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LESSONS FROM GE-HONEYWELL FOR NEW EUROPEAN COMMISSION GUIDELINES

The European Commission is considering the introduction of new guidelines for the assessment of vertical and conglomerate mergers to accompany its existing guidelines for the assessment of horizontal mergers. In December 2005, the Court of First Instance upheld the European Commission's decision in 2001 to prohibit the proposed merger between GE and Honeywell, but rejected the Commission's conclusions on the likelihood of the merger leading to anti-competitive conglomerate effects. This bulletin considers the reasons for this finding, and explores the implications for the Commission's forthcoming guidelines and future conglomerate mergers.

The majority of mergers that are subject to regulatory scrutiny involve the bringing together of actual or potential competitors whose offerings are substitutes for one another in the same product and geographic market. In contrast, a conglomerate merger involves the acquisition of products or services in different economic markets. These may be complements in use, in



neighbouring or related markets in terms of common customers or technologies, or altogether unrelated. Such conglomerate mergers do not entail the direct loss of a competitor.

Nevertheless, conglomerate mergers can, in certain circumstances, give rise to competition concerns. Details of the various mechanisms by which conglomerate mergers might be harmful can be found in a recent report by Professor Jeffrey Church of University of Calgary, prepared on behalf of the European Commission.¹ An example, and the focus of this bulletin, would be if the merged firm were provided with new opportunities to engage in business practices, such as product bundling, which have the effect of marginalising competitors and thereby creating or maintaining market power.

THE PROPOSED GE-HONEYWELL MERGER

General Electric Company (“GE”) is a leading global supplier of numerous products and services including aircraft engines, transportation and power systems, and financial services, whilst Honeywell International (“Honeywell”) is active in the global supply of aeronautical products and services, electronic materials, and transportation and power systems. The decision of the European Commission in 2001 to prohibit the proposed merger of GE and Honeywell was considered to be highly controversial at the time and was appealed by both of the merging parties to the Court of First Instance (CFI).

The CFI delivered its judgments in December 2005. It upheld the Commission’s decision to prohibit the merger in three respects: that the merger would create or strengthen a position of dominance as a result of horizontal overlaps between the parties in each of the markets for large regional jet engines, corporate jet engines and small marine gas turbines.

However, the CFI rejected other aspects of the Commission’s reasoning. These related to (i) a vertical link between GE and Honeywell, the leading supplier of aircraft engine starters (a key component in the manufacture of jet engines) to GE’s competitors; (ii) conglomerate effects arising from the extension to Honeywell of the financial strength of GE Capital and the commercial advantages deriving from GE’s aircraft leasing subsidiary, GECAS; and (iii) conglomerate effects arising from the deployment of product bundling practices, particularly in relation to GE’s engines for large commercial aircraft together with Honeywell’s avionics products.

The CFI examined separately three categories of product bundling practice, namely:

- pure bundling, where a company ties the purchase of one product to the purchase of other products for purely commercial reasons;

¹ The Impact of Vertical and Conglomerate Mergers on Competition, Jeffrey Church, September 2004.

- technical bundling, where a company ties the purchase of one product to the purchase of other products for technical reasons; and
- mixed bundling, where a company offers combined purchases of products at a lower price than the price of the individual components.

We discuss below the mixed bundling of GE's jet engines with Honeywell's avionics products.

FIVE BASIC CONDITIONS

Five basic conditions are commonly accepted as necessary for a conglomerate merger to have detrimental effects on competition and consumers, as a consequence of providing the merged firm with exclusionary product bundling opportunities.²

1. **Market power and imperfect competition.** At least one of the merging parties will need to enjoy a considerable degree of market power. Moreover, both of the affected markets must be imperfectly competitive, by which is meant an oligopolistic market structure characterised by fixed costs and barriers to entry.
2. **Ability to use.** This will typically require that the products in question are purchased by the same customers. The two affected markets must be related on the demand or the cost side, so that the merger would provide the firm with a new competitive tool.
3. **Incentive to use.** It is necessary to establish whether the merged firm would have the incentive to use this tool, which amounts to understanding whether this would be profitable. A distinction is made between "strategic" and "non-strategic" behaviour. "Strategic" behaviour is defined as conduct that is profitable only if its effect is to foreclose competitors; "non-strategic" behaviour as actions that maximise profits irrespective of whether the effect is to foreclose rivals.
4. **Non-reproducibility.** It must not be possible for the new competitive strategy or tool to be replicated by rival firms in an equally effective manner, for example by entering into teaming arrangements.
5. **Foreclosure of rivals.** Rivals to the merged firm would have to be foreclosed from the market as a result of the conduct in question. Here foreclosure has two necessary components: (i) the profits of rival firms must be reduced as a consequence of the new strategy or tool used by the merged firm and (ii) this reduction in profits must affect their future behaviour, for example by deterring investment in product development or capacity expansion, so that competition is lessened.

These necessary conditions were recognised by the CFI in its competitive assessment of the proposed merger.

² See, for example, OECD Roundtable on Portfolio Effects in Conglomerate Mergers, Issues Paper, Secretariat to the Committee on Competition Law and Policy, 02/10/2001.

ABILITY AND INCENTIVE

The CFI upheld the Commission's finding that, prior to the merger, GE was in a dominant position on the market for large commercial jet aircraft engines and Honeywell was the leader on several markets for avionics products. It then began its competitive assessment by identifying which transactions and products the Commission's mixed bundling theory was relevant to.

The CFI identified practical barriers to the ability to bundle, as the end buyers of GE's and Honeywell's offerings sometimes differed and sometimes purchased the products at different stages in the design and manufacturing process. In some instances, the airframe manufacturer might choose only one engine type, but offer the airline customer a choice of avionics options, and at times the choice of engine supplier would occur early in the design of a new aircraft, whereas the choice of avionics suppliers would take place at a later stage. However, the CFI concluded that the merged firm would have the ability to engage in mixed product bundling practices on certain transactions.

The CFI then made clear that the Commission needed to establish that the merged firm would not only have the capability to engage in mixed product bundling practices but also, on the basis of convincing evidence, that it would have been likely to do so; in other words, that it would have the incentive to behave in that way. In assessing whether future conduct on the part of the merged entity giving rise to anti-competitive effects was likely, the CFI emphasised that not only the incentives but also the disincentives to behave in such a way should be taken into account. This included the likelihood that the behaviour in question would be found to be illegal, as an abuse of a dominant position, under Article 82 of the EC Treaty.

The CFI identified that the Commission had employed three lines of reasoning in support of the contention that the merged firm would have an incentive to engage in mixed product bundling. It made clear that any one of these arguments, if well-founded, would in itself have been sufficient to support the Commission's views. However, it concluded that the Commission had failed to provide sufficiently convincing evidence.

1. Previous practice

The Commission stated that the merging parties, in particular Honeywell, had engaged in product bundling practices on the relevant markets prior to the merger. However, the CFI found that the majority of these examples related to Honeywell offering bundles of avionics and non-avionics products, rather than avionics products and aircraft engines, and hence were of limited relevance.

2. Strategic objectives and internal documents

The Commission argued that the merged entity's strategic objective would be to increase its power on the markets in which it was present. Consequently, it would have an incentive to engage in "strategic" practices specifically in order to foreclose rivals, even where such practices were not a profit-maximising strategy in the absence of foreclosure. The CFI commented that the onus was on the

Commission to present convincing evidence that the merged entity would in fact engage in such conduct, sacrificing profits in the short term with a view to reaping larger profits in the future. It noted, by way of example, that internal documents showing that GE's Board of Directors had that objective on the launch of their bid to acquire Honeywell might have constituted such evidence. In the absence of evidence to this effect, the Commission's hypothesis was found to be a possible sequence of future events, but not necessarily a likely one.

3. Economic theories and models

The CFI noted that the Commission, in the Statement of Objections sent to the merging parties, had used an economic model that was developed (on the basis of data specifically related to the case) by Professor Choi on behalf of Rolls-Royce, a rival jet engine supplier. The CFI also noted that while the Commission had not relied upon this, or any other, economic model in its final decision, it had not completely disassociated itself from the model in the course of the appeal proceedings. It was therefore necessary to consider whether, in the absence of such an economic model, the Commission had established that the merged entity would have an incentive to engage in mixed bundling.

The Commission argued that the economic theory of mixed bundling predicted that the merged firm would have the incentive to engage in the bundling of complementary products, such as engines and avionics products, for "non-strategic" reasons. According to the Commission, there was therefore no need for it to rely on a specific economic model in that regard.

The CFI commented that the economic theory to which the Commission referred was the subject of controversy amongst economists. Two economic models had been presented to the Commission during the administrative proceedings – one by Professor Choi on behalf of Rolls-Royce, and another by Professor Nalebuff on behalf of Honeywell – with differing conclusions regarding the incentive for the merged firm to engage in mixed bundling.

The CFI did not review the merits of the conclusions drawn from these models, but instead concluded that the fact that there was a dispute amongst economists meant that the Commission could not simply presume that the incentive to engage in mixed bundling of complementary products existed, without a detailed economic analysis of the particular circumstances. So the CFI found that the Commission's reasoning was insufficient to establish that incentive existed.

EVIDENCE REQUIRED

The overall theme of the CFI's assessment was that it is not enough for the Commission to put forward hypotheses about the nature of post-merger conduct. The Commission must also provide convincing evidence to support its hypotheses, of two kinds.

- **A logically-constructed economic theory.** The hypothesis of competitive harm must be well-constructed and in line with economic theory.

○ **Robust evidence on the key empirical aspects identified by the theory.**

The theory of competitive harm must be shown empirically to be relevant to the case at hand.

The various mainstream economic theories of product bundling are described in Professor Church's report. In this bulletin, therefore, we focus on the types of evidence that would be required in order to establish the relevance of a particular economic theory, drawing on the CFI's evaluation of the GE-Honeywell case, starting with previous practice and internal documents.

○ **Previous practice.** It may often be difficult to find evidence of previous practice by the merging parties because any competitive harm from a conglomerate merger may arise from the deployment of a tool or strategy that was previously unavailable to the firms pre-merger.

○ **Strategic objectives and internal documents.** Similarly, one would not expect sophisticated, well-advised firms typically to generate "smoking gun" documents indicating anti-competitive motivations for proposed mergers, such as board papers revealing the intention to foreclose rivals.

The alternative types of evidence that were identified by the CFI may not, therefore, exist in many conglomerate effects cases. The implication is considerable weight may need to be attached to economic analysis in the form of logically constructed theories that are supported empirically, perhaps using relevant economic models. This raises the question of how conclusive such economic analysis is ever likely to be, compared with the standard of proof that the CFI has outlined as being necessary in conglomerate effects cases.

THE USE OF ECONOMIC MODELS

The GE-Honeywell case was unusual in that, in the administrative proceedings, various participants presented theoretical economic models of mixed bundling to support their arguments, based on rigorous mathematical treatment of the issues. These models were intended to provide insight into the incentive for the merged firm to engage in mixed bundling, and the extent to which this practice might be expected to impact on the profitability of GE's and Honeywell's rivals. This led to a heated debate of a technical economic nature. But the details of this debate are not recorded in either the Commission's decision or the CFI's judgments. The box opposite therefore provides a summary.

A TALE OF TWO MODELS

During the Phase II proceedings in the GE-Honeywell case, Rolls-Royce presented a mixed bundling model by Professor Jay Pil Choi of Michigan State University and Frontier Economics. This model, calibrated on the basis of basic industry features, concluded that the merged firm would have the incentive to engage in the mixed bundling of complementary products such as jet engines and avionics, and that this would result in sizeable profit impacts on rivals. The incentive arose from two different mechanisms:

- **The Cournot effect.** Where a firm sells two complementary products, this gives it an incentive to lower the price of both products compared to the prices that two separate firms, each selling only one component, would charge. This is because, when the price of the first product is lowered, sales of the other product are increased, and vice versa. By selling both products as a discounted bundle, the merged firm can “internalise” this effect, by benefiting from the effective price reduction on each product through increased sales of the other product, with no danger of these additional sales leaking out to rival suppliers.
- **Price discrimination.** Mixed bundling is a means to price discriminate between those customers who have a strong preference for one of the merged firm’s two products (and will pay a higher stand-alone price), and those who are more indifferent between the firms’ products and those of its rivals (and can be wooed with a discounted bundle price).

Honeywell then presented a mixed bundling model by Professor Barry Nalebuff of Yale University. He criticised the Choi model for operating on the assumption that prices were set at the same level across all customers, and argued that a more realistic assumption was that prices were set individually. In this set-up, there was no Cournot effect as it was assumed by Professor Nalebuff that there would be no change in the overall volume of sales through price cutting, and the motivation for mixed bundling - if any - would be purely through price discrimination.

The Nalebuff model identified that a key parameter of interest was the level of uncertainty that the merged firm has about the size of its competitive (dis)advantage over rivals in negotiation with a particular customer. The base case presented was the situation of “perfect certainty” – the merged firm knew exactly how much more/less than its rival it could charge a particular customer, and the practice of mixed bundling therefore provided no further value. However, the Nalebuff model also showed that, once a small amount of uncertainty was introduced, the ability to price discriminate was no longer perfect: mixed bundling improved the ability of the merged firm to price discriminate.

In response, Choi/Frontier argued that perfect certainty was an extreme assumption, at odds with economic bargaining theory, and that the level of uncertainty that Professor Nalebuff had chosen was unrealistically small. It was shown that, when an arguably more realistic level of uncertainty was used in the Nalebuff model, similar results were obtained to those of the Choi model. The merged firm has an incentive to engage in mixed bundling, and the profit impacts on rivals are of a similar magnitude to those found in the original Choi model.

The Commission decision and the CFI judgments did not review the relative merits of these models and their conclusions. However, lessons can be learnt from the GE-Honeywell case, as to the value and the role of economic modelling in conglomerate effects cases.

- Economic theory shows that the incentive for firms to engage in mixed bundling, and the resultant profit impacts on rivals, is highly sensitive to the specific market context. Analyses based on theoretical arguments alone will therefore typically be inconclusive without empirical substantiation.
- All models are simplifications of reality, and over-reliance on a mathematical model may therefore be problematic. This applies to conventional horizontal merger simulation models as well as to conglomerate merger models.
- More helpfully, the use of formal mathematical models can highlight the specific market features and factual considerations that are of greatest relevance to determining whether a conglomerate merger will be expected to lead to detrimental competitive outcomes. Without such formal modelling, in some cases the relevant issues may not surface.

For example, in the GE-Honeywell case, the economic modelling debate exposed the fact that a key empirical factor determining the incentive for the merged firm to engage in mixed bundling practices in the context of individual customer negotiations is the level of uncertainty it would face about the preferences of customers in relation to the relative merits of different suppliers' offerings. The implication is that, whilst a model is rarely an end in itself, the use of economic models may allow one to identify the key empirical debates.

CONCLUSION

The European Commission is considering the introduction of guidelines for the analysis of vertical and conglomerate mergers to accompany its existing guidelines for the analysis of horizontal mergers. The CFI overturned the Commission's assessment of conglomerate effects in GE-Honeywell, not on the basis that such effects are theoretically unsupported or inherently far-fetched, but on the lack of convincing evidence put forward by the Commission that its theoretical concerns were not just a possible outcome, but a likely outcome. We have argued that economic models may be a necessary part of any evidence base in the future, if conglomerate effects cases are to be pursued by the authorities, as other types of relevant evidence may often be scarce. We have also suggested that the most appropriate use of economic models should be to provide guidance as to the key empirical facts to be explored in order for the merits of a case to be decided one way or the other.

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