita expenditure

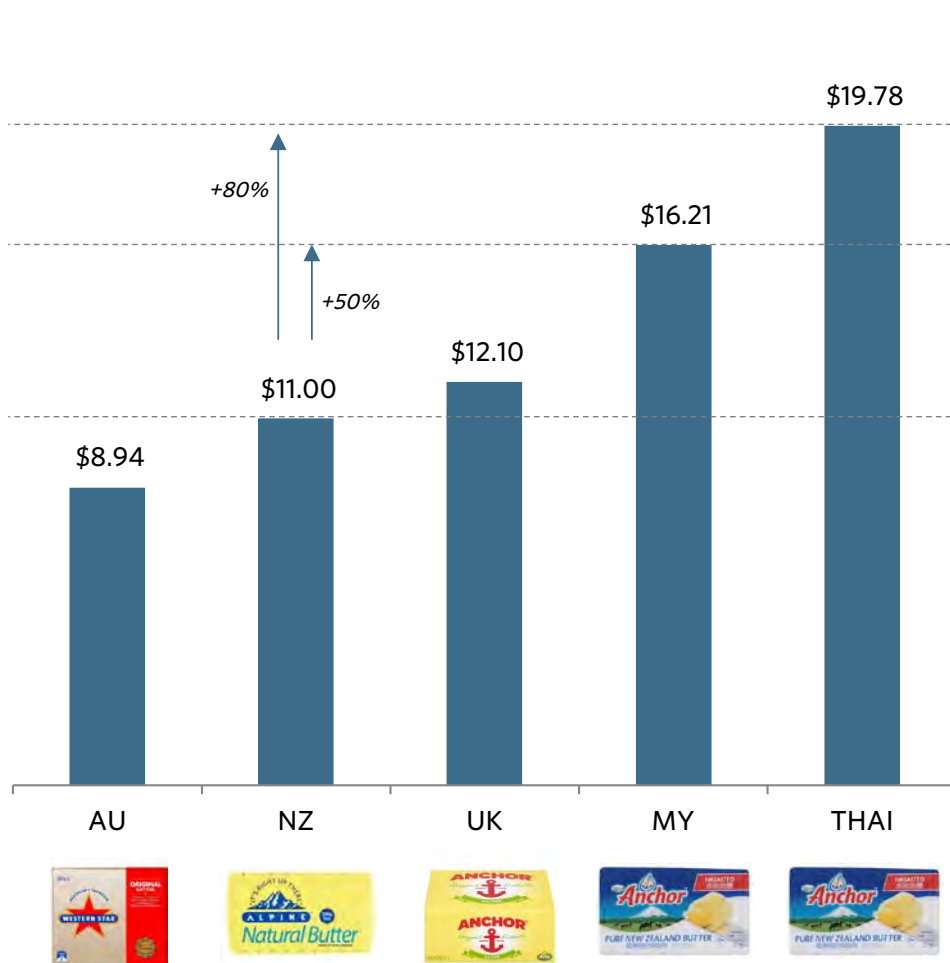
EXAMPLE: BUTTER STOCK KEEPING UNIT COUNTS BY SELECT COUNTRIES

SKU's; brands; Oct 2014



Pure butter costs more in SE Asia than in Australasia or Europe

EXAMPLE: OBSERVED SHELF PRICE PER KILOGRAM
NZ\$/kg; 11/2014



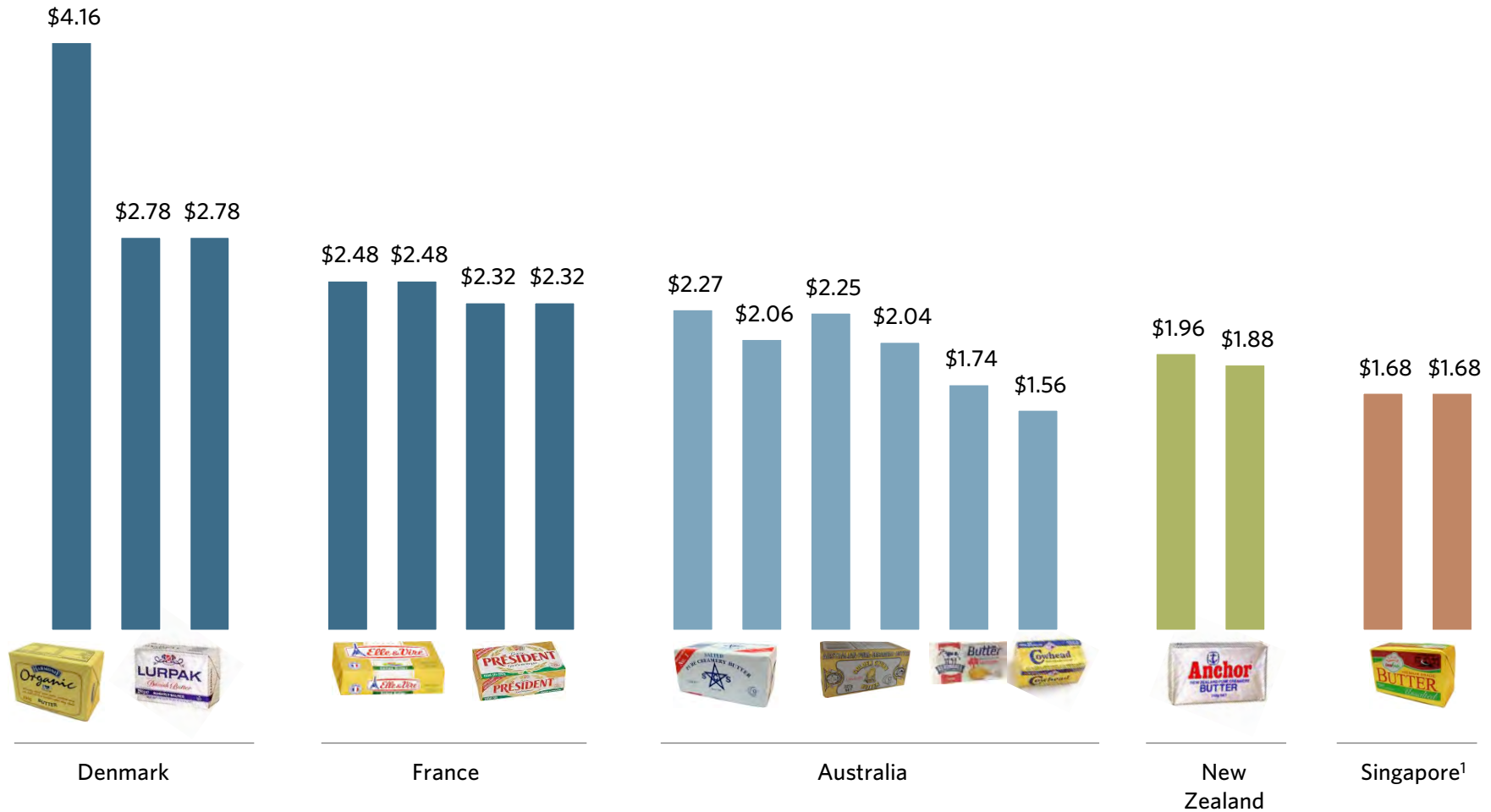
EXAMPLE: OBSERVED SHELF PRICE PER KILOGRAM
NZ\$/kg; 11/2014



Source: Various online sites; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

European brands are achieving a price premium in Asia

EXAMPLE: RETAIL PRICE PER 100G OF BLOCK BUTTER BY SOURCE COUNTRY AT COLD STORAGE SINGAPORE
 NZ\$ per 100g; Oct 2014



1. Source unclear; Note: Exchange rate as at Oct 2014

Source: Countdown online (New Zealand); NTUC Fair Price online (Singapore); photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Product/category range expansion and innovation limited relative to Anglo-Saxon markets

Observed in SE Asia region

Observed in Anglo-Saxon markets (but not SEA)

Health



"Lighter"



"Salt reduced"



Organic



Lactose-free

Indulgence



Flavoured



Sweetened



Region specific



"Sea salt"



Non-cow

Convenience



Portions



Sticks



Whipped

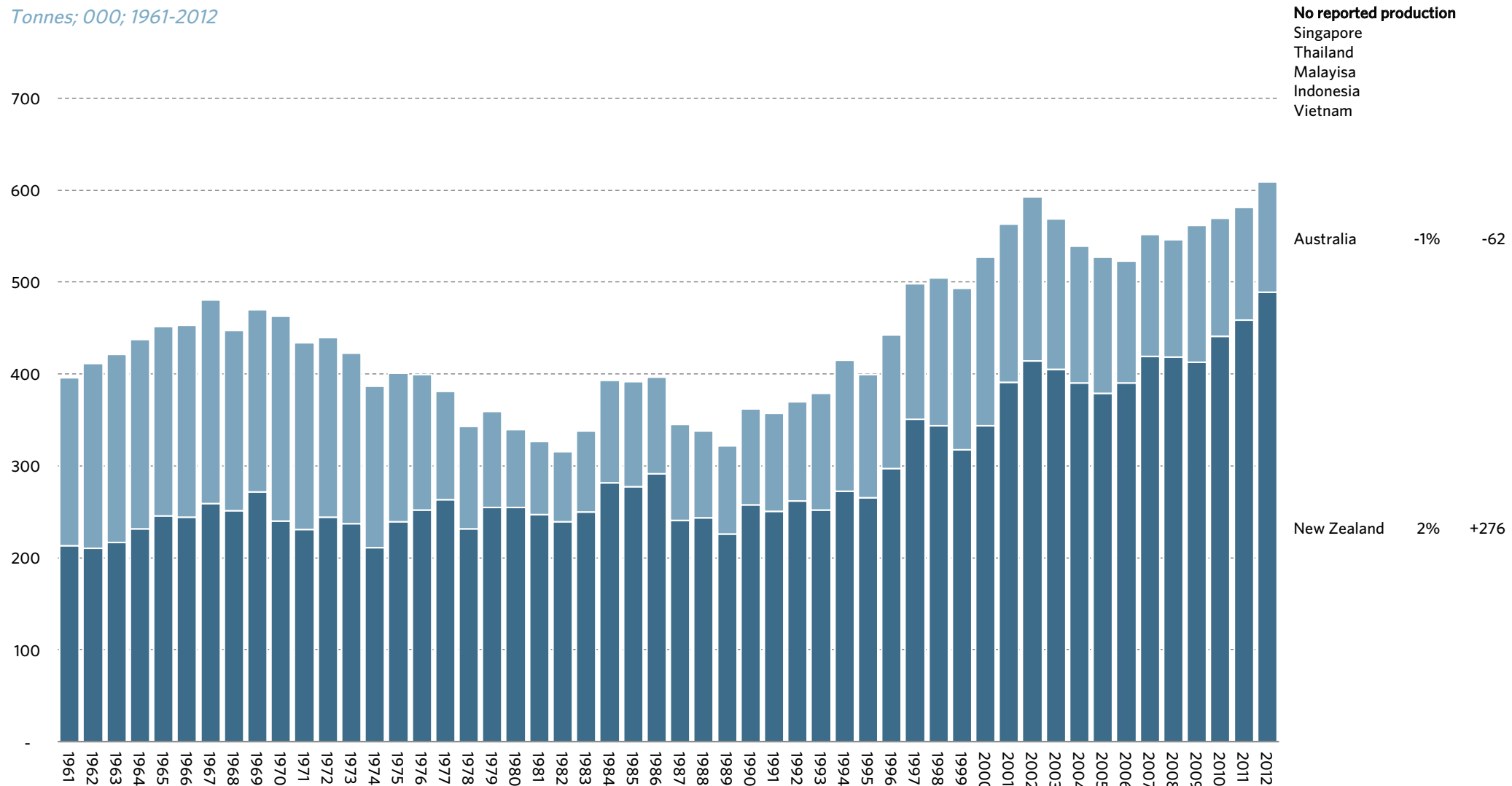
There are a number of unoccupied positions available for new market entrants and niche players to create a point-of-difference; the lack of a strong health position stands out as an opportunity

	Observed in SE Asia region	Observed in Anglo-Saxon markets (but not SEA)			Potential unoccupied position(s)		
Health		Lighter	Organic	All natural	Free range grass fed	Hormone/An tibiotic-free	
		Reduced salt	Lactose-free				
Indulgence	Flavours	Sweetened	Region specific		Non-cow (sheep)	Breed-specific	
		Non-cow (goat)	Ingredient specific (sea salt)	Boutique			
Convenience	Sliced/ Portioned	Whipped			Resealable	Tube	Squeezy

New Zealand and Australia are the only countries in SE Asia & Australasia that produce butter; all other import all raw materials or finished product

SE ASIA & AUSTRALASIA REGIONAL PRODUCTION VOLUME OF COW BUTTER

Tonnes; 000; 1961-2012



1. Uses 1972-2012; note: Philippines shown (almost invisible) but not labeled for clarity

Source: UN FAO AgStat database; Coriolis analysis

DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

Ice cream is dominated by Unilever and Nestle; any attempt to build a position at this late point needs to “Think Different”

FOR

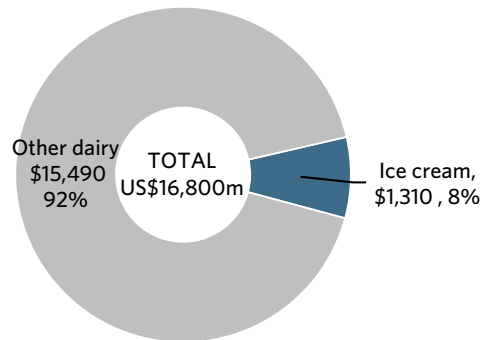
- Relatively large category overall at US\$1.3b spread across all markets
- Growing at 8% per annum; double digit growth in Vietnam and Indonesia
- Per capita upside across all markets, particularly Philippines, Vietnam and Indonesia
- Significant user of New Zealand dairy ingredients (e.g. reconstituted skim milk, milk solids)
- SE Asian region underserved in terms of innovation, particularly in takehome, relative to Western markets
- Potential to leverage Emerald Foods/New Zealand Natural (700 outlets in 22 countries) foodservice play back into retail

AGAINST

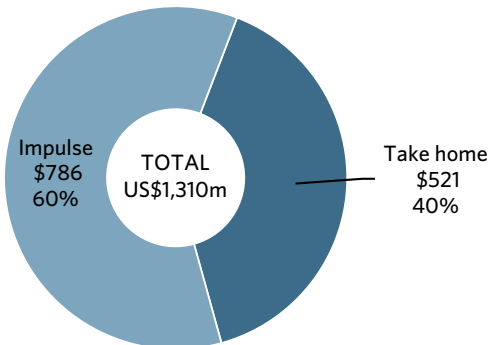
- Product is semi-perishable and requires excellent cold chain management all the way to final point-of-sale or quality deteriorates rapidly (e.g. icing/refreezing)
- Category is highly consolidated & competitive
 - dominated by Unilever with 50% followed by Nestle at 18%; both control impulse retail through freezer ownership & distribution logistics
 - wide range of smaller regional firms
- Majority (60%) of the market in impulse stick products which are defensible through production/process technology; NZ has almost no track record in this space
- Take home tubs is the logical segment for NZ play but...
 - A smaller segment growing more slowly
 - market favours small quantities of super-premium for immediate consumption or that can fit in small freezers, not large NZ-size tubs
 - segment is well stocked with global firms, with few available unoccupied positions

Ice cream is a US\$1,310m category in SE Asia at retail; almost two thirds of ice cream sales are “impulse” novelty stick products; robust sales of ice cream occur across all markets; Vietnam and Indonesia achieving double digit growth; Vietnam stands out as under-developed

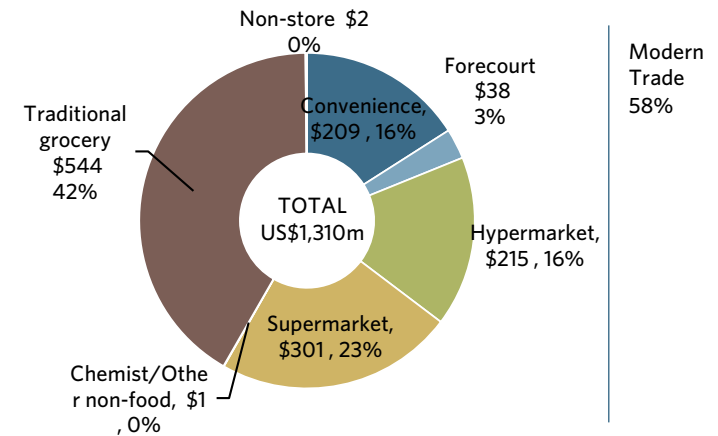
% TOTAL SEA RETAIL DAIRY SALES
US\$m; 2013



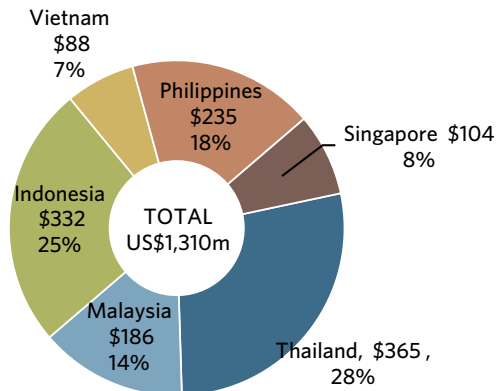
% SEA ICE CREAM \$ BY FORM
% US\$M; 2013



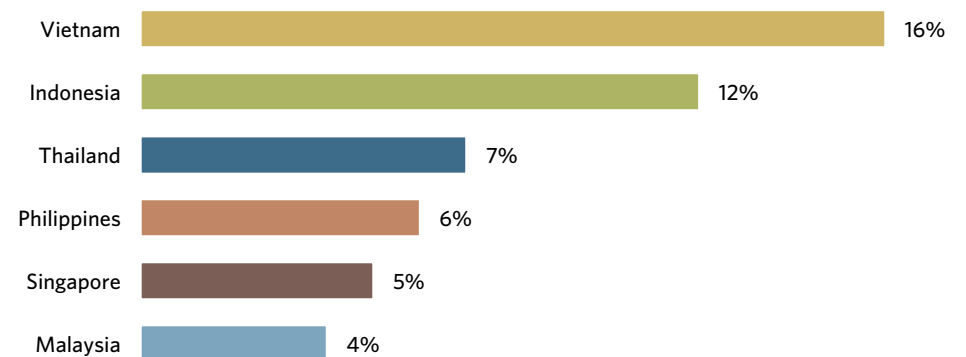
SEA RETAIL ICE CREAM \$ BY CHANNEL
US\$m; 2013



SE ASIA RETAIL ICE CREAM SALES BY COUNTRY
US\$m; 2013



5Y FORECAST GROWTH RATE
% CAGR; 13-18f



The ice cream category includes products that use a range of ingredients: dairy based, water based, fruit based and other non-dairy ingredients

PRODUCT EXAMPLES IN CATEGORIES

2014

ICE CREAM DAIRY BASED



Cream, liquid sugar, skim milk, water, sugar, etc.

Must contain 10% milk fat to be called Ice Cream

WATER BASED "ICE LOLLIES"



Water, reconstituted fruit juice, sugar, dextrose, citric acid, stabiliser, flavourings, colourants

OTHER NON-DAIRY



Almond






Coconut

The category covers three main sizes

PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

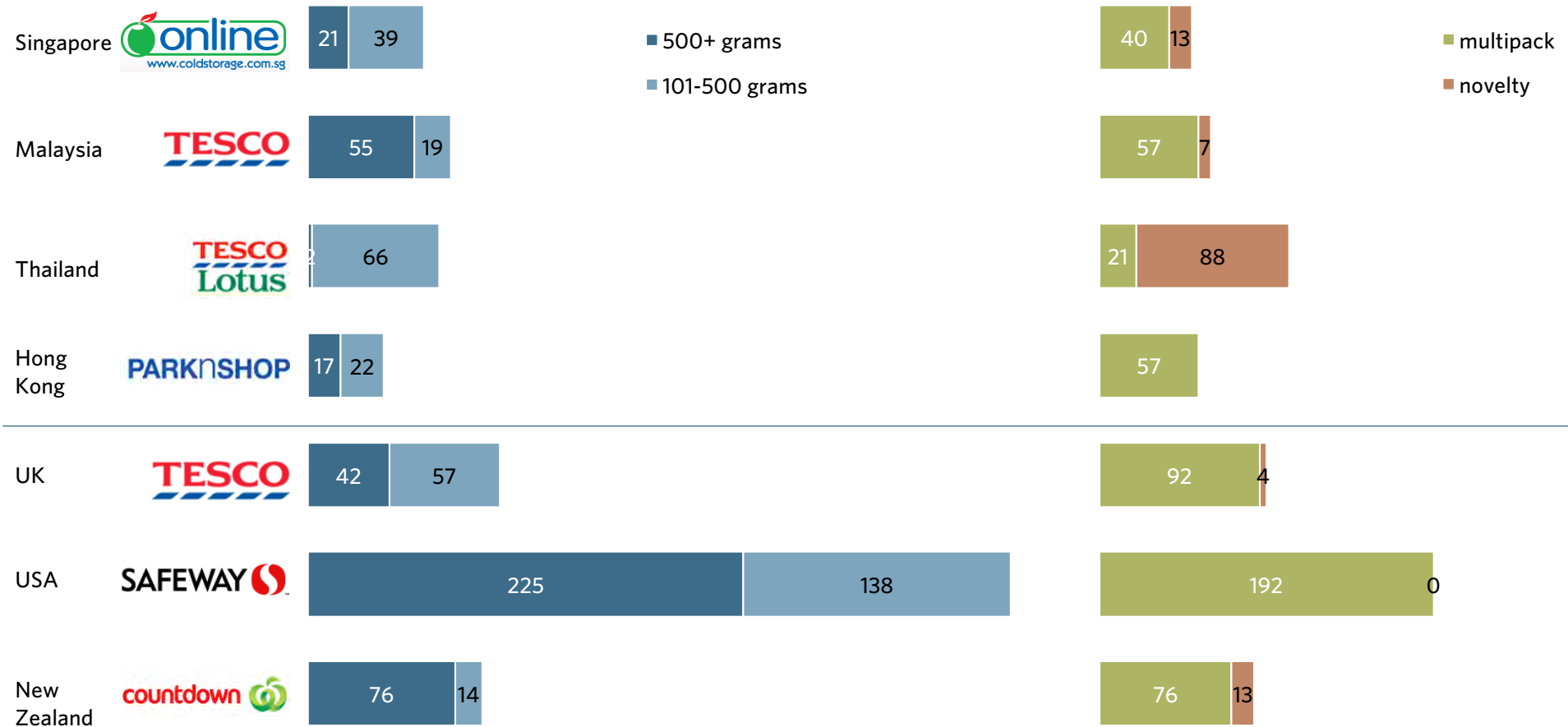
Example; 2014

Product	Example product	Example Ingredients	Typical products claims	Typical usage in SE Asia
Tub (101ml -2L)		Cream, liquid sugar, skim milk, water, sugar, cocoa, wheat flour, cocoa powder, soybean oil, egg yolks, cane sugar, eggs, guar gum, salt, carrageenan, vanilla extract, malted barley flour, sodium bicarbonate	Family pack Transfat-free Halal Natural ingredients Creamy	Dessert Family treat
Novelty multi-packs (minis)		Reconstituted skim milk, milk solids, sugar, vegetable oil, water, wheat flour, glucose fructose, cocoa, milk chocolate, potato starch, emulsifier, vegetable gum, salt, flavours, egg white	Transfat-free Halal	Kids treat Family treat
Novelty/individual		Water, reconstituted fruit juice, sugar, dextrose, citric acid, stabiliser, flavourings, colourants	Halal Transfat-free	Single occasion Treat Snack

At retail pack sizes are skewed towards smaller tubs/pottles and multipacks

EXAMPLE: ICE CREAM STOCK KEEPING UNIT COUNTS BY WEIGHT BY SELECT COUNTRIES

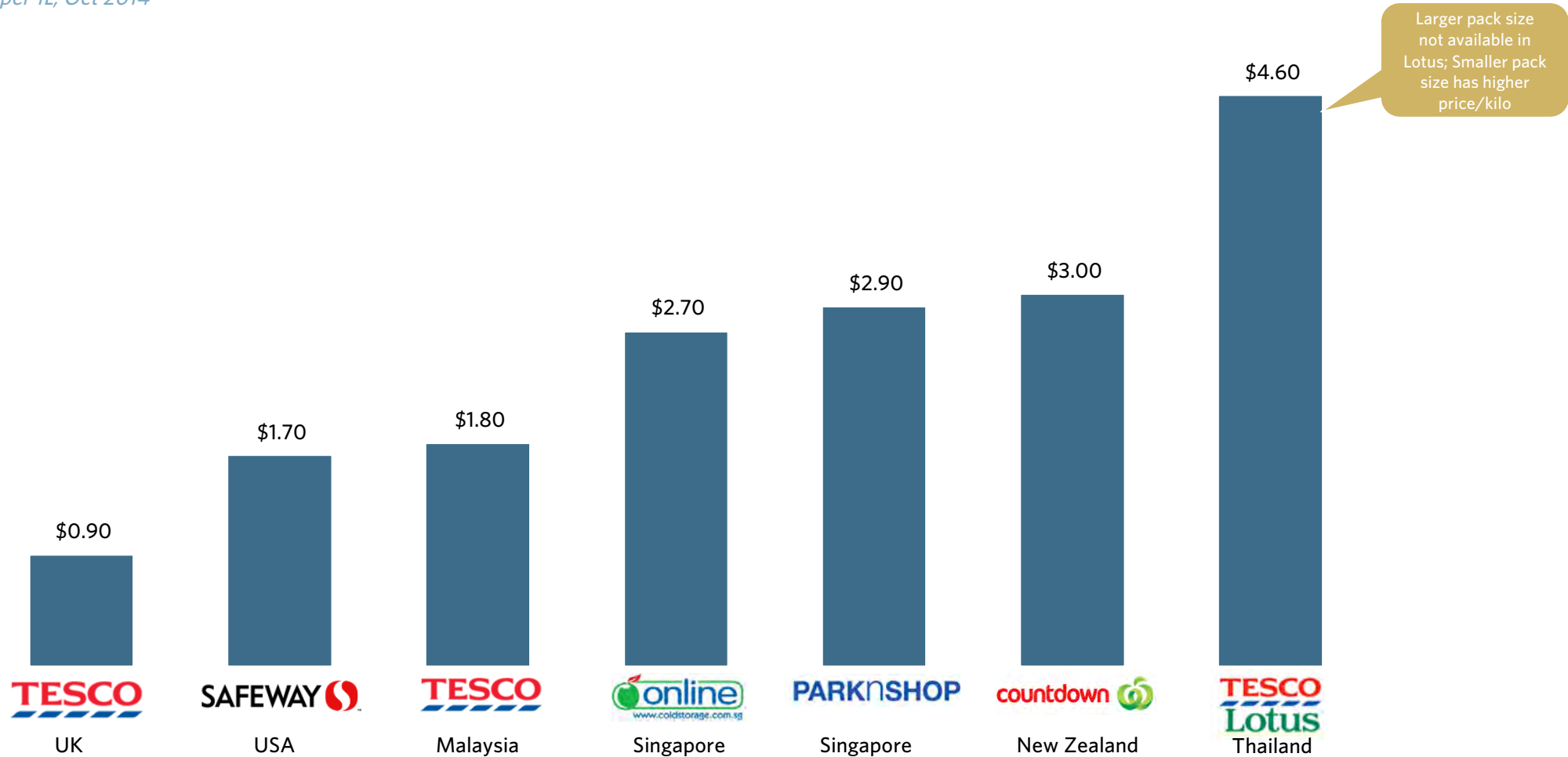
SKU's; Oct 2014



Ice cream is competitively priced in Asia at the bulk cheaper end of the market

EXAMPLE: CHEAPEST VANILLA ICE CREAM ON SHELF

NZ\$ per 1L; Oct 2014



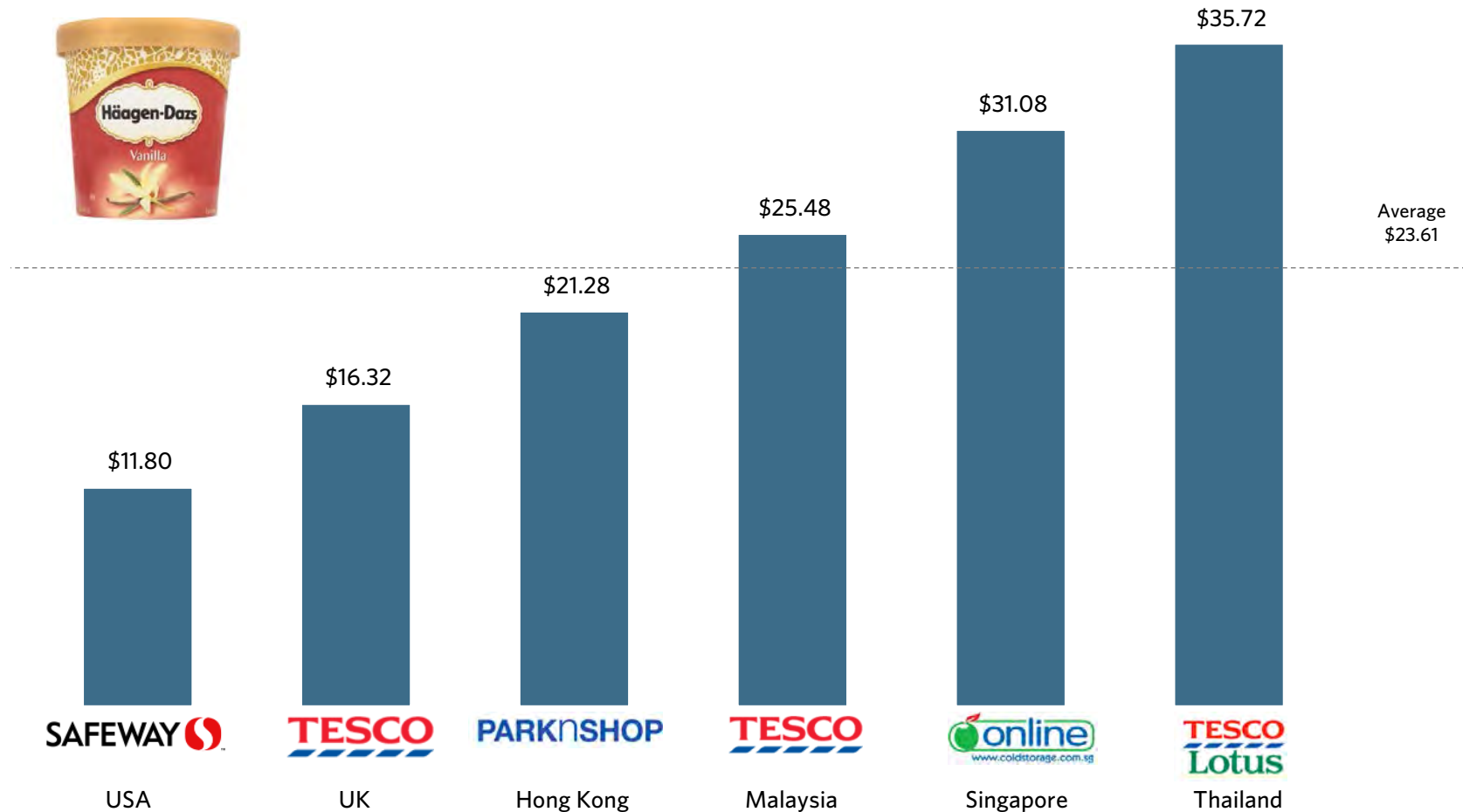
Note: exchange rate as at Oct 2014

Source: online retailers; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

However, premium brands are achieving a significant price premium in Asia

EXAMPLE: PRICE OF 473/500G VANILLA HAAGEN-DAZ BY SELECT COUNTRIES

NZ\$ per 1L; Oct 2014



Note: exchange rate as at Oct 2014

Source: Online retailers; photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Product/category range expansion and innovation limited relative to Anglo-Saxon markets

Observed in SE Asia region

Observed in Anglo-Saxon markets (but not SEA)

Health



Light 98% fat free



Fruit'n Yogurt



Low in calories



No added sugar



Organic coconut



HFCS free/
Hormone free



Gluten-free



No artificial colours, flavours

Indulgence



Unique flavour



Branded flavour



Liquor flavours



County specific



Almond



Coconut



Soy

Non-dairy



Co-branded



Specific style

Convenience



Frozen



Single serve/
with spoon



Multi-pack



Single-serve



Taco



Bars



Bulk

There are limited niche positions available in Ice cream

	Observed in SE Asia region	Observed in Anglo-Saxon markets (but not SEA)	Potential unoccupied position(s)									
Health	Low fat	<table border="1"> <tr> <td>No fat</td> <td>Organic</td> <td>All natural</td> </tr> <tr> <td>Reduced salt</td> <td>Lactose-free</td> <td>Sugar free</td> </tr> <tr> <td>HFCS free</td> <td>Gluten free</td> <td>Hormone free</td> </tr> </table>	No fat	Organic	All natural	Reduced salt	Lactose-free	Sugar free	HFCS free	Gluten free	Hormone free	Free range grass fed
No fat	Organic	All natural										
Reduced salt	Lactose-free	Sugar free										
HFCS free	Gluten free	Hormone free										
Indulgence	Flavours	<table border="1"> <tr> <td>Premium</td> <td>Country specific</td> <td>Boutique</td> </tr> <tr> <td>Non-dairy (coconut)</td> <td>Ingredient specific (sea salt)</td> <td></td> </tr> </table>	Premium	Country specific	Boutique	Non-dairy (coconut)	Ingredient specific (sea salt)		<table border="1"> <tr> <td>Non-cow (sheep)</td> <td>Breed-specific</td> </tr> </table>	Non-cow (sheep)	Breed-specific	
Premium	Country specific	Boutique										
Non-dairy (coconut)	Ingredient specific (sea salt)											
Non-cow (sheep)	Breed-specific											
Convenience	<table border="1"> <tr> <td>Sliced/ Portioned</td> <td>Spoon included</td> </tr> <tr> <td>Multi-pack</td> <td></td> </tr> </table>	Sliced/ Portioned	Spoon included	Multi-pack		<table border="1"> <tr> <td>Bulk</td> </tr> </table>	Bulk					
Sliced/ Portioned	Spoon included											
Multi-pack												
Bulk												

DOCUMENT STRUCTURE

SE Asia is an attractive market for New Zealand dairy firms

There are opportunities across all categories of the SE Asian dairy sector

Drinking milk products

Yoghurt

Condensed/evaporated

Cheese

Butter

Ice cream

Infant milk formula

Baby milk is a large and growing category in SE Asia; however New Zealand will struggle to improve currently weak performance at retail

FOR

- Shelf stable; can be packed to final form in NZ
- Very large category in SE Asia at US\$5.9b
- Projected to grow at 8% per annum going forward
- Significant per capita upside in Vietnam, Indonesia, Philippines and Thailand
- A major user of NZ dairy ingredients (e.g. lactose, milk powder, whey)
- Opportunities in less controlled/less emotive/less profitable growing up milk (GUMP)
- Strong endorsement of New Zealand as a production location for the wider Asia evidenced in multiple large investments in local production
- Westland, Synlait and others making base powder

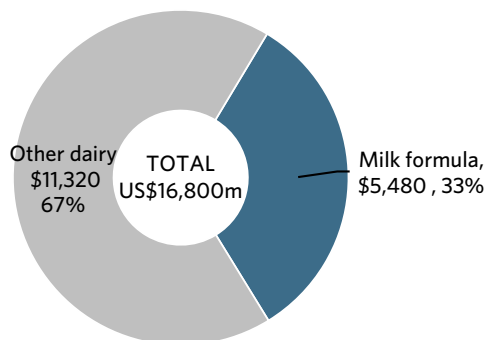
AGAINST

- Very highly consolidated regionally (and globally)
 - Top 5 firms 82%; regionals only factor in 2 markets
 - All top four global firms present
 - Danone rumoured targeting Mead Johnson
- Highly competitive - huge range of brands, sub-brands, products and pack sizes; easily 8-10 times the competitive intensity of domestic NZ market
- Despite domestic hype, no clearly revealed demand for "NZ infant formula" in SE Asia (this is not China)
- Not a strong category in NZ; no strong domestic base of product flair or innovation on which to draw
- No current capacity to compete in specialised and/or medical powders due to lack of defensible R&D in space (e.g. Mead Johnson BCAD for infants with "maple syrup urine disease")

Milk formula is a US\$5.5b category in SE Asia at retail (or a third of dairy spend); Indonesia is the largest single market at \$2,339m, followed by Vietnam (\$922m), Thailand (\$804m) and Philippines (\$789m); Malaysia and Singapore smaller markets

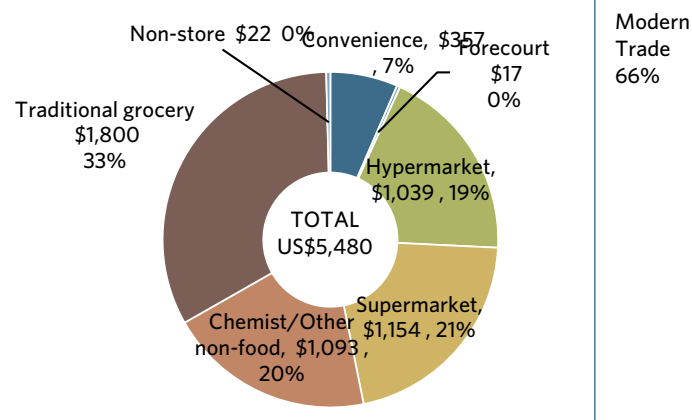
SHARE OF TOTAL SE ASIA RETAIL DAIRY SALES

US\$m; 2013



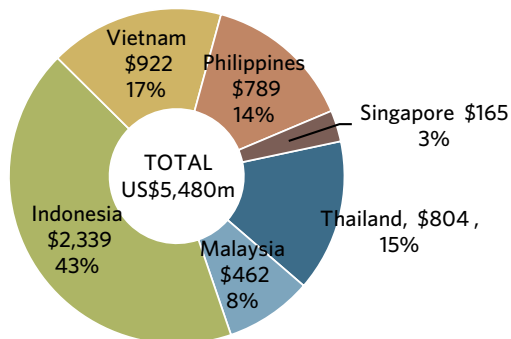
SE ASIA RETAIL MILK FORMULA SALES BY CHANNEL

US\$m; 2013



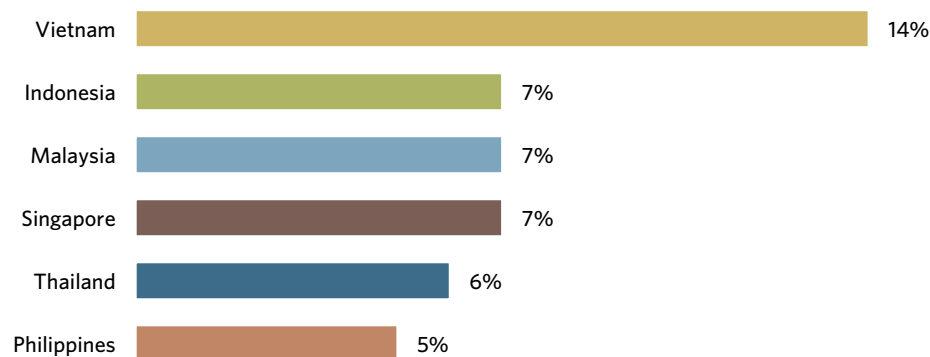
SE ASIA RETAIL MILK FORMULA SALES BY COUNTRY

US\$m; 2013



5Y FORECAST GROWTH RATE




% CAGR; 13-18f



Baby formulas are designed as a full meal or to supplement the diet; they have a large number of ingredients and claims

PRODUCT OVERVIEW: INGREDIENTS, CLAIMS AND USAGE

Example; 2014

Product	Example	Example Ingredients	Typical products claims	Typical usage in SE Asia	Example specific product usage
Infant Formula (Stage 1)		Lactose (milk), vegetable oils, whey protein (milk), minerals, vitamins, omega LCPUFA's, maltodextrin, nucleotides, inositol, taurine, cultures etc.	Halal Contains probiotics Easy to digest (cultures) Supports immunity Hypoallergenic (Highly regulated sales and promotions rules)	Human milk replacement 0-6 months old	Every meal Supplement milk
Follow-on (Stage 2)		Skimmed milk, de-mineralized whey, vegetable oils, lactose, whey protein concentrate, Galacto-Oligosaccharides, maltodextrin, vitamins, minerals, cultures etc.	Halal Contains probiotics Easy to digest (cultures) DHA (brain development) Choline	Baby milk formula 6 months to 2 years	Full Meal Supplement diet
Growing Up Milk (Stages 3-5)		Lactose (cow's milk), whey protein concentrate (cow's milk), sucrose, blend of vegetable oils, whole milk powder (cow's milk), galacto-oligosaccharide (GOS), maltodextrin, corn syrups solids, non-fat milk powder (cow's milk), ARA, DHA, minerals, emulsifier, vitamins, cultures etc.	Halal Probiotics Easy to digest (cultures) DHA (brain development) High vitamins Support brain development Eye support (ARA, Luten)	Toddler formula and supplement 2 years plus	Supplement diet

Powdered milk is a highly competitive market, with a large number of products on the shelf

EXAMPLE: RANGE OF POWDERED BABY PRODUCTS FOR SALE AT TESCO MALAYSIA

Oct 2014

Global brands

Infant Formula (IF)



Specialty 0-12 months



Follow-On (FO)



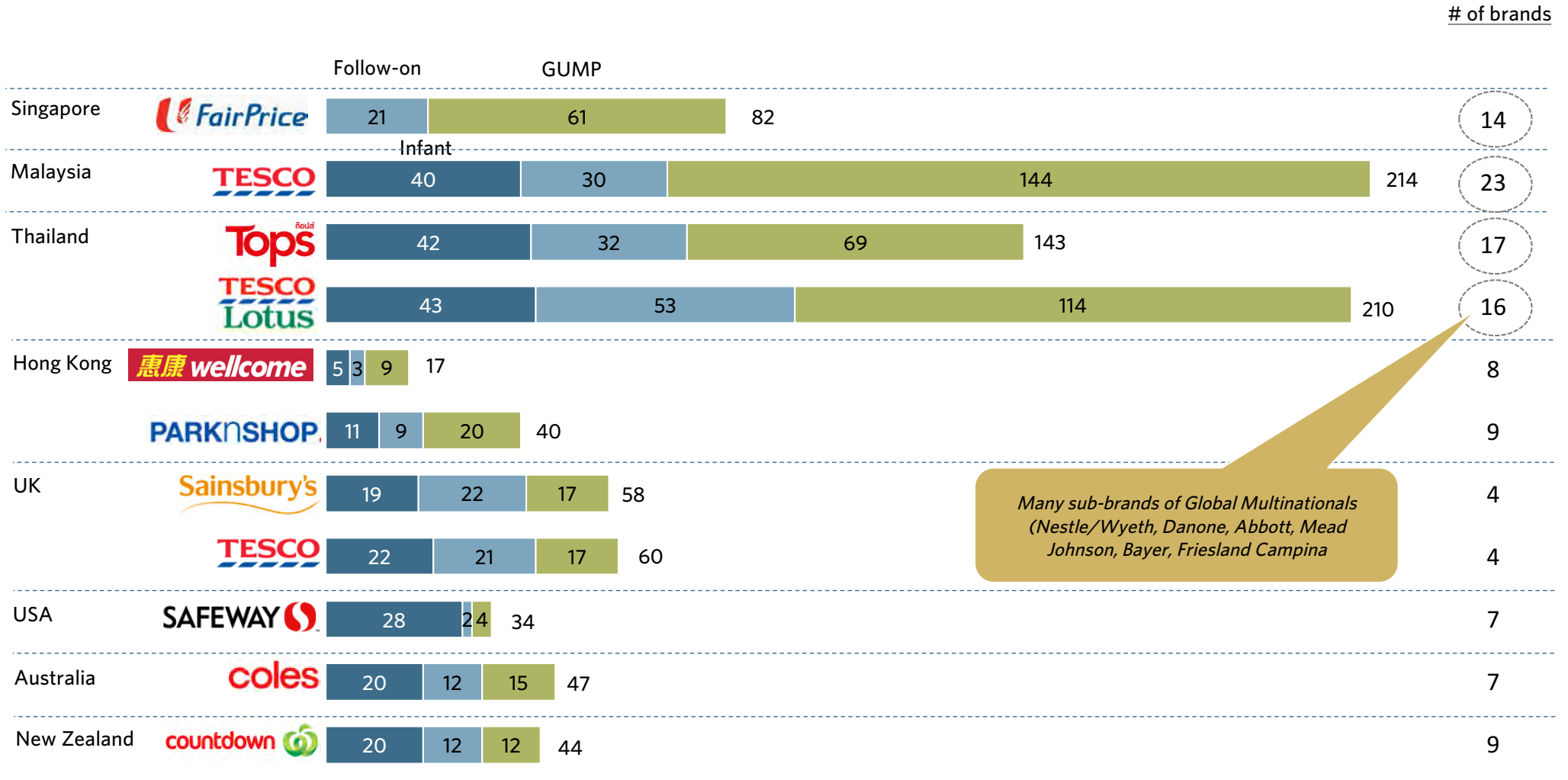
Growing Up Milk Powder (GUMP)



Asian markets have significantly more brands and SKU's on the shelf than Western countries

EXAMPLE: "OTHER DAIRY" STOCK KEEPING UNIT COUNTS BY SELECT COUNTRIES

SKU's; brands; Oct 2014



Note: Singapore law does not allow for any online sales of IF; Source: Grocery online stores; Coriolis

The global firms use multiple brands in Asia across price points

EXAMPLE: SECOND STAGE/FOLLOW-ON MILK SHELF PRICE PER LITRE IN THAILAND

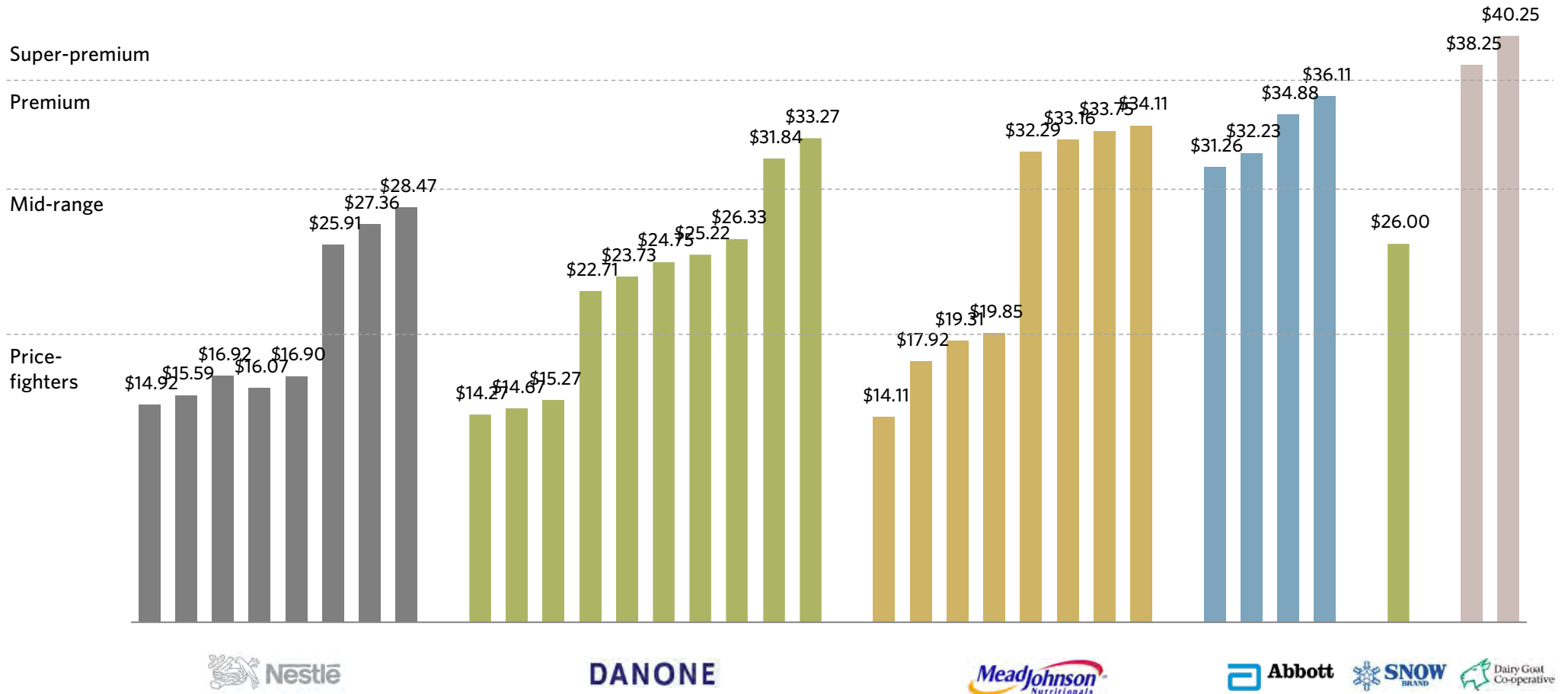
Converted to NZ\$ per litre; Oct 2014

	Price fighter	Medium priced	Premium/Specialty
	 	 	
DANONE	 		
			 
			

Each category, in this case "Stage 2: Follow-on milk" cover a range of price points

EXAMPLE: SECOND STAGE/FOLLOW-ON MILK SHELF PRICE PER LITRE IN TOPS THAILAND

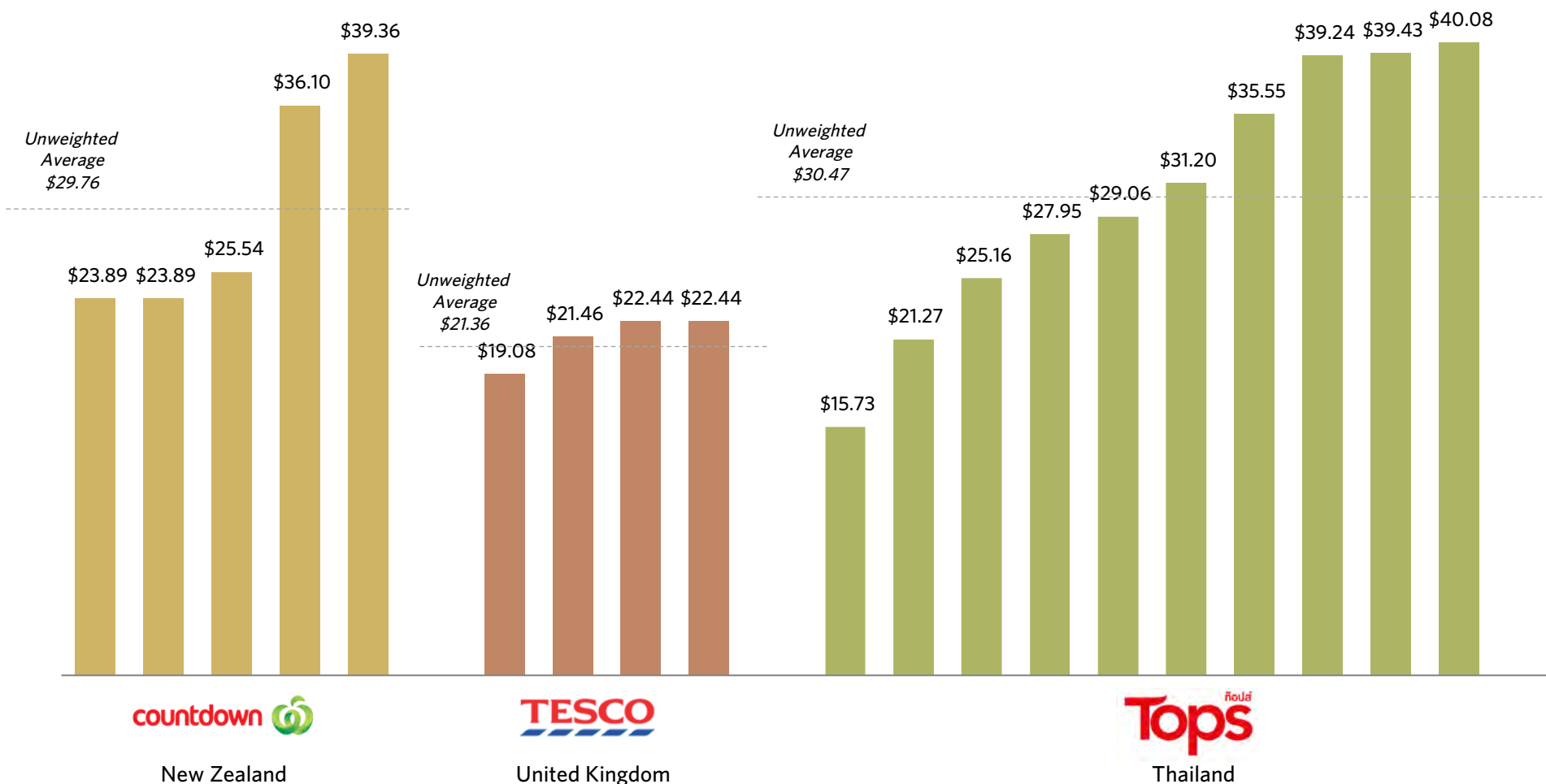
Converted to NZ\$ per litre; Oct 2014



The average shelf price for first milk in Asia is higher than New Zealand and the UK

EXAMPLE: FIRST MILK MILK SHELF PRICE PER LITRE

Excludes specialist (goat, soy); Converted to NZ\$ per litre; Oct 2014



Note: The NZ\$ generally trades at parity to the S\$; GBP uses NZ\$2.01 exchange rate of Oct 2014

Source: Countdown online (New Zealand); NTUC Fair Price online (Singapore); photo credit (fair use; complete product for illustrative purposes); Coriolis analysis

Product/category innovation limited relative to Anglo-Saxon markets

	In SE Asia region	In Anglo-Saxon markets
Health	 <p><i>Comfort</i> <i>Goat</i></p>	 <p><i>Organic</i></p>
Indulgence		 <p><i>Extra Hungry</i></p>
Convenience	 <p><i>RTD 4 packs (tetrapak)</i> <i>Tablets (dosage)</i></p>	 <p><i>RTD single serve</i> <i>RTD 6 packs (plastic)</i> <i>Stick packs</i></p>

There are a number of unoccupied positions available for new market entrants and niche players to create a point-of-difference

	Observed in SE Asia region	Observed in Anglo-Saxon markets (but not SEA)	Potential unoccupied position(s)
Health	<div style="display: flex; gap: 10px;"> <div style="background-color: #4a86e8; color: white; padding: 5px; text-align: center;">Soy</div> <div style="background-color: #4a86e8; color: white; padding: 5px; text-align: center;">Goat</div> </div>	<div style="background-color: #c4a33d; color: white; padding: 5px; text-align: center;">Organic</div>	<div style="display: flex; gap: 10px;"> <div style="background-color: #6b8e23; color: white; padding: 5px; text-align: center;">Free range Grass fed</div> <div style="background-color: #6b8e23; color: white; padding: 5px; text-align: center;">Hormone/An tibiotic-free</div> <div style="background-color: #6b8e23; color: white; padding: 5px; text-align: center;">Sheep milk</div> </div>
Indulgence			<div style="background-color: #6b8e23; color: white; padding: 5px; text-align: center;">Source region specific</div>
Convenience		<div style="display: flex; gap: 10px;"> <div style="background-color: #c4a33d; color: white; padding: 5px; text-align: center;">Resealable</div> <div style="background-color: #c4a33d; color: white; padding: 5px; text-align: center;">Ready to drink</div> </div>	

Coriolis is a boutique management consulting firm that focuses on food, consumer packaged goods, retailing and foodservice.

Coriolis advises clients on strategy, operations, organization, and mergers and acquisitions. We develop practical, fact-based insights grounded in the real world that guide our clients decisions and actions. Founded in 1999, Coriolis is based in Auckland, New Zealand and works on projects across the Asia Pacific region.

WHAT WE DO

We help our clients assemble the facts needed to guide their big decisions. We make practical recommendations. Where appropriate, we work with them to make change happen.

HOW WE DO IT

Our style is practical and down-to-earth. We try to put ourselves in our clients' shoes and focus on actions. We listen hard, but we are suspicious of the consensus. We provide an external, objective perspective. We are happy to link our fees to results.

WHO WE WORK WITH

We only work with a select group of clients we trust. We build long term relationships with our clients and more than 80% of our work comes from existing clients. Our clients trust our experience, advice and integrity.

Typical assignments for clients include...

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We help clients develop their own strategy for growing sales and profits. We have a strong bias towards growth driven by new products, new channels and new markets.

MARKET ENTRY

We help clients identify which countries are the most attractive - from a consumer, a competition and a channel point-of-view. Following this we assist in developing a plan for market entry and growth.

VALUE CREATION

We help clients create value through revenue growth and cost reduction.

TARGET IDENTIFICATION

We help clients identify high potential acquisition targets by profiling industries, screening companies and devising a plan to approach targets.

DUE DILIGENCE

We help organisations make better decisions by performing consumer and market-focused due diligence and assessing performance improvement opportunities.

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