



The world market for Infant Formula: still a major utilisation for whey, but not the only one

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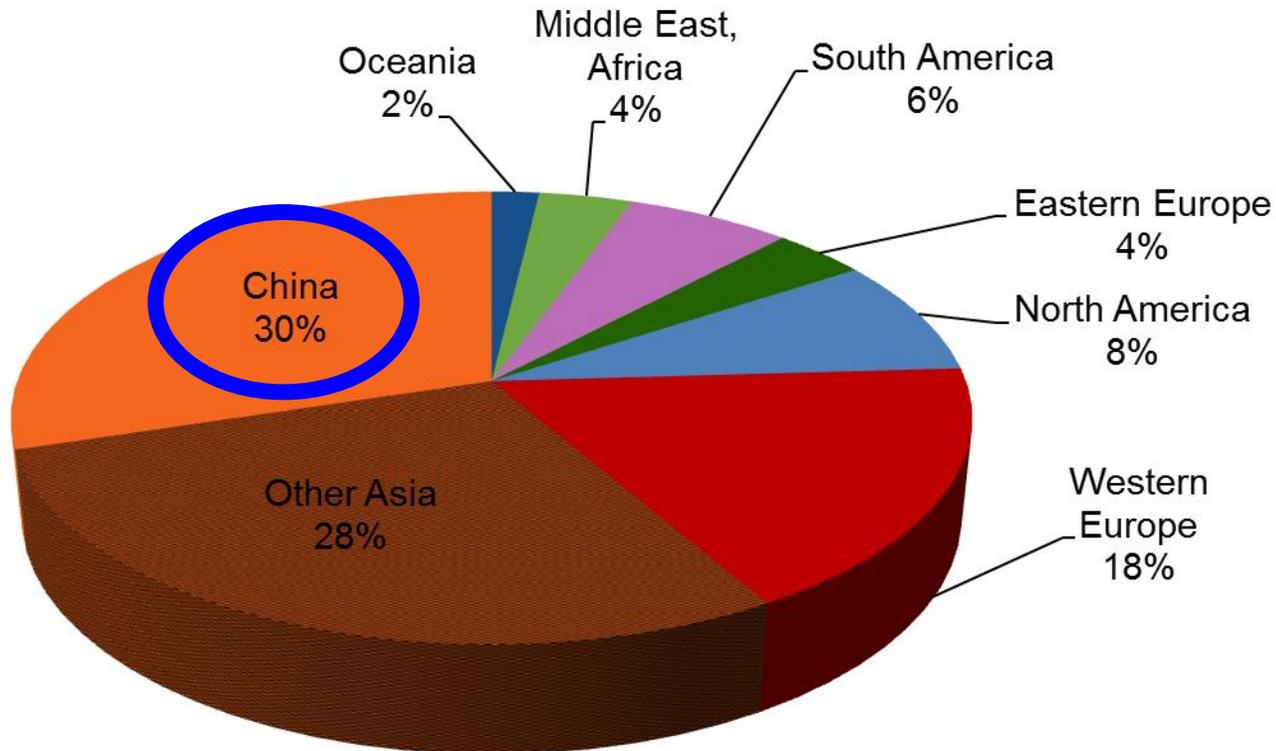
- Infant Formula's World Market
- The Chinese situation
- Infant formula and whey
- Nutrition and whey
- Conclusions

Infant Formula's World Market

Infant Formula's World Market

*A global market of 2.5 mio tons,
almost 60% consumed in Asia*

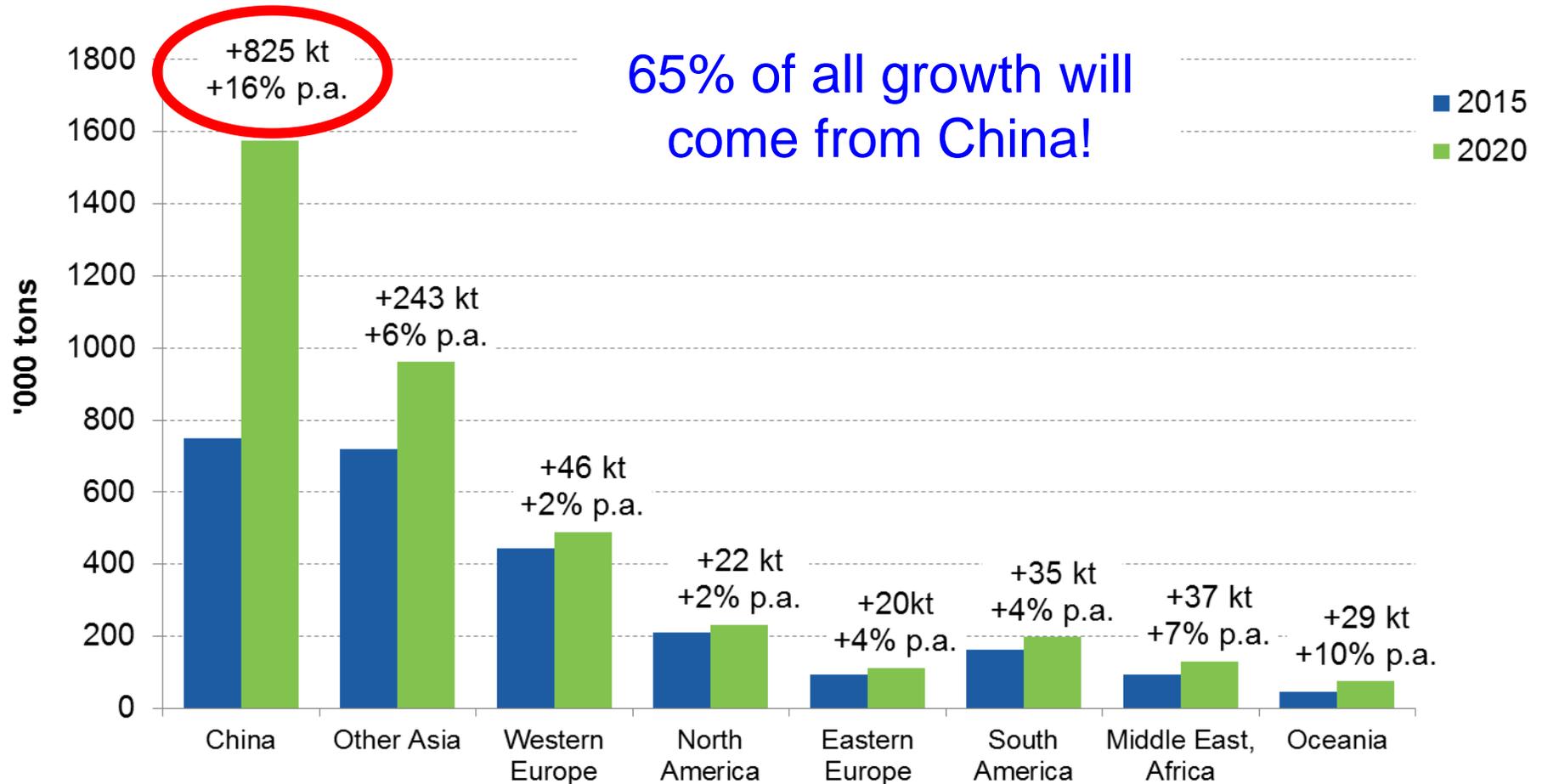
Infant formula consumption by region, 2015



Infant Formula World Market

+1.3 million tons in total between 2015 and 2020

Infant formula consumption growth by region, 2015-2020



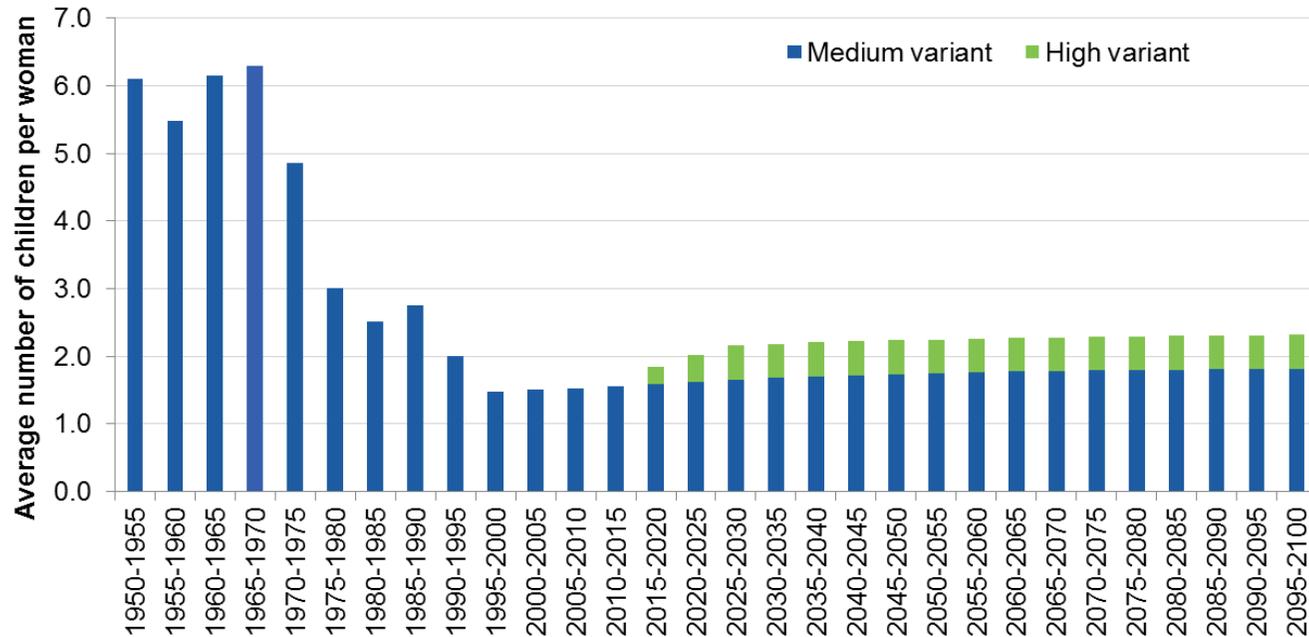
Source: Gira compilation

The Chinese situation

Impact of the two-child policy in China

A moderate increase in the fertility rate expected

Evolution of the fertility rate in China, 1950-2100



Source: United Nations

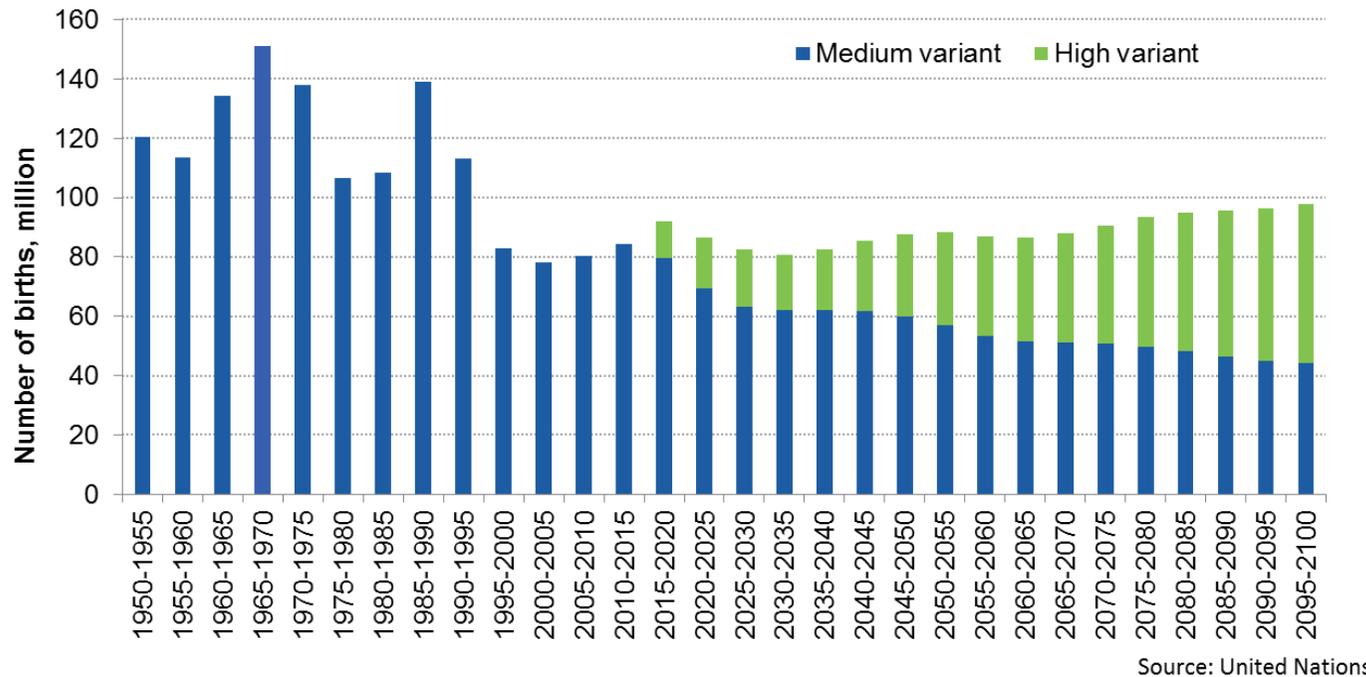
The fertility rate in China is one of the lowest in the world: 1.55 in the period 2010-2015 (World average: 2.51).

- The United Nations forecasts a small increase during the next five years: 1.59 for the medium hypothesis (+2.6%), but 1.84 for the highest hypothesis (+18.7%)
- But both are still far below the renewal rate.

Impact of the two-child policy in China

However, the number of birth should not really grow

Evolution of the 5-year average number of births in China, 1950-2100

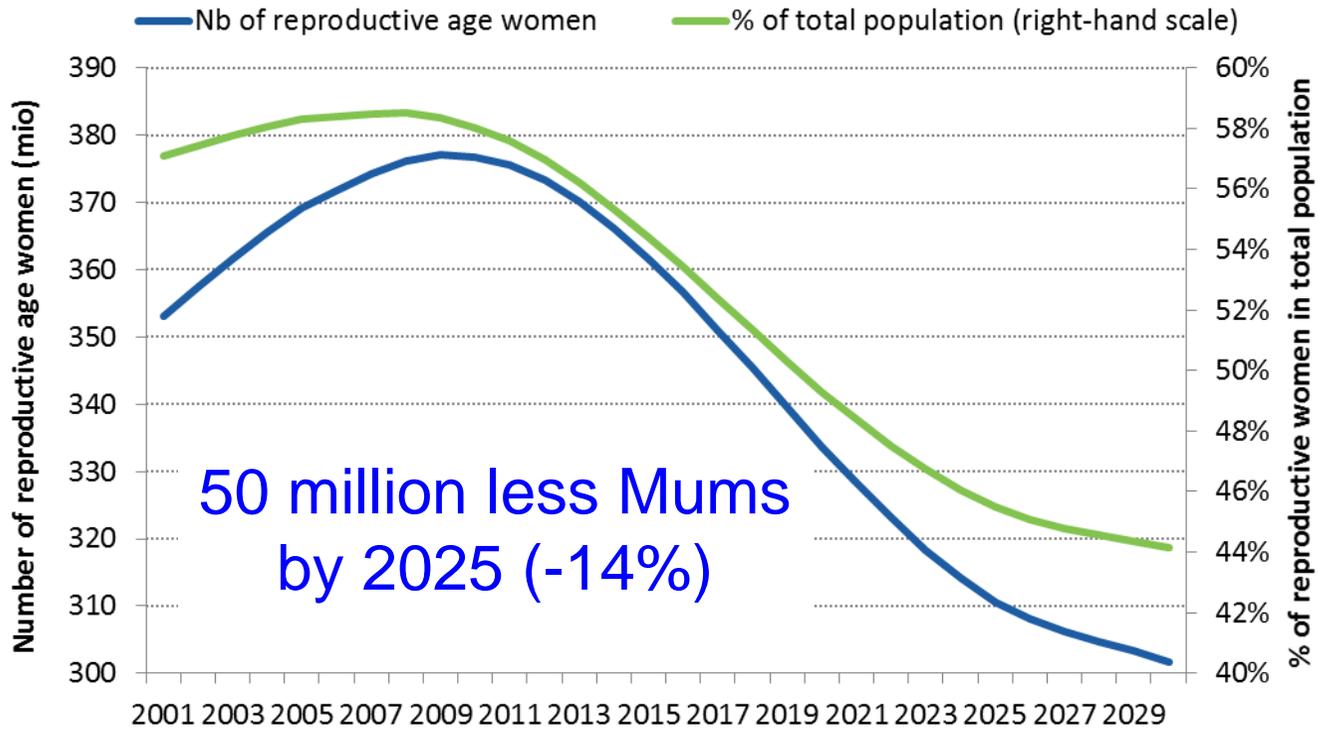


- In the medium hypothesis, the number of births in the period 2015-2020 will decline by 4.8 million compared to the period 2010-2015.
- In the high hypothesis, only a slight increase in the number of births is expected compared to the 2015 level (+0.2% p.a. between 2015 and 2100).

Impact of the two-child policy in China

Particularly, the number of reproductive-age women is in decline

Number of reproductive-age women in China and % of total population in China, 2001-2030



Source: World Data Bank

Impact of the two-child policy in China

Should we expect a strong increase in needs in infant formula ?

Result of the first relaxation of birth control policy in 2013:

- Families can have two children if one parent, (rather than both parents), are an only child. This mainly applied to urban couples, since there were very few rural only children due to long-standing exceptions to the policy for rural couples.
- Under this policy, approximately 11 million couples in China were allowed to have a second child. However, only 'nearly one million' couples applied to have a second child in 2014, less than half the expected number of 2 million per year.

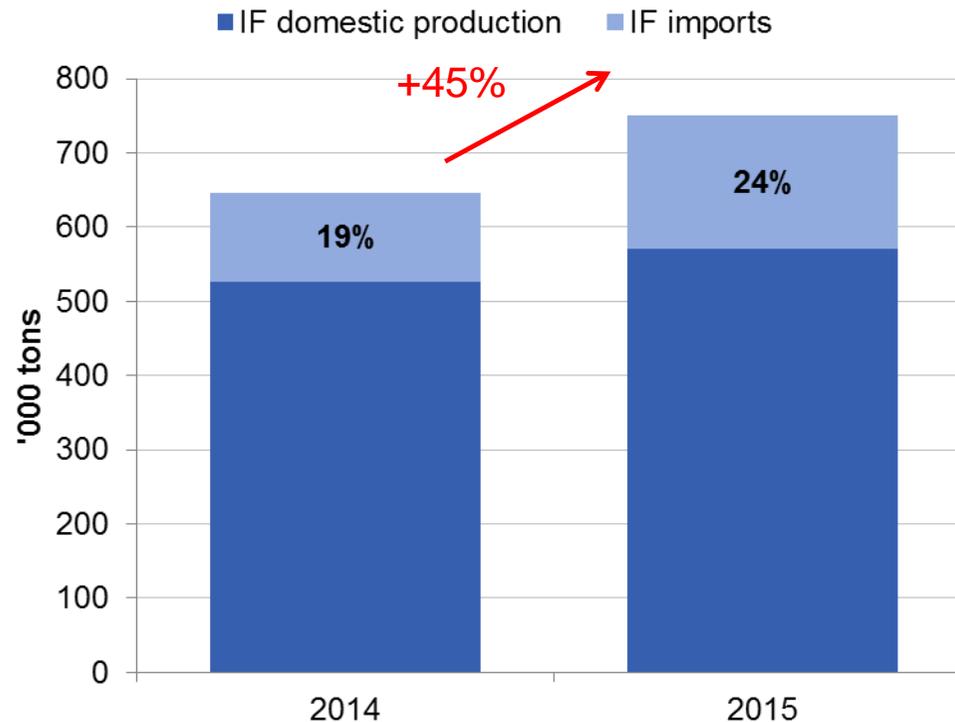
No clear reason to expect a higher growth than previous (already +15% per year !):

- The growth of IF consumption in China will still be driven by demographic and social changes: development of the middle-class, urbanization, high employment rate of women...

Chinese supply in Infant Formula

Growth of imported finished product

Volume of IF imported vs. domestically produced in China, 2014-2015



In 2015, China imported almost 180 ktons of consumer-packed IF, +45% over 2014

- 91% from Europe (NL, IE, FR, DK)
- The remainder from New Zealand and Australia

Chinese supply in consumer-packed IF

To the detriment of imports of ingredients

In coming years, the Chinese demand for imported consumer-ready infant milk powder will continue to take market share from domestic products, and to the detriment of imported ingredients.

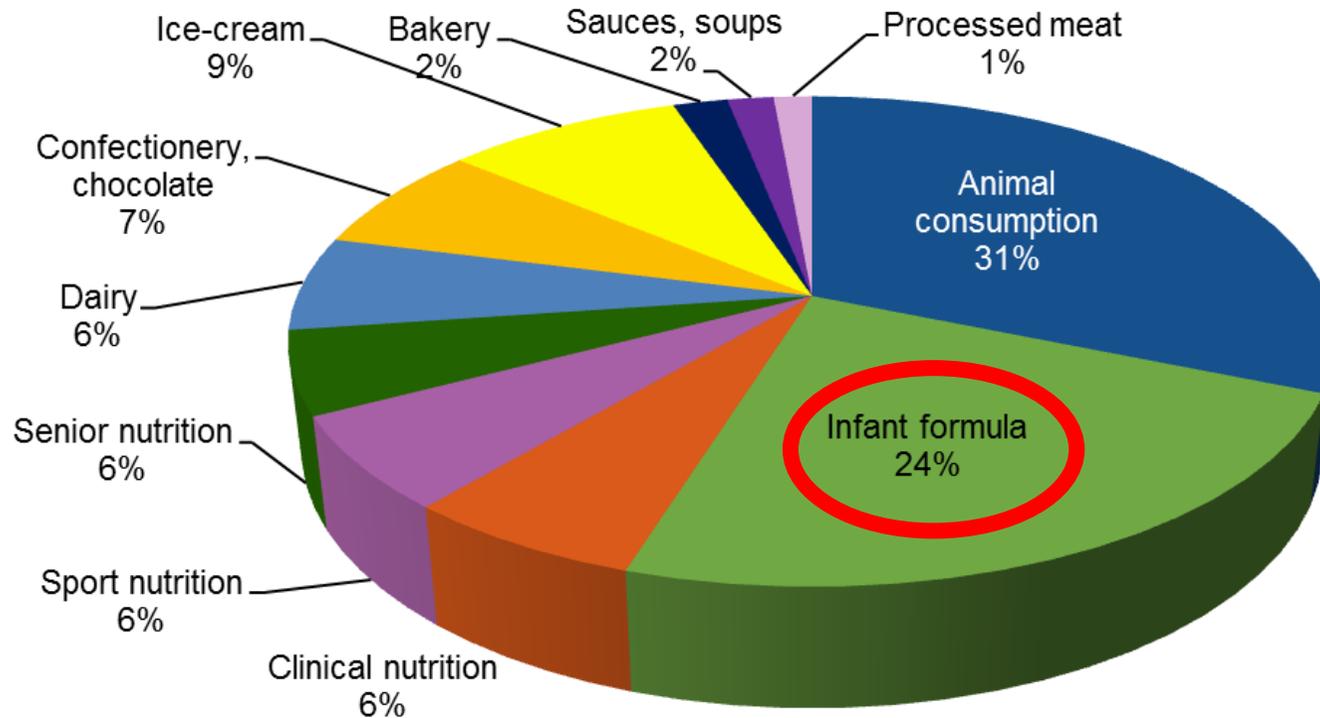
- After the melamine scandal in 2008, the distrust of Chinese parents towards domestic products was total, and families who could afford, privileged foreign brands whatever the price of the product.
- Then foreign-branded products produced in China using imported ingredients developed as cheaper, dependable alternatives to wholly-foreign produced infant formula. Until 2013, Chinese consumers largely trusted these products. However, in 2013 the C. botulinum scare resulted for the second time in a lost of confidence of consumers towards domestic products.

Infant Formula and Whey

End-user segments of whey in the EU

Infant Formula represents 24%

End-user segments of dry whey in the EU, 2015 (in ktons WP equivalent)

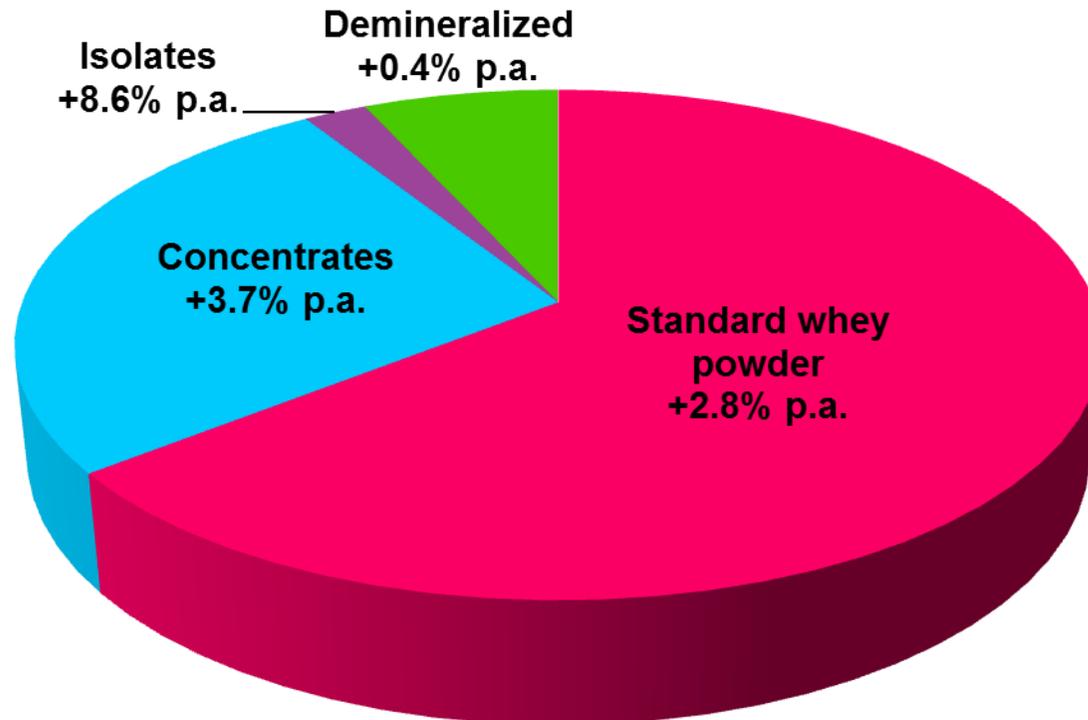


Source: Gira compilations, estimates and forecasts based on interviews, dairy reports and articles

Type of whey used in Infant Formula in the EU

Strong growth of concentrates and isolates

Dry whey products used in Infant Formula in Europe, 2015 (in ktons WP equivalent)

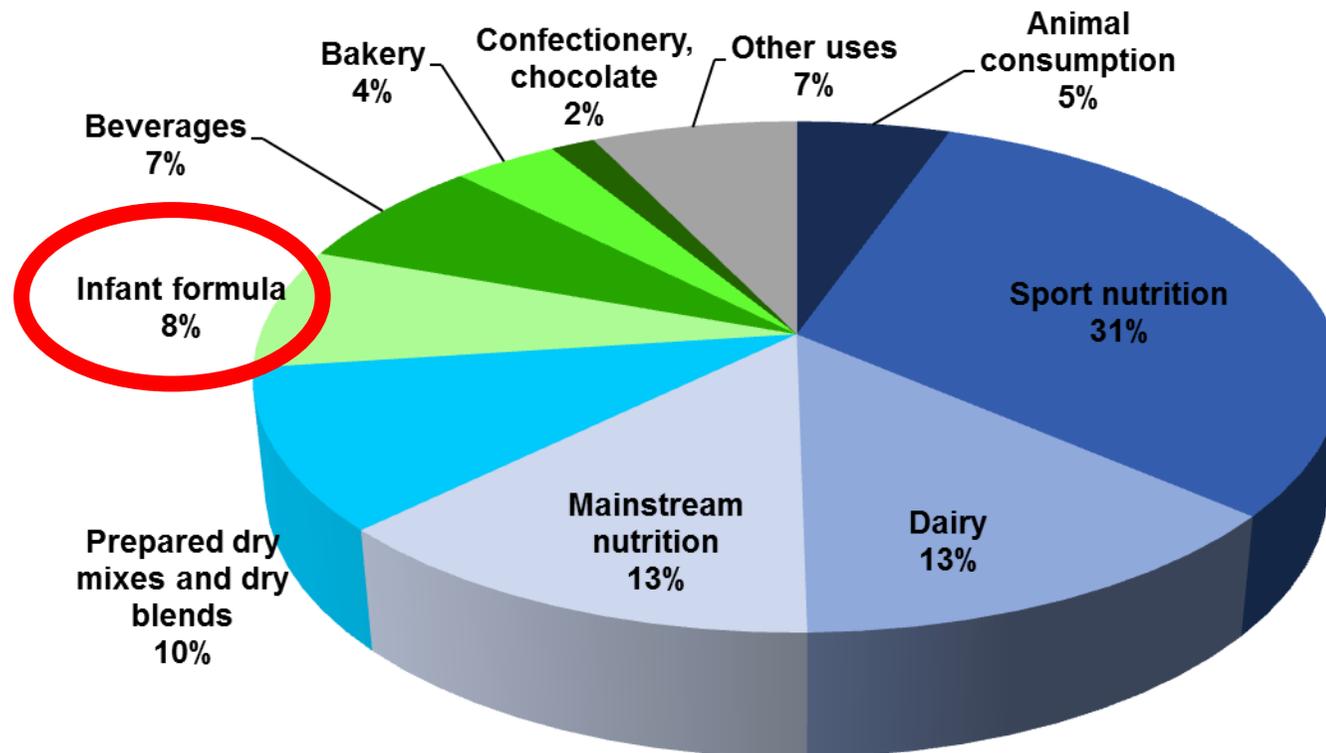


Source: Gira compilations, estimates and forecasts based on interviews, dairy reports and articles

End-user segments of whey in the US

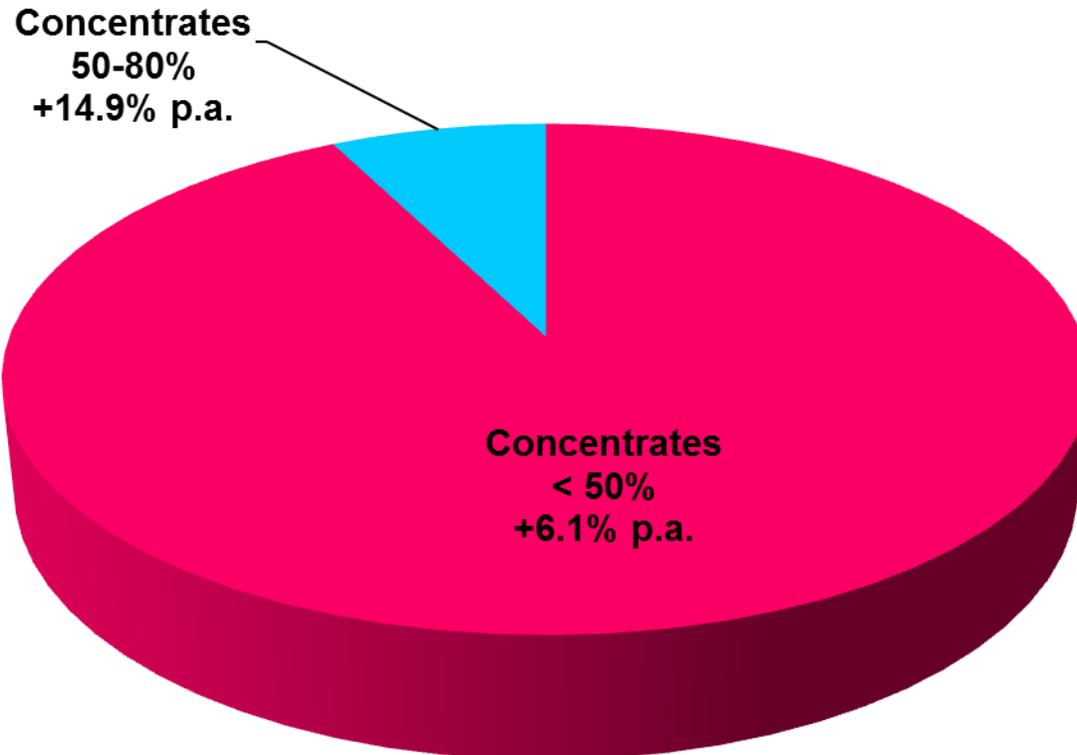
IF represents only 8%

End-user segments of dry whey in the US, 2015 (ktons WP Equivalent)



Source: Gira compilations, estimates and forecasts based on ADPI, dairy reports and articles

Dry whey products used in Infant Formula in the US, 2015 (ktons WP Equivalent)

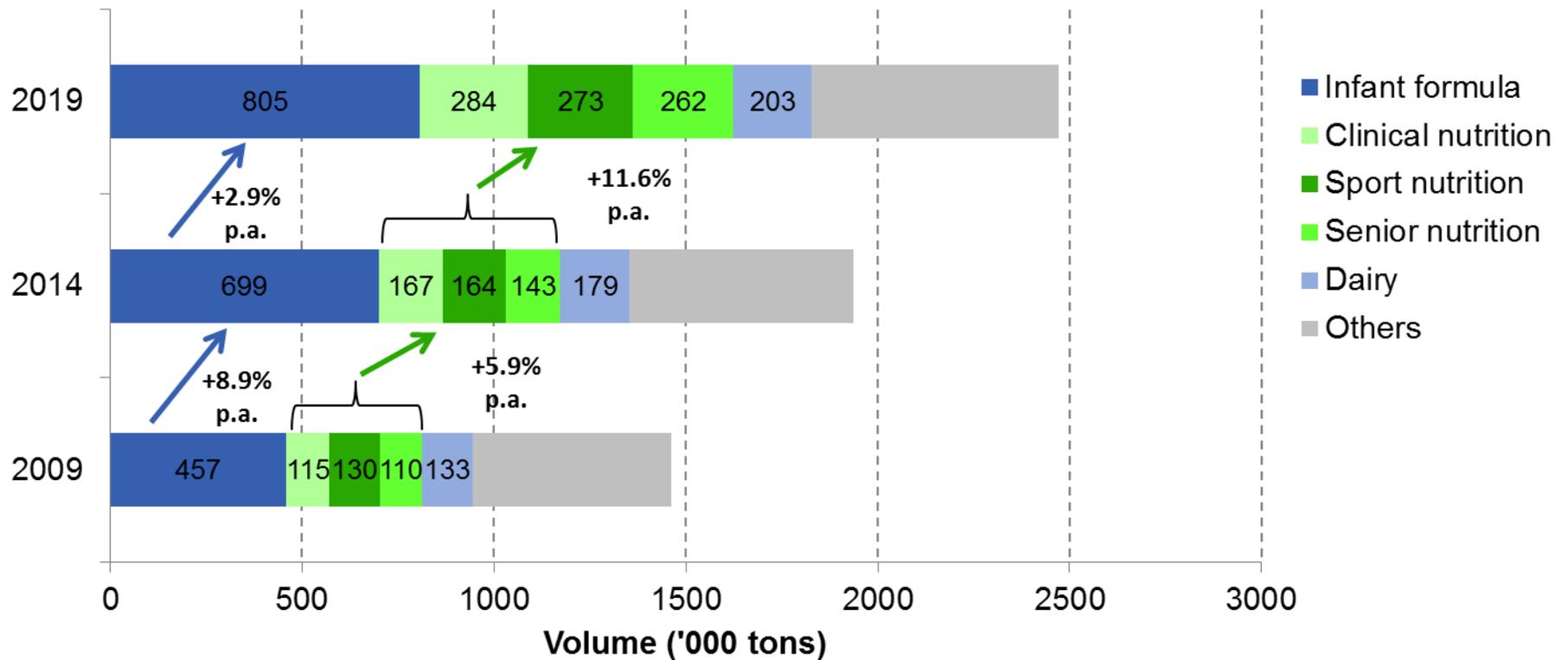


Source: Gira compilations, estimates and forecasts based on ADPI, dairy reports and articles

IF is no longer the "main" driver of growth

*The nutritional sectors are rapidly developing
 It overtook IF in 2015 in volume in the EU*

**Volume of whey used by human nutrition end-user sector in the EU
 (ktons WP Equivalent)**

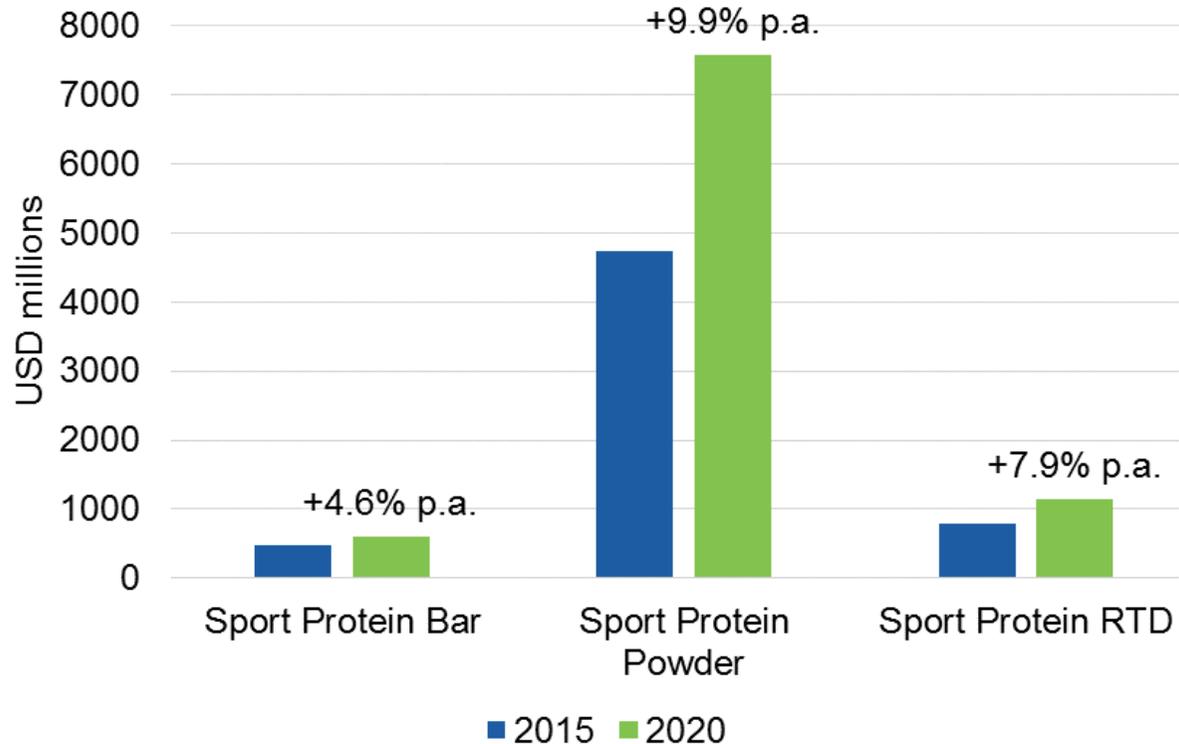


Source: Gira compilations, estimates and forecasts based interviews, dairy reports and articles

Nutrition and Whey

A fast growing market dominated by the US

The US market for sport nutrition, 2015-2020



Source: Gira Compilation

The US accounts for 64% of global sales in the sport nutrition sector.

- It reached USD 6.7 bio in 2015 (+9% p.a. by 2020).
- However, the fastest growing market is the Asia-Pacific region (18% of the global market; +12% p.a. growth expected in coming years).

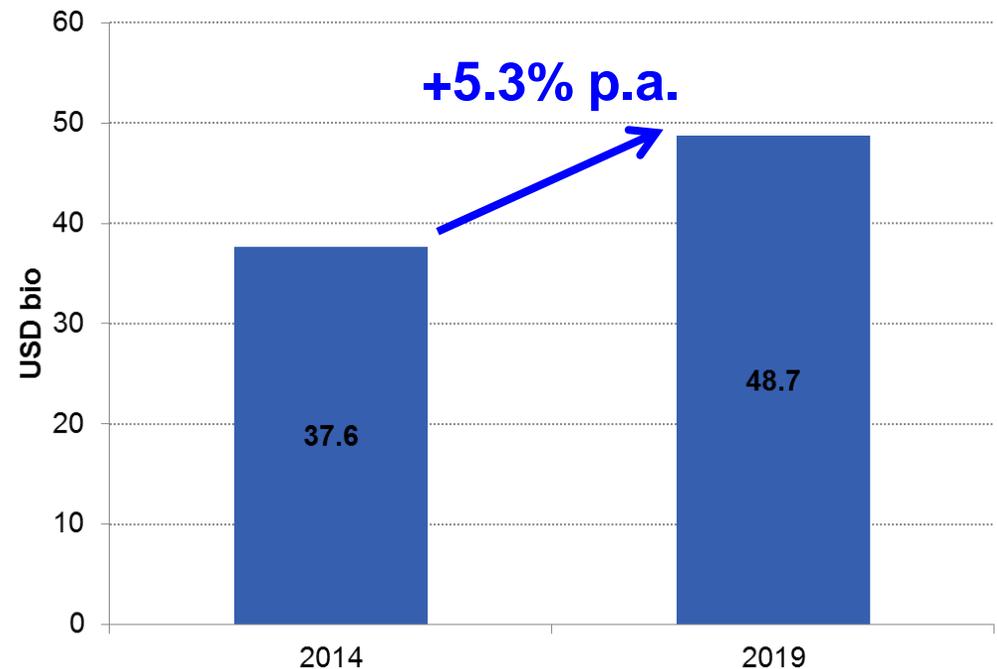
Clinical nutrition

A growing market due to new end-uses and innovation

The main markets in terms of volume are the EU and the US, but Asia-Pacific is the fastest growing.

- The market is driven by nutritional **needs of the elderly, chronically ill patients and the increase of premature births** which also spur demand for medical products that can meet the nutritional needs of infants.
- The growth of the market is also explained by **the shift towards home care** thanks to innovations in the delivery of products, which makes it possible to administer clinical nutrition therapies at home without specific medical skills.

Global market for Clinical Nutrition, 2014-2019
(US\$ billions)

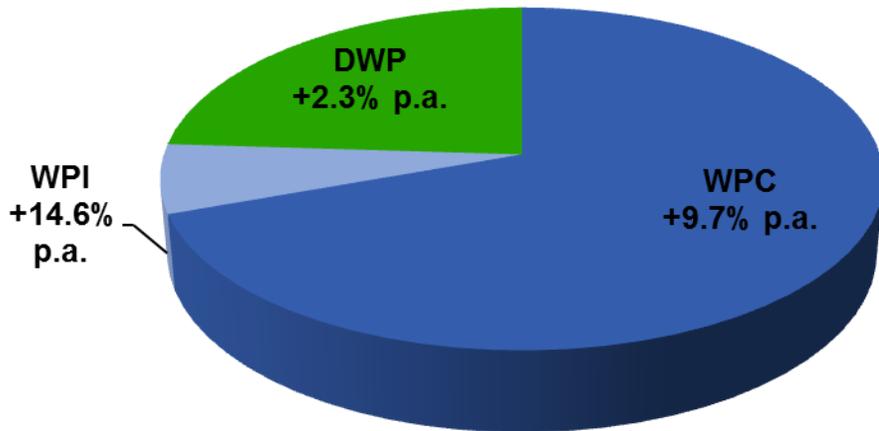


Source: P&S Market Research

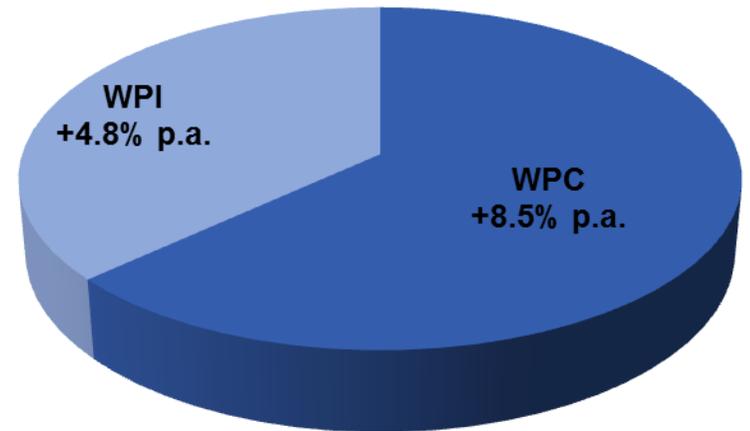
Types of whey used in the nutritional sector

Mostly concentrates and isolates

Dry whey products used in the nutritional sector in the EU 2015 (ktons WP eq.)



Dry whey products used in the nutritional sector in the US 2015 (ktons WP eq.)



Source: Gira based on ADPI, articles and interviews

IF to continue to grow, but Nutritional uses catching up

The Infant Formula market is a key market for dry whey products, whose growth is particularly driven by China

- With 700 ktons of whey used in the EU in 2015, Infant Formula is the most important sector in food. Chinese demand will remain high in coming years, but the relaxation of the Chinese One-child Policy in late 2015 should not lead to an increase of the birth rate growth.
- The demand by Chinese consumers for foreign IF products will continue to increase, facilitated by the lower price of on-line sales, to the detriment of imported ingredients.

HOWEVER:

The Nutritional Sector is developing rapidly and has become a major end-user segment for whey.

- This sector mainly concerns higher added-value whey derivatives like WPC, WPI and demineralized whey.

Thank you for your attention