

Milking it



**HOW MILK FORMULA
COMPANIES
ARE PUTTING PROFITS
BEFORE SCIENCE**

Abstract

Infant and young child feeding is key to improving child survival and promoting healthy growth and development worldwide. Although the World Health Organization (WHO) strongly recommends breastfeeding as the optimal way of feeding infants, many women cannot or choose not to breastfeed their children. In those cases, parents are faced with an ever-increasing variety of milk formulas. This report represents the first investigation into the four largest manufacturers' (Nestlé, Danone, Mead Johnson Nutrition¹ and Abbott) cow's milk formula products for infants under 12 months old, and the price differences between them, across 14 global markets. It concludes that increasing product differentiation is not science-based, but instead informed by careful research into consumer preferences, guided by a desire to increase manufacturers' market share and profits. Finally, this report calls for an overhaul of the existing formula product range to ensure it is informed only by the best available science, and that formulas are as safe and nutritionally complete as possible.

Introduction

The WHO estimates that optimal breastfeeding could save the lives of 820,000 children under the age of five every year. On an individual level, a person's health later in life is crucially dependent on their nutrition during the first two years of their lives. Despite overwhelming evidence that breastfeeding provides many benefits (including optimal nutrition for infants), globally, only about 36% of babies under six months are exclusively breastfed.²

While some mothers choose not to breastfeed their children, many who want to breastfeed lack support from qualified lactation experts and supporters, as well as from their employers and communities. Moreover, the improper marketing activities of breastmilk substitute (BMS) manufacturers, which the International Baby Food Action Network (IBFAN) has reported for decades, continue to undermine breastfeeding.³

The market for milk formulas is highly profitable - currently worth 47 billion USD per year - and projected to increase by around 50% by 2020.^{4,5} Milk formula is the fastest-growing packaged food product. Most of this growth is in Asia, with mainland China, Hong Kong, Indonesia and Vietnam projected to be the leading markets in terms of both total sales and projected growth. It is also a highly concentrated market, dominated by six major companies and their subsidiaries, for which breastmilk substitutes represent an important part of their portfolio. Therefore, it is not surprising that they are aggressively competing to increase their market shares, particularly in high-growth Asian countries, with product development playing a major role in this fight.⁶

The history of infant formula has been rife with scandals. Nestlé has been the subject of boycotts over many years because of its unethical marketing strategies to undermine breastfeeding, especially in developing countries, where formula feeding is strongly associated with increased mortality. Years of campaigning against such practices resulted in the adoption of the WHO's International Code of Marketing of Breastmilk Substitutes in 1981, but global adherence to it is mixed;

many countries only partially incorporate it into their regulation. In any case, 36 years after its adoption, IBFAN continues to report regular breaches of the Code by all BMS companies. According to the Access to Nutrition Index 2016, Nestlé is now the most compliant with the Code; however, it received a score of just 36%, while Abbott and Mead Johnson Nutrition scored even lower at under 10%. Even when companies had policies in place to comply with the Code, they were found to breach them on the ground.

The range of BMSs being placed on the market has increased rapidly since the 1980s, when the first versions of formula for older children - 'follow-on formula'⁷ - appeared. Non-governmental organisations (NGOs) have argued that such formulas were introduced to circumvent the WHO Code, and subsequent World Health Assembly (WHA) resolutions, as some countries only prohibited the advertising of infant formula.^{8,9}

BMS manufacturers are also more frequently turning to another strategy: placing new or reformulated products onto the market that claim to be based on state-of-the-art science and compositionally ever closer to breastmilk. Wrapped in nice shiny packaging, the products' labelling often makes claims regarding their superior nutritional quality and/or their ability to help with common conditions, such as indigestion or general allergies.

Key findings

In this report, we have reviewed over 400 products on sale in a variety of countries across the world from the top four infant formula manufacturers: Nestlé, Danone, Mead Johnson Nutrition and Abbott. Our study focused on the most popular types of cows'-milk-based powdered milk formula for infants under 12 months old in 14 markets: the US; the UK; Germany; France; Poland; Bulgaria; Spain; The Netherlands; mainland China and Hong Kong; Indonesia; Australia; New Zealand and South Africa. We excluded products marketed for children over 12 months old and very specialised products that deal with precise medical conditions. Here are the main findings of our investigation.



Milk formula shop in Vietnam. Copyright: Benedict Wermter

1. The nutritional composition of formula is guided by legislation or Codex compositional standards, but controls on its nutritional quality are largely dependent on industry self-regulation

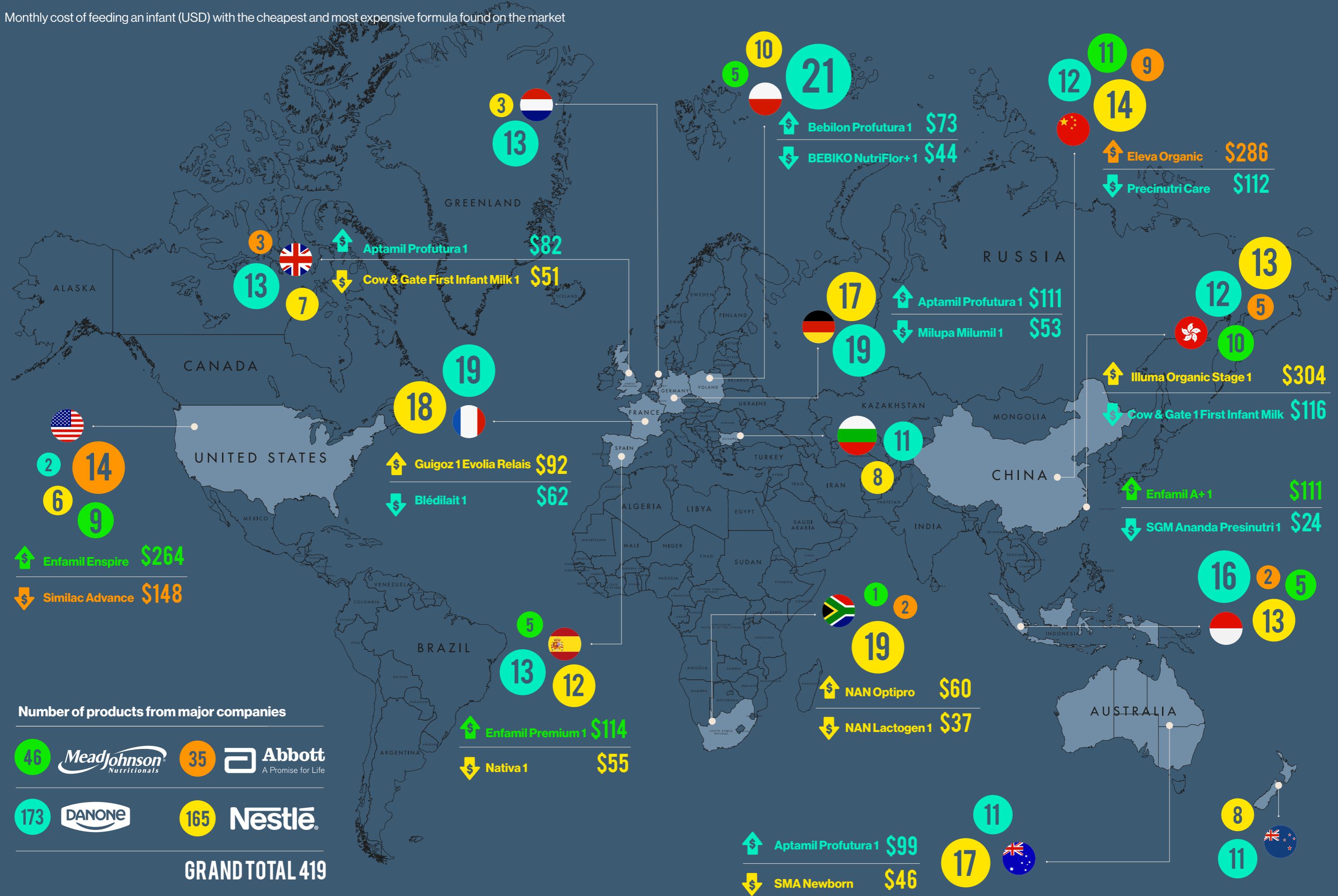
- The composition of infant milks is regulated at different levels. A global trading standard, first set by Codex Alimentarius in the 1980s, sets minimum requirements for levels of macronutrients (carbohydrates, protein, etc.) and micronutrients (minerals, vitamins, etc.) in infant and follow-on formulas. The types and levels of nutrients in infant milks are broadly similar across legislatures of major markets, but required and/or permittable ingredients and labelling restrictions may vary.
- There is very little oversight of the nutritional composition and compliance with regulatory standards of infant milks sold around the world. Although infant milks are perceived as a highly controlled product, authorities are heavily reliant on industry self-regulation. Powdered infant milks are not sterile products, and the presence of pathogenic microorganisms (e.g. *Enterobacter sakazakii* and *Salmonella spp.*) has been regularly reported. Compliance with the nutritional compositional requirements or broader quality issues, however, are reported less frequently. This seems a significant oversight by government food safety regulators - particularly for infants under six months old, who rely solely on the formula for all their nutritional needs in a key phase of their development.

2. No clear scientific rationale underpinning product ranges

- Despite legal requirements on the nutritional composition for infant formula, follow-on formula and milks marketed as speciality products, the top four manufacturers have a large range; our research identified over 400 products. These include similar products being sold under their own and subsidiary brands as part of product differentiation strategies.
- Manufacturers are marketing an increasing range of products for different age groups (1-12 months, 1-6 months, 1-3 months, etc.); products with additional nutrients, which are not required by law, in the race to get 'closer than ever to breastmilk' (omega fatty acids such as DHA¹⁰ and ARA,¹¹ prebiotics and probiotics, nucleotides, etc.); products claiming to solve general conditions (preventing allergies, promoting softer stools and better sleep, etc.); and products with raw ingredients and flavours to cater for wider consumer preferences and concerns (claiming to be free of genetically modified organisms (GMOs) or palm oil, or using organically sourced ingredients, vanilla flavouring, etc.).
- Nevertheless, companies are placing products with different formulations on different markets, which suggests that there is little nutritional science and few health considerations behind their product range. For example, Nestlé is the only company that sells products in all of the 14 markets investigated, with a total of 165 products. However, it

SUMMARY OF PRODUCTS AND PRICES FOUND IN DIFFERENT MARKETS

Monthly cost of feeding an infant (USD) with the cheapest and most expensive formula found on the market





Milk formulas at an Indonesian supermarket. Copyright: Benedict Wermter

is obvious that there are many variations in the composition of its most widely available NAN product range on different markets.

- Danone sells the most products (173 in total) amongst the companies reviewed in this study, while Mead Johnson sells 46 and Abbott sells 35.

3. Product differentiation as a way to raise prices and increase profit margins

• There is huge disparity in the cost of infant formula both within and between countries. The largest four companies are charging high prices for their so-called 'premium products' - especially in the growing Asian markets, where there is fierce competition for market share. For example, in Indonesia, the cost of the most expensive first infant formula we found on the market - Enfamil A+ (Mead Johnson Nutrition) - is four and a half times that of the economy brand formula SGM Ananda Presinutri 1 (Danone). Comparatively, in the UK, the most expensive powdered infant formula we found (Aptamil Profutura 1) is more than one and a half times the price of the least expensive (Cow & Gate First Infant Milk 1), both of which are manufactured by Danone.

- Manufacturers charge very different prices in different countries for the same brand of infant formula. For example, Aptamil Profutura 1 (Danone) is on sale in the UK, Germany and China. In the UK, it costs 13 GBP per 800g (around 17 USD); in Germany, it costs nearly 20 EUR for 800g (around 24 USD); whereas in China, it costs 365 RMB for 900g (around 55 USD). This product is one of the most expensive powdered cow's-milk-based infant formulas available in the UK - yet it costs more than three times the price in China.

- Marketing of so-called premium products is having a significant financial impact on families, especially in Asian countries. In the UK, France and Germany, feeding a 2-3-month-old baby costs 1-3% of the average monthly salary; in Poland, it costs of 4-7% of the average monthly salary. But in China, buying so-called super-premium infant formula to feed a 2-3-month-old baby can cost up to nearly 40% of the average monthly salary, and even the lowest-priced foreign formula costs around 15% of the average monthly salary. In Indonesia, a parent on an average monthly salary could spend up to nearly three-quarters of their monthly income if they chose to buy Mead Johnson Nutrition's Enfamil A+ first infant formula.

Conclusions and recommendations

This report exposes the lack of scientific underpinning behind the products BMS manufacturers put on different markets. Manufacturers are constantly placing new formula products on the market with a variety of different claims. Often, they claim that their products are informed by the 'latest developments in nutritional science'. However, the wide variety of products on sale within and between countries and the efforts of companies to push expensive premium products, especially to high-growth Asian markets, call such claims into question.

Our research shows that manufacturers behave very differently in different markets, and that often their products are closer to those of their direct competitors within the same market than their own products elsewhere. There is evidence that such decisions are primarily informed by market research instead of scientific or health considerations. We have identified companies' very sophisticated use of market research and social media to study consumer preferences in this area. Such research seems to be primarily focused on consumer affordability and willingness to pay, as there is no clear scientific justification for the very large price differences observed within brands on each market and also within brands across different countries.

For babies who are not breastfed, it is the responsibility of manufacturers and public food safety authorities to ensure breastmilk

substitutes are as safe and nutritionally complete as possible, and that the development of such products is strictly based on science. Adequate nutrition in infant and young child feeding is critical for improving child survival, promoting healthy growth and development and preventing illness later in life. Instead of constant 'product innovation' for the sake of increasing their sales, this report calls for a comprehensive overhaul of infant milks being sold by BMS manufacturers so that only those based on unequivocal scientific advice and the highest quality of ingredients are sold.

The report also calls on authorities to ensure that the marketing and nutritional quality and completeness of products is regularly verified, and that any unjustified health claims are removed from products. Finally, governments should introduce and enforce national legislation that fully implements the WHO Code and WHA resolutions.

Footnotes

1. During our research in June 2017, Mead Johnson Nutrition was acquired by Reckitt Benckiser (RB). As a result of this transaction, Mead Johnson Nutrition is now a division of RB and has added brands such as Enfamil and Nutramigen to RB's portfolio. For the purposes of this report we have continued to refer to Mead Johnson Nutrition.
2. World Health Organization (2017) Infant and Young Child Feeding: Fact Sheet. [ONLINE] Available at: <http://who.int/mediacentre/factsheets/fs342/en/>.
3. Save the Children (2013) Superfood for Babies: Breastfeeding Report - Save the Children. [ONLINE] Available at: <http://www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/SUPERFOOD%20FOR%20BABIES%20ASIA%20LOW%20RES%28%29.PDF>
4. Euromonitor International (2015) Market Overview: Identifying New Trends and Opportunities in the Global Infant Formula Market, Part I. [ONLINE] Available at: <http://www.euromonitor.com/market-overview-identifying-new-trends-and-opportunities-in-the-global-infant-formula-market-part-i/report>.
5. Mascaraque, M. (2016) Market Overview: Identifying New Trends and Opportunities in the Global Infant Formula Market - presentation to VitaFoods Europe. Available at: <https://www.slideshare.net/Euromonitor/market-overview-identifying-new-trends-and-opportunities-in-the-global-infant-formula-market>
6. Access to Nutrition Index Index (2017) Global Index 2016. [ONLINE] Available at: <https://www.accessetonutrition.org/index/2016>.
7. Defined as formulas for weaned infants and young children (6-36 months old).
8. Defined as formulas for pre-weaning infants (typically under 6 months old).
9. International Baby Food Action Network (2013) WHO States that Follow-Up Formula is Not Necessary and that Marketing May Mislead Parents. [ONLINE] Available at: <http://www.babymilkaction.org/archives/704>.
10. Docosahexaenoic acid (an Omega-3 fatty acid).
11. Arachidonic acid (an Omega-6 fatty acid).



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