The analysis of conglomerate effects in EU merger control

By

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Abstract

This paper discusses the analysis of anti-competitive effects that arise across different antitrust market with a particular focus on the EU practice. We review the various anti-competitive effects that have been alleged by the Commission in conglomerate mergers and review the economic literature on those practices. We identify four minor concerns that we briefly analyze, namely the prospect that merging parties will enjoy economies of scale and scope as a result of being active in several market, the prospect that buyers will enjoy economies of scale and scope because their supplier is active in several markets, the prospect that strong brands belonging to the merging parties will provide spillover benefit from to their weaker brands and finally the concern that the merging parties may exploit the substitution between products belonging to separate anti-trust markets or reduce potential competition. Except for the concern about potential competition, we find little support in the literature to suggest that these practices raise significant anti-competitive issue. We also identify a major concern, namely the prospect that firms will makes sales of one product contingent on the sales of others through practices like bundling, tying or full line forcing. We review the relevant economic literature and attempt to contribute to the further development of policy in this area, in light of the standard of proofs recently affirmed by the Court of First Instance and the Court of Justice. We suggest that the Commission should only be concerned with cases involving the absence of effective competition in at least one market, a substantial overlap in customers across markets and markets of similar sizes. We further suggest that the Commission could possibly focus on two sets of circumstances which can be potentially be identified empirically for which anti-competitive effects are most severe. These involve a potential softening of competition (when in the absence of strict complementarity, the market for the tying good is segmented and competition for the tied good is intense) and exclusion (when the products are strict complements, the merging firms has a strong incentive to exclude and when exclusion in enhanced by some dynamic effects).

1. Introduction

This paper is concerned with the analysis of "conglomerate" effects in merger control, that can, roughly speaking, be seen as anti-competitive effects that arise across different antitrust markets[1]. Concerns about conglomerate effects have been raised by the Commission for some time. They appear for instance in early decisions like *Tetra Pak/Alfa-Laval* and it was a motive behind the first (ever) prohibition of a merger in *ATR/de Havilland*. A number of prohibitions in the EU have however recently been based almost exclusively on conglomerate effects (in particular *Tetra Laval/Sidel*[2] and *General Electric/Honeywell*). In other cases, significant remedies, involving divestitures, have been imposed by the Commission in order to alleviate concerns of conglomerate effects (for instance in *Guinness/Grand Metropolitan* or *SEB/Moulinex*). Decisions on both *Tetra Laval/Sidel* and *General Electric/Honeywell* have been appealed. In the case of *Tetra Laval/Sidel*, the Commission decision has been annulled by the Court of First Instance (CFI). The decision by the CFI has been further appealed to the European Court of Justice (ECJ) by the Commission. The Court has not only reaffirmed the decision of the CFI but has also made important pronouncement on the standards of proof and review that should apply in merger control decisions and specifically in cases where conglomerate effects have been alleged. *General Electric/Honeywell* lead to bitter exchange between the EU and US authorities, which had cleared the deal[3]. The decision was confirmed by the CFI but importantly, the analysis of the conglomerate effects undertaken by the Commission was annulled (and the prohibition thus eventually rests on minor horizontal overlaps). In all of these instances, the economic analysis undertaken by the European Commission has been a central element of the controversy whether in Court or in public debate.

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[1] What is meant by "conglomerate" effects will be discussed in details below.

[2] The author acted as an advisor to Tetra Laval in this case. The discussion of the case throughout the paper relies solely on public information.

[3] See Grant and Neven (2005) for a detailed account.

Time would therefore seem to be ripe to take stock of these developments[4]. The paper will thus consider the various anti-competitive effects that have been alleged by the Commission in conglomerate mergers and review the economic literature on those practices. The objective of the paper is to contribute to the development of a policy towards conglomerate effects; to that effect, we will seek to identify the circumstances where the anti-competitive concerns raised by the Commission are likely to be severe and discuss whether those circumstances can be identified empirically. We will also aim at identifying the elements of proof that can be gathered in order to meet the standards of proof that have been established by the ECJ. This entails a discussion of whether the prior towards particular practices should be such that they should be considered to be neutral as well as a discussion of the circumstances in which these practices could be anti-anticompetitive and the elements of proofs that can be deemed sufficient to establish these circumstances prevail.

Section 2 provides an overview of the anti-competitive concerns that have been raised by the Commission under the label of conglomerate effects. We will identify four minor concerns that we will briefly analyze, namely the prospect that merging parties will enjoy economies of scale and scope as a result of being active in several market, the prospect that buyers will enjoy economies of scale and scope because their supplier is active in several markets, the prospect that strong brands belonging to the merging parties will provide spillover benefit from to their weaker brands and finally the concern that the substitution between products belonging to separate anti-trust markets could be exploited by the merging parties or that the merger would affect potential competition. We will also identify a recurrent concern, namely the prospect that firms will make contingent sales through practices like bundling, tying or full line forcing. This will be discussed in section 3. Section 4 attempts to develop some standards of proof towards concerns of these practices. Section 5 concludes.

[4] In the recent past, the Commission has also taken high profile decisions under Art. 82 ECT on practices that are similar to those alleged as conglomerate effects in merger control cases. The issue of bundling and tying, in particular, has been prominent both in the *Microsoft* case as well as in *Tetra Laval/Sidel* and *General Electric/Honeywell*. This provides a benchmark for comparison and raises the issue of how the standard of proof regarding a given practice should differ according to the perspective at hand, namely ex post (under Art. 82 ECT) and ex ante (under the merger regulation). A discussion of this issue however goes beyond the scope of this paper.

2. Overview of the case law

Since there is no standard definition of conglomerate effects, a simple taxonomy will prove useful at the outset. Both unilateral and coordinated effects take place within a given antitrust market (i.e. a set of products that substitute for one another to a sufficient degree that a firm controlling them could significantly raise price above the competitive level). By contrast, conglomerate effects take place across different antitrust markets.

In principle, products that do not belong to the same antitrust market, could be complement, independent in demand or "weak" substitute. Weak is understood here as meaning that the substitution between the products is not strong enough to place them in the same antitrust market. Such weak substitutes are often referred to as products which belong to "neighboring" markets. Hence, if a broad definition of conglomerate effects is adopted, such that potential anti-competitive effects span the whole range of possible demand relationships and conglomerate effects are taken as a residual category, they could involve all three types of circumstances (complements, weak substitutes and independent in demand). Conglomerate effects can thus be thought of as "indirect" effects, by contrast with the direct effects that take place within antitrust markets. Importantly however, such indirect effects will only take place if there are common buyers. In the absence of any common buyers, there is no relationship between the products from the prospective of the seller and thus no anti-competitive effect[5].

There is a specific type of competitive relationship that deserves attention, namely when it involves complements that are packaged together for resale to final users. Mergers involving such products are referred to as vertical mergers. Indeed, the product of a manufacturer and the service of a distributor are complements which are offered jointly

[5] When products are substitute or complements, one can expect that common buyers will exist. This is not necessarily the case when products are independent in demand; for instance, there may not be common (direct) buyers of steel and toothpaste but there may be common buyers of batteries and toothpaste (assuming that these products are independent in demand). Rather confusingly, the term "conglomerates" often refers to companies that sell products that are completely unrelated and sold to different customers. Anti-competitive conglomerate effects can thus not arise from "conglomerates".

to final users. Anti-competitive effects arising from vertical integration have a long tradition in antitrust and are typically analyzed separately from conglomerate effects. The main concern here relates to a potential foreclosure downstream such that distributors do not have access to the product of the manufacturer, or upstream such that manufacturers may not have access to distributors.

Overall, this taxonomy indicates that conglomerate effects could involve products in neighboring markets, products independent in demand as well as complements which are sold independently to final users (or at least can be sold separately). In what follows, we will also adopt the convention that weak substitutes include products independent in demand (as a limit case) and thus focus on products that are either weak substitutes or complements.

It is worth considering how this taxonomy relates to the Commission's own approach towards conglomerate effects. The Commission has proposed a definition of conglomerate mergers in a submission to the OECD (OECD, 2002). This definition has also been adopted by the CFI in its judgment on *Tetra Laval/Sidel*. It reads as follows:

> "Conglomerate mergers are mergers between firms that have no existing or potential competitive relationship either as competitors or as suppliers or customers. Under some circumstances, conglomerate mergers may raise competitive concerns where the merging firms are suppliers of complementary, non competing but closely related products requested by the same set of customers"

This definition would appear to exclude vertical mergers (complements repackaged for final users which involve supplier or customer relationships) as well as mergers involving firms selling products within the same relevant markets ("competitors") and from this perspective, it is consistent with the taxonomy developed above. However, it would also appear to focus solely on "complements", and exclude weak substitutes, at least if "complementary" is taken as a synonym for complement.

In the same submission, the Commission develops further what is meant by complementary products: the EU distinguishes between technical complements ("when one product cannot function without the other"), economic complements ("products that are consumed together like milk and coffee"), and commercial complements ("when they form part of range which downstream agents, such as multiple retailers, need to carry"). This statement clarifies a potential misunderstanding and makes it clear that the Commission's approach is consistent with the taxonomy developed above – such that conglomerate mergers involve weak substitutes or complements sold to final users.

A comment on what is referred to by "portfolio effects" may also be appropriate; even if it is sometimes taken as a synonym for conglomerate effects, it would seem to relate to most often in the case law to products that are weak substitutes[6].

Let us now turn to the case law. It is not our ambition to provide a comprehensive account of the cases in which conglomerate effects have been considered but rather to provide a reasonably complete overview of the type of anti-competitive effects that have been raised by the Commission. Besides the cases mentioned above, (*Tetra Laval/Sidel*, *GE/Honeywell*, *Tetra Pak/Alfa Laval*, *ATR/de Havilland*, *SEB/Moulinex*, *Guinness/Grand Med*) the most prominent cases involving conglomerate effects would seem to include *Coca Cola /Carlsberg*, Coca *Cola /Amalgamated beverages*, *Pernod Ricard/Diageo/Seagram*, *Akzo Nobel/Hoechst Roussel Vet, Procter&Gamble/Gillette and Johnson&Johnson/Guidant. .* Hopefully, these cases will faithfully reflect the range of issues raised by the Commission[7].

It would appear that the Commission has raised five different concerns. Four of them can be characterized as relatively minor, both in terms of frequency, and in terms of the importance that the Commission has attached to them. As discussed below, economic

[6] The Commission and commentaries also use the term "range" effects, as a synonym for portfolio effects.
[7] We have searched all published decision for various keywords (conglomerate, range, portfolio) and considered all decisions uncovered by this method. The set of decision that we focus on is meant to reflect the competitive effects mentioned in those decisions.

analysis also confirms that one should possibly not pay too much attention to these concerns. The fifth one, namely the prospect that the merged entity will make contingent sales has been the main reason behind prohibitions and also received a lot of attention in the economic literature. We consider these issues in turn.

2.1 Four minor issues

Concerns have been raised about the prospect that merging parties will enjoy economies of scale and scope as result of being active in several markets, the prospect that buyers will enjoy economies of scale and scope because their supplier is active in several markets, the prospect that strong brands belonging to the merging parties will provide spillover benefit to their weaker brands and the prospect that merging parties will exploit the residual substitution between weak substitutes or prevent the development of potential competition.

(i) Economies of scale and scope in supplying products in neighboring markets

This can be found for instance in *Coca Cola/Amalgamated beverages* (at § 149):

> "A further strength of CCSB is the large volume throughput generated by a combination of Coca-Cola and the other brands in its portfolio which enables CCSB to take advantage of economies of scale in purchasing, production and distribution. For example CCSB's Wakefield plant, the largest in Europe, produced nearly [. . .] litres in 1995 (about [. . . %] of CCSB's total production), whereas Britvic's total output from all its plants in 1995 was [. . . of approximately the same magnitude]. In addition, the large volumes enable CCSB to deliver products to customers at a lower transport cost per unit."

Similar concerns have been expressed in *Guinness/Grand Med* and *Coca Cola/Carlsberg*.

(ii) Economies of scale for the buyers of products from neighboring markets

This can be found for instance in *Coca Cola/Carlsberg* (at § 69) :

> "In Denmark, beer and packaged water are often co-distributed with CSDs. This is an advantage for both the brewer and the customers…For customers, it is an advantage to buy a complete portfolio from one supplier, since it involves fewer deliveries"

This is echoed for instance in *Coca Cola/Amalgamated beverages, Guinness/Grand Med* and *Lagardère/Natexis/VUP*. However, in the more recent *Procter&Gamble/Gillette* decision, the Commission explicitly considered efficiencies as a defence (at §131)

Concerns about economies of scale or scope either for the merging parties or the buyers will of course make the merging parties more competitive and put additional pressure on competitors. However, one can certainly not presume that buyers will suffer.

There is a very limited literature which examines whether efficiencies that accrue to merging parties can hurt consumers. Motta and Vasconcelos (2005) consider an industry in which firms which control a larger share of industry capital enjoy lower marginal cost. Firms sell homogenous products and compete à la Cournot. They find that there is a range of efficiency benefits for the merging parties such that consumers would be hurt. This only arises if competitors exit from the market as a result of the merger. Exit is however a necessary but not a sufficient condition (efficiency benefits can be so high that consumers gains despite the facts that competitors exit and that their capital becomes idle[8]).

These insights from Motta and Vasconcelos (2005) would seem to apply in circumstances where products belong to neighboring markets. The prospect that competitors may be led to exit is also more remote in those circumstances. Hence, there is clearly a presumption

[8] They assume that capital is fixed but that a fixed capital cost is incurred per period (so that exit can be induced and capital can become idle). Under the alternative assumption that capital is sunk, exit would not take place and prospect for an efficiency offence would be even less.

that efficiencies for merging parties should not be seen as an antitrust offence. This presumption can only possibly be overturned if it can be shown that competitors would exit. There was no claim to that effect in the cases mentioned above.

(iii) Spillovers benefits from strong to weak brands in neighboring markets

An example of this can be found in *Guinness/Grand Metropolitan* (at § 99) in which it is suggested that the presence of strong brands will :

> "allow GGM to reposition their weaker brands upwards by expanding their share at the expense of competing brands.. The parties have argued that such pull through effect has not occurred in the past and is accordingly unlikely in the future. However, this argument ignores the substantial increase in the parties' market share and resources that the merger will create".

Such "pull trough" effect from strong to weak brand has been analyzed by Rabassa (1999). She considers a model in which firms initially invest resources in order to enhance the quality of their products and subsequently compete in prices. She finds that a merger in such circumstances may affect the incentive to invest in upgrading the quality of the brands, if the merging parties have strong pre-existing positions (i.e. when the merging parties sell higher qualities before the merger). Relative to a situation in which qualities are exogenous, the equilibrium qualities and market share for the merging parties are higher and the profit of competitors is lower. These results are however sensitive to the specification of the link between upfront investment and quality which is assumed. The effect on consumers surplus can also be expected to be ambiguous (relative to the counterfactual in which qualities are exogenous), as consumers gain from the increase in quality.

Overall, there cannot be a presumption that a "pull through" from strong to weak brands can have significant anti-competitive effects, let alone that firms will have an incentive to implement it. More generally, this is also a concern about the effect that a merger can

have on marketing strategies. Those normally stay out of the radar screen of antitrust authorities because of their ambiguous effect on consumer welfare. This wisdom should presumably apply, a fortiori, to the effect that a merger can have on marketing strategies.

(iv) Residual substitution and potential competition between products in neighboring markets

This concern was expressed in *Tetra Laval/Sidel* . The Commission first found that the carton packaging machines (sold by Tetra Laval) and the machines used to form polyethylene terephthalate (PET) bottles (sold by Sidel) were substitute for one another, as buyers would see them as alternative packaging methods for some types of liquid. After an extensive investigation, the Commission found that substitution was sufficiently weak to place these products in different (but neighboring) antitrust markets. The Commission was still worried about the effect of the merger on carton machines (at § 330) :

> "By acquiring Sidel, Tetra would ensure that its dominant position in aseptic carton was retained and strengthened by eliminating Sidel as a source of competitive constraint"

These statements can be seen a concern for unilateral effects across different antitrust markets. As such, it appears to be in contradiction with the delineation of the relevant market in the first place; if products are deemed to belong to different markets, it is because a hypothetical monopolist would not be in a position to significantly increase price if it controlled both. This will, a fortiori, be the case for a firm which does not enjoy a monopoly position.

The cross-price elasticities which are relevant to determine the antitrust market will still differ from those that will be relevant to determine the optimal price increase after the merger. If the delineation of the market started with carton, the own price elasticity of demand for carton is equal to sum of the elasticities of demand for substitutes with

respect to the price of carton. After the merger, the optimal price increase for carton equipment will be affected by both cross-price effects (the elasticity of demand for carton with respect to the price of substitutes will also matter). This should however be seen as a second-order effect (cross price effects are often assumed to be symmetric). Its importance is unlikely to compensate quantitatively for the fact that a firm which does not enjoy a monopoly position will increase price by less than a hypothetical monopolist.

The Commission also expressed concern about the development of competition between carton and PET. At § 331

> "Absent the merger, Tetra would have to compete vigorously in order for carton not to lose market share to PET by innovating…and lowering carton prices. The merger would eliminate this competition and enable Tetra to monitor and anticipate any switch from carton to PET"

Leaving aside the question of whether the Commission produced convincing evidence in support of its claim, the concern about potential competition is well taken. It also highlights the fact that the horizon which is relevant for market definition may be different from the horizon which is relevant for the analysis of competition.

2.2 Contingent sales

This concern has been expressed in different forms. There is a generic concern expressed about "must stock" brands as well as more specific concerns outlined in *Tetra Laval/Sidel* and *GE/Honeywell*.

(i) Must stock brands

A "must stock" brand, according to the Commission, is a brand over which the supplier enjoys some market power, so that retailers can hardly avoid listing them[9]. When the

[9] See for instance, the EU submission to the OECD, page 241 (OECD, 2002).

merging parties control such brands, they might, according to the Commission, make "implicit or explicit threats of refusing to supply them" in order to impose weaker brands or avoid delisting them. In addition, they will have "greater flexibility to structure prices, promotions and discounts" across brands. It might allow the merging firms to use "overrider" discounts, i.e. "discounts granted retrospectively on the basis of volume targets to be achieved over a certain period", so as to encourage retailers to purchase the largest possible volume. As a result of these strategies, competitors will, according to the Commission, be "foreclosed" and "marginalized". These concerns have been expressed in many cases including *Coca Cola /Amalgamated beverages, Coca Cola/Carlsberg, Guinness/Grand Med, Nestlé /Coca Cola, Scottish /Newcastle*, *SEB/Moulinex*, *Newell /Rubermaid, Pernod/Diageo/Seagram* and *Procter&Gamble/Gillette.*

A review of these cases confirm that anti-competitive effects are more likely when must stock brand are relatively important; as indicated in *SEB/Moulinex*, the combined turnover in markets where the merging parties sell must stock brands must exceed 35% of their turnover across all neighboring markets. One can presume that in the Commission's perspective, the refusal to supply will otherwise not be sufficiently costly for the distributors to accept weaker brands.

The Commission has also expressed the view that, conversely, merging parties would not be able to exercise market power (even with very high market shares) in "small" markets, such that the combined turnover of the merging parties is less than 10% of their overall turnover in the country concerned (*SEB/Moulinex*). Presumably, in the Commission's view, retailers would be able to credibly threaten the merging parties of delisting their products if the merging parties would increase price[10]. In the recent decision on

[10] This argument was challenged in court by competitors, who prevailed (*BaByliss vs Commission*, case T-114/02, 3 April 2003). The CFI held that the Commission has not established its position to the requisite legal standard (see § 362-363). The CFI did not question the economics of the argument but considered that the retailers would effectively prevent the merging parties from abusing their dominant position (rather than preventing the combined entity from achieving this dominant position). Since, the CFI reasoned, the merger regulation prohibits the creation of a dominant position, and not its abuse, the argument could not be accepted. This reasoning seems to imply that firms cannot achieve high market shares even if it does not enable them to increase price. This is odd and hopefully it is the sort of reasoning that will no longer be feasible with the new merger standard (which focuses on whether effective competition is impeded).

Procter&Gamble/Gillette, the Commission has also analyzed in detail the power of retailers that may arise from the control of shelf space, the introduction of private labels or the sponsoring of entry.

Finally, the Commission has considered that anti-competitive effects are unlikely in the presence of strong competitors, in particular competitors with a matching portfolio of brands.

The anti-competitive strategies identified by the Commission with respect to must stock brands can be understood as tying or full line forcing by firms facing retailers with some buyer power[11]. The literature on those practices will be reviewed in the next section.

(ii) *Tetra Laval/Sidel*

As mentioned above, the Commission found that carton packaging machines and PET packaging machines belonged to different antitrust markets. Tetra Laval held a dominant position in the carton packaging segment whereas Sidel held a "leading" position (around 60 %) in one segment of the PET packaging market, namely the market for Strech-Blow-Moulding (SBM) machines. The Commission focused on the so-called sensitive markets for which both carton and PET packaging are used (namely juice, fruit flavored drink, tea and coffee based drinks and milk). The use of PET in those markets was small (in particular for milk and juice – the two important segments in quantitative terms) but was expected to grow and it accounted for about 5 % of total PET sales (see figure 1 for an overview of the packaging market).

The Commission expressed concern that Tetra Laval would leverage its position from carton to SBM machines in the following terms (§ 364-365) :

[11] The practice of « overrider » discounts can also be understood as an instance of tying. Effectively, the contestable sales are being tied to the sales of the must stock brands. See Ridyard (2003) for a discussion of this.

> "Leveraging its dominant position in aseptic carton in a number of ways, Tetra/Sidel would be able to marginalize competitors and dominate the PET equipment market, in particular SBM machines. Tetra/Sidel would have the ability to tie carton packaging and equipment and consumables with PET packaging equipment and, possibly, preforms (in particular, barrier-enhanced preforms). Tetra/Sidel would also have the ability to use pressure and incentives (such as predatory pricing or price wars and loyalty rebates) so that its carton customers buy PET equipment and, possibly, preforms from the Tetra/Sidel and not from its competitors or converters.
>
> Many customers who will continue to need carton packaging for part of their production needs could be forced or provided with incentives to source both their carton and PET equipment from a single supplier of carton and PET packaging equipment. Customers having long-term agreements with Tetra for the carton packaging needs will be particularly vulnerable. Tetra may offer them renewed contract terms allowing them to switch part of their production to PET provided they take PET equipment and services from Sidel or customers may be dependent on Tetra through long term contracts (most customers will not make a complete switch from carton so will continue to need Tetra in the carton field). In this way, Sidel's position in PET equipment and in particular SBM machines would be enhanced in all the new PET product segments (LDPs, juice, still drinks and tea/coffee drinks)."

The strategy described by the Commission here would seem to involve the sale of carton machines at a discount if customers would also buy SBM machines from Sidel. Given the large number of customers who are not interested in SBM machines, one would also expect Tetra Laval to also sell carton machines on a stand alone basis (this was not explicitly confirmed by the Commission). The Commission acknowledged (§ 367) that Tetra Laval /Sidel would continue to sell SBM machines on a stand alone basis but claimed that it would be able to discriminate between end users. Leaving aside the question whether Sidel is indeed able of discriminate across segments (this was highly

disputed), the Commission seemed to envisage that Tetra Laval/Sidel would focus their sale of SBM machines to non sensitive segments, and hence that the tied good would not be sold on a stand alone basis for the sensitive segments. Importantly, the tying and tied good can be described as "weak substitutes". It is also striking that the Commission brought little evidence forward to show that the strategy would take place (i.e. would be profitable) and would be harmful. The Commission only focused on the existence of a common pool of buyers and for the rest, summarily dismissed the arguments of Tetra Laval suggesting that tying the sales of carton and SBM machines would not profitable or anti-competitive. In other words, the Commission focused on the ability to tie the sales and hardly considered the incentives to do so.

(iii) *GE/Honeywell*

The Commission found that General Electric had a dominant position in the market for Large Jet Aircraft engines, with a market share between 43 and 65 % depending on how market share is calculated. Honeywell was found to have a leading position in the avionics and non avionics airspace component markets.

Airspace components are sometimes chosen by the aircraft manufacturers, who will then typically certify a single component for any given aircraft. These components are referred to as supplier furnished. Some components, like engines, are however chosen by the buyer of the aircraft, either an airline or a leasing company undertaking speculative purchases. These components are referred to as buyer furnished. The manufacturers will then certify alternative components (see figure 2 for an overview of the aerospace market).

The Commission first expressed concern that with respect to buyer furnished equipment the merged entity could make "bundled" offers for engines as well avionics and non avionics components. Engines and components can be considered as complements (a reduction in the price of engines will increase the demand for aircrafts and hence avionics and non avionics components). It was acknowledged that the merged entity would also

offer components on a stand alone basis. Hence, the strategy envisaged by the Commission would entail “mixed bundling” over complements sold in fixed proportions.

As indicated by the CFI judgment, the Commission seems to have emphasized in Court proceedings that bundling should be seen as a predatory strategy, such that the merging parties would sacrifice profits in the short term in order to induce the exit of competitors (who would not be in a position to re-enter). In the short to medium term, this strategy would, according to the Commission, marginalize competitors by depriving them of revenues which would mean they could not cover their fixed costs. In turn this would effect their spending destined for research and development on the next generation of products meaning they could not compete effectively with respect to future platforms. This is a “dynamic” view of bundling which differs from the “static” prospective which may have been emphasized in the administrative proceedings, such that bundling would have been undertaken simply because it was profitable in the short term for the merging parties.

The Commission did not however provide much evidence in support of either theory relying mostly on a few examples in which multi-product bids had been offered by Honeywell (see Grant and Neven, (2005) for details).

The Commission also considered the role of GE Capital Aviation Services (GECAS). This is leasing operation which undertakes speculative purchases of aircrafts and accounts for some 6-10% of the purchases of new aircrafts. The Commission was concerned that GECAS would apply a “GE only” policy, not only with respect to engines but also with respect to components. Particular concern arose with respect to supplier furnished equipments: the Commission anticipated that GECAS could “tip” the market and lead the aircraft manufacturer to choose Honeywell equipments (as the only certified equipment) on new platforms. This strategy, referred to as Archimedean leveraging, would be particularly effective when aircraft manufacturers are relatively indifferent between different components. It would again marginalize competitors and might

eventually lead to exit[12]. This anti-competitive effect is somewhat unconventional and indeed, the Commission relied on a specific model supplied by United Technologies (UTC), a multi-product competitor of GE. It is essentially a vertical issue, to the extent that GE is supplying strict complements, namely engines, components and financing, repackages them and resells them to final users, with a concern about foreclosure upstream. But there are at least two differences; first, part of the repackaging is undertaken by the aircraft manufacturers so that upstream foreclosure is indirect. It works by changing the incentives of those manufacturers. Second, the final consumers can bypass the final stage in which financing is bundled with the aircrafts, to the extent that airlines can directly purchase the aircraft and finance their acquisition through other means than leasing (unlike what would happen with distribution services for instance).

Hence, there is no well established economic theory that can be reviewed with respect to this leveraging strategy. The knife-edged character of the anti-competitive effect should still be emphasized. The anti-competitive effects can hardly be presumed and accordingly one would expect the Commission to provide ample evidence that these effects are likely in the particular circumstances of the case. It is however far from clear that the Commission provided such evidence (see Nalebuff (2003) and Grant and Neven (2005) for details).

2.3 Summary

Overall, the Commission's concern about the prospect that the residual substitution across different antitrust markets could be exploited seems a little far fetched and is probably the least convincing claim that it has made. It has also worried about anti-competitive effects arising from efficiency benefits and changes in incentive with respect to product positioning. The economic literature offers little support for these approaches and admittedly the Commission has not emphasized these effects in recent cases (with some notable exceptions like *Lagardère/Natexis/VUP*) and has sometimes reversed its

[12] See Reynolds and Ordover, (2002)

approach (for instance towards efficiencies). The Commission has also rightly raised the issue of potential competition.

The Commission seems to have focused on various forms of contingent sales, such that the conditions of sales of one product are linked to the purchase of others. Importantly, anti-competitive effects have been alleged both with respect to complements and with respect to "weak" substitutes belonging to neighboring markets. The Commission has considered contingent sales to final consumers[13] as well as retailers. In the next section, we review the economic literature on such contingent contracts.

Finally, it is worth noticing that the Commission has also sometimes considered purely vertical effects under the label of conglomerate effects. *Lagardère/Natexis/VUP* is a case in point. In the case, the Commission was worried about the fact that, unlike competitors, the merged entity would be present in the press market and hence could give privileged access to its own books in terms of promotion. In order to enhance readability of its own policy, it may be appropriate for the Commission to implement a systematic approach and handle vertical effects independently of conglomerate effects (it has done so in many cases). The Commission can rely on the large and relatively specific literature which informs the analysis of anti-competitive effects in this area.

3. Contingent sales - An overview of the literature

As outlined above, the market structure that the Commission has focused on involves one market in which the merged entity is dominant and one or several markets in which it has a leading position. In order to present the main insights from the literature, we outline as simple taxonomy, present a benchmark case and discuss variations from the benchmark.

[13] Besides *Tetra Laval/Sidel*, and *GE/Honeywell*, the Commission has dealt with tying towards final consumers in *Akzo Nobel, Hoechst Roussel Vet*. This case involved tying of complements products (different endocrine treatments used one after the other), substitutes (Fertagyl and Receptal), or products independent in demand (vaccines). See also *VNU / AC Nielsen, ATR/De Havilland*

3.1 Framework

To fix ideas, let us assume that the merged entity (henceforth firm 1) has a monopoly in the provision of product A. It can also supply product B1 in a second market, in which it faces a competitor (firm 2) selling product B2. In order to discuss the possible strategies that the merged entity may deploy, it is useful to distinguish between those instances in which it has one single offer involving product A from those in which it proposes multiple offers and to distinguish further between fixed and variable proportions between products A and B1.

In order to gain insights into the competitive effects of these strategies, it will also be useful to think about them in terms of a change in the demand system faced by firms. When products A, B1 and B2 are sold independently, there is a demand system for three products. If one of them is no longer offered (say B1) and/or a new product is offered (which combines the features of A and B1), a new demand system will be generated; consumers will adjust their choice to a new product configuration and the resulting demand system will induce different competitive interactions between firms. For instance, even when product A and B are independent in demand, a bundle involving A and B1 will be a substitute for B2.

(i) Single offer

Firm 1 could sell product A and B1 only and in fixed proportions. This is often referred to as pure bundling. This could be achieved by integrating the two goods physically (for instance, Windows and Explorer) or by contractual means (for instance, hotels and travel are sold together in a package holiday). The question may arise whether pure bundling is credible (i.e. whether firm 1 can commit not to sell the products on a stand alone basis). In some instances, this may not be a reasonable assumption in particular with contractual bundling.

Firm 1 could also sell product A only if product B1 is also purchased. Hence, the proportion between the purchases of product A and those of product B1 will vary among buyers. This is often referred to as full line forcing.

There is a particular instance of such contract which has received a lot of attention in the literature; when products A and B1 are complements (say a photocopier and paper) and B1 is purchased over time (a consumable used with a conjunction with hardware), this is often referred to as dynamic tying (see Nalebuff, 2003).

(ii) Multiple offers

Firm 1 could sell product A and B1 in fixed proportions, but also sell products A and B1 on a stand alone basis. This is referred to a mixed bundling and it is the strategy that was alleged in *GE/Honeywell*. Of course the bundle A/B1 has to be sold at a discount relative to the sum of stand alone prices for A and B1 in order to attract some demand. In some instance, firm 1 may also decide to offer an incomplete range: that is, A/B1 could in sold alongside A only, or B1 only. This is sometimes called incomplete mixed bundling.

As an illustration where A/B1 and B1 are sold, A may be the access to premier league matches, and B1 may be the access to a satellite channel. In this case, the subscription to a satellite channel is sold independently but access to the premier league matches is only possible with a subscription to the channel.

As an instance where A/B1 and A are sold, A could be a carton packaging machine and B1 a PET packaging machine for a particular use. Firm 1 may want to sell A and B1 together while selling A on a stand alone basis presumably for customers with a high willingness to pay for carton packaging machines. This may be main strategy that was alleged in *Tetra Laval /Sidel*.

Firm 1 could sell product A only if product B1 is also purchased, together with product A and product B1 on a stand alone basis. The strategy which involves the sale of all three has been dubbed "mixed tying" by Nalebuff (2004).

3.2 The Chicago school benchmark

Assume that consumers buy at most one unit of product A and one unit of product B. Assume further that all consumers have the same reservation price for product A and that perfect competition prevails in market B. That is, products B1 and B2 are not differentiated and the product is available at marginal cost. There is a distribution of consumers' willingness to pay for product B. Under those assumptions, the demand for product A and B is independent (a change in the price of A does not change the demand for B and vice-versa).

In those circumstances, firm 1 will not find it profitable to sell the bundle AB1 only. The reason is as follows; when products A and B are sold independently, firm 1 charges a price equal to the reservation price for product A and all consumers buy. Firm 1 makes no profit in market B. If the price of the bundle is equal to the reservation price of consumers for product A and the marginal cost of product B, firm 1 will make the same profit. This is however the maximum profit that it can make; if the price of the bundle is increased further[14], all consumers will be better off just buying product B2. Consumers have no surplus from buying the monopoly good and hence they are not willing to pay a little more for product B in order not to not product A. This is the Chicago school argument that there is only one monopoly profit. Making the sale of product A contingent on buying B (pure bundling) is not profitable. Mixed bundling is not profitable either.

We now consider a number of variations from this benchmark. Two features help structure the discussion, namely whether products A and B are strict complements (used in fixed proportions) or not and whether contingent contracts have dynamic effects. The

[14] A lower price will also obviously yield a lower profit.

importance of strict complementarity accords with intuition: when products A and B are strict complements, they are, so to speak, already tied by the consumers, and it is not clear what firm 1 can achieve by selling them together. We focus first on static frameworks in which firm 1 simply choose the range of product that it want to offer and their prices. We also consider models with a dynamic component in which the range of products offered in a given period affects market structures in the future.

3.3 Competition in the absence of complementarity

3.3.1. Imperfect competition and different consumer valuation

(i) As a first variation on the benchmark, we will relax the assumption of perfect competition in the B market and the assumption that consumers have the same valuation for product A. We start with the former and assume that products B1 and B2 are differentiated and produced under increasing returns, with for instance a fixed cost and constant marginal cost. As a result, one can no longer take it for granted that product B2 is available at a given price reflecting marginal cost. If firm 1 is selling A and B1 independently, it will make monopoly profit in market A and some profit in market B. In those circumstances, firm 1 may find it profitable to offer a pure bundle, i.e. to sell A/B1 only (Whinston, 1990) and this strategy will lead to the exit of firm 2. By selling A/B1, firm 1 can effectively commit to an aggressive response to the price charged by firm 2. Indeed, firm 1 will obtain its monopoly rent only if it sells the bundle. Hence, relative to the competition that would arise if firm 1 would sell only B1, firm 2 will face a tougher competitor[15]. Firm 1 may be willing to price at such a low level that there is no price at which firm 2 can cover its fixed cost. It will thus prefer to exit. This strategy may be profitable for firm 1 : it will suffer from reduced flexibility in the prices of its products so that some consumers will drop out but it will also reduce competition in market B. As one would expect (Whinston, 1990), the strategy will be profitable as long as consumers' willingness to pay for product B1 (relative to B2) is strong enough. Importantly,

[15] As noted by Whinston (1990), everything happens as if the cost of B1 was reduced by the extent of the margin earned over A.

bundling is only profitable if it lead to exit and firm 1 needs to be able to commit to this strategy.

(ii) Relax further the assumption that consumers have the same preferences for product A. Assume in particular that there is a distribution of consumers' willingness to pay. The relationship in demand between product A/B1, B1 and B2 will then be a function of the correlation in consumers' valuations of those products and the dispersion of these valuations. There is no comprehensive treatment of this case in the literature but a number of specific models. Carbajo et al. (1990) assume that there is no differentiation in market B and a perfect positive correlation in consumer valuation for product A and B. The demand structure that arises when A/B1 and B2 are sold is then similar to that found with vertical differentiation[16]. Pure bundling will then soften competition. Relative to the independent pricing game, the profits of both firms will increase. Consumer surplus falls but the effect on welfare is ambiguous.

As observed by Carbajo et al (1990), if firms compete à la Cournot, the independent output game will be less competitive. Pure bundling will be less attractive and it will involve higher output for firm 1. Market B will become more competitive. The output and profit of firm 2 will fall. As before, consumer surplus falls but welfare may increase.

The insights from Carbajo et al. (1990) can be easily extended to different distributions of consumer valuations between product A and B[17]. Table 1 considers the extreme cases of a perfect negative and zero correlations and computes the equilibrium prices in the model of Carbajo et al. (1990) with Bertrand competition, assuming further that marginal cost is zero. It appears that firm 2 always benefit from pure bundling. Consumer surplus always falls. Welfare always increases and it increases most when consumer valuations are negatively correlated. This presumably arises because of the scope for price discrimination that negative correlations allow for (see Adams and Yellen, 1976).

[16] Indeed, all consumers will attach more value to A/B1 than B2.

[17] Note that in the model of Carbajo et al. (1990) mixed bundling is not attractive ; with a perfect correlation in consumer valuation, there is no scope for discrimination. In addition, as long as there is perfect competition in market B, mixed bundling replicates the outcome of independent pricing.

Whinston (1990) considers another specific model, in which products B1 and B2 are differentiated, i.e. when consumer valuations for those products are not identical. He finds that the demand for products A/B1 and B2 may or may not exhibit the feature of vertical differentiation found above depending on the degree of product differentiation between B1 and B2 and the dispersion in consumers' valuation for product A. In this model, pure bundling can lead either to foreclosure or the softening of competition. The profits of firm 2 can either increase or fall as result of pure bundling. In addition, pure bundling (in particular when it leads to exclusion) may not be attractive. Assuming zero correlation in consumer valuation, he shows that mixed bundling may be attractive; it allows for some discrimination but also affects the profits of firm 2. In his example, the profit of firm 2 decreases. There is a foreclosure effect but it is weaker than that arising with pure bundling.

To sum up, it appears that with unit demand pure bundling can lead either to the softening of competition or foreclosure depending on the distribution and correlation in consumer valuation for the products. It is not clear a priori that one effect should dominate. A perfect correlation in consumer valuation in the B market appears to be sufficient to generate the softening of competition. In addition, when exclusion take place, it may be profitable even if does not lead to the exit of competitors (as long as there is a dispersion in consumers' willingness to pay for the product A). Finally, effects on welfare are ambiguous but consumer surplus falls.

3.3.2. Imperfect competition and downward sloping demand

As a second variation, relax the assumption that consumers have a unit demand but keep the assumption that consumers are identical and the assumption of perfect competition. We start with the former (Bernstein, (1960) and Mathewson and Winter, (1997)[18]). With downward sloping demand, each consumer makes a positive surplus when products A

[18] See also Slade (1997) who considers a model where the tying and tied goods are complements (not strict complement however), the provision of the tied good is competitive but its price is given exogenously. She finds that tying is profitable.

and B1 are sold independently. Firm 1 will then find it attractive to sell A/B1 only because it will be a way of extracting more surplus in the monopoly market. Unlike what happened in the Chicago School benchmark, consumers will be ready to pay a little more for product B1, in order not loose the surplus that they have in market A[19]. Product B2 will have no demand (but the fact that it is available at marginal cost will constraint the price that is charged for the bundle).

Let us relax the assumption of perfect competition. Martin (1999) considers independent and linear demands for products A and B[20], no product differentiation in market B and Cournot competition. He finds that firm 1 has an incentive to sell a pure bundle, which reduces the profit of firm 2. This result is actually formally equivalent to the result of Carbajo et al (1990) discussed above; indeed, customer valuations for products A and B that are perfectly correlated and uniformly distributed generate the same demand for products A/B1 and B2 as a system of linear demands for the underlying products[21].

The results of Martin (1999) have been extended by Garcia and Neven (2005). These authors consider Bertrand competition and allow for product differentiation between B1 and B2. They also consider the case in which product A and B are substitutes. The results are illustrated in Figure 3, where β denotes the degree of product differentiation in the B market, with $0 < \beta < 1$. When $\beta = 0$, product are independent (product differentiation is maximum) and when $\beta = 1$, B1 and B2 are perfect substitutes. This figure presents the incremental profits of firm 1 and 2 when firm 1 undertakes pure bundling, relative to the outcome of independent pricing. Three regions can be distinguished: first, when $\beta > 0.7$, both firms gain from pure bundling. Competition is softened. For $0.3 < \beta < 0.7$, firm 1 gains and the competitor looses. There is foreclosure. Bundling may be profitable even if does not induce the exit of competitors. With

[19] As noted by Mathewson and Winter (1997), a two part tariff will do as well. If consumers have heterogeneous preferences, bundling may still be attractive.
[20] This system of linear demand is derived from a quadratic utility function.
[21] This is easy to check. The formal equivalence between Carbajo et al (1990) and Martin (1999) is also apparent by comparing table IV (page 290) in Carbajo et al (1990) and equations 4.6/4.7 (page 374) in Martin (1999), while assuming that $c_a = c_b = c$.

appropriate fixed cost, the exit of firm 2 could still be induced. Finally for $\beta < 0.3$ firm 1 has no incentive to sell a pure bundle. These results confirm that pure bundling is not necessarily profitable. Accordingly, one can hardly presume ex ante that a merging firm would implement this strategy. The results also confirm that bundling can lead to both softening and foreclosure depending upon the degree of product differentiation in market B. As both effects occur within significant and comparable ranges of parameter values, it does not seem that one effect should necessarily be considered as a priori more likely than the other.

With respect to the substitution between product A and B, Garcia and Neven (2005) find, under the assumption of no differentiation in market B, that competition is always softened. In addition, the effect is also stronger, the lower is the substitution between A and B. This accords with intuition as competition between B1 and B2 is more affected when B1 is associated with a product which is itself a weak substitute.

Finally, it is worth noticing that mixed bundling has generally weaker effects on competitors than pure bundling. As a matter of facts, in the models of Martin (1997) and Garcia and Neven (2005), in which consumers are identical mixed bundling involving A/B1 and B1 merely replicates the independent pricing game.

3.3.3. Retailer power

Consider a multi-product monopolist who sells substitute products (Shaffer, 1991). Assume first that he does not face direct competition in the supply of either product but he has to sell his product through a monopoly retailer. The retailer has limited shelf space. As shown by Shaffer (1991), he earns rents from two sources; first, he earns some scarcity rent, namely the profit foregone from the exclusion of the most attractive alternative product. He also earns some strategic rents : when the decides to stock a brand which is a substitute for a brand that he already carries, the profits that he earns on the latter will fall and he will seek compensation for this fall in profit. As shown by Shaffer (1991), brand specific two part tariffs will not suffice to eliminate the strategic

rents. Full line forcing (such that the monopolist requires carrying both products or none at all) will however enable the monopolist to restore full monopoly profit.

As pointed out by Verge (2001), consumers will however benefit from full line forcing because it eliminates price distortions. He also extends the analysis of Shaffer and shows that if more general (non linear) contracts will be more attractive than two part tariffs, full line forcing will still be superior to those alternatives for the monopolist and will increase welfare.

Verge (2004) considers a monopoly over product A and perfect competition in the provision of product B and proposes a dynamic theory of leveraging A new variety can be introduced by a competitor who faces a lower cost than that incurred by the monopolist in market A and but it is unclear ex ante whether it is a substitute for product A or product B. The product needs to be available in the shelf to be assessed by consumers. After a trial, it will become clear how consumers perceive the product. The retailer contemplates offers from both firms. In this context, an incumbent firm may find it profitable to offer a contract in which he sells both products in the first period and prevent entry. This offer is accepted by the retailer when the profit that he would forego by not selling product A in the first period is large relative to the relative efficiency of the entrant and hence the gain that he can make if the entrants product is a substitute for A.

3.4 Competition with complements

(i) As mentioned above, when product A and B are strict complements (used in fixed proportions), they are effectively "tied" by consumers, to the extent that there is no demand for the B products unless product A is also available. As a result, the merged entity should obtain the full rent from the sale of A and B through the pricing of A and it is not clear what the merged entity might achieve by selling A/B1 as a bundle. This will trivially exclude firm 2 but yield no benefit to firm 1. As shown by Whinston (1990), firm 1 will actually prefer to make sure that firm 2 remains active : to the extent that B2

is differentiated from B1, it will increase the demand for product A and firm 1 will be able to obtain additional rent.

Whinston (1990) describes two sets of circumstances in which firm 1 may still want to sell the A/B1 bundle. If there is an alternative to product A, products A and B will not be strict complement any more (consumers may consider buying B2 and the alternative) and firm 1 will no longer necessarily benefit from the presence of B2. Alternatively, if product B has another use, besides the combination with A, firm 1 no longer benefits from the presence of firm 2 in that market. Firm 1 may find it profitable to exclude firm 2 in order to monopolize this second market and it has the means to do so if the market for the A/B components is large enough. By selling the A/B1 bundle, firm 1 will exclude firm 2 from that market. Its revenues from the second market may not be sufficient to cover fixed cost.

As emphasized by Whinston (1990), these two examples illustrate the fact that strict complementarity and monopoly in one component is an extreme (but possibly important) case. Whenever product A is no longer essential, the incentives of firm 1 are similar to those discussed above. Both softening and foreclosure could result from the sale of a pure bundle.

(ii) More generally, there is a potential efficiency gain associated with conglomerate mergers which involve complements. The pricing of complements products is typically inefficient when it is undertaken by different firms, because they do not internalize positive external effects across markets (such a fall in price for one component also increase the demand for the other component). A merger which brings these products under the control of a single entity may actually lead to lower prices (to the benefit of consumers)[22]. For instance, the independent pricing solution which arises when product A and B1 are controlled by the same firm is more efficient than the outcome which obtains when all three products are sold independently.

[22] This is sometimes referred to as the « Cournot » effect.

This observation plays an important role for the analysis of bundling when there is some competition for the provision of both products (which is arguably the appropriate framework to think about competitive effects in *GE/Honeywell*). The merging firm which controls two components and faces competitors selling individual components in both markets will internalize the cross-market effect, even if the products are not sold together. But only to a limited extent because a significant share of the increased demand for complements that is triggered by a reduction in price will be captured by competitors. Hence, the merging firm may find it attractive to bundle the products as long as lower prices for the bundle do not trigger a tough response from competitors. As shown by Nalebuff (2000), pure bundling will often not be attractive. Mixed bundling may or may not be attractive depending on particular features of demand and in particular on the extent to which the decrease in the price of the bundle enlarges aggregate demand, as opposed to shifting market share, (see Nalebuff, 2002). However, bundling will also typically be more profitable when it involves a large number of components. This arises because of a Counot effect in "reverse"; in lowering its price to lure away consumers of the bundle, the manufacturer of any given component will produce a large external benefit to manufacturers of other components. Indeed, as he switches away from the bundle, each consumer will have to choose a variety of components. This external effects will not be internalized and lead to higher prices (a weaker response) by competitors. Overall, if the profitability of bundling is somewhat uncertain, bundling will generally tend to lower the demand faced by competitors in each market. They can expect to suffer both because of lower prices, and because bundling allows for some price discrimination (which effectively enhances the bundling firms' ability to extract profits from buyers). The extent to which they will suffer is however dependent upon many parameters and modeling assumptions. Bundling is however likely to benefit consumers.

(iii) Carton and Waldman (2000) consider a dynamic theory of leveraging which rests on the idea that the sale of B2 might help firm 2 to develop a product which is a substitute for A. If B2 is sold in the previous period, there will be sufficient demand for the development of a substitute for A, whereas in the absence of B2, demand may be insufficient. Despite the fact that B2 increases the profitability of A in the first period,

firm 1 might prefer to exclude B2 (by selling only the pure bundle A/B1) in order to prevent the development of system competition.

An alternative inter-temporal linkage between current bundling and future competition is discussed in Kühn (2001)[23]. He focuses on application network effects, when product A is for instance an operating system and product B is a software (for instance a browser) that could be developed into a middleware. Bundling A/B1 will reduce the sales of B2 so that application softwares are more likely to be written for A. This reduces consumers' willingness to pay for B2 which may further reduced by self-fulfilling expectations. In this framework network effects will magnify the small shift in demand (foreclosure) that bundling leads to in the short term

4. Standards of proof

As indicated in section 2, the Commission has not considered the effects of tying and bundling in much detail in its main decision. There is little detailed evidence supporting its claims. This may be interpreted as suggesting that the Commission presumed that such strategies would be profitable and anti-competitive so that little evidence had to be brought forward. The discussion in the previous section certainly highlights the fact that such a presumption would not be well founded. Alternatively, this can be interpreted as suggesting that the Commission perceived that it was not subject to a high burden of proof.

In what follows, we first discuss the standards of proof that the Commission is subject to, in light of recent cases. Recent pronouncements of the Court suggest that the Commission is subject to a high standard of proof, and possibly one that is higher than the standard it had anticipated at the time of these decisions. We subsequently discuss some insights from our review of the literature which suggests a possible approach to handle tying and bundling, in light of these standards.

[23] See also Kühn, Stillman and Caffarra (2004).

4.1 Standards of proofs and review in recent cases

Various standards of proof can be used in legal proceedings. As discussed by Vesterdorf (2004), a standard of "balance of probabilities" is often found in civil proceedings where the stricter standard such that proof should be established "beyond reasonable doubt" is more commonly found in criminal cases. What standard should be applied in merger cases has not been considered at great length by the Court until recent cases.

In *Tetra Laval/Sidel*, the CFI held that the Commission should prove that the merger will have anti-competitive effects "in all likelihood". The CFI further insisted that the evidence brought forward by the Commission should be "convincing". These pronouncements suggest that the standard of proof may be stricter than a mere balance of probabilities. Importantly, the CFI also indicated that the standard of proof was particularly high in this case because conglomerate mergers could often be expected to be neutral or even beneficial in terms of competition. At § 155 :

> "As the Court has already held, where the Commission takes the view that a merger should be prohibited because it will create or strengthen a dominant position within a foreseeable period, it is incumbent upon it to produce convincing evidence thereof (*Airtours* v *Commission*, paragraph 63). Since the effects of a conglomerate-type merger are generally considered to be neutral, or even beneficial, for competition on the markets concerned, as is recognised in the present case by the economic writings cited in the analyses annexed to the parties' written pleadings, the proof of anti-competitive conglomerate effects of such a merger calls for a precise examination, supported by convincing evidence, of the circumstances which allegedly produce those effects (see, by analogy, *Airtours* v *Commission*, paragraph 63)."

The Commission appealed this judgment partly on the ground that the CFI had raised the standards. The Court however confirmed the approach of the CFI. At § 45 :

> "The Court of First Instance did not err in law when it set out the tests to be applied in the exercise of its power of judicial review or when it specified the quality of the evidence which the Commission is required to produce in order to demonstrate that the requirements of Article 2(3) of the Regulation are satisfied."

The CFI and the Court have also strengthened the standard of proof by insisting on the standard of review that the Courts should apply. The Courts indicated that the scope of their review should not be restricted to mere factual issues but should also include an examination of the Commission's reasoning (including economic reasoning) and its inferences. This naturally raises the accountability that the Commission is subject to and enhances the credibility of the standard of proof that it is meant to respect. In particular, at § 39;

> "Whilst the Court recognises that the Commission has a margin of discretion with regard to economic matters, that does not mean that the Community Courts must refrain from reviewing the Commission's interpretation of information of an economic nature. Not only must the Community Courts, inter alia, establish whether the evidence relied on is factually accurate, reliable and consistent but also whether that evidence contains all the information which must be taken into account in order to assess a complex situation and whether it is capable of substantiating the conclusions drawn from it. Such a review is all the more necessary in the case of a prospective analysis required when examining a planned merger with conglomerate effect."

These standards have been amply referred by the CFI in the *GE/Honeywell* judgment. Throughout the judgment, the CFI emphasizes the fact that a merger review involves a prospective analysis and accordingly that the Commission should show that the behavior which is deemed anti-competitive is likely to take place. In this respect, the CFI has affirmed the distinction between the ability to engage into a particular behavior and the incentive to do so as well as the need to show that the particular behavior is anti-competitive (see for instance § 327) .

Hence, recent Court decisions have confirmed that the Commission is subject to high standard of proof. The Court has also established that the standard of proof should be particularly high when it is generally considered that particular practices do not raise anti-competitive concerns[24]. The observation that the Commission challenged these standards in Court (and lost) is certainly consistent with the view that it had not anticipated them at the time of the decisions.

If the Courts have clearly established what evidence is not sufficient to meet the standard of proof, they have naturally been less clear (given the nature of the decisions under appeal) about the type of evidence that would be considered as sufficient[25]. Given that some conglomerate mergers involving contingent sales may in some circumstance raise anti-competitive concerns (as discussed above and recognized by the Court, in particular in *GE/Honeywell*), the issue of what evidence will (or should) be deemed convincing is largely open. The next section attempts to contribute to this question.

4.2 Some features of a possible approach toward contingent sales

As indicated above, there is certainly no presumption that bundling/tying have anti-competitive effects. As confirmed by the Court, the Commission should thus provide detailed evidence that these strategies are attractive and have anti-competitive effects in the case at hand. In what follows, we discuss the type of circumstances that the Commission may want to focus on in building evidence in light of the literature. In trying to draw insights from the literature we consider both the likelihood of anti-competitive effects in particular circumstances and the scope for identifying these circumstances empirically. This discussion inevitably involves a great deal of judgment in interpreting a literature which remains incomplete and should be taken as merely

[24] The Court did not however go as far as establishing a presumption that conglomerate merger do not involve anti-competitive effects.

[25] The Court's approach towards empirical evidence in *GE/Honeywell* is, in some respect, a little puzzling. Indeed, the CFI seems to give a lot of credence to isolated observations (for instance, in its discussion of whether GECAS contributed to the dominance of GE). This credence could be seen as excessive in light of the possibly highly biased process which generates these isolated observations.

indicative. It is also highly contingent on the current state of the literature and might have to be revised as the literature develops.

First, it appears that the existence of a monopoly in at least one market matters. That is, when the merging party has a monopoly in one market, it is hard to find circumstances where bundling/tying will benefit consumers. By contrast, in the absence of a monopoly, these strategies can actually benefit consumers, in particular when products are complement. If may be tempting to translate this observation into the antitrust practice by drawing distinctions in terms of whether the merging parties have a dominant position in at least one market. This has been, by and large, the practice of the Commission which has never found anti-competitive effects in the absence of a dominant position. This approach may be misguided however, as the effect of tying and bundling as described in the literature may actually hinge of the existence of monopoly (or near monopoly) in one market (the case of complements in Whinston (1990) is a case in point). What may be considered a dominant position (say, a 40-50 % market share) in one market would fit more naturally with models in which there is competition. Hence, it may be appropriate to draw a distinction between case in which there is no effective competition and others (for instance, the market for aseptic carton packaging machines in which Tetra Laval has held a market share in excess of 80 % for a long period of time could be characterized by an absence of effective competition, whereas the market for engines for large aircrafts in which GE has held a market share of 40-60% with ample variations over time can probably not). Priors (and possibly the standard of proof that should be imposed on the Commission) should thus differ depending on whether the merging parties are active in a market in which there is no effective competition.

Second, it appears that tying/bundling strategies are not necessarily profitable. This is an important departure from the area of unilateral or coordinated effects. In these areas, one can presume that firms will find it profitable to take advantage of the substitution between their product lines and will find it profitable to coordinate behavior (if they can). There is no equivalent presumption with respect to bundling/tying strategies. Hence, the Commission should provide evidence that firms will find it profitable to implement them.

This may suggest that in the absence of a market with no effective competition, bundling/tying strategies may appropriately be considered as per se lawful; given that these strategies will not necessarily be implemented and may benefit consumers if they are and given that it is difficult to identify circumstances where consumers may be hurt, so that the implementation of a rule of reason may involve significant errors (or in other words, so that the Commission is unlikely to be able to meet a high standard of proof), per se legality may be superior to a rule of reason.

In the absence of effective competition in one market, matters are different. The Commission may want to investigate the consequences of bundling/tying strategies. The Commission may still wonder whether the merger affects firm's ability to make contingent sales. This test may be relatively easy to pass but it is worth wondering what prevented the firm without effective competition in one market to enter into to tied good market in the first place (absent the merger) or whether contractual arrangements with existing firms with the same effects as tying/bundling would have been feasible. If this test is passed, the Commission may want to establish whether some conditions that are necessary for bundling/tying strategies to be profitable at all are met. Given that mixed bundling is unlikely to be harmful if it is profitable, the Commission may also want to focus on pure bundling and incomplete mixed bundling strategies. Necessary conditions include the existence of a pool of common buyers that is large relative to the pool of buyers for either tying or tied good (so that there is large overlap). A second condition involves the relative size of the two markets. If sales of the tying good are small relative to those of the tied good, competition between tied goods is unlikely to be much affected (the benefit will be small).

Having established these conditions, the Commission could presumably focus on trying to identify whether the circumstances of the cases fit with those in which tying/bundling is most anti-competitive. This approach seems warranted given that the effects of bundling/tying strategies depend in general on parameters that may be difficult to estimate with confidence (so that a full rule of reason would involve significant errors or

in other words, so that the Commission is unlikely to be able to meet a high standard of proof). Accordingly a modified per se rule such that a full rule of reason is triggered by particular circumstances, which can be identified with some confidence, may be appropriate. As indicated above, tying/bundling strategies can lead either to exclusion or a softening of competition. The most severe type of softening should in principle arise when there is little product differentiation in the tied good market and when there is a wide dispersion in consumers' willingness to pay for the tying good (and the scope for entry in the tied good market is limited). These circumstances may not be all that difficult to document, for instance, through evidence of cut throat competition in the tied good market and evidence of different segments in the tying good. If this evidence is supplemented by internal documents suggesting that the merging parties understand the logic of this strategy, it may be sufficient to raise concern. These circumstances can however be expected to be very rare (in particular, the combination of high entry barriers and little product differentiation in the tied good market). The argument that tying/bundling can be used to soften competition has not been used in the case law, as far as we can tell.

As outlined above, exclusion can take place (in the absence of strict complementarity) when there is little dispersion in consumers' willingness to pay for the tying good, the tied goods are differentiated (but not "too much"). In those circumstances, tying/bundling may only be attractive if it leads to the exit of competitors and thus may thus require an ability to commit. It is not clear that one should pay too much attention to this case as it may be difficult to identify the circumstances in which exclusion would take place (so that a rule of reason would involve important errors).

Exclusion can also take place when there is a strict complementarity between tying and tied good. In those circumstances, exclusion is easy to achieve but as indicated above, it is not necessarily attractive. The most severe type of exclusion can still be expected to take place when the merging firm has an incentive to exclude, which arises for instance from the existence of an inferior substitute for the tying good or the prospect that a complement to the tying good will turn into a substitute, and when exclusion has long

term dynamic consequences (for instance through a network effect). In those circumstances, there is a clear gain from exclusion as well as an ability to do so (which arises from the strict complementarity and the dynamic effect). In addition, these conditions may be relatively easy to document (in particular, the strict complementarity is a factual matter which should not be subject to much dispute and the prospect for a dynamic effect can presumably be established from analogous cases in which they have been observed). It may thus be appropriate for the Commission to identify such circumstances.

Overall, the following decision rule emerges. If the merging firm is not active in a market characterized by the absence of effective competition, bunding/tying may not raise concern (per se lawful). If there is no effective competition in one market (and the merger changes the scope for making contingent sales), but that tying/bundling is unlikely to be profitable because the overlap between customers is small or the size of the tying good market is small, it may not raise concerns either. If there is no effective competition in one market and the necessary conditions for pure bundling (or incomplete mixed bundling) to be attractive are met, two circumstances may trigger a rule of reason; first, the observations that the tied good market is highly competitive and that the demand for the tying good is segmented should trigger an investigation into a possible softening of competition. Second, the observation that the tying and tied good are strict complements, that the merged entity has an incentive to exclude and the prospect of dynamic consequences from exclusion should trigger an investigation into a possible exclusion. In the absence of those two sets of circumstances, the merger may not raise concerns.

A full rule of reason analysis should of course consider possible efficiency gains associated with bundling/tying strategies. The assessment of these efficiency gains will be naturally undertaken when the Commission investigates their anti-competitive effects (in the two cases mentioned above) and accordingly seeks to uncover what could be the motivations behind these strategies. Efficiency gains accruing from tying/bundling essentially rest on the idea that assembly (in the case of complements) or joint delivery

are more efficiently undertaken by the seller than by the buyer[26]. Indeed, economies of scope in the production of the tying and tied goods are not relevant (they can be achieved without tying/bundling – which is only a sales strategy) and only economies arising from joint sales matter.

5. Conclusion

The analysis of conglomerate effects in the EU has changed markedly in the last couple of years. The Courts have triggered important changes by clarifying the standards of proof and review that apply in merger control in general and with respect to conglomerate effects in particular. They have made it clear that what matters is the incentive rather than the ability to implement a strategy and that anti-competitive effects cannot be presumed. In the *GE/Honeywell* judgment, the CFI has made also made a detailed analysis of the anti-competitive effects that can arise with complements. The Commission in its recent case law has also developed and clarified the analysis of anti-competitive effects regarding weak substitutes (in *Procter&Gamble/Gillette*) while focusing on important economic dimensions (in particular, the presence of effective competition). With some unfortunate exceptions, the relatively minor but unconvincing issues that the Commission had raised in the earlier case law are no longer referred to in recent decisions.

As discussed in the paper, there are some circumstances that can potentially be identified empirically in which contingents sales will be anti-competitive. It is not clear at the moment what type of evidence will (should) be considered as convincing to establish that these circumstances prevail. The paper has highlighted some elements of a possible approach and one can expect that the Commission will further develop its policy in this area. This raises the question of the type of remedies that can potentially be implemented in the presence of such concerns and in particular whether behavioral remedies could suffice. In *Tetra Laval/Sidel*, the Court has clarified that behavioral

[26] See Ahlborn, Evans and Padilla (2003) and Kühn et al. (2004) for a discussion.

remedies could be appropriate, contrary to what the Commission claimed[27]. This is probably a welcome development to the extent that a commitment not to bundle products or even to make joint offer can potentially be monitored. Bundling/tying are strategies which, unlike others like prices, involve discrete changes that buyers may easily observe and report to the Commission. This may provide firms with adequate incentives to abide by their commitments.

[27] At § 86 of the judgment : "Contrary to what the Commission claims, it is not apparent from that judgment that the Court of First Instance ruled out consideration of behavioural commitments. On the contrary, in paragraph 318, the Court of First Instance laid down the principle that the commitments offered by the undertakings concerned must enable the Commission to conclude that the concentration at issue will not create or strengthen a dominant position within the meaning of Article 2(2) and (3) of the Regulation. Then, in paragraph 319, it inferred from that principle that the categorisation of a proposed commitment as behavioural or structural is immaterial and that the possibility cannot automatically be ruled out that commitments which are prima facie behavioural, for instance a commitment not to use a trade mark for a certain period or to make part of the production capacity of the entity arising from the concentration available to third-party competitors or, more generally, to grant access to essential facilities on non-discriminatory terms, may also be capable of preventing the emergence or strengthening of a dominant position"

Figure 1. Overview of the packaging market

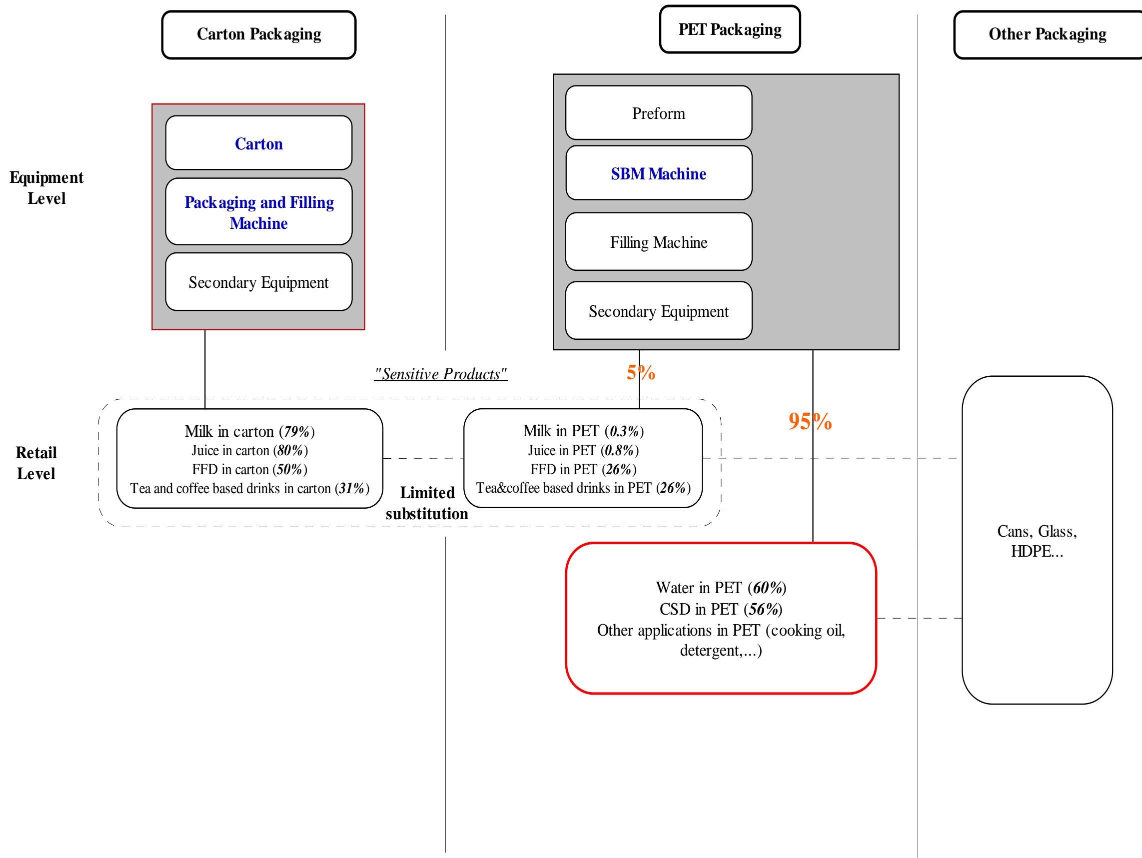


Figure 2. Overview of the aerospace market

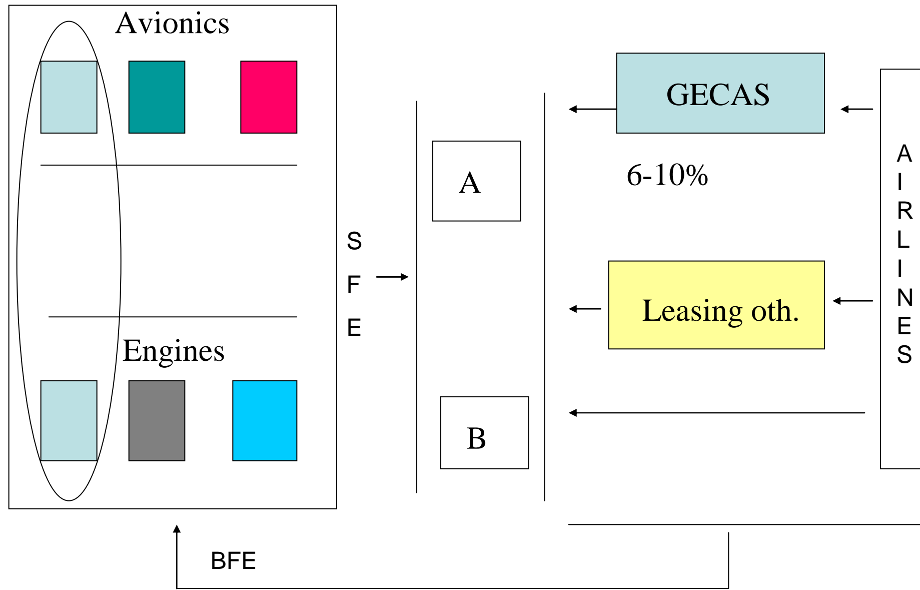
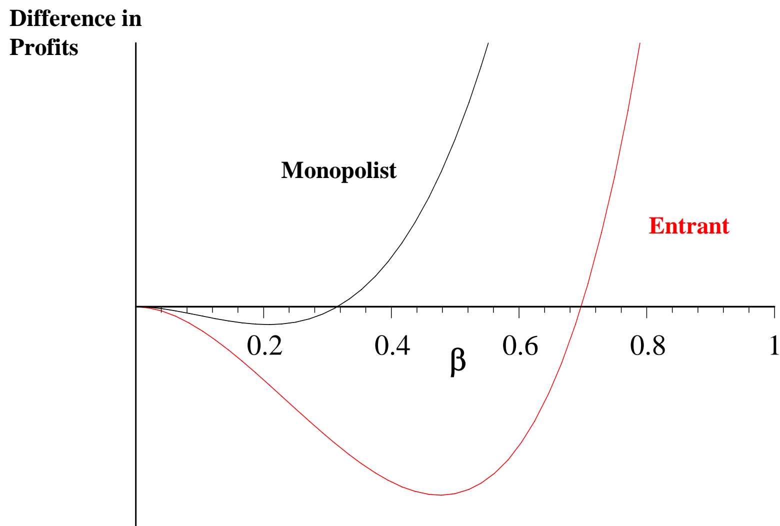


Table 1. Pure bundling and softening

		Mixed Bundling	Pure Bundling	Independent Pricing
Correlation 0	Benefits and Prices	$O_1 = 0 + 0.25 = 0.25$ $P^A_1 = P^x_1 = 0.5$ and $P^B_1 = 0$	$O_1 = 0.366$ $P^x_1 = 0.59$	$O_1 = 0 + 0.25 = 0.25$ $P^A_1 = 0.5$ and $P^B_1 = 0$
		$O_2 = 0$ $P^B_2 = 0$	$O_2 = 0.064$ $P^B_2 = 0.24$	$O_2 = 0$ $P^B_2 = 0$
	Consumer Surplus	0.625	0.485	0.625
	Total Surplus	0.875	0.915	0.875
Correlation 1	Benefits and Prices	$O_1 = 0 + 0.25 = 0.25$ $P^A_1 = P^x_1 = 0.5$ and $P^B_1 = 0$	$O_1 = 0.33$ $P^x_1 = 0.57$	$O_1 = 0 + 0.25 = 0.25$ $P^A_1 = 0.5$ and $P^B_1 = 0$
		$O_2 = 0$ $P^B_2 = 0$	$O_2 = 0.04$ $P^B_2 = 0.14$	$O_2 = 0$ $P^B_2 = 0$
	Consumer Surplus	0.625	0.564	0.625
	Total Surplus	0.875	0.898	0.875
Correlation -1	Benefits and Prices	$O_1 = 0 + 0.25 = 0.25$ $P^A_1 = P^x_1 = 0.5$ and $P^B_1 = 0$	$O_1 = 0.44$ $P^x_1 = 2/3$	$O_1 = 0 + 0.25 = 0.25$ $P^A_1 = 0.5$ and $P^B_1 = 0$
		$O_2 = 0$ $P^B_2 = 0$	$O_2 = 0.11$ $P^B_2 = 1/3$	$O_2 = 0$ $P^B_2 = 0$
	Consumer Surplus	0.625	0.39445	0.625
	Total Surplus	0.875	0.94445	0.875

Figure 3 : Foreclosure vs softening



The graphs represent the difference in profits btw Pure Bundling and Independent Pricing (or Mixed Bundling) for the incumbent and the entrant

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