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Efficiencies and High Concentration: Heinz Proposes to Acquire Bech-Nut (2001)

Jonathan Baker
American University Washington College of Law, jbaker@wcl.american.edu

CASE 6

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INTRODUCTION

Mergers may benefit the economy by allowing firms to reduce costs or develop better products. Yet, the Supreme Court has in the past questioned whether cost savings or other efficiencies from merger should ever count in favor of a transaction that increases market concentration substantially. In 1967, the Court announced that "[p]ossible economies cannot be used as a defense to illegality" in merger review.[1] The Court had previously explained that for courts to assess whether social or economic benefits can justify an otherwise anticompetitive merger goes beyond the ordinary judicial competence and is inconsistent with congressional intent.[2]

The government's *Merger Guidelines* of the same era, issued in 1968, were only slightly more sympathetic: They recognized that efficiencies might justify an otherwise anticompetitive merger, but limited the defense to "extraordinary cases."

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[1] Federal Trade Commission v. *Procter & Gamble Co.,* 386 U.S. 568, 579 (1967).

[2] *U.S.* v. *Philadelphia National Bank,* 374 U.S. 321, 371 (1963). Section 7 of the Clayton Act, the principal statute under which mergers are reviewed, does not explicitly mention efficiencies.

The case against considering efficiencies in the analysis of mergers among rivals (horizontal mergers) has, perhaps surprisingly, been made forcefully by both Richard Posner and Robert Bork—influential antitrust commentators who have enthusiastically encouraged the courts to consider efficiencies in antitrust analysis generally (Posner 2001, pp. 133–143; Bork 1978, pp. 123–129).[3] Posner and Bork contend that an efficiency defense would make merger analysis intractable in litigation, for several reasons. The cost savings likely to result from merger are easy to claim but may be hard to prove or disprove, particularly given that most of the relevant information is in the hands of the merging firms, who are interested parties.[4] It may also be difficult to determine how soon the same efficiencies might have been realized through less restrictive means short of merger, such as internal growth or managerial changes. In addition, courts may be unable practically to weigh the efficiency benefits of a transaction against the likely harm to competition from loss of a seller.[5] Accordingly, Posner and Bork conclude, the best institutional means of accommodating the concerns about the competitive harms from mergers among rivals in concentrated markets with the concerns about deterring efficient transactions is to address the possibility on average rather than case-by-case: by allowing mergers to

[3] Other influential commentators, including Philip Areeda, Donald Turner, and Oliver Williamson, have been more sympathetic to allowing an efficiency defense to challenged mergers (Kolasky and Dick 2002; Williamson 1968).

[4] Moreover, mergers may reduce profits on average (Ravenscraft and Scherer 1987), consistent with anecdotes suggesting that many claimed and even legitimately anticipated efficiencies never materialize.

[5] Indeed, commentators do not agree how this weighing should occur in principle—particularly to what extent production cost savings not directly benefiting consumers of the products in the relevant market should count—as that issue implicates an ongoing debate over the purposes of antitrust law.

proceed unless market concentration is substantial, and ignoring the efficiency justifications in specific cases otherwise.

Notwithstanding these concerns, the trend in antitrust law has been toward considering the efficiencies from merger in individual cases. Although the Supreme Court decisions from the 1960s that seemingly forbid an efficiency defense remain formally controlling, they are widely understood today as reflecting the perspective of an earlier era during which merger law was thought to vindicate noneconomic concerns, such as halting trends toward market concentration in their incipiency and protecting small business (along with the economic concern of preventing the exercise of market power). As such concerns have come to take a back seat to economic concerns across much of antitrust, judicial hostility to efficiencies has steadily decreased. Since 1979, the Supreme Court has recognized an efficiency defense in a related area of the law, the analysis of agreements among rivals (horizontal agreements) under the Sherman Act.[6] Here, as elsewhere in antitrust, the Supreme Court has backed off from bright line rules in favor of flexible standards that permit judges to consider the full range of factors relevant to the analysis of likely competitive effects, and thus hold out the promise of reducing errors in deciding specific cases.

Taking their cue from this judicial trend, and perhaps also in recognition of the finance literature that emphasizes the importance of the "market for corporate control" (acquisitions) as a means of weeding out bad management and moving assets to their highest-valued uses, the federal antitrust enforcement agencies have been willing to consider seriously the efficiencies from merger in deciding whether to

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[6] *Broadcast Music, Inc.* v. *Columbia Broadcasting System, Inc.*, 441 U.S. 1 (1979).

challenge proposed acquisitions for at least two decades. Similarly, the lower courts today do not interpret the 1960s Supreme Court decisions as foreclosing all consideration of efficiencies in the analysis of mergers.

While the modern trend in the lower courts is to recognize efficiencies as a defense, and the government's *Merger Guidelines* were revised in 1997 to articulate a detailed approach to such a defense, the courts and antitrust enforcement agencies have nevertheless been skeptical about accepting an efficiency defense when market concentration is high. The *Merger Guidelines* state: "Efficiencies almost never justify a merger to monopoly or near-monopoly,"[7] and efficiencies have never been the primary reason for the failure of a government challenge to a horizontal merger in court (Berry 1996, pp. 526–528; Conrath and Widnell 1999, pp. 688–690).[8] Heinz's proposed acquisition of Beech-Nut—a merger of two of the three leading U.S. producers of baby food—might have been the first court decision to uphold a challenged horizontal merger primarily on grounds of efficiencies, but a favorable district court decision was overruled by an appellate court panel unwilling to accept the efficiencies that had been credited by the district court judge in a market where postmerger concentration was very high.

[7] This statement can be understood as premised in the economics of decision theory (Beckner and Salop 1999). Striking the right balance between adopting readily administrable decision rules and ensuring a full economic analysis is often difficult. Agencies and courts may thus be led to rely upon rebuttable presumptions based on easily observable information. From this perspective, the issue raised in *Heinz* is whether it is appropriate for courts and enforcers to depend on the shortcut of basing decisions primarily on market concentration when concentration is high, or whether a more complete competitive effects analysis would be practical and potentially lead to a different answer.

[8] Efficiencies have, however, at times persuaded the antitrust enforcement agencies not to challenge a proposed merger among rivals.

Both sides in the litigation over the merger of Heinz and Beech-Nut accepted that the case turned on whether baby food consumers would benefit or be harmed by the proposed acquisition.[9] As will be seen, Heinz and Beech-Nut claimed that the merger would produce variable cost savings that would lead to greater competition and lower prices within the relevant market, while the FTC contended that the merger would instead reduce competition, and prices would likely rise. Accordingly, the merger of Heinz and Beech-Nut provides an opportunity to consider whether efficiencies are an intractable subject for litigation and whether antitrust law properly accounts for the possibility that mergers among rivals could benefit society.

THE BABY FOOD INDUSTRY

In 2000, around the time of the proposed merger, three firms accounted for the sale of virtually all jarred baby food in the United States. Gerber, the leading firm, with more than 65 percent of U.S. sales, is a subsidiary of Swiss pharmaceutical conglomerate Novartis. Heinz, a food product company best known for its ketchup, had a share in excess of 17 percent. Heinz is also a leading seller of baby food in Europe. Beech-Nut, the major holding of Milnot, an investment firm, accounted for more than 15 percent of U.S. sales. Beech-Nut had previously been owned by seven different companies, including, most recently, two large food products concerns. Milnot acquired Beech-Nut in 1998 from Ralston Purina, which had purchased the company

[9] Thus, the case could be decided without reaching two contested questions about the welfare standard in antitrust law. First, when the merging firms participate in multiple markets, should courts permit a merger likely to raise price to consumers in one market on the ground that consumers in some other market would benefit even more through substantially lower prices? Second, should courts permit a merger likely to raise price on the ground that the production cost savings exceeds the allocative efficiency loss? This situation is most likely to arise when the merger would produce large fixed cost savings, unlikely to benefit consumers in the relevant market, while the output reduction within the relevant market resulting from the merger would be small.

less than ten years before from Nestlé. (Another firm, Earth's Best, an organic brand, had a small and decreasing share, and was largely ignored during the merger litigation.)

Gerber and Beech-Nut are "premium" brands, with a strong reputation attractive to buyers. Heinz, in contrast, is a "value" brand, playing a role in the market similar to that of private label products in other markets. The Heinz brand name assures customers that the product is safe and healthy, but the brand appeals mainly to value-conscious shoppers who purchase it primarily because of its low retail price. At retail, Heinz sells at a discount averaging about 15 percent to the price of the Gerber and Beech-Nut products. Beech-Nut baby food generally sells for a price similar to that of Gerber's products, or at a small discount.

Supermarkets do not carry all three major baby food brands. Shelf space and restocking costs are high for product lines characterized by many varieties sold in small jars, and evidently exceed the benefits of providing buyers with additional product variety once the supermarket has added a second brand. The great majority of supermarkets carry two of the three major brands; virtually none carries three, and a small fraction carries only one brand. There are no private label baby food products, presumably for a similar reason.

Gerber, the leading firm, is sold in virtually every supermarket. In contrast, Heinz and Beech-Nut compete to be the second brand on supermarket shelves. That competition is roughly even from a national perspective: Heinz is carried in grocery stores accounting for about 40 percent of supermarket sales, while Beech-Nut is found in stores with about 45 percent of grocery sales. But each second brand has areas of geographic strength: metropolitan areas where each is the second brand in most supermarkets and where the other brand has little presence. For example, Heinz is the primary second brand in many cities in the Midwest, and Beech-Nut is the primary second brand in many metropolitan areas in the Northeast and Far West. Both brands have more than 10 percent of local sales in only about one-fifth of the major cities, largely concentrated in the Southeast. It is not surprising that Beech-Nut and Heinz exhibit strength in different regions: Scale economies in metropolitan area distribution and promotion make it costly, for example, for Heinz to serve a small number of retail outlets in a heavily Beech-Nut area. Indeed, the firms do not generally consider themselves to be significant players in a city where they have less than 10 percent of local sales.

This pattern of distribution imposes transactions costs on shoppers who wish to substitute between baby food products sold by Beech-Nut and Heinz. The two firms' products are virtually never on the same grocery shelves. Moreover, a customer of Beech-Nut in a core Beech-Nut area will typically have difficulty locating Heinz baby food products within the same city, and vice versa.

The metropolitan areas in which both Heinz and Beech-Nut have a nontrivial presence have probably been increasing as a result of supermarket consolidation. Many chains prefer to carry the same brands in all their stores, in order to obtain scale economies in inventory management, to enhance their negotiating leverage in dealing with suppliers, and to guarantee a consistent product line to those shoppers who patronize multiple stores in the chain. (But not always: A supermarket chain may also wish to vary some products across stores in order to cater to neighborhood tastes, as with some ethnic foods.) On the rare occasions when a chain carrying Heinz as its second baby food brand merges with a chain carrying Beech-Nut, the merged firm may hold an "all-or-nothing" shelf space competition between the two, ending with one brand taking over the other's position on the merged supermarket's shelves. Shelf space competition also occurs in other settings, as when Heinz or Beech-Nut approaches nonconsolidating supermarkets with offers to displace its rival for the position on the shelf not held by Gerber.

Beech-Nut and Heinz compete for the second slot on the supermarket shelf and influence the retail price set by the grocery store through merchandising payments from the manufacturer to the grocer (trade spending). Most contracts between supermarkets and baby food manufacturers are not fully specified in writing, so many of their aspects are worked out informally. The agreements typically involve a mix of fixed (lump sum) payments and payments that vary with the amount sold, roughly half fixed and half variable on average. The fixed payments are payments for shelf space for either new or existing products. The variable payments function more like discounts from the wholesale list price and give the retailer an incentive to lower the retail price: With a lower retail price, the grocer can sell more, and thereby increase the payment from the baby food producer. Gerber, by contrast, does not pay for or even compete for a place on the supermarket baby food shelf because its high market share and strong brand reputation automatically place it in a strong negotiating position with retailers.

THE PROPOSED MERGER

In February 2000, Heinz agreed to acquire the parent firm that owned Beech-Nut. The merging firms justified the transaction as a way to lower costs and improve products, much to the benefit of the companies and consumers. Heinz intended, after a year's transition, to sell only under the Beech-Nut label, produce baby food exclusively in Heinz's production facility, and share the cost savings from consolidating production with consumers by charging the low Heinz value price for the premium Beech-Nut product. The proposed merger would give Heinz distribution for its baby food in grocery stores accounting for the great majority of food sales.

Heinz planned to close Beech-Nut's old, high-cost, labor-intensive production facility in Canajoharie, New York. That plant's production lines are laid out vertically over several floors. Its production processes are relatively unautomated: They require frequent intervention by workers who must measure and add ingredients, move ingredients over large distances around the plant on carts, and set and monitor temperatures by hand. Production would be shifted to Heinz's modern, highly automated Pittsburgh plant, which was reconstructed during the early 1990s as a facility for making baby food and other food products, such as private label soup. At Canajoharie, 320 workers produced 10 million cases of baby food each year, while 150 workers produced 12 million cases at Pittsburgh. Beech-Nut could not expand output cheaply at Canajoharie. In contrast, Heinz's Pittsburgh plant was operating at only 40 percent of its dedicated baby food capacity and could add Beech-Nut's production volume and still have 20 percent of the plant's baby food capacity available for future growth. The merger would also allow the consolidated baby food production to take advantage of Heinz's six regional distribution centers, which handle all Heinz's food products, permitting the merged operations to share in the resulting scale and scope economies of distribution. The merging firms estimated that these efficiencies would permit Heinz to produce and distribute the Beech-Nut brand at a variable cost savings of about 15 percent.

THE FTC'S CHALLENGE

In July 2000, the Federal Trade Commission (FTC) decided to challenge Heinz's proposed acquisition of Beech-Nut. That decision was controversial within the FTC.

Both the legal and economic staffs that had investigated the merger recommended that the Commission decline to challenge it, and two of five commissioners voted against the challenge. The FTC's complaint seeking a preliminary injunction was tried in federal district court in late August and early September 2000.

The FTC emphasized that the baby food industry was highly concentrated, both nationally and in most metropolitan areas, and that the merger would increase concentration substantially. The FTC defined a jarred baby food product market and both a national geographic market and more localized city-specific geographic markets. Nationwide, the Herfindahl-Hirschman Index (HHI) of market concentration would rise as a result of the proposed transaction by 510 points to 5285, and in many cities the level and increase in concentration would be even greater. These are large numbers by the standards of the *Horizontal Merger Guidelines* or past merger cases. The number of significant sellers would fall from three to two. The Commission also observed, and the merging parties did not disagree, that entry would not be expected to defeat any exercise of postmerger Heinz–Beech-Nut's market power. For the FTC, the transaction was in a highly suspect category: a merger leading to duopoly in a market protected by significant entry barriers.

To explain how competition would be harmed by this increase in market concentration, the FTC focused on the loss of wholesale competition between Beech-Nut and Heinz for shelf space. The FTC saw shelf space competition between the two as pervasive.[10] It argued that the repeated efforts that each firm made to take retail

[10] One FTC commissioner, in explaining his vote to sue, also argued that the merger would have been harmful even if competition between Heinz and Beech-Nut were instead limited, as the merging firms contended (Leary 2002, pp. 32–33). If the merging firms were not competing aggressively premerger, he suggested, that conduct would likely have reflected tacit coordination, which should not be rewarded by allowing the firms to merge and cease competing altogether. But the FTC did not allege premerger tacit coordination in court.

accounts from the other amounted to a constant threat to each other at all grocery chains. The loss of this wholesale competition for the second baby food slot on the grocery shelf would harm competition in several ways, according to the Commission.

First, the loss of wholesale competition as a result of the merger would remove a key impediment to tacit collusion among the baby food producers in their sales to consumers. Coordination between Heinz and Gerber is prevented today by the threat that Beech-Nut would respond to higher grocery prices for baby food by undercutting Heinz's wholesale price to grocery stores and taking away Heinz's shelf space. Similarly, Beech-Nut refrains from colluding tacitly with Gerber, even in core Beech-Nut cities where Heinz has limited presence, by the threat presented by shelf space competition from Heinz. Moreover, with a trend toward consolidation among supermarket chains, Heinz and Beech-Nut were increasingly obtaining significant space on retailer shelves in cities where that presence had previously been limited; this trend could only increase the competitive discipline conferred by shelf space competition between the two.

Second, the reduction in shelf space competition would give the merged firm a unilateral incentive to raise price without need for coordination with Gerber. With less shelf space competition would come less trade spending and thus less financial incentive for grocery stores to keep retail prices of baby food low. In addition, according to the Commission, Heinz's plan to drop the Heinz brand in favor of the Beech-Nut label also would harm buyers by reducing consumer choice. In place of two alternatives to Gerber—a higher-priced Beech-Nut brand with strong reputation, and a Heinz brand that competed more on price than quality—consumers would have only one. Moreover, the merger would remove from the market a firm, Beech-Nut, that the FTC saw as innovative in the past, particularly in spurring the development and marketing of additive-free products.

Finally, the FTC regarded the shelf space competition at wholesale as worthy of protection under the antitrust laws for its own sake, independent of any effect it might have on retail prices or other dimensions of retailer conduct. Even if this competition did not benefit buyers directly, it would do so indirectly by benefitting grocery stores. Moreover, the FTC contended that harm to consumers should be presumed from the loss of wholesale competition in order to protect the government's ability to prosecute substantial increases in concentration upstream, including mergers to monopoly, even if the effect of the transaction on retail competition is hard to identify.[11]

With postmerger market concentration so high and entry unlikely, the FTC contended, the merger presented a clear and substantial danger to competition. Under such circumstances, efficiencies from merger could overcome the competitive concern only if the efficiencies were extraordinary indeed. But when the FTC reviewed the parties' efficiency claims, those claims were found wanting. In particular, the FTC challenged the efficiency claims of the parties as not cognizable under *Horizontal Merger Guidelines* standards: They were unproved and overstated; they could have been achieved through practical means short of merger (e.g., investment in brand reputation by Heinz, plant modernization by Beech-Nut, or the sale of Beech-Nut to some other buyer); and they would result from an anticompetitive reduction in consumer choice (the loss of the Heinz brand). Even if these efficiencies were cognizable, the FTC also contended, they were insufficient in

[11] In other industries, for example, this situation might arise if the upstream product (intermediate good) accounted for a small cost share of the downstream (final) product.

magnitude to outweigh the likely harm to competition, in part because they would not be spread across the entire output in the market where competition is threatened.

THE MERGING FIRMS' DEFENSE

The merging firms saw Gerber as a dominant firm with the premerger ability to exercise market power, and Beech-Nut and Heinz as firms with limited competitive influence. Accordingly, the merger would do little to enhance Gerber's ability to exercise market power even absent efficiencies. Moreover, Beech-Nut and Heinz argued that their combination, by generating efficiencies, would promote competition with Gerber, leading prices to fall.

Challenging Gerber's Dominance

The parties' view of Gerber's role was based on evidence about market structure, firm conduct, and market performance. With respect to market structure, Gerber controlled more than 65 percent of baby food sales, and its only significant rivals, Beech-Nut and Heinz, had little incentive to challenge Gerber's dominance because they were each limited in their ability to expand. Beech-Nut could not increase output cheaply because it produced baby food in an old, high-cost plant. Its variable costs of manufacturing were 43 percent higher than those of Heinz (and likely also of Gerber), and its variable costs of production and distribution were 15 percent higher overall. Heinz could not expand cheaply because it sold a value brand that was limited in attractiveness to the many consumers who favored Gerber's and Beech-Nut's premium products.

Moreover, both firms were limited in their ability to expand, according to the merging parties, by the difficulty of obtaining distribution by grocery stores that did not already carry their brands. The second position on grocery shelves did at times change hands, but the shelf space rivalry between Heinz and Beech-Nut was circumscribed, and the incumbent firm held the upper hand. In an all-or-nothing competition to serve a grocery chain that previously sold Beech-Nut in some divisions and Heinz in others, the baby food manufacturer that already served most of the chain tended to win. Similarly, the firms' efforts to convince nonconsolidating supermarkets to displace their rival for the second position on the shelf had not led to much change in distribution patterns, as incumbents held an advantage in maintaining their existing shelf space.

The incumbency advantage had several sources. In order for Beech-Nut or Heinz to expand its distribution to stores it did not currently serve, it had to take shelf space away from the other contender for the second position on the supermarket baby food shelf. Doing so required it to outbid its rival for shelf space. In addition, the baby food producer had to compensate the grocery store for the costs of restocking stores and alienating the long-time customers of the rival brand. Moreover, the advertising and promotional costs of developing and maintaining a brand reputation are high. The payoff of such expenditures would be lower for Beech-Nut, for example, if it attempted to expand in a city in which it was carried on few grocery shelves, than it would be for Heinz, which had greater supermarket distribution in the same city. Under such circumstances, any promotional effort that reached the entire city would largely go to customers who patronized stores where Beech-Nut's product was not available.

The limited distribution of Beech-Nut and Heinz reduced the profitability of investments to develop significant innovation, forestalling these firms' efforts to expand by introducing major new products. Heinz did not provide marketing and promotional support to products that were not available to at least 70 to 80 percent of customers, in part to avoid wasting a substantial fraction of its national advertising budget. In addition, access to less than half the potential market (40 percent for Heinz; 45 percent for Beech-Nut) limited these firms' ability to spread the large fixed costs of new product development. Gerber's incentive to innovate was also muted, in its case by the prospect that new products would primarily cannibalize its own dominant existing sales. Consistent with this view, aggregate sales of baby food had not been rising; retailers commonly described the category as "sleepy"; and most recent new product introductions were more marketing sizzle than substance, or else (as in the case of high-priced organic baby food) attractive to only a small segment of buyers.

Because so many grocery shelves were unavailable to Heinz, the company concluded before the merger that it would be unprofitable to introduce two major baby food innovations it had contemplated. The Environmental Oasis program was a "field to fork" quality assurance program intended to convince consumers that Heinz baby food is more nutritious and safe than anything they can make themselves. This program was successful for Heinz's Italian affiliate, perhaps because of concerns about the food supply there in the wake of Chernobyl. Heinz also found that it would be unprofitable to introduce baby food produced using a new technology, aseptic production, that it had considered marketing as a high-priced, higher-quality product line for sale in addition to its regular brand. The aseptic production method would improve baby food taste by allowing Heinz to sterilize the product with less cooking time, and it would allow Heinz to introduce an attractive new product packaging (a microwavable and resealable pudding pack).

Firm conduct and market performance also suggest that Gerber was a dominant firm. Gerber was the pricing leader when wholesale prices changed; it arguably set the pricing umbrella for the industry. In addition, Gerber's prices had been rising faster than the prices of food in general during a period in which input costs were largely unchanged, which was again consistent with some ability to exercise market power.

Absent the merger, the parties contended, neither Heinz nor Beech-Nut had much incentive or ability to take on Gerber. Without this merger, the industry would continue to perform poorly, with prices in excess of competitive levels and limited new product introductions. In contrast, the acquisition would promote industry competition by removing all the impediments to expansion by Gerber's new (merged) rival. The merged firm could combine Heinz's low-cost automated production process with Beech-Nut's premium brand reputation, allowing the merged firm to produce a premium product at less cost and making it profitable for that company to reduce the premium product's price. Access to at least 85 percent of grocery shelves would make advertising and promotion cost effective in all major cities and would make it profitable for the merged firm to introduce innovations such as Oasis and aseptic production.

The high market concentration resulting from the merger was beside the point. It was not generated by the dominant firm's entrenching its position by gobbling up a smaller rival; it flowed instead from the merger of two smaller firms that would create competition where competition had previously been limited.

Questioning the FTC's Theories

In addition to explaining why the merger would promote competition, the merging parties also questioned the competitive effects theories proffered by the FTC. In doing so, they challenged both the FTC's claim that competition between Heinz and Beech-

Nut kept prices low premerger and the FTC's view that the efficiencies from merger would have little competitive significance.

Unilateral Competitive Effects

First, the merging parties contended that the merged firm would be unlikely to raise the retail price of baby food unilaterally. In part, the parties argued, it was hard to be concerned about the loss of head-to-head competition for consumers when there was little retail competition between Beech-Nut and Heinz even before the merger. After all, the two brands were never on the same grocery shelf, and in most cities only one of the brands was widely available. Moreover, the merging firms and a number of grocers indicated that both Beech-Nut and Heinz priced against Gerber, not against each other.

The lack of significant retail competition between Heinz and Beech-Nut was also demonstrated using systematic empirical evidence. The merging firms presented estimates of cross-price elasticities of demand in a sample limited to metropolitan areas in which both Heinz and Beech-Nut accounted for at least 10 percent of retail sales ("mixed" markets), and thus both had a nontrivial presence in (different) stores. The study estimated that a 5 percent decline in the Beech-Nut price would lower the quantity of Heinz sold by about 0.1 percent (cross-price elasticity of demand of about 0.02)—a buyer response that is trivial in practical economic significance and insignificant statistically. By comparison, a 5 percent decline in the Gerber price would lead to a 3.1 percent reduction in the quantity of Heinz sold (cross-elasticity slightly greater than 0.6). Similarly, a 5 percent decline in the Heinz price would lead to a 0.6 percent reduction in Beech-Nut's quantity sold (cross-elasticity of 0.12)—again small in practical terms, though significant statistically. A 5 percent Gerber price decline would again have generated a larger output reduction, here 4.0 percent (cross-elasticity of 0.8).

The FTC chose not to present alternative empirical demand elasticity estimates. Rather, it challenged the implications of these studies with grocer testimony that the two products competed at retail. In addition, the FTC raised a statistical concern about the merging parties' demand elasticity study. It pointed out that the demand analysis was based on shelf prices, not transaction prices, because it did not account for the effects of promotional coupons issued by Beech-Nut and Heinz. The merging firms responded that the absolute level of merging firm couponing was small during the sample period and that the key cross-elasticity results were not biased from the omission of a variable accounting for this activity because almost all the coupons distributed by Heinz and Beech-Nut during the sample period were through direct mail, sent to new mothers in a steady, uniform way, uncorrelated with the retail price.[12]

The merging firms presented a second systematic empirical study that also showed that retail competition between Beech-Nut and Heinz was insubstantial. This study compared prices for 4 oz. jars in "core" Beech-Nut or Heinz metropolitan areas (defined as those where Beech-Nut or Heinz was the only firm aside from Gerber that accounted for more than 10 percent of baby food sales) with prices in "mixed" markets (where all three firms accounted for at least 10 percent of sales), and controlled for cross-city differences in the cost of grocery retailing. The empirical analysis found that baby food prices were little different in practical economic terms,

[12] The omission of an explanatory (right-hand side) variable does not bias the estimated coefficients in a linear regression if the omitted variable is not correlated with the included variables (Greene 2000, pp. 334–337).

and not different statistically, between markets where Beech-Nut and Heinz were both available and markets where only one of the two could be found alongside Gerber on grocery shelves. The FTC again chose not to present a competing analysis of the data. Instead, it responded primarily with testimony from some grocers that where both are present in the same areas, they depress each other's prices as well as those of Gerber.

The merging firms also questioned the FTC's claim that the loss of shelf space competition between Beech-Nut and Heinz would lead to higher retail prices for baby food. According to the firms, the *incremental* trade spending prompted by a bidding war for a retail account was mostly fixed, not variable. Grocery witnesses agreed with the prediction of economic theory: Increases in fixed trade spending would not be passed through to baby food buyers. The increased revenues could instead go to shareholders in the form of higher profits. Or, if those higher supermarket profits were competed away, the beneficiaries would be supermarket customers generally—the store might widen aisles or stay open longer hours, for example—rather than baby food purchasers in particular.

The results of a third systematic empirical study presented by the merging firms were consistent with this economic analysis. The study analyzed the retail price effects of bidding competition for shelf space between Beech-Nut and Heinz. Grocery stores served by Heinz were divided into two groups, based on whether Heinz and Beech-Nut had competed for the shelf space at the time that the most recent agreement had been reached. The results showed no significant difference, either statistically or in practical economic terms, in retail prices for either firm with products on the shelf (Gerber or Heinz) related to whether there had been wholesale competition between Beech-Nut and Heinz in the past. In response, the FTC pointed to instances, drawn from grocer testimony or merging party documents, where the threat that a supermarket would switch its choice of second brand seemed to be associated with retail price competition.

Coordinated Competitive Effects

The merging firms questioned the FTC's view that the acquisition would make tacit collusion among the major baby food manufacturers more likely. They questioned the feasibility of coordination in general, given the time lag in the ability of the two firms to detect wholesale price cuts by each other. They also cited a recent decision by an appellate court rejecting an allegation that the baby food producers had expressly colluded.[13]

More importantly, the efficiencies that the parties saw flowing from the transaction played a central role in the merging firms' response to the government's coordination story. According to the firms, the efficiencies should not be understood as somehow justifying an otherwise anticompetitive merger; rather, they were the reason that the merger would promote competition affirmatively.

The cost savings from plant consolidation were, in the view of the merging firms' efficiency expert (later quoted with approval by the district court judge), "extraordinary." The variable costs of manufacturing the Beech-Nut line would fall by 43 percent, and the variable costs of all production and distribution activities would decline by 15 percent. The merging parties argued that these extraordinary variable cost savings would give the merged firm a powerful incentive to lower price. It would do better by lowering price and taking market share away from Gerber than by colluding tacitly with Gerber at a higher market price but lower market share.

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[13] *In re Baby Food Antitrust Litigation,* 166 F.3d 112 (3d Cir 1999).

Put differently, the merging firms argued that they would pass through all of the variable cost savings resulting from the acquisition to consumers. Heinz indicated that it would charge the low Heinz value price for the premium Beech-Nut product, thus lowering the price of Beech-Nut by about 15 percent, the full amount of the variable cost savings in production. This prediction was credible, according to Heinz, because of the company's history of passing through similar cost savings achieved in the production or distribution of other food products in its portfolio, including cat food and ketchup. More importantly, an economic analysis showed that the likely pass-through rate in the absence of postmerger coordination was very high, at least 50 percent and quite possibly the 100 percent that the company claimed.

The pass-through rate is the proportion of variable cost savings that results in lower consumer prices. For example, if a firm lowered price by 5 percent when its variable costs fell by 10 percent, its cost pass-through rate would be 50 percent. Even a monopolist has an incentive to lower price if its variable costs decline: With a uniformly lower marginal cost curve and downward sloping demand, it necessarily equates marginal revenue with marginal cost at a higher level of output and lower price. For example, a monopolist with a linear demand will pass through 50 percent of any reduction in marginal cost.[14]

The shape of the firm's demand curve is an important determinant of the pass-through rate. The pass-through rate depends on the *curvature* of demand (the rate of change in the slope or elasticity). If a firm sells at a price in excess of marginal cost, as is common for producers of differentiated products, and the seller's demand grows

[14] A firm's pass-through rate can be interpreted as the ratio of the slope of firm-specific (residual) demand to the slope of firm marginal revenue. The intuition is that when faced with a reduction in marginal cost, the firm will increase output so that marginal revenue declines by the same amount. (Bulow and Pfleiderer 1983).

substantially more elastic as it lowers price, then the firm has a powerful incentive to give buyers the benefit of a cost reduction by reducing price. Under such circumstances, the seller would likely benefit more by lowering price to expand output, thus capturing a positive price-cost margin on the many additional sales it makes, than it would by keeping price (and thus the price-cost margin) higher while limiting its output expansion. The more that the firm's demand curve is shaped in this way, the greater is the incentive for the seller to pass through cost reductions to buyers in the form of lower prices.

According to the merging firms, the demand curves facing both Heinz and Beech-Nut had a curvature that strongly favored a high pass-through rate. Heinz's marketing experience was that its sales became dramatically more responsive to price cuts as the gap between its retail price and that charged by Gerber increased. Econometric estimates of the demand for both the Heinz brand and the Beech-Nut brand, based on functional forms that did not constrain the curvature of demand, also showed that each firm's demand grew much more elastic when the firm's price declined slightly—so much so as to make plausible Heinz's claim that a cost reduction would be fully passed through to consumers. Rivals' anticipated reactions to price changes can also affect the incentives to pass through cost reductions, but simulation studies suggested that the competitive interaction among firms was a minor determinant of the pass-through rate for Heinz and Beech-Nut relative to the curvature of demand. Accordingly, this economic analysis demonstrated that the pass-through rate for cost savings from the merger of Beech-Nut and Heinz would likely be very high, at least 50 percent and quite possibly the 100 percent that the company claimed.

Heinz would want to compete aggressively postmerger by passing through all its baby food cost savings to consumers, according to the merging firms. The merger solved the problems that had previously limited both Heinz's and Beech-Nut's abilities to expand. It would give Heinz a premium brand, permit the Beech-Nut brand to be produced in a low-cost facility, and give the merged firm the national distribution required to make major innovation profitable. The transaction would thus effectively create a "maverick" firm with the ability and incentive to expand output (Baker 2002). Such a firm would not find it profitable to settle for its premerger market share, even if coordination with Gerber would facilitate an increase in the market price. Rather, with its new ability to expand inexpensively and to introduce new products, the merged firm would do better by taking market share away from Gerber. The resulting divergence in incentives between Gerber and Heinz would undermine the possibility of postmerger coordination. Not surprisingly, Gerber's internal documents predicted more intense competition following the merger; they did not predict a more cooperative environment.

If the merger led Heinz to compete aggressively and to pass through all the variable cost savings in production and distribution to consumers, then the quality-adjusted price of baby food would decline by 15 percent. Beech-Nut buyers would be able to purchase their premium brand for 15 percent less; Heinz buyers would be able to purchase a brand worth up to 15 percent more for the same low price they had previously paid;[15] and Gerber customers would get the option to switch to a premium

[15] The Heinz brand name would be withdrawn from the market, leading the FTC to voice a concern that consumers would be harmed from the reduction in product variety. The merging firms responded that the Heinz brand name primarily conveyed a low price to purchasers, not other characteristics valued by baby food buyers. In consequence, consumers would not be harmed by the removal of this brand so long as some other brand, here Beech-Nut, was sold at the low Heinz value price. Moreover, the merging parties noted, the merger would also

brand at a 15 percent discount, possibly leading Gerber to reduce price as well. In this way, the merging firms argued, the efficiencies would benefit all buyers in the baby food market.

Loss of Wholesale Competition

Finally, the merging firms questioned the FTC's view that the transaction should be blocked because it would end head-to-head wholesale competition for shelf space between Beech-Nut and Heinz, without regard to whether the FTC could demonstrate an adverse effect on retail prices. The loss of wholesale competition between the merging firms does not necessarily mean a loss of shelf space competition taken as a whole, because a reinvigorated Heinz would likely compete with Gerber for prime shelf space postmerger, inducing Gerber to pay grocers for shelf space for the first time. Moreover, any loss of wholesale competition is inextricably linked to the benefits that the merger creates for retail competition. The merging firms questioned whether a court should object to an increase in wholesale prices if that outcome were necessary in order to reduce the retail price of baby food.

THE COURTS DECIDE

The FTC, unconvinced by the merging parties' arguments, voted to seek a preliminary injunction to stop the merger on July 7, 2000. A five-day evidentiary hearing in federal district court took place during late August and early September. The district court decision was issued on October 19, 2000.

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increase product variety by facilitating the introduction of a new product line, based on Heinz's aseptic production process.

The district court sided with the merging firms.[16] The court agreed with the FTC that the high and increasing market concentration resulting from the transaction created a presumption that the merger would harm competition and that entry was not easy. But it found that the defendants had successfully rebutted the presumption arising out of market concentration by proving extraordinary efficiencies. "When the efficiencies of the merger are combined with the new platform for product innovation, . . . it appears more likely than not that Gerber's own predictions of more intense competition . . . will come true."[17]

The district court rejected the FTC's competitive effects theories. The merging firm would not be likely to raise the retail price unilaterally because retail competition between Heinz and Beech-Nut was limited and because the wholesale competition between the two did not benefit consumers. The court relied in part on the merging firms' econometric evidence in reaching this conclusion and rejected the FTC's claim that the exclusion of coupons from the price data made the studies unreliable.[18] Nor would coordination be likely in the market postmerger. Rather, the district court found it "more probable than not" that the merger "will actually increase competition" in the baby food market.[19]

The FTC appealed.[20] On April 27, 2001, a unanimous appellate panel reversed the district court.[21] The appeals court concluded that the efficiencies evidence

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[16] *Federal Trade Commission* v. *H. J. Heinz Co.*, 116 F. Supp. 2d 190 (D.D.C. 2000), *rev'd* 246 F.3d 708 (D.C. Cir. 2001).

[17] *Heinz,* 116. F. Supp. 2d at 199.

[18] *Heinz,* 116 F. Supp. 2d at 196 n.6.

[19] *Heinz,* 116. F. Supp. 2d at 200.

[20] Judge Bork, whose influential antitrust book argues against permitting an efficiency defense to mergers, filed an amicus brief to the appeals court in support of Heinz's acquisition

accepted by the district court was insufficient, both as a defense and as a basis for showing that postmerger coordination would be unlikely. Without the efficiencies evidence, defendants could not prevail over the inference of harm to competition arising from the reduction in the number of sellers and the increase in market concentration.

The appeals court pointed out three main problems with the district court's factual findings on efficiencies. First, the district court should have considered the reduction in total variable cost, rather than merely the reduction in the variable costs of manufacturing. Second, the district court should have analyzed the magnitude of the cost reductions over the merged firms' combined output, rather than with respect to Beech-Nut alone. Third, the district court did not satisfactorily explain why the efficiencies could not be achieved through reasonable and practical alternative means, with less competitive risk than would arise from merger. The court of appeals suggested in particular that Heinz could have gotten to the same place by investing the money it was spending to acquire Beech-Nut on improving recipes and promoting a premium brand name.

The court of appeals also dismissed the district court's conclusion that postmerger collusion was unlikely on the ground that defendants had failed to show that the difficulties of solving the "cartel problems" of reaching a consensus and deterring cheating "are so much greater in the baby food industry than in other industries that they rebut the normal presumption" of anticompetitive effect that

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of Beech-Nut. He contended that courts should allow a merger between two smaller firms that would create a stronger competitor against a firm that was dominant before a merger and would otherwise likely remain dominant. The brief did not address whether this position was tantamount to asking the court to accept an efficiency defense.

[21] *Federal Trade Commission* v. *H. J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001).

would apply in reviewing a "merger to duopoly."[22] In addition, the appellate court found that the district court had erred in concluding that Heinz and Beech-Nut did not really compete at retail and in concluding that the merger would promote innovation.

The court of appeals went to unusual lengths to reverse the district court opinion. An appeals court must accept the district court's findings of fact, unless the district court committed clear error. This highly deferential standard promotes the efficient use of judicial resources by limiting the scope of appeals.[23] But here, the appellate panel engaged in what one commentator has termed "an extraordinary amount of appellate factfinding" (Kolasky 2001, p. 82).

In concluding that the district court did not look at total variable cost or at cost savings spread over the merging firms' entire output, the appeals court overlooked the evidence that Beech-Nut's total variable costs of production would decline 15 percent by shifting production of its brand to the Heinz facility, and the evidence that Beech-Nut customers would pay 15 percent less while Heinz customers would obtain a premium product at a value price. The appellate panel's theory that Heinz could have created a premium brand on its own had not been pressed by the FTC and overlooked the evidence that Heinz could not profitably make major new product investments absent national distribution, and had not done so. The appeals court's conclusion that no reasonable district court judge could have found that Heinz and Beech-Nut did not really compete at retail relied on the anecdotal testimony of some witnesses that was inconsistent with the anecdotal testimony of other witnesses, and gave no weight to

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[22] *Heinz,* 246 F.3d at 380–381.

[23] Compare, for example, the appellate court's deference to the factual findings of the district court in *U.S.* v. *Microsoft Corp.,* 253 F.3d 34 (D.C. Cir. 2001), handed down by the same court of appeals a few months after the decision in *Heinz.*

the systematic empirical studies of retail competition introduced by defendants and relied upon by the district court. In contrast, when the appeals court rejected the district court's conclusion that the merger would promote innovation, its central complaint was that the evidence on which the district court relied was not statistically significant, and hence highly speculative.

The appellate court's thoroughgoing rejection of the district court's opinion appeared to be rooted in its skepticism about the efficiency defense, particularly when the merger would lead to a highly concentrated market. This concern was signaled in an order that the appeals court issued to prevent consummation of the merger while the appeal was pending, where the court noted: "[A]lthough there is much to be said for recognizing an efficiencies defense in principle, the high concentration levels present in this case complicate the determination of whether it should be permitted here."[24] The same theme was emphasized when the court of appeals issued its decision on the merits: "[T]he high market concentration levels present in this case require, in rebuttal, proof of extraordinary efficiencies, which the appellees [merging firms] failed to supply."[25] The court of appeals was so concerned about the competitive dangers flowing from high market concentration that it arguably created a new legal standard, raising the bar for the defense. In order for the district court to conclude that coordination would be unlikely in this highly concentrated market with entry barriers, the court of appeals held, the district court would have to find that the difficulties of colluding are not just high in some absolute sense; they must be

[24] *Federal Trade Commission* v. *H.J. Heinz Co.,* 2000 Trade Cas. (CCH) P73,090 (D.C. Cir. 2000). Only one member of the circuit court panel issuing this order was on the panel that ultimately decided the appeal.

[25] *Heinz,* 246 F.3d at 720.

"unique" to the baby food industry, and "so much greater . . . than in other industries that they rebut the normal presumption" that concentrated markets protected from entry are ripe for tacit collusion.[26] The appeals court's skepticism about an efficiencies defense when market concentration is very high stands in contrast to the way the courts treat entry: Ease of entry undermines proof of anticompetitive effect no matter how high the market concentration.[27]

In defense of its perspective on high concentration and efficiencies, the appeals court speculated that even if the defendants were correct in predicting that the postmerger Heinz would compete aggressively with Gerber in order to increase its market share, that incentive might at some time dissipate, and the two would eventually come to see their interest in tacitly colluding rather than competing.[28] Had it accepted the defendants' view of premerger industry conduct, however, the court might have seen the possibility of increased competition followed by tacit collusion as superior to the present situation, in which the dominant firm, Gerber, continues to exercise market power free from serious challenge.

LOOKING FORWARD

The appellate court decision ended Heinz's attempt to acquire Beech-Nut. This outcome did not arise as a matter of law: The legal result was merely that the district court was ordered to enter a preliminary injunction, leaving the parties free to pursue

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[26] *Heinz,* 246 F.3d at 724–725.

[27] *U.S.* v. *Waste Management, Inc.,* 743 F.2d 976 (2d Cir. 1984); *U.S.* v. *Baker Hughes, Inc.,* 908 F.2d 981 (D.C. Cir. 1990). It may be appropriate for courts to be more skeptical of an efficiencies defense than an entry defense, however, to the extent the evidence relevant to efficiency analysis is more likely to be under the defendants' control and to the extent efficiency claims tend to be more speculative.

[28] See *Heinz*, 246 F.3d at 725.

the case in a full administrative trial at the FTC. Instead, as is common in merger litigation, the delay that further proceedings would impose, combined with their uncertain outcome, undermined the business reasons for the transaction.

With respect to merger policy generally, the appeals court's decision leaves open the possibility that an efficiencies defense could succeed in other cases—or even could have prevailed in this very case if the litigation were to have continued through an administrative trial.[29] But the strong rejection of the "extraordinary" efficiency claims in *Heinz* calls into question the extent to which the courts will be willing to accept an efficiency defense when the market is highly concentrated.

POSTSCRIPT

The baby food industry structure has not changed much since the court case, although all three leading brands have new owners. Organic baby foods have grown more popular, and new brands have entered into this niche, but their total market share remains small. The two major brands that sought to merge in 2001 have changed hands: Heinz sold its U.S. baby food division in 2002 to Del Monte, a large producer of canned fruits and vegetables; and Beech-Nut was sold in 2006 to Hero AG, a Swiss firm with other infant feeding businesses, mainly in western Europe. Also, Nestlé agreed to buy Gerber in 2007.

Gerber remains the industry leader, and its market share has reportedly grown substantially, to about 80 percent. Gerber's seeming entrenchment is consistent with the merging firms' view that Gerber's rivals posed only a limited constraint on the dominant firm's ability to exercise market power. But the FTC would no doubt reply that Gerber's current position is beside the point; the question in the case was whether

[29] *Heinz*, 246 F.3d at 725.

the competition that Heinz and Beech-Nut posed for Gerber, however limited, would have been lost as a result of the merger.

Nor has there been much change in the receptivity of courts to efficiency claims in merger cases. In a merger case brought by the Justice Department in 2004, the merging firms' efficiency claims were dismissed as vague and unreliable.[30] In one brought by the FTC the same year, the efficiencies that the court credited were not large enough on their own to decide the case in the merging firms' favor.[31] The government lost both merger challenges but not as a result of the merging parties' efficiency arguments.

REFERENCES

Baker, Jonathan B. "Mavericks, Mergers and Exclusion: Proving Coordinated Competitive Effects under the Antitrust Laws." *New York University Law Review* 77 (April 2002): 135–203.

Balto, David. "The Efficiency Defense in Merger Review: Progress or Stagnation?" *Antitrust* 16 (Fall 2001): 74–81.

Beckner, C. Frederick, and Steven C. Salop. "Decision Theory and Antitrust Rules." *Antitrust Law Journal* 67(1) (1999): 41–76.

Berry, Mark N. "Efficiencies and Horizontal Mergers: In Search of a Defense." *San Diego Law Review* 33 (May–June 1996): 515–554.

Bulow, Jeremy I., and Paul Pfleiderer. "A Note on the Effect of Cost Changes on Price." *Journal of Political Economy* 91 (February 1983): 182–185.

[30] *United States* v. *Oracle Corp.*, 331 F. Supp. 2d 1098 (N.D. Cal. 2004); see Case 2 by McAfee, Sibley, and Williams in this part.

[31] *FTC* v. *Arch Coal, Inc.*, 329 F. Supp. 2d 109 (D.D.C. 2004); see Case 3 by DeGraba in this part.

Calvani, Terry. “Rectangles & Triangles: A Response to Mr. Lande.” *Antitrust Law Journal* 58(2) (1989): 657–659.

Conrath, Craig W., and Nicholas A. Widnell. “Efficiency Claims in Merger Analysis: Hostility or Humility?” *George Mason Law Review* 7 (Spring 1999): 685–705.

Federal Trade Commission Staff. “Enhancing the Analysis of Efficiencies in Merger Evaluation.” In *Anticipating the 21st Century: Competition Policy in the New High-Tech, Global Marketplace,* vol. 1, chapter 2. Washington, D.C.: Federal Trade Commission, May 1996.

Fisher, Alan A., and Robert A. Lande. “Efficiency Considerations in Merger Enforcement.” *California Law Review* 71 (December 1983): 1580–1696.

Greene, William H. *Econometric Analysis,* 4th edn. Upper Saddle River, N.J.: Prentice-Hall, 2000.

Kolasky, William J. “Lessons from Baby Food: The Role of Efficiencies in Merger Review.” *Antitrust* 16 (Fall 2001): 82–87.

Kolasky, William J., and Andrew R. Dick. “The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers.” Unpublished manuscript, May 24, 2001.

Leary, Thomas B. “An Inside Look at the *Heinz* Case.” *Antitrust* 16 (Spring 2002): 32–35.

Marcus, David. “Two and Three, Sponsored by the FTC.” *Corporate Control Alert* (September 2000): 11–17.

Muris, Timothy J. “The Government and Merger Efficiencies: Still Hostile after All These Years.” *George Mason Law Review* 7 (Spring 1999): 729–752.

Ravenscraft, David J., and F. M. Scherer. *Mergers, Sell-Offs, and Economic Efficiency.* Washington, D.C.: Brookings Institution, 1987.

Williamson, Oliver E. “Economies as an Antitrust Defense: The Welfare Trade-Offs.” *American Economic Review* 58 (March 1968): 18–36.