# Refining the Innovation Focus: The FTC's *Genzyme* Decision

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THE FEDERAL TRADE COMMISSION'S decision to clear the Genzyme/Novazyme merger, even though it did not result in an enforcement action, is one of the agency's more important merger pronouncements of the last decade.[1] In a split decision that could have far-reaching consequences for transactions involving consolidations in innovation markets, the FTC announced that it would close its investigation of Genzyme's acquisition of Novazyme—two pharmaceutical companies engaged in research and development of treatment for Pompe disease. In so doing, the FTC took the unusual step of approving a merger-to-monopoly.

The three statements by Chairman Muris, Commissioner Thompson, and Commissioner Harbour, provide new insight into the Commission's approach to analyzing innovation competition. The Commissioners have articulated significant limiting principles to innovation market analysis and provided greater clarity on the limited circumstances in which competitive concerns are raised in these markets.

## An Overview of the Decision

In *Genzyme*, Novazyme and Genzyme were the only two companies engaged in preclinical research related to Pompe disease. The Commission's investigation focused on the transaction's potential impact on the pace and scope of research into the development of a treatment for Pompe disease.

Because Pompe disease is rare, new therapies for Pompe are covered by the Orphan Drug Act (ODA). Pursuant to the ODA, the first Pompe therapy to win FDA approval receives market exclusivity above and beyond patent protection for seven years. Subsequent therapies can break that exclusivity and be brought to market only by clinically establishing superiority over the first therapy. Thus, Congress provided for special protection for such treatments of such ODA-covered diseases, granting monopoly status for seven years for companies that develop treatment for ODA-covered conditions, in order to foster the advancement of important drugs that otherwise might not be developed because of their limited applicability.[2]

In September 2001, Genzyme acquired Novazyme for $120 million. The two firms were the last two companies engaged in Pompe research; Genzyme previously had acquired two other Pompe research programs developed by Pfarming and Synpac. The Commission opened its investigation into the Genzyme/Novazyme merger following the close of the transaction.[3]

In its 3–1–1 decision, the FTC held that the merger between Genzyme and Novazyme should not be challenged even though they were the only two businesses working to find a treatment for Pompe's disease. As part of the majority, Chairman Muris issued a separate statement (not signed by any other Commissioner, meaning that it is persuasive, not binding FTC policy) expressly concluding that the Merger Guidelines "rebuttable presumption" that significant market concentration is anticompetitive should not apply to innovation merger analysis. Chairman Muris expressed skepticism toward merger enforcement in innovation markets: "There is no reason to believe, a priori, that a particular merger is more likely to harm innovation than to help it—which is, of course, simply another way of saying that there is no empirical basis for a [rebuttable] presumption."[4] Muris reasoned that attaching the presumption would have the effect of routinely blocking mergers likely to accelerate innovation.[5]

Instead, Muris argued that "innovation market analysis should not even be considered unless the number of competitors is very small."[6] In those cases, like *Genzyme*, in which there are very few—or no—competitors remaining post-transaction, Muris wrote that the Commission should use a careful and intense factual investigation to determine whether the case is one in which a potential monopolist faces reduced incentives to innovate. Looking to the facts surrounding the merger, Muris concluded that the combined Genzyme/Novazyme entity continued to have strong incentives to bring Pompe therapies to market as quickly as possible. As discussed below, there was a lively debate about whether these facts even supported such a finding.

In contrast, Commissioner Thompson dissented, noting that the merger would be presumptively anticompetitive under the Merger Guidelines.[7] He argued that the merger was anticompetitive because it eliminated Genzyme's only rival, provided incentives for Genzyme to delay the introduction of Novazyme's Pompe treatment, and failed to result in merger-specific efficiencies.

Commissioner Harbour arrived at the Commission too late to participate in the ultimate decision. She did, however, provide an extensive statement that highlighted several guideposts to innovation market analysis, focusing on the importance of the race to innovate.[8] She found the failure to apply a presumption of anticompetitive effects troubling, but observed that enforcement should always be disciplined by pragmatic considerations.

### Analysis of Mergers in Innovation Markets

Over the past decade, two questions have arisen with regard to the appropriate scope of review of transactions in innovation markets.[9] First, are there separate, cognizable markets in research and development? Second, if so, to what extent are such markets properly the concern of the antitrust enforcement agencies? Commentators have generally agreed on one point—it is often difficult to measure the competitive significance of concentration in innovation markets because the contours of such markets are murky relative to those in tangible product markets.[10] From that starting point, opinions diverge sharply. Some have concluded that enforcement in such markets is not properly within the scope of Section 7 of the Clayton Act.[11] Others argue that even if such markets are regulated by Section 7, enforcement efforts should be rare because it is difficult both to determine the contours of such markets and to measure the effects of concentration on innovation efforts.

The DOJ and the FTC have endorsed the concept that innovation markets do exist and are within the agencies' purview under Section 7. However, the agencies have intimated that a more conservative approach to analyzing transactions in innovation markets is appropriate. In its 1996 Report, *Anticipating the 21st Century: Consumer Protection Policy in the New High-Tech, Global Market Place*, the FTC concluded that "economic theory and empirical investigations have not established a general causal relationship between innovation and competition."[12] Nevertheless, it appeared that the FTC had employed the Merger Guidelines' rubric in innovation market merger analysis, and the agency has blocked or required divestiture of overlapping lines of R&D in several transactions over the last decade.[13]

*Genzyme* represents a new direction in the FTC's approach to mergers in innovation markets. Chairman Muris signaled his intent to rely less on presumptions in merger analysis and more on empiricism to reach conclusions regarding the effects on competition. While markets may take comfort that the Muris-era FTC will carefully scrutinize mergers individually and look to the facts of each to determine whether innovation competition is harmed—rather than relying on long-standing presumptions to guide its analysis—the *Genzyme* decision and this "empirical" approach to merger review does raise significant issues.

***The Merger Left Genzyme with Monopoly Power in the Pompe Research Market.*** If the Genzyme/Novazyme merger had been analyzed using a traditional Merger Guidelines approach, the Commission likely would have blocked it. The Genzyme/Novazyme combination had all of the hallmarks of one that endowed market power on the combined company, with no likelihood of timely and sufficient entry to counter that monopoly power.

In general, it is difficult to determine the contours of innovation markets and its market participants because innovation markets are so amorphous. Participants do not sell product on the open market, making it difficult to ascertain who is engaging in competitive research and development. Moreover, it is difficult to determine who could enter a particular market and when. Innovation stems from unexpected sources—for example, nylon stockings were a product of the defense industry—making it difficult to judge the effect of combining two research programs because the agencies often must be uncertain of whether and how many other parties are engaged in competitive research. More often than not, parties themselves do not know who their innovation competitors are. The race to market, therefore, is many times driven by anxious companies hoping to be the first to put a new product on the market rather than by a response to a particular competitor.

However, pharmaceutical markets are different. Because potential market participants must report their intentions and progress in developing products to the Food and Drug Administration (FDA), and qualify their product at various stages of development with the FDA, it should be quite easy to determine the contours of the market and its relative concentration. In *Genzyme*, the number of participants in the market was two (Genzyme and Novazyme), and the merger reduced the number of competitors to one. It also seems quite clear that no other business had even begun preclinical trials, meaning that potential entry was at best a distant possibility.

Moreover, the assets necessary to develop Pompe treatment are specialized and ascertainable. As Richard Gilbert and Steven Sunshine have reasoned, where the assets necessary to engage in R&D are specialized, it is far easier to determine whether others will enter (or even have the capability to enter) the market.[14] As Commissioner Harbour noted in her separate statement in *Genzyme*:

> The creation of innovation monopolies in such an industry eliminates the all important race-to-innovate aspect of innovation competition, diminishes important diversity in research approaches, and in light of high entry barriers, increases both the likelihood and the likely duration of a product market monopoly following successful innovation. *This concern, moreover, is especially acute where a firm has acquired, over time, all of the research and development tracks of its immediate rivals, and is unencumbered by the threat of timely and sufficient entry.*[15]

Given that the merger combined the only two firms developing Pompe therapies, the dissent concluded that the merger raised significant competitive concern. As highlighted by Commissioners Thompson and Harbour, where the parameters of an innovation market can be drawn, and where the

participants and likely entrants in that market are ascertainable, then it is possible to demonstrate the contours of such a market as well as the concentration resulting from the merger. The dissent concluded in this case that the combination resulted in a merger to monopoly, and the presumption that a merger to monopoly was anticompetitive should have applied.

In contrast, Chairman Muris concluded that going beyond measures of concentration can be appropriate in the innovation market context. As his separate statement noted, there is little empirical research to suggest a clear relationship between concentration and the level of innovation. For many types of products, especially high-risk drugs with very small markets, it may not be unexpected that there is a single firm conducting innovation. Indeed, in these types of markets, a monopoly may the optimal means of developing a successful approach to curing a complex disease.

### Analysis of the Facts

The Commission's action in *Genzyme* is consistent with its focus on the importance of empiricism in merger analysis. Prior to becoming Chairman, Professor Muris wrote extensively on the importance of empiricism in antitrust analysis and the harm of relying on presumptions and economic theory alone. As he suggested about the presumptions that increased concentration harms competition, "[w]ithout specific evidence relating to the precise characteristics of the industry under review . . . the current state of empirical work does not justify the conclusion . . . that challenged mergers are likely to increase price."[16]

During Muris' administration, the Commission has avoided relying on simple presumptions; instead it has had a disciplined focus on the empirical basis for enforcement actions. One of the most important developments initiated during the Muris-era FTC has been an effort to bring sunshine to the investigative process and provide insight into that empirical basis for enforcement by sharing with the antitrust community the evidence that led to a decision to block or clear a merger. Over the last three years, the FTC has provided practitioners and the public with insight into many of the most significant investigations conducted by the FTC, including detailed analyses in the Cruise Lines, Cytyc/Digene, and Synopsys/Avant! mergers. That transparency, of course, also provides us with the additional opportunity to question the agency's determinations.

In *Genzyme*, Chairman Muris relied upon unconventional facts to reach his conclusion that there was no reason to believe that the Genzyme/Novazyme merger was anticompetitive. Commissioners Thompson and Harbour believed that additional facts cast some doubt on Chairman Muris' ultimate conclusion.

Chairman Muris, in particular, relied upon two facts that illuminated the incentive and ability to delay innovation. First, as part of the acquisition agreement, Genzyme had agreed to pay certain financial backers of Novazyme substantial contingent progress payments if two products employing Novazyme's technologies were brought to market within specified time limitations. In his separate statement, Commissioner Muris reasoned that the presence of substantial Novazyme shareholders in pivotal positions within the combined entity made it likely that Genzyme would continue to pursue the Novazyme technologies. Second, Muris pointed out that the combined company decided to allow the CEO of Novazyme to run the Pompe program. The CEO, John Crowley, had two children of his own with Pompe disease. Muris hypothesized that allowing Crowley to run the program (with his personal interest in curing/preventing the disease) was somehow evidence that the combined company would continue to innovate: "It seems unlikely that Genzyme would have given this role to Mr. Crowley if it had wanted to delay the development and introduction of a promising second Pompe therapy."[17]

Chairman Muris suggested that it would have been irrational to make these appointments: after all, if Genzyme intended to mothball the Novazyme project, then why provide Novazyme shareholders with positions in the combined company, presumably with an interest in the development of the Novazyme program. Interestingly, Crowley left the combined company less than one year later, according to Commissioner Thompson, because he "could not exercise such influence over Genzyme's operation."[18]

The dissent pointed to other explanations for Genzyme's decision to hire Crowley and to provide financial incentives to the Novazyme shareholders through royalty payments. For example, the appointment of an individual with a personal interest in the outcome of the R&D could be seen as no more than window-dressing intended to reassure the public as to the combined company's intentions and not really indicative of an intent to develop or mothball a product. Crowley's departure, and the reasons ascribed to that departure, seem more significant to demonstrate Genzyme's intentions with regard to the Novazyme project than his initial appointment as team leader. Moreover, as the dissent suggests, one must wonder whether the financial structure of the transaction was truly intended to serve as an incentive in the development of the Novazyme product, or rather simply be a post-hoc rationalization used to justify to the agency the combination of the two parties.

Chairman Muris also placed significant weight on his determination that there was no post-close evidence that Genzyme had slowed the development of either the Genzyme or Novazyme programs. Muris found that in the more than two years separating the merger from the close of the investigation, there was no evidence that the merger reduced R&D spending on either the Genzyme or the Novazyme program or slowed progress along either of the R&D paths.

On the other hand, the dissent and separate statement of Commissioner Harbour raised two salient concerns. First, as Commissioner Harbour noted, prior to the acquisition, Novazyme projected reaching clinical trials at the end of

2001. After the acquisition, Genzyme projected reaching a product launch of 2011, a ten-year difference.[19] The delay in the introduction of Novazyme's product by one decade, according to Commissioner Harbour, cast doubt on Muris' conclusion that the facts did not suggest that post-close Genzyme sought to slow innovation. Second, as Commissioner Thompson suggested, post-close behavioral evidence rarely, if ever, should be relied upon in a merger investigation. And certainly, the FTC staff has taken the position in other consummated merger litigation that the fact that prices had not increased following the close of the merger was not at all relevant to whether a merger was anticompetitive. There may be numerous non-merger related reasons why innovation may be delayed. As Justice Harlan noted in *Procter & Gamble*: "[D]ependence on post-merger evidence would allow controls to be evaded by the dissimulation of market power during the period of observation."[20] Especially in innovation markets where post-close delays in research and development would be difficult to detect and more difficult to analyze, the value of post-close evidence of competitive harm in such instances should be minimal.

### Competitive Effects

Putting aside market characteristics, the Commissioners had very different views on the possibility that the merger would result in competitive harm. In spite of their disagreement, the decision in *Genzyme* begins to apply some much-needed discipline to the competitive effects analysis in innovation markets. As Chairman Muris' statement noted, an analysis of the specific facts of the case was necessary because "neither economic theory nor empirical research supports an inference regarding the merger's likely effect on innovation (enhance patient welfare) based simply on observing how the merger changed the number of independent R&D programs."[21]

One gleans from Chairman Muris' opinion that the parties did not believe they were in a race to be the first orphan drug to market. Genzyme knew that it would be the first drug to market, and Novazyme would be the second-generation complement to the native Genzyme therapy. On the other hand, Commissioners Harbour and Thompson strongly suggested that the parties were not aware of their respective stages of development and there was indeed a race to market between the two products. Those opposing viewpoints of the state of competition surely played a significant role in the Commissioners' differing opinions.

Chairman Muris considered the merger's impact on the incentives of the firm post-merger to develop either the Genzyme or Novazyme technology. He concluded that Genzyme had no incentive to slow-down the development of Novazyme's admittedly superior (although more preliminary) Pompe research program regardless of the success of the Genzyme program. If Genzyme's native Pompe research program failed to result in an FDA-approved product, the company "clearly [would] want to pursue the Novazyme program," thus benefiting patients because the merger would have accelerated the Novazyme program.[22] Alternatively, if Genzyme's native program succeeded, the company would have the incentive to bring the superior Novazyme product to market quickly in order to expand the number of patients who would use a Pompe therapy, thus producing additional revenue for the merged company. Both alternatives would benefit consumers, and thus according to Muris, there was no reason to block the merger.

According to Muris, determining incentives was not wholly predictive since this was a consummated merger and there was an actual record to examine. Muris noted that there was no evidence that the merger either created a significant disincentive to go forward with the Novazyme technology nor that the merger actually reduced R&D spending on either the Genzyme or Novazyme program or slowed progress on either of these R&D paths. As his Statement concluded "the observable facts regarding Genzyme's behavior, such as the terms of its agreement with Novazyme and the structure of its Pompe program, strongly suggest Genzyme viewed the possibility of delay as so remote that it made no allowance for it in its plans."[23]

On the other hand, Commissioners Harbour and Thompson noted that there were significant countervailing incentives that at least suggested that Genzyme had reason to delay the development of Novazyme's product. For example, Commissioner Thompson reasoned that "Genzyme would be more likely able to gain and retain Pompe patients the greater the time interval between its entry and Novazyme's entry into the actual goods market."[24] More fundamentally, Commissioner Thompson noted that the merger extinguished the race-to-market between Genzyme and Novazyme that existed pre-merger, and this race to market would have increased the pace of innovation. Finally, the merger also arguably eliminated Genzyme's need to make its native Pompe therapy as good as possible; without Novazyme developing its superior product independently, Genzyme did not need to worry that another company would introduce a sufficiently superior product to break its ODA exclusivity. Thus, as the dissent argued, the merger eliminated Genzyme's incentive to accelerate its native innovation as well as improve the quality of the product the company eventually brought to market.

Interestingly, none of the statements focused on a pricing theory of competitive harm. Putting aside the race to market, it appears that all of the Commissioners agreed that Novazyme and Genzyme were the only two parties capable of getting a product to market. Even assuming that Genzyme had every incentive in the world to quickly get the best product to market to reach as wide a group of customers as possible, what would stop Genzyme from reaping monopoly profits in the goods market? For some reason, the Commission decided not to address this competitive harm—perhaps because it was too far in the future to consider. However, this seems like a logical concern that was not analyzed in the public opinions.

### Efficiencies

Under the Merger Guidelines, merger-specific efficiencies could rebut the presumption that a particular merger is anticompetitive. For example, demonstrating that a merger would eliminate redundant R&D, provide economies of scale, or make the combined efforts of the two companies more efficient may demonstrate that, on balance, a merger would benefit consumers.[25]

Efficiencies can be an important factor in innovation market mergers. Again, the fact that this was a consummated merger made the efficiencies analysis more important than in other cases—efficiencies were readily observable, and in the consummated merger context, any relief would have to undo efficiencies already presented to the market. Here, Muris observed that the merger resulted in several concrete benefits: (1) it made possible comparative experiments between the Novazyme and Genzyme programs and provided Genzyme with information that enabled the Novazyme researchers to avoid drilling dry holes; (2) it accelerated the Novazyme program; and (3) it resulted in synergies between the two programs. The essential question then was whether these benefits were merger specific, i.e., could they have been achieved in a less anticompetitive fashion.

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Commissioner Thompson noted that the company did not present any evidence that "these benefits could [not] have been created without the merger" for example, through a less restrictive JV, or in a merger with another partner.[26] Why, according to Commissioner Thompson, for example, could the same efficiencies not have been achieved if Novazyme was acquired by another large pharmaceutical company with the assets necessary to develop an alternative Pompe therapy. Presumably, another company would have had as great an incentive as Genzyme to get the Novazyme product to market, and in fact, probably would have had more incentive to get the Novazyme product to market quickly, demonstrating its superiority to the Genzyme product, thus enabling it to break Genzyme's ODA exclusivity. Additionally, the dissent noted that the potential efficiencies discussed by Muris were, at best, distant benefits to the market and consumers. The dissent argued that when balanced against the harm caused by eliminating the Genzyme/Novazyme race to market, these speculative efficiencies could not have justified the merger.

Chairman Muris dismissed Thompson's observations as speculative. One can always posit some hypothetical joint venture or alternative purchaser—it is simple to suggest less restrictive alternatives. But, according to Muris, there is little empirical basis to generalize that a joint venture could achieve the same benefits as a merger. Joint ventures often raise significant problems (e.g., in day-to-day management) and are less effective than mergers in bringing together assets and aligning the incentives of the parties. Muris suggested that the Commission should not engage in an endless search for other possible, less restrictive alternatives, especially in a situation involving a consummated merger. He noted that in this situation where actual efficiencies were concrete and the "results of a possible joint venture are uncertain . . . [there was] no reason to weigh equally the merger's actual benefits with the potential benefits of a joint venture that never occurred."[27] Under a hypothetical joint venture, these benefits may have been slower or unlikely to achieve.

### Prosecutorial Discretion

The use of "prosecutorial discretion" is one of the great mysteries of antitrust enforcement. Why an otherwise meritorious case is not brought is rarely illuminated by the agencies. In this case, the Commissioners' Statements provided important guidance about why enforcement may not have been appropriate.

Litigation in consummated mergers is costly and time-consuming for both the government and the parties. Unlike current goods markets, the costs of litigation may actually delay and harm competition in innovation markets. That seemed like a legitimate concern to the Commission. Chairman Muris' Statement observed that "to an extent not typically seen in pharmaceutical cases, the Novazyme research effort appeared heavily dependent on the efforts of Novazyme's founder and chairman," and distracting him from research by spending time in the courtroom rather than in the laboratory would ultimately create "the harm that litigation in this matter would be brought to avoid."[28]

Remedy is also a critical problem in actions involving consummated mergers. As Commissioner Harbour observed, "[e]nthusiasm for justifiable enforcement must always be disciplined, however, by pragmatic considerations regarding the ability to achieve effective relief in a given case."[29] Remedies in innovation markets further complicate the problem—how can one divide research and development efforts that have been merged? How can an abandoned R&D path be resurrected? How can intellectual property rights be effectively shared? At best, these lead to less than desirable solutions. Thus, Chairman Muris observed that remedy would be problematic because this was a consummated merger and a non-exclusive license would appear to create "a powerful disincentive to innovate" further in this technology. Ultimately, Chairman Muris concluded, "neither litigation nor remedial order would likely benefit Pompe patients. To the contrary, litigation could adversely affect Genzyme's incentives to spend on R&D and could disrupt the Novazyme research program."[30]

Extended post-close investigations raise issues concerning whether such efforts ultimately are beneficial to the mar-

ket or, instead, create instability for businesses. Especially in high-tech industries, where assets of merging companies necessarily must be commingled immediately upon close to realize merger efficiencies and drive innovation in fast-paced markets, post-close remedies are difficult to fashion because it is difficult to unwind technology once it is combined to develop new best-of-breed products, and it is even more difficult to provide a viable package of assets and IP to a third-party to restore pre-merger competition. Moreover, the specter of post-close investigation and enforcement is dangerous in such industries. While post-acquisition review and challenge may be necessary in some cases to correct market problems created by mergers, the recent aggressive posture of the FTC in the review of closed mergers may chill businesses from competing aggressively. High-tech firms engaging in competitive transactions may feel pressure to act conservatively following the merger with a rival, fearing that if they are aggressive with customers or other third parties, the agencies may at some point in the future challenge their deal as anticompetitive. As a result, otherwise procompetitive actions may be inhibited out of concern for spurring post-close review, in the end, causing the very problems that such review was intended to prevent.

## Conclusion

The *Genzyme* decision illuminates what has yet to be clarified in the analysis of innovation markets: the role of presumptions, analysis of anticompetitive effects, and the search for other less restrictive alternatives. The separate statements of Chairman Muris, Commissioner Thompson, and Commissioner Harbour begin to provide important guidance as to how to appropriately examine the effect of consolidation in innovation markets and suggest important principles to consider in future transactions. ■

[1] See FTC Press Release, FTC Closes its Investigation of Genzyme Corporation's 2001 Acquisition of Novazyme Pharmaceuticals, Inc., *available at* http://www.ftc.gov/opa/2004/01/genzyme.htm.

[2] See Statement of Chairman Timothy J. Muris in the Matter of Genzyme Corporation/Novazyme Pharmaceuticals, Inc. at 11, *available at* http://www.ftc.gov/os/2004/01/murisgenzymestmt.pdf [hereinafter Muris Statement].

[3] See *id.*

[4] *Id.* at 23.

[5] *Id.*

[6] *Id.* at 3.

[7] See Dissenting Statement of Commissioner Mozelle W. Thompson, Genzyme Corporation's Acquisition of Novazyme Pharmaceuticals Inc. at 4, *available at* http://www.ftc.gov/os/2004/01/thompsongenzymestmt.pdf.

[8] See Statement of Commissioner Pamela Jones Harbour, Genzyme Corporation's Acqusition of Novazyme Pharmaceuticals Inc. at 4, *available at* http://www.ftc.gov/os/2004/01/harbourgenzymestmt.pdf.

[9] The agencies have defined innovation markets as those markets that consist "of the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development." U.S. Department of Justice & Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property § 3.2.3 (1995), *available at* http://www.usdoj.gov/atr/public/guidelines/ipguide.htm.

[10] See, e.g., Ronald W. Davis, *Innovation Markets and Merger Enforcement: Current Practice in Perspective*, 71 ANTITRUST L.J. 677, 678 (2003) (discussing the debate); M. Howard Morse, *The Limits of Innovation Markets*, Antitrust & Intellectual Property Newsletter (ABA Antitrust Section, Intell. Prop. Comm), Spring 2001, at 22.

[11] See Davis, *supra* note 10; Morse, *supra* note 10

[12] FTC Staff Report, *Anticipating the 21st Century: Consumer Protection Policy in the New High-Tech, Global Market Place* ch. 7 at 16 (1996).

[13] See, e.g., Amgen/Immunex, *available at* http://www.ftc.gov/opa/2002/07/amgen.htm; Ciba-Geigy/Sandoz, *available at* http://www.ftc.gov/opa/1997/04/petapp21.htm.

[14] See Richard J. Gilbert & Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569, 590 (1995) ("The merged firm's share of the assets required to engage in R&D is an indicator of the merged firm's unilateral ability to reduce total R&D directed at particular new products or processes. The merged firm would not be able to profit from a reduction in total R&D spending if there are many other innovators, so that the risk of losing the innovation would be too great, or if other firms could easily expand their R&D efforts and would do so in response to a reduction in R&D effort by the merged firm.").

[15] Harbour Statement, *supra* note 8, at 3 (emphasis added). *See also* United States v. Boston Scientific Corp., Civil Action No. 00-12247-PBS, slip opinion at 31–33 (Mar. 28, 2003) (Memorandum and Order). In his decision, Judge Saris concluded that Boston Scientific's acquisition of CVIS actually harmed competition in the innovation market. In that case, the FTC brought suit to enforce a consent decree against Boston Scientific in a transaction that had closed five years prior to the case. Judge Saris, in looking at the post-close evidence, concluded that as a result of the transaction, Boston Scientific significantly reduced R&D expenditures in the innovation market where it previously competed against CVIS, and actually delayed introduction of new products that were being developed by both companies in the years prior to the merger.

[16] Timothy J. Muris, GTE Sylvania *and the Empirical Foundations of Antitrust*, 68 ANTITRUST L.J. 899, 904 (2001).

[17] Muris Statement, *supra* note 2, at 15–16.

[18] Thompson Dissent, *supra* note 7, at 10.

[19] Harbour Statement, *supra* note 8, at 5 n.13.

[20] United States v. Procter & Gamble Co., 386 U.S. 568, 591 (1967) (Harlan, J., concurring).

[21] Muris Statement, *supra* note 2, at 5–6.

[22] *Id.* at 11.

[23] *Id.* at 20.

[24] Thompson Dissent, *supra* note 7, at 5.

[25] Gilbert & Sunshine, *supra* note 14, at 570 ("Analysis of the effects of a merger on innovation also requires an evaluation of efficiency considerations that might lead a merged firm to engage in greater innovative activity or the same amount at a lower cost. . . . [T]he merging firms might possess complementary assets that increase the efficiency of research and development. The combined firm might be able to exploit the economies of scale in R&D, and the combined firm may be able to eliminate redundant R&D activities and thus lower costs without significantly reducing innovation.").

[26] Thompson Dissent, *supra* note 7, at 11–12.

[27] Muris Statement, *supra* note 2, at 18.

[28] *Id.* at 20.

[29] Harbour Statement, *supra* note 8, at 4.

[30] Muris Statement, *supra* note 2, at 20.