Barclays

Equity Research
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Global Food

Chinese infant formula – Growing pains

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Once a strong growth engine, Chinese infant formula has become a challenged category given the lower birth rate, rise of local competition and ever-changing regulation. However, innovative companies with super-premium brands in the right channels and regions could buck the trend.

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Summary of our Ratings, Price Targets and Earnings Changes in this Report (all changes are shown in bold)

Company	Rating		Price	Price Target			EPS FY1 (E)			EPS FY2 (E)		
	Old	New	12-Mar-20	Old	New	%Chg	Old	New	%Chg	Old	New	%Chg
European Consumer Staples	Neu	Neu										
Danone (BN FP / DANO.PA)	OW	OW	52.90	80.00	**70.00**	-13	4.03	**3.88**	-4	4.25	**4.08**	-4
Nestle SA (NESN SW / NESN.S)	OW	OW	90.13	115.00	**105.00**	-9	4.64	**4.34**	-6	5.05	**4.72**	-7
Reckitt Benckiser Group PLC (RB/ LN / RB.L)	OW	OW	5150	6700	**6400**	-4	287.0	287.0	-	304.9	304.9	-

Source: Barclays Research. Share prices and target prices are shown in the primary listing currency and EPS estimates are shown in the reporting currency.
FY1(E): Current fiscal year estimates by Barclays Research. FY2(E): Next fiscal year estimates by Barclays Research.
Stock Rating: OW: Overweight; EW: Equal Weight; UW: Underweight; RS: Rating Suspended
Industry View: Pos: Positive; Neu: Neutral; Neg: Negative

Chinese infant formula – Growing pains

Chinese infant nutrition has been the most dynamic market in Global Food: It has grown >11-fold from €2bn in 2004 to €23bn in 2019, driven by high birth rates, income growth and premiumisation. However, growth has come down from double-digits over the last decade to low single-digits currently, given declining birth rates, tougher local competition and regulation. RB's £5bn write-down of Mead Johnson illustrates the challenges in the market. Super-premium brands with unique propositions (e.g. organic, HMO) are growing double-digits while the rest of the market is declining.

Locals are catching up: A step-up in regulation in 2018 has eliminated >1000 smaller domestic players which had inadequate quality/safety standards, leaving a bigger share for better equipped local champions such as Feihe and Junlebao, especially in lower-tier cities, where more of the growth is located. With these stronger local companies premiumising and pushing into maturing tier 1/2 cities, the question is whether multinationals can replicate their success in tier 3/4/5 cities, which requires wider reach, lower-prices and local marketing.

But multinationals could benefit in the short term as safety concerns grow: While regulatory changes have increased consumer trust from a food safety standpoint, recent issues like African Swine Fever and, more recently, Covid-19, are likely to have made consumers more risk-averse. We see consumers switching from local to imported brands in the short term, as a precautionary move. Covid-19 could also result in a marked reduction in Chinese births in 2020e. We estimate 13.5m in 2020, down 8% on 2019.

Companies to invest in cross-border e-commerce (CBEC) as the Mum & Baby store (MBS) channel matures: As the infant milk formula (IMF) category has become increasingly sophisticated given rapid innovation, access to 'expert advice', the ability to touch, feel and sample products, and in-store access to a wider array of childcare have led to rapid growth in the MBS channel. However, the lower birth rate is likely to drive further MBS consolidation. The CBEC channel is likely to be a winner as the registration process needed to approve new (premium) product launches has ground to a halt, with this channel one way to mitigate this.

Who is best placed to win? We think Nestle and Danone are best positioned to succeed in this market. Feihe (not covered) is the biggest local threat. RB and Abbott both have strong premium brands but are exposed to the declining mainstream segment and losing share. Ausnutria, Mengniu (which acquired Bellamy's) and a2 (all not covered) are the key competitors to watch out for. They have leadership positions in A2 proteins and goat's milk, which are driving strong growth. Mengniu and Yili are also gaining share but more in lower price tiers, so less of a threat.

Forecast changes and valuation: We cut our price targets for Nestle (CHF115 to CHF105), Danone (€80 to €70) and Reckitt (GBp 6,700 to GBp 6,400) to reflect Covid-19 driven EPS changes and lower sector multiples but remain Overweight on all three.

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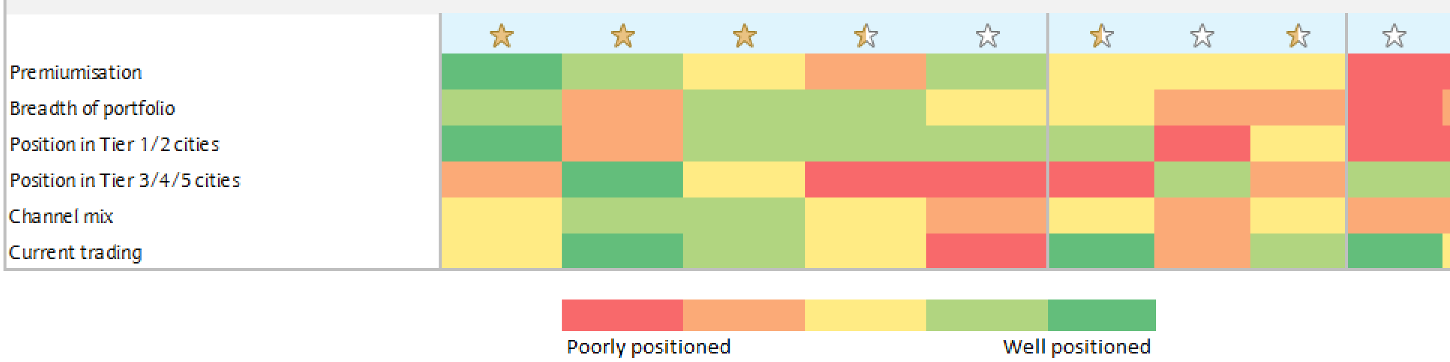
Chinese Infant Milk Formula Market Map

	Market	Big 5					Challengers			C
	Market	Nestle	Feihe	Danone	Abbott	Reckitt	Ausnutria	Mengniu	A2	Junlebao
Key Stats (€ bn, 2019)										
Global IMF Retail Sales	**48.4**	**8.4**	**3.0**	**6.8**	**4.7**	**5.0**	**1.1**	**0.5**	**0.4**	**1.2**
5y CAGR	6.1%	5.4%	30.6%	10.5%	6.0%	3.7%	45.7%	-9.2%	105.3%	84.5%
Global IMF Market Share	-	**17.3%**	**6.2%**	**14.0%**	**9.7%**	**10.4%**	**2.3%**	**1.0%**	**0.9%**	**2.6%**
5y change (bps)	-	-60	400	260	0	-120	180	-110	90	240
China IMF Retail Sales	**22.7**	**3.1**	**3.0**	**2.3**	**1.5**	**1.4**	**1.1**	**0.5**	**0.3**	**1.2**
5y CAGR	8.1%	10.2%	30.6%	25.3%	12.4%	4.9%	45.6%	-9.2%	0.0%	84.5%
China IMF Market Share	-	**13.5%**	**13.3%**	**10.1%**	**6.7%**	**6.1%**	**5.0%**	**2.1%**	**1.5%**	**5.5%**
5y change (bps)	-	120	810	530	120	-100	390	-290	150	510
Actual Chinese IMF sales (est. € bn)		**2.0**	**1.9**	**1.6**	**0.5 - 1.0**		**~0.5**	**<0.3**		
Top Brands in China	**Firmus, Aptamil, Illuma**	**Illuma, S-26, Nan**	**Firmus, Astrobaby, Feifan**	**Aptamil, Nutrilon, Cow & Gate**	**Eleva, Similac, PediaSure**	**Enfinitas, Enfamil, Enfagrow**	**Kabrita, Allnutria, Puredo**	**Mengniu, Dumex**	**A2**	**Jun Le Bao**



Notes: Feihe, Ausnutria, Mengniu, Junlebao, Yili, Friesland Campina and H&H are not covered by Barclays Research.
Source: Euromonitor, Barclays Research

Market landscape – top 10 companies, M&A and JVs

This chart shows the top 10 companies in Chinese infant formula, their top brands in the market, key acquisitions and joint ventures.

In terms of M&A, Danone was early to enter the market with the Numico acquisition in 2007, followed by Nestlé's Wyeth acquisition in 2012 and Reckitt's Mead Johnson acquisition in 2017. Other major multinationals, for example, Abbott and Friesland Campina have built their Chinese infant formula operations largely organically. Elsewhere, we would flag Mengniu's recent acquisition of Bellamy's in 2019, giving China's largest dairy manufacturer access to a leading organic IMF portfolio.

FIGURE 1

Chinese IMF – 2019 market share by company, key brands in the market, M&A and JVs

Key Brands in China	Company, Market Share		Acquisitions	JV / Associate
Illuma, S 26, Nan	Nestle	13.5%	Wyeth, 2012	
Firmus, Astrobaby, Feifan	Feihe	13.3%		
Aptamil, Nutrilon, Cow & Gate	Danone	10.1%	Numico, 2007	25% in Yashili
Eleva, Similac, PediaSure	Abbott	6.7%		
Enfinitas, Enfamil, Enfagrow	Reckitt	6.1%	Mead Johnson, 2017	
Jun Le Bao	Junlebao	5.5%		
Yili	Yili	5.3%	Westland Dairy, 2019	
Friso	Friesland Campina	5.1%	Huishan Dairy, 2015/18	
Kabrita, Allnutria, Puredo	Ausnutria	5.0%		
Biostime, Healthy Times	Health & Happiness	3.5%	Good Goût, 2018	
Yashili, Mengniu, Dumex	Mengniu	2.1%	Bellamy's, 2019	51% in Yashili

Mengniu is 31% owned by state-owned COFCO

Note: Feihe, Ausnutria, Mengniu, Junlebao, Yili, Friesland Campina and Health & Happiness (H&H) are not covered by Barclays Research,
Source: Euromonitor, Barclays Research

Market landscape – top 20 IMF brands globally and in China

Three of the top five brands in Chinese IMF are local brands, with their cumulative share doubling over five years. This illustrates the resurgence of Chinese formula manufacturers in recent years, after significant share loss after the melamine toxic milk crisis in 2008.

Most of the success of the local players has until now been focused on lower-tier cities and in lower price points, but this is now beginning to change. Players like Feihe are operating more at the premium and super-premium price points and are now turning their attention to the larger coastal tier-1 and 2 cities. Other local players, such as Junlebao and Yili, are both doing well, but for now continue to focus more on the mainstream segment and on tier 3-5 cities.

Danone's Aptamil and Nestlé's Illuma are the other two brands in the top 5, with Aptamil being the big outperformer i.e. share up four-fold since 2014. Nestlé turned its super premium brand illuma into a 'billionaire' brand in 2019 from virtually nothing seven years ago.

Globally, Reckitt's Enfamil is the no.1 brand given its strong position in the US (35% share) but it has been losing share in China. Abbott's Similac is also in a similar position i.e. no.2 in US IMF with a >30% share but much less strong in China. Both these brands have suffered from a lack of exposure to the super-premium segment, in our view. The other notable brands in the global top 10 are Friesland Campina's Friso (5% share in China) and Nestlé's Nan brand.

FIGURE 2

Market shares in Global/Chinese IMF

Top 20 IMF Brands - World				
Brand	Company	2014	2019	change (bps)
Enfamil	Reckitt	9.8%	8.4%	-140
Aptamil	Danone	4.0%	7.7%	370
Firmus	Feihe	1.6%	6.2%	460
Similac	Abbott	6.7%	6.0%	-70
Friso	FrieslandCampina	2.1%	4.1%	200
Nan	Nestlé	4.3%	3.8%	-50
illuma	Nestlé	1.1%	3.6%	250
S-26	Nestlé	3.0%	3.1%	10
Jun Le Bao	Jun Le Bao	0.0%	2.6%	260
Yili	Yili	2.1%	2.5%	40
Eleva	Abbott	0.4%	1.8%	140
Biostime	H&H	1.8%	1.6%	-20
SGM	Danone	1.7%	1.6%	-10
PediaSure	Abbott	1.4%	1.4%	0
Nido/Ninho	Nestlé	1.7%	1.3%	-40
Kabrita	Ausnutria	0.1%	1.1%	100
Gerber	Nestlé	2.0%	1.0%	-100
Wonder Sun	Wonder Sun	1.0%	1.0%	0
Dumex	Danone	1.0%	0.9%	-10
Enfinitas	Reckitt	0.0%	0.9%	90
Top 20		45.8%	60.6%	1480
Other		54.2%	39.4%	-1480

Top 20 IMF Brands - China				
Brand	Company	2014	2019	change (bps)
Firmus	Feihe	5.2%	13.3%	810
Aptamil	Danone	2.7%	10.1%	740
illuma	Nestlé	4.1%	6.8%	270
Jun Le Bao	Junlebao	0.4%	5.5%	510
Yili	Yili	5.3%	5.3%	0
Friso	FrieslandCampina	4.3%	5.1%	80
Enfamil	Reckitt	7.1%	4.1%	-300
S-26	Nestlé	5.7%	4.1%	-160
Eleva	Abbott	1.4%	3.8%	240
Biostime	H&H	3.9%	3.5%	-40
Kabrita	Ausnutria	0.4%	2.4%	200
Similac	Abbott	5.2%	2.4%	-280
Wonder Sui	Wonder Sun	2.7%	2.1%	-60
Nan	Nestlé	1.5%	2.0%	50
Enfinitas	Reckitt	0.0%	1.9%	190
Allnutria	Ausnutria	0.5%	1.5%	100
a2	A2 Milk	0.0%	1.5%	150
ADiMil	H&H	0.6%	1.5%	90
Beingmate	Beingmate	5.1%	1.3%	-380
Wissun	Wissun Group	1.3%	1.3%	0
Top 20		57.4%	79.5%	2210
Other		42.6%	20.5%	-2210

Source: Euromonitor, Barclays Research

Executive Summary

The Chinese Infant Formula market has grown around 11-fold from €2bn in 2004 to €23bn in 2019. It accounts for c.50% of the global IMF market, twice that of the US, and drove two-thirds of global growth in 2019. This exceptional growth has been driven by high birth rates, significant trading-up and premiumisation, with gross margins as high as 80%.

However, the category is slowing. **Birth rates are declining** despite a relaxation of the one-child policy. In 2019, there were 3.2 million fewer babies born vs. 17.9m in 2016, driving volumes lower. Moreover, we see further downside in 2020 (BARC est. 13.5m i.e. -8% YoY) given the outbreak of Covid-19, as couples delay having children until the risk of infection goes down.

There are other structural headwinds to population growth in China. The number of women aged 25-35 (key child bearing age) will decrease by c.40 million in the next 10 years and the implementation of the two-child policy has not had the desired impact. In addition, the cost of raising a child is significantly higher in China – buying premium formula every month for a 2–3-month-old baby can cost up to c.40% of monthly salary. If there is another down year in terms of births, which we think is likely in 2020, we would not be surprised if the government takes action. Better maternity benefits would be an obvious area.

New regulation introduced in 2018 to address food safety issues has consolidated the market and local manufacturers seem to be gaining traction. The market share of the two biggest Chinese IMF companies, Feihe and Jun Le Bao, has doubled in the last two years while that of Nestle, Danone, Reckitt and Abbott combined has flat-lined. In June'19, the government announced a target to reach 60% self-sufficiency within three years i.e. 60% of total IMF consumption manufactured locally by 2022. This comes at a time when lower-tier cities, where domestic companies have a strong position, are outperforming.

Companies are now looking at growth opportunities in lower tier cities – Birth rates in tier 4 cities and below is almost twice that of the rest of the country. While distribution is a key challenge for multinationals, the main question is if they have the right portfolio and go-to market strategy to succeed in tier 3/4/5 cities. We think this will be an uphill battle and is likely to take a year or two for multinationals to find the right product at the right price point to deliver on local consumer preferences.

Lower-tier cities need a unique marketing model to drive awareness and penetration. As consumers in lower-tier cities are less likely to fully comprehend the science behind IMF (infant milk formula) products, educating them and developing brand awareness is crucial. For example, Feihe held more than 500,000 face-to-face seminars with Chinese mothers, educating them about the advantages of its products. Interestingly, with increased trust in the category, safety has become less of a concern and the focus is now back on product superiority and functional benefits, making innovation crucial.

We see a2 formula, HMO, tailored nutrition, goat's milk, stage 4 milks and plant-based IMF as the next big drivers of growth and premiumisation in the category. Nestlé's recent roll out of its HMO innovations across 40 countries is a case in point. The company achieved sales of CHF600m in year 1 and CHF850m by year 2 i.e. 2019 despite not being present in China because of registration delays. Having compelling offers in these segments will be a crucial determinant of market success.

Premiumisation set to continue. Since the Melamine scare in 2008 when 300,000 babies were hospitalised, Chinese parents have favoured premium formula – the weight of the premium segment is up from 5% in 2004 to 97% in 2018, according to Nestle. While the average price of IMF in China has almost doubled since 2005, there remains significant room for further premiumisation as long as it is backed by compelling science. Covid-19 will in our view accelerate the pace of premiumisation.

CBEC to gain share as MBS matures: The longer registration process to launch new brands in China has been a problem for companies, especially multinationals. Moreover, the government has put all applications on hold as it focuses its finite resources on addressing COVID-19. As a result, we expect the likes of Nestle and Danone to try to circumvent the issue by expanding in CBEC to bring new innovations (e,g, illuma HMO) to the Chinese market. While the Mum & Baby Stores channel consolidates, we expect cross-border e-commerce to gain share, C2C to remain stable and the traditional trade to decline.

We rate all the key IMF players on six factors: 1) Premiumisation: Nestle, Feihe and Reckitt have the premium-most brands in the market. **2) Breadth of portfolio**: Danone and Abbott have the widest portfolios. **3) Position in tier 1/2 cities**: Multinationals have historically been stronger here as they have more premium portfolios. **4) Position in tier 3/4/5 cities**: Given stronger distribution and local marketing capabilities, local companies score highly here. **5) Channel mix:** Feihe is well placed in both MBS and e-commerce, while Danone's balanced channel mix and stake in Yashili is an advantage. **6) Current trading**: Feihe, Junlebao (the top two Chinese players) and Ausnutria have been the biggest share gainers in the last two years.

How does this affect our investment views?

Nestlé (OW, PT CHF 105)

We are confident that Nestlé will deliver mid-single-digit OSG in the mid-term. CEO Mark Schneider has been clear there could be as much portfolio change in the next three years as in the past three years (i.e. >10% of the portfolio rotated). In China baby, Nestlé has five big tasks: (1) maintain the momentum of its key super premium brand Illuma; (2) turn around the performance of S26; (3) develop adjacent growth opportunities – i.e Gerber cereals and maternal nutrition; (4) build up its cross border e-commerce capabilities; and (5) quickly penetrate lower-tier Chinese cities to capitalise on growth. We currently expect Nestlé's Nutrition business to grow c.4% in the medium term. However, if the company is able to turn around S-26 in China and accelerate the growth of Gerber, we see upside. Nestlé will also be advantaged if the government enforces its 60% local production rule, as Nestlé is fortunate in having under-utilised dairy factories in China, which could be scaled back up.

Danone (OW, PT €70)

The Chinese IMF market accounts for c.10% of Danone's group sales but has been driving a disproportionate share of growth – as high as 80% in 2017 when the European dairy business was struggling. With growth in its biggest category, yoghurt, remaining soft and plant-based being a longer-term story, infant formula will play a crucial role in a) sustaining the current run rate of 2-4% OSG and b) achieving its longer-term target of 3-5% OSG. While the company has done an impressive job of pivoting its IMF business to the direct channel, it now needs to concentrate resources on developing its ultra-premium portfolio. Expansion in lower-tier cities is underway, but continued innovation and leveraging its CBEC capabilities remains key. **We think its Aptamil brand is one of the strongest brands in the Chinese infant formula market.**

Reckitt (OW, GBp PT 6,400)

To achieve its mid-single-digit growth target by 2023, Reckitt will need to turnaround the IFCN business to 2-4% OSG from a slight decline in Q4-19. While the £5bn Mead write-down was an acknowledgement of weaker market growth, especially in China, it also accepted lower profitability and is ramping up investment in the supply chain and innovation. Reckitt need to leverage its premium portfolio (e.g. Enfinitas) better and expand further into ultra-premium. Its grass-fed formula innovation look promising, but its needs to go further and rebuild its innovation pipeline. Interestingly its IFCN strategy will pivot to become a broader specialised nutrition portfolio, akin to what Danone has done successfully. Management expect Nutrition growth to sequentially improve, reaching 3-5% by 2023e. However, reaching this will require much heavy lifting.

Abbott (OW, PT $98)

Abbott's nutrition business has been a drag given its low-to-mid-single-digit top-line growth vs. the rest of the group growing high-single-digits. While it has a strong premium portfolio (e.g. Eleva) and a leadership position in US IMF where it has consistently gained share over the past five years, exposure to less premium segments in China (Similac and PediaSure) where local competition has stepped up is weighing on growth. There are plans to further premiumise the portfolio with Eleva brand extensions but declines elsewhere remain a concern. In our view, while it is slower growth relative to the other business units, it is a steady contributor of cash flow to the overall company and thus remains a key asset for the company.

DSM (OW, PT €120)

Our Overweight case on DSM is based on its above-average growth driven by innovation, to which we expect Early Life Nutrition to be a strong contributor. We believe the recent slow-down in the division is temporary. DSM's ingredients are what makes infant formulas more premium and therefore central in their customers' growth strategies. While the DHA/ARA legacy business has started to mature, we find it still has scope for further growth by increasing the inclusion rate. But more importantly, we expect the newly acquired Glycom, the leading producer of HMOs, to rejuvenate the segments' growth, contributing roughly 10% to the growth of DSM's all-important Nutrition segment in the coming five years, on our estimates.

Challengers to watch out for: a2, Ausnutria and Mengniu

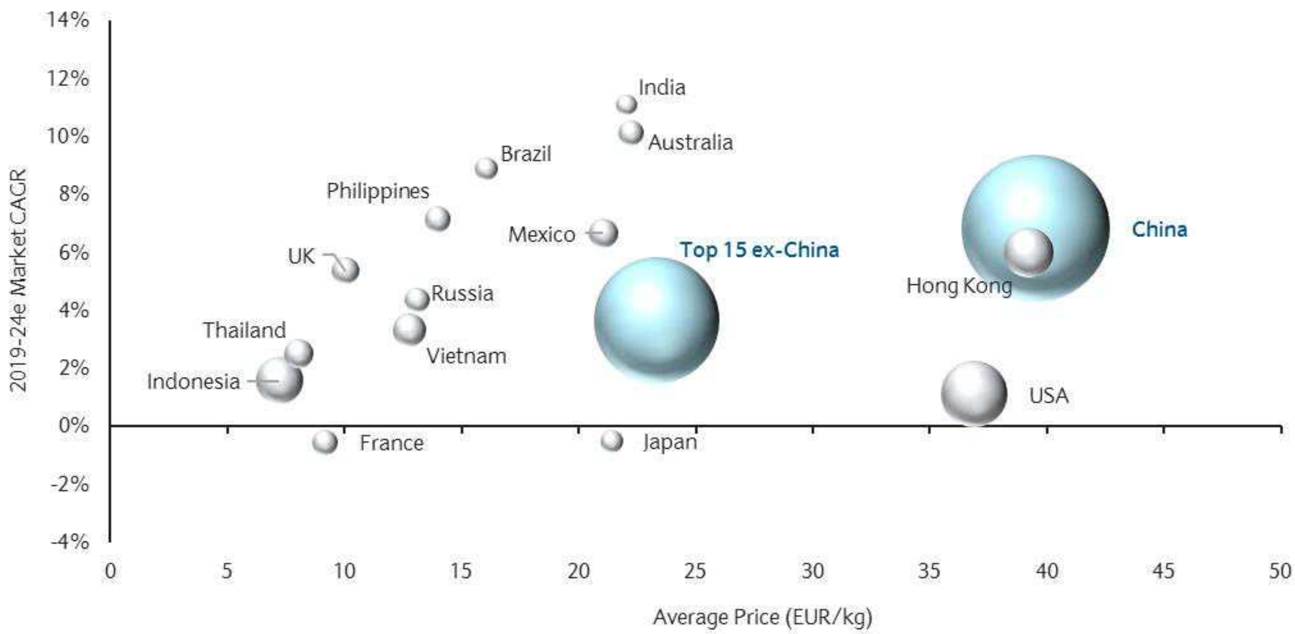
Ausnutria (not covered) and The a2 Milk company (not covered) are making big strides in the goat's and A2 IMF segments. While Nestle and Danone have a presence in these segments with their illuma and Cow & Gate brands respectively, Reckitt and Abbott are yet to invest/expand in a material way. In addition, Mengniu (not covered) is likely to roll out Bellamy's in the MBS channel, making the organic IMF segment more competitive. As the birth rate continues to come under pressure, Stage 4 formula growth will accelerate as manufacturers look at ways to extend consumption.

Our thesis in pictures

China is the largest and most premium market in global IMF…

FIGURE 3

Chinese IMF is 40% bigger, growing 90% faster and has 70% higher prices vs. the next 14 largest IMF markets combined

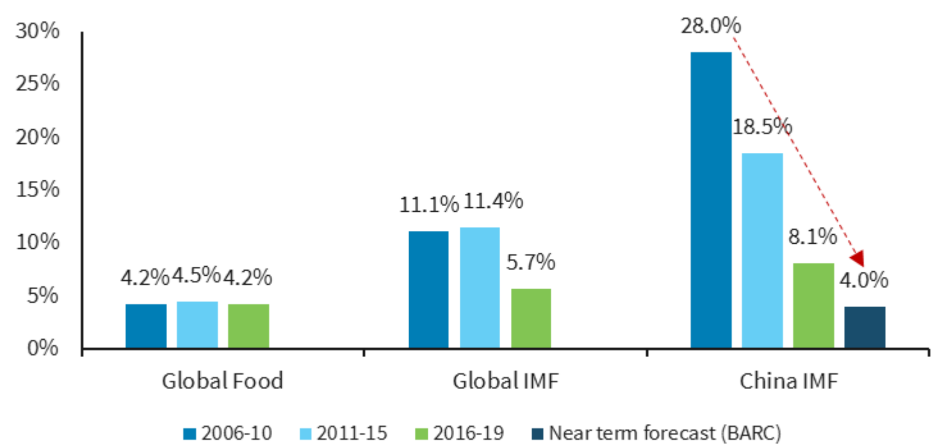


Source: Euromonitor, Barclays Research, Size of the bubble = current market size in EUR billion

…it was also the fastest-growing market, but has materially slowed down…

FIGURE 4

But growth in Chinese IMF has significantly slowed – we see further downside

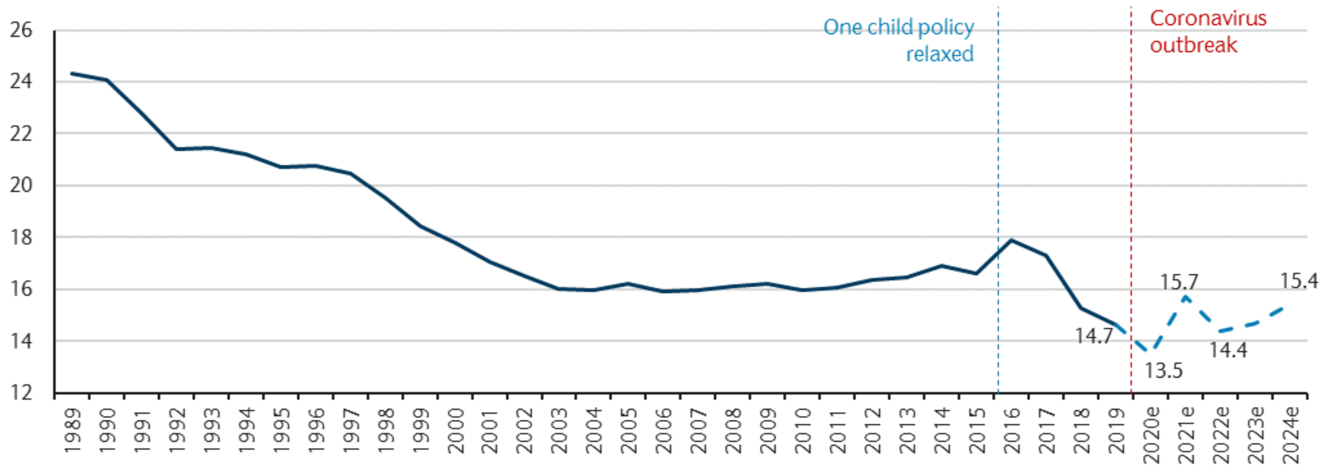


Source: Euromonitor, Barclays Research

Birth rates are at an all-time low and COVID-19 could be a headwind in 2020…

FIGURE 5

Birth rate in China – million newborns per year

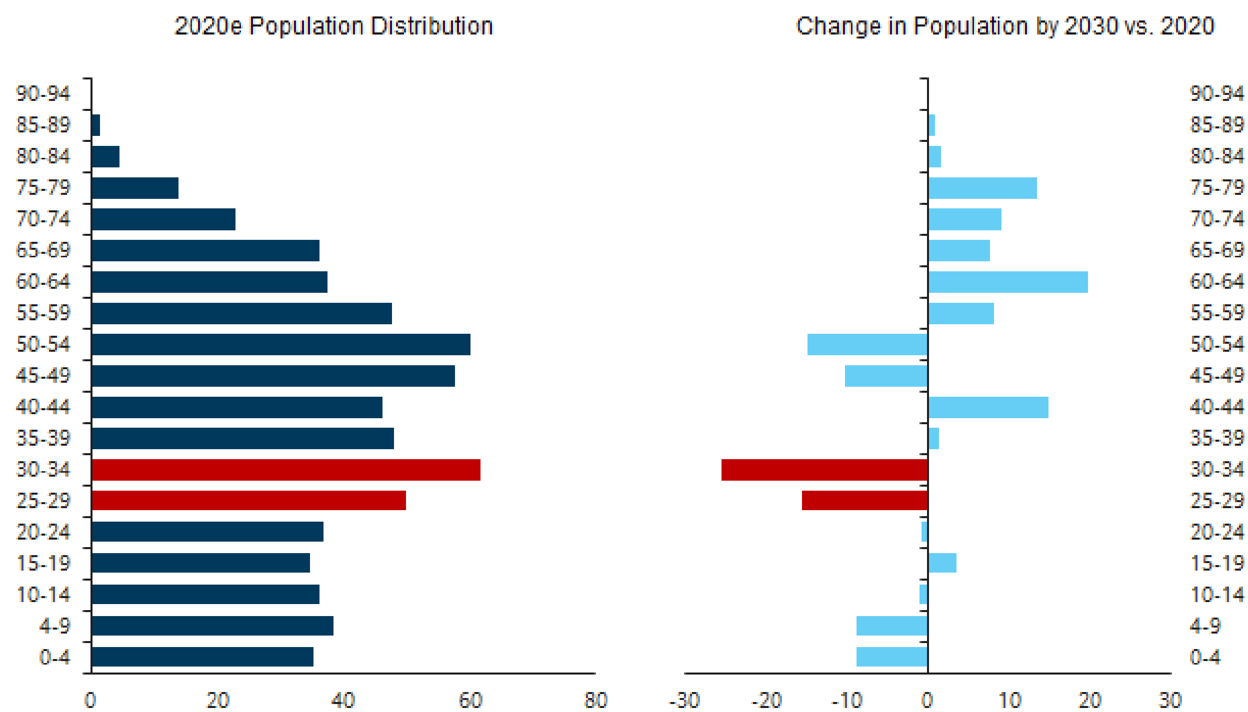


Source: Barclays Research

…with female population trends being a structural headwind

FIGURE 6

Demographic trends likely to be a structural headwind to category growth (female population in China – millions)

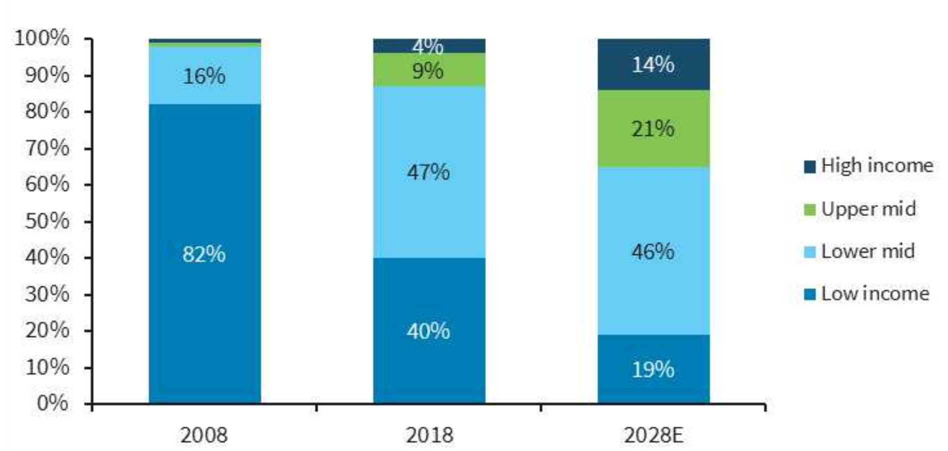


Source: UN World Population Prospects (*link*)

But income growth remains solid – high income and upper mid-income households set to grow >10% over the next decade…

FIGURE 7

Split of Chinese households by income level

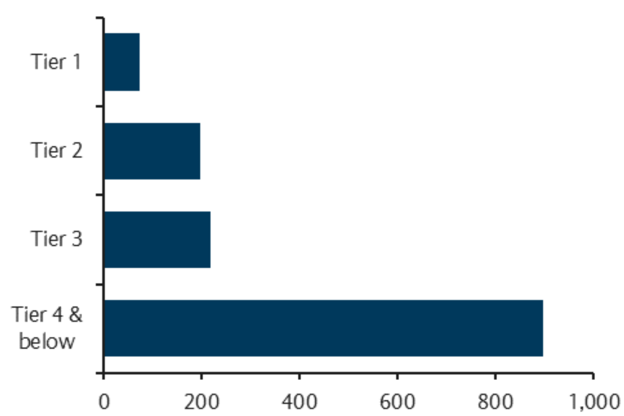


Source: Company reports (*link*), Income brackets: low income ($0-10K), lower mid ($10K-35K), upper mid ($35K-65K), high income ($65K+) at constant currency in 2018

….with significant upside in lower-tier cities where GDP growth is higher

FIGURE 8

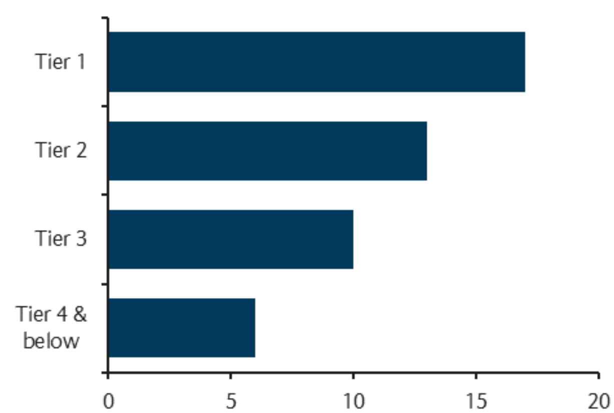
Tier 4 cities will drive population growth… (population by tier - millions)



Source: NBS China, Barclays Research

FIGURE 9

…their incomes levels are relatively lower but growing fast (GDP per capita by tier - USD, '000)

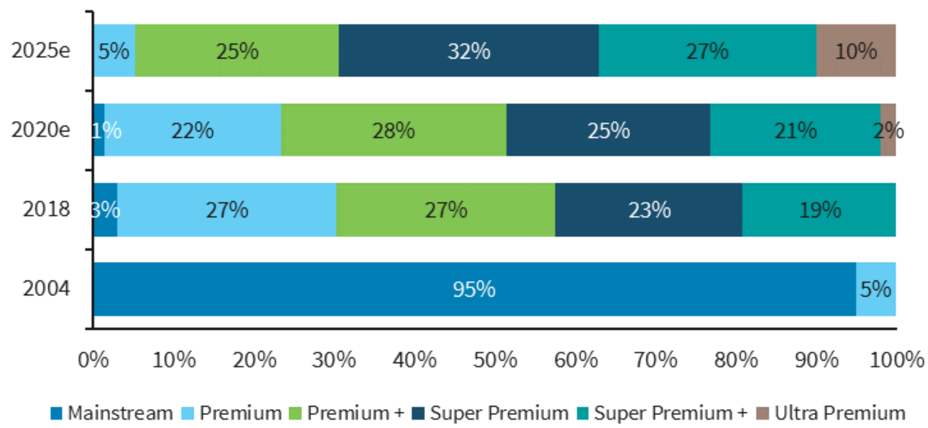


Source: NBS China, Barclays Research

This should continue to drive premiumisation – Nestle and Feihe are best placed while Danone has a big gap to close

FIGURE 10

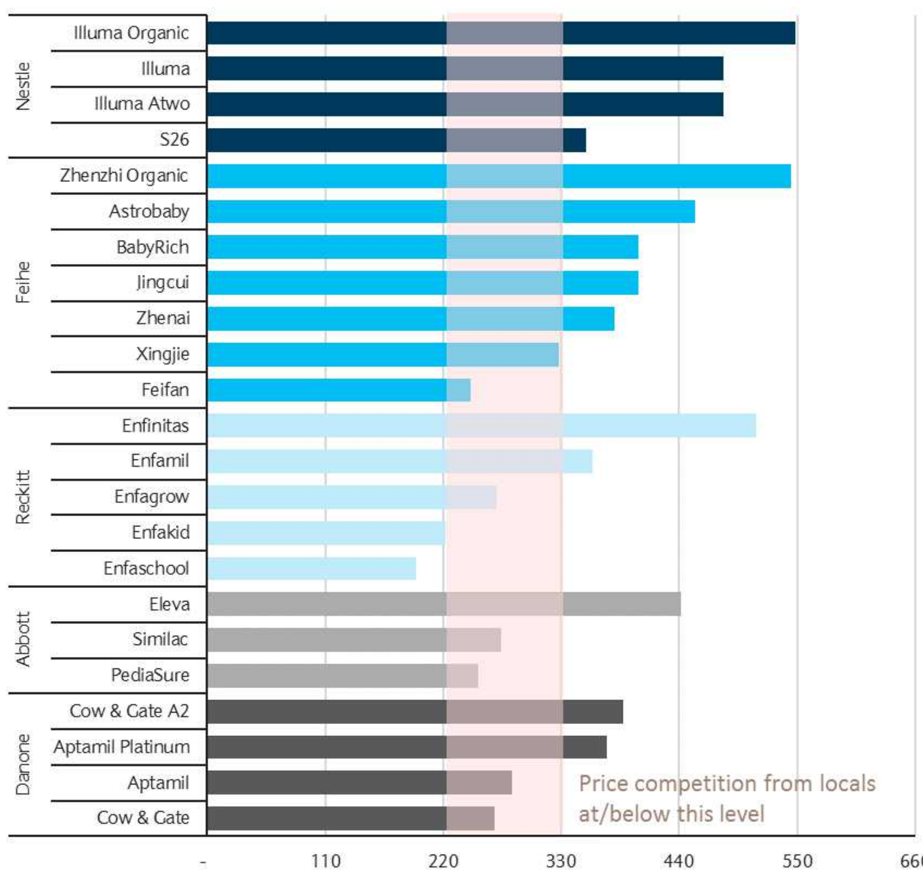
Premium infant formula has growth from 5% in 2004 to 95% in China in 2018



Source: Nestle, Barclays Research

FIGURE 11

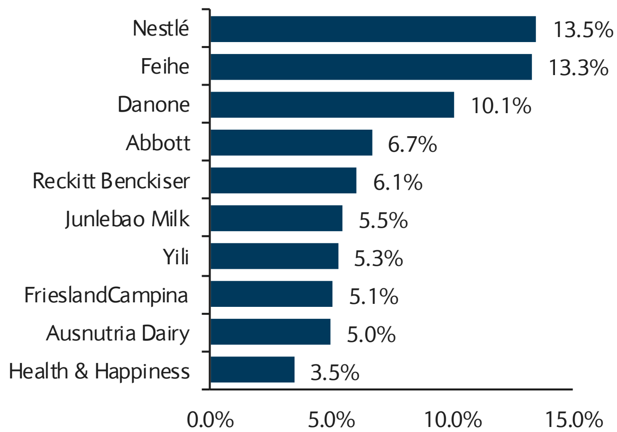
Nestle and Feihe have the most premium portfolios in Chinese IMF (Average pricing (RMB/kg) by brand)



Source: Barclays Research, Parknshop.com

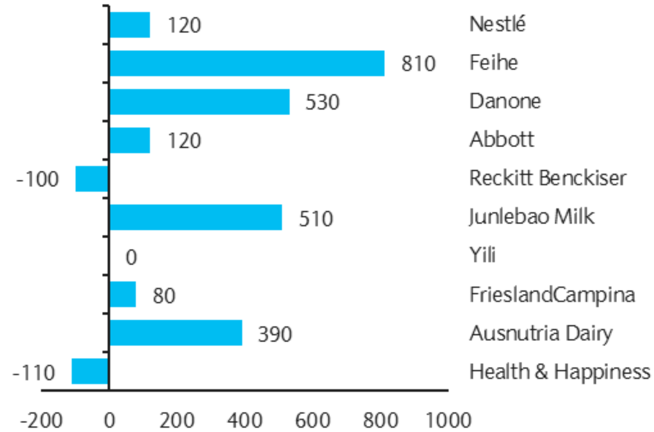
Premiumisation has been a key driver of Feihe's growth in recent years

FIGURE 12
Top 10 companies in Chinese infant formula (2019)



Source: Euromonitor, Barclays Research

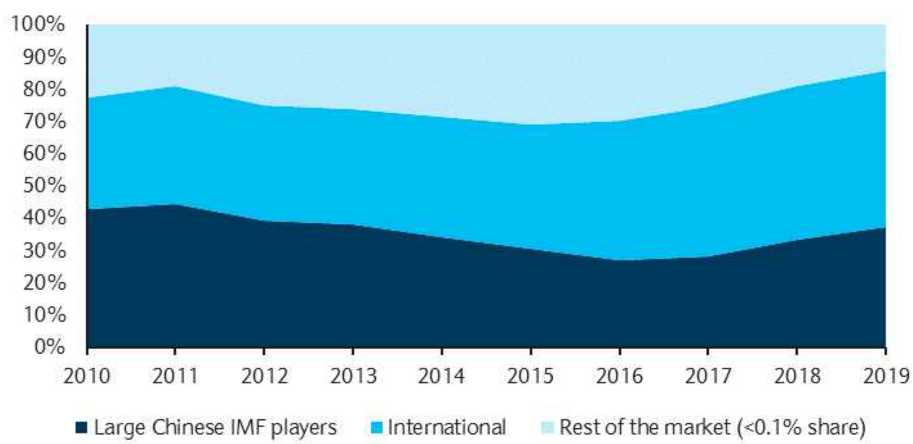
FIGURE 13
5y change in value share (bps)



Source: Euromonitor, Barclays Research

…leading the resurgence of local manufacturers

FIGURE 14
Share of locals vs. international players in Chinese infant formula

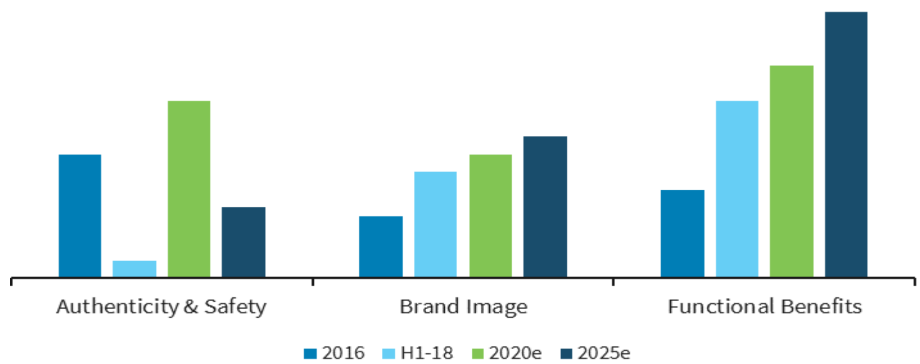


Source: Euromonitor, Barclays Research

However, safety is likely to become a bigger concern due to COVID-19…

FIGURE 15

Attributes of infant formula – shift in consumer motivations from 2016 to H1 18

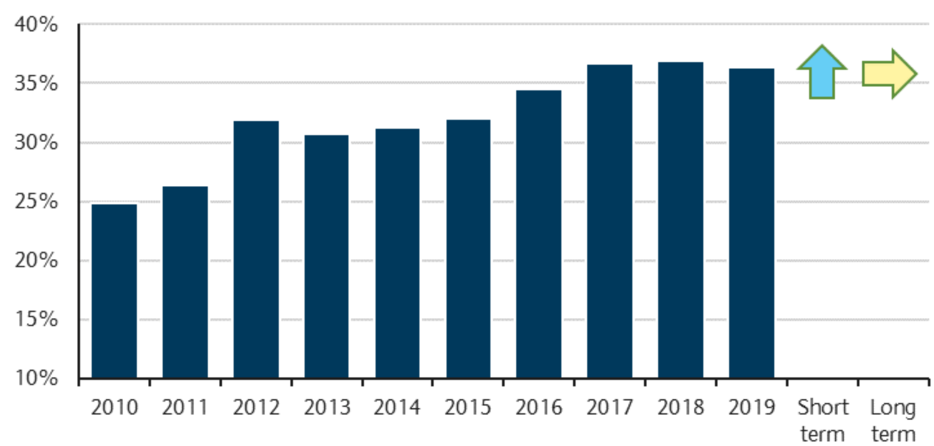


Source: Danone's market research

…and should benefit multinationals in the short term

FIGURE 16

Combined market share of Nestlé, Danone, Reckitt and Abbott in Chinese IMF



Source: Euromonitor, Barclays Research

What are companies saying on Chinese IMF?

Birth rates and competitive landscape

Robert Ford, CEO of Abbott Laboratories at Q3-19 results on 16th Oct 2019

"We're seeing the consumer trade up into the premium brand segment, but the volume has been declining, partly because of these low birth rate. So this led to what I would say is a much more competitive environment, competitive in terms of pricing, competitive in terms of promotional activities."

Laxman Narasimhan, CEO of Reckitt Benckiser at FY19 results on 27th Feb 2020

"The fundamentals of the category are highly attractive. The steady growth and very attractive margins. Key drivers of category growth, include increasing birth rates in most developing markets, premiumization, as well as shifting regulation. Yet, it is a competitive category, dictating the need for meaningful marketing and higher than average capital investment, reflecting the more sophisticated manufacturing processes involved. In the long term, birth rates will decline and seniors will increase in number"

Francois-Xavier Roger, CFO of Nestle at an industry conference on 25th Sept 2019

"The number of babies in China has declined over the last two years by 16%. So which is quite massive. In spite of that, we grew by about 4% -- 4% to 5% for each and every single over the last two years in China. So once again, this is innovation, this is about premiumization, this is about gaining market share, bringing relevance to consumers. And this is really the ambition that we have. I'm not saying that, you know, it doesn't mean that whenever there is an economic crisis somewhere, we cannot grow. But we have to find growth in these markets."

Cécile Cabanis, CFO of Danone at FY18 results on 19th Feb 2019

"Looking forward, we confirm the outlook that we have given in London at the investor seminar for China with an IMF category growing in the mid-term 3-5% continuously led by trading up with increased consumption and penetration, which would offset the decreasing in term of number of birth. You'll recall that new babies were down 12% in 2018 vs. 2017."

Regulatory environment

Francois-Xavier Roger, CFO of Nestle at an industry conference on 25th Sept 2019

"The regulatory framework is evolving, it has always been evolving. There is -- there has been new regulation, the renewed regulation that is coming on, which is encouraging local production, which is not an issue at all for us. We have large manufacturing facilities in China, which are largely unused today, or underused today given that Chinese mothers prefer to import products from -- predominantly from Europe, which is what we do. The quality of what we produce in Europe, the quality of what we produce in China is the same. We have a variable capacity locally, so it's not an issue at all for us."

Emmanuel Faber, CEO of Danone at CAGNY 2017 on 23rd Feb 2017

"It happens that our brands are the most demanded leading brands in China. And for food safety reasons, Chinese moms are through e-commerce and traders supplying themselves with our brands which are the leading brands in the world, in Europe in particular, which have this very high reputation of food safety. They are imported through a system that the Chinese government wants to reign in, has started to reign in. And therefore, for the last two years now, we've been facing headwinds with the regulation of e-commerce in China that will continue until at least 2018. And so, this is also a headwind outside of this indirect sales of e-commerce by traders in China."

Channel dynamics

Cécile Cabanis, CFO of Danone at 1H-19 results on 25th Jul 2019

"In the indirect channels, while the C2C segment continued to decline as a result of the additional pressure from the new CBEC regulation. The business with Friends & Family and social e-commerce platform like WeChat, kept growing and performed well."

Cécile Cabanis, CFO of Danone at Q3-18 results on 17th Oct 2018

"On the channel side, cross-border e-commerce continued to be under pressure given the regulatory change where we've seen some increasing custom control, the rebalance of channels is not new, is continuing to happen and will require us to continue to adjust our model and build on our direct channels which is what we've been doing and is now representing 70% of our business."

Rakesh Kapoor, ex-CEO of Reckitt Benckiser at H1-19 results on 30th Jul 2019

"We saw investments in go-to-market also. Here again, much more so in some pockets like China where we felt that our go-to-market capability particularly addressing major channels and emerging channels like mom and baby stores was weak and here we found innovative partnerships with companies like, but not limited to JD.com and to transcend the normal time it takes to build new cities to a very, very short frame of time of about 18 months and 500 new cities."

Premiumisation

Francois-Xavier Roger, CFO of Nestle at Q3-19results on 17th Oct 2019

"In China, we see a little bit of a slowdown, but with a clear polarization in infant nutrition as with other ranges as well, between super premium. Actually, with Illuma we continue enjoying a very, very attractive level of growth. While we are actually facing some pressure with S-26. So we see this polarization putting some pressure on the overall growth."

Aditya Sehgal, COO – Health, Reckitt Benckiser at H1-19 results on 30th July 2019

"We see premiumization continue in China as mothers look for the very best products for their children. We continue to see strong growth in pockets like e-commerce, super high premium, specialty products and mom and baby stores. We have worked hard to position our business to win in these specific areas."

Growth increasingly driven by lower-tier cities

Mark Schneider, CEO of Nestle at Q3-19 results on 17th Oct 2019

"I think in China, when it comes to nutrition, a key growth driver will be a deeper push into Tier 3 and Tier 4 cities. So a stronger presence in the market, a broader presence in the market can certainly offset some of the dampening effects that we've seen from the birth rates and also from stronger local competition."

Cécile Cabanis, CFO of Danone at H1-19 results on 27th Jul 2019

"We've continued the deployment of our direct-to-store go-to-market model, which is specific for independent mom and baby stores in lower tier cities which -- remember our focus is on the fastest growing markets in China. And where our weighted distribution is progressively increasing. There is still potential and we are increasing our weighted distribution in lower tier cities."

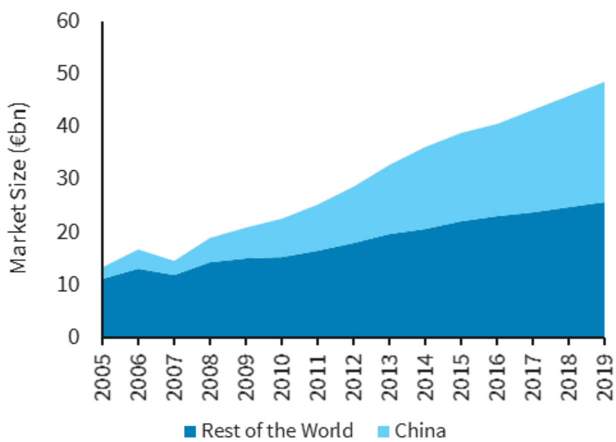
IS CHINESE IMF STILL ATTRACTIVE?

Chinese IMF has been a key growth driver in Global Food

The Chinese Infant Formula market (excl. Hong Kong) has grown about 11-fold since 2004 from €2bn to €23bn in 2019. Since 2010, the market has more than trebled in size. China accounts for c.50% of the global IMF market and is more than five times the size of the no.2 market, the US, and drove c65% of global IMF growth in 2019. This exceptionally strong growth in the last 15 years has been driven by three key factors:

FIGURE 17

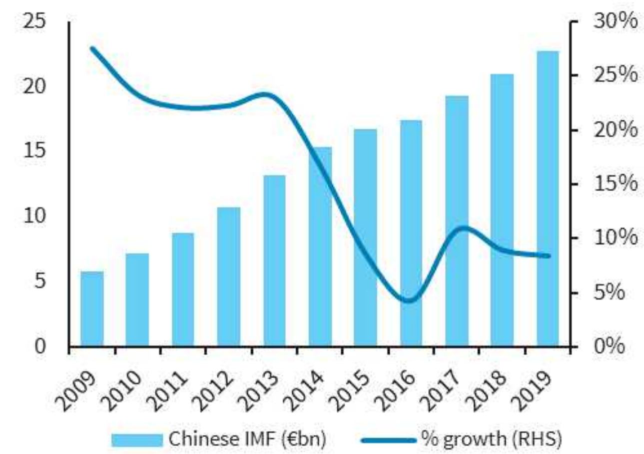
Chinese IMF has grown >11-fold since 2004…



Source: Euromonitor, Barclays Research

FIGURE 18

…but growth has come down significantly in recent years



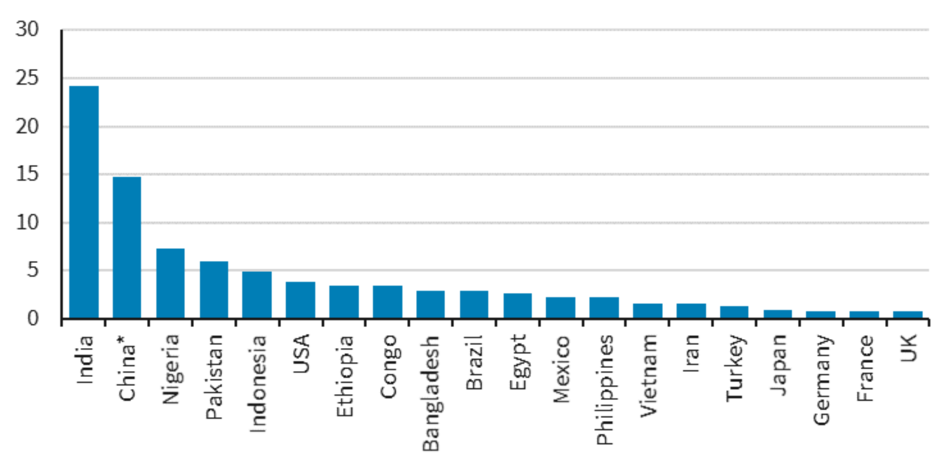
Source: Euromonitor, Barclays Research

1. Birth rates: China's 15m births a year is second only to India

The single biggest factor driving superior IMF growth in China is high birth rates. As the next chart shows, at 15 million newborns, China has the second highest (absolute) birth rate in the world, after India. Given this is mainly a function of population, India and China are well ahead of the others. Only two other countries have an annual birth rate of more than 5 million i.e. Nigeria and Pakistan. Among developed markets, the US stands out with a birth rate of 3.8m while UK, France and Germany all figure below 1m.

FIGURE 19

Births by country (million babies – 2017)



Source: World Bank, *2019 birth rate – the latest available year for the other countries is 2017

2. Low breastfeeding rates: Only 29% of Chinese babies are breastfed

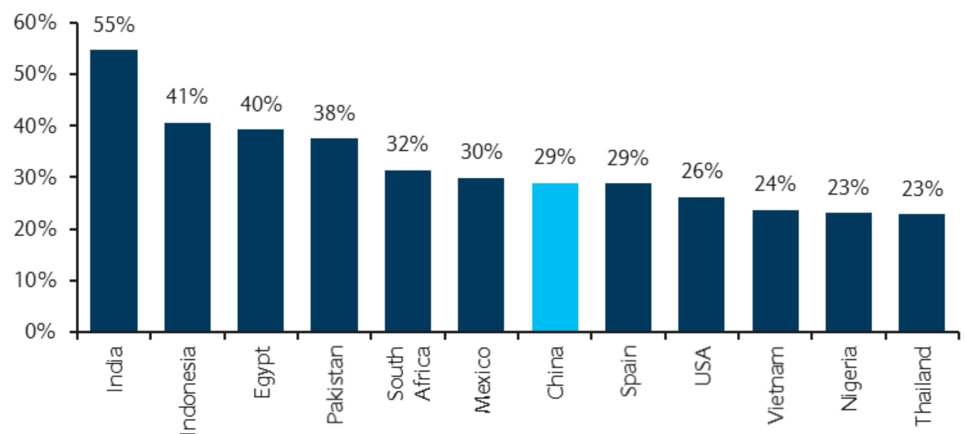
The other important factor that makes China the largest IMF market in the world, and not India, is its low breastfeeding rate. **The exclusive breastfeeding rate (< 6 month olds) in China is only half that of India.** Urbanisation has led to higher female work participation which in turn has led to a higher dependence on breastmilk substitutes.

While the WHO recommends that babies be exclusively breastfed until they are six months old, the reality is very different. As shown in the next chart, only 29% of Chinese babies are exclusively breastfed in the first six months.

Despite numerous education campaigns around the benefits of breast milk, the Chinese government has made little progress in boosting the rate to 50%, that it set out in its national nutrition plan.

FIGURE 20

% of infants exclusively breastfed for the first 6 months



Source: WHO, China Development Research Foundation

The key factors behind China's low breastfeeding rate are:

- Under Chinese law, mothers are guaranteed 98 days' maternity leave but find it hard to get six months of maternity leave from their employers.
- Breastfeeding rates are particularly low in rural areas where it is common for parents to migrate to cities for employment while their parents (i.e. grandparents) raise the children.
- Time is an issue – there are studies showing that working mothers are not able to find an hour a day for breastfeeding breaks, that the law (*link*) requires employers to provide.

To the contrary, in India and Indonesia, government legislation and information campaigns have played a crucial role in raising awareness. Indonesia, for example, passed a law in 2009 calling for exclusive breastfeeding for the first six months or for mothers to access human milk banks, which collect and deliver donated milk, with typical customers being mothers returning to work following maternity leave. Whilst concerns were raised around the quality and availability, the country's breastfeeding rate increased from 32% in 2007 to 42% in 2012.

More importantly, promotion of formula in hospitals via free samples/advertising/discounts, etc which is against the International Code of Marketing of Breast-milk Substitutes, is commonplace in China and is likely to have affected the local breastfeeding culture.

It is for this reason we suspect that in some regions of China it is widely believed that imported milk formula is superior to breastfeeding.

WHO recommends exclusive breastfeeding for the first six months

The WHO has a target to increase the rate of exclusive breastfeeding in the first six months up to at least 50% globally, from c.40% currently. The number was even lower at c.36% between 2007 and 2014. The official WHO and UNICEF recommendations are:

- early initiation of breastfeeding within one hour of birth;
- exclusive breastfeeding for the first six months of life; and
- introduction of nutritionally-adequate and safe complementary (solid) foods at six months together with continued breastfeeding up to two years of age or beyond

In China, in particular, advertising of milk formula and sampling, especially in lower-tier cities, is a major issue. The Chinese government had set a target of reaching 50% breastfeeding by 2020, which it will miss by a big margin.

Undernutrition is a major problem and is estimated to be associated with 2.7 million child deaths globally i.e. 45% of all child deaths. If all children 0–23 months were optimally breastfed, over 820,000 children under five years could be saved annually.

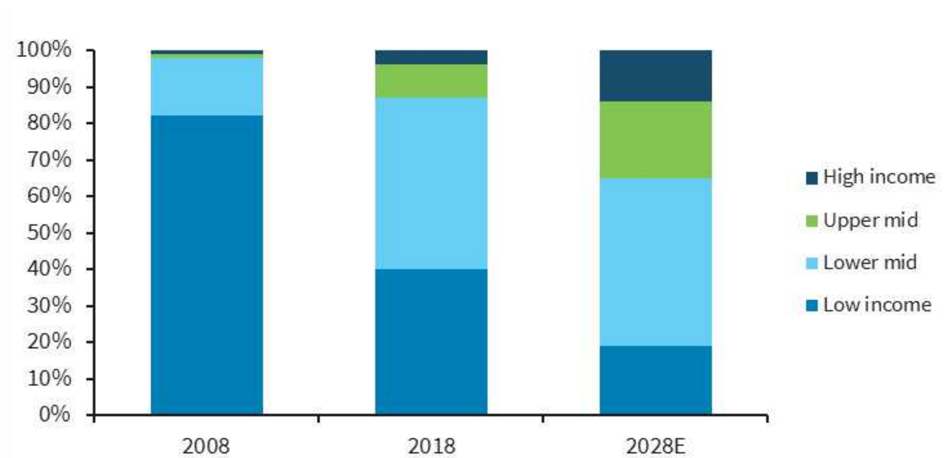
3. Extraordinary premiumisation of the Chinese infant formula category:

Given that a typical Chinese family has a 4-2-1 structure i.e. 4 grandparents, 2 parents and 1 child, they go the extra mile in making sure the only child gets access to the best nutrition possible. Moreover, the toxic milk scandal in 2008 fuelled suspicion around local infant formula brands and demand for higher-priced, imported formula increased dramatically.

Coupled with rapid income growth, especially at the top end of the population pyramid, purchasing power has increased over the last decade, and with further significant rises in incomes in the next decade, there is plenty of runway for further premiumisation of the Chinese infant formula sector. As shown in the next chart, the number of households in the high income and upper mid income groups is projected by Euromonitor to grow at a double-digit CAGR over the next decade, with low and mid income cohorts declining double-digits.

FIGURE 21

High income and upper-mid income households to grow >10% over the next decade



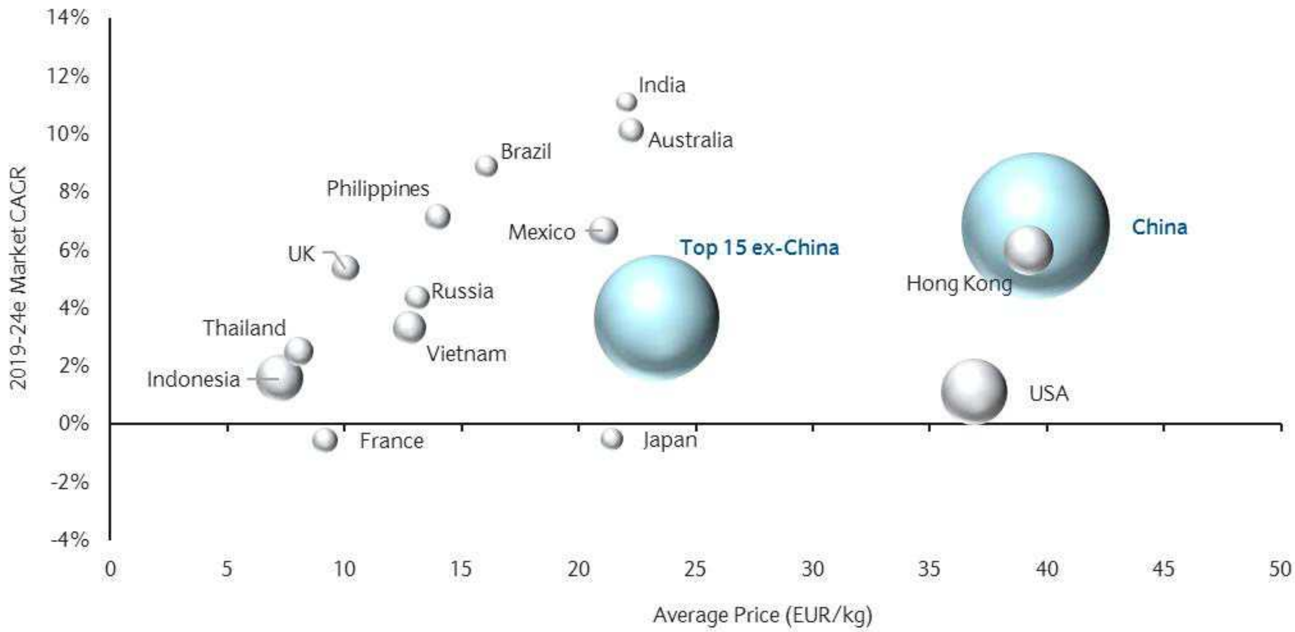
Source: Company reports (*link*), Income brackets: low income ($0-10K), lower mid ($10K-35K), upper mid ($35K-65K), high income ($65K+) at constant currency in 2018

Over time, increasing purchasing power has provided manufacturers enough room to innovate and premiumise, contributing to the significantly higher IMF prices in the country.

The average IMF price in China and Hong Kong (c.€40/kg) is c.75% higher than the global average (€23/kg) and c.10% ahead of the US (€37/kg). This is shown in the next chart with average IMF price on the x-axis and projected 5y market growth on the y-axis. The size of the bubble represents the size of the infant formula market.

FIGURE 22

China is 40% bigger, growing 90% faster and has 70% higher prices vs. the next 14 largest IMF markets combined



Source: Euromonitor, Barclays Research, Size of the bubble = current market size in EUR billion

But growth has slowed and we see further downside

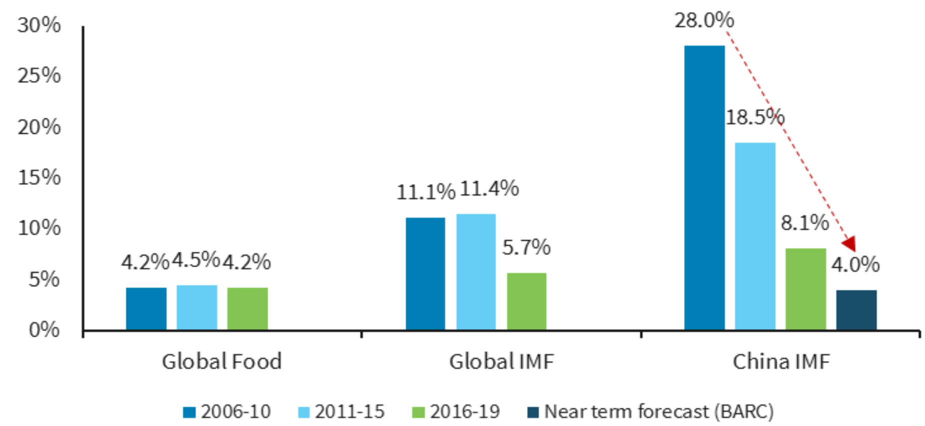
Abbott Laboratories' COO Robert Ford said at the company's 3Q19 results call, *"we're seeing the consumer trade up into the premium brand segment, but the volume has been declining, partly because of these low birth rates."*

Despite solid growth in mix driven by premiumisation, growth in the category has slowed in recent years, with the likes of Nestle and Danone expecting low to mid-single-digit category growth in the near term. In 2019, Nestlé's Chinese IMF business grew only c.1%.

From 2006 to 2015, the global IMF market grew double-digits i.e. c.11%. During this period, China grew at more than twice this rate i.e. 28% in 2006-10 and c.19% in 2011-15. Following a decline in birth rates, however, the Chinese IMF market slowed to 8% in 2016-19% and slipped further to mid-single-digits in 2019. Most multinationals expect growth to be in a 3-6% range but we think it is likely to come in at the lower end of this range i.e. c.3.5-4.0%.

FIGURE 23

Chinese IMF growth has significantly slowed – we see further downside

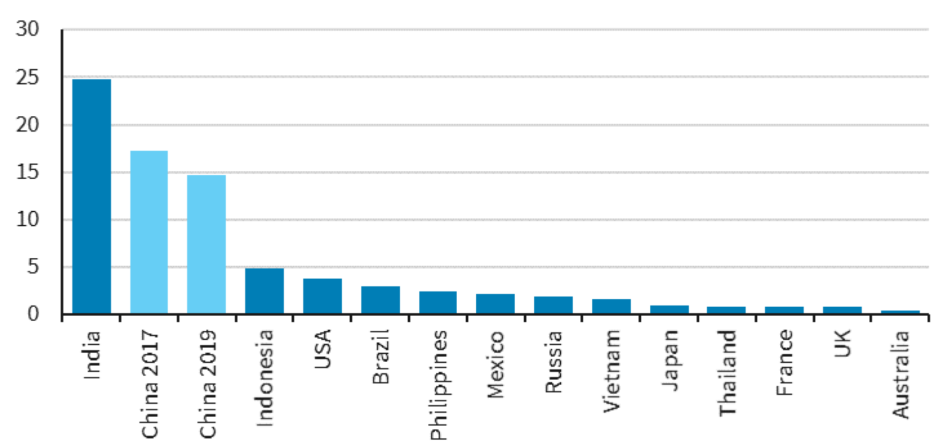


Source: Euromonitor, Barclays Research

As the next chart shows, China was no.2 globally on birth rates at 17.3 million babies in 2017. In an attempt to boost fertility rates, the Chinese government relaxed the one-child policy in 2016 but this had limited impact – new births increased by 1.3m in that year but was more than offset by a 3.0m decline in the following three years, ending at 14.7m in 2019.

FIGURE 24

Birth rates in the top 20 countries by population (million babies) (exclude China 2017)



Source: World Bank 2017 data unless otherwise mentioned (latest available year)

How could Covid-19 impact birth rates?

More importantly, following the outbreak of COVID-19 this year, we see downside risk to birth rates in 2020 given that the risk of infection is high, access to hospitals and healthcare services remains limited and wages are likely to have been impacted as factories faced disruptions across the country.

To the contrary, there are theories that it could instead lead to a baby boom, drawing parallels to the 1966 blackout in New York City (claims of unusually higher birth rates nine months later were proven to be false). However, given that the current scenario involves significant health risks, we see a lower birth rate in China to be a more likely outcome (despite significant time people have been consigned to their homes).

In fact, according to research published by the Institute of Family Studies, birth rates, on an average, declined 10-15% in the nine-month period following other significant health events. The impact was much higher in the case of more lethal/contagious pandemics e.g. the 1918 Spanish flu and relatively lower during SARS.

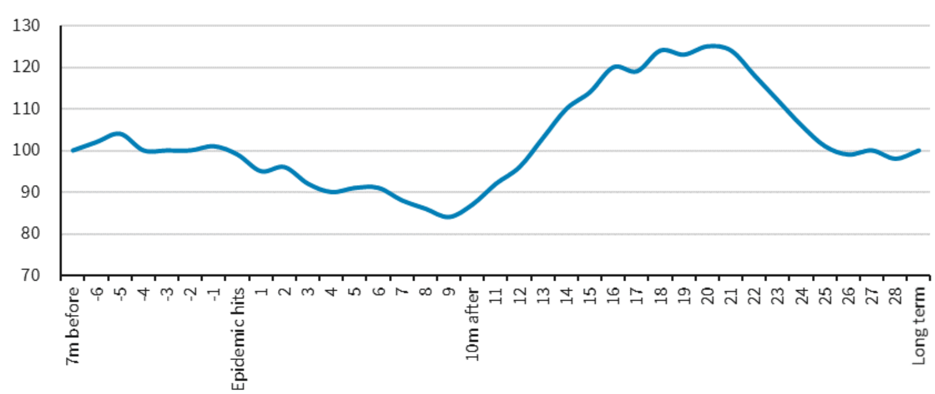
However, the decline is likely to be temporary and birth rates typically trough 10-11 months after the epidemic, followed by a spike in the 12-24 months after the event, as shown in the chart below.

Looking at individual events or countries, however, there are some differences in the long-term impact such events have had on birth rates. For example:

- The 1918 influenza epidemic reduced birth rates quite significantly after the epidemic, but then increased births in the subsequent 1-5 years
- Interestingly, some markets saw a sustained longer-term decline in births (e.g. Norway and Sweden) as people were widowed and fewer married
- On the other hand, in India, long-run fertility rose as a lower population led to more agricultural land for each family and more wealth.

FIGURE 25

Birth rate response to epidemic events in the past (average of events listed below)



Source: Institute of Family Studies (*link*)

Notes: the above is an average of the following events: Ebola in West Africa, SARS in Hong Kong, Zika in Brazil, 1918 Spanish flu (Denmark, Finland and Switzerland), Hurricane Maria and Hurricane Katrina

We model the impact of temporary changes in regional birth rates on the overall number in 2020 and 2021 (assuming a nine-month lag). For example, if birth rates in Hubei are 100% down i.e. no births for a 2-month period (Feb/Mar + nine months so impacts Nov/Dec), 50% down in the following two months (impacts 2021) and then back to normality, it would amount to c.100,000 fewer births in 2020. We make similar but relatively conservative assumptions for Eastern/ South Central China, which has been impacted to a lesser extent, and only a marginal impact in the rest of China. We do assume that this reverses in 2021, resulting in a temporary spike in births.

FIGURE 26

Potential impact of COVID-19 on birth rates

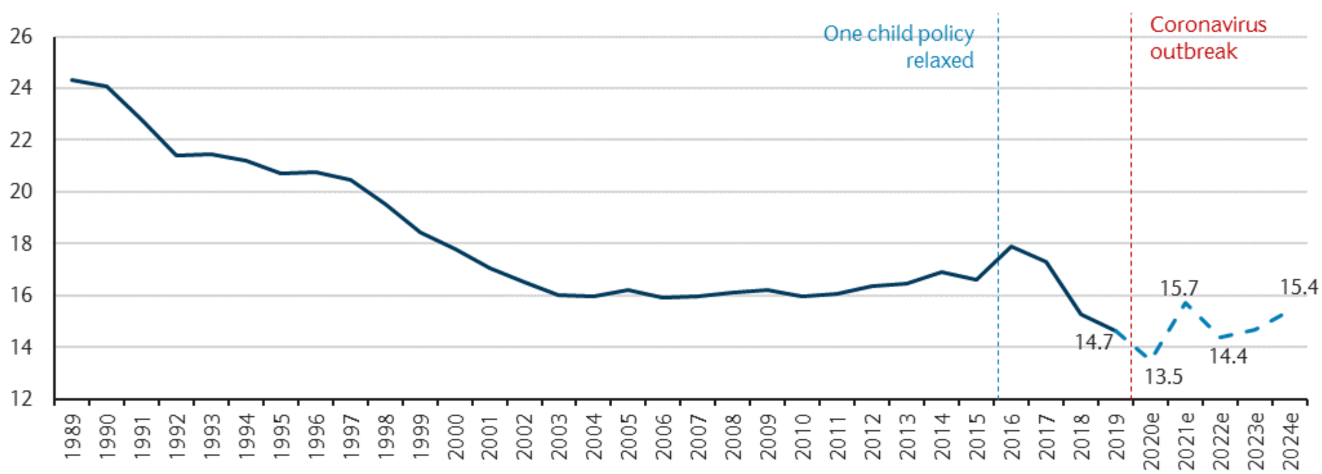
Region	% Population	% change vs. 2019
Hubei	4%	-17%
East/South Central China	56%	-10%
Rest of China	40%	-4%
Total	**100%**	**-8%**

Source: Barclays Research estimates

The next chart puts these numbers into historical context showing our forecast of an 8% reduction in 2020 (from 14.7m to 13.5m) followed by a spike in 2021. We expect a recovery in the underlying trend by 2023/24 i.e. the years of Tiger and the Dragon, respectively, according to the Chinese zodiac, which are considered auspicious for childbirth and tend to result in higher birth rates.

FIGURE 27

China Birth rate (million newborns) – Covid-19 could be a headwind in 2020



Source: Barclays Research estimates, World Bank

Could lower birth rates lead to policy intervention?

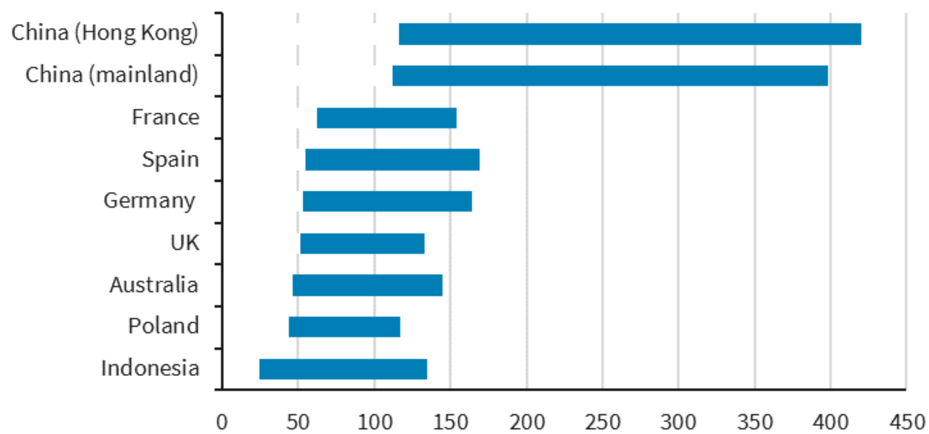
While the impact of Covid-19 will be temporary and birth rates are likely to recover in the mid term, there remain other structural headwinds to population growth in China. A survey conducted by the country's family planning commission showed that 60% of families were reluctant to have a second child due to economic constraints.

According to a report by the Changing Markets foundation (*link*), buying premium formula every month for a 2–3-month-old baby can cost up to c.40% of a parent's monthly salary in China.

Even at the bottom end of the spectrum, i.e. the lowest-priced foreign formula, it costs around 15% of average monthly salary vs. a low-single-digit percentage in Europe. The next chart shows the range of monthly costs (in USD) i.e. monthly spend on formula when using the most expensive brand available on the market vs. the cheapest brand.

FIGURE 28

Infant formula monthly costs ($) with most expensive vs. cheapest brands



Source: Changing markets (*link*)

What is the Chinese government doing to help boost the birth rate?

This burden on consumers has made the Chinese government consider financial incentives for couples to have a second child. In Japan, for example, incentives include prolonged maternity leave, healthcare benefits, tax breaks and in some cases, even straight cash payments.

In China, while there is demand for public policies that help working parents raise children e.g. education and healthcare benefits, etc. which have been the main factors driving the high cost of raising a child, the government hasn't been particularly active in bringing about policy changes to addresses these issues. There has been much discussion about improving maternity benefits for women in urban areas, but little in the way of concrete policy actions yet.

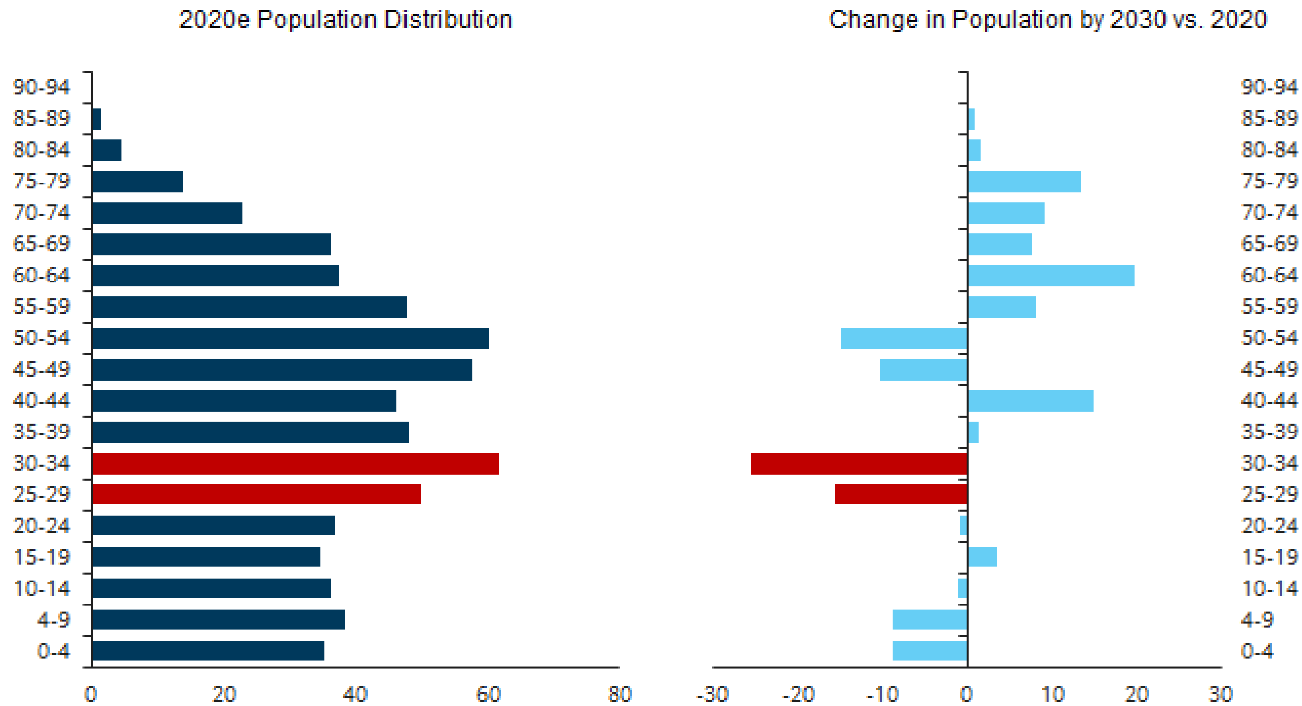
Chinese demographics are not promising

One other fundamental concern is that, in the next decade, the number of Chinese women aged 25-35 will decrease by c.40 million as shown in the next chart (UN projections). This means that, in order to maintain the total birth rate, the fertility rate needs to go up, which is the stark challenge the government faces.

The fertility rate in China has been flat at 1.6-1.7 births per woman over the last 20 years and changing such a long-term demographic trend might need more than financial incentives alone, in our view.

FIGURE 29

Distribution of female population by age group in China (millions)



Source: UN World Population Prospects (*link*)

There have been suggestions to do away with the two-child cap and leave it up to parents to decide how many children they want, which would in our view be a step forward.

Currently, parents with a third child have to pay a social maintenance fee of approximately $10,000 to the government. As a result, those willing to have a third child are discouraged from doing so. When coupled with the fact that incentives for having a second child have not had the intended impact on birth rates (i.e. convincing parents to have a second child), the government is effectively encouraging people to have more children, but hasn't yet put in place economic policies to incentivise them to do so.

This issue of China's low birth rate will not go away and without significant government intervention, Chinese demographics are likely to continue to worsen and its aging population accelerate rapidly. **With a population of 1.4bn people, only 14m births a year will become an increasing challenge and something that is likely to move up the priority list pretty rapidly.**

Regulatory change is rebuilding trust in local brands

Many (older) mothers remember the toxic milk scandal in 2008, which has fuelled continued suspicion of local infant formula brands. Consequently, the government took steps to clean up the supply chain and eliminate smaller companies who are not able to spend sufficient amounts on R&D and guaranteeing customer safety. A Chinese mother quoted in a Bloomberg article in Jan 21 2019 said:

"I won't even consider giving domestic brands a chance, even 10 years later. The incident brought my confidence in Chinese baby formula brands to the lowest level."

2008 toxic milk scandal in China

In 2008, about 300,000 cases of illness and six deaths of babies were reported following wide scale contamination of milk in China. Batches of infant formula manufactured by the Chinese brand Sanlu (a state-owned Chinese dairy company) and 22 other Chinese dairy companies were found to contain melamine, which is known to cause kidney stones/failure, especially in infants.

Melamine is a chemical compound commonly used in the production of adhesives, dinnerware, etc. Given that it is rich in nitrogen and proteins are normally the only source of nitrogen in food, when added to food products, melamine falsely inflates the protein content.

While most companies found to be involved were domestic manufacturers, Nestle and Cadbury were also among those reported. Nestle rejected these claims (*link*) and said that none of its products in China were made from milk adulterated with melamine.

Sanlu, however, was ordered by authorities to halt production and discard all unsold/recalled products. More than 2,000 tons of milk powder was seized and another 9,000 tons recalled. **Sanlu's products were sold at roughly half the price of its imported equivalents and, following this event, there was a surge in demand for pricey, imported formula.**

Fonterra false scare in 2013

Later, in 2013, New Zealand's largest dairy exporter Fonterra recalled about 1,000 tonnes of whey products as it found traces of botulism-causing bacteria during safety tests. Fonterra was a key supplier for Danone and this led to the withdrawal of its Karicare brand from China. China and Russia also imposed a temporary ban on powdered milk imports from New Zealand.

However, it turned out to be a false alarm and further testing showed that the bacteria posed no actual health risk. Fonterra later paid Danone c.€100m as part of an arbitration although the company was expecting a much larger c.€600m, according to media reports (*Reuters, 1 Dec 2017)*.

Given the scale of the recalls and the impact it had on consumer trust, there have been a series of regulatory changes in the Chinese dairy industry, which we summarise in the next chart.

FIGURE 30

Key regulatory changes in Chinese infant formula since 2008

2008	Melamine tainted infant formula	• 22 companies were found to have sold dairy products containing melamine • An estimated 54,000 babies were hospitalised
2013	Fonterra food safety scare	• Approximately 1,000 tonnes of products including infant formula and sports nutrition made by Fonterra were recalled across seven countries • China imposed a temporary ban on powdered milk imports from New Zealand
2015	Food safety law	• Stronger food safety regulation with more oversight along the supply chain and tougher action against violators
2016	Registration requirements for IMF and FSMP	• The Chinese FDA set a limit of 3 IMF brands per company and 3 products per brand • On site checking and sample testing of claimed products. Manufacturer is required to specify the source of raw milk powder
2018	New SAMR organisation	• Reshuffling of government bodies to bring market regulation functions under one ministry (vs. three previously)
2019	Government push for local manufacturers	• Tighter regulation for imported IMF and financial incentives for local firms to expand IMF production or overseas operations

Source: Barclays Research

At the beginning of 2018, a government ruling was issued whereby all formula players had to register with the SAMR i.e. State Administration for Market Regulation (the Chinese equivalent of the US FDA), get factories inspected and obtain a certificate to operate in the market. **The legislation limited individual factories to working with only three brands, and three products under each brand.**

The legislation was supposed to come in at the beginning of 2018 but was delayed to the start of 2019 with a three-month transition period to 31 March 2019.

It also sought to regulate the cross-border or parallel import trade into China, with traders buying big volumes of non-Chinese brands and importing them into China to be resold at much higher prices. Many expected the government to completely outlaw this parallel import trade. It didn't go that far, but it did set out quite draconian policy measures.

The key features of the law were:

1. Reselling products in China through Daigou channel was made illegal
2. Larger traders with annual spend >26,000 RMB threshold would be hit with import VAT and consumer taxes.
3. An increased cut-off for tax-free cross-border purchases. Individual purchases were increased to 5,000 RMB and the yearly amount of 26,000 RMB, which meant that the 'gifting' or 'small traders' were protected, as the government was much more focused on the organised traders who were shifting huge volumes of unregulated foreign formula into China and generally not paying tax duties.

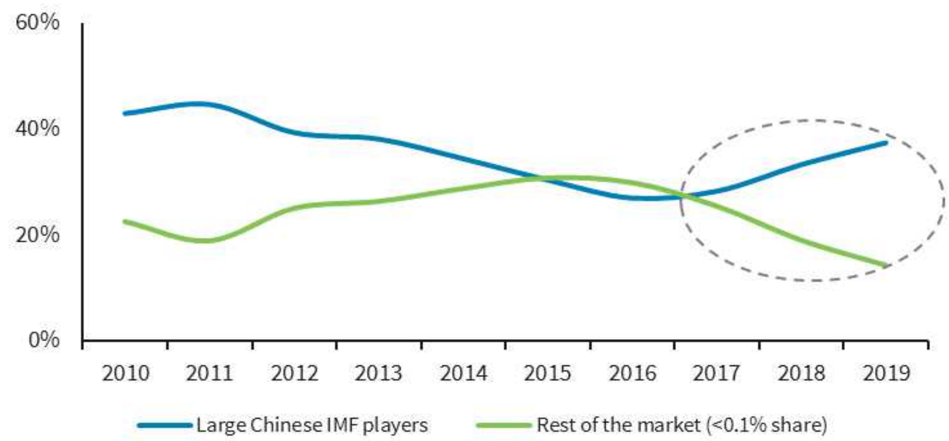
Small-scale players with inadequate quality control have been eliminated

Many companies failed to get certified because they were unable to pass the enhanced quality control checks. It was estimated that 60% of formula brands (c.1400 products) were removed from shelves, mostly but not exclusively domestic Chinese brands.

This is clearly visible in market share trends post 2017 – the combined share of small-scale manufacturers (those with less than 0.1% share) declined 15 percentage points since 2017, of which, two-thirds went to major Chinese manufacturers and the rest to international players like Nestlé, Danone, Reckitt and Abbott.

FIGURE 31

Large Chinese IMF manufacturers benefited from the elimination of smaller local players



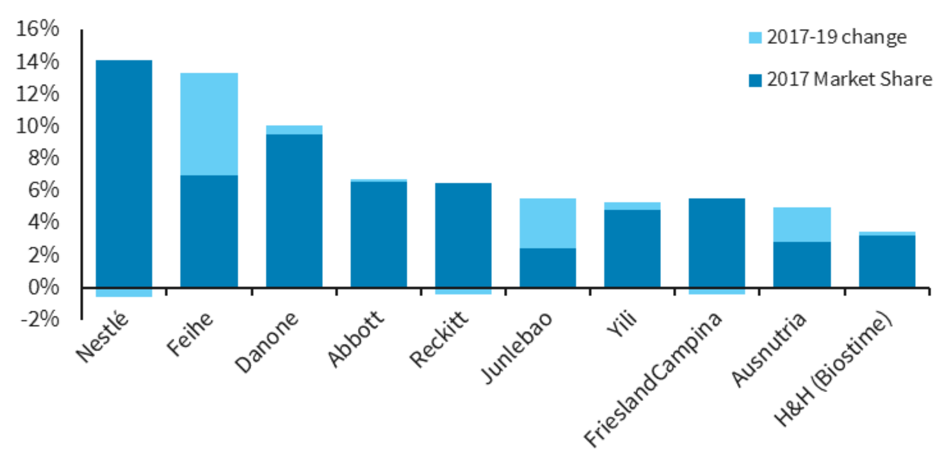
Source: Euromonitor, Barclays Research

While this might appear to be a negative for domestic manufacturers, the resulting impact was that consumers' level of trust in the local brands that passed the checks and remained on shelves significantly improved. This is clearly evident in market share trends following the introduction of new regulation in 2016.

Feihe and Junlebao have been the biggest share gainers in the market. Their combined share has doubled from c.9% in 2017 to c.19% in 2019. By contrast, the combined share of Nestle, Danone, Reckitt and Abbott, the major international players in the market, remained flat during this period.

FIGURE 32

Feihe and Junlebao have been the biggest gainers in Chinese IMF in the last 2 years

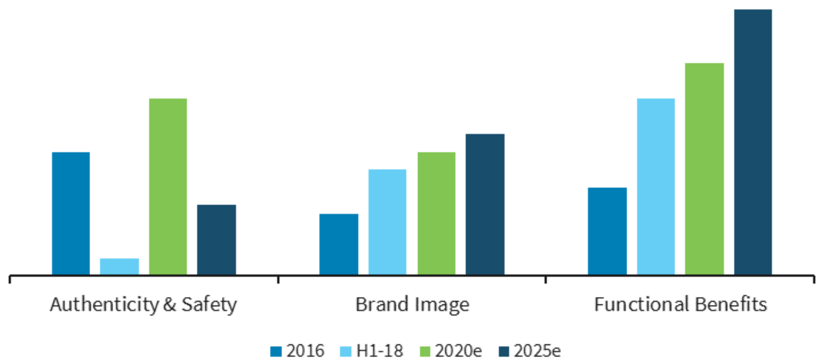


Source: Euromonitor, Barclays Research

More than the quality standards of locally manufactured infant formula, this rebound, in our view, reflects the reduced trust deficit between domestic vs. multinational IMF manufacturers. With increased trust in the category, in general, safety has become less of a concern and the focus (pre Covid-19 at least) was moving back to product superiority and functional benefits. Danone presented the following chart (Fig 30) at its 2018 investor seminar, showing this shift, with functional benefits and brand image becoming more important and safety less so. We have updated it to highlight how we think attitudes are likely to change this year and looking out to 2025.

FIGURE 33

Attributes of infant formula – shift in consumer motivations from 2016 to H1 18



Source: Danone's market research, Barclays Research estimates

Recently investment in improving the traceability of inputs (i.e. milk) has been ramping up. Danone, for example, has rolled out an anti-counterfeit solution called Track & Connect in China. Through a mobile app, consumers and retailers can not only confirm the authenticity of products but also track its journey through the supply chain from a dairy farm to store shelf.

Nestle uses a similar technology in partnership with IBM's Food Trust blockchain while FrieslandCampina launched its own service called TrackEasy in China and Hong Kong in 2019, which is a QR-code based service through which consumers can track the origin of the infant nutrition product purchased.

While these initiatives might improve the perception of food safety in the category in the long-term, the outbreak of Covid-19 and, last year, the African Swine Fever are both likely to have made consumers more risk averse.

Although transmission of the virus via foods is unlikely, according to a recent study by the BfR (the German Federal Institute for Risk Assessment – *link*), we would expect a general increase in the level of caution exercised by Chinese mothers.

Unsurprisingly, we expect safety to become a more important factor for consumers in the short term but to revert to the previous seen trends toward product attributes and brand image in 2021 onwards.

As such, we could see Chinese mothers switching from local to imported brands in the short term, as a precautionary move despite there being no real evidence suggesting that locally manufactured products are inferior in terms of quality. **With the Covid-19 pandemic scaling in Europe, it could be the case that imported Australian/New Zealand brands could be the winner, at least in the short term.**

Nevertheless, the Chinese government has been making significant efforts to support the local dairy industry, especially in infant formula where domestic companies never really recovered after the safety crisis/scare in 2008/13.

Chinese players are consolidating the market

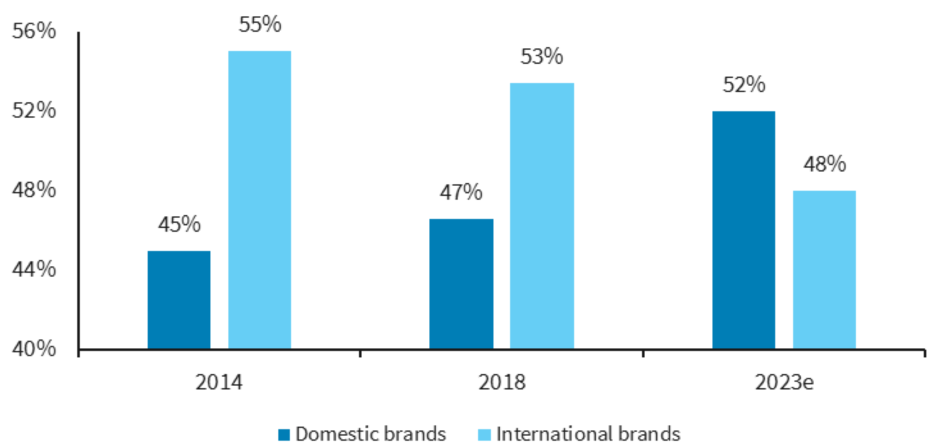
Chinese government's push for domestic production

With regulation around quality and imports in a much stronger position than before, the Chinese government is now shifting its focus towards rebuilding consumer trust in local manufacturers, who have ceded significant market share to multinationals over the last decade or so.

- In June'19, the government announced a target to reach 60% self-sufficiency within three years i.e. 60% of total IMF consumption to be manufactured locally by 2022.
- According to Feihe's IPO prospectus, domestic brands accounted for 47% of category sales in 2018 vs. 45% in 2014. Feihe expects the number to further increase to 52% by 2023e

It is important to note that the government's target is for a 60% share of domestically manufactured formula, not share of domestic brands (Feihe's forecasts, shown in the next chart, are for the latter). Nestle, for example, has production facilities in China, unlike Reckitt and Danone, whose products are almost 100% imported. Adjusting for this factor, we estimate that c.50% of category sales are currently manufactured in China.

FIGURE 34
Chinese IMF category sales split by domestic vs. international brands



Source: Feihe IPO Prospectus

The government plans to provide tax incentives and funding assistance for Chinese companies to invest in capacity expansion abroad (given higher demand for imported formula) while also increasing scrutiny on overseas manufacturing operations.

More than the quantum of financial incentives on offer, we think the government's intent to support domestic players essentially gives them the license to pursue business expansion more aggressively. Feihe, for example, listed on the Hong Kong stock exchange in November 2019 and plans to expand in the super premium segment, specifically in tier 1/2 cities where it is under-indexed.

The two largest dairy companies in China, Yili and Mengniu, both have long-term targets of reaching RMB 100bn in revenues vs. 2018 revenues of RMB 80bn and RMB 70bn respectively. **More than 80% of their sales come from liquid milk and less than 10% from infant formula and both companies have recently made acquisitions in the ANZ region to secure milk supply to support this expansion.** Of the two, Mengniu is likely to be a stronger contender in IMF, in our view, given its acquisition of Australian organic IMF manufacturer Bellamy's in

September 2019. While Bellamy's has had very little offline distribution in China previously, 75% of Mengniu's IMF sales are in the Mum & Baby store (MBS) channel, implying significant upside from a catch up via distribution alone.

Interestingly, earlier in 2019, Mengniu sold its majority stake (51%) in Junlebao, the second largest Chinese IMF manufacturer (by market share). At face value, the acquisition of one IMF company i.e. Bellamy's and a disposal of a stake in another seems counter-intuitive. However, the underlying motive (likely driven by the Chinese government which has a stake in both Mengniu and Junlebao), in our view, is to create two Chinese dairy champions, one focused on the domestic IMF market especially lower-tier cities (Junlebao) and the other (Mengniu) with more global ambitions i.e. expansion in the South East Asian and Australian dairy markets.

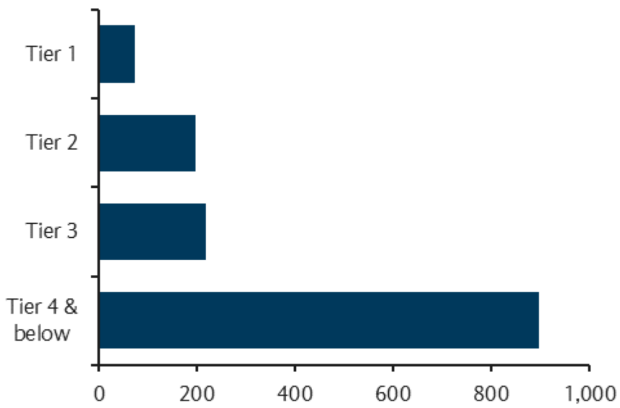
In addition, there have been media reports (CX Tech, 2 July 2019, *link*) suggesting that Junlebao's separation from Mengniu was done to facilitate an eventual listing of the company. The Hebei government, which controls the investment firm that partially owns Junlebao, announced earlier in April 2019 that it plans to create a local dairy champion in the province.

The government's support for local manufacturers comes at a time when lower-tier cities are outperforming top-tier cities in terms of growth. As domestic companies have a stronghold in these markets, it is becoming increasingly difficult for multinationals to capture growth, which could potentially leave them exposed to maturing urban markets.

Lower-tier cities are driving all the growth

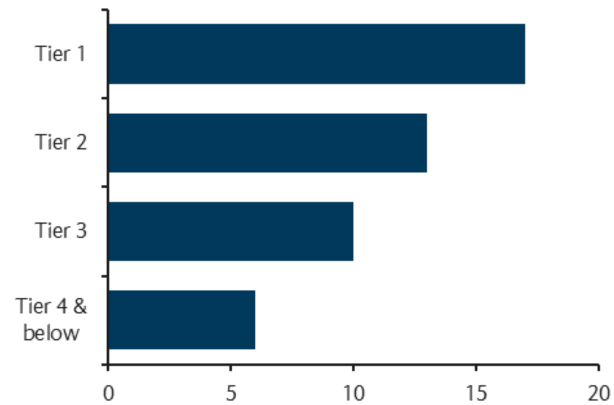
With birth rates under pressure in tier 1 cities, companies are now looking at growth opportunities in lower tier cities, which are driving the bulk of population growth in China. As shown in the next chart, the population in tier 4 cities and below is almost twice that of the rest of the country. While income levels are relatively lower, economic growth is much faster e.g. GDP growth in Tier 3 cities in 2018 was c.10% and 7.4% in tier 2 cities vs. China's c.6.6%.

FIGURE 35
Population in China by city tier (m)



Source: NBS China, Barclays Research

FIGURE 36
GDP per capita by tier ($, '000)



Source: NBS China, Barclays Research

While a large share of the economic activity is concentrated in pockets around tier 1 cities, which are largely coastal, lower-tier cities are geographically remote which makes gaining distribution there a challenge. This gives local manufacturers with wider distribution and established distributor relationships an edge over multinationals although this is changing as e-commerce players extend their reach into lower-tier cities.

FIGURE 37
Distribution of cities in China split by tier

Source: South China Morning Post, Barclays Research

Danone said at its 2018 investor seminar that national/regional key accounts in A/B cities (i.e. top tier) comprise 60% of the market while the other 40% comes from independent Mum & Baby stores in C/D towns (lower-tier). Danone has 85% weighted distribution coverage in the former, but only ~50% in C/D towns, which makes it over indexed to top tier cities.

At FY19 results, however, the company said that it had tripled (YoY) the number of MBS stores in lower-tier cities where it has direct distribution, which is likely off a low base but is still impressive.

> ***"In China, when it comes to nutrition, key aspects will be a deeper push into Tier 3 and Tier 4 cities. So a stronger presence in the market, a broader presence in the market can certainly offset some of the dampening effects that we've seen from the birth rates and also from stronger local competition. And then at the top end of the market, in nutrition, it's always important to offer the latest in innovation"***
>
> - Nestlé's CEO Mark Schneider at the company's 3Q results call

While Nestlé's CEO Mark Schneider thinks that growth in lower-tier cities should be able to offset headwinds from declining birth rates and local competition, in our view, this would largely depend on the traction that imported brands are able to gain in lower-tier cities where local brands have a stronghold.

At a post-FY19 results sell-side event, Nestle said that it was well established in tier 3/4 cities in terms of infrastructure (i.e. local production facilities which are currently underutilised) and that the main cost of expansion will be operational, (opex) which will a gradual step up in spend but not a material amount for its Zone AOA region. The main issue, in our view, is not around the cost or spend involved in geographic expansion, but in figuring out whether they have the right portfolio and go-to market strategy to succeed in tier 3/4/5 cities.

Firstly, in terms of portfolio, lower-tier cities need a lower-priced offering. Local players have had a stronghold in this segment and given Nestlé's recent struggles with its less premium S-26 brand, it does cast some doubt in our mind whether it yet has the optimal product offer and infrastructure to crack these lower-tier cities.

Secondly, Nestlé's key strength historically in Chinese IMF has been e-commerce. While partnerships with the likes of Tmall and JD.com should help drive distribution in lower-tier cities, Mum & Baby stores play a more important role here. This implies that the same marketing playbook that Nestle employs to sell to higher-income consumers in top-tier cities might not necessarily be as effective in tier 3/4/5 cities.

Feihe, for example, invests heavily in face-to-face marketing seminars in lower-tier cities to drive brand awareness. At these events, company representatives have one-on-one interactions with consumers, explaining the advantages of Feihe's products, the main differentiator being the use of fresh liquid milk as the base ingredient vs. imported powdered milk predominantly used by multinationals.

The company spent c.$120m in 2018 on offline events alone and held more than 300,000 of these seminars. This number grew further to 500,000 in 2019, with the most number of events conducted by a competitor being only c.30,000, according to the company.

In the case of Reckitt and Abbott, we do not see a specific focus on distribution as both companies are busy addressing other issues i.e. Reckitt has been working towards regaining lost share following the supply chain disruption in 3Q18 while Abbott, at its 3Q19 results call, highlighted promotional pressure and said that the current focus is "improving competitive fitness".

Lower-tier cities need a different approach to marketing

Multinationals' growth has mainly been driven by higher-income urban households – a similar demographic segment to that of the developed market consumer they typically cater to.

However, as growth shifts to lower-tier cities, companies will need to rethink marketing strategies for their brands to better resonate with lower-income groups. Brand messaging, communication and local execution, all play a critical role and the likes of Feihe have been doing this in lower-tier cities for longer than most multinationals.

FIGURE 38

Feihe's investment in offline events has increased 4x from 2016 to 2018 (RMB mn)

Source: Company data, Barclays Research

In 2018, Feihe organised more than 500,000 seminars to educate Chinese mothers, especially in lower-tier cities, about its products i.e. quality vs. other brands, demonstrated via blind taste tests. These events have enabled Feihe to connect with mothers on a one-to-one basis and are driving strong traction. By contrast, we think multinationals largely invest in traditional marketing channels and need to develop a model that is better suited to local consumers.

> ***"Despite greater competitive intensity from foreign brands pursuing lower-tier city-led growth strategies, we believe our unique brand equity, strong brand awareness and longstanding track record of partnership with local offline customers will enable us to defend our dominant leadership and gain further market share."***
>
> \- Feihe Dairy in its IPO prospectus

Distribution has been the other key driver of competitive advantage in lower-tier cities. Feihe has an established network of 1,700 distributors with access to more than 92,000 retail points of sale including Mum & Baby stores, supermarkets, hypermarkets, etc. Multinationals, on the other hand, are more dependent on in-house sales teams, which are not as scalable, in our view, and this approach limits the speed of expansion in lower-tier cities.

In theory, one could replicate the distribution model used by the likes of Feihe, but execution will be key. For example, Feihe closely tracks inventory levels in the supply chain in order to avoid accumulation of stock at distributors which might eventually lead to a clearance at discounted prices.

FIGURE 39

Feihe's distribution network by region

Source: Company filings

Increased trust in local brands

This combination of superior marketing and distribution capabilities has given local manufacturers greater visibility in lower-tier cities, resulting in increased awareness of domestic brands. In addition, food safety is less of an issue for consumers than before as new regulation has eliminated smaller lower-quality manufacturers, and many newer mothers perhaps do not remember the Melamine crisis in 2008.

What is more interesting is that millennial parents are more tech-savvy and purchasing decisions are highly influenced by online communities like WeChat where brand endorsers drive awareness and understanding of functional benefits. As a result, consumers have more information at hand and purchase decisions are not made based solely on whether a product is domestic vs. imported.

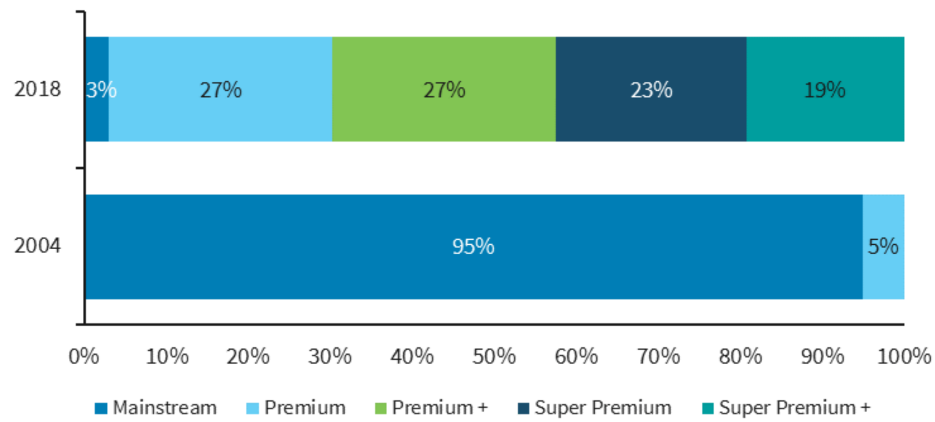
In conclusion, we think lower-tier cities will be a key battleground for multinationals and will likely determine the winners in Chinese IMF on a three to five-year timeframe. At the same time, they will also need to defend their positions in top tier cities where Chinese manufacturers are expanding, but as long as premiumisation continues, which is certainly our base case, the multinational players should continue to hold a competitive advantage.

Premiumisation has more runway

The average price of infant formula products in China has almost doubled from RMB 136/kg in 2005 to RMB 257/kg currently, according to Euromonitor. Chinese parents have always favoured premium formula but growth in the segment significantly stepped up in the last decade, with the weight of the premium infant formula up from 5% in 2004 to 97% in 2018, according to Nestle.

FIGURE 40

Premium infant formula accounted for 97% of the category in China in 18 vs. 5% in 04



Source: Nestle, Barclays Research

Nestle defines Premium formula as anything priced between CHF 30-48/kg i.e. RMB 210-340/kg and Super Premium as RMB 340/kg and above. Interestingly, the naming/ segmentation of price tiers varies across companies, as shown in the next table. For example, Danone defines premium as RMB 220/kg and above while Feihe has a much higher range of RMB 350/kg and above.

FIGURE 41

How price tiers are defined/named across companies RMB/kg

Price Range (RMB/kg)	Nestle*	Danone	Feihe
Mainstream	< 210	< 220	< 350
Premium	210-275	-	351-449
Premium Plus	276-340	-	-
Super Premium	341-405	220-330	> 450
Super Premium Plus	> 405	-	-
Ultra Premium	-	331-440	-
Ultra Premium Plus	-	> 440	-

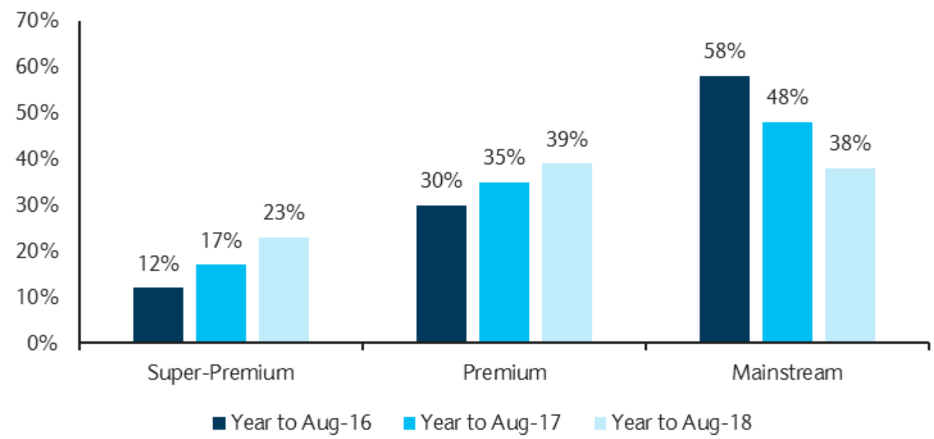
Source: Company reports, Barclays Research, *assuming CHF/RMB = 7.1

Looking at more recent trends in mainstream vs. premium as reported by Bellamy's,

- Growth in the super-premium segment has significantly accelerated with its weighting almost doubling between 2016-2018 from 12% to 23%.
- Premium, which was 30% of the category in 2016, was also up but at a lower pace to 39% in 2018.
- The mainstream formula sector declined 20 points from 58% to 38%.

FIGURE 42

Consumers are rapidly trading up to ultra-premium



Source: Bellamy's (*link*)

We think this trend will only accelerate going forward, as innovation continues, discussed in detail in the following section, and lower-tier consumers trade up.

It is worth noting that the Chinese government limits the number of brands marketed by any IMF manufacturer to a maximum of three and the total number of formulations to nine. This implies that any new launches would replace an existing product, and this would likely be a case of premium brands replacing economy/mid-priced ones. As a result, we expect the weight of premium to grow even further and this has two different drivers:

1. **Mainstream => Premium. Local manufacturers moving up the price spectrum:** Chinese companies have been under-indexed to the premium segment as they have historically been focused on tier 3/4/5 cities and lower-priced offerings. However, given their ambitions to expand in top tier cities (e.g. Feihe) and recent acquisitions of international suppliers/brands (e.g. Mengniu-Bellamy's), we would expect local manufacturers to gradually shift their portfolio exposure from mainstream to premium.

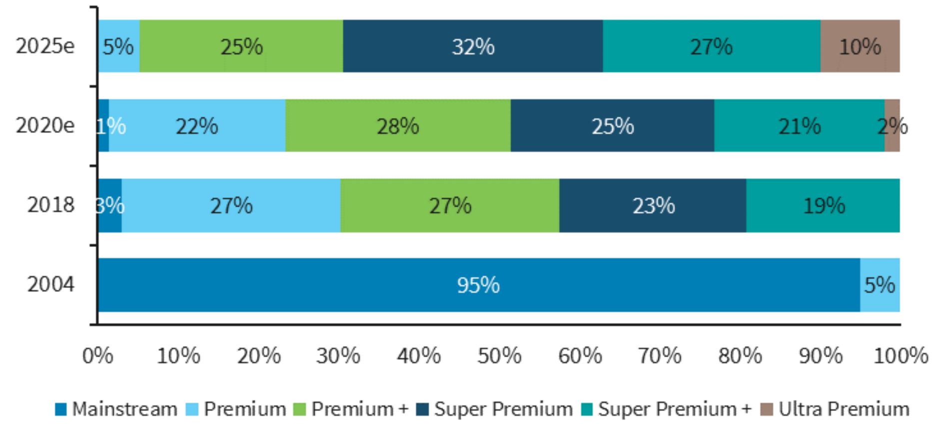
2. **Super-premium => Ultra-premium (> RMB 600/kg): Multinationals driving category innovation.** On the other hand, innovation is a big focus for multinationals as they compete to retain/win consumers in tier 1 cities. Formulations that are more scientifically advanced are likely to have higher price points, extending the upper end of category pricing. Given that multinationals have minimal presence in mainstream, the shift here is largely going to be from super-premium to ultra-premium.

Overall, we think a new ultra-premium segment will emerge in 2020, which will account for 10% of the category by 2025. Super-Premium + and above will account for more than a third of the category in 2025, growing at a 10% CAGR going forward, while the mainstream and Premium segments shrink to c.5%. The next chart summarises how we expect different price segments to shift in the next five years, which is based on the following five-year growth assumptions (2020-25):

- **Super-Premium + and above to grow at 10% (e.g. Illuma) and Super-Premium at 5%**
- **Premium + declines at -2%**
- **Premium declines at a double-digit percentage (e.g. S-26 is currently declining c.15% on our estimates and is indicative of what is to come in the segment unless it is premiumised further)**

FIGURE 43

By 2025, we expect Super-Premium (and above) to account for c.70% of the category



Source: Barclays Research

The next chart shows brand portfolios of the top five companies in Chinese IMF i.e. Nestle, Danone, Reckitt, Abbott and Feihe, and their price points. While each brand has sub-variants for stage/1/2/3, etc., for simplicity, we show the average pricing for each brand.

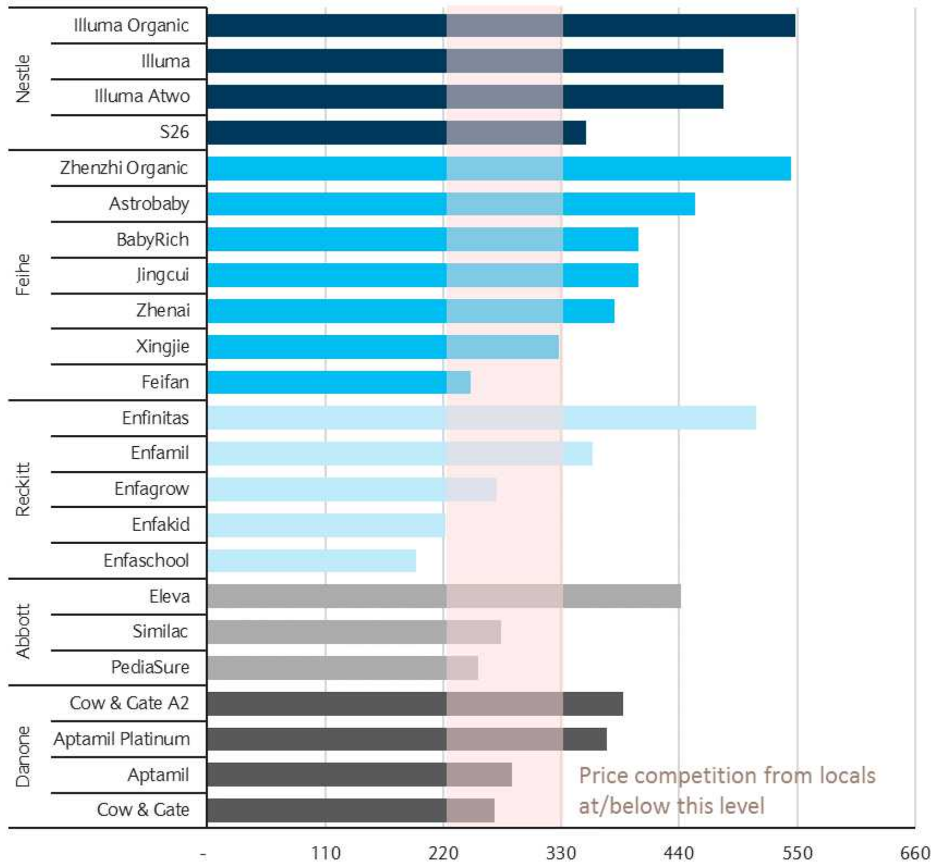
Illuma has the advantage of being an established imported brand and has led innovation in the category. Interestingly, Feihe's Zhenzhi organic is relatively new on the market and locally manufactured but still is priced at the same level as illuma organic i.e. RMB 583/kg vs. illuma's RMB 589/kg. We think this reflects the fact that Feihe uses fresh liquid milk as the base ingredient, which costs more to source vs. imported milk powder typically used by multinationals.

Nevertheless, this goes on to show the progress local manufacturers have made in terms of gaining consumer trust and converting that into pricing power, especially at the upper end of the price spectrum where they have had limited exposure historically. Zhenzhi organic had sales of about $50m in 2018 (was launched in Apr'17), but sales of its other super-premium brand Astrobaby grew significantly from $100m in 2016 to c.$730m in 2018.

Other examples include Reckitt's roll out of the super-premium brand Enfinitas across China in 2016 (originally launched by Mead Johnson just prior to RB's acquisition) and **Danone's** launch of Aptamil Platinum, whose sales tripled in 2018 and it has already become Danone's biggest brand in the country.

FIGURE 44

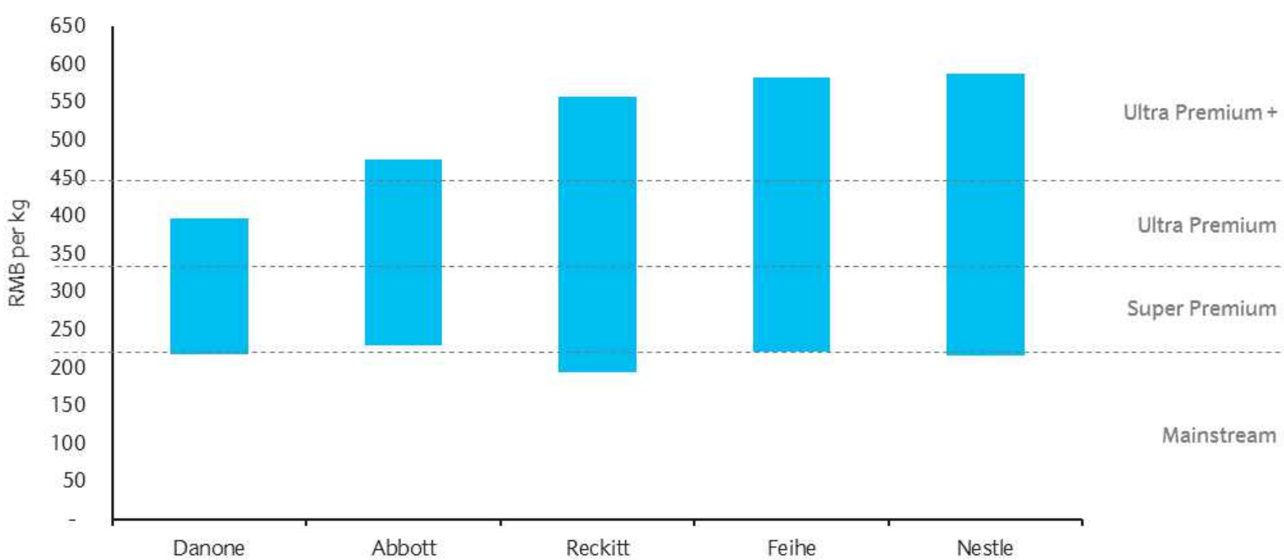
Average pricing (RMB/kg) of the top 5 players in Chinese IMF by brand



Source: Barclays Research, Parknshop.com

FIGURE 45

Nestle and Feihe have the most premium portfolios in the market while Danone has the most room for premiumisation



Source: Barclays Research, Danone

Extreme premiumisation but how much further could it go?

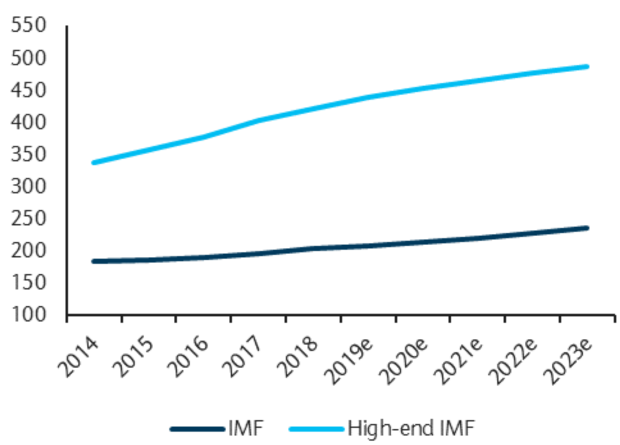
There has been for some time in Chinese infant formula a perverse demand curve whereby the more expensive the infant formula, the higher the demand seems to be as its perceived to be a better product for babies. This echoes back to concerns about domestic food safety – more than a decade since the 2008 melamine contamination, whereby many Chinese parents still don't consider buying cheap, domestic baby formula brands.

Input costs, mainly fresh milk and imported milk powder are down on a five-year basis, despite which the category has premiumised which shows the strong pricing power manufacturers have had. With input costs stabilising (as shown in the chart below) and dairy pricing more recently increasing, we might see list price increases of existing brands, rather than just mix benefits from new product launched which have higher prices.

Interestingly, straight price increases have been rare since a government investigation into industry price fixing in 2012 when several manufacturers including Mead Johnson (now RB), Danone and Abbott, among other global IMF makers were fined by Chinese authorities for alleged price collusion

FIGURE 46

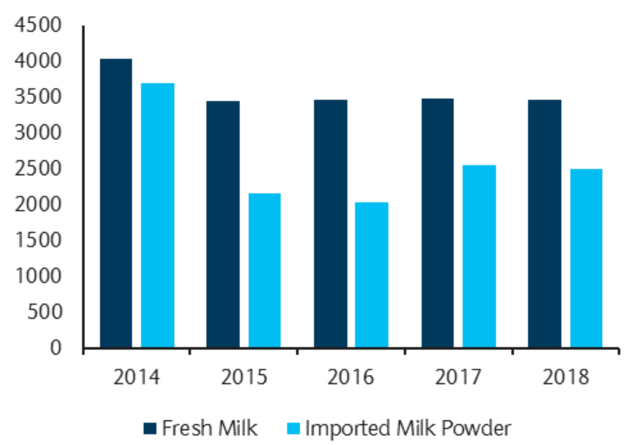
Avg. IMF price in China – high-end IMF premiumising faster than the broader category



Source: Company reports, Barclays Research

FIGURE 47

Price of fresh milk and milk powder (RMB/tonne)



Source: Company reports, Barclays Research

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Price fixing probe in 2012

Following cumulative price increases of c.30% in a span of 4-5 years, the Chinese government launched an investigation into pricing policies of multinational infant formula manufacturers.

At the time, it was common for retail prices of imported baby formula brands to be more than triple that of identical products sold outside the country. In addition, given China's vast expanse, distribution is a challenge and often involves multiple levels of distributors, agents, etc. which further pushed retail prices up.

The NDRC (the regulator that looks into price-fixing cartels or unfair high pricing by dominant firms) imposed fines totalling RMB669m ($110m) on six companies (listed below), ranging from 3-6% of their sales in the market.

The investigation found that manufacturers set minimum resale prices for distributors, in breach of the local anti-monopoly law (the EU and UK competition law also prohibits this). Those cooperating in the investigation by providing evidence and proactively taking measures to adjust internal policies were fined lower amounts.

The companies and the amounts they were fined are as follows: Mead Johnson 204m yuan, Danone 172m yuan, Biostime 163m yuan, Abbott 77m yuan, FrieslandCampina 48m yuan, Fonterra 4m yuan.

Consequently, several companies announced price reductions in mid-2013, which were implemented over the following 12 months.

Nestle reduced prices by an average of 11% (biggest single price cut of 20%), Danone's price reductions ranged between 5-20%, Biostime offered consumer rewards equivalent to a discount of "around 11%" and Abbott cut prices by 4-12%.

While a conducive input cost environment is helpful, we think there is significant room for innovation in the category which could support further premiumisation. For example, Nestlé's HMO innovations, which have been a major success for the company in Europe have not been rolled out in China yet and this has significant potential, in our view. In Europe, it has generated more than CHF850m in sales in year 2 i.e. +40% over a CHF600m base in year 1. Similarly, Danone, Feihe, etc. all have strong innovation pipelines, especially in the ultra-premium segment.

In conclusion, our view is that IMF prices could continue to go up in China as long as the price premium is backed by science and innovations that offer consumers superior quality and functionality.

That said, we do expect the pace of innovation in the Chinese infant formula category to temporarily slow as the Chinese government has put new brand registrations/audits on hold until the Covid-19 crisis is resolved. The good news is that inflation in dairy prices provides a favourable environment for price increases, which could allow companies to seek list price increases for the first time since the price collusion investigation.

Innovation to continue to drive premiumisation

Nestlé's CFO Francois-Xavier Roger at a conference in May 2019:

"The number of babies in China has declined over the last two years by 16%...which is quite massive. In spite of that, we grew by about 4% to 5% for each and every single year over the last two years in China. So once again, this is innovation, this is about premiumisation, this is about gaining market share, bringing relevance to consumers. I'm not saying that whenever there is an economic crisis somewhere, we cannot grow. But we have to find growth in these markets."

R&D investment in the category remains high as consumers seek more scientifically advanced products. For example, Mead Johnson's annual R&D spend in the years prior to the RB acquisition i.e. 2014-16 was $100m on average, or c.3% of revenues.

After the RB acquisition, this data has not been available but the other listed pure play IMF player Feihe disclosed the data in its IPO prospectus. **Feihe reported 2018 R&D spend of RMB109m i.e. 10.5% of sales vs. RMB 15m in the previous year or 2.5% of sales.** Despite being a significant step up, this is not surprising to us as the company's portfolio has dramatically shifted to super-premium which is much more R&D intensive, in part to justify the high price points.

The main objective behind R&D around milk formula, in general, has always been to replicate human milk as closely as possible, starting with e.g. cow's milk, which is the most common base ingredient. While mimicking human milk 100% is not possible given the complex biological processes involved, replication of isolated constituents is an alternative and does appeal to manufacturers as a source of competitive advantage.

Although the industry often catches up reasonably quickly on any scientific breakthroughs, leading innovation in any category does indeed help acquire new consumers and has been one of the best ways to drive market share gains.

The other global manufacturers e.g. Nestle and Danone are not pure-play IMF players and hence R&D spent exclusively on milk formula is hard to estimate. However, most of them have dedicated research institutes focused on baby nutrition, for example, the Nestle Nutrition Institute, Danone Institute International, Mead Johnson Paediatric Nutrition Institute (now owned by Reckitt), etc.

Some of the key innovations/ scientific breakthroughs we would highlight are:

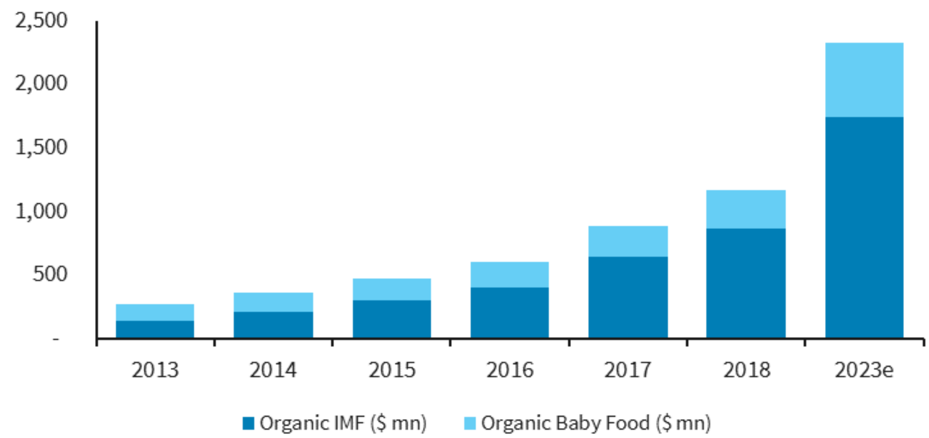
1) **OPO:** In the early 2000s, **OPO**-based products (also known as SN-2 palmitate) were introduced. OPO is an ingredient that mimics the fatty acid profile of human milk. Fats constitute 25% of infant formula by volume but account for almost 50% of the energy content and hence form a crucial element in a baby's healthy development.

2) **DHA/ ARA:** Also around the same time, the US FDA allowed the addition of **DHA** (docosahexaenoic acid) and **ARA** (arachidonic acid) to infant formula. Both are fatty acids found naturally in human milk and are recognised to play an important role in brain and eye development

3) **Organic, A2:** Organic formula has been flourishing in China with the market growing from $140m in 2013 to $870m in 2018 i.e. a six-fold increase. While Australian brand Bellamy's has been present in the category for many years now, Nestle and Feihe have both entered the market with Illuma organic and Zhenzhi organic, respectively, both of which are positioned as their most premium offerings.

FIGURE 48

Organic IMF estimated to be a $1.8bn market by 2023



Source: Company reports

The strong demand for organic formula and the price premium associated with it is essentially driven by concerns around the potential of contamination not only in the milk used but also various pesticides or chemicals that might have been used in the production process. As with any organic produce, organic milk formula must be created with certified organic ingredients, which exclude several preservatives, flavours or additives found in standard formulas.

The other key innovation recently has been in the A2 milk space. Compared to normal milk, which contains a mix of both A1 and A2 proteins, **A2 milk only contains A2 beta-casein protein, which is more easily digestible by babies.** Growth in this segment was initially led by The a2 company, an Australian dairy manufacturer, but is now seeing wide scale adoption. Danone, for example, launched an A2 version under its Cow & Gate brand. Importantly, as the supply of A2 milk is relatively scarce (i.e. it is produced by cows with a specific genetic code), it has a more premium positioning and drives positive mix for the organic category.

The a2 Milk Company (not covered)

The company was the first to enter the a2 segment with fresh milk launched in Australia in 2007. It later expanded into IMF in 2012/13 and grew revenues from c.NZ$40m in 2011 to c.NZ$1.3bn in 2019 (fiscal years ending June), of which >80% is in IMF. The rapid expansion has been driven by various manufacturing and distribution agreements across China, Australia and New Zealand – the main agreements are listed below:

- 2007: relaunch of a2 Milk in Australia (vs. licensing deal previously)
- 2011: a2 Milk launched in the UK and Ireland
- 2012: Manufacturing agreement with Synlait (NZ based dairy processing company)
- 2013: IMF distribution agreement in China with China state farm
- 2014: IMF launched in China and ANZ (Australia and New Zealand)
- 2015: Company listed on the ASX and a2 Milk launched in the US
- 2018: Strategic relationship (for milk supply) announced with Fonterra

Going forward, the company plans to exit the UK market to focus on Asia (testing launch in SE Asia IMF) and expansion into adjacencies in China and the US.

While it does have a first-mover advantage, likely driving stronger brand loyalty, the entry of Nestle and Danone is likely to have made the category more competitive, although it will no doubt drive category growth and penetration. Importantly, given that securing milk supply as the category grows will be a key challenge, a2 Milk's partnership with Fonterra should help support future growth.

4) HMO

The most successful recent innovation has been in the area of HMOs (human milk oligosaccharides), which are naturally present in human milk and contribute to building the immune system and improving digestion.

Nestlé announced in mid-2017 that, after a decade of research, it has been able to synthetically produce two HMOs (out of around 200 found in human milk) in partnership with Glycom, which was recently acquired by DSM (*link*).

FIGURE 49

Comparing constituents of human vs. cow's milk

Grams/liter	Human milk	Cow's milk
Protein	8	32
Fat	41	37
Lactose	70	48
Oligosaccharides	**5-15**	**0.05**

Source: Nestlé Nutrition Institute

As the above chart shows, the main difference between the composition of cow's milk vs. human milk is the content of oligosaccharides, besides protein and lactose content.

Oligosaccharides play a crucial role in preventing infections and promoting the growth of healthy bacteria, without which milk formula is clearly inferior. In 2018, Nestle rolled out HMO products in almost 40 countries (excluding China) across multiple brands and achieved sales of CHF600m by the end of year 1 and CHF850m by year 2 i.e. 2019. While this cannibalised sales of existing products, higher price points (driven by higher production costs of synthetic HMOs), translated into better mix. Similarly, Danone launched an upgraded version of Aptamil with oligosaccharides and Abbott rolled out an HMO variant under the Similac brand.

While Nestle was the first to come up with HMO innovations, looking at the content of oligosaccharides in each product, Danone is well ahead of its peers. As shown in the table below, Aptamil Platinum's HMO variant has 1.1 grams of oligosaccharide content per litre, i.e. four times that of Nestle's illuma and Abbott's Similac which have 0.25gm/ltr of HMOs.

FIGURE 50

Comparison of HMO content across brands

	Brand Name	HMO content (grams/litre)
Human milk	-	5-15
Danone	Aptamil Profutura Stage 4	1.1
Nestle	illuma Atwo Stage 4	0.25
Abbott	Similac Pro Advance	NA (est. 0.26*)
Cow's milk	-	0.05

Source: Company websites, Barclays Research

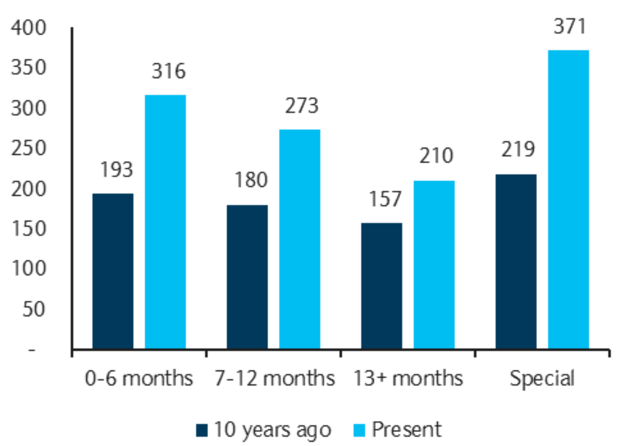
5) Tailored nutrition

The other segment of infant formula seeing increased demand is tailored nutrition i.e. products designed to specifically address medical conditions or special nutritional needs of babies. According to Danone, tailored nutrition is a €1.3bn market globally and is growing 30% per annum.

Given that these products are more specialised, they are priced at a significant premium to traditional formula – a 40-50% premium, according to Euromonitor data. As the next chart shows, the average price of special IMF in China has increased by 70% over the last 10 years, while that of the rest of the IMF market has increased c.45%. Note that the bulk of this increase is likely driven by premiumisation and not list price increases.

FIGURE 51

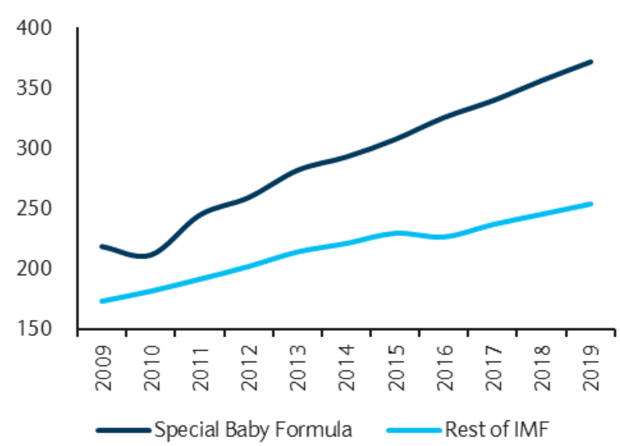
Special/tailored baby formula has higher pricing (RMB/kg)…



Source: Euromonitor, Barclays Research

FIGURE 52

… and the price gap has increased over the last ten years



Source: Euromonitor, Barclays Research

Looking at the main segments within tailored nutrition, allergy treatment/prevention is the largest one. Allergy to cow's milk (CMA), which is the base ingredient in milk formula, is the most common food allergy in infants and young children. Danone estimates that the IMF market for babies with cow's milk allergy (CMA) alone is growing >30% while that of allergy prevention (babies with a high risk of becoming allergic) is growing at >10%.

2-5% of infants globally are affected by the condition, according to Danone, while Nestlé estimates 10% of Chinese babies are born with an allergy risk. If breastfeeding is not an option, the most common alternative is to use extensively hydrolysed formula in which milk protein, which is often the cause of the allergy, is broken down into its constituent components while retaining its nutritional value. The immune system does not recognise the protein as an allergen anymore and hence improves absorption.

Reckitt's Nutramigen is the market leader globally in the dietary management of CMA in infants. Within China, Danone's Neocate is the no.1 brand for allergy management with HCPs (health care practitioners). Other brands in the segment include Abbott's Similac Alimentum and Nestlé's NAN and SMA brands.

Nestle is at a relatively early stage of building its allergy prevention/management portfolio and recently launched an allergy prevention month in Beijing to raise awareness among mothers and communities. According to a study by the company, >70% of Chinese parents are not aware that formulas could cause allergies.

Other conditions that are targeted by tailored nutrition products include lactose intolerance, premature birth, anti-diarrhoea, digestive problems, iron deficiency, etc. The condition-related nutrition segment is expected to grow double-digits over the next three years, according to Danone.

One of the key reasons behind Danone merging its Early Life Nutrition and Medical Nutrition divisions to form Specialised Nutrition was to leverage the synergies between both portfolios, especially in terms of technology.

Danone's medical nutrition portfolio mainly includes adult nutrition products, especially for people with special nutritional needs e.g. tube feeding for hospitalised patients. By merging the two divisions, Danone aims to leverage its medical nutrition know-how to drive innovation in its infant nutrition portfolio, for example, developing formula for babies with muscle development or iron deficiency issues, etc.

FIGURE 53

Danone's brand portfolio in the targeted medical nutrition segment

Danone's brand	Targeted condition
Neocate	Allergy management
Infatrini	Faltering growth
Fortini	Disease related malnutrition
Fortimel	Strength, muscle development
Souvenaid	Cognition
Nutrison	Enteral feeding

Source: Company reports

Other multinationals e.g. Nestle and Reckitt are relatively under-indexed to this segment but are catching up and stepping up investment in this space.

For example, Nestlé's Health Sciences portfolio consists of brands like Alfamino and Alfare which are targeted at babies with cow's milk allergy or food intolerance issues. Nestle Health Sciences is one of the company's five focus categories and we would expect M&A in this space, following the company's recent announcement that it would rotate >10% of portfolio sales (i.e. acquisitions + disposals) in the next three years. The company's recent acquisition of ZenPep is a gastrointestinal medication for people with food digestion problems. While not directly related to infant nutrition, we can't see why the company cannot leverage Zenpep's scientific expertise around digestive diseases into the rest of its nutrition portfolio.

6) Other emerging segments: Goat's milk, plant-based and stage 4 IMF

Goat's milk formula is increasingly popular in China – it is known to be easily digestible as it has smaller fat globules vs. cow's milk, which is usually hydrolysed to breakdown larger proteins.

While sourcing is relatively difficult vs. cow's milk, it does sell at more premium price points. For example, the goat's milk version of Nestlé's Illuma is sold at HKD 589/tin, a 10% premium vs. the regular version priced at HKD 520-540/tin. The market leader in this segment is Ausnutria Dairy's brand Kabrita which has a >60% share in the imported goat's IMF segment in China. The company's sales in goat's IMF have grown 2.5x in two years, showing the potential of the category.

Similarly, plant-based milk formula is beginning to emerge as an option for infants with cow's milk allergy. Nestle filed a patent back in 2018, according to media reports (LiveKindly, 6 July 2018, *link*) for a new blend developed using potato protein which is naturally hypoallergenic vs. existing allergy products which are highly processed. Importantly, the cost of plant-based ingredients is lower vs. dairy which implies higher gross margins.

Given that plant-based products also have a lower footprint on the environment vs. regular milk formula, it might appeal to environment-conscious parents but equally it might take time for plant-based adoption in the category to go up, in line with parents' willingness to experiment with non-dairy products for infants. We do expect plant-based products to become a bigger focus in the weaning food sector, as parents look for choices that mimic their own lifestyles.

Finally, we would also point out the growth in milk products for older babies e.g. stage 4 milk formula (> 3 years old), baby cereals, etc. Given lower birth rates and fewer infants aged 0-6 months (stage 1), stages 3-4 seem to be currently benefiting from the spurt in birth rates in 2016. Although this might be short-lived (as birth rates declined later), there should be upside to penetration as it is a relatively new segment and hence has a longer growth runway.

In conclusion, we think there remains further runway for premiumisation in the category helped by a combination of commodity inflation and innovation. In fact, top tier cities have driven much of the increase in average prices over the last decade or so and the potential for incremental gains from income growth and increased product awareness in lower-tier cities is significant.

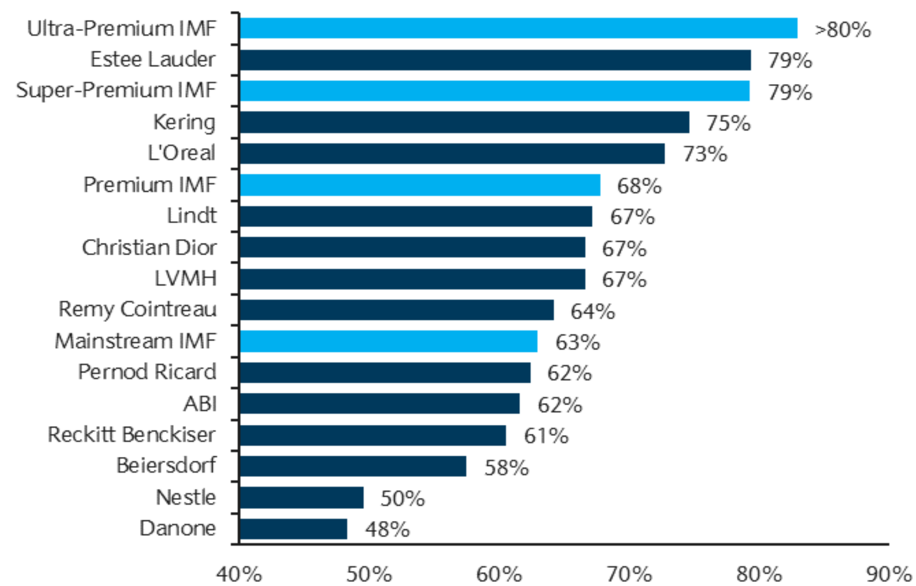
In addition to driving growth, it would be interesting to see the impact of this trend on category margins. While the cost of producing specialised ingredients e.g. human milk oligosaccharides is significant, which might offset some margin gains, our research shows that gross margins at the top end of the price spectrum are inching upwards, which we discuss in more detail in the following section.

How could Chinese Infant Formula category margins evolve?

We estimate that gross margins are as high as 80% in ultra-premium IMF, significantly higher than packaged food gross margins, which are typically in the 40-50% range, as shown in the next chart. To put things into context, Estee Lauder, which is a pure play premium cosmetics business, reported gross margins of 79% in 2018 i.e. same as that of Feihe's high-end IMF portfolio in the same year.

FIGURE 54

IMF Gross margins in China, especially in premium, are on par or even higher than Luxury



Source: Barclays Research

Lower Chinese infant formula price tiers i.e. premium/mainstream have relatively lower margins in the 60s but they are still significantly higher than the rest of the Packaged Food sector e.g. Nestlé's at 50% and Danone's at 48%.

The other IMF company to use as a reference point is Mead Johnson – in FY2016, it reported a gross margin of 64.2%. It is important to note that Asia accounted for only 50% of Mead's revenues, of which we estimate China/HK are c.33%. Given that the China portfolio is relatively more premium (Enfinitas was launched in mid-2016), its Chinese formula gross margins then are likely in the high 60s, with the rest of the IMF business in the 50s.

Given that wholesale dairy prices are on the rise in China, pricing will be a key component of gross margin movements in the near term, but importantly, dairy products only account for a third of the raw materials used in infant formula.

Mead Johnson in its 2016 annual report said: *"Dairy products, consisting primarily of milk powders, non-fat dry milk, lactose and whey protein concentrates, accounted for approximately 32% of our global expenditures for raw materials."*

Similarly, Feihe reports a full breakdown of all the raw materials it uses in the production of IMF, both dairy and non-dairy. As shown in the next chart, fresh milk, non-fat milk powder and whey together account for c.45% of input costs, which is higher than Mead's 32%. This likely reflects the fact that fresh milk costs more than milk powder (40%, higher according to Feihe) and hence increases the weight of dairy inputs in the raw material basket in terms of value.

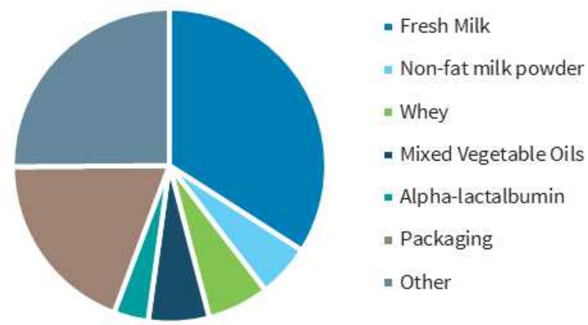
FIGURE 55

Dairy input costs trends in China and Europe

Source: Bloomberg

FIGURE 56

Feihe's IMF input costs in 2018



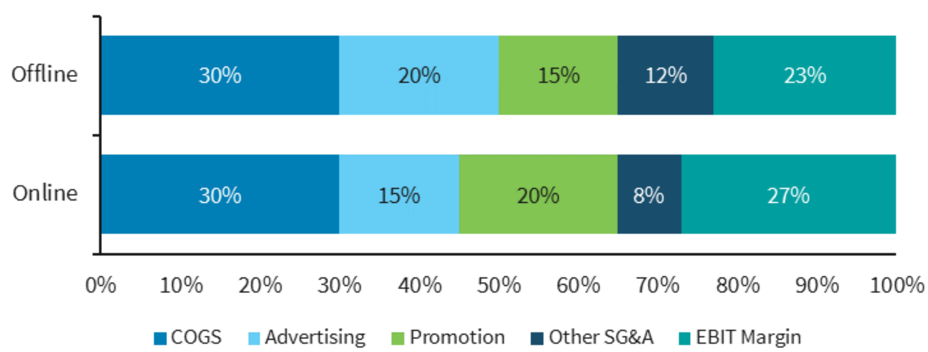
Source: Company reports, Barclays Research

The other interesting dynamic is the rapid shift in channel mix and its impact on profitability. While we discuss the pace and direction of shift in more detail in the following section, in short, e-commerce is gaining share from offline retailers, within which Mum & Baby stores are taking share from traditional retail.

We estimate that the average EBIT margin in the Chinese IMF category is in the mid-twenties, i.e. c.25%, within which the online channel is more profitable than offline, in our view. In reality, while there is significant overlap between both channels e.g. digital advertising could drive growth in both channels, we would look at the below analysis as a comparison between two standalone businesses, one 100% online and the other 100% offline.

FIGURE 57

How margin structure changes between online and offline channels



Source: Barclays Research

The main factors driving the margin differential are:

a) **Advertising**: Digital ads/marketing is significantly more efficient as it is data-driven and targeted vs. traditional marketing channels used more often by offline retailers

b) **Promotion**: Shopping holidays like the Singles Day in China account for a disproportionate share of annual sales, as products are sold at discounted prices. A significant amount of these sales are online on websites like Alibaba, Tmall, etc. Given that infant formula is expensive and has a reasonably long shelf life, it is not uncommon for consumers to stock up on months' worth of infant formula in one go. As a result, we suspect promotional spend is higher in online vs. offline

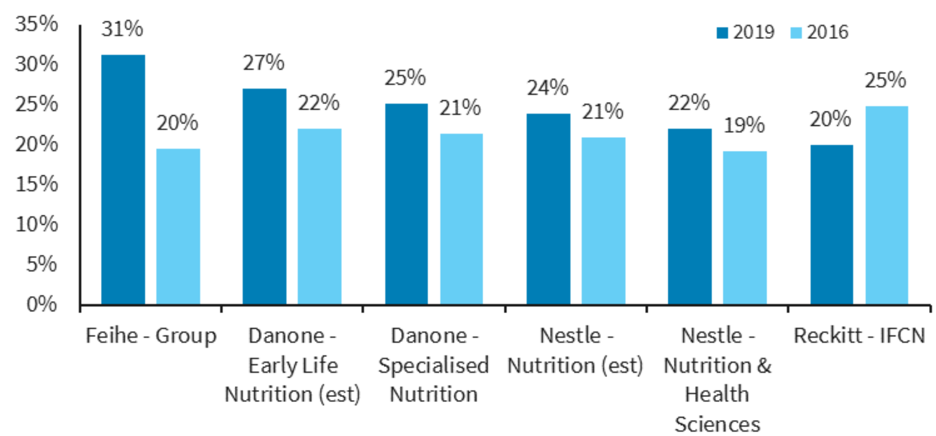
c) **Other operational costs** are relatively higher offline, on our estimates, as it needs a sales force and often multiple layers of distributors i.e. national/regional/local. Moreover, online retailers are able to forecast demand much more accurately, which drives efficiency in production and the supply chain

Overall, looking at reported EBIT margin data by company/division, Feihe is the most profitable at 31% as shown below, and has also shown the most improvement in the last three years given outsized growth in premium brands. The trend is similar with other companies i.e. premiumisation driving margins, with the exception of Reckitt where profitability has declined significantly given weak top line growth (negative operational leverage).

While the other companies do report margins in Nutrition, a) the reporting divisions also include other businesses e.g. Medical Nutrition in Danone and Health Sciences in Nestle, and b) markets other than China account for more than 50% of divisional sales. Adjusting for these factors, we would estimate that standalone Chinese IMF margins would be much closer to Feihe's 31%, or even higher in Nestlé's case given that it has the most premium portfolio in the market.

FIGURE 58

EBIT Margins (2019) in Nutrition by company



Source: Company data

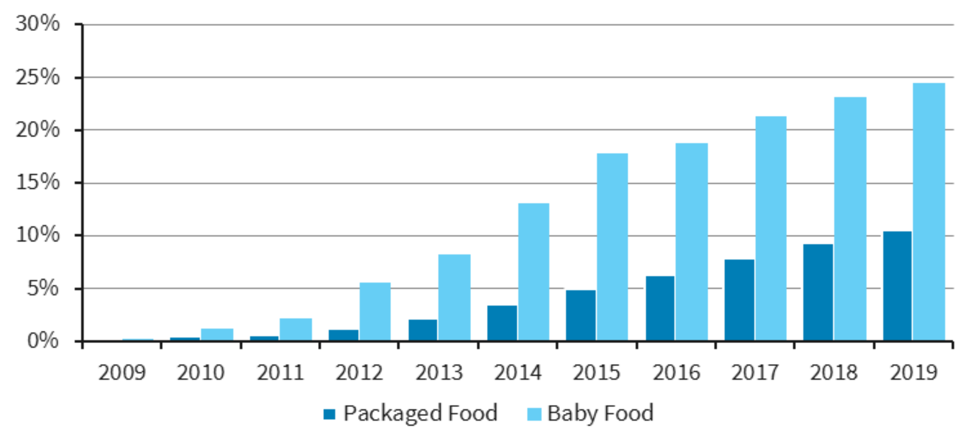
Going forward, we would expect channel shifts to be a critical driver of EBIT margins, especially for multinationals, as they expand in lower-tier cities, leading to higher operational expenses. On the other hand, local manufacturers are moving into tier 1/2 cities where online plays a more important role. The following section goes through these changes in more detail.

More channel shift – CBEC to gain share as MBS matures

Channel shift has been a constant since the toxic milk crisis a decade ago. A big focus has been on the C2C channel (Daigou) where products were being imported from Europe and Australia and sold to Chinese mothers via e-commerce. A crackdown by the government to reduce indirect imports (avoiding taxes) has been successful and moved sales to the regulated B2C e-commerce channel. **The next chart shows the share of overall e-commerce in the category which has gone up from c.5% in 2012 to c.25% currently**, according to Euromonitor – we estimate that >20% of this is B2C i.e. domestic and cross-border combined.

FIGURE 59

Share of e-commerce in China: Baby Food well ahead of Chinese Packaged Food

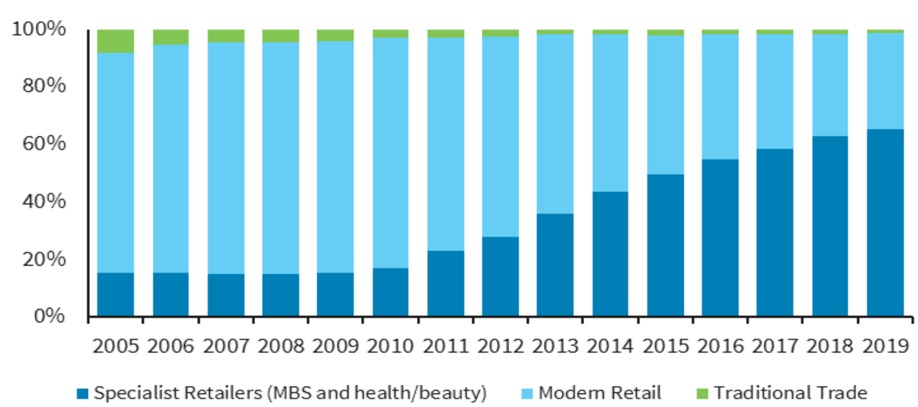


Source: Euromonitor, Barclays Research

The offline channel has responded to the threat of online and become more sophisticated than before especially with the growth of Mum & Baby stores (MBS). While the number of brands on the market has come down significantly following regulatory changes, access to 'expert advice' is still valued highly by parents (which traditional retail lacks) given the range of products available in the Chinese market. This is only going to increase, in our view, as innovation continues and leads to the emergence of new segments like specialty formula i.e. tailored products based on specific nutritional needs. In addition, the ability to touch and feel products, and in-store access to a wider array of childcare services, differentiate MBS stores.

FIGURE 60

Marked change in offline retail with MBS the big winner



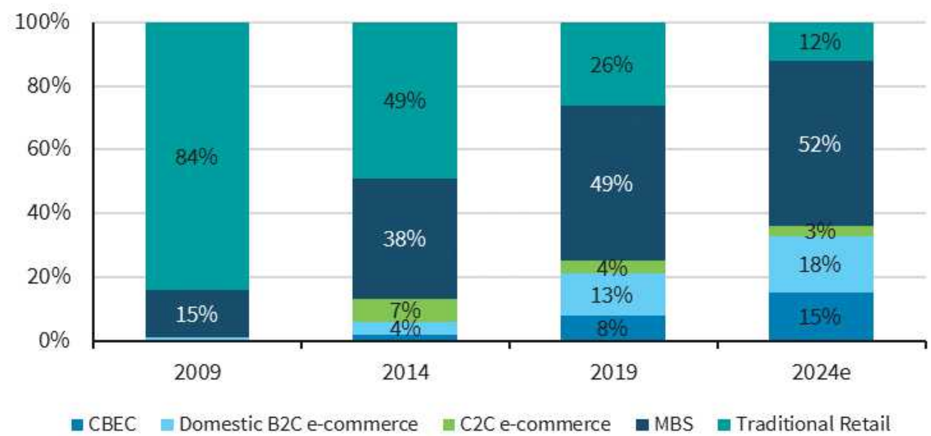
Source: Euromonitor, Barclays Research

Looking ahead, we expect channel mix in the Chinese IMF market to remain dynamic. While the MBS channel has been the big winner in the last 3-4 years, we expect CBEC to be biggest gainer going forward, while MBS matures and consolidates, and traditional trade and C2C continue to shrink.

Industry forecasts (by Frost & Sullivan in Feihe's IPO prospectus) show a similar shift but an even faster acceleration towards MBS, i.e. up to 60% by 2023e, with slower growth in e-commerce. Given these estimates were released much earlier in 2019, they do not reflect the impact of more recent events like the outbreak of Covid-19, the net impact of which is an acceleration in CBEC, in our view. We will move on to discuss the pros and cons of each channel with regards to how it influences consumer decisions.

FIGURE 61

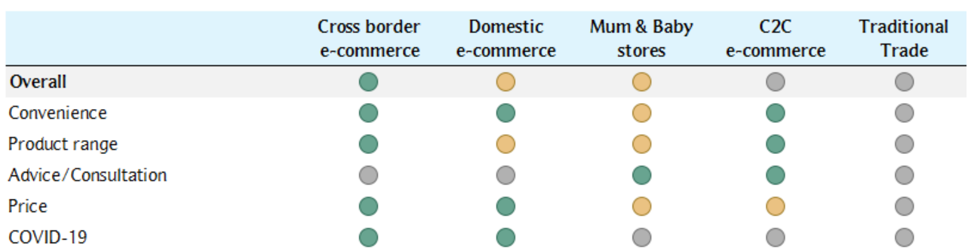
We think CBEC could double to c.15% by 2024, while MBS stabilises



Source: Barclays Research, CBEC = Cross border e-commerce

FIGURE 62

Pros and Cons of key channels in Chinese IMF



Source: Barclays Research

Mum & Baby Stores

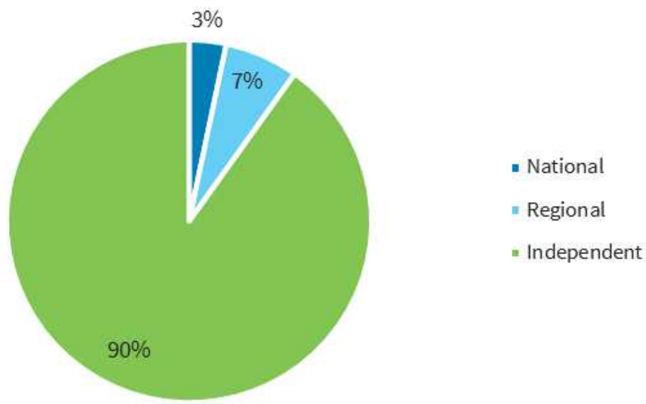
The MBS channel has by far been the most successful channel in recent years in Chinese IMF. In a market like China where mobile commerce and e-commerce penetration is higher than any other country, the expansion of Mum & Baby stores is surprising, but there are reasons behind this.

Mum & Baby stores employ professional consultants that have 1-on-1 interactions with mothers, in-store, helping choose the right kind of infant formula. As functionality and choice expands in the Chinese IMF market, their role is becoming increasingly important.

Specialist retailers (i.e. MBS) have an almost 50% share in Chinese Baby Food vs. only 5% in the US, as shown in the next chart. This is explained by the fact that consumers in China are much more concerned about product authenticity given a history of major food safety issues in the Chinese dairy market. In addition, given that consumers in lower-tier cities are less tech savvy, they rely less on online sources and more on in-store consultants to understand different product attributes which has led to MBS gaining more popularity in lower-tier cities. As the next chart shows, independent Mum & Baby stores far outnumber national or regional chains given their strong presence in lower-tier cities.

FIGURE 63

Independent Mum & Baby stores constitute 90% of the MBS channel (a total of c.120,000 stores)



Source: a2 Milk company reports, Barclays Research

However, the distribution reach of e-commerce players like Alibaba in lower-tier cities is now better than ever before. Moreover, they are finding innovative omni-channel solutions, improving their physical footprint while also maintaining the convenience of being online.

In addition, given the disruption caused by COVID-19, it's very likely that sales have completely shifted online since the Chinese New Year, and this is likely to have an ongoing impact in our view.

While it's obvious that e-commerce would serve the demand while physical stores remain closed across China, what was surprising was that companies like Danone and Feihe have come up with creative solutions to fill the gap in terms of providing health advice to consumers.

Both companies launched free online medical consultation services so that mothers or pregnant women could access medical services without leaving their homes. More than 28,000 doctors have provided over 1 million consultations through Feihe's medical advisory service, according to media reports (scmp.com, 22 February 2020, *link*).

If companies are able to integrate these services with e-commerce capabilities (Alibaba, etc.), it would make a compelling solution, in our view, and be equally convenient for consumers, if not more, vs. what Mum & Baby stores offer. Given the risk from emerging solutions like these, we think that the MBS channel is likely to mature and consolidate going forward.

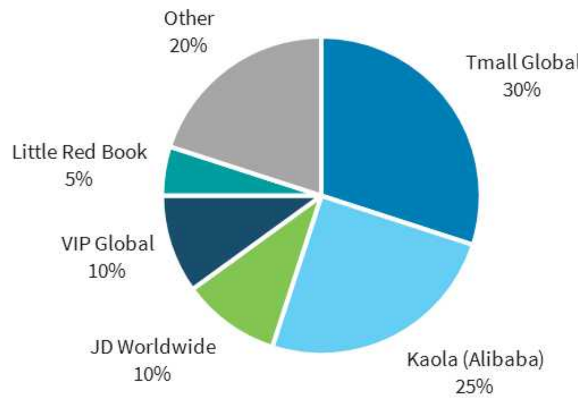
E-commerce: Domestic and cross border (CBEC)

E-commerce has grown five-fold from 5% of the category in 2012 to 25% in 2019, according to Euromonitor. This comprises both domestic e-commerce as well as CBEC but both are dominated by the same three players i.e. Alibaba, Kaola (acquired by Alibaba) and JD although they have dedicated platforms for each e.g. Tmall and Tmall Global.

The key difference between these channels is that the domestic e-com platforms only list brands that have the regulatory approval to be marketed in China while CBEC also lists those that are not approved but are available abroad. Following the roll out of new regulation in 2018 which limits the number of infant formula products sold by any company to nine (three each under a maximum of three brands), the CBEC channel has gained a lot of importance.

FIGURE 64

The top 5 CBEC platforms account for 80% of channel sales



Source: Company reports, Barclays Research

The lengthy registration process for new brands has been a major problem for multinationals as it delays any new roll outs. For example, Nestlé's S-26 brand has been struggling in China with sales declining double-digits in Q4-19. While the company has a renovated product in the pipeline to stem the decline, it now takes several months longer for the product to enter the Chinese market vs. the time it would have taken pre-2018.

To circumvent this headwind, Nestle is looking to expand in the CBEC channel. Moreover, the government has put all applications on hold as it focuses its finite resources on addressing the COVID-19 situation. While infant formula does figure on the government's list of essential supplies (intended to make the movement of products easier), we doubt if the registration process will resume any time soon, at least not until a few months after the full containment of COVID-19.

Consequently, as the likes of Nestle and Danone try to navigate this issue problem and expand in CBEC, we would expect the channel to accelerate in the short term and perhaps even retain the momentum going forward, helped by superior/wider product choice. While innovations might eventually make it to store shelves post-registration, the delay is likely lead to a general trend in the market where companies prioritise a launch in CBEC ahead of filing for registration with Chinese authorities.

C2C: Social e-commerce and Daigou

C2C (Consumer to Consumer) after the Melamine crisis was the main e-commerce channel in China. At one point it made up almost three quarters of the e-commerce channel but has been under pressure for regulatory reasons, so there has been a massive shift to the more regulated B2C (Business to Consumer) e-commerce channel, which now accounts for 70% of e-commerce. Companies like Danone have been investing resource building for example a virtual Aptamil store within JD.com.

Despite this big shift, C2C e commerce still has an important role to play, particularly amongst younger mothers (e.g. millennials) who are more tech savvy and consume content heavily on mobile phones and for higher income families (especially those educated abroad) who believe that European and Australian infant formula brands are intrinsically superior to local offerings.

The C2C e-commerce market can be split into two buckets:

1) Social e-commerce, which includes community oriented platforms where mothers exchange product reviews and experiences. Brands have some level of control in this channel e.g. by partnering with key opinion leaders who have very large numbers of followers who have the ability to influence purchase decisions. Price is also a key advantage in C2C. For example, consumers can leverage their personal networks for group buying on platforms like Pinduoduo and usually obtain discounts vs market prices.

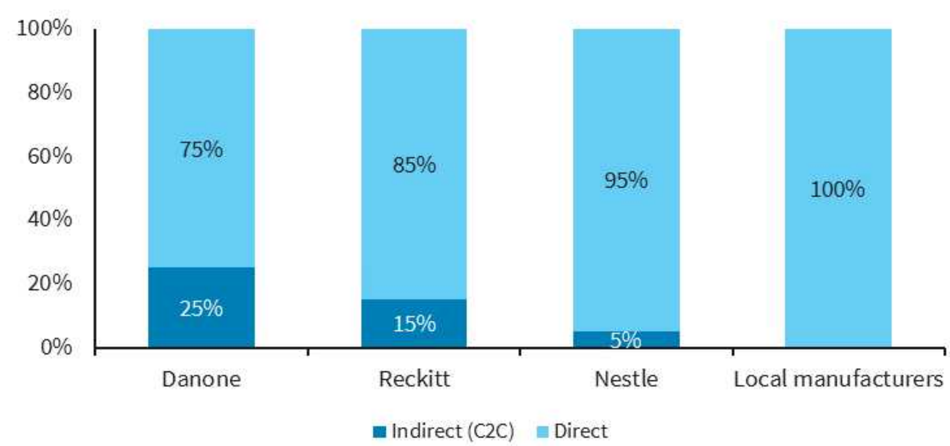
2) The daigou channel i.e. agents or middlemen who buy products abroad and ship them into China. Brands have limited visibility here as marketing mostly happens via word of mouth and transactions happen on apps like WeChat and Taobao.

While the share of C2C in the category has significantly declined after the government's crackdown on the daigou channel, social e-commerce platforms remain a key source of information for consumers.

We estimate that C2C accounts for c.5-10% of category sales but there are exceptions like Danone – c.25% of its China IMF revenues are from C2C. While the company has pivoted away from the channel and is expanding its MBS exposure, management believes that C2C will continue to be a meaningful contributor as long as it appeals to consumers. Nestle, on the other hand, has been under-indexed to the channel but we think Reckitt is relatively more exposed, as shown in the above chart, given its significant share in the Hong Kong market.

FIGURE 65

Direct vs. indirect (C2C) channel sales by company



Source: Barclays Research

Overall, we expect CBEC to be the biggest gainer going forward. While the MBS channel consolidates, C2C will continue to have its own share of the market and traditional retail should continue to decline due to a lack of differentiation vs. the other channels.

COMPANY PROFILES

Nestlé – the most premium IMF portfolio

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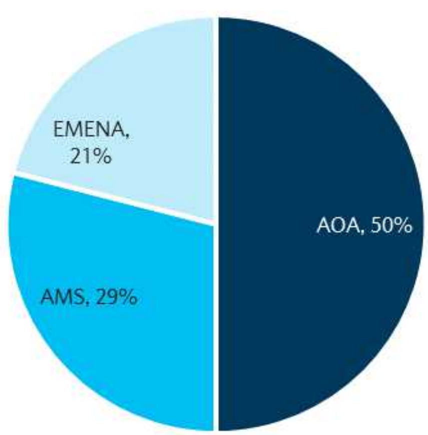
Nestle has been the global leader in baby food and infant formula for more than 10 years now, according to Euromonitor. It first created the Nutrition strategic business division in 1995 and, in 2019, reported Nutrition and Health Science revenue of CHF15 billion. We estimate that Nutrition accounts for 80% of the division (i.e. Health Science 20%), within which infant formula is c.70%, implying global IMF sales of c.CHF8.5bn in 2019. The remaining 30% within Nutrition comes from baby cereals and baby meals/drinks brands like Gerber, Cerelac, Nestum, etc.

Nutrition has been a particular focus area at Nestle over the past couple of years. It is one of the company's five priority categories, with the others being pet care, coffee, water and health sciences. Together, these businesses account for c.60% of Nestlé's sales and are growing 50% faster than the rest of the group (4.1% vs. 2.7% in 2019).

> Nestle has 7 billionaire brands in Nutrition, which make up 86% of the business – NAN, illuma, S-26, Nido, Lactogen, Cerelac and Gerber

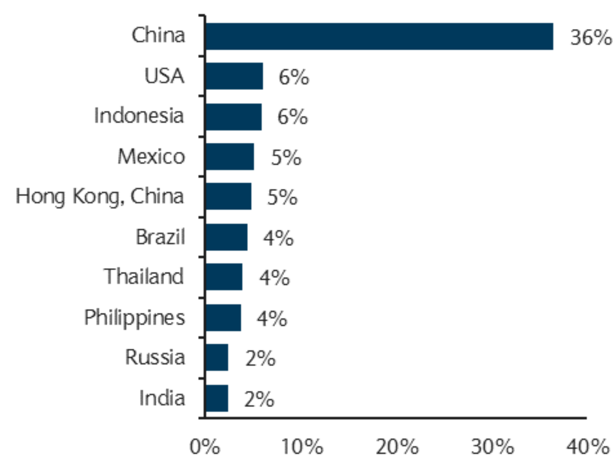
In terms of geographic exposure, AOA (Asia, Oceania and sub-Saharan Africa) accounts for 50% of Nestlé's Nutrition sales, Americas 29% and EMENA the remaining 21%, as shown in the next chart. By country, China accounts for more than a third of Nestlé's global infant formula sales, according to Euromonitor. The US is the next biggest market at 6% of formula sales but the other Asian markets of Indonesia, Hong Kong, Thailand, Philippines and India together account for c.20% of sales. Note that these country splits are based on Euromonitor's retail sales data, which could be different from actual manufacturer sales mix.

FIGURE 66
Geographic exposure of Nestlé's Nutrition business



Source: Company data, Barclays Research

FIGURE 67
Nestlé's infant nutrition retail sales split by country



Source: Euromonitor, Barclays Research

M&A has been a crucial part of Nestlé's strategy in Nutrition

Three of Nestlé's seven billionaire Nutrition brands were acquired over the course of the last decade or so. The most important ones we would highlight are:

- **Gerber for $5.5bn in 2007** i.e. 2.8x 2007e sales and 15.7x EBITDA (18% EBITDA margin). It was the global leader in meals & drinks and had >80% share in US baby food market.
- **Wyeth Nutrition (illuma, S-26 and SMA) in 2012 for $11.9bn** i.e. 5.0x 2012e sales and 19.8x EBITDA pre-synergies or 15.6x EBITDA post-synergies. 85% of its sales were in emerging markets at the time with the key attraction being a leading position in the Chinese infant formula market. Its margin economics were also attractive with an EBITDA margin of 25%, 600bp higher than Nestlé's group EBITDA margin in 2011.

FIGURE 68

Key milestones in the history of Nestlé's Nutrition business

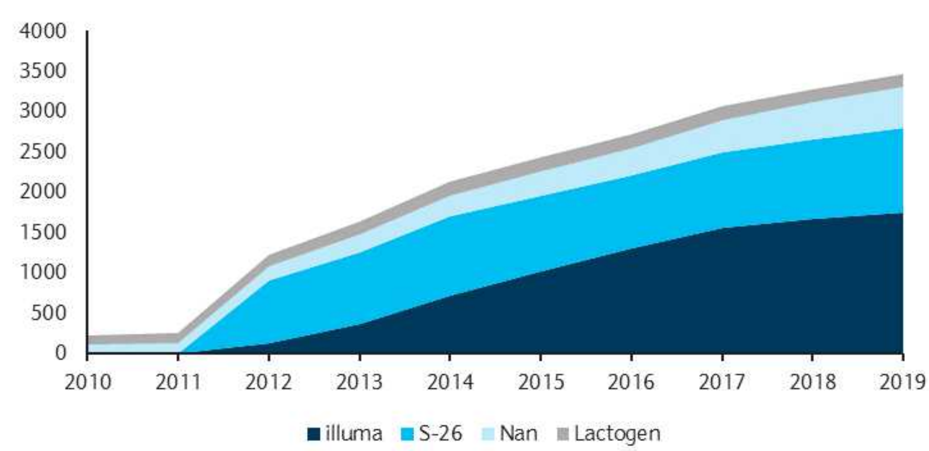
1997	2005	2007	2012
Creation of Nutrition Strategic Business Division	Nestle Nutrition set up as a Globally Managed Business	Acquisition of Gerber and Novartis Medical Nutrition	Acquisition of Wyeth Nutrition

Source: Company reports, Barclays Research

The acquisition of Wyeth in 2012 played a crucial role in making Nestle the global leader in infant formula. At the time of the deal, Wyeth had revenues of c.$2bn mostly geared into the growing markets of Asia which accounted for about three quarters of its sales. Its brands illuma, S-26, etc. were higher up the price spectrum vs. Nestlé's existing brands of NAN, Lactogen, etc, helping it drive its premiumisation agenda, which is so crucial in the Chinese infant formula market. Illuma and S-26 together have driven >80% of Nestlé's growth in Chinese IMF since 2012, Nestlé took the Illuma brand which was very small at the time of the acquisition, and turned it into one of their billionaire brands.

FIGURE 69

Nestlé's China IMF retail sales (CHF mn): illuma and S-26 drove >80% of growth since 2012



Source: Euromonitor, Barclays Research

The multiple it paid for Wyeth, i.e. 19.8x EBITDA pre-synergies (15.6x post synergies), was at the higher end of the spectrum when compared to typical sector M&A multiples. However, it was justified because the Chinese IMF market was booming at the time and Wyeth was a leader in the market with a very attractive portfolio of premium brands such as illuma. By contrast Danone paid 21x EBITDA for WhiteWave in 2016, which whilst a good business with some high potential plant-based brands such as Alpro and Silk, was (in our opinion) not in the same league as the Wyeth business.

At the time of the acquisition, Nestlé expected returns on the deal to exceed cost of capital in year 4 to 5 i.e. 2015-16. While group ROIC including goodwill was down from 14.1% in 2011 to 11.2% in 2016, ROIC ex-goodwill was up from 30.3% to 31.7% in the same period. Given other M&A activity, e.g. Merrick acquisition in Pet Food in 2015, and formation of several JVs (e.g. Froneri in ice cream) during the period, it is unclear what the standalone impact of the Wyeth acquisition was, but we expect it exceeded cost of capital ahead of the 5-7 year benchmark that the company has. However what is it clear is that the Wyeth deal was transformational and was key in helping consolidate its global infant nutrition ambitions.

> CFO Francois-Xavier Roger said at a broker conference last year:
>
> ***"If I take illuma in infant nutrition, it is a product that has a price per kilo, which is roughly speaking two times the price of a mainstream product in China. This is only for China illuma. We made that product more than $1 billion last year, while it was zero sales six years ago. So, you can see what we can do and it really drives obviously sales and margin."***

Adapting to changing category dynamics

Nestle had initially set up Nutrition as a globally managed business in 2006 but shifted to a regional structure at the end of 2017. This made strategic sense to us given that the dynamics in the infant nutrition category vary vastly across different markets, especially China where growth has been volatile and uncertainty high.

Compared to double-digit growth previously, i.e. before 2017, Chinese infant nutrition has only been growing mid-single-digits for Nestlé in the last two years. Its ultra-premium brand illuma accounts for more than 50% of sales in China followed by c.30% of sales from S-26 and the rest from brands like Gerber cereals.

While illuma is growing double-digits, S-26 has been an area of concern and is declining double-digits. The company plans to relaunch S-26 in the market in 2020, in an attempt to accelerate growth, although this may be delayed because of Covid-19. At the Q3 results, the CFO said, ***"we are seeing different dynamics between price points, super premium offerings such as Illuma and Purina grew well while mainstream products such as Yinlu peanut milk, congee and S26 were challenged."***

Nestlé's strategy in Chinese infant formula has some similarities to that in US Pet Food where it has premiumised its way out of the economy pet food segment, which is declining as consumers trade up to higher-quality premium (science-based) brands. Management said at a recent broker conference that they see tougher competition in the lower price segments, especially from local manufacturers, and plan to exit the segment altogether in the mid term.

> ***"There have been already hundreds of local competitors in the market for quite some time. We don't necessarily see that as an issue as well, as these guys are predominantly acting in the mainstream business, which we have not totally exited, but almost."*** Nestlé CFO at a broker conference in Sep'19.

By exiting the mainstream segment, Nestlé risks missing the big growth opportunity in tier 2/3 cities where the bulk of the population growth (volumes) is coming from. While lower-tier cities are premiumising at a faster rate than tier 1/2 (i.e. rate of change in the average price), the absolute price points still remain relatively low. Therefore, we think Nestle needs to have a portfolio across a broad range of price points in addition to its already strong super premium portfolio.

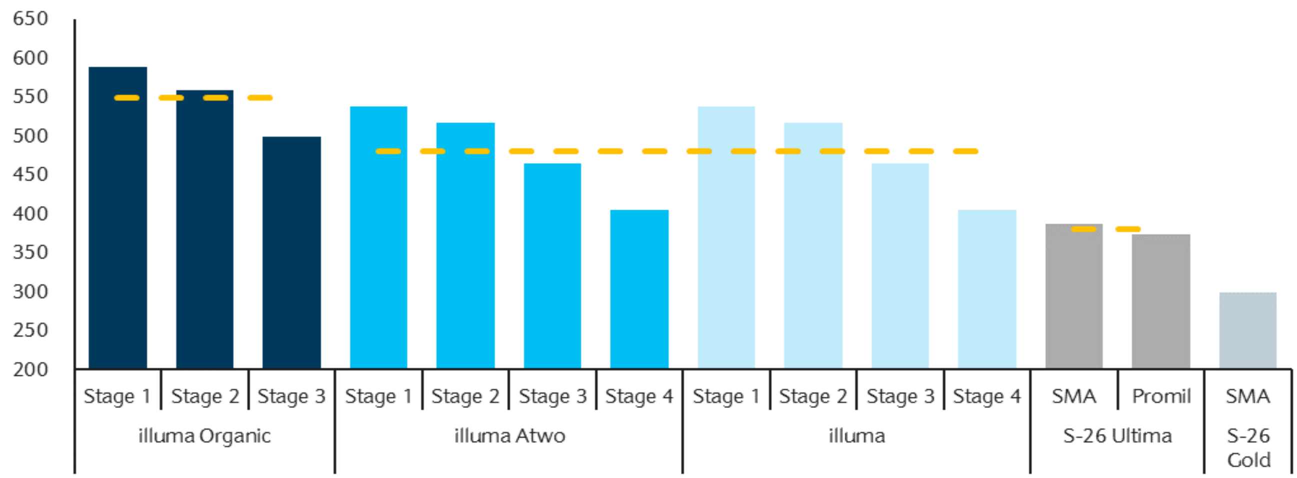
Nevertheless, a premium-only portfolio could also be a way forward if the company is willing to trade off volume growth at the lower end of the price spectrum for better mix from the premium end, which is its main area of strength.

Nestle has the most premium portfolio in Chinese IMF

Nestlé's most premium IMF offering i.e. illuma Organic stage 1 formula is priced at almost RMB 600/kg (link *here*), which is more than 2.5x that of S-26 Gold at the bottom end of the price spectrum. While Nestlé does not disclose gross margin data at a category level, looking at publically disclosed data from listed pure-play IMF companies (e.g. Feihe), gross margins in ultra-premium could be as high as c.80% vs. Nestlé's group gross margin of c.50%, making growth in premium IMF highly margin accretive.

FIGURE 70

Nestlé's Chinese IMF portfolio by brand and RMB/kg prices – illuma organic is the most premium line, S-26 Gold the least



Source: Barclays Research, Parknshop.com

While Nestlé's Chinese IMF business only grew slightly in 2019 – we estimate 1% – illuma still grew strongly in the double digits, but offset by a continued decline in S-26. Our calculations in the next table show that S-26 sales were down c.15% in 2019, hiding solid growth in the rest of the portfolio.

FIGURE 71

Our growth estimates for Nestlé's Chinese IMF portfolio by brand

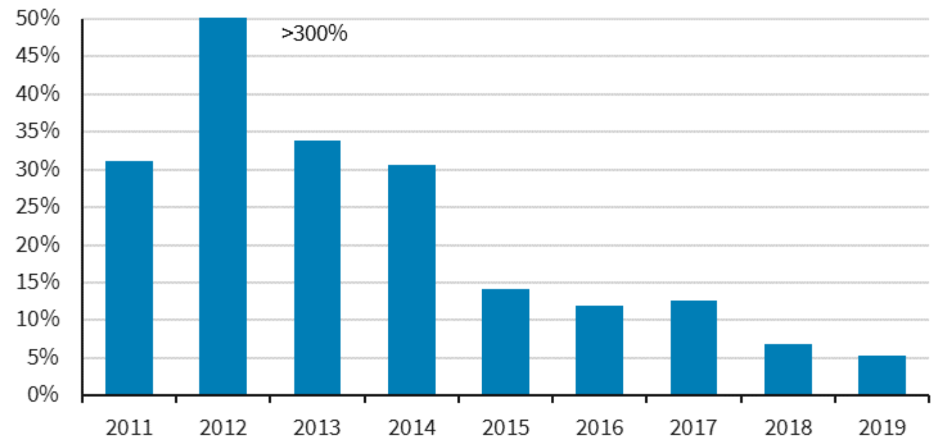
FY19 Growth	Weight	Growth
Illuma	55.0%	10.0%
S-26	35.0%	-15.0%
NAN	8.0%	5.0%
Gerber	2.0%	15.0%
Total	**100.0%**	**1.0%**

Source: Barclays Research

While the company is also expanding into adjacent areas like maternal nutrition (for pregnant mothers) and infant cereals (Gerber where it recently moved from importing it to producing it locally) to diversify its portfolio, decline in its second-largest brand in Chinese IMF S26 is a concern and needs to be addressed with urgency, in our view.

FIGURE 72

Nestlé's China IMF retail sales growth



Source: Euromonitor, Barclays Research (2012- Acquisition of Wyeth Nutrition)

Nestlé has said that a renovated S-26 is already in the pipeline and a registration with Chinese authorities has been filed. However, all new brand registrations have been on hold as the government is focusing all its resources on resolving the COVID-19 situation. As a result, the relaunch of S-26 is likely to be delayed, weighing on growth prospects. While Nestle does not have visibility on when registrations might resume, we wouldn't expect it to be before H2-20.

One alternative to circumvent this problem in the short term (before eventually receiving an approval to launch in China) is to import the new S-26 via the CBEC channel. However, Nestlé has historically been under-indexed in this channel and management said at CAGNY in February that an expansion in CBEC is part of the company's strategy going forward.

The good news is that Nestlé is strong in domestic e-commerce and has well-established relationships with the likes of Tmall, Alibaba and JD, etc., which are also the top 3 platforms in CBEC. Therefore, we would expect the transition to be relatively straightforward but growth in the near term is still likely to be soft.

Impact of new regulation: *"not an issue for us"*

The other issue is the Chinese government's push to increase the share of domestically manufactured formula to 60% (vs. 40-50% currently) and support for Chinese companies to expand operations.When questioned about the implications of new regulation, CFO Francois-Xavier Roger said at an industry conference in Sep-19 that the impact will not be material given that the company has large underutilised manufacturing facilities in the country which hedges them from any potential import issues.

"We have large manufacturing facilities in China, which are largely unused today, or underused today given that Chinese mothers prefer to import products from -- predominantly from Europe, which is what we do. The quality of what we produce in Europe, the quality of what we produce in China is the same. We have a variable capacity locally, so it's not an issue at all for us.

- Nestlé's CFO said at an industry conference in Sep'19

Key forecasts

Our forecasts for Nestlé's Nutrition and Health Sciences division are shown in the next chart. We expect the business to continue to deliver mid-single-digit growth (c4%) in the medium term and margins, which are in the low 20s, to improve at a rate of 20bps per annum, in the medium term.

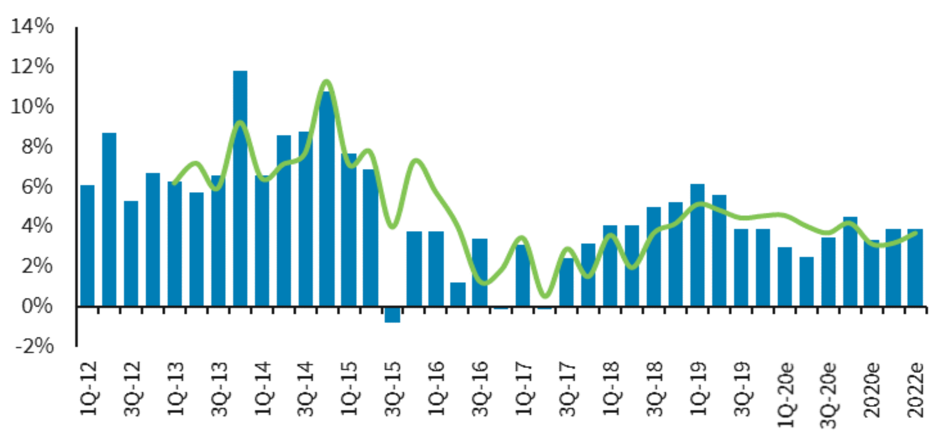
Following a slowdown in 2016 ahead of new regulation in China and some weakness in Europe, growth in the Nutrition and Health Science business has recovered to mid-single-digits as the company moved the business from a globally managed to regionally managed structure. As discussed earlier, we estimate that Health Science accounts for 20% of the division and Nestlé said at Q4 results that it grew high-single-digits in the quarter – we assume 8% – which implies that the Nutrition grew c.3.0%.

Going forward, we expect growth in the division to slightly moderate in 1Q20e given increased competition in urban markets from the likes of Feihe and the continued decline of S-26 as well as some impact from Covid-19. We hope that the S26 issue will be resolved later in 2020e, following a launch of a renovated version which is in the pipeline.

While expansion in lower-tier cities is underway, there remains a lot of uncertainty around how quickly Nestle can roll out into smaller cities and the traction its brands could gain. Given limited visibility around these questions, we do not incorporate any benefits from lower-tier expansion into our forecasts and there remains some upside here.

FIGURE 73

Nestlé's Nutrition and Health Science OSG



Source: Company data

On margins, we are relatively bullish as the weight of premium IMF is likely to increase with Illuma outperforming and S-26 underperforming (i.e. positive brand mix). Moreover, the company aims to premiumise S-26 and exit the mainstream segment altogether, which should further drive margins. We model a 80bp margin increase in 2020e (vs. +150bp in 2019), taking Nutrition and Health Science margins to 23.3% by 2020e, followed by a relatively moderate 20-40bp margin growth in the out years, as shown below.

FIGURE 74

Underlying EBIT margin – Nutrition and Health Science

	2012	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e	2023e
EBIT Margin	18.7%	19.8%	22.4%	20.0%	19.3%	20.1%	20.6%	22.1%	22.9%	23.3%	23.5%	23.7%
change		1.1%	2.5%	-2.4%	-0.7%	0.8%	0.5%	1.5%	0.8%	0.4%	0.2%	0.2%

Source: Company data, Barclays Research

Conclusion

Nestlé's performance in China has been impressive, in our view, growing nicely in the last few years despite the headwind of fewer babies. We believe management have done an excellent job with Illuma, but we are somewhat concerned that growth is unbalanced and could be at risk if Illuma slows and S26 doesn't pick up the slack. Nestle is making a push to diversify its business by growing its infant cereals business and is also looking to grow its maternal nutrition unit, but the fact remains the performance of illuma will drive the performance of Nestlé 's China nutrition unit.

Danone – best-performing IMF player since 2012

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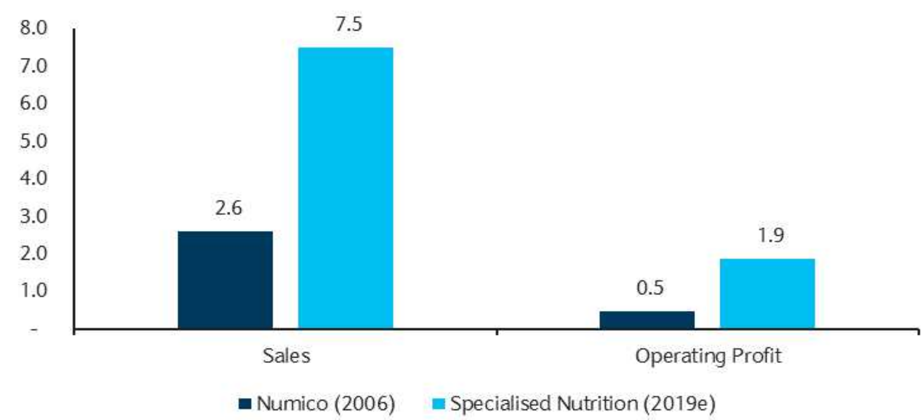
Danone is the no.3 player in Chinese infant formula with a 2019 value share of 10.1%, according to Euromonitor. Danone's position in China formula was built largely on the back of the transformational Numico acquisition in 2007.

Before the Numico deal, Danone was primarily operating in the infant cereals category with its large European brand of Bledina. At the time, Numico had €2.6bn in sales (2006), of which c.70% was baby food and 30% healthcare nutrition.

It was an expensive deal, costing €12.3bn (21x EBITDA), with limited synergies and although the timing was poor (a year before the financial crash of 2008) we consider it to have been a good transaction in the main.

FIGURE 75

Since 2007, Danone has grown Numico's sales c.3x and operating profit c.4x



Source: Company data, Barclays Research

Danone has been able to accelerate growth, widen margins and generate a significant step-up in cash generation. Since 2007, it has grown Numico's sales c3x and Operating Profit 4x.

Without Numico, Danone's struggles with its dairy division in the years between 2008 and 2013 would have been significantly amplified.

That said, it did suffer a serious setback in 2013 with a false positive contamination scare from one of its key milk powder suppliers, New Zealand based Fonterra. Fonterra informed Danone that three batches of WPC were potentially contaminated with Clostridium botulinum.

It took a month for Fonterra to conclude that in fact there was no actual problem, but by that time the damage had already been done. Danone had withdrawn the Dumex brand from shelves in China and the rest of SE Asia. Unsurprisingly Dumex's sales collapsed and, despite management's best efforts, never recovered.

To add some perspective on the financial implications of this incident, Danone's China sales dropped from $890m in 2012 to $200m in 2013 and also needed to take a $400m impairment. Danone took legal action and won compensation, but even so this was a major setback for their aspirations in the country, and something that was entirely out of their control.

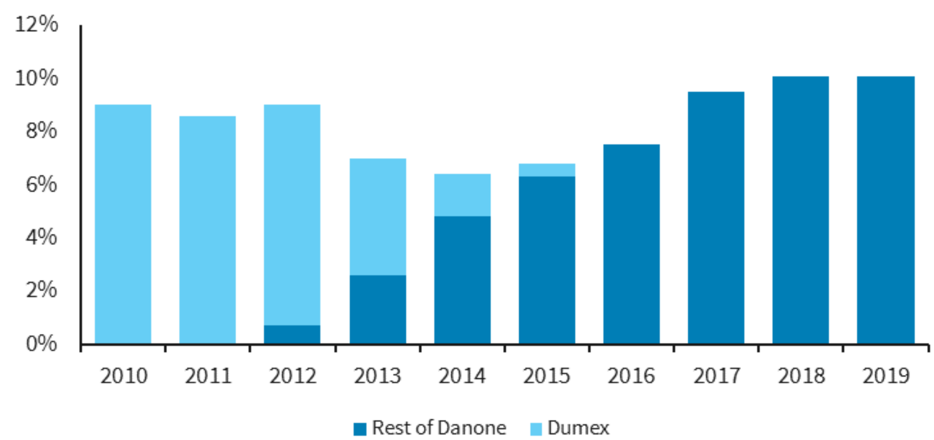
Danone ended up selling Dumex to Yashili for c.$150m ((*Reuters, 2 Dec 2015*)). At the time Danone held a 25% stake in Yashili with Mengniu the majority shareholder with 51%. The rationale of the deal was to create a strong local infant milk formula champion. With the proceeds Danone increased its stake in Mengniu to 10%.

Whilst this was a low point, the recovery of its Chinese infant formula business since has been very impressive.

- **Danone's specialised nutrition sales in 2019 were €7.5bn i.e. c.3x that in 2006, which implies a CAGR of 8.5% over 13 years.**
- **Ex-Dumex, the company has gained 9.4 percentage points since 2012 vs. Nestlé's 3.4pp.**
- **Danone has also done an impressive job in improving profitability of the business via premiumisation. The company reported Specialised Nutrition margins of 25.3% in 2019 vs. Numico's margin of 18.4% in 2006.**
- **The sale of Dumex to Mengniu allowed the company to focus on its imported portfolio i.e. Aptamil which is now the no.2 brand globally for Danone.**

FIGURE 76

Danone's market share in Chinese IMF since 2012 (with the Dumex impact highlighted)



Source: Euromonitor, Barclays Research

Interestingly, it was reported Danone had also considered selling the medical nutrition business in 2014 and received bids from the likes of Nestle and Fresenius (*Reuters, 4 Apr 2014*). While there was no official rationale, the market viewed this as a sign of Danone's ambitions to consolidate its position in dairy and baby food, funded by disposals in 'non-core' areas (*Reuters, 7 Mar 2014*). However, the company later decided to keep the business.

In hindsight, it was the right decision for Danone, in our view, as medical nutrition has delivered consistent growth with infant nutrition being more volatile and dairy/EDP relatively weak. Specialised Nutrition accounts for c.30% of group sales but drove c.60% of the growth in 2018.

As the European dairy business recovers, we expect growth to be more balanced but Specialised Nutrition should continue to outperform the rest of the group in terms of top-line growth, albeit not this year because of Covid-19 and the delay to launching super premium Aptamil (due to Chinese registration delays), growth will be lower than the 5% it has delivered in each of the last three years.

Danone has been a big beneficiary of booming growth in the Chinese indirect channel

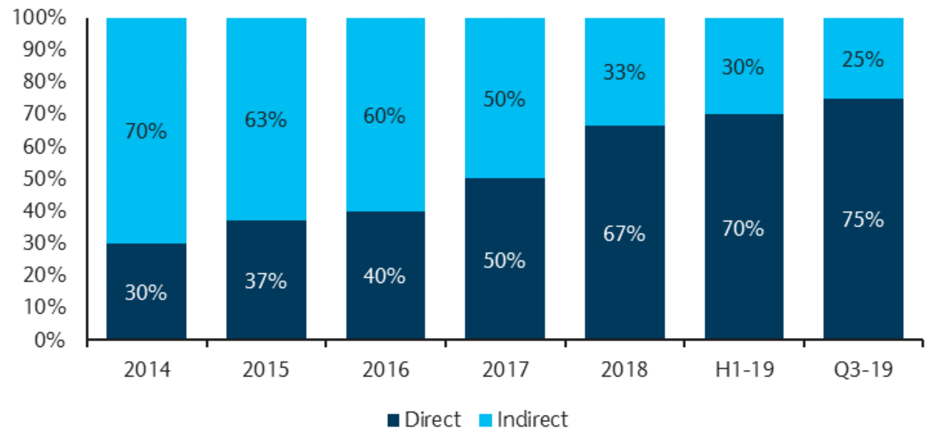
One of the key drivers of outperformance, in our view, was Danone's outsized exposure to the indirect channel. As shown in the next chart, about 70% of Danone's baby nutrition sales in 2014 were from the indirect channel, which primarily comprises cross-border C2C sales i.e.

daigou trade. We estimate this number was even higher at c.90% in 2012 i.e. at the time, Danone's IMF business was virtually a pure play C2C e-commerce operator.

Whilst this indirect channel strategy led to volatility in recent years given regulatory changes, we think it played a crucial role in building brand equity and trust with Chinese mothers via word of mouth and daigou i.e. intermediaries who buy products abroad and ship them back to China for resale.

FIGURE 77

Danone's Channel Mix in China Infant Formula Market



Source: Barclays Research, Company data

Not only did the daigou channel act as personal shoppers for their Chinese clients across the border (often via Hong Kong), they also served as highly effective marketers. A key method daigou use to establish trust is blogging and live streaming about popular brands, which routinely attracted tens of thousands of viewers.

In fact, in one-on-one interactions over social media apps, daigou also provide personalised pre-sales (e.g. nutritional info, key functional attributes of a product, etc.) and post-sales (e.g. dosage, method or frequency at which to feed milk formula to a baby) consultation services – a level of engagement that is hard for companies to replicate.

Data on Consumer to Consumer e-commerce (C2C) sales is rarely available and generally not reliable, but given that Danone has been able to sustain share gains in recent years despite the broader decline in the C2C channel, which it is over indexed to, Danone remains the clear leader in this channel.

Impressive transition to the direct channel

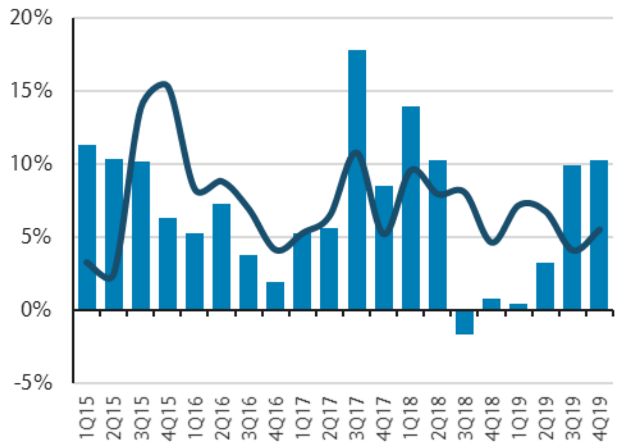
However, this model was not going to be sustainable (due to few taxes paid to the Chinese government and much of it not regulated) and Danone gradually transitioned its business to the direct channel, which is an impressive achievement, in our view. On **its Q3-19 results call, the company said that 75% of its sales were from the direct channel, the inverse of 2014.**

Danone is also making progress in the growing MBS (Mum & Baby Store) channel and has tripled the number of stores it has direct reach to in lower-tier cities. In addition, it does not have any meaningful exposure to the declining modern trade channel following the disposal of Dumex. We expect this channel shift to continue going forward and forecast the direct channel to stabilise at 80-85% and Indirect at 10-15% of sales.

Despite the rapid shift in channels, interestingly, Danone is the only major multinational company to gain share in Chinese IMF over the last two years. **On a two-year stacked basis, Danone has consistently delivered mid-to-high single digit growth in Specialised Nutrition since 2016. By contrast, Reckitt has been losing share in China while Abbott and Nestle are broadly flat.**

FIGURE 78

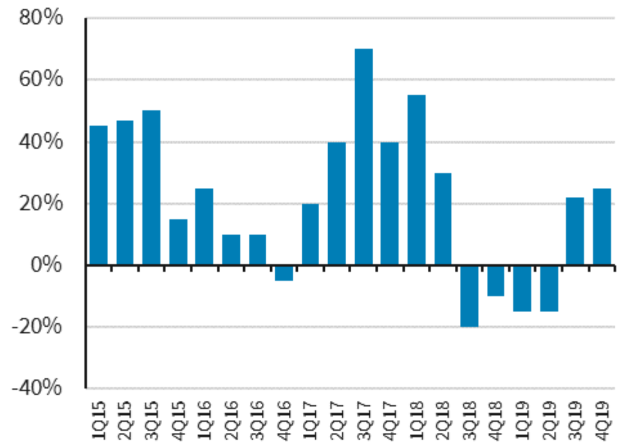
Danone Specialised Nutrition OSG



Source: Company data, Barclays Research

FIGURE 79

Danone Chinese Infant Nutrition growth



Source: Company data, Barclays Research

One other differentiating feature that Danone has in China is its Advanced Medical Nutrition platform, which gives it access to key opinion leaders and the hospital channel. It has a strong tailored nutrition portfolio i.e. first diet and allergy management, etc., with the leading brand Neocate.

It is also a leader in cows' milk allergy (CMA) and gastro-intestinal disorders, all of which are on the increase. Healthy aging is an important topic in China across all layers of government and society more generally.

We think Danone can unlock more synergies between its two divisions, i.e. early life nutrition and medical nutrition. For example, it could use feedback from doctors to identify consumer needs at an early stage and get ahead of the curve on innovation.

In fact, this is one of the key factors behind the company merging the two divisions to form Specialised Nutrition, but we think there is plenty of runway left in terms of revenue synergies, especially in tailored nutrition. That said it is likely to get more competitive with both RB and Nestle making big moves in this direction. The next table shows Danone's portfolio in Specialised Nutrition, including both infant and adult nutrition brands.

FIGURE 80

Danone's Specialised Nutrition brand portfolio

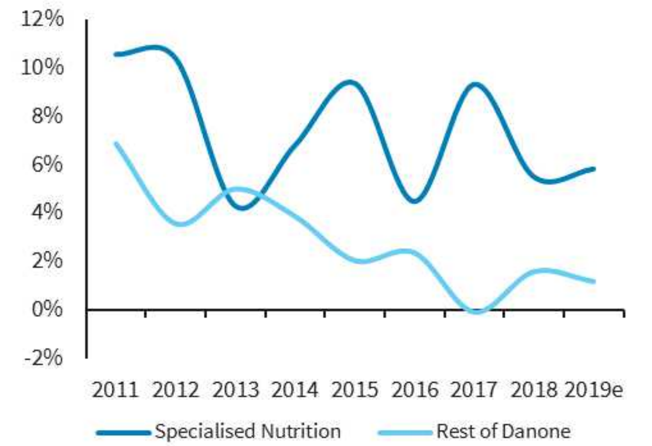
Brand name	Divisions	Functions
Aptamil	Early-life Nutrition	Scientifically advanced - Immune Function Ready for challenges, Condition Related Nutrition
Nutrilon	Early-life Nutrition	Dutch Heritage, Rooted in Nature for strong growth Infant Milk Formula
Happybaby	Early-life Nutrition	Leading edge organic Baby Food/ IMF with roots in US
Cow & Gate	Early-life Nutrition	Hong Kong Premiumness, Better absorption, Infant Milk Formula, Baby Food
Nutricia	Advanced Medical Nutrition	Medical Masterbrand
Neocate	Advanced Medical Nutrition	Condition Related Nutrition, #1 allergy globally
Infatrini	Advanced Medical Nutrition	Food for Special Medical purpose for babies (<18m) with faltering growth or increased nutritional requirement
Fortini	Advanced Medical Nutrition	Disease related malnutrition for age 1-6
Fortimel	Advanced Medical Nutrition	Condition Related Nutrition, Strength, Muscle
Souvenaid	Advanced Medical Nutrition	Food for special Medical Purpose for cognition and dietary management of early Alzheimer's Disease
Nutrison	Advanced Medical Nutrition	Enteral Feeding

Source: Company data, Barclays Research

Specialised Nutrition to drive outsized growth – China remains crucial

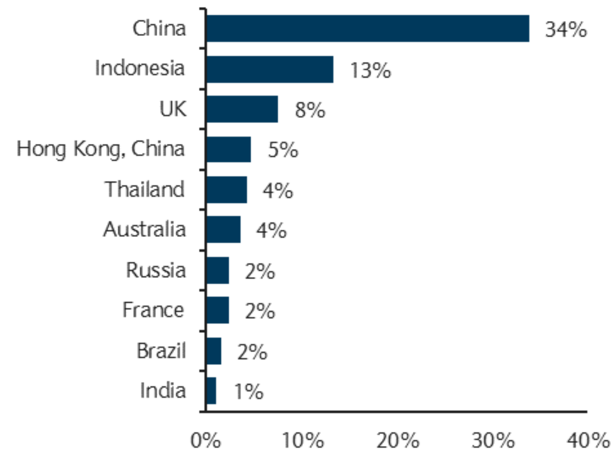
China will play a crucial role in this as it accounts for more than a third of Danone's infant nutrition sales, i.e. c.6% of group sales. Adjacent markets like Indonesia, Hong Kong, Australia, etc. account for another c.27% of sales, implying a c60% weight of key markets in the APAC region (~10% of group sales). While the company has been outperforming the rest of the Chinese IMF market for about seven years now, there remain plenty of untapped growth opportunities, which are now being looked at.

FIGURE 81
Specialised Nutrition has consistently delivered superior top line growth



Source: Euromonitor, Barclays Research

FIGURE 82
Danone's infant nutrition sales split by country



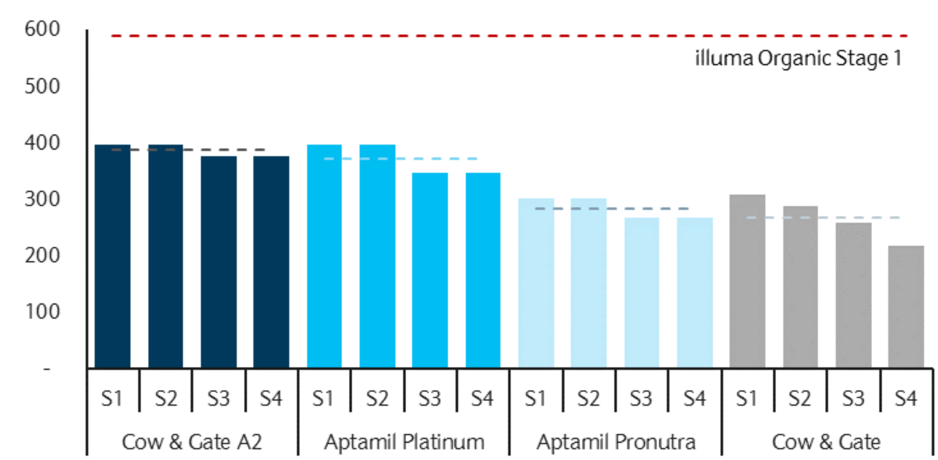
Source: Euromonitor, Barclays Research

1) Expanding into ultra-premium

Of the top 5 players in Chinese IMF (Danone, Nestle, Feihe, Abbott, Reckitt), Danone has the least exposure to super/ultra-premium. As shown in the next chart, its highest priced brand, based on our research, is Cow & Gate A2 at RMB 397/kg which is priced c.30% higher vs. the core Cow & Gate range, but is still 30+% lower than that of the most premium brand on the market i.e. illuma organic stage 1 at RMB 588/kg.

Organic is, by far, the most premium product range in the Chinese IMF market with Nestlé's illuma and Feihe's Zhenzhi at the top end of the spectrum. However, Danone does not have any presence here. Aptamil Platinum, which was launched in 2017, does operate in the ultra-premium segment but the market has further premiumised since then, leaving Danone under-indexed.

FIGURE 83
Danone's brands by pricing (RMB/kg) – significant gap vs. the most premium brand on the market i.e. Nestlé's illuma Organic Stage 1



Source: Barclays Research, Parknshop.com

The company has indicated that more launches in ultra-premium are planned and plugging the gap in this segment should drive incremental growth, although getting approval from the Chinese government is taking time. Other new launches include Aptamil Allecure Pepti Syneo for dietary management of cow's milk allergy and a formula made from goat's milk under the brand Karicare, etc.

It is important to note that rolling out innovations has become more time-intensive following the recent introduction of registration rules i.e. any new brand/formula needs to undergo a registration process with SAMR (State Administration for Market Regulation). While Danone does own a strong premium brand in Aptamil, catching up with the competition and closing the gap in ultra-premium is likely to take longer than it would have taken, for example, in 2016 when the likes of Reckitt's Enfinitas were launched.

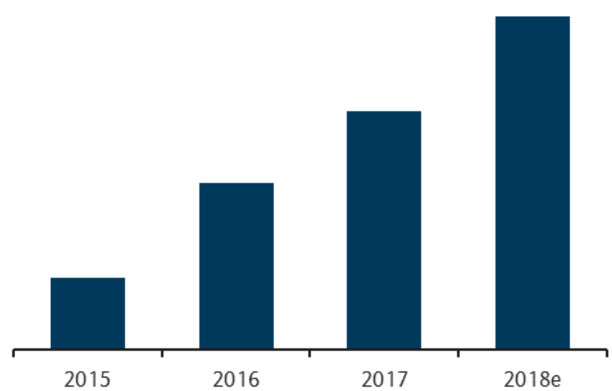
2) Distribution

The other big opportunity attracting investment from most of the multinationals is the growth in lower-tier cities. There are clear opportunities to increase Danone's market share in the Mum & Baby store channel in China and penetrate lower-tier cities. MBS accounts for about half of Danone's direct sales i.e. c.40% of Chinese infant nutrition revenues, on our estimates. While the company has 85% distribution coverage in the MBS channel in A/B cities (i.e. tier 1 or 2 cities), the number is only 50% in C/D towns (lower-tier cites).

Danone provided the below charts at its investor day in 2018 showing distribution gains in retail and hospitals. While the charts are not scaled, the relative distribution gains in the last few years have been significant.

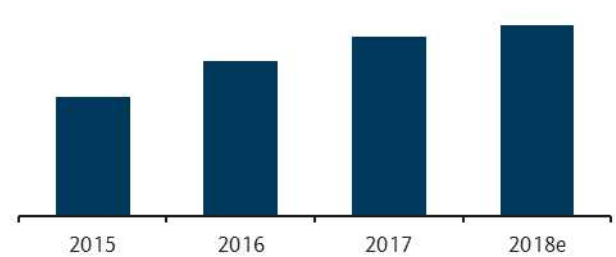
> ***"In physical stores in lower-tier cities, we nearly doubled the number of MBS (mum & baby stores) in which we directly distribute our product."***
>
> \- Danone's CFO Cecile Cabanis at the Q3 results stage
>
> ***Later at Q4 results on Feb 26th, the CFO said that MBS coverage had tripled YoY.***

FIGURE 84
Rapid gains in retail distribution in China…



Source: Company reports

FIGURE 85
…complemented by increase in hospital coverage



Source: Company reports

In 2019, Danone tripled the number of mum & baby stores it directly distributes to in lower-tier cities, which may be off a low base but is still impressive, in our view. The more important question is to what extent would Danone expand distribution independently vs. leveraging third-party distributors.

Based on our research, Danone is predominantly dependent on its own sales force and has increased headcount to support recent geographical expansion. While the initial phase of expansion is likely to be focused on tier 2 and perhaps the more developed tier 3 cities, as the company goes deeper into the tier 3/4/5, third-party distribution is going to play an increasingly important role.

While this might already be on the local management's agenda, getting a head start and developing key distributor relationships ahead of the competition could play a crucial role in determining the winners in these markets. The partnership with Yashili (Danone has a 25% stake) could be leveraged here, in our view, as local manufacturers have stronger retailer/distributor relationships, in general. Currently, synergies are limited to supply agreements and sharing best practices on food safety/R&D, according to the company.

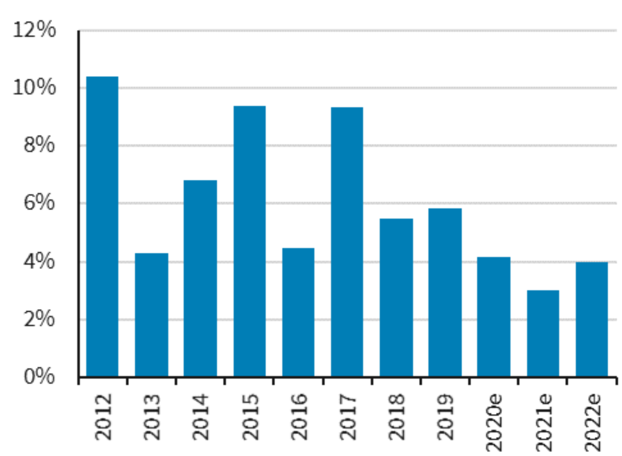
Key forecasts

Despite significant volatility in China with regards to regulation, Danone has done a good job growing its specialised nutrition business more than 5% overall in each of the last few years. Danone has been clear that 2020 will be below this level due to the impact of Covid-19 but also because its super premium launches will be pushed back because of registration delays.

Looking out, we expect Specialised Nutrition to grow around c.4%, similar to our forecasts for Nestle. On the plus side, Danone has more room to premiumise its portfolio and has a stronger position in tailored nutrition, which is growing double digits. Without doubt, Danone has a much better and more balanced channel mix vs even three years ago when it looked very exposed due to its high indirect channel weighting. Growth from expansion in lower-tier cities is equally difficult to estimate and for prudence we do not give Danone any incremental top-line benefit from this, but this could drive upside risk.

FIGURE 86

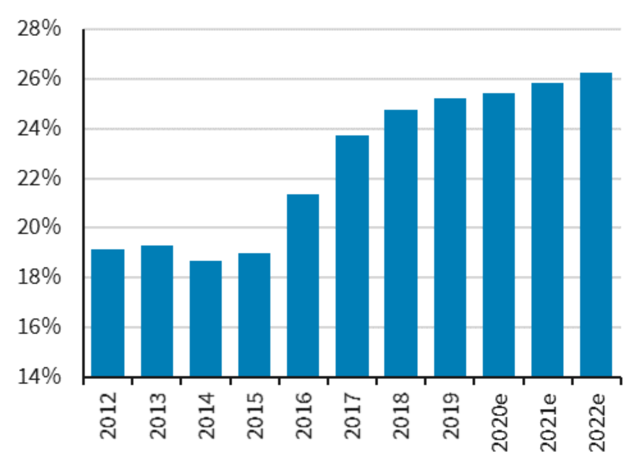
Specialised Nutrition OSG forecasts



Source: Barclays Research

FIGURE 87

Specialised Nutrition EBIT margin forecasts



Source: Barclays Research

On the margin front, Specialised Nutrition is Danone's highest-margin business with an EBIT margin of c.25%. Both Nestle and Reckitt's nutrition margins are in the low 20s, despite being more premium. There have been some questions on whether Danone is over-earning. The company has historically been over-indexed to the daigou channel, which has lower investment needs, in our view, as marketing mostly happens via word of mouth. With the weight of MBS and B2C e-commerce going up, profitability might come down but equally we think this could be offset by further premiumisation.

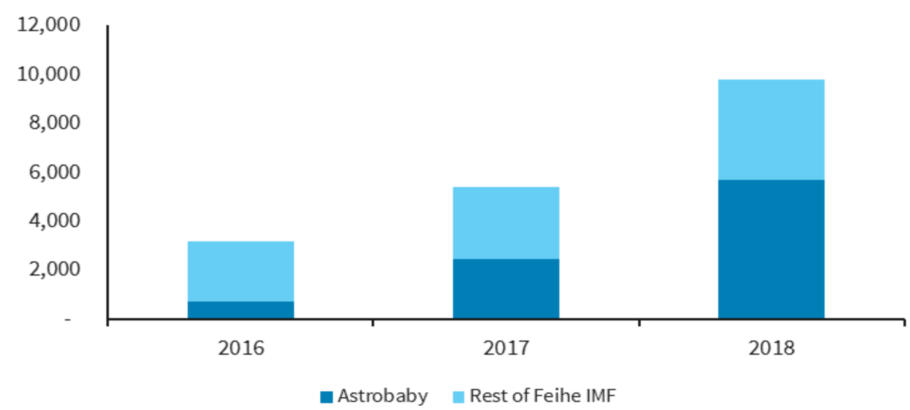
As shown in the chart above, we expect margin improvement of 20-40bp going forward, which is modest relative to the c.400bp margin expansion in the last three years i.e. 2016-19.

Feihe Dairy – the next no.1 in Chinese IMF? (Feihe is not covered by Barclays Research)

Feihe (not covered) is China's largest infant formula manufacturer. It was a relatively small player until a couple of years ago with market share of ~5%, but this in recent times has almost tripled to >13%. The main driver behind this acceleration is its super-premium brand, Astrobaby, which grew >7x from c.RMB700m in 2016 to c.RMB5.1bn in 2018 i.e. 63% of total IMF revenues.

FIGURE 88

Astrobaby's 2018 sales were 8x that 2016, vs. the rest of the IMF business up 60%



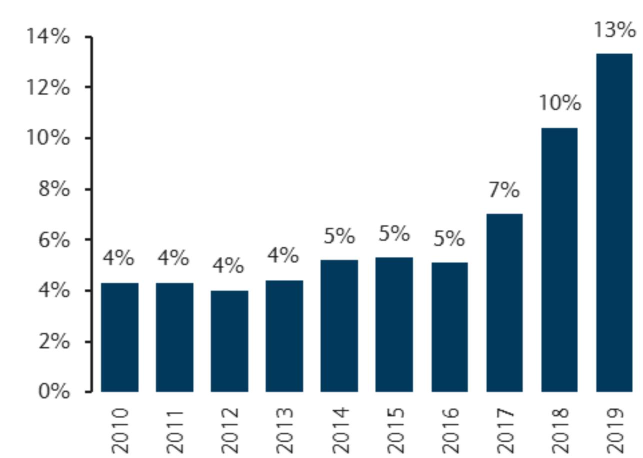
Source: Company data

Historically, the company mainly relied on the economy segment of the category but gradually realigned its portfolio towards premium. While financials are only available for the last three years i.e. 2016-18, the next chart shows the evolution of the company's portfolio and the shift from mass to premium and super premium.

This was a surprise to us given the widely held perception that the Chinese infant formula players operate predominately in the lower priced segment. Today 75% of Feihe's sales are in the premium and super premium segments.

FIGURE 89

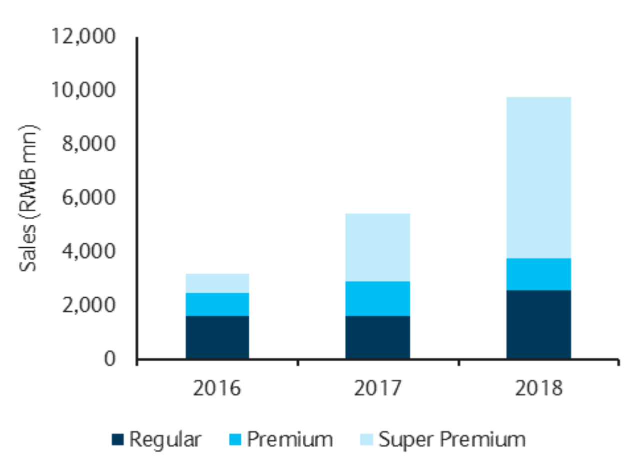
Feihe Dairy's market share in Chinese IMF



Source: Euromonitor, Barclays Research

FIGURE 90

Sales by price segment



Source: Company data, Barclays Research

The market, no doubt, is moving towards premium brands and Feihe's recent growth has been well ahead of the category. Within the ultra-premium segment, Feihe's share has almost tripled from 8.8% to 24.7%, according to data from the company, although this is not recognised by peers like Nestle. Overall, Feihe gained 630bps in market share in the last two years while the combined share of Nestle, Danone, Reckitt and Abbott has remained broadly flat, according to Euromonitor.

As smaller Chinese manufacturers were eliminated by stricter regulation, Feihe has emerged as the go-to Chinese formula brand. This should not come as too much of a surprise given that Feihe was one of the few Chinese IMF companies not involved in the 2008 melamine contamination. Many in the industry were thinking that Mengniu or Yili would become the local champion, but there is little doubt that Feihe (currently) holds that crown.

Digging into the reasons behind Feihe success, it quickly become clear that it does have a number of clear points of differentiation:

1) Formulation designed for Chinese mothers

Feihe claims that its products are better suited to Chinese babies. Indeed, this is the company's motto. The company has established a milk database with more than 1,500 samples from Chinese mothers, which, according to the company, provides it with a unique insight into the composition of Chinese mothers' breastmilk.

In fact, there were reports in the media back in 2011 (*Reuters, 16 Jun 2011*) that researchers at the China Agricultural University produced a herd of genetically modified cows with milk that is '80% the same as human milk'. Given strong opposition from organisations like Greenpeace and concerns about feeding genetically modified products to children, we doubt if there was any more progress on this front, but this shows the investment that had likely gone into this area from Chinese institutions.

2) Higher-quality inputs

Feihe sources fresh milk locally (usually within two hours of milking) and utilises it within 24 hours of receipt. By contrast, the company says that its competitors primarily use imported milk powder (c.40% cheaper vs. fresh milk), which, on an average, has a shipping period of one to two months.

Despite these higher costs, Feihe has an incredibly high gross margin of 73% (in 2018) almost 1000bp higher that Mead's 64%, the last time it was separately disclosed in 2016.

We think this can be explained by three factors:

a) 60% of Feihe's sales are from its ultra-premium brand Astrobaby

b) The company sources 90% of its fresh milk from one supplier, YST Group, which probably means it is able to drive significant procurement savings vs multi-national peers that usually depend on multiple suppliers

c) As the company processes procured milk within two hours of milking, all of its sources are likely within a close radius, minimising the cost of transporting raw materials to factories which reduces COGS (vs. multinationals importing milk powder)

The more important advantage of local sourcing of fresh milk is the higher content of protein/fat as well as aerobic plates and somatic cells, which are seen in the industry as indicators of safety/sanitation in the supply chain and better animal health, respectively.

FIGURE 91

Feihe's local sourcing gives it a quality advantage over both local/European peers

	Feihe	China standards	European standards
Protein	>3.4%	>2.8%	>3.2%
Fat	>4.2%	>3.1%	>3.7%
Aerobic plate count (/ml)	<10,000	<2,000,000	<100,000
Somatic cell count (/ml)	<200,000	na	<400,000

Source: Feihe company reports

Chinese parents have historically been loyal to imported brands but the new generation of tech-savvy, urban, millennial parents are increasingly wary of the nutritional content and authenticity and hence the base ingredient serves as a key differentiator. In addition, this is leading to innovations – e.g. products with synthetic HMOs – i.e. human milk oligosaccharides, which are naturally found in human milk but not in cow's milk.

However, innovation continues and IMF recipes are becoming more scientifically advanced, consumer education is becoming increasingly important, especially in lower-tier cities, where the vast majority have access to smart phones and mother discussion groups on We Chat.

3) Local marketing campaigns

Multinationals have led the Chinese IMF market for more than a decade and their growth has mainly been driven by higher-income urban households – a similar demographic segment to that of the developed market consumer they typically cater to. However, as growth shifts to lower-tier cities, companies will need to rethink their marketing strategies to better reach and connect with consumers in lower-income groups. Brand messaging, communication and local execution, will all play a critical role and Feihe has been doing this in lower-tier cities for longer than most multinationals, if not all.

FIGURE 92

Feihe's investment in offline events has increased 4x from 2016 to 2018 (RMB mn)

Source: Company data, Barclays Research

In 2019, Feihe held more than 500,000 seminars educating Chinese mothers, especially in lower-tier cities, about its products, their superior quality vs. other brands demonstrated via blind taste tests. This is driving strong traction in mobile commerce channels e.g. WeChat (C2C commerce) driven by word of mouth, where the company have more than 6 million subscribers. In fact, the company's e-commerce sales grew 9x from 2016 to 2018 and accounted for c.11% of group sales in 2018 vs. c.3% in 2016.

4) Distribution in lower-tier cities

As of Mar-19, Feihe had a distribution network with more than 92,000 retail points of sale vs. c.58,000 at the end of 2016. While multinationals have had a more prominent presence in tier 1 cities given their premium portfolios, Feihe has a stronghold in lower-tier cities.

What is interesting is that third-party distributors account for c.90% of the company's dairy sales. By contrast, Danone is largely dependent on in-house sales representatives. Feihe's distributor relationships and high penetration serve as key competitive advantages, in our view. Overall, the company has a network of over 1,700 distributors with access to more than 92,000 retail points of sale including Mum & Baby stores, supermarkets, hypermarkets, etc. The next chart shows Feihe's distribution reach, which extends deep into lower-tier regions that we doubt any of the multinationals have.

FIGURE 93
Feihe's distribution network by region

Source: Company filings

> *"Despite greater competitive intensity from foreign brands pursuing lower-tier city-led growth strategies, we believe our unique brand equity, strong brand awareness and longstanding track record of partnership with local offline customers will enable us to defend our dominant leadership and gain further market share."*
>
> \- Feihe Dairy in its IPO prospectus

Moreover, the company sets monthly and annual sales targets for each distributor and reserves the right to terminate a contract if:

a) The sales target is not met for three consecutive months or

b) target missed for two or more quarters of the year or

c) fails to reach 45% of the annual target

As of March 31, 2019, the company had over 800 distributors that had been on a contract for more than two years, out of a total of c.1100. Interestingly, the company terminates as many contracts every year as the number of new contracts rolled out, which ensures that only the best-performing distributors remain.

The next chart shows the total number of distributors on contract, which has remained broadly flat in the last three years but with significant rotation – i.e. in any year c.25% of the contracts are terminated and as many new contracts are rolled out.

FIGURE 94

Constant churn in Feihe's distribution network (25% in and 25% out every year on avg.)

Source: Company data, Barclays Research

Can Feihe replicate this success in tier 1/2 cities?

While the above-discussed factors have contributed to Feihe's rise to the top in Chinese IMF, the next leg of growth is likely to be driven by an expansion in tier 1/2 cities, where it is under-indexed. These markets account for 20% of the category but only 15% of Feihe's sales, according to the company. Feihe has now entered every tier 1/2 city, with Shanghai being the last one, although it is rolling out in a phased manner.

For example, in Shanghai, the company entered the outer most ring (there are as many as six ring roads encircling the city) and launched at a selected group of retailers, with media investment and branding focused around them. Unlike Beijing, where its sales tripled from RMB60m to RMB195m from 2016 to 2018, progress in Shanghai has been modest, where sales only grew from RMB6m in 2017 to RMB10m in 2018. While the company is doing beta launches on outskirts of cities before investing in a full-fledged expansion, the company may struggle to achieve consistent traction across different tier 1 cities.

However, multinationals have a larger share in tier 1/2 cities and, based on our consultations with local market experts, there is a perception in these markets that domestic brands with an international label (manufactured abroad) are 'fake'. Despite the fact that the difference in quality between imported and locally manufactured formula is limited (if any), changing this perception and gaining acceptance is likely going to be difficult.

Feihe ultra-premium portfolio currently only comprises two brands i.e. Astrobaby and Zhenzhi organic, but there are other ultra-premium products in the pipeline, according to the company, that do help drive the expansion in top-tier cities. We think the government putting a hold on new brand registrations until COVID-19 issues are addressed will equally impact Feihe, as much as will do for multinationals.

The next chart shows Feihe's existing brand portfolio, along with their price points, of which Astrobaby accounts for c.60% of group IMF sales. We think the company will need a broader portfolio of brands over time as the demand for tailored nutrition increases – i.e. products designed for specific nutritional needs (cow's milk allergy, digestion issues, etc.), driving up both R&D and marketing investment needs.

FIGURE 95

Feihe's brand portfolio, price ranges and launch dates

Brand name	Price range (RMB/Kg)	Price Segment	Product positioning	Launched
Feifan	220-264.4	Mainstream	Focused on providing nutrients that benefit infant physical and brain development	2007
Astrobaby	440-525.7	Ultra premium	Focused on closely resembling the composition of breast milk of Chinese mothers	2010
Baby Rich	372.5-422.5	Super premium	Developed for the maternity specialty store sales channel and focused on providing nutrients that benefit infant physical and brain development.	2011
Zhenai Beihu	331.1-375.6	Super premium	Focused on benefiting infant immune system development	2012
Zhenai Feifan	372.5-422.5	Super premium	Developed for the maternity specialty store sales channel and focused on benefiting infant immune system development	2012
Jingcui Yijia	372.5-422.5	Super premium	Developed for the maternity specialty store sales channel and focused on benefiting infant immune system development	2014
Xingjie Youhu	308.9-342.2	Premium	Focused on providing nutrients based on needs during different development stages	2014
Zhenzhi	540-582.9	Ultra Premium	Focused on providing organic, fresh and nutritious infant milk formula using organic raw materials	2017

Source: Company filings

Key forecasts (consensus)

Looking at Bloomberg consensus estimates for Feihe over the next three years, the market expects revenue to grow at 30%, 27% and 20%, respectively, although we doubt this factors in any impact from Covid-19. This likely incorporates growth in ultra-premium gross margin forecasts, implying a 300bps expansion to c.71% by 2021 and EBIT margin growth of c.700bps to c.39%, both of which are significantly high compared to typical IMF margins, in our view.

While we do not cover Feihe and do not model its financials, going by the above factors, we would have thought that Feihe's costs go up in the near term as they expand in tier 1/2 cities and step up marketing spend on new launches. However, consensus forecasts seem to suggest a 400bp reduction in operating costs (SG&A), which is interesting and certainly looks to be a stretch. More importantly, on top-line growth, 20-30% implies significant outperformance vs. market growth of 3-4% and our OSG forecasts of c.4% for Danone and Nestle in the medium term.

FIGURE 96

Summary of Feihe's financials

	2016	2017	2018	2019	2020	2021
Revenue	3,724	5,887	10,392	13,508	17,231	20,815
Gross Margin	54.6%	64.4%	67.5%	69.0%	69.9%	70.5%
EBITDA Margin	22.3%	29.5%	32.3%	37.1%	38.3%	39.2%

Source: Bloomberg

Reckitt: Was the $17bn Mead acquisition a step too far?

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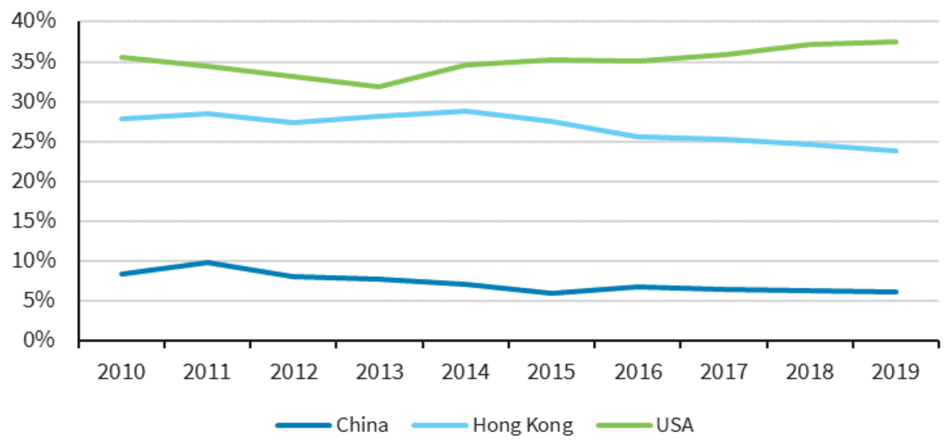
Reckitt's entry into infant formula with the $17bn acquisition of Mead Johnson in 2017 was a big surprise at the time, both because it was a completely new category and because Mead was struggling and had a number of profit warnings. At the time we described the deal as akin to 'catching a falling knife' but the company was adamant that infant formula would be a good addition to its Consumer Health portfolio.

Mead Johnson almost doubled RB's Consumer Health revenues (up 90%) and increased its emerging market exposure by 65% (two-thirds of Mead's sales were from emerging markets). By region, Asia accounted for 50% of Mead Johnson's sales, of which we estimate China and Hong Kong made up the lion's share at 33%. HK was a key market for Mead where it has a market share of c.24% – i.e. four times that of its China IMF share of 6%. The US was the other big Mead market (25% of sales) where it had been losing share to Abbott and, to a lesser extent, Nestlé. Mead's presence in Europe was very small, other than in the small but high-growth allergy formula segment.

FIGURE 97
Mead/RB's share in IMF: China vs. HK vs. USA



Source: Euromonitor, Barclays Research

In terms of brands, the Enfa family of brands i.e. Enfinitas, Enfamil, Enfagrow, Enfakid and Enfapro, accounted for 80% of Mead's sales at the time of the RB acquisition, with the remaining 20% coming from smaller brands of Lactum and Sustagen.

The headline 17.4x EBITDA multiple didn't look too bad, compared for example, with the more than 20x multiple Nestle paid for Wyeth in 2012 and Danone paid for Numico in 2007.

However, it quickly became clear that the business was under-invested and was behind the curve in the shift of Chinese infant formula from the modern retail trade to e-commerce. The other issue was that other than Mexico, it seemed to us that Mead lacked scale in most Latin American and SE Asian markets.

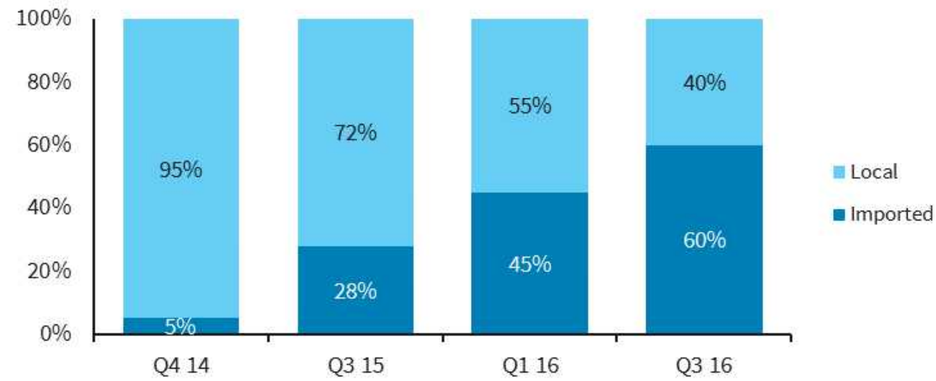
It was also obvious that Mead hadn't pushed through sufficient pricing (at the time of the acquisition) to reflect higher dairy costs, which meant that the 25% EBIT margin business that RB thought it was buying, started with a margin much closer to 20%.

Prior to the acquisition in 1Q17, Mead's top-line performance had been particularly weak – the company posted declining organic sales for seven consecutive quarters, with Asia down 5% in 2016. The decline was mainly driven by three factors:

1. **Mead's portfolio was over-indexed to Chinese-label formula** and was negatively impacted by consumers shifting to imported brands. At the end of 2014, Mead's portfolio was almost 100% local-label, as shown in the next chart.

FIGURE 98

Between Q4-14 and Q3-16. Mead's pivoted its China portfolio from 5% to 60% imported



Source: Company data

While the company shifted its portfolio towards the imported segment, with 60% sales from imported brands at the Q3-16 stage, it missed out on the big growth opportunity in premium imported IMF. Enfinitas was only launched in mid-2016, much later than Nestlé's illuma in 2012 and Danone's Nutrilon Platinum in 2014.

2. **Mead had a significant exposure to Hong Kong** and a sizeable share of this market was C2C imports into China, which was heavily impacted by regulatory change.

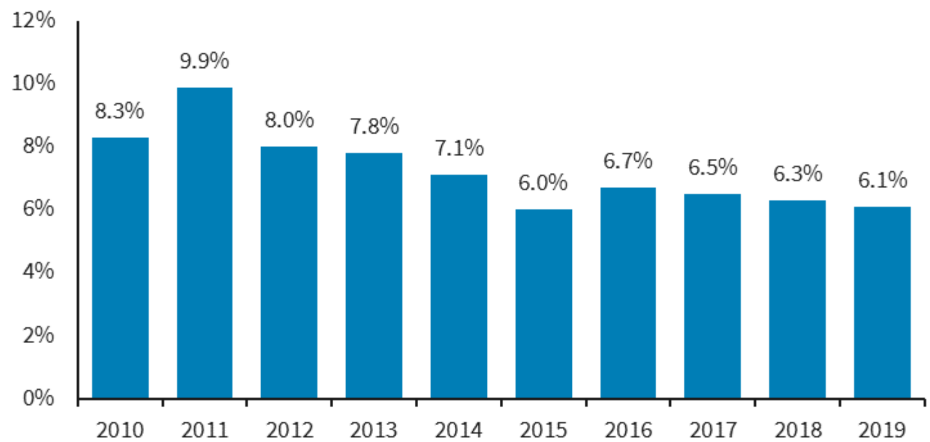
3. **Mead's performance in the rest of its emerging markets was poor:** Mead struggled against local competitors in markets such as the Philippines, Malaysia and Thailand and ex Mexico, its Latin American operation was a consistent underperformer.

Lower sales growth in turn led to decreasing margins. In 2017 alone, Mead's EBIT margin declined >400bps from 24.8% to 20.6%, with gross margins down c.200bps from 64.5% to 62.4%.

In the years following the acquisition, RB continued to lose share in China IMF – down from 6.7% in 2016 to 6.1% in 2019. We think execution was impacted by limited management bandwidth, as the Mead integration happened at the same time as significant regulatory change in Chinese IMF and also when its faced numerous other headwinds in its business.

FIGURE 99

Reckitt (Mead pre-2017) has consistently lost share in Chinese IMF

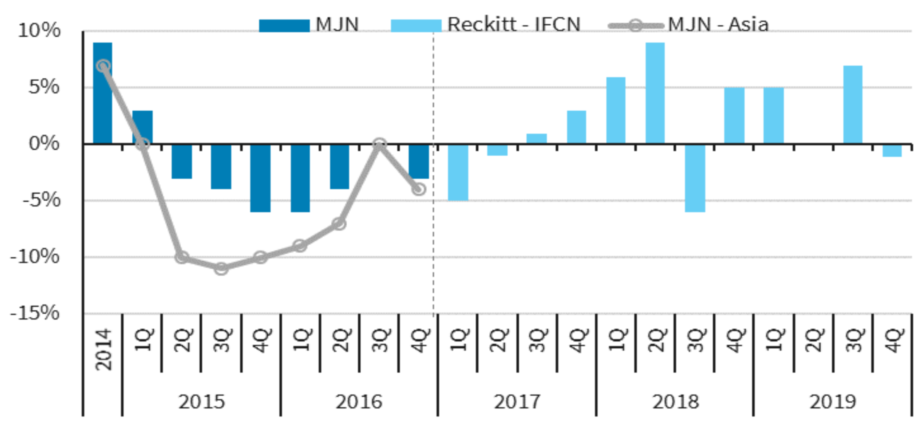


Source: Euromonitor, Barclays Research

However, it wasn't all bad news. There were a few successive quarters of improving top-line growth particularly between Q1-17 to Q2-18. Geographically, the one big success was the US where it managed to get the business back into share gain, after a protracted period of share loss, helped in particular by strong growth in the nascent but fast-growing follow-on milk segment with its Enfagrow brand.

FIGURE 100

RB's IFCN OSG growth since 1Q17



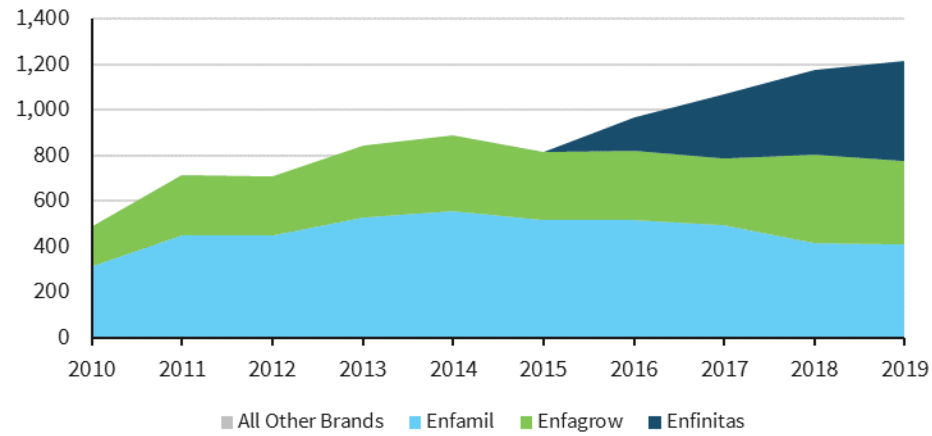
Source: Company data, Barclays Research

These wins were short-lived, however. Reckitt had to invest significant sums to retool Mead's e-commerce capabilities and to plug the negative operational gearing in its other emerging markets.

This meant that the £200m of Mead synergies, rather than dropping through to the EBIT margin, needed to be reinvested (meaning its mid-30s margin ambition was out of sight). There was also little in the way of new innovation and most of the progress made in innovation came from super premium brand Enfinitas, which was originally launched by the outgoing Mead management team.

FIGURE 101

Reckitt's China infant formula sales by brand (EUR mn)



Source: Euromonitor, Barclays Research

The biggest single setback came in Q3-18, when it faced disruption due to a broken part (fan) which took much longer to fix than expected. This seemingly straightforward operational issue was compounded by the fact that that it had little in the way of spare capacity to compensate for the unexpected disruption.

RB management said at the time "***The IFCN business currently operates through a concentrated supply chain, with markets relying on a small number of manufacturing facilities that are licensed to produce for that market.***"

Put simply, it only had only one manufacturing facility in China and one in Holland, manufacturing primarily for the Chinese market. The next table shows Mead's manufacturing facilities just before it was acquired by RB. Since this operational mishap, it belatedly added a new facility in Australia at the end of 2018.

FIGURE 102

Mead Johnson's manufacturing facilities at the end of 2016 (RB acquired in 1Q17)

Location	Country	Square Feet
Zeeland, Michigan	USA	698,773
Singapore	Singapore	466,077
Evansville, Indiana	USA	458,595
Nijmegen	The Netherlands	205,134
Chonburi	Thailand	158,456
Guangzhou	**China**	**149,944**
Delicias	Mexico	134,549
Makati	Philippines	85,487
São Bernardo do Campo	Brazil	64,583

Source: Company reports

The financial impact of these lost sales was significant. The hit in the Q3-18 quarter was of the order of £70m. However, it didn't just lose sales, but it lost an entire cohort of mothers who switched to rival brands due to out of stocks. The impact was also protracted because the lost sales in stage one formula continued into stage 2 and 3 (so c a 2yr impact).

Will RB's new CEO breathe new life into Mead Johnson?

Operational mishaps and poor execution have been major issues at Reckitt and are a big focus area for the new CEO Laxman Narasimhan. At the Q3-19 results call, he said:

"***We did not make the capability or capacity investments in some places. We have had significant disruption in the business from a large integration as well as from organizational changes…we took our eye off the ball on execution. We've lost the consistency in performance delivery."***

At the FY19 results, when asked whether management ever considered cutting its losses and exiting Mead, Laxman Narasimhan said

"***All options were on the table and all options were assessed. We feel good about the business. It's a business that has solid growth, it's got very good margins, it's got a platform from which we can expand, if we brought focus to it. I think growth rates today are almost 500 basis points higher than they were when the company was a standalone business."***

It is clear that Laxman is intent on making the Mead acquisition a success and views its problems historically as executional rather than structural.

"The competitive environment in China has proven more challenging than we expected, as birth rates declined, the regulatory environment intensified and local competitors captured market share"

It's clear that he sees Mead's science base culture (it used to be part of pharma company Bristol Myers-Squibb) as a key competitive advantage and the bedrock from which Mead can regain a competitive advantage in China. The CEO also gave a glimpse into the direction that the company is going with Mead.

We would highlight two likely areas of investment, firstly expanding its geographical reach into high potential new countries, such as India, and secondly using Mead's scientific knowledge to broaden the portfolio into the wider nutritional space with a focus on aging and perhaps the more consumer-facing side of Medical Nutrition.

The latter strategy seems quite reminiscent of both Nestle and Danone's strategy, which could make it a more crowded space, but where clearly at the moment both companies have more significant and scaled capabilities.

Whilst all these strategies sound sensible, we suspect the execution will prove much more difficult. It needs to maintain the improvement in Mead's US business but stabilise the problems in China and the rest of its emerging-market business. We see this as an 18-month job at least. In our view, this needs to be done first before it starts looking at both geographic and category white space.

The £5bn write-down of the Mead acquisition could have been even higher

A write-down of the Mead assets was largely expected at the FY19 results given its poor performance, but the $5bn hit was larger than we were expecting. Although the impact is non cash, it still means that the old RB management team paid $5bn more for the business than they should have done. This was shareholders' money after all. Indeed, the write-down would have been even bigger had it not 'tweaked' its terminal growth and WACC assumptions.

The £5bn write-down was clearly a function of a mis-read of Mead's growth prospects, competitive dynamics in China and overall market attractiveness.

- **At the time of the acquisition in 1H-17, Reckitt expected medium-market growth of 3-5%. Given the slowdown in China, this has now come down to c.3%**
- **RB also expected to turn around the Mead business from declining organic sales in 2016 to top end of 3-5% growth in a few years' time. While growth did recover, FY19 growth was only 2.6%, with Q4-19 down low-single-digits**
- **On EBIT margin, RB's expectation was to increase the inherited c.23% by 600-700bps – i.e. c.30% – which has been a major disappointment. In the first year following the acquisition, Mead's margins declined >400bps and having reviewed the business, it now expects higher investment needs in the supply chain and hence lower margins.**
- **RB now assumes an 'IFCN-specific' terminal growth rate of 2.5% vs. 3% previously given that its markets are more challenged than before**
- **Finally, the pre-tax WACC assumption has been lowered from 10.0% to 9.0%, which likely increased the carrying value of the IFCN business by c.£1.6bn (£800m for every 50bps change, according to company reports) i.e. the write-down would have been higher with an unchanged WACC. Overall, this leads to a new book value of £9.9bn vs. £14.9bn previously.**

Making the business less accident prone

Interestingly, the China IMF supply network has been reviewed as part of the CEO's strategic review and the company said that the business is likely to be more capital-intensive going forward.

We wouldn't be surprised if Reckitt invested in additional capacity in China as this would not only avoid supply issues but would also be in line with the Chinese government's target to make the market 60% self-sufficient (i.e. locally produced) by 2022.

RB has already increased CapEx from c2% of sales over the past five years to c.4% of sales planned in 2020/21. While we might need to see some evidence of operational improvement for the market to regain confidence in Reckitt's execution, we see acknowledging the problems and committing to invest as the first step in fixing them.

Outlook

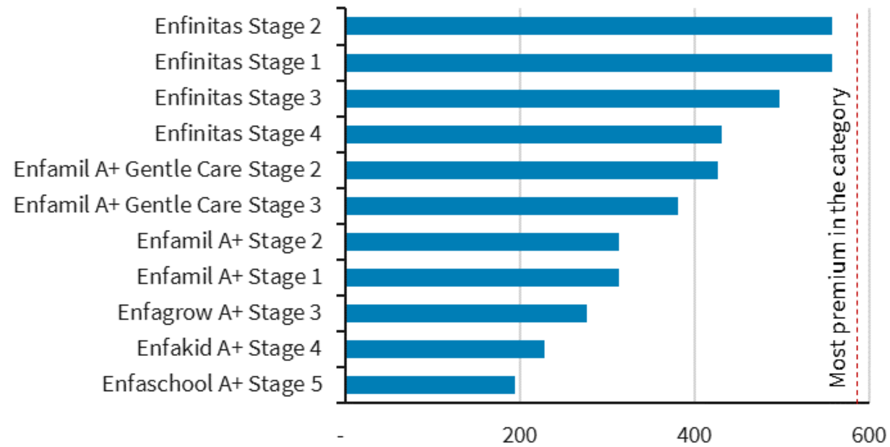
RB's underlying nutrition markets are growing 3-5%, according to the company. Within this, we estimate that the US market is low-single-digits, LatAm high-single-digits and China/Asia mid-single-digits i.e. 4-6%.

In 2019, the IFCN business grew 2.6% but Q4 was particularly weak and organic sales declined 1.1%. While H1-20 should continue to be weak, we expect growth to recover to 3% by the end of 2020 (FY20e OSG of 1%), further accelerating to 4% by 2023. The company has announced several initiatives across the portfolio, which should drive this recovery – we list the key moving parts in the Chinese business below.

Innovation – Enfamil Neuro Pro A2 will be launched in Hong Kong this year, which should be followed by a roll-out across China. Other innovations include the expansion of Nutramigen grass-fed and Nutramigen's targeted nutrition portfolio, specifically in the cow's milk allergy segment. While we expect these products to be at the premium end of its portfolio, it would be interesting to see if they will be priced higher than Enfinitas, which could extend its portfolio beyond illuma at the top of the category price spectrum.

FIGURE 103

Reckitt's brand portfolio and their price points in Chinese IMF



Source: Barclays Research

Expansion in cross-border e-commerce: The CBEC channel is seeing increased demand as discussed earlier in this report and Reckitt plan to launch Enfamil here, starting with two products: a) Enfamil Gentlease (designed to help ease fussiness, gas and crying in babies) and b) Enfagrow toddler's milk

The next table shows our quarterly forecasts for IFCN and the broader Health business.

FIGURE 104

Quarterly OSG forecasts

Year to December, £m	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20E	2Q20E	3Q20E	4Q20E
Group sales	3,111	3,027	3,120	3,339	3,157	3,083	3,285	3,321	3,178	3,069	3,194	3,366
LFL growth	3%	4%	2%	4%	1%	1%	2%	1%	2%	2%	3%	3%
Health Sales	1,916	1,887	1,891	2,068	1,935	1,903	1,959	2,018	1,928	1,870	1,887	2,031
LFL growth	2%	4%	0%	4%	0%	-1%	0%	-2%	2%	1%	2%	2%
Infant Nutrition sales	700	741	659	739	758	758	737	727	727	739	703	735
LFL growth	6%	9%	-6%	5%	5%	0%	7%	-1%	-2%	1%	2%	3%

Source: Company data, Barclays Research

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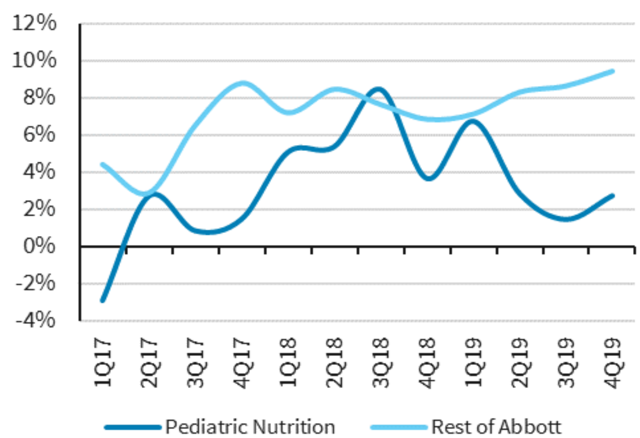
Abbott – Nutrition is a drag on growth

Abbott is the no.4 player in Chinese IMF, after Nestle, Feihe and Danone (ahead of Reckitt). It only has a 6% share of the market but is particularly strong in the tailored nutrition segment with a 15% share (e.g. Similac Alimentum, which is designed for infants with food allergies, etc.). More than 50% of its IMF sales in China are from its most premium brand, Eleva, with the majority of the rest from Similac.

Nutrition accounts for c.23% of group sales, with c.14% coming from paediatric nutrition and the rest from adult nutrition. As shown in the chart below, Paediatric nutrition has been significantly underperforming growth in the rest of the group. Growth slowed from mid to high-single-digits in 2018 to low-single-digits in 2019.

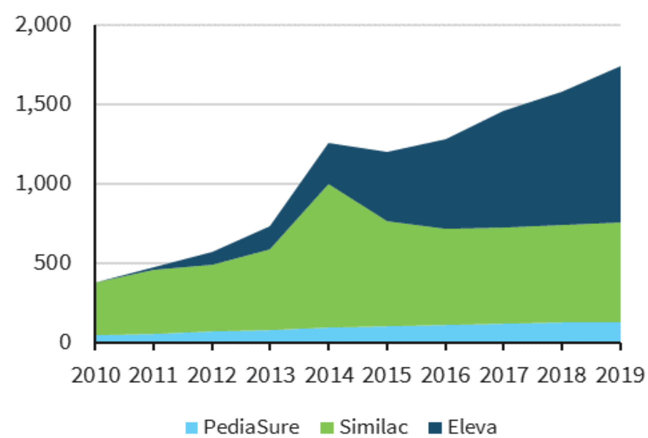
In Pediatric Nutrition, the US accounts for c.45% of sales where Abbott has been the market leader for more than a decade with a market share of >40%. The company has been outperforming the market in the US but the Chinese business, which accounts for only 10% of the business, is struggling.

FIGURE 105
Pediatric Nutrition is a drag on top line growth (OSG)



Source: Company data, Barclays Research

FIGURE 106
Eleva has been driving the bulk of growth in Chinese IMF



Source: Euromonitor, Barclays Research

The main issue, in our view, is that, excluding Eleva in the super-premium segment, which has driven the bulk of growth in the recent past, most of its portfolio is priced just above that of mainstream brands i.e. ~RMB 220/kg, as shown in the next chart.

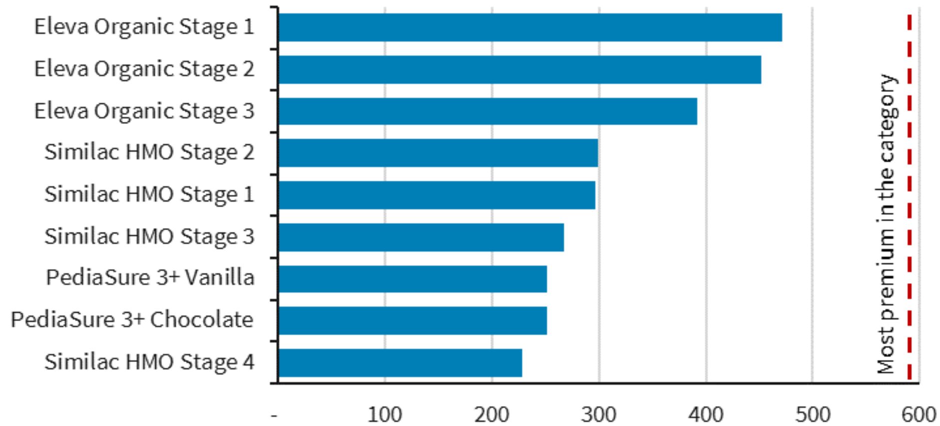
At the Q3 results stage, the company flagged significant price/promotional pressure in the Chinese market, which is consistent with the trends seen at the lower end of the price spectrum.

We suspect the dynamics here are comparable to that of Nestle – i.e. strong growth of super-premium brands (e.g. illuma) – offsetting declines in less premium or mainstream brands (S-26).

On the Q3 results call, CEO Robert Ford said that there are plans to launch new products over the next several quarters. However, as discussed earlier, the registration process for new products has been frozen without any visibility around when it might be resumed, which is not helpful. Therefore, in the absence of new innovations hitting the market, we would expect the company's growth in China to remain weak in the near term.

FIGURE 107

Ex-Eleva, Abbott's portfolio is mostly in the mainstream segment (< RMB 220/kg)



Source: Company data, Barclays Research

Could Abbott look at strategic options for Nutrition?

The more important question, however, is if Nutrition still remains a 'core' part of the wider Medical Supplies/Devices portfolio. While growth in Nutrition, especially Paediatric, has been much weaker (low-single-digits) vs. the rest of the group (high-single-digits) given the weakness in China, its US business has been in a much stronger position. Here it has a >40% share and is a key asset. It's likely there are decent synergies with the other divisions given the strong position in the hospitals channel, making any decision about its future complex.

However, looking at the global IMF landscape (shown in the next chart), US IMF (no.2 market globally after China) remains a gap for Danone, despite it doing well in the US with its Happy Family brand, but it still remains a relatively small player in the market. Nestlé does have a presence in the US IMF segment but has in recent years been walking away from unprofitable WIC contracts and is seemingly more focused on its Gerber brand for the time being.

With Danone focused on the expansion in plant-based dairy and issues to fix in its Waters (Mizone) and dairy (Activia) businesses, the likelihood of further M&A (post WhiteWave) remains low. Nestle, however, said at the FY19 results stage that there will be as much portfolio change in the future as in the past although it has said that deals are likely to be mid-sized (c CHF1-10bn). Outside of Abbott, there are very few other meaningful scale formula businesses left with buyers perhaps forced to look at smaller options.

FIGURE 108

US infant formula is a gap in the portfolios of both Nestle and Danone, where Abbott is the market leader

	USA	W.Eu.	CHN	VIET	INDO	PHLP	THAI	BZL	MEX	AUS
Nestle	11%	22%	14%	5%	22%	47%	39%	69%	51%	6%
Danone	1%	38%	10%	-	40%	-	35%	22%	4%	38%
Reckitt	38%	0%	6%	11%	3%	47%	17%	2%	17%	-
Abbott	42%	0%	7%	20%	1%	3%	2%	4%	9%	-

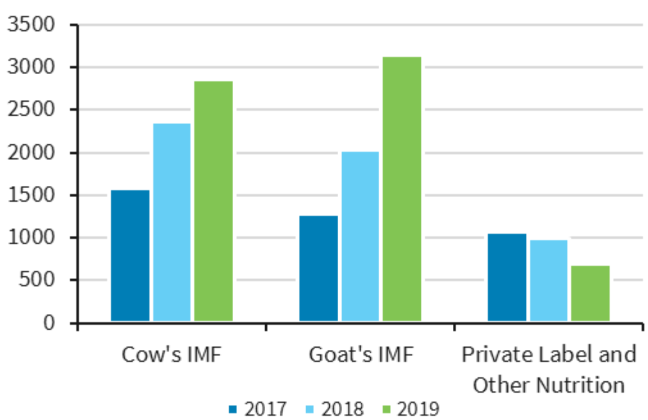
Source: Euromonitor, Barclays Research

Ausnutria – leader in imported goat's IMF (Ausnutria is not covered by Barclays Research)

Ausnutria (not covered) is a Hong-Kong based company with revenues of a little under $1bn (RMB 6.7bn) in 2019, 90% of which was in IMF and 80% of group sales in China. Its main focus is the goat's milk formula segment, which accounts for c.50% of group revenues and grew >50% in 2019, driven mainly by the brand Kabrita, which accounts for about half of group sales and is ranked no.1 in the imported goat's IMF segment with a 62.5% share in 2018 (was 50% in 2017). Five of its ten facilities are in the Netherlands where it sources and manufactures its goat's milk IMF. Frost and Sullivan estimates that the Chinese goats milk segment will grow from RMB17bn in 2018 to RMB38bn by 2023 i.e17% CAGR growth.

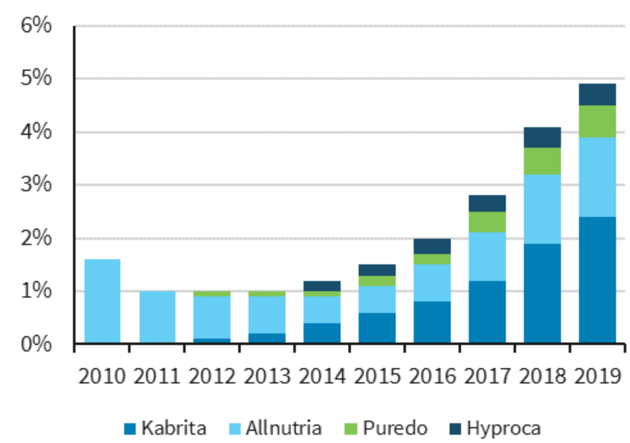
The company's overall share of Chinese formula was around 1% between 2010-14 but really accelerated since 2015 when it completed the acquisition of Hyproca, its Netherlands-based subsidiary. In the following years, it expanded production capacity in the country from three to five manufacturing facilities, and now consumes c.20% of Netherland's goat's milk supply.

FIGURE 109
Ausnutria's revenues by category (RMB million)



Source: Company reports

FIGURE 110
Ausnutria's market share in Chinese IMF by brand



Source: Euromonitor, Barclays Research

While the ambition is to be the no.1 goat's formula company globally, given increasing competition from the likes of Nestle (Illuma), Danone (Karicare) Feihe and Yili, it also plans to expand in the organic and A2 segments, while also diversifying in markets other than China, which currently accounts for >80% of group sales. Moreover, at the 3Q-19 results stage, the company also announced the launch of its Kabrita and Allnutria brands in the adults' goat's milk and organic maternal nutrition segments, both of which are seeing strong growth.

Kabrita is in the RMB 350-400/kg price range but it also has brands like Hyproca (RMB 500+/kg) and Allnutria/Puredo (RMB 250-300/kg) in the super-premium and premium segments. As it expands into organic/A2, the portfolio should move up the price spectrum.

Implications for the big 5

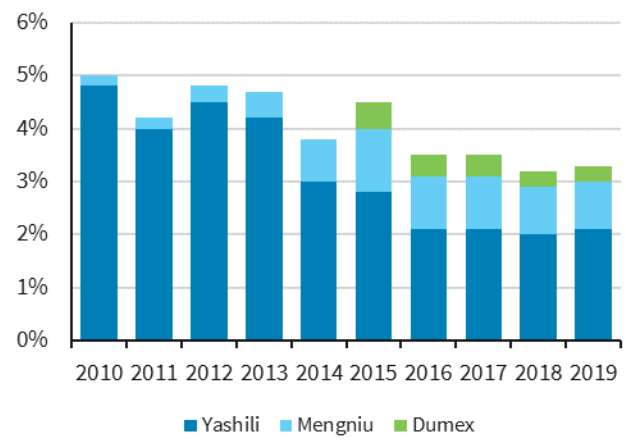
We see Ausnutria as a challenger in the category given its impressive growth, innovation and expansion in key areas of growth, i.e. goat's, organic and A2. Unlike the other challengers, like Junlebao and Yili, who have delivered big share gains but are focused on lower-end products in tier 3/4/5 cities, Ausnutria has a profile much like that of Reckitt, i.e. premium brands manufactured largely in Netherlands but with much better category exposure. Given its scale, Ausnutria might not be a particular concern for the likes of Nestle or Danone yet, but certainly is a company to watch out for given its exposure to high-growth IMF segments in China.

Mengniu – expanding Bellamy's in the MBS channel (Mengniu is not covered by Barclays Research)

Mengniu (not covered) is China's second-largest dairy company with 2018 sales of c.$10bn and much like Yili, >80% of its sales are from liquid milk and <10% of sales from infant formula. Its current IMF portfolio has two main brands – Mengniu and Dumex – both of which have been tainted by food safety issues. It acquired Dumex from Danone in 2015 following the Fonterra scare, (which was unfounded as it was a false positive test) but still led to a collapse in sales of the brand from c.$900m in 2012 to c.$200m in 2013. However, consumer perception hasn't changed much under Mengniu ownership with share hovering at 3%.

FIGURE 111

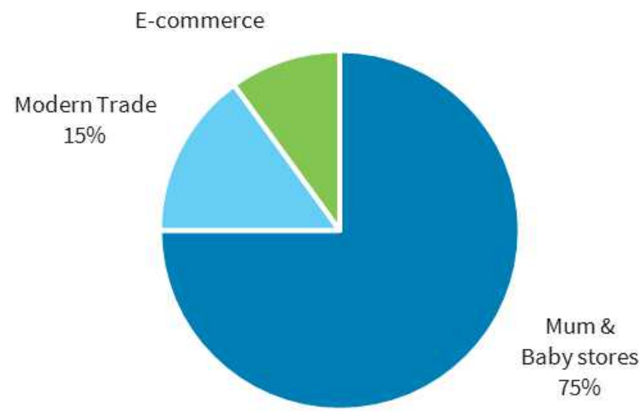
Mengniu's share in Chinese IMF by brand



Source: Euromonitor, Barclays Research

FIGURE 112

Mengniu's IMF sales by channel



Source: Company reports

Its recent acquisition of Australian organic IMF producer Bellamy's, however, is a potential game changer. Within IMF, Bellamy's has a fairly small portfolio with one Australian label and one Chinese label formula, each with 3 SKUs i.e. stage 1, 2 and 3, with Australia accounted for 70% of sales. Previously, Bellamy's products were sold into China primarily via the cross border e-commerce and C2C (mainly Daigou) channels but distribution into offline retail, where Mengniu has strong reach, is an opportunity. Mengniu's focus areas for Bellamy's are:

1) **Drive distribution in offline retail** – Mengniu has a strong offline presence and Mum & Baby stores account for 75% of its IMF sales

2) **Expand in other APAC markets,** mainly South East Asia and Australia, Mengniu, along with Coca-Cola has signed a multi-year global Olympic deal to be the joint beverages and dairy sponsor starting from 2021 until 2032, which cost it an estimated $3 billion (*Reuters, 24 Jun 2019*), which clearly is a sign of its ambitions on the global stage.

3) Given that Bellamy's does not own any of its milk supply (dairy farms), Mengniu also acquired Australian dairy company, Lion Foods. This gives it access to the Australian milk pool, which is a) cost competitive vs. Chinese milk supply, according to the company and b) should help its **expansion in Australian dairy** (e.g. ice cream and cheese)

Implications for the big 5

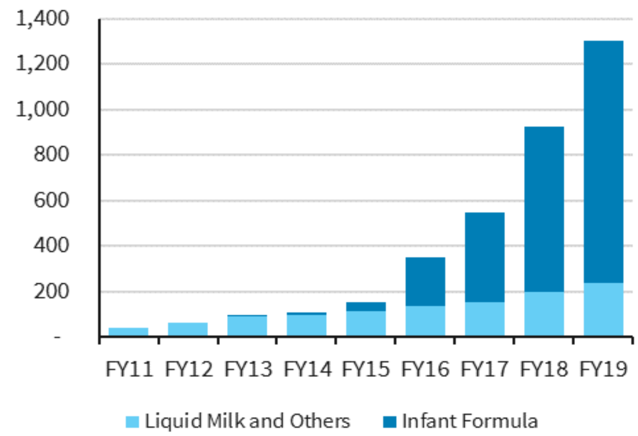
Nestle (Illuma Organic), Abbott (Similac Organic) and Feihe (Zhenzhi Organic) should see increased competition as Mengniu expands Bellamy's into the MBS channel. Danone and Reckitt should be relatively unaffected as they are not big in the organic segment. That said organic does remain a gap in both companies' portfolios and could cause some risk if organic continues to take share from the much larger non-organic formula segment.

The a2 Milk Company – pioneer but competition catching up (a2 Milk is not covered by Barclays Research)

The a2 Milk Company (not covered) first launched IMF in China, Australia and New Zealand in 2014 and, in five years, has built a c.NZ$1.1bn business (i.e. c.$650m). This is an impressive feat and is not far behind Illuma's growth in China (From zero to $1bn sales in seven years).

FIGURE 113

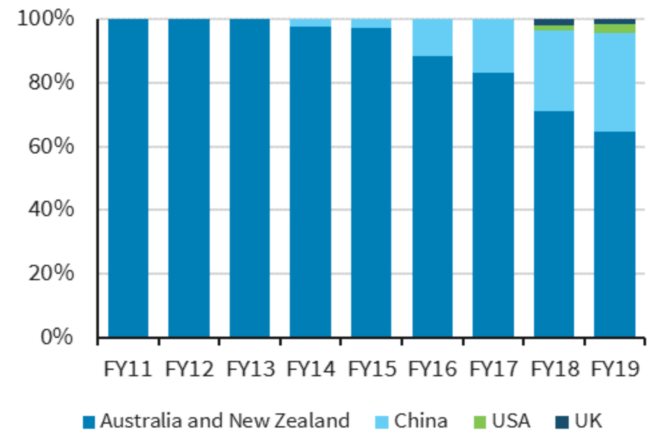
a2's group revenue by category (NZ$)



Source: Company data, Barclays Research

FIGURE 114

a2's group revenue by geography



Source: Company data, Barclays Research

While we see significant runway for growth in the a2 IMF segment and it is likely to drive further premiumisation in the category, the entry of Nestle, Danone, etc. has made it more competitive and could well normalise the a2 Company's growth. The next table shows a list of a2 IMF products currently available in China. Given increasing competition, it is not surprising to see that the company is looking for new avenues of growth, for example:

a) It launched Chinese label formula in 2017 which has grown to NZ$170m i.e. c.15% of group sales within two years. It is also expanding into adjacent categories e.g. maternal nutrition, toddler's milk, etc.

b) Diversification outside Asia – the company calls the US its 'second growth engine' and interestingly it also entered the coffee creamers category in Q3-19. It also aims to grow in the premium milk channel and is rapidly increasing distribution reach e.g. up from 3,600 stores at the end of 2017 to 17,500 stores at the end of 2019.

C) Testing a launch in South East Asia and extending its current portfolio in Korea into IMF.

FIGURE 115

Top a2 IMF brands in China – illuma is priced at a c.35% premium vs. Cow & Gate and A2

Company	Brand	Price of Stage 1 formula (RMB/kg)
Nestle	Illuma ATWO	481
Danone	Cow & Gate A2	356
A2	A2 Platinum	356
Jun Le Bao	Zhizhen A2	Na

Source: parknshop.com, all are stage 1 formula prices converted at HKD = 0.89 RMB

Implications for the big 5: Overall, we do not see a2 as a particular risk for the likes of Nestle and Danone. As more players enter the A2 space, we see competition heating up, and a2 will have a big job on its hand maintaining its first mover advantage into the long term.

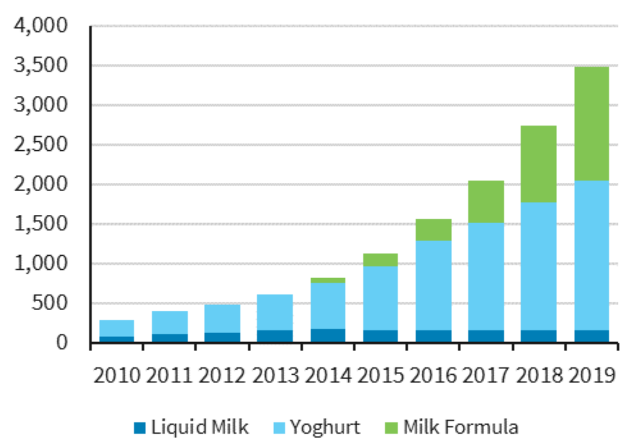
Junlebao – a local champion but limited risk to multinationals (Junlebao is not covered by Barclays Research)

Junlebao (not covered) was formerly a subsidiary of China's largest dairy company, Mengniu, which is 31% owned by the state-owned COFCO Corp. Mengniu bought a 51% stake in Junlebao in Nov-2010, a few months ahead of the announcement of China's 12th five-year plan (2011-15), which listed developing the quality of the Chinese dairy industry as a key focus area. Since then, Junlebao has been an attractive growth story. As shown in the next chart, its retail sales have increased 12-fold to c.$3.5bn, according to Euromonitor

The first wave of its growth was led by yoghurt which currently accounts for >50% of revenues. More impressive has been the recent growth in infant formula, with retail sales up from zero to $1.4bn in a span of six years, taking a 5.5% share of the Chinese IMF market.

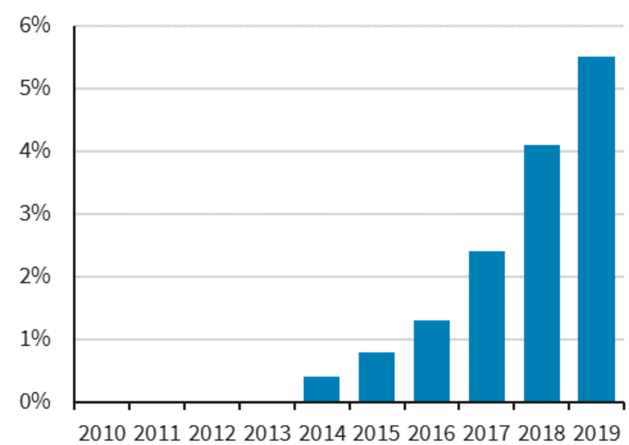
According to Euromonitor, its stage 1 formula is priced at RMB 220/kg which is <2.5 times that of the most premium brand on the market i.e. illuma organic stage 1 (RMB 583/kg). Given the low price point, the bulk of its sales are likely in tier 3/4/5 cities and we suspect some of the expansion must have been driven by consolidating smaller local players that were eliminated following regulatory changes over the last 2-3 years.

FIGURE 116
Junlebao's revenues by category (retail sales)



Source: Euromonitor, Barclays Research

FIGURE 117
Junlebao's share in Chinese IMF (%)



Source: Euromonitor, Barclays Research

Interestingly, Mengniu sold its 51% stake in mid-2019 to two firms, one of which is a venture capital fund controlled by the Hebei government (Junlebao's home province which surrounds Beijing). There have been unconfirmed reports in the media (*CX Tech, 2 Jul 2019*) suggesting that the deal is a part of the regional government's plan to create a local dairy champion and eventually float the company.

Given Mengniu's acquisition of Bellamy's and its ambitions to expand more into Asia, the two companies seem to be assuming two very different but important roles, potentially aiming for the creation of two major Chinese dairy companies, one (Junlebao) focused on the domestic market and the other on the wider Asian infant formula opportunity (Mengniu).

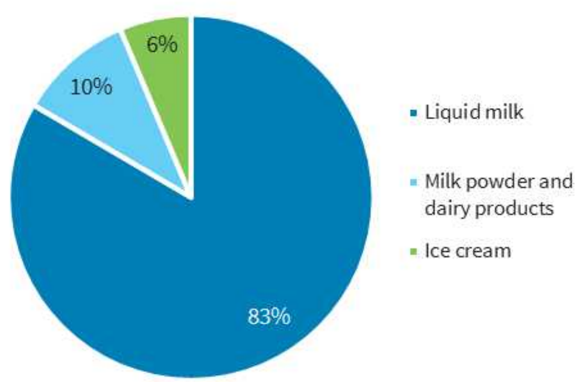
Implications for the big 5

Given that Junlebao mainly operates in the mainstream IMF segment, we see limited risk, if any, for multinationals. With Mengniu acquiring Bellamy's and pivoting to the premium end of the category, we would expect Junlebao to continue to focus on low-priced IMF, particularly in lower-tier cities.

Yili – premiumising lower-tier cities (Yili is not covered by Barclays Research)

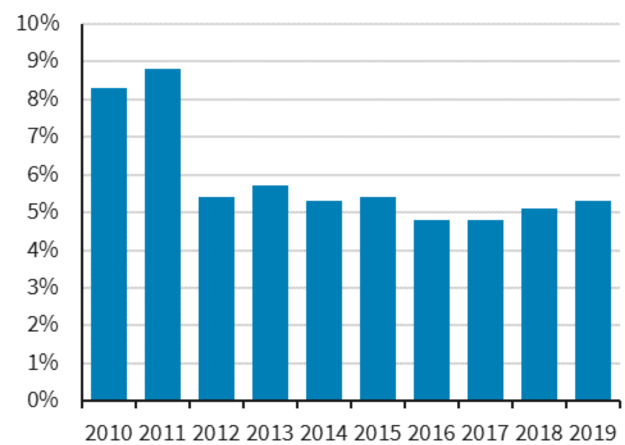
Yili (short for Inner Mongolia Yili Industrial Group) (not covered) is China's largest dairy group – liquid milk accounts for >80% of its revenues and the company has a >20% share in the Chinese milk category. Given the rapid expansion in dairy sales, the company recently acquired New Zealand's largest dairy cooperative, Westland Dairy, to secure additional milk supply. Yili was one of the companies impacted by the melamine scandal in 2008 (evident in the decline in its IMF market share) and has since been investing in procuring higher quality inputs. For example, it also acquired NZ-based Oceania Dairy in 2013 and invested a total of c.RMB 3 billion ($c.450m) in developing its IMF, milk powder production lines.

FIGURE 118
Yili's revenues by category



Source: Euromonitor, Barclays Research

FIGURE 119
Yili's share in Chinese IMF



Source: Euromonitor, Barclays Research

IMF is a $1.4bn business (retail sales) for the company, according to Euromonitor, but given the scale of the wider dairy business, it accounts for <10% of group sales. The company has a similar IMF exposure to that of Junlebao with brands in the RMB 150-230/kg price range, according to Euromonitor, likely more focused in lower-tier cities.

It launched a goat's milk IMF in Jan'20 (with inputs sourced from Netherlands), priced at ~RMB 275/kg which represents a 20% premium vs. the top end of this range but is still less than half of Illuma's goat milk IMF pricing of RMB 589/kg. We think this is quite representative of the premiumisation trend, in lower-tier markets in general, where there is rapid growth in average formula prices, but absolute price levels are still well below those in tier 1/2 cities.

Yili's ambition is to reach RMB $100bn in revenue (no timeframe) vs. FY18 revenue of ~RMB 80bn. Given that liquid milk accounts for >80% of group revenues and investment in the last year or two has been focused on expanding liquid milk production capacity (*FOOD navigator-Asia.com, 6 Jun 2019*) vs. Junlebao investing in a new IMF plant (*DAIRY Reporter.com, 31 Jan 2019*), we would expect the company to remain focused on its core categories (milk).

Implications for the big 5

While Yili might not be a particular threat in infant formula, where we do see some overlap is in the adult milk powder space (for middle upper age groups but also includes maternal nutrition) where Nestle recently launched a high-end brand called Shu Chun. The category is relatively small (c.$1bn vs. IMF's c.$23bn) but is growing double digits and, as IMF slows, it could potentially become a key growth driver in the medium term. Danone, Reckitt and Abbott are not exposed to this category and thus we do not see Yili's growth affecting them.

FrieslandCampina – struggling premium portfolio (FrieslandCampina is not covered by Barclays Research)

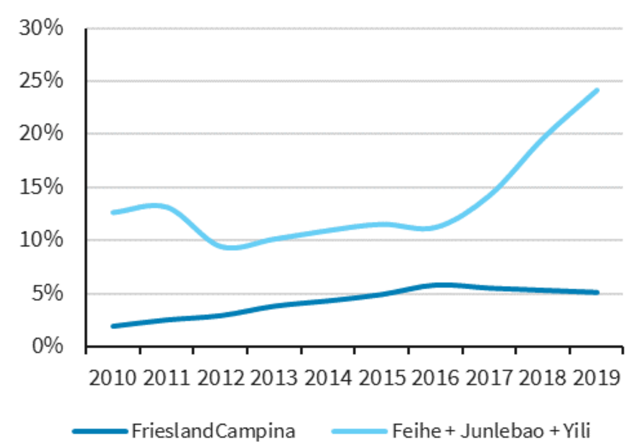
Netherlands-based FrieslandCampina (not covered) is ranked no.8 in Chinese IMF with retail sales of €1.1bn and a 5.1% market share, but accounts for <5% of group sales, on our estimates. It has one master brand called Friso but with variants in different price tiers, e.g. Friso Gold in premium and Friso Prestige in the super premium segment at a 50-60% price premium, as shown below.

In recent years, its operational performance has been rather weak with market share down 70bps since 2016 from 5.8% to 5.1% vs. a 200bp gain in the previous three-year period. We see three key factors behind this:

- Declines in its Friso Gold volumes as the market is shifting from premium to super-premium and above. As shown in the next chart, the acceleration of local manufacturers' market share coincides with a slowdown in the company's share, i.e. implying price competition in less premium segments.
- While the company does have presence in super-premium with Friso Prestige, it faced supply issues in 2019 given global shortages in a key ingredient called lactoferrin (iron-binding protein which is a part of whey), which other companies haven't particularly flagged
- Finally, it has significant exposure to Hong Kong and, in turn, C2C sales into China, in our view which was disrupted by the strikes in H2-19.

FIGURE 120

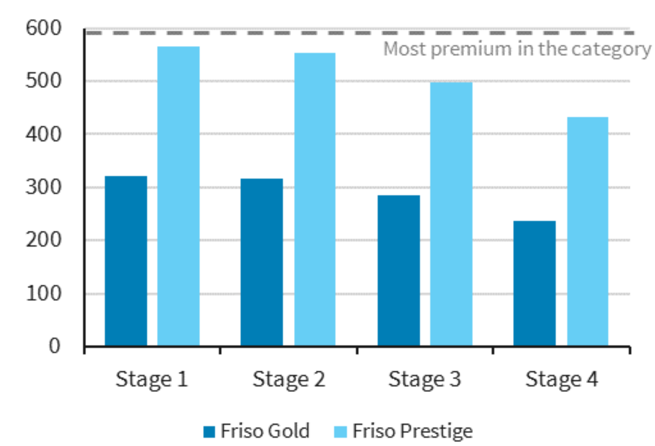
FrieslandCampina's share in Chinese IMF under pressure



Source: Euromonitor, Barclays Research

FIGURE 121

Friso prestige vs. Friso gold chart (RMB/KG)



Source: Parknshop.com, Barclays Research

While Friso Gold might continue to be a headwind given the shift to super/ultra-premium, the company has entered into a partnership with the United Dairymen of Arizona (dairy cooperative) in Oct-19, to source lactoferrin, which should address Friso's Prestige supply issues. However, we suspect the temporary supply disruptions in H2-19 might have led to share losses, part of which are likely irreversible as consumers switch to other brands.

Implications for the big 5

Until FrieslandCampina finds a way to premumise Friso Gold and regain lost share in its super-premium portfolio, we would expect the company to be a net share donor in the category. When the Friso Prestige brand does recover, however, this could be another reason why the super-premium segment could become even more competitive.

H&H Group – strong innovation but not a threat (H&H Group is not covered by Barclays Research)

Health & Happiness (formerly Biostime) (not covered) ranks no.10 in Chinese IMF and is the last sizeable player in the market. i.e. with a share of c.5% vs. the rest of the market being c.2% and below.

IMF accounts for a little under 50% of the group's sales, with China being c.95% of revenues with brands like Biostime (first launched in 2008) and Healthy Times (US organic baby food brand acquired in 2015).

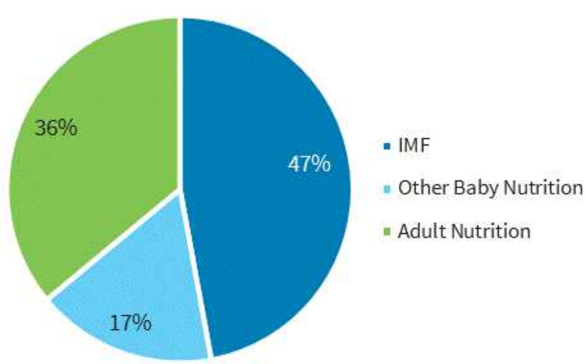
By channel, it is over indexed to the fast-growing Mum & Baby stores channel, but has been losing share as shown in the chart below (channel share down 150bps in 3y). On the other hand, in e-commerce, which is becoming increasingly important, it is heavily under-indexed, i.e. its market share in the channel is only one-third of overall share, but improving at least.

Its most recent innovations have been

- The launch of Biostime organic in Australia and New Zealand (likely available in China via CBEC).
- The rollout of Biostime Goat's IMF in China/HK e-commerce.
- An HMO range in the pharmacy channel (which accounts for 13% of its China IMF sales vs. a negligible proportion for the overall category).

FIGURE 122

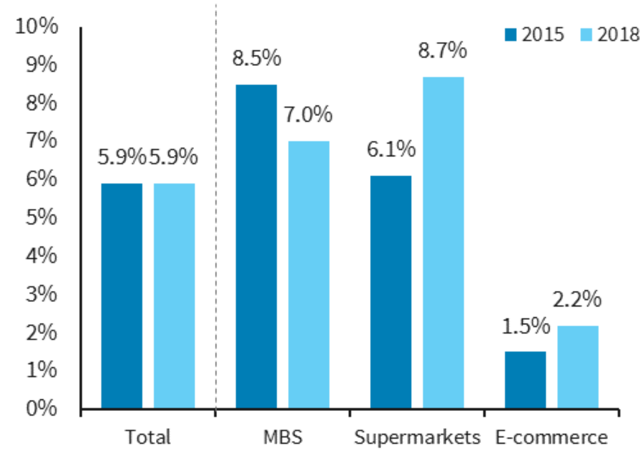
H&H's revenue mix – 1H 2019



Source: Company reports

FIGURE 123

Market share in Chinese IMF by channel



Source: Company reports

While recent innovations have been impressive, the company's products are priced in the RMB 250-400/kg range i.e. significantly below that of e.g. Illuma's organic/goat's products which are priced at RMB 500-600/kg. Despite being lower priced, the company is still growing double digits i.e. c.15% in H2-19 driven by the expansion of the Healthy Times organic range in the MBS channel.

Implications for the big 5

While distribution upside still likely remains for its innovations, we wouldn't expect the company to pose a significant risk to the likes of Nestle given it operates mainly in the lower tiered price segment. However, we can see that its offer could be attractive in lower-tier cities where consumers are trading up (e.g. from regular IMF to organic or goat's, etc.) but the point remains that its absolute price points remain relatively low.

Implications for ingredients companies

Three of the food ingredients stocks in our coverage develop and supply ingredients for infant formula, but for all of them we estimate that these make up 5% of total revenues at most.

For **Chr Hansen (UW, PT DKK450)** the focus is on probiotics. It builds its offering on 'insight, invention and integrity'. It is continually developing different strains of probiotics and to help with this and to support the inclusion of its ingredients in premium products it carries out detailed scientific research. The aim is to highlight to formula manufacturers how they can market the 'added' value provided by Chr Hansen's ingredients.

Examples of this are the effect probiotics have on babies with colic and how probiotics can support the health and development of intestines in preterm infants. In this case, Chr Hansen worked with the European Society for Paediatric Gastroenterology Hepatology and Nutrition. ESPGHAN helps set standards for the nutrient composition of infant formula.

Speaking on the company's 1Q20 earnings call on 15 January, CFO Soren Westh Lonning said that Chr Hansen had benefited from new brand registration rules in China during 2018 and 2019. Although he still saw double-digit growth for probiotics in infant formula in China he said FY20 would be more challenging given high comparatives, but also because new registrations have been halted due to the government focused on tackling the Covid-19 crisis.

We believe around 50% of Chr Hansen's Human Health sales are probiotics for infant formula. This equates to c5% of total company sales.

Kerry (UW, PT €105) also has a range of probiotics and enzymes which can be used in infant formula. Like Chr Hansen, Kerry highlights the digestion and immunity benefits that these bring when included in infant formula. Also like Chr Hansen, Kerry helps manufacturers with their on-pack claims.

Kerry includes infant formula within its Beverages End Use Market, which in total accounted for 25% of Taste & Nutrition sales in FY19 and grew by 5%. However, we think that infant formula is a relatively small part of this business and Kerry does not separately disclose its growth rate.

Glanbia (EW, PT €11.20) has a different offer for infant formula manufacturers. It is less concerned with developing technically advanced new products and more concerned with helping infant formula manufacturers simplify their supply chain. Its Nutritionals Solutions business offers customised pre-mixes from two facilities in the US, one in China and a fourth in Germany. Glanbia manufactures and blends lactoferrin, lactose and key developmental micronutrients, such as probiotics, to create infant formula.

Glanbia said in its FY19 annual report that it expects the market for infant nutrition pre-mixes to grow by 5.2% (2019-24).

One of Glanbia's joint ventures, Glanbia Ireland, uses milk supplied by its Irish dairy farmers to produce a range of infant formula grade milk powders. Since the deregulation of the European dairy industry in 2015, Glanbia Ireland has invested heavily in processing capacity and is currently expanding its infant formula plant at Belview by installing a new drier.

In addition to Kerry and Glanbia, Danone, Nestle and Abbott all have manufacturing plants in Ireland which we estimate supply >15% of global infant formula.

Most of the larger global dairy farmer cooperatives have similar operations to Kerry and Glanbia and some such as Friesland Campina (the Netherlands) and Fonterra (New Zealand) have advanced products, comparable to those supplied by the quoted businesses we focus on in this report.

Friesland Campina, through its DOMO subsidiary, and Fonterra, through its New Zealand Milk Products brand, both supply a range of paediatric ingredients. One of these, Galacto Oligosaccharide (GOS), is a prebiotic that is absent in cow's milk but constitutes around 8% of human milk. GOS is the only prebiotic derived from the lactose in cow's milk. All other prebiotics originate from vegetable sources. For example, Fructo-oligosaccharide (FOS) is extracted from the chicory root.

GOS is manufactured by Saputo Inc. (not covered) the listed Canadian dairy company. It manufactures GOS in the UK (following its purchase of Dairy Crest in 2019) and in Australia (following its purchase of Warnambool in 2014).

DSM – HMO the next growth driver as DHA/ARA mature

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DSM is one of the key suppliers of functional ingredients for infant nutrition products. Their Early-Life Nutrition (ELN) segment accounts for a quarter of Human Nutrition and just above 5% of group sales. However, the business is generating above-average profitability and has been a key contributor to the growth of DSM's all-important Nutrition segment.

Infant Nutrition has become an important segment for DSM with the acquisition of Martek in 2011. Before this, DSM already had exposure by selling various vitamins and carotenoids to infant formula players, but the acquisition added specialty ingredients to its portfolio. Martek is a biotech company, leader in microbially-derived polyunsaturated Omega-3 and -6 fatty acids, DHA and ARA, from algae and fungus, respectively. Both nutrients are important for optimal development of the infant brain but were not widely available in infant formulas until Martek found ways to economically produce them.

At the time of the acquisition, Martek had a dominant position in the field with sole-source supply agreements with customers comprising approximately 75% of its current infant formula revenues including Mead Johnson, Pfizer, Danone and Abbott Nutrition. While DSM does not comment on customer relationships, we are not aware that the company would have lost any of these relationships.

All key Western products in the Chinese market now contain both DHA and ARA but less than what scientists would suggest. Following a request by the European Commission, the European Food Safety Authority (EFSA) Panel published a scientific opinion, which considers a minimum of 20mg/100kcal (and maximum of 50mg/kcal) as to be adequate for the majority of infants. Our analysis of products on the Chinese market below, which have a combined share of c30%, shows that none of them has the recommended inclusion level, even if local requirements may deviate from those in Europe.

FIGURE 124

All key Western producers fortify their formula in China with both DHA/ARA, but at lower than recommended levels

Per 100g		Nestle						Danone			Reckitt	Abbott	
				Illuma									
Unit		Hypo antigenic	Human Affinity	ATWO	Goat's	Organic	Nan Pro	Cow & Gate	Cow & Gate A2	Aptamil Platinum	Enfinitas	Eleva Organic	Similac HMO
HKD/900g	Price	518	538	538	589	589	336	308	398	398	559	475	299
kcal	Energy	511	509	512	511	515	511	506	510	504	505	506	517
gm	Protein	9.7	10.2	10.2	11.3	11.5	9.7	10.6	10.7	10	10.6	11.3	10.6
g	Carbs	59.4	55.8	56.4	55.6	55.5	59.3	58.8	58.7	58.8	57	55.3	56.1
	Fat	26.1	27.3	27.3	27.1	27.5	26.1	25.4	25.8	25.4	27	27.4	28.2
mg	DHA	57	96	96	53	87	57	77	78	78	90	79	54
per 100 kcal		*11*	*19*	*19*	*10*	*17*	*11*	*15*	*15*	*15*	*18*	*16*	*10*
mg	ARA	57	96	96	53	87	57	77	78	78	180	105	112
per 100 kcal		*11*	*19*	*19*	*10*	*17*	*11*	*15*	*15*	*15*	*36*	*21*	*22*
g	HMO	0.19	5.3	0	0	0	0.19	5.9	5.9	5.9	0	0	0.16
	Vitamins												
mcg RE	A	510.0	549.0	549.0	383.0	553.0	510.0	437.0	441.0	441.0	423.0	510.0	453.0
mg	C	55.0	54.0	68.0	54.0	69.0	55.0	88.0	82.0	89.0	91.0	68.0	64.0
mcg RE	D3	6.8	8.7	7.3	8.7	9.2	6.8	6.6	7.2	6.7	7.8	8.8	8.0
mg alpha-TE	E	6.7	5.3	5.3	4.4	5.3	6.7	8.3	7.2	8.4	9.6	11.3	11.9
mg	B1	0.40	0.76	0.76	0.76	0.76	0.40	-	-	-	-	-	0.54
mg	B2	0.90	0.67	0.56	0.59	0.84	0.90	-	-	-	-	-	0.80
mg	B6	0.28	0.45	0.45	0.46	0.46	0.28	0.27	0.27	0.27	0.30	0.28	0.32
mcg RE	B12	0.8	1.4	1.4	1.1	0.7	0.8	1.4	1.0	1.4	1.6	1.0	1.0

Source: Company data, Barclays Research

The ongoing premiumisation in China should therefore likely lead to further growth for DSM's products as the DHA content further increases. On the other hand, the addition of ARA, when DHA is added, was not considered necessary by EFSA given an absence of direct functional consequences related to ARA.

This may pose some risk even though a position paper of global experts in infant nutrition in collaboration with the European Academy of Paediatrics and the Child Health Foundation suggested that ARA should be added at least in equal amounts.

Still, growth has started to slow due to a combination of DHA/ARA becoming more mature and the underlying market dynamics discussed in this note. Accordingly, DSM has expanded its DHA/ARA capabilities into areas beyond infant nutrition such as maternal nutrition, dietary supplements and Veramaris.

After acquiring BioCare, a Danish biotech company, in 2017, DSM has also added a small portfolio probiotics suitable for infants to its portfolio, sold both B2B and B2C. Research from DSM suggests that the strains it offers are helpful in relieving colics and some gastrointestinal imbalances.

DSM is more than just an ingredient supplier to the infant nutrition market, but has expanded into the integrated solutions space. To this end, the company has built a premix plant in Poland, where it produces infant formula for all of its customers, ensuring the high standards of quality, reliability, traceability and sustainability that still remain arguably more relevant here than in any other segment. This should further strengthen DSM's customer relationships and by fostering co-innovation and prototype development, and hence help them gain a higher share of their customers' wallets and capture more value.

With the acquisition of Glycom, DSM becomes the leading producer of HMOs (Human Milk Oligosaccharides), the latest significant innovation in infant formula. There are about 200 different HMOs and Glycom has the broadest commercially available portfolio including two HMO classes with four additional HMOs commercially available in 2020. Beyond being essential for the development of the immune, cognitive and digestive system in infants, there is evidence showing that HMOs have benefits in adults with gastrointestinal and metabolic diseases, and allergies.

HMOs are a key component of the premiumisation strategies of the IMF players, in China and worldwide. So far, the majority of Glycom's revenues are with Nestle, which had been a shareholder of Glycom and rolled out HMO products in 40 countries in 2018. The business so far only generates revenues of €74mn (2019), but is highly profitable (50% EBITDA margin) and bound to grow strongly.

Other players have followed Nestle's lead and launched HMO products, as well, and Nestle's inclusion of HMOs is still rather low when compared to that of Danone, as shown earlier in the report (Fig - 49). DSM expects the current market size of ~€100mn for HMOs to quadruple in the coming five years on further infant nutrition players adopting HMOs, higher inclusion rates, new HMOs being introduced, approval in other regions as well as HMO solutions for other markets.

FORECAST/ PRICE TARGET CHANGES

NESTLE SA

NESN SW / NESN.S

Stock Rating
OVERWEIGHT

Industry View
NEUTRAL

Price Target
CHF 105.00

Price (12-Mar-2020)
CHF 90.13

Potential Upside/Downside
+16.5%

FY20 OSG cut but still best-in-class

Investment case: We see Nestle as one of the best ways to position against the recent market sell-off. While the company's shares have also declined in recent weeks, its premium to the market (Stoxx 600) has increased from <50% in Jan to >65% currently. Its strong balance sheet, best-in-class growth and capital allocation remain very attractive. We like its new 15% ROIC target which will mean a disciplined approach to M&A. The diversification of Nestlé's portfolio by both category and geography remains a major competitive advantage. Its safe >3% DY make it one of the best bond-proxies around, at a time where US 10-year treasuries have slumped.

Despite the inevitable step back in growth in 2020 due to Covid-19, we remain convinced that medium term it will deliver mid-single-digit growth. We expect problem areas such as US water and China low end brands such as Yinlu to be addressed. It is encouraging that the company has said there will be as much portfolio change in the future as in the past, which implies that >10% of the portfolio could be rotated. Acquisition activity is likely to step up with small and mid-sized deals favoured. Water, Nutrition, Petfood and Health Sciences are likely priorities.

Forecast changes: While Nestle will be impacted by the disruptions in China and Europe (Covid-19), its top-line growth still remains among the best-in-class in Global Food. The company guided to an acceleration in OSG in FY20 (vs. 3.5% in FY19), but this does not include any impact from Covid-19.

We reduce our FY20 OSG forecast from 3.6% to 2.7%, mainly in divisions that have a larger exposure to the off-trade/foodservice channel i.e. Waters, Prepared Dishes and Culinary Aids and, to a lesser extent, Ice Cream. Nestlé's Food Service sales are c5% of group but are a higher percentage in Asia. By region, we would expect AOA and EMENA to be the most impacted, with some downside risk in AMS also. Some categories such as frozen food, water and petfood could benefit from pantry stocking as many people are now working from home. **We also reduce our FY20 margin forecast from +60bps to +25bps given higher reinvestment and an acceleration in investment in growth** opportunities such as plant based and the rollout of SKUs from its Starbucks acquisition.

Given that Nestlé has already reached the lower end of its 17.5-18.5% EBIT margin target for 2020, we would expect the company to step up brand investment to drive top-line growth in the back half of the year, following what is likely to be a weak H1, especially given it is up against a very tough comparator (H1-19 underlying trading operating margin was up 100bp)

Valuation and price target: We reduce our price target to CHF 105 (was CHF 115). This mainly reflects: a) 6% EPS impact from lower OSG and margin, b) stronger FX headwinds in FY20 given recent CHF strength, offset by c) a higher valuation premium (15% vs. 10%) as its top-line growth profile becomes more valuable given the very weak market backdrop.

FIGURE 125
Forecast changes

	2020			2021		
	Old	New	% or bps change	Old	New	% or bps change
Sales	91,342	87,455	-4.3%	94,102	90,069	-4.3%
OSG	3.6%	2.7%	-93	3.9%	3.9%	1
EBIT Margin	18.2%	17.8%	-42	18.6%	18.1%	-48
Adj. EPS	4.64	4.34	-6.4%	5.05	4.72	-6.5%

Source: Company data, Barclays Research

European Consumer Staples — **Industry View: NEUTRAL**

Nestle SA (NESN.S)

Stock Rating: OVERWEIGHT

Income statement (CHFmn)	2019A	2020E	2021E	2022E	CAGR
Revenue	92,568	87,455	90,069	93,773	0.4%
EBITDA (adj)	19,973	19,059	19,915	21,051	1.8%
EBIT (adj)	16,260	15,551	16,302	17,290	2.1%
Pre-tax income (adj)	15,244	14,761	15,567	16,531	2.7%
Net income (adj)	12,922	12,700	13,579	14,406	3.7%
EPS (adj) (CHF)	4.41	4.34	4.72	5.08	4.8%
Diluted shares (mn)	2,929.0	2,923.3	2,877.3	2,834.2	-1.1%
DPS (CHF)	2.70	2.86	3.03	3.22	6.0%

Margin and return data					Average
EBITDA (adj) margin (%)	21.6	21.8	22.1	22.4	22.0
EBIT (adj) margin (%)	17.6	17.8	18.1	18.4	18.0
Pre-tax (adj) margin (%)	16.5	16.9	17.3	17.6	17.1
Net (adj) margin (%)	14.0	14.5	15.1	15.4	14.7
ROA (%)	9.4	9.7	10.2	10.7	10.0
ROE (%)	23.6	25.5	30.0	35.2	28.6
ROCE (%)	14.3	14.4	14.9	15.6	14.8

Cash flow and balance sheet (CHFmn)					CAGR
Cash flow from operations	15,850	13,520	13,927	14,650	-2.6%
Cash flow from investing	5,378	-3,978	-4,097	-4,266	N/A
Cash flow from financing	-17,482	-15,061	-15,529	-15,916	N/A
Capital expenditure	-3,916	-3,978	-4,097	-4,266	N/A
Equity free cash flow	11,934	9,541	9,830	10,384	-4.5%
Tangible fixed assets	28,762	29,569	30,406	31,312	2.9%
Intangible fixed assets	46,720	46,383	46,031	45,630	-0.8%
Cash and equivalents	10,026	10,026	10,026	10,026	0.0%
Total assets	127,940	127,705	129,245	131,094	0.8%
Short and long-term debt	37,164	42,684	48,383	53,915	13.2%
Total liabilities	75,078	79,621	85,740	91,949	7.0%
Shareholders' equity	52,035	47,433	43,035	38,863	-9.3%
Net debt/(funds)	27,138	32,658	38,357	43,889	17.4%

Valuation and leverage metrics					Average
P/E (adj) (x)	20.4	20.7	19.1	17.7	19.5
EV/sales (x)	3.4	3.7	3.6	3.5	3.5
EV/EBITDA (adj) (x)	15.7	16.8	16.3	15.7	16.1
EV/EBIT (adj) (x)	19.3	20.5	19.9	19.1	19.7
Equity FCF yield (%)	4.5	3.6	3.8	4.1	4.0
P/BV (x)	5.1	5.6	6.0	6.6	5.8
Dividend yield (%)	3.0	3.2	3.4	3.6	3.3
Net debt/EBITDA (adj) (x)	1.4	1.7	1.9	2.1	1.8

Selected operating metrics					Average
Organic sales growth (%)	3.5	2.7	3.9	4.1	3.6
Tax rate (%)	21	20	20	20	20
Capex/sales (%)	4.2	4.5	4.5	4.5	4.5

Price (12-Mar-2020)	CHF 90.13
Price Target	CHF 105.00

Why Overweight? We forecast that CEO Mark Schneider can deliver on the 2020 targets of MSD growth and a margin of 17.5-18.5% and also see further margin upside well beyond 2020. We think its L'Oréal stake could be monetised after its current share buyback is complete (ie 2020), which would be accretive if used to fund another buyback or a strategic acquisition.

Upside case — **CHF 124.00**

Asia (Zone AOA) gets back to high single digit growth, announcement of a strategic review of US frozen food, acquisition of Starbucks retail coffee grows double digit and becomes a CHF5bn brand in time.

Downside case — **CHF 89.00**

Pricing remains sub 1%, stronger CHF dilutes topline and earnings growth, North America growth returns to low single growth hindered by a step up in competitive activity in North American food and beverage market, fast growing petfood growth is hindered.

Upside/Downside scenarios

Source: Company data, Bloomberg, Barclays Research
Note: FY End Dec

DANONE

BN FP / DANO.PA

Stock Rating
OVERWEIGHT

Industry View
NEUTRAL

Price Target
EUR 70.00

Price (12-Mar-2020)
EUR 52.90

Potential Upside/Downside
+32.3%

Danone – FY20 estimates cut due to Covid-19 but still cheap

Investment case: Danone cut its FY20 OSG guidance at the FY19 results stage last month to reflect the increased uncertainty in market growth but given the developments over the last few weeks (Covid-19 outbreak in Europe), we see further downside to FY20 top-line growth. The specialised nutrition business should be relatively stable although growth will be less than the 5% OSG it has achieved in the past three years but Waters, which has significant exposure to the off-trade channel, is likely to be impacted the most.

We continue to like its plant-based portfolio and whilst €5bn of sales by 2025 (€1.9bn in 2019) might be a stretch, it does show an ambition to drive growth in plant-based, not just in EDP but also in other parts of its business including Specialised Nutrition. One of the big questions is whether the unexpected €2bn investment and step up in capex to address circular packaging, for example, is just a cost of doing business or whether it will get a return in terms of better consumer loyalty. We think it will drive consumer decisions but the company needs to provide further clarity on the returns on this spend.

Forecast changes: We cut our FY20 OSG forecast from 2.7% to 1.6% to reflect headwinds from Covid-19 both in China and our best estimate of Covid-19 impact outside of China, albeit the situation is of course very fluid. Danone expects a €100m sales hit in Q1 from the disruption in China, but with a similar situation in major European markets, we expect the off-trade channel to be significantly impacted, especially its Waters business and Alpro's foodservice sales (e.g. cafes).

We estimate that Waters off-trade sales (est. 50% of the division) could be down 80% in March/April, which translates to a 10pp headwind to divisional OSG for both Q1 and Q2. Our FY20 margin forecast remains unchanged at 15.3% (>15% guidance).

Valuation and price target: We cut our price target to €70 because of: a) 3-4% EPS downgrade on lower top-line growth; b) lower sector multiple following de-rating in the last few weeks; and c) we value Danone at a 10% discount to EU Staples (was 5%) following the downgrade to its OSG target and higher structural costs in Waters, which could weigh on medium-term margins.

However, the shares are currently trading at a 25% discount to EU Staples, which is overly harsh, in our view, given Danone's track record of strong EPS growth and still with one of the 'healthier' portfolios in Global Food. In our view, however, it does have a big job in terms of rebuilding credibility with investors and convincing that it can deliver 3-5% OSG sustainably.

FIGURE 126
Forecast changes (€mn / €)

	2020			2021		
	Old	New	% or bps change	Old	New	% or bps change
Sales	25,957	25,097	-3.3%	26,833	25,896	-3.5%
OSG	2.7%	1.6%	-112	3.4%	3.3%	-1
EBIT Margin	15.3%	15.3%	0	15.4%	15.4%	0
Adj. EPS	4.03	3.88	-3.5%	4.25	4.08	-3.9%

Source: Company data, Barclays Research

European Consumer Staples **Industry View: NEUTRAL**

Danone (DANO.PA)

Stock Rating: OVERWEIGHT

Income statement (€mn)	2019A	2020E	2021E	2022E	CAGR
Revenue	25,287	25,097	25,896	26,911	2.1%
EBITDA (adj)	5,232	5,225	5,416	5,691	2.8%
EBIT (adj)	3,846	3,849	3,997	4,216	3.1%
Pre-tax income (adj)	3,477	3,468	3,640	3,886	3.8%
Net income (adj)	2,516	2,529	2,657	2,839	4.1%
EPS (adj) (€)	3.85	3.88	4.08	4.36	4.2%
Diluted shares (mn)	649.1	647.3	647.3	647.3	-0.1%
DPS (€)	2.10	2.04	2.14	2.29	2.9%

Margin and return data					Average
EBITDA (adj) margin (%)	20.7	20.8	20.9	21.1	20.9
EBIT (adj) margin (%)	15.2	15.3	15.4	15.7	15.4
Pre-tax (adj) margin (%)	13.7	13.8	14.1	14.4	14.0
Net (adj) margin (%)	9.9	10.1	10.3	10.6	10.2
ROA (%)	6.3	6.2	6.5	6.9	6.5
ROE (%)	15.0	14.5	14.5	14.8	14.7
ROCE (%)	8.0	8.0	8.3	8.8	8.3

Cash flow and balance sheet (€mn)					CAGR
Cash flow from operations	3,444	3,411	3,579	3,812	3.4%
Cash flow from investing	-989	-1,230	-1,243	-1,238	N/A
Cash flow from financing	-1,503	-1,405	-1,363	-1,433	N/A
Capital expenditure	-951	-1,230	-1,243	-1,238	N/A
Equity free cash flow	2,510	2,181	2,336	2,574	0.8%
Tangible fixed assets	7,373	7,579	7,765	7,905	2.3%
Intangible fixed assets	24,091	23,740	23,377	23,000	-1.5%
Cash and equivalents	5,174	4,757	4,757	4,757	-2.8%
Total assets	45,079	44,993	44,880	44,710	-0.3%
Short and long-term debt	17,993	17,143	16,092	14,866	-6.2%
Total liabilities	27,782	26,910	25,836	24,586	-4.0%
Shareholders' equity	17,103	17,822	18,713	19,719	4.9%
Net debt/(funds)	12,819	12,386	11,335	10,109	-7.6%

Valuation and leverage metrics					Average
P/E (adj) (x)	13.7	13.6	13.0	12.1	13.1
EV/sales (x)	1.9	1.9	1.8	1.7	1.8
EV/EBITDA (adj) (x)	9.2	9.1	8.6	8.0	8.7
EV/EBIT (adj) (x)	12.5	12.4	11.7	10.8	11.8
Equity FCF yield (%)	7.3	6.4	6.8	7.5	7.0
P/BV (x)	2.0	1.9	1.8	1.7	1.9
Dividend yield (%)	4.0	3.9	4.1	4.3	4.1
Net debt/EBITDA (adj) (x)	2.5	2.4	2.1	1.8	2.2

Selected operating metrics					Average
Organic sales growth (%)	2.6	1.6	3.3	3.9	2.9
Tax rate (%)	27	27	27	27	27
Capex/sales (%)	3.8	4.9	4.8	4.6	4.5

Price (12-Mar-2020)	EUR 52.90
Price Target	EUR 70.00

Why Overweight? Since 2014 Danone has grown EPS 11% constant (8% reported) and FCF by 15% but gets very little valuation credit. Its reputation as a poor capital allocator is overly harsh, in our view, and we think its bold WhiteWave acquisition will be a big success and will deliver the promised 50-100bp growth accretion in time.

Upside case **EUR 77.00**

Danone exceeds its €5bn plant-based sales target, China birth rates improve driving higher category growth, Activia stabilization in Europe moves into strong growth given increased interest in probiotics, disposal of Mizone in China which refocuses Danone as a premium water player.

Downside case **EUR 50.00**

Margins miss 16% guidance in 2020 on higher input cost/packaging costs that can't be passed on, the Chinese government bans cross-border e-commerce of infant formula into China, competitor entry into US and European plant-based market that captures share quickly.

Upside/Downside scenarios

Source: Company data, Bloomberg, Barclays Research
Note: FY End Dec

RECKITT BENCKISER GROUP PLC

RB/ LN / RB.L

Stock Rating
OVERWEIGHT

Industry View
NEUTRAL

Price Target
GBp 6400

Price (12-Mar-2020)
GBp 5150

Potential Upside/Downside
+30.1%

Covid-19 a tailwind, but scale uncertain

Investment case: Share prices have been extremely volatile in the last few weeks, and this could well continue near term. However, all else being equal, as we previously set out in our 18 Dec 19 report *What does success look like?*, if RB can reach 4%+ sustainable OSG we think it can trade on a forwards P/E of 22-24x. Given our £3.85 2023e EPS this would suggest a potential valuation of £85-92 on a three-year view.

With these issues settled we think the investment case now hinges on whether RB will reach its targeted mid-single-digit Organic Sales Growth by 2023e. We think it will. There looks to be significant low-hanging fruit at RB, in particular in retailer service, where RB believes it is currently in the fourth quartile vs competition. Significant investments in supply chain should enable RB to meaningfully improve its customer service levels, and hence revenue, with key retailers.

We also believe that RB has failed to adequately invest behind innovation in recent years. While many innovations themselves have looked interesting, the execution around them has often been inconsistent. As part of RB's margin reset we expect RB to ensure that future product launches are adequately, and consistently, supported by media spend, consumer couponing, and trade promotion. We think this has been lacking in recent years.

Going into RB's FY results, investors were concerned about: 1) whether the margin reset would be big enough; 2) the lack of clarity on the future for Hygiene Home; 3) the outlook for infant formula in China. The scale of the reset has addressed 1); on 2) RB is clear it is retaining it; on 3) RB has written down Mead by £5bn+ given expectations of slower growth here.

With these issues settled we think the investment case now hinges on whether RB will reach its targeted mid-single-digit Organic Sales Growth by 2023e. We think it will.

Limited visibility on COVID-19 impact: Some of RB's brands such as Dettol and Lysol are likely seeing a benefit from COVID-19 as consumers increase their purchases of handwash and household cleaning products. However, we struggle to quantify the benefit of this, and believe RB may have had some difficulties ramping up production sufficiently to meet this demand.

Valuation and price target: We trim our (relative P/E driven) price target by 4% to reflect recent sector de-rating. Our 12m PT of £64 (prior £67) is a 10% premium (prior in line) to EU Consumer Staples on forwards P/E to reflect our expectations of 10%+ EPS growth 2021-23e. It implies a 1.3% terminal growth rate with 7% WACC in our reverse DCF.

European Consumer Staples | Industry View: NEUTRAL

Reckitt Benckiser Group PLC (RB.L)

Stock Rating: OVERWEIGHT

Income statement (£mn)	2019A	2020E	2021E	2022E	CAGR
Revenue	12,846	12,806	13,242	13,786	2.4%
EBITDA (adj)	3,805	3,367	3,525	3,890	0.7%
EBIT (adj)	3,367	2,919	3,061	3,408	0.4%
Pre-tax income (adj)	3,179	2,674	2,839	3,211	0.3%
Net income (adj)	2,473	2,034	2,161	2,447	-0.4%
EPS (adj) (GBp)	349.0	287.0	304.9	345.2	-0.4%
Diluted shares (mn)	708.7	708.7	708.7	708.7	0.0%
DPS (GBp)	174.60	174.60	174.60	174.60	0.0%

Margin and return data					Average
EBITDA (adj) margin (%)	29.6	26.3	26.6	28.2	27.7
EBIT (adj) margin (%)	26.2	22.8	23.1	24.7	24.2
Pre-tax (adj) margin (%)	24.7	20.9	21.4	23.3	22.6
Net (adj) margin (%)	19.3	15.9	16.3	17.7	17.3
ROA (%)	7.0	7.0	7.3	8.0	7.3
ROE (%)	20.5	20.8	20.3	20.9	20.7
ROCE (%)	9.9	9.7	10.1	11.3	10.2

Cash flow and balance sheet (£mn)					CAGR
Cash flow from operations	3,408	3,415	3,521	3,883	4.4%
Cash flow from investing	-406	-512	-530	-482	N/A
Cash flow from financing	-1,060	-2,288	-2,339	-2,663	N/A
Capital expenditure	-306	-512	-530	-482	N/A
Equity free cash flow	2,145	2,042	2,116	2,466	4.8%
Tangible fixed assets	2,140	2,284	2,430	2,511	5.5%
Intangible fixed assets	24,261	24,180	24,099	24,018	-0.3%
Cash and equivalents	1,444	1,444	1,444	1,444	0.0%
Total assets	32,139	32,491	32,598	32,645	0.5%
Short and long-term debt	12,195	11,390	10,510	9,280	-8.7%
Total liabilities	22,732	22,263	21,421	20,232	-3.8%
Shareholders' equity	9,363	10,160	11,083	12,292	9.5%
Net debt/(funds)	10,749	9,944	9,065	7,837	-10.0%

Valuation and leverage metrics					Average
P/E (adj) (x)	14.8	17.9	16.9	14.9	16.1
EV/sales (x)	3.7	3.7	3.5	3.2	3.5
EV/EBITDA (adj) (x)	12.5	13.9	13.0	11.5	12.7
EV/EBIT (adj) (x)	14.1	16.0	15.0	13.1	14.6
Equity FCF yield (%)	5.9	5.6	5.8	6.8	6.0
P/BV (x)	3.9	3.6	3.3	3.0	3.4
Dividend yield (%)	3.4	3.4	3.4	3.4	3.4
Net debt/EBITDA (adj) (x)	2.8	3.0	2.6	2.0	2.6

Selected operating metrics					Average
Organic sales growth (%)	0.8	2.5	3.5	4.1	2.7
Tax rate (%)	22	23	23	23	23
Capex/sales (%)	2.4	4.0	4.0	3.5	3.5

Price (12-Mar-2020)	GBp 5,150
Price Target	GBp 6,400

Why Overweight? Investors are nervous that RB's new CEO may need to rebase margins. We think the current level of profitability is sustainable, with RB having already stepped up investment meaningfully in recent years. RB's new CEO communicating this could be a helpful catalyst.

Upside case GBp 9,500

Key upside risks include the RB 2.0 restructuring resulting in some sort of value creating spin-off or disposal, or RB being able to roll out key Infant Formula and Consumer Health brands into new markets faster than we anticipate.

Downside case GBp 4,400

Key downside risks include a further step up in investment being necessary, RB overpaying for or poorly executing on a large acquisition, or further blue-sky operational setbacks.

Upside/Downside scenarios

Source: Company data, Bloomberg, Barclays Research
Note: FY End Dec

Valuation Methodology and Risks

European Consumer Staples

Danone (BN FP / DANO.PA)

Valuation Methodology: Our price target is driven by a relative P/E methodology, in common with our approach across the European food sector. We value Danone on a 10% discount to EU Staples on one-year fwd PE. We believe a discount is merited as Danone has the lowest ROIC in our coverage, and question-marks remain around its capital allocation. We think the discount appropriately marries these concerns with the fact that EPS and FCF growth has been much improved since 2016. We sense-check our valuation against a DCF analysis (WACC of 7.6% and perpetuity growth rate of 2.5%).

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: • Further draconian legislation on the Chinese cross-border e-commerce formula market. Our base assumption is that the large traders and friends and family channel will remain. However, a more aggressive crackdown could impact Danone's growth outlook for China.

• A safety scare on one of its key brands, particularly in its Specialised Nutrition division.

• EDP growth materially missing its 4-5% target by 2020 if the recent recovery in its largest brand, Activia, is not sustained.

• A slowdown in the bottled water market due to consumer concerns about single-use plastic.

• Capex spend needing to increase beyond the 5% of sales management indicated to help accelerate its plant-based growth strategy into new geographies. This would impact cash generation and its FCF yield attractions.

• 2020 margin target of 16%+ being missed on significantly higher raw material costs (PET plastics and dairy costs) which cannot be offset by higher pricing or accelerated costs savings.

• Following rapid de-leveraging, an expensive and poorly received strategic acquisition.

• Key management leaving the group unexpectedly, including CEO Emmanuel Faber or CFO Cecile Cabanis, who have been crucial in driving Danone's strategy for 2020 and beyond.

Nestle SA (NESN SW / NESN.S)

Valuation Methodology: Our price target is driven by a relative P/E methodology, in common with our approach across the European food sector. We value Nestle on a 15% premium to EU Staples on one-year fwd PE. We think a 15% premium is merited as we forecast Nestle to deliver the best improvement in ROIC over 2018-20. We also see significant upside from the Starbucks expansion globally and further option value, particularly the possibility of monetising its L'Oreal stake. We sense-check our valuation against a DCF analysis (WACC of 6.5% and perpetuity growth rate of 2.0%).

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: • CEO Mark Schneider unexpectedly leaving the group. Much of the turnaround and changing culture at Nestle is credited to the CEO. Of course, a single person alone can't change such a big organization but his leadership and vision is making a difference, as is his focus on execution. If he were to unexpectedly leave, it would likely impact investor sentiment.

• US and Zone AOA top-line momentum slowing. Together these two regions account for 55% of group sales and are crucial to Nestle achieving its mid-single-digit organic sales growth target by 2020. If 2018's improved momentum isn't sustained, it would increase the possibility of a top-line miss.

• Significant CHF strength. Nestle reports in CHF, but 99% of its sales are made outside of Switzerland. CHF strength could result in translation headwinds on both the top and bottom lines. Nestle also does have some transactional FX exposure, especially in categories such as international premium waters, although its assets and liabilities are broadly matched. Nestle's size and diversification offers significant risk mitigation, however.

• Poorly received transformational acquisition. Nestle has a reputation for having overpaid historically for assets. Its ROIC post goodwill is 12% but pre goodwill is more than 30%. If Nestle were to undertake a transformational deal where there wasn't clear strategic logic, it could damage management credibility and the stock valuation.

• Long-term commitment to L'Oreal stake. Were management to commit to retaining the stake in L'Oreal long term, it might be poorly received – not least by activist Dan Loeb, who has a stake in Nestle.

• Weak quarterly trading. After strong outperformance since summer 2018, a weak quarterly update could result in profit taking.

• Rising US bond yields. The stock's outperformance has also been helped by its perception as one of the best bond proxies as it has been boosted by the yield on the US 10Y reducing from 3% to less than 2.5%.

Reckitt Benckiser Group PLC (RB/ LN / RB.L)

Valuation Methodology: Our 12m PT of £64 is a 10% premium to EU Consumer Staples on forwards P/E to reflect our expectations of 10%+ EPS growth 2021-23e. It implies a 1.3% terminal growth rate with 7% WACC in our reverse DCF.

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: The key risks to our thesis are:

- RB suffers further operational accidents that we have no realistic way of predicting or forecasting until they happen.
- Price competition steps up meaningfully in RB's categories and approaches the levels currently seen in laundry detergent and similar.
- Product safety issues within infant formula cause permanent harm to brand equity and market share.
- RB's management team and board are destabalised following recent changes and are unable to act as a cohesive whole to deliver shareholder value while providing appropriate checks, balances, and challenges.

Source: Barclays Research.

ANALYST(S) CERTIFICATION(S):

We, Warren Ackerman, Iain Simpson, Arthur Reeves, Sebastian Satz, CFA, Kristen Stewart, CFA and Sriram Gurijala, hereby certify (1) that the views expressed in this research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

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Primary Stocks (Ticker, Date, Price)

Danone (DANO.PA, 12-Mar-2020, EUR 52.90), Overweight/Neutral, CD/E/FB/J/K/L/M

Nestle SA (NESN.S, 12-Mar-2020, CHF 90.13), Overweight/Neutral, CD/D/J/K/L/M/N

Reckitt Benckiser Group PLC (RB.L, 12-Mar-2020, GBp 5150), Overweight/Neutral, CD/J/K/N

Materially Mentioned Stocks (Ticker, Date, Price)

Abbott Laboratories (ABT, 12-Mar-2020, USD 74.74), Overweight/Neutral, A/CD/CE/D/J/K/L/M

Chr. Hansen Holding A/S (CHRH.CO, 12-Mar-2020, DKK 455.00), Underweight/Neutral, J

DSM (DSMN.AS, 12-Mar-2020, EUR 88.94), Overweight/Neutral, CD/J/K/M

Glanbia PLC (GL9.I, 12-Mar-2020, EUR 9.15), Equal Weight/Neutral, J/K/M/N

Kerry Group PLC (KYGa.L, 12-Mar-2020, EUR 96.40), Underweight/Neutral, A/D/J/K/L/M/N

Non-covered Stocks (Ticker, Date, Price)

A2 MILK CO LTD (ATM.NZ, 12-Mar-2020, NZD 14.82, Bloomberg), J

AUSNUTRIA DAIRY CORP LTD (1717.HK, 12-Mar-2020, HKD 11.40, Bloomberg), J

CHINA FEIHE LTD (6186.HK, 12-Mar-2020, HKD 12.64, Bloomberg), J

CHINA MENGNIU DAIRY CO (2319.HK, 12-Mar-2020, HKD 27.00, Bloomberg), CD/D/J/L

HEALTH AND HAPPINESS H&H INT (1112.HK, 12-Mar-2020, HKD 28.75, Bloomberg), CD/J

INNER MONGOLIA YILI INDUS-A (600887.SS, 12-Mar-2020, CNY 28.57, Bloomberg), CD/J

Other Material Conflicts

Not listed companies: JUNLEBAO DAIRY CO LTD, D/J/L; FRIESLANDCAMPINA DMV BV, E/J/K/L/M/N

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Our coverage analysts use a relative rating system in which they rate stocks as Overweight, Equal Weight or Underweight (see definitions below) relative to other companies covered by the analyst or a team of analysts that are deemed to be in the same industry (the "industry coverage universe").

In addition to the stock rating, we provide industry views which rate the outlook for the industry coverage universe as Positive, Neutral or Negative (see definitions below). A rating system using terms such as buy, hold and sell is not the equivalent of our rating system. Investors should carefully read the entire research report including the definitions of all ratings and not infer its contents from ratings alone.

Stock Rating

Overweight - The stock is expected to outperform the unweighted expected total return of the industry coverage universe over a 12-month investment horizon.

IMPORTANT DISCLOSURES CONTINUED

Equal Weight - The stock is expected to perform in line with the unweighted expected total return of the industry coverage universe over a 12-month investment horizon.

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Positive - industry coverage universe fundamentals/valuations are improving.

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Below is the list of companies that constitute the "industry coverage universe":

European Chemicals		
AkzoNobel (AKZO.AS)	Arkema (AKE.PA)	BASF (BASFn.DE)
Clariant (CLN.S)	Covestro (1COV.DE)	Croda (CRDA.L)
DSM (DSMN.AS)	Elementis (ELM.L)	Evonik (EVKn.DE)
Givaudan (GIVN.S)	Johnson Matthey (JMAT.L)	Lanxess (LXSG.DE)
Solvay (SOLB.BR)	Symrise (SY1G.DE)	Synthomer (SYNTS.L)
Umicore (UMI.BR)	Victrex (VCTX.L)	
European Consumer Staples		
A.G. Barr PLC (BAG.L)	Altria Group Inc. (MO)	Anheuser-Busch InBev (ABI.BR)
Associated British Foods (ABF.L)	Bakkavor (BAKK.L)	Barry Callebaut (BARN.S)
Beiersdorf AG (BEIG.DE)	British American Tobacco Plc (BATS.L)	Britvic PLC (BVIC.L)
C&C Group (CCR.L)	Carlsberg AS-B (CARLb.CO)	Chr. Hansen Holding A/S (CHRH.CO)
Coca-Cola Hellenic BC AG (CCH.L)	Danone (DANO.PA)	Davide Campari-Milano SpA (CPRI.MI)
Diageo PLC (DGE.L)	Essity (ESSITYb.ST)	Glanbia PLC (GL9.I)
Greencore Group PLC (GNC.L)	Heineken NV (HEIN.AS)	Henkel (HNKG_p.DE)
Imperial Brands Plc (IMB.L)	Japan Tobacco Inc. (JAPAY)	Kerry Group PLC (KYGa.L)
L'Oréal SA (OREP.PA)	Lindt & Spruengli (LISN.S)	Nestle SA (NESN.S)
Ontex Group (ONTEX.BR)	Pernod-Ricard SA (PERP.PA)	Philip Morris International Inc. (PM)
Reckitt Benckiser Group PLC (RB.L)	Rémy Cointreau (RCOP.PA)	Swedish Match (SWMA.ST)
Tate & Lyle PLC (TATE.L)	Unilever NV (UNA.AS)	Unilever PLC (ULVR.L)
U.S. Medical Supplies & Devices		
Abbott Laboratories (ABT)	Avanos Medical Inc (AVNS)	Axonics Modulation Technologies, Inc. (AXNX)
Baxter International (BAX)	Becton Dickinson and Co (BDX)	Boston Scientific Corp (BSX)
CONMED Corp (CNMD)	Edwards Lifesciences Corp (EW)	Hill-Rom Holdings Inc (HRC)
Johnson & Johnson (JNJ)	Medtronic PLC (MDT)	Stryker Corp (SYK)
Teleflex (TFX)	Zimmer Biomet Holdings Inc (ZBH)	

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IMPORTANT DISCLOSURES CONTINUED

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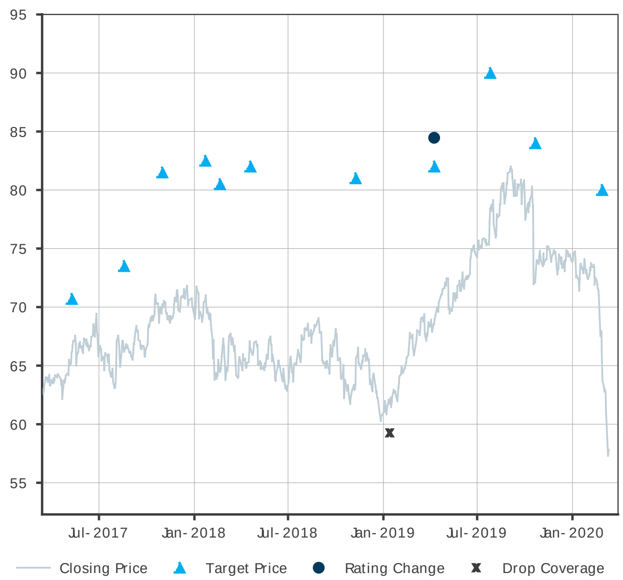
IMPORTANT DISCLOSURES CONTINUED

Danone (BN FP / DANO.PA)

EUR 52.90 (12-Mar-2020)

Stock Rating	Industry View
OVERWEIGHT	**NEUTRAL**

Rating and Price Target Chart - EUR (as of 12-Mar-2020)



Source: IDC, Barclays Research

Currency=EUR

Publication Date	Closing Price	Rating	Adjusted Price Target
27-Feb-2020	65.40		80.00
21-Oct-2019	72.12		84.00
26-Jul-2019	78.40		90.00
09-Apr-2019	68.54	Overweight	82.00
07-Jan-2019	60.84	Coverage Dropped	
08-Nov-2018	63.35		81.00
19-Apr-2018	66.46		82.00
19-Feb-2018	64.47		80.50
22-Jan-2018	70.59		82.50
31-Oct-2017	70.14		81.50
18-Aug-2017	66.19		73.50
09-May-2017	66.13		70.70

On 16-Mar-2017, prior to any intra-day change that may have been published, the rating for this security was Overweight, and the adjusted price target was 67.00.

Source: Bloomberg, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

Link to Barclays Live for interactive charting

CD: Barclays Bank PLC and/or an affiliate is a market-maker in debt securities issued by Danone.

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FB: Barclays Bank PLC and/or an affiliate beneficially owns a long position of more than 0.5% of a class of equity securities of Danone, as calculated in accordance with EU regulations.

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Valuation Methodology: Our price target is driven by a relative P/E methodology, in common with our approach across the European food sector. We value Danone on a 10% discount to EU Staples on one-year fwd PE. We believe a discount is merited as Danone has the lowest ROIC in our coverage, and question-marks remain around its capital allocation. We think the discount appropriately marries these concerns with the fact that EPS and FCF growth has been much improved since 2016. We sense-check our valuation against a DCF analysis (WACC of 7.6% and perpetuity growth rate of 2.5%).

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: • Further draconian legislation on the Chinese cross-border e-commerce formula market. Our base assumption is that the large traders and friends and family channel will remain. However, a more aggressive crackdown could impact Danone's growth outlook for China.

• A safety scare on one of its key brands, particularly in its Specialised Nutrition division.

• EDP growth materially missing its 4-5% target by 2020 if the recent recovery in its largest brand, Activia, is not sustained.

• A slowdown in the bottled water market due to consumer concerns about single-use plastic.

• Capex spend needing to increase beyond the 5% of sales management indicated to help accelerate its plant-based growth strategy into new geographies. This would impact cash generation and its FCF yield attractions.

• 2020 margin target of 16%+ being missed on significantly higher raw material costs (PET plastics and dairy costs) which cannot be offset by higher pricing or accelerated costs savings.

• Following rapid de-leveraging, an expensive and poorly received strategic acquisition.

• Key management leaving the group unexpectedly, including CEO Emmanuel Faber or CFO Cecile Cabanis, who have been crucial in driving Danone's strategy for 2020 and beyond.

IMPORTANT DISCLOSURES CONTINUED

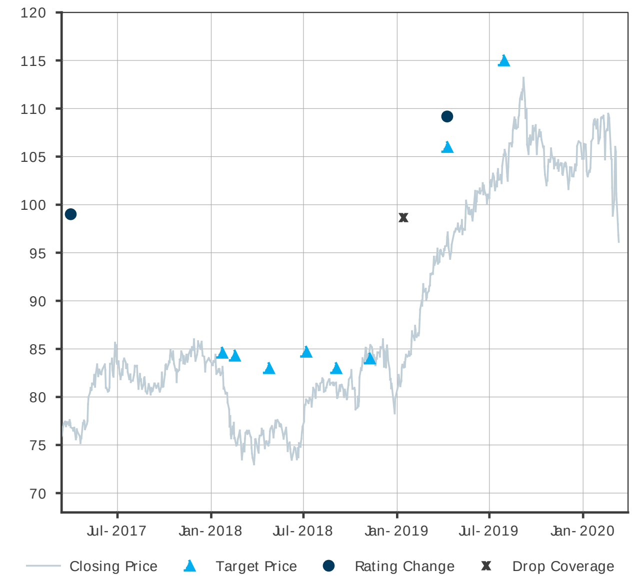
Nestle SA (NESN SW / NESN.S)

CHF 90.13 (12-Mar-2020)

Stock Rating: **OVERWEIGHT**

Industry View: **NEUTRAL**

Rating and Price Target Chart - CHF (as of 12-Mar-2020)



Source: IDC, Barclays Research

Currency=CHF

Publication Date	Closing Price	Rating	Adjusted Price Target
29-Jul-2019	105.22		115.00
09-Apr-2019	96.62	Overweight	106.00
07-Jan-2019	81.12	Coverage Dropped	
08-Nov-2018	84.94		84.00
03-Sep-2018	81.50		83.00
06-Jul-2018	79.74		84.70
24-Apr-2018	75.38		83.00
16-Feb-2018	75.74		84.30
22-Jan-2018	82.56		84.60
31-Mar-2017	76.85	Equal Weight	

On 16-Mar-2017, prior to any intra-day change that may have been published, the rating for this security was Overweight, and the adjusted price target was 80.00.

Source: Bloomberg, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

Link to Barclays Live for interactive charting

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Valuation Methodology: Our price target is driven by a relative P/E methodology, in common with our approach across the European food sector. We value Nestle on a 15% premium to EU Staples on one-year fwd PE. We think a 15% premium is merited as we forecast Nestle to deliver the best improvement in ROIC over 2018-20. We also see significant upside from the Starbucks expansion globally and further option value, particularly the possibility of monetising its L'Oreal stake. We sense-check our valuation against a DCF analysis (WACC of 6.5% and perpetuity growth rate of 2.0%).

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: • CEO Mark Schneider unexpectedly leaving the group. Much of the turnaround and changing culture at Nestle is credited to the CEO. Of course, a single person alone can't change such a big organization but his leadership and vision is making a difference, as is his focus on execution. If he were to unexpectedly leave, it would likely impact investor sentiment.

• US and Zone AOA top-line momentum slowing. Together these two regions account for 55% of group sales and are crucial to Nestle achieving its mid-single-digit organic sales growth target by 2020. If 2018's improved momentum isn't sustained, it would increase the possibility of a top-line miss.

• Significant CHF strength. Nestle reports in CHF, but 99% of its sales are made outside of Switzerland. CHF strength could result in translation headwinds on both the top and bottom lines. Nestle also does have some transactional FX exposure, especially in categories such as international premium waters, although its assets and liabilities are broadly matched. Nestle's size and diversification offers significant risk mitigation, however.

• Poorly received transformational acquisition. Nestle has a reputation for having overpaid historically for assets. Its ROIC post goodwill is 12% but pre goodwill is more than 30%. If Nestle were to undertake a transformational deal where there wasn't clear strategic logic, it could damage management credibility and the stock valuation.

• Long-term commitment to L'Oreal stake. Were management to commit to retaining the stake in L'Oreal long term, it might be poorly received – not least by activist Dan Loeb, who has a stake in Nestle.

• Weak quarterly trading. After strong outperformance since summer 2018, a weak quarterly update could result in profit taking.

• Rising US bond yields. The stock's outperformance has also been helped by its perception as one of the best bond proxies as it has been boosted by the yield on the US 10Y reducing from 3% to less than 2.5%.

IMPORTANT DISCLOSURES CONTINUED

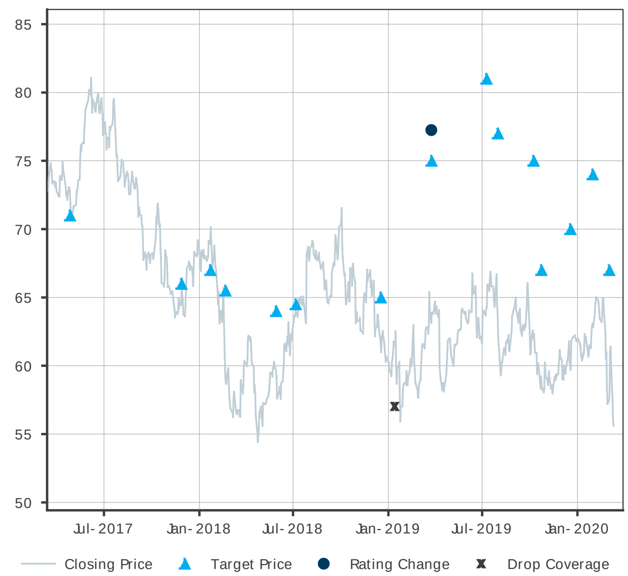
Reckitt Benckiser Group PLC (RB/ LN / RB.L)

GBp 5150 (12-Mar-2020)

Stock Rating **OVERWEIGHT**

Industry View **NEUTRAL**

Rating and Price Target Chart - GBP (as of 12-Mar-2020)



Source: IDC, Barclays Research

Currency=GBP

Publication Date	Closing Price	Rating	Adjusted Price Target
02-Mar-2020	57.48		67.00
30-Jan-2020	63.08		74.00
18-Dec-2019	60.10		70.00
23-Oct-2019	59.21		67.00
08-Oct-2019	61.99		75.00
31-Jul-2019	63.72		77.00
09-Jul-2019	64.20		81.00
25-Mar-2019	63.15	Overweight	75.00
07-Jan-2019	59.25	Coverage Dropped	
17-Dec-2018	61.76		65.00
06-Jul-2018	64.07		64.50
29-May-2018	59.65		64.00
20-Feb-2018	59.28		65.50
22-Jan-2018	68.92		67.00
27-Nov-2017	64.45		66.00
26-Apr-2017	72.87		71.00

On 16-Mar-2017, prior to any intra-day change that may have been published, the rating for this security was Equal Weight, and the adjusted price target was 72.30.

Source: Bloomberg, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

Link to Barclays Live for interactive charting

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Valuation Methodology: Our 12m PT of £64 is a 10% premium to EU Consumer Staples on forwards P/E to reflect our expectations of 10%+ EPS growth 2021-23e. It implies a 1.3% terminal growth rate with 7% WACC in our reverse DCF.

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: The key risks to our thesis are:

• RB suffers further operational accidents that we have no realistic way of predicting or forecasting until they happen.

• Price competition steps up meaningfully in RB's categories and approaches the levels currently seen in laundry detergent and similar.

• Product safety issues within infant formula cause permanent harm to brand equity and market share.

• RB's management team and board are destabalised following recent changes and are unable to act as a cohesive whole to deliver shareholder value while providing appropriate checks, balances, and challenges.

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