Unbundling the arguments

Economic issues raised by the proposed GE-Honeywell merger

COMPETITION BULLETIN

July 2001

Much comment on the European Commission's handling of the proposed merger between General Electric (GE) and Honeywell centred on transatlantic differences in competition policy. At the heart of these differences has been the potential for product "bundling" on the part of the merged firm, and the likely impact of this upon competition. This bulletin seeks to explain the underlying economics.

The merger between GE and Honeywell would have brought together two major suppliers of a range of complementary products that are used in the production of large commercial aircraft*:*

- GE accounts for around 60% of large commercial aero-engines sales. It also has a strong aircraft-leasing arm (GECAS), which purchases about 10% of all aircraft sold.
- Honeywell accounts for 50% or more of sales of a variety of other products used on such aircraft, including avionics (the cockpit electronics that control the plane), Auxiliary Power Units (the generators powering the aircraft when stationary), and Environmental Control Systems (the complex air conditioning systems used on aircraft).

Where a merger brings together two major companies selling complementary products, it raises questions as to whether the merged firm will choose to sell them in a "bundle", how these will be priced, and what the impact of such behaviour will be on competition in the markets for the different products.[1]

Economic theory explains how product bundling may have both efficiency benefits and anti-competitive effects. It is then an empirical question as to which will predominate. However, much of the academic literature focuses on what is known as "pure bundling", a situation in which a firm sells the complementary products only in a bundle and does not also make them available separately. Yet, for existing generations of large commercial aircraft equipment, it would seem more likely that a merged GE-Honeywell would engage in "mixed bundling" - that is to say, while it would sell the products together as a package, it would also continue to sell them individually.

Pricing with mixed bundling

The existing economic literature on mixed bundling is relatively sparse. Much of the argument, therefore, was focused on the pricing strategies likely to be followed by a merged GE-Honeywell with respect to bundles and individual components, and the potential impact on competitors and competition in the different markets affected.

With the option of mixed bundling available to it, the European Commission's concern was that GE-Honeywell could have been expected to reduce the prices of bundles of its products, relative to the pre-merger "stand-alone" prices of the individual components. There are two reasons why the merged company might be expected to do this:

- **The market-expanding effect.** Suppose firms sell just one product each, X and Y, which are complementary to each other in the sense that the buyers use them together. A cut in the price of product X will then tend to increase the overall demand for product Y, as well as the demand for product X, and vice versa. However, a firm producing only X would gain nothing from increased sales of Y, and would not take these sales into account when setting its price. If firms producing X and Y merged, this "pricing externality" would be internalised, and the new company would be more inclined to increase overall sales by reducing price - in this case, of the bundle of X and Y.
- **The market-stealing effect.** The market-expanding effect depends on the market demand not being perfectly inelastic – that is to say, on general price cuts expanding the overall size of the market for both products. GE and Honeywell hotly contested this assumption in the case of large commercial aircraft equipment. But there is another effect that does not depend on this assumption. It relates not to the impact on the total size of the market, but rather to the merged company's share of sales. By making a price cut contingent on customers taking from it both X and Y, the merged company would sell more units for each additional price cut than both of the two companies would have done prior to the merger. GE-Honeywell would have a greater firm-specific incentive to cut prices to those customers buying both X and Y.

At the same time, the merged firm could have been expected to raise its prices of the individual components, if purchased separately. It would have less to lose from raising these stand-alone prices than the two companies prior to the merger, because a proportion of the single-component customers that is lost by doing so would simply switch to buying its own bundle. A side-effect of higher stand-alone prices for GE-Honeywell's products would be to raise the price of "mix-and-match" systems involving one or more GE-Honeywell components alongside one or more products from rival suppliers.

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[1] The other main issue raised by the proposed GE-Honeywell merger concerned the role and competitive implications of GECAS. This is not discussed further in this bulletin.

Impact on competitors

So how would rival suppliers respond to mixed bundling on the part of GE-Honeywell? The sales of these competitors would clearly be reduced by GE-Honeywell's price cuts for its bundles. Their sales would also suffer as a result of GE-Honeywell's price rises for its stand-alone components, since this raises the price of the mix-and-match systems including their own products.

In response, these competitors would feel the need to cut the prices of their components, in an effort to retain market share. However, because they do not have the benefits of merger described above, they would gain less from price cuts than the merged firm, would therefore cut prices less deeply, and would not succeed in preventing all loss of market share.

This combination of reduced market share and lower prices would hit the profits of GE-Honeywell's competitors. To assess whether this would compromise their viability requires detailed empirical analysis – both of the size of the price cuts and the shifts in sales one would expect to see, and of the costs and the profit margins of the various market participants.

Even if the immediate viability of rivals in supplying existing generations of equipment were not threatened, there remains the question of whether their profitability would be sufficient to remunerate investors at the opportunity cost of their capital. If not, there could be implications for the ability to attract funds in order to make future investments, either in new plant or in R&D, and so for their viability as competitors to GE-Honeywell over the longer term. There could also be knock-on effects if an independent supplier were to withdraw from a particular product market, making it harder for other independent suppliers of complementary products to compete, given the high price of mix-and-match systems involving components supplied by the merged firm.

It is noteworthy that this impact of mixed bundling on competitors and competition does not depend on the merged firm deliberately seeking to foreclose its rivals by acting "strategically". The pricing behaviour described above is based on the merged firm simply seeking to maximise its short-term profits.

Do buyers care?

In the absence of such foreclosure effects, it is far from clear that mixed bundling by a firm selling complementary products would be detrimental for either buyers or overall economic welfare. In this situation:

- some customers would benefit - for example, those who previously purchased X and Y from the two merging firms would enjoy the benefits of lower prices for the new bundle; but
- others might be harmed - for example, those who continue to purchase a mix-and-match system might face higher prices as a result of the increased stand-alone prices charged by the merged firm.

On balance, therefore, the overall impact on consumers or on welfare could be either positive or negative. Detailed modelling is required in order to determine which effect predominates in any particular market circumstance.

With the foreclosure of one or more competitors, the likelihood of damage to both consumers and economic welfare would clearly be greater. This would depend on the extent to which reduced competition for either product X or product Y would enable the merged firm to raise prices, and the size of fixed cost savings.

Rocket science?

Much of the excitable talk in the newspapers about "new bundling theories" was essentially misplaced. The basic economic thinking behind the bundling concerns of the European Commission is well-established, and dates back to Cournot in 1838. Indeed, the underlying principles were not challenged by GE's or Honeywell's economists.

However, the theories in themselves prove little. They simply provide a neutral framework, within which it is possible to establish whether it would be profitable for a merged firm offering complementary products to sell these as a bundle, and to debate the consequences. In practice, any impact assessment will require its own analysis based on the specific characteristics of the markets under investigation. In the case of the GE-Honeywell merger, a large amount of modelling work was undertaken to assess and quantify the likely effects, based on a variety of known facts about the relevant aircraft equipment markets.

In response to the arguments levelled against them, the merging parties' objections related not to the bundling theories themselves, but rather to their applicability to the markets in question and the likely size of any impact. For example, one point of dispute concerned the reliance on bundling models in which a single market-clearing price is set for all customers, given that the industry is characterised by individual price negotiations with both airlines and airframers. Another related to the degree of uncertainty suppliers have about customers' preferences, and its implications for the modelling results.

Implications for future mergers

So what does this case tell us about the likely approach of the European Commission to future conglomerate mergers? Perhaps less than one might at first imagine. On the one hand, the issues explored by the Commission certainly do not imply that all conglomerate mergers involving large market participants will necessarily fall foul of bundling concerns. The GE-Honeywell merger involved a number of particular industry and market features that made specific bundling theories applicable. These will not always hold.

On the other hand, the Commission's analysis does not provide an exhaustive list of the economic reasons why product bundling might be deemed problematic. Its concerns about the proposed GE-Honeywell merger were supported by one particular theory of bundling applicable to the merging parties supplying complementary products. There are a number of other bundling theories that were not investigated, but which might be relevant in other market situations. It remains to be seen whether some of these other "new bundling theories" will influence future merger cases.

Frontier Economics was retained in this case by Rolls-Royce. Please contact Zoltan Biro for more information about Frontier's Competition Policy Practice (on 020 7611 9451 or zoltan.biro@frontier-economics.com).