

## **The Ill-Fated GE/Honeywell Merger**

Revised: August 28, 2002

It's June 2001, and Jack Welch has a problem. General Electric's proposed merger with Honeywell was to be the crowing achievement of his career, but the European Commission (the government of the European Union) refused to give its approval unless GE divested itself of large chunks of its avionics or aircraft leasing businesses. What should he do? Should he agree to the European Commission's conditions? Apply political pressure? Call the deal off? At stake was not only the biggest acquisition of his career, but his legacy as one of the most revered business leaders of his time.

### **General Electric**

General Electric is a diversified industrial and financial company, whose major product lines include appliances, lighting products, aircraft engines, plastics, power systems, medical imaging, broadcasting, and a wide range of financial services (consumer finance, leasing, private equity, credit cards, and so on). In 2000, GE employed 223,000 people in over one hundred countries and reported net earnings of \$13b on revenue of \$130b.

### **Honeywell International**

Honeywell International is the result of the 1999 merger of Honeywell (a manufacturer of thermostats, security systems, and industrial control products) with Allied-Signal (a diversified manufacturer focused on aerospace). In 2000, Honeywell employed 125,000 people in 95 countries and reported net income of \$1.7b on sales of \$25b.

### **Honeywell's Suitors**

On October 20, the press reported that United Technologies Corporation (UTX) was expected to announce an offer for Honeywell at an estimated \$50-51 a share. Lehman analyst Joseph Campbell found the "strategic fit ... obvious and compelling" and noted that the two firms had "highly complementary product lines" that would allow them to exploit "powerful revenue and cost synergies." Other observers noted that the deal would give UTX a strong market position in most aspects of airplane manufacture other than the airframe itself, including engines (UTX's Pratt & Whitney unit) and electronic control, communication, and navigation systems or "avionics" (Honeywell Aerospace).

Displaying an agility that impressed even its most avid supporters, GE responded on October 22 with a bid valued at \$55 a share. UTX immediately dropped out, saying the deal was not in the interest of its shareholders at that price. For GE's Welch, the acquisition would be the largest of the estimated 1700 completed during his tenure as

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CEO. Most observers gave the deal high marks. Salomon Smith Barney analyst Jeffrey Sprague commented:

We think it is very positive that GE could move so quickly when the stakes were so high, and we believe they were high. The future value-added in airplanes is what was at stake and GE's move was just as defensive as it was offensive. ... Defensively we believe GE decided it simply could not let UTX dominate all the value-added in airplanes. Had UTX bought HON, the new company would dominate every system in the airplane, plus have a good position in engines (Pratt & Whitney). ... GE would have been left with only engines and no other aircraft systems. GE has dominated the engine business in recent years, winning some 60% of all orders in the 1990s. However, the proposed HON/UTX combination ... could have begun a long-term reversal, slowly eroding GE's lucrative engine dominance.

Offensively, the deal also makes a great deal of sense. Honeywell's \$10 billion aerospace business is full of high value businesses, including its \$3b+ avionics business, which has bright secular growth opportunities. HON has a huge installed base in its products and as a result 50% of sales are aftermarket-related. This plays extraordinarily well into GE's service initiative and will allow it to further mine the installed base and leverage its overhaul operations. Additionally, GE is building an aerospace e-business, but since it is only an engine supplier it has to rely extensively on third party parts, which is not allowing it to capture as much value.

Other analysts suggested that GE's superb management systems would improve performance at Honeywell.

### **US Merger Review**

Large mergers are reviewed by antitrust authorities. In the US, proposed mergers are reported to the Antitrust Division of the Department of Justice (DOJ). The DOJ typically focuses on horizontal dimensions of mergers: points of overlap that might give a merged firm a dominant share in some markets. It rarely intervenes in unrelated or conglomerate mergers. Since there were few overlaps in the GE/Honeywell merger, the DOJ approved it with minor changes. On May 2, 2001, the DOJ announced:

[We have] reached an agreement in principle ... resolving the Department's antitrust concerns with the companies' proposed \$42b merger. The merger as originally proposed would have substantially lessened competition in the production of U.S. military helicopter engines and in the provision of heavy maintenance, repair and overhaul (MRO) services for certain Honeywell aircraft engines and auxiliary power units (APUs). The Department is requiring the companies to divest Honeywell's helicopter engine business and to authorize a new third-party MRO service provider for certain models of Honeywell aircraft engines and APUs.

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These were modest concessions to which GE and Honeywell readily agreed.

### **European Merger Review**

The Competition Directorate of the European Commission has jurisdiction over mergers that have a European dimension. In this case, both GE and Honeywell had substantial European business interests. GE, for example, reported European revenues of \$23b in 2000. Under Commissioner Mario Monti, the European Commission had taken an active interest in merger review, including such high-profile “American” cases as Boeing/McDonnell-Douglas and AOL/Time-Warner.

From the start, the European Commission approached the merger differently from the DOJ, focusing on “portfolio” or “bundling” effects. Their concern was that a combined GE/Honeywell would be a major player in aircraft engines, avionics, and airplane leasing, and that this bundle would be more likely to lead to market dominance than the positions in specific markets might suggest. Monti decided to launch an extended investigation into the merger in February of 2001, which observers expected to last several months.

During its investigation, the Commission met with representatives from GE and Honeywell, US antitrust authorities, and competitors. Reports suggested that the Commission remained concerned about the potential competitive effects of bundling. It stated, for example, that GE’s airplane financing and leasing business (GECAS) might be “used to influence the outcome of airlines’ purchasing decisions and act as a promoter of GE [engines]” (*Financial Times*, June 6, 2001). GE was said to have suggested behavioral remedies, including limits on its pricing of bundles or agreements to separate the leasing and engine businesses. The Commission was said to favor divestitures of parts of either the avionics or leasing businesses.

European concern about bundling was one clear difference from the review performed by the DOJ, which focused on individual markets. Another was the Commission’s attention to the welfare of competitors. While US law “protects competition, not competitors,” and focuses on the welfare of consumers, European regulators consult competitors about whether the merged firm is likely to abuse a position of “market dominance.” UTX was among the competitors reported to have expressed concerns to the Commission.

In mid-June, the tension increased as the Commission refused a series of concessions by GE, which then called on its political connections. Representatives of the US government, including President George W. Bush, pressed the issue in public statements and in conversations with their European counterparts. Monti responded: “I deplore attempts to misinform the public and to trigger political intervention. This is entirely out of place in an antitrust case. ... This is a matter of law and economics, not politics.” (*Washington Post*, June 19, 2001.)

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On June 29, Welch told Honeywell it would not agree to further concessions, saying the Commission's proposal "cuts the heart out of the strategic rationale of our deal" (*New York Times*, June 30, 2001). Monti officially vetoed the merger on July 3. The Commission's final decision included this statement (paragraph 355): "[T]he merged entity's packaged offers will manifest their effects after the merger goes through. ... [Other] component suppliers will lose market shares to the benefit of the merged entity and experience an immediate damaging profit shrinkage. As a result, the merger is likely to lead to market foreclosure on the existing aircraft platforms and subsequently to the elimination of competition in these areas." Although GE had the option of filing an appeal, the chance of eventual success appeared slim.

### **Economic Analysis**

The essential difference between US and European antitrust decisions in this case hinged on a subtle piece of economic theory: the impact of a combination of monopoly positions on prices. In theory, this will reduce prices, not raise them, and make both the combined firm and purchasers of its products better off. This curious result was first demonstrated by the French economist Augustin Cournot in the first half of the 19th century.

In the context of the GE/Honeywell merger, we might describe the result this way. Customers (think Boeing and Airbus) buy two complementary components (call them engines and avionics) from two separate monopolies. The two products are complements (an increase in the price of one results in a decrease in demand for the other) because a higher price for one component reduces overall demand for aircraft and therefore demand for the other component. The question is what happens if the two monopolies merge, producing what we might think of as a bundle or portfolio. The obvious part of the result is that the merged firm makes more money than the two firms made separately. The subtle part is that it does so by charging lower prices for both components, which makes the purchasers better off, too. To see why, consider the impact of an increase in the price of engines on the profit of the avionics producer when the two firms are separate. The price increase reduces demand for avionics (remember, they're complements), and therefore reduces the profit of the avionics producer. The combined firm internalizes this adverse impact and therefore has less reason to raise its price. A more formal analysis is given in Appendix A.

Cournot's result does not apply directly to the GE/Honeywell merger, because neither party was a monopoly in any of the relevant markets. In aircraft engines, GE had a substantial presence, but so did Pratt & Whitney and Rolls Royce. In avionics, Honeywell had about half the market, with Rockwell Collins and Thales making up most of the rest. The question is how this changes the analysis. Some economists argued that GE might require bundled products and drive manufacturers of single products out of the market. Critics countered that buyers could demand unbundled products, and that manufacturers of single products could form alliances to form their own bundles.

### **Postscript**

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Honeywell CEO Michael Bonsignore was dismissed shortly after the deal fell apart. After working for 8 months on its integration with GE, Honeywell was left adrift. Welch walked away from the merger, which reinforced his reputation for doing deals only when they made sense for his shareholders.

### **Additional Information Sources**

- European Commission's Competition Directorate:  
[http://europa.eu.int/comm/competition/index\\_en.html](http://europa.eu.int/comm/competition/index_en.html)
- US Department of Justice antitrust: <http://www.usdoj.gov/atr/>
- Barry Nalebuff, "Bundling and the GE-Honeywell Merger," manuscript; prepared for Kwoka and White, *The Antitrust Revolution (Fourth Edition)*, in press. Nice technical summary of the theoretical arguments for and against bundling from an advisor of GE.

### **Questions for Analysis**

- (a) What was the strategic logic for GE to purchase Honeywell? Do you find it compelling?
- (b) Did the European Commission made the right decision?
- (c) What should Jack Welch have done? Should he have pressed ahead for a deal?

### **Notes**

*Mariagiovanna Baccara, David Backus, and Luis Cabral prepared this case for the purpose of class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. The authors thank Chui Chui Lee for collecting information and writing a preliminary draft and Larry White for his usual advice and insight. © 2002 NYU Stern School of Business.*

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## Appendix A Formal Analysis of Bundling

Consider the merger of two monopolies producing complementary products. What is the impact on prices and consumer welfare of a merger that creates a single monopoly? To be specific, suppose the demand functions for the two products are

$$\begin{aligned}q_1 &= a - b_1p_1 - b_2p_2 \\q_2 &= a - b_1p_2 - b_2p_1\end{aligned}$$

and the marginal cost of production is  $c$  for each. If  $b_2 > 0$ , the two products are complements. Note that the model is symmetric, which saves us time and effort later.

*Scenario A (two separate monopolies).* The profit for the producer of the first product is

$$\text{Profit}_1 = (p_1 - c)q_1 = (p_1 - c)(a - b_1p_1 - b_2p_2).$$

Note that profit falls if the other producer increases its price  $p_2$ ; this is the source of the result we document later. To find the price that maximizes profit, set the derivative with respect to price equal to zero:

$$\partial \text{Profit}_1 / \partial p_1 = (p_1 - c)(-b_1) + (a - b_1p_1 - b_2p_2) = 0.$$

The producer of the second product does the same. Since the model is symmetric, we can skip this step and simply impose the condition  $p_1 = p_2$ . The result is

$$p_1 = p_2 = (a + cb_1) / (2b_1 + b_2).$$

It's a little complicated to demonstrate, but this price corresponds to positive quantities only if  $a > c(b_1 + b_2)$ , a condition we hereby impose.

*Scenario B (one monopolist making both products).* Its profit is

$$\text{Profit} = (p_1 - c)q_1 + (p_2 - c)q_2 = (p_1 - c)(a - b_1p_1 - b_2p_2) + (p_2 - c)(a - b_1p_2 - b_2p_1).$$

We set the derivative with respect to  $p_1$  equal to zero:

$$\partial \text{Profit} / \partial p_1 = (p_1 - c)(-b_1) + (a - b_1p_1 - b_2p_2) + (p_2 - c)(-b_2) = 0.$$

By symmetry,  $p_1 = p_2$  and the prices are

$$p_1 = p_2 = (a + cb_1 + cb_2) / (2b_1 + 2b_2).$$

Under the “positive quantity condition” (above), this price is lower than that chosen by separate monopolists. Therefore, a merger combining the two monopolies leads to a

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lower price and leaves the customers of the product are better off (consumer surplus is higher).

*Exercise.* Compute prices and profits for Scenarios A and B for  $a=12$ ,  $b_1=2$ ,  $b_2=1$ ,  $c=1$ . How does your answer change if  $b_2=2$ ?  $b_2=0$ ?