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The Evolution of the Baby Food Industry 2000-2008

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THE EVOLUTION OF THE BABY FOOD INDUSTRY

2000 – 2008

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ABSTRACT

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INTRODUCTION

Eight years have elapsed since the Federal Trade Commission (FTC) prevented the merger of the formerly number two and number three baby food manufacturers in the U.S. Taking a retrospective look at how the industry has changed as a result of the non-merger is both a useful and an insightful endeavor.

FTC v. H.J. Heinz Co. and Milnot Holding Corporation (Milnot Holding is the parent company of Beech-Nut) was a particularly significant antitrust case because of its potential, albeit an unrealized one, to set a precedent for permitting mergers due to firms enjoy double-digit market shares – Gerber at 73-80% and Beech-Nut at 11-12%.[9] What was Heinz's brand, Nature's Goodness, fell to 2%. Lastly, even though average prices for baby food fluctuated over the years, the prices in 2008 are the same as those in 2000, after adjusting for inflation and change in the composition of consumption.

THE CASE

The Facts of the Case

On February 28, 2000, H.J. Heinz Company agreed to acquire Milnot Holding Corporation (Beech-Nut) for $185 million. On July 7

In addition to its concerns about unilateral price increases, the FTC also prices and as a combined entity, they would be a greater competitive constraint on Gerber.[23] Heinz and Beech-Nut claimed a lack of pre-merger competition, because they were almost never on the same store shelf and they had different regional strengths. Heinz's sales were concentrated in Northern New England, the Southeast, the Deep South, and the Midwest, while Beech-Nut was found mainly in the Atlantic region, Florida and California.[24] They also provided econometric evidence that the two did not constrain each others' prices.[25]

Lastly, the merging parties argued that a larger grocery store presence was necessary to justify the overhead costs of developing and marketing new products. One standard measure of a product's distribution in the supermarket industry is ACV or "all commodities volume"; it represents the percentage of stores (weighted by revenue) that carry a certain product or product line. The ACV of Heinz and Beech-Nut were 40% and 45%, respectively, meaning that they were on 40% and 45% of supermarket shelves.[26] Gerber's ACV was almost 100%, meaning that almost all food retailers stocked Gerber. Heinz testified that it required 70% ACV to justify the costs of innovating and marketing new products. With the merger, this threshold could be met,[27] but without the merger, they could not innovate and successfully compete against Gerber.

THE BABY FOOD INDUSTRY SINCE THE CASE

Changes in Ownership and Assets

Since the time of the unsuccessful merger, all of the major baby food manufacturers have changed ownership. In 2000, Gerber was owned by Novartis, a pharmaceutical company based in Switzerland. In 2007, Novartis sold Gerber to Nestlé, a large packaged food company also based in Switzerland, for $5.5 billion. Nestlé was producing the Good Start infant formula in the U.S. and baby food in Europe when it acquired Gerber.[28]

In 2000, the parent company of Beech-Nut, Milnot Holding Corporation, was owned by the private equity investment firm, Madison Dearborn Partners. In October of 2005, Madison Dearborn Partners sold Milnot Holding Corporation, along with Beech-Nut, to Hero Group.[29] Headquartered in Switzerland, Hero Group's current core products include packaged fruit products (like jam), cereals, decoration products, and baby food.

[23] FTC v. H.J. Heinz Co. 116 F. Supp. 2d 190, 198 (D.D.C. 2000) rev'd, 246 F.3d 708 (U.S. App. D.C. 2001).
[24] Id. at 194.
[25] Id. at 196.
[26] Id. at 194.
[27] FTC v. H.J. Heinz Co. 116 F. Supp. 2d 190, 200 (D.D.C. 2000) rev'd, 246 F.3d 708 (U.S. App. D.C. 2001).
[28] Martin, Andrew and Andrew Ross Sorkin. "Nestlé Agrees to Buy Gerber From Novartis." New York Times. April 13, 2007.
[29] "Hero to purchase Beech-Nut Nutrition: European baby food company to grow the final holding of

Nature’s Goodness, which was owned by H.J. Heinz at the time of the proposed merger, experienced the most ownership turnover. Nature’s Goodness was produced at Heinz’s modern Pittsburgh North Side factory. Prior to the proposed merger, in 1999, Heinz moved the production of its core product, ketchup, as well as other condiments out of Pittsburgh and devoted that entire plant to baby food and soup.[30] Thus, all subsequent acquisitions of the baby food business were tied to the soup business.

After the unsuccessful merger, in December of 2002, H.J. Heinz sold Nature’s Goodness (along with Starkist tuna, Kibbles ‘n Bits dog food, 9-Lives cat food, and Cottage Inn soup) to Del Monte, an American company best known for its canned fruit and vegetable products. The $2.85 billion deal included the Pittsburgh factory and office complex on the north side of town.[31] By the time Del Monte purchased Nature’s Goodness, the brand was already on the decline.[32] Hoping to invigorate the ailing brand, Del Monte heavily invested in the baby food business by launching a new marketing campaign for Nature’s Goodness, putting Del Monte’s name on the label, and introducing new product lines.[33]

In the spring of 2006, Del Monte sold Nature’s Goodness to Bay Valley Foods (a division of the publicly traded company, Treehouse Foods). Bay Valley produces private label foods and food service products, including pickles, non-dairy coffee creamer, and sauces. The $275 million deal included the private label soup business, Nature’s Goodness baby food, and the Pittsburgh North Side factory. Analysts of the merger claimed that the private label soup business fit well with Bay Valley’s line of private label products, but Nature’s Goodness did not.

> “After meeting with TreeHouse management, Credit Suisse First Boston analysts Robert Moskow and David C. Nelson last month said Del Monte's soup business would, at the right price, be a good fit for the Chicago company.
>
> But they also noted in their report that any deal would come ‘with the 'hair' of a not so attractive baby food business.’ “[34]

Nonetheless, because the Pittsburgh North Side factory manufactured both soup and baby food and separating the two would be too costly, the two businesses were sold

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[30] “Heinz to Phase Out Ketchup Production at Pittsburgh Plant.” Pittsburgh Post-Gazette (via Knight Ridder/Tribune Business News). May 20, 1999.

[31] Lindeman, Teresa. “Del Monte Chairman visits 'Heinz plant'.” Pittsburgh Post-Gazette. December 24, 2002.

[32] Del Monte’s chairman and chief executive officer, Richard G. Wolford reportedly believed that

> “… the trouble started two years earlier when the Federal Trade Commission managed to block Heinz’s $185 million plan to buy the maker of Beech-Nut foods.
>
> …
>
> After the failed deal, Heinz’s strategic direction seem to fall apart, senior management had moved on to other projects, and no one devoted much energy to baby food, said Wolford.”

Lindeman, Teresa. “Del Monte Relaunches Baby Food Line with New Packaging.” Pittsburgh Post-Gazette (via Knight-Ridder/Tribune Business News). December 19, 2003.

[33] Id.

[34] Lindeman, Teresa. “Baby food line could gum up sale of Del Monte soup business.” Pittsburgh Post-Gazette. December 21, 2005.

together in the transaction. As of today, the Nature’s Goodness brand is owned by Bay

Figure 1: Changes in Ownership

Market Definition, Shares, and Size

At the time of the proposed merger, the relevant product market was determined to be jarred baby food and the relevant geographic market was the United States.[39] In the past eight years, the marketplace has evolved such that jarred baby food may no longer be relevant. Jarred baby food is a smaller segment of the market than prepared baby food. Jarred baby food consists of baby food packaged in glass jars, where as prepared baby food is broader. The FTC in its public memorandum supporting the preliminary injunction identified prepared baby food as the relevant market, specifically excluding home made baby food for its inability to affect prices on prepared baby food,[40] but the court specified jarred baby food as the relevant market.[41]

Whether the market should have been jarred or prepared was not disputed at the time of the case. For simplicity, prepared baby food is taken to be the relevant market here without performing a specific market definition test. Starting from 2001, Gerber

[39] FTC v. H.J. Heinz Co. 116 F. Supp. 2d 190, 195 (D.D.C. 2000), rev'd, 246 F.3d 708 (U.S. App. D.C. 2001).
[40] FTC Public Memorandum. July 14, 2000. (http://www.ftc.gov/os/2000/07/heinzmemo.htm)
[41] FTC v. H.J. Heinz Co. 116 F. Supp. 2d 190, 195 (D.D.C. 2000), rev'd, 246 F.3d 708 (U.S. App. D.C. 2001).

slowly introduced plastic packaging for their baby food. Today, Gerber offers its baby food in both glass jars and plastic packaging. Given that the contents are the same and the convenience factor is similar, it is reasonable to include baby food packaged in plastic as part of the relevant market.

Another recent development in the baby food industry is baby yogurt. Although baby yogurt existed at the time of the proposed merger, the sales revenue was negligible. As of today, Stonyfield is the only producer of baby yogurt in the U.S.[42], and through the years, the sales of its line of baby yogurt, YoBaby, have steadily increased.

On the one hand, there is some reason to hypothesize that baby yogurt may be part of the relevant product market. Baby yogurt may be relevant because it is baby food, in the sense that it is food given to babies. Moreover, it is commercially prepared and available in convenient packaging. Hence, it falls into the description of prepared baby food. Additionally, baby yogurt is not too different from other prepared baby foods in terms of age appropriate feeding. According to a study published in Pediatrics, the official journal of the American Academy of Pediatrics (AAP), the appropriate age to begin baby yogurt is 6 months of age.[43] In comparison, 4 to 6 months of age is when an infant can begin solid foods, according to the AAP website.[44]

Also, there is reason to believe that baby yogurt is different from regular yogurt. Stonyfield's YoBaby is specially formulated for infant nutritional needs, as stated on their website. Their baby yogurt is made with whole milk and less sugar. Moreover, in addition to live cultures needed to make regular yogurt, they included probiotic cultures to aid in the absorption of nutrients and enhance digestion.[45] Developing and marketing baby yogurt may require special knowledge of infant nutritional needs, which differ from those of older children and adults.

On the other hand, there is reason to believe that baby yogurt may not be to Gerber. In fact, Gerber does not even produce baby yogurt.[46] Production of baby yogurt versus other prepared baby food is so different that it may not be economical for a single supplier to produce both.

Since it remains debatable whether or not Stonyfield's baby yogurt belongs in the relevant market, Table 1 and Table 2 present the evolution of market shares over time for both potential product markets. Note that in 2000 and 2001 Heinz was transitioning away from the "Heinz Baby Food" name, replacing it with "Heinz Nature's Goodness Baby Food."[47] Both names are reflected in the table.

	2000		2001		2002	2003	2004	2005	2006	2007	2008
Beech-Nut		13%		13%	12%	11%	11%	12%	11%	10%	11%
Earth's Best		2%		1%	1%	1%	1%	2%	3%	4%	5%
Gerber		71%		72%	74%	75%	76%	73%	73%	74%	73%
Heinz	9%	} 13%	1%	} 12%	0%	0%	0%	0%	0%	0%	0%
Nature's Goodness	4%		11%		10%	8%	6%	6%	5%	3%	2%
Stonyfield		1%		2%	3%	4%	5%	6%	8%	8%	9%

Table 1: Market Shares of Prepared Baby Food, including Baby Yogurt[48]

If Stonyfield is removed from the relevant market, then the baby food industry becomes even more concentrated, as seen in Table 2.

	2000		2001		2002	2003	2004	2005	2006	2007	2008
Beech-Nut		13%		13%	12%	11%	12%	13%	12%	11%	12%
Earth's Best		2%		1%	1%	1%	1%	2%	3%	4%	6%
Gerber		72%		73%	76%	78%	79%	78%	79%	81%	80%
Heinz	9%	} 13%	1%	} 12%	0%	0%	0%	0%	0%	0%	0%
Nature's Goodness	4%		11%		10%	8%	7%	6%	5%	4%	2%

Table 2: Market Shares of Prepared Baby Food Market, excluding Baby Yogurt

However the relevant market is defined, that is, whether baby yogurt should be included or not, a few commonalities emerge. Beech-Nut's market share remains relatively stable, hovering between 10 and 13% throughout all the years. The share of Nature's Goodness has steadily declined to 2%. Earth's Best has steadily increased, surpassing Nature's Goodness; yet, it still remains a minor player. Lastly, Gerber's share has grown. The only question is a matter of magnitude. If baby yogurt is included in the relevant market, then Gerber's market share has only increased slightly from 71% to

[46] Gerber produces a baby beverage with yogurt, but baby beverages are excluded from consideration.
[47] "New Year`s Newborns Receive Birthday Bucks From Heinz: Heinz Nature`s Goodness Kicks Off New Year and New Brand With `Fresh Beginnings'." Heinz Press Release. December 11, 2000.
[48] Market shares presented for 2000 are different from those of the district court possibly because of different data sources and slightly different market definition.
All revenue shares and prices throughout this article are calculated based on sales revenue data from January 1, 2000, to November 1, 2008, provided by The Nielson Company. The 2000 data includes Wal-

73%. If baby yogurt is excluded, then Gerber has gained quite a bit of market share from 72% to 80%. Regardless of how the baby food market is defined, only Gerber and Beech-Nut hold double-digit market shares today.

The size of the baby food market can be measured in several ways: by sales revenue and by population growth. According to sales revenue data, the baby food market grew 1% when baby yogurt is included in the market and decreased 5% when baby yogurt is excluded from the market. However, according to data on the population of infants (defined as people under the age of one), that market for baby food should have increased quite a bit more. According to data from the US Census Bureau, the infant population grew a total of 9%. According to data from the National Center for Health Statistics, the infant population grew a total of 6%.

	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**Total % Change**
Sales Including Baby Yogurt	$625 M	$620 M	$620 M	$619 M	$613 M	$618 M	$632 M	1 %
Sales Excluding Baby Yogurt	$611 M	$601 M	$597 M	$589 M	$575 M	$570 M	$579 M	- 5 %
Infant Population by U.S. Census Bureau	4,033,748	4,033,719	4003,606	4,077,187	4,106,627	4,130,153	No Info	9 %
Infant Population by National Center for Health Statistics Bridged-Race Estimates	4,025,926	3,985,102	4,031,134	4,090,884	4,099,610	4,178,898	4,257,020	6%

Table 3: Size of Baby Food Market

The disparity between the percent change in sales revenue and the infant population growth appears puzzling, because it seems unlikely that the average baby would be eating less food. One possible explanation for the disparity is Wal-Mart. Because the Nielson data does not include Wal-Mart sales, increasing Wal-Mart shares may account for the disparity. Wal-Mart's total net sales grew 80% from $191 billion in 2001 to $344 billion in 2007.[49] While these figures reflect net sales of all goods and services, not just baby food, it remains entirely plausible that an increasing number of families purchased baby food from Wal-Mart relative to other retailers. Another possibility is an increasing consumption of homemade baby food. Unfortunately, data on the consumption of homemade baby food is difficult to find, if any is even available. Without further data on either Wal-Mart baby food sales or homemade baby food, no definitive conclusions can be drawn about these hypotheses.

[49] The figures include all of Wal-Mart's segments as well as all goods and services. Wal-Mart SEC filing, Form 10-K, Filed 04/10/2001 and Filed 03/24/2007. (http://walmartstores.com/Investors/SECFilings.aspx)

Entry

As expected, there were no significant entrants into the industry in the past eight years, just as there had not been in decades. To the extent that baby yogurt belongs in the market for prepared baby food, Stonyfield was the largest entrant into the industry. The only other worthwhile mention is the entrance of branded private label baby food in 2002. However, even that fact is hardly worth mentioning, because all together, the private label baby food makes up only 1% of baby food sales in 2008.

Prices

The average prices for baby food have fluctuated somewhat over the years as shown in Table 4, but the average price in 2008 is the same as that in 2000, after adjusting for inflation and changes in the composition of consumption.

The inflation index used was the Consumer Price Index – All Urban Consumers,

	2000	2001	2002	2003	2004	2005	2006	2007	2008
All prepared baby food including baby yogurt	$2.02	$2.04	$2.10	$2.15	$2.06	$2.03	$2.06	$2.05	$2.02
All prepared baby food excluding baby yogurt	$2.02	$2.04	$2.11	$2.15	$2.06	$2.03	$2.06	$2.05	$2.02

Table 4: Average Price of a 16 oz. Unit of Baby Food (adjusted for inflation and changes in shares)[51]

The average price of baby food increased from 2000 to 2003 and after that prices have fluctuated with no steady trend either up or down. The largest price jump (in percentage terms) within a single year occurred at the time of the abandoned merger; prices increased 3% from $2.04 in 2001 to $2.10 - $2.11 (depending on the product market definition) in 2002.

Table 5 decomposes the total price change into all the major brands, thus revealing Earth's Best, Gerber, and Stonyfield as the sources of the total price increase. The bulk of the total price increase is attributed to Gerber, because it has the largest market share.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total % Change
Beech-Nut	$1.86	$1.82	$1.93	$1.84	$1.73	$1.70	$1.73	$1.70	$1.63	-12%
Earth's Best	$2.43	$2.45	$2.48	$2.40	$2.39	$2.53	$2.65	$2.64	$2.49	2%
Gerber	$2.18	$2.21	$2.27	$2.30	$2.24	$2.21	$2.25	$2.25	$2.24	3%
Heinz	$1.47	$1.50	$1.60	$1.91	$1.64					
Nature's Goodness	$1.58	$1.46	$1.55	$1.62	$1.58	$1.52	$1.55	$1.51	$1.43	-9%
Stonyfield	$2.02	$2.01	$1.99	$1.98	$1.96	$1.97	$2.05	$2.03	$1.99	1%

Table 5

the plastic over glass, citing convenience. [53] However, other parents have been skeptical of Gerber's innovation and believe that it was merely a ploy to covertly increase prices. The traditional glass jars contain 4.0 oz. of food, while the plastic tubs are sold in two-packs with each tub containing 3.5 oz. of food.[54] The difference in packaging sizes may possibly make it more difficult for parents to determine whether sticker price changes translated to per-ounce price changes.

The plastic packaging innovation was sufficiently successful to warrant Gerber's further investment of it. The production of this new packaging began at Gerber's Fremont, Michigan, plant. At the end of 2003, Gerber began a $65 million investment to incorporate new equipment for the plastic packaging at their Fort Smith plant in Arkansas.[55]

Beech-Nut has also innovated over the years. In 2002, Beech-Nut improved the nutrition in its food by including DHA, an omega-3 fatty acid found naturally in breast milk. [56] Beech-Nut continued expanding this line in 2007 by introducing a new line of DHA-plus+. The "plus" indicates that the food also includes prebiotics that helps digestion and the absorption of calcium.[57]

Efficiencies

At the time of the case, the FTC contended that the efficiencies were not merger specific,[58] while the parties claimed otherwise; that is, those efficiencies could not be achieved without merging. As it turned out eight years later, Beech-Nut may have found a way to achieve greater production efficiencies without the merger.

During the case, Beech-Nut claimed that their manufacturing plant was severely outdated. As previously mentioned, the plant was built in 1907 and began manufacturing baby food in 1931. While Beech-Nut continues to manufacture baby food from that ve iod63(d63(sur6 Tm (

governments.[60] Beech-Nut also plans to move its corporate headquarters from St. Louis, Missouri, to the new facility in New York.[61]

Whether or not the anticipated savings from producing at the new plant will be roughly the same as that from the proposed merger is hard to say, but it seems plausible. Nevertheless, even if it's possible to claim that the production efficiencies in the two situations are roughly the same, the social costs incurred are not. The efficiencies from the proposed merger would have resulted from utilizing the excess capacity of an already existing plant, rather than from a new one. Under the proposed merger, production of over 85% of prepared baby food in the U.S. would have been manufactured at the Gerber plants and the Pittsburgh plant. Instead, production of roughly the same amount of baby food will be spread across not only the Gerber plants and the Pittsburgh plant, but also the new Beech-Nut plant, which will cost $124 million to build.

Moreover, the current operational efficiency of the Pittsburgh plant may have changed over the years as Nature's Goodness lost market share. At the time of the case, the Pittsburgh plant was already under-utilized. Now, the Pittsburgh plant may possibly have more excess capacity than before since the demand for Nature's Goodness has decreased. On the other hand, it is also possible that the Pittsburgh plant does not suffer from under-utilization if the necessary investments have been made to convert the equipment that made baby food into producing something else.

In sum, although Beech-Nut may be able to achieve the same production efficiencies without the merger, this achievement required a delay of eight years and a substantial, additional investment.

CONCLUSION

As the industry stands today, the marketplace for baby food does not appear to be very different from what it was eight years ago. The most significant change is increased concentration. With Heinz's former brand, Nature's Goodness now at 2% market share, only Gerber and Beech-Nut have double-digit market shares at 73 – 80% and 11-12%, respectively.

The FTC challenged the merger because it was a merger to duopoly. Given Heinz's plans to discontinue its own brand, in favor of Beech-Nut, consumers would have been limited to the brands Gerber and Beech-Nut if the merger were permitted. Today, there are only two firms with double-digit market shares – Gerber and Beech-Nut. With the Nature's Goodness brand down to a 2% market share, consumers are effectively faced with choosing between Gerber and Beech-Nut.

In looking at market shares today (when baby yogurt is excluded), the lost shares of Nature's Goodness appear to have been diverted to Gerber, and not Beech-Nut. Beech-Nut's market share today is still at 12%, whereas, Gerber's share grew to 80%. If

[60] Andersen, Eric. "Beech-Nut plant gets under way." *Times Union*. May 22, 2008.
[61] "Beech-Nut Announces New Production Facility in Town of Florida and Relocation of Headquarters." Beech-Nut Press Release. May 15, 2007. (http://www.beechnut.com/Our%20Company/itn_pr3.asp)

the merger were permitted, the market share of the Beech-Nut brand (as owned by Heinz) would have been 26% in 2000. It's difficult to speculate how that market share would have evolved over the years. On the one hand, the claimed efficiencies in production and distribution might have been realized and helped the combined parties gain further market share against Gerber. On the other hand, the lost sales from discontinuing Nature's Goodness might have been diverted to Gerber rather than Beech-Nut.

The price of baby food has remained relatively constant from 2000 to 2008. Of all the baby food manufacturers, Gerber's price increase was the largest of all the baby food manufacturers at 3%, and Gerber's market share also increased during that time frame. Beech-Nut, on the other hand, decreased their prices by 12%, the largest decrease of all the baby food manufacturers, and yet did not gain any market share.

During the case, the FTC contended that the efficiencies were not merger specific;[62] that is, the parties could achieve efficiencies without merging. With the construction of a new plant, Beech-Nut appears able to gain production efficiencies absent the merger. However, it required a delay of eight years and an investment of $124 million.

Also during the case, Beech-Nut had attempted a failing firm defense,[63] but it turned out that Beech-Nut was not a failing firm. Despite their old factory, they remained in business for another eight years after the case, and they found a way to sustain their business for the future. When the new plant opens and Beech-Nut is able to realize production efficiencies, it will be interesting to see what improvements might emerge in the baby food industry.

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[62] FTC Reply Memorandum, p. 23. July 14, 2000 (http://www.ftc.gov/os/2000/07/bfoodreply828.pdf) and FTC v. H.J. Heinz Co. 246 F.3d, 721-22 (2001 U.S. App. D.C.).
[63] FTC v. H.J. Heinz Co. 116 F. Supp. 2d 190, 200 n.9 (D.D.C. 2000), rev'd, 246 F.3d 708 (U.S. App. D.C. 2001).