ISSN 1745-638X (Online)

THE COMPETITION LAW REVIEW

Volume 10 Issue 2 pp 125-143 **December 2014**

Interpreting the As-Efficient Competitor Test in Abuse of Dominance Cases

*Derek Ridyard**

The As-Efficient Competitor (AEC) test plays a central role in the EU Commission Guidelines on Article 102 enforcement and in the case law of the European Courts. It is used explicitly by the ECJ in its *Post Danmark* Judgment in a way that clearly signals a preference for an effects-based approach to enforcement of the law against price abuse. This paper analyses how the AEC test can be interpreted in the context of price-cost tests for exclusionary conduct, with particular emphasis on the distinctions between long run and avoidable costs, and between average and incremental costs. It also explores some of the underlying economic and public policy questions that are raised by different approaches to these key cost concepts.

An important element of DG COMP's Article 102 Enforcement Priority Guidelines ("the Guidelines") is the principle that dominant firms should be permitted to exclude/foreclose rivals if that exclusion arises from superior efficiency.[1] This key principle is also embodied in some recent ECJ Judgments under Article 102.

The concept of the "as efficient competitor" ("AEC") is used as way to make this principle operational, and to provide a more concrete dividing line between the protection of *competition* and the protection of *competitors*. In principle, the AEC test defines a safe harbour for dominant firms if their pricing conduct would not exclude an equally efficient firm.

This paper examines how the AEC test relates to the various price cost tests that are discussed in the Guidelines and have been applied in areas such as allegations of predatory pricing, price discrimination and exclusionary rebates.[2] In the process, it also discusses some of the economic and policy enforcement issues raised by the AEC test.

The Guidelines refer throughout to two alternative cost measures that can be used for price-cost tests: long run incremental cost and avoidable cost. In order to provide a formulation that can be benchmarked against a firm's price, the Guidelines refer to the average (i.e. per unit) cost in both instances.

* RBB Economics.

1 EU Commission, "Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings", [2009] OJ C45/7, 24 February 2009.

2 There is clear economic logic in an approach that applies the AEC concept across all categories of exclusionary conduct, and failure to do so would carry a severe risk of distorted and inconsistent enforcement outcomes. Later in this paper I comment on the General Court's Judgment in the *Intel* case, in which it is argued that the AEC applies to pricing conduct, but not to exclusivity contracts.

The properties of these different cost concepts can best be examined by considering two main distinctions:

- First, the distinction between short run and long run costs
- Second, the distinction between incremental and average costs

There are also some potentially relevant dynamic distinctions between current and future costs.

The remainder of this paper is organised as follows:

- Section 1 explores the important distinction between short run and long run costs, and the wider policy choices raised by the distinction between these two approaches to measuring cost.
- Section 2 discusses the distinction between incremental cost and average cost, and its relevance to cases, such as the *Post Danmark* case,[3] where the two measures diverge significantly.
- Section 3 briefly comments on other dynamic considerations that can complicate the application of AEC principles.
- Section 4 draws some conclusions

1. SHORT RUN V LONG RUN COSTS

The short run is defined in economic theory as any period in which at least one of the assets required for production cannot be adjusted; the long run is defined as the time period in which all asset choices are variable. Strictly, there is only one long run and a potentially limitless number of different variants of the short run depending on which cost element is considered fixed.

1.1 An Illustration

To illustrate the distinction between short and long run costs, consider the following stylised illustration. In order to commence production, suppose that a single-product firm needs to incur a capital cost of €10 in order to build a factory.[4] Once that factory has been built, suppose that the firm then incurs variable (e.g. raw materials) costs of €1 for every unit of output it produces.

The average total cost of this firm's output is defined as the total (i.e. fixed plus variable) cost of producing any given output level, divided by the number of units produced. Clearly, that average cost per unit declines as the level of output increases: it is €11 for a firm that produces only a single unit, but falls to €1.40 if the firm produces

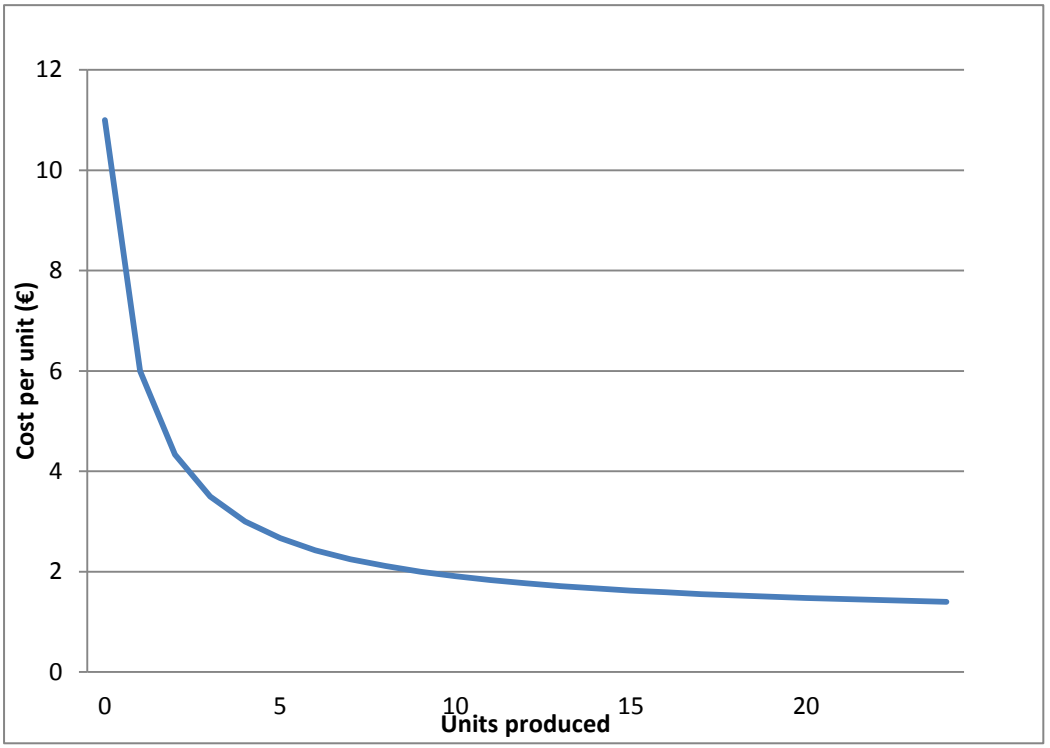
[3] Case C-209/10 *Post Danmark A/S v Konkurrencerådet*, ECLI:EU:C:2012:172.

[4] It might be easiest to think of this fixed cost as the per-annum repayments on a bank loan that is required in order to finance the initial building of the factory.

25 units. The decline in average cost per unit is caused by diluting the impact of fixed costs over larger numbers of units.

The relationship between average cost and output levels for this firm is shown in the figure below.

Figure 1: Average Total Cost (ATC) Illustration



1.2. Long run v short run costs

This illustration can now be used to show the distinction between long and short run costs.

If we define the long run as the period within which the firm in question can choose whether or not to build the factory, then its long run average cost of production must include an appropriate allowance for the factory costs. Hence, its long run average cost per unit at different annual output levels corresponds to the average cost line drawn in the figure above.

If we define the short run as the period in which the firm has committed to build the factory (and cannot vary that decision), then the short run average cost of production is simply the €1 per unit variable cost it incurs as each unit of output is added. That €1 cost is the same for the first unit as for the 25th unit. The fact that the firm in question is already stuck with the decision to build the factory means that the costs associated with that decision (the €10 per annum charge) is irrelevant to the assessment of the short run cost.

Whilst this illustration is a highly simplified version of a real world cost function, it does usefully highlight the importance of decisions that firms make to commit to capital decisions, and the impact that such decisions have on pricing and output incentives. For example, suppose that this firm is presented with a take-it-or-leave it offer from a customer to buy 10 units for a total payment of €150 – i.e. a price of €1.50 per unit. Should the firm accept or reject this proposition?

If the customer offer arises after the point at which the firm has committed to build the factory, then only short run considerations apply. The prospect of a price that exceeds the short run cost makes this a commercially attractive proposition, and that is true wherever the firm happens to be on its costs curve. At the margin, the sale in question will contribute more to revenues than it does to cost, so the firm will be better off accepting than rejecting the deal. If this sales opportunity turns out to be the only sale this firm makes in the year, it will lose money overall, since the profit contribution of €5 above that firm's variable costs will be insufficient to cover its €10 factory costs. But given that it must incur that €10 fixed cost anyway, it is better off making a €5 profit contribution than none at all.

In contrast, consider the considerations that would be relevant to offering this same proposition to the firm that was *just at the point of deciding* whether to invest in the factory. In this case, the customer order would not *on its own* be sufficient to persuade the firm to go ahead and make the factory investment, but if there was a reasonable prospect of two or more such customer orders over the year, it would contribute to justifying the decision to invest. Four such orders over the course of the year would provide the firm with a total profit contribution over avoidable costs of €20, and hence a profit of €10 after all fixed and variable costs are considered.[5]

1.3. Long run v avoidable costs

The Guidelines do not refer specifically to long v short run costs, but instead to a distinction between long run costs (as contained in the Guidelines' concept of Long Run Average Incremental Cost – "LRAIC") and avoidable costs (as contained in the concept of Average Avoidable Costs – "AAC"). The definition and implication of incremental costs is discussed in Section 2 below, but for current purposes the key distinction between the Guidelines' LRAIC and AAC standards is that the latter, by focusing only on *avoidable costs*, captures some notion of the short run. For example, the firm that has committed to build the factory in the illustration above cannot avoid that €10 fixed cost thereafter, and hence its pricing decisions should be based on the avoidable costs associated with the variable cost of €1 per unit. It is then very simple to determine that this firm should pursue any sales opportunities that provide a contribution in excess of this €1 per unit *avoidable* cost, irrespective of whether those contributions in aggregate suffice to pay back the *unavoidable* €10 fixed cost.

In this illustration, as in many simple textbook cases, the difference between unavoidable and avoidable costs is represented by the fixed v variable cost distinction.

[5] Revenues in this case would be €60, but total costs would be €50, comprising €10 fixed costs and €40 variable costs.

However, in real life industries it is often necessary to look more closely at the nature of cost decisions to draw the proper distinction between unavoidable and avoidable costs. The important distinction lies in whether costs are sunk (i.e. irreversible) or avoidable, though it is important to note that this distinction does not always match accounting conventions on whether such costs are classified as "fixed" or "variable".

For example, a classic sunk cost would be an investment in a cement factory. Once a firm has committed to build a cement plant, it is stuck with that choice and its location for maybe 20 years (i.e. the time at which the plant is spent and a re-build decision comes up), and this gives rise to a potentially large differences between short and long run costs. The fact that the cement factory cannot easily be sold off or redeployed in some alternative economic use means that although the firm that has made this investment has a strong commercial desire to achieve selling prices that make a sufficient profit contribution to remunerate the costs it has sunk in the building of the cement factory, its day to day pricing decisions are most rationally determined solely by reference to the variable costs that the firm can control.[6]

A contrasting scenario applies to an airline operating a route between a city pair. In common with the cement factory, the airline operator's decision to operate a route also requires the deployment of a very large fixed cost asset (i.e. an aircraft) whose costs are invariant to the number of passengers carried on that route. But because that asset can be redeployed on other routes (or sold/leased to other operators) within (say) a 6 month time period, it is avoidable in everything other than the very short term.

The distinction between avoidable and unavoidable costs provides a flexible framework that adjusts depending on the time periods over which firms make pricing and other decisions. For example, in the very short term many firms will be unable to adjust salaried employee numbers and hence employment salary costs should be excluded from avoidable costs. But after a longer period of time (say a few months) it might be more feasible for a firm to adjust employee numbers and hence these same costs are re-classified into the avoidable category. This simply reflects the fact that the short run encapsulates a potentially wide variety of different time scenarios on which more and more of the choices made by the firm when deciding output and capacity levels become variable. Complying with an avoidable cost standard requires the firm in question to adapt its pricing and other responses according to the changing options that are available to it when responding to new events such as competition from a rival supplier.[7]

1.4. Policy implications of choice between long v short run cost standard

In the context of allegations that a dominant firm's prices are exclusionary (for example in a predation or margin squeeze case) the key enforcement question is whether the

[6] The discussion here considers a single dominant cement manufacturer in a location, and does not take in to account the impact that oligopolistic interdependence might have on strategic pricing decisions in a location where the delivery areas of multiple cement producers overlap.

[7] One consequence of this is that a regulatory requirement for a firm to cover avoidable costs is often a "moving target" under which the requirement is easier to meet in the initial period, and then becomes tougher as time progresses and the class of avoidable costs expands.

dominant firm should be obliged to cover its long run costs, or its avoidable costs. In other words, what are the pros and cons of the choice between the Guidelines' LRAIC and AAC price/cost standards?

The answer to this question depends in part on the underlying objectives and philosophy behind laws on dominant firm abuses. If the objective of Article 102 is to encourage efficient outcomes there are some clear attractions in adopting an avoidable cost standard. First, it is a basic efficiency principle that prices should provide accurate signals for the use of society's scarce resources, and allowing firms to price on the basis of the costs they can control (and to ignore costs they cannot control) does provide for such signals, whilst also encouraging firms with market power to expand output to sales opportunities that will cover marginal costs of supply.

In contrast, requiring a dominant firm to set prices that cover its long run costs could cause the firm to walk away from sales opportunities that would provide lower prices to consumers whilst offering a positive profit contribution.

Moreover, imposing a requirement that firms should cover long run costs can lead to some notably perverse outcomes. Suppose, for example, that the firm in the illustration above is operating at a level of output of 10 units, at an average long run cost of €2 per unit, and that it charges a unit price of €2.50. If this firm faces a rival supplier that seeks to contest a single unit of those sales at a price of €1.80, how should the dominant firm respond?

- If the dominant firm makes no response, it will lose the customer to this lower priced offer.[8] That will also mean that the dominant firm loses the €1.50 profit contribution it was achieving on this unit prior to the rival's initiative.
- If the dominant firm takes a cautious approach to Article 102 compliance and constrains its response to cutting price to a level no lower than its long run costs of supply (currently €2.00) it will similarly lose the customer to the rival supplier. The €1.80 price offered by the rival supplier lies below the dominant firm's long run average total cost.
- But if instead the dominant firm assesses its pricing response options against an avoidable cost standard, it will calculate that any price in excess of €1 will contribute to profits and leave it better off than if it loses the sale, and hence it will respond to entry by reducing its price to (say) €1.75, to retain the customer.[9]

The pro-competitive commercial rationale for adopting this more aggressive price response is clear. Although it brings price below the long run average cost of the dominant firm (€2) it does not involve any strategic decision to sacrifice profits or to "invest" in the destruction of a rival. On the contrary, and paradoxically, the more

[8] For convenience, assume for these purposes that the rival firms produce homogenous outputs so that price is the only factor that will drive consumer choices. Assume also that the dominant firm has the ability to adjust price selectively to individual customers.

[9] If that response triggers further price reductions from the rival supplier, this process could in theory continue until the dominant firm reaches its walk-away price of €1.01.

cautious pricing response to restrict the dominant firm's price response to €2 would in fact entail a profit sacrifice because of the loss of the profit contribution that would be associated with selling that unit at a price above avoidable cost.

The key policy question is whether a response based on avoidable cost somehow violates the as-efficient competitor principle. If we look at short term, static efficiency considerations, it is clear that the AEC principle justifies this kind of pricing response from the incumbent. If the rival firm has a similar cost position to the dominant firm, it will be faced with a similar commercial calculation and will be able to sustain prices that come down close to its avoidable cost. But if the rival firm has higher avoidable costs, then it is an efficient outcome for the incumbent to produce a response that displaces the rival – fewer of society's scarce resources are used up if the incumbent supplies this contested unit of output than if the rival does.

Indeed, not only does the avoidable cost standard provide superior efficiency outcomes in the short term, but it also avoids some of the traps associated with forcing dominant firms to set prices according to costs that they cannot control. Suppose the dominant firm in the current illustration chooses to adopt a cautious approach, restricting its price response to a long run cost standard of €2.00. In that case it concedes this unit to the rival firm, in the process losing profitability. What is more, having lost this unit of output it would also be obliged to re-calculate its long run average cost on a new basis in which it now has fewer units (9 instead of the previous 10) over which to spread its fixed costs. This means that its new price floor increases from €2.00 to €2.11, making it even less able to respond on price to any further threats of lost business.

There is something clearly perverse about a pricing rule that commits a dominant firm to raise its prices in response to more intense competition, especially when to do so creates a risk that it makes increasing financial losses as its permitted price responses depart further and further form the efficient response based on avoidable costs. It is even plausible to imagine situations where a dominant incumbent, if it were slavishly to follow a long run cost pricing rule, could find itself forced to concede increasing sales volumes to rival suppliers as its permitted pricing response accelerated up its own average cost curve.[10]

Whilst there is clear merit in allowing dominant firms to adopt an avoidable cost test when deciding how to interpret the AEC test, it cannot however be said that the arguments point unambiguously towards the superiority of this approach. If dynamic and allocative efficiency considerations are also taken into account, it is possible to envisage scenarios in which placing additional constraints on dominant firm pricing responses could create more sustainable competition and better long run outcomes for consumers, even if that comes at a cost in the form of some losses to static efficiency.

For example, consider the position of a potential entrant that had not yet decided whether to commit to incur sunk entry costs, contemplating a challenge to the

[10] The end game here would be for the dominant firm to lose so many sales to rival suppliers that it lost its dominant position, at which point it would presumably be free of its special responsibilities, and hence be able to compete to win those sales back on normal commercial principles based on avoidable cost.

dominant firm. In the illustration above, if the potential entrant knew that the incumbent was free to respond to entry by cutting price to its avoidable costs, the prospect of such a price war could well discourage entry even if the entrant could have lower costs than the dominant incumbent. Moreover, the fact that entry was discouraged by the incumbent's freedom to respond on price could in theory allow that incumbent to charge supra-competitive prices for as long as that entry did not take place, thus restricting output and causing losses to both consumer welfare and allocative efficiency.[11]

It is perhaps unfortunate that the policy choices that underlie this kind of dilemma are not spelt out in the Guidelines, leaving it to the reader to speculate on whether the long run or avoidable cost standard should be applied when enforcing the law, and providing no guidance on how far the "special responsibility" of the dominant firm requires it to concede sales to rivals even when to do so involves passing up on profitable sales opportunities. Paragraph 43 of the Guidelines state that where prices lie above avoidable costs but below long run costs "the Commission will investigate whether other factors point to the conclusion that entry or expansion by as efficient competitors is likely to be affected." However, it is very hard to draw any operational meaning from this wording since the price-cost tests themselves are designed to determine whether the pricing conduct meets the AEC test.

The fact that the long run and avoidable (i.e. short run) cost standards are left to exist side by side in the Guidelines with no meaningful discussion of their pros and cons, when their application can lead to such different consequences, is one of the great uncertainties facing firms and their advisers when framing compliance advice in this area. More often than not, risk-averse firms choose to adopt a long run cost measure in order to avoid the substantial penalties that could flow from an abuse of dominance ruling. In the process, a substantial degree of flexibility in pricing, and substantial discounts that could have been granted to customers, are eliminated. At the same time, such constraints on the dominant firm's pricing sometimes provide opportunities for well-informed competitors to game the system, perhaps sheltering them from the full rigours of price competition.

2. INCREMENTAL COST V AVERAGE COST

The second major economic issue that underlies the choice of an appropriate cost standard is the choice between incremental cost, and average cost. In order to highlight this distinction, the remainder of this section assumes that in both cases we are concerned with the long run variants of these two different cost standards; i.e. the LRAIC that is cited in the Guidelines, and the ATC measure that is often referred to in cases such as *AKZO*.[12]

[11] Allocative inefficiency arises where prices exceed costs of supply, such as to discourage consumption and to supress market output below the levels that are socially optimal.

[12] Case C-62/86 *AKZO Chemie BV v Commission* [1991] ECR I-3359.

2.1. The ATC v LRAIC distinction

As noted above, average cost is defined as the total cost of performing an activity, divided by the number of units produced. Long run average total cost therefore requires the fixed costs to be allocated across all units of output to reflect the fact that in the long run the firm has the choice as to whether to incur those fixed costs.[13] Incremental cost, however, is defined as the extra cost required to supply an additional unit. Hence, the long run incremental cost can also require an allocation of fixed costs, but only insofar as such fixed costs are attributable to the product or activity in question.

For a single product firm, the long run average incremental cost and average total cost are the same, since both require that a suitable allocation of fixed costs is made across the units that the firm produces. The illustration discussed in Section 1 above shows how, in the presence of significant fixed cost, such average costs fall as the €10 of fixed costs comes to be spread over increasingly large numbers of units of output.

However, LRAIC and ATC diverge from one another in the case of a multi-product firm that shares a common cost across two activities. To illustrate this, suppose that the €10 fixed cost investment that our firm makes in its factory creates an asset that is capable of producing two separate outputs, A and B, each at a variable cost of €1 per unit. If that same factory would be required to make either A or B on its own, then the €10 fixed cost is described as a *common cost* across the two outputs. Crucially, it will not then form any part of the incremental cost of either A or B in isolation.

In this scenario, the incremental cost of producing A or B is simply €1 per unit, and does not depend on the level of output produced. In contrast, an ATC calculation for either product A or B would require some appropriate allocation of the fixed common cost towards each output.[14]

In economic terms, the presence of common costs means that there are *economies of scope* in the production of outputs A and B – i.e. it is more efficient to produce both outputs than to have two separate factories producing one output each. Clearly, if competition law is designed to promote efficient market outcomes it should set rules that encourage such economies of scope to be realised and to reward firms that achieve them. It would be an inefficient outcome for society if the production and supply of products A and B were organised in separate single-product factories when those same factories could double up to produce A and B together at a lower total cost.

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[13] There can be numerous conceptual and measurement issues involved in determining the relevant fixed cost, and the correct economic approach to this issue can often differ from accounting conventions or the way in which fixed costs are captured in financial statements. The simple assumption that fixed costs are €10 per annum in the illustration used in this article abstracts from these complexities.

[14] Various accounting rules exist as to how one can allocate the common costs between these two outputs. In economic terms, however, any such allocation method is arbitrary, since by definition the common factory cost does not strictly belong to either output, and even a permanent long term decision to close down the production of output A (B) would not permit the firm to save the factory costs so long as it continued to produce output B (A).

It is interesting to note that the Guidelines do not contain any significant discussion on the pros and cons of LRAIC v ATC. Instead, they clearly opt in favour of an incremental cost standard in which these economies of scope are treated as legitimate efficiency advantages of an incumbent multi-product firm. This clear preference for incremental costs over total costs contrasts to the much more ambivalent treatment in the Guidelines of the distinction between long run and avoidable costs, as discussed in Section 1 above, even though the conceptual issues raised by these two choices share many similar elements.

2.2. Incremental costs and the *Post Danmark* case

The distinction between average total cost and incremental cost considerations were crucial in the *Post Danmark* case because Post Danmark operated both an addressed and an unaddressed mail business using a largely common set of assets.[15] To simplify the facts of the case somewhat, Post Danmark's unaddressed mail appears to have utilised substantially the same delivery vans and postal workers as the addressed mail business, simply inserting unaddressed mail such as promotional leaflets in the delivery bags of postal delivery workers whose primary function was the delivery of addressed mail. By adopting a business model that combined addressed and unaddressed mail operations, Post Danmark enjoyed substantial economies of scope between the two activities.

The competition concern in the *Post Danmark* case arose from Post Danmark's unaddressed mail activities in which it faced competition. Specifically, Post Danmark was the subject of a complaint from unaddressed mail operator Forbruger-Kontakt ("FB") which claimed that Post Danmark had cut prices in an exclusionary and abusive manner when offering lower prices to attract three of FB's major clients. The Danish Konkurrencerådet found that Post Danmark had indeed offered selectively low prices to attract FB's clients, and that in at least one of the three instances it had won the business away from FB at a price that exceeded Post Danmark's incremental cost but failed to cover its average total cost.[16] The domestic authority's ruling that such conduct was abusive was appealed through various stages of the Danish legal system before being referred by a Danish Court to the ECJ for its appraisal.

In its Judgment, the ECJ offered some remarkably clear answers, based explicitly around the notion of the AEC test.

- First, at paragraph 22, it clearly established that dominant firms have the right to exclude rival suppliers if they do so through superior efficiency: "not every exclusionary effect is necessarily detrimental to competition." This clearly establishes the relevance of the AEC test.

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[15] *Post Danmark*, n 3.

[16] There is some question as to whether the Danish Authority properly measured PD's incremental costs in its assessment. On the face of it, the measure adopted by the Konkurrencerådet appeared to include some element of the common costs incurred by PD between its addressed and unaddressed business (see ECJ paragraph 33). However, this complication does not undermine the key points of substance in the ECJ's Judgment.

- Second, at paragraph 30 the ECJ rejected the notion that the simple fact of dominant firm price reductions being targeted against rivals (i.e. the act of "price discrimination") is not in itself abusive.
- Third, when conducting the AEC test in *Post Danmark's* case the ECJ clearly favoured the use of an incremental cost standard rather than a total cost standard. Specifically, it noted that the fact that Post Danmark's prices for unaddressed mail to one client "did not enable Post Danmark to cover the average total costs attributable to the activity of unaddressed mail distribution taken as a whole, but did enable it to cover the average incremental costs pertaining to that activity" was not sufficient to establish an abuse (see paragraphs 35-37).

An incremental cost standard (if properly applied) would allow a firm such as Post Danmark to take a free ride on those common costs in respect of the unaddressed mail business. It provides much greater pricing flexibility to Post Danmark than would exist under an average total cost standard in which an allocation of the fixed common costs would have to be made. This incremental cost approach is fully justified in terms of economic efficiency considerations, despite the fact that it could be considered "unfair" that Post Danmark had access to lower incremental costs simply because it happened to be a division of the monopoly addressed mail operator in Denmark. In effect, therefore, the ECJ's approach places efficiency considerations above those of equity or fairness. It seems to say that the economies of scope enjoyed by Post Danmark over rivals that operate standalone unaddressed mail services "belong" to Post Danmark and are therefore a legitimate source of competitive advantage that it can use to win business from such rivals without that being found to being abusive.

This ruling in favour of incremental costs is consistent with the main thrust of the Guidelines, which (as noted above) refer to incremental costs throughout to the exclusion of ATC in their discussion of price-cost tests for exclusionary abuse. However, footnote 19 of the Guidelines tends to cloud this otherwise clear position by stating (in the context of incremental cost calculations) that: "where common costs are significant, they may have to be taken into account when assessing the ability to foreclose as efficient competitors." This is a rather perplexing comment, since situations in which common costs are significant are, by definition, also those in which economies of scope are significant, and the idea that the benefits of such efficiencies might be disallowed precisely in those cases where they are large seems fundamentally inconsistent with the adoption of an efficiency standard. Fortunately, the ECJ evidently did not take up the Commission's invitation to apply this exception in the *Post Danmark* case.[17]

A case such as *Post Danmark* accentuates this distinction between total costs and incremental costs because the economies of scope between the two parts of Post

[17] It is hard to know whether the Court would have taken the same view on the price-cost tests in all circumstances. For example, the broader evidence around the complaint suggested that PD's rival had not been meaningfully foreclosed from the unaddressed mail market by PD's pricing responses, and this absence of an exclusionary effect might have influenced the Court to take a more liberal stance when deciding on the relevant price-cost test.

Danmark's business are very large, and because the rival unaddressed mail operators did not have an equal option to achieve those same scope economies. However, similar considerations can be present in many other industries in which abuse of dominance cases arise.

2.3. Parallels with the avoidable v long run costs debate

Since both the Guidelines and the ECJ appear to favour incremental costs over average total costs when applying the AEC test, it is interesting to consider whether there are any parallels or distinctions between this incremental v total costs choice and the much less well resolved choice, discussed in Section 1 above, between short and long run costs. Specifically, does the reasoning that has resulted in rejection of a total cost standard in favour of incremental costs shed any light on how one might resolve the much more open discussion between long run and avoidable costs?

There are some interesting conceptual parallels between the two debates that tend to suggest that a read-across from the incremental cost standard would favour an avoidable cost standard over a long run cost standard.

For example, if we consider the economic substance behind the ruling that Post Danmark should be accountable for its incremental costs rather than its total costs when selling unaddressed mail services, it is that the existence of the investments that Post Danmark has made in its addressed mail business should be taken as given when considering the *incremental costs* of adding an unaddressed mail business on top. The ECJ ruled that it was legitimate for Post Danmark to take advantage of the fact that these incremental costs, by virtue of the inherent efficiencies (i.e. economies of scope) that arise from combining an addressed and unaddressed mail business, are lower than the likely costs of a standalone unaddressed mail provider. The economy of scope creates a source of legitimate competitive advantage that could give Post Danmark pricing discretion to combat rival offers.

If we compare this with the situation of the dominant firm discussed in Section 1 above, the incentive and ability for the incumbent dominant firm to cut price in that case arose from the fact that it had already committed to its investment in the now-unavoidable factory cost, such that its only avoidable cost was the per-unit raw material cost that it faced. The case for choosing an avoidable cost standard in this scenario would be that the same kinds of conditional efficiencies apply – the difference is that the "given" fact in the incremental cost case is that common costs are already incurred in the pursuit of Post Danmark's addressed mail business, whereas in the avoidable cost case the "given" fact is that the dominant firm has already committed to incur its fixed costs.[18]

Indeed, in some cases the distinction between these scenarios could be very blurred. Suppose, for example, that the single product dominant firm described in Section 1

[18] There is also an arguable parallel to be drawn with the ECJ's permissive approach on price discrimination in the *PD* case. By emphasising that price discrimination is not objectionable in itself, the ECJ in effect accepts that a dominant firm can choose to recover common or fixed costs in a flexible manner and that each and every transaction price does not have to make an equal contribution to the task.

above sold its output across an entire country, but then started to face competition from a rival in just one region (say in the south, but not in the north). A decision of the dominant firm to price on a selective and incremental basis in the south (where it faced competition) could be characterised either as a failure of that firm's prices to cover the average long run total costs of its national operations, or as a legitimate decision to take advantage of the economies of scope that arise from operating in the north and the south, in which the long run incremental cost of operating in the south does not need to include an allocation of the fixed costs that would be incurred in any event for its operations in the north.

A further parallel arises from the difficulty of allocating fixed costs to individual units of output in the case of long run costs, and to allocating common costs to incremental outputs or businesses in the case of incremental cost calculations. Whilst it is relatively simple to define a mechanistic accounting rule that will perform such allocations (obvious candidates would include the allocation of fixed/common costs on the basis of total units of output, total revenues, customer/contract numbers etc.) any such rule is essentially arbitrary. Common costs do not "belong" to any one unit of output more than another, and similarly fixed costs that are sunk cannot then be saved or avoided by subsequent decisions to use those fixed assets more or less intensively. Imposing an accounting convention to make it appear as though such costs can be attached to individual units of output gives rise to a fiction that can lead to perverse results, such as the rule dictating that firms should raise prices as demand for their output falls.

These parallels do not absolutely dictate that the same approach must be taken in both situations, but they do reflect the tendency for an approach to the AEC test based on static efficiency considerations to favour greater pricing flexibility for dominant firms in their permissible pricing responses. They also highlight the tension between the apparent clear preference (in both the case law and the Guidelines) for incremental costs over average costs on the one hand, and the ambivalence between long run and avoidable costs on the other.

3. OTHER CONSIDERATIONS IN THE APPLICATION OF THE AEC TEST

There are various other issues and controversies in the application of the AEC test in addition to those discussed in Sections 1 and 2 above. This section briefly considers some of the other issues that have been raised and how they relate to the broader policy issues.

3.1. Applying AEC when "learning by doing" effects are present

In some industries it is possible for firms to reduce costs over time through so-called learning by doing effects. Recent entrants in such markets are inherently likely to be less efficient than incumbents that have already benefited from these effects, and this can give rise to an argument to adapt the AEC test into a "not yet" AEC test, whereby incumbents are obliged to refrain from fully effective price competition for a temporary period to allow the entrant an opportunity to catch up with the incumbent's cost advantages.

The case for extending the AEC test in this manner rests on an enforcement approach that sees a public policy case for offering *protection from competition* to temporarily less efficient rivals in the expectation of some greater consumer good in the medium to long term. In taking this stance, an enforcer would need to be confident in its ability to make judgments about cost conditions over time, and should also take into account the risks that this kind of protectionist policy poses for dynamic incentives. For example, there is evident merit in allowing the firm that has won a race to be first to achieve learning by doing advantages to gain the rewards from this dynamic efficiency, yet an enforcement policy that places an extra regulatory constraint on the successful first mover's ability to compete to protect its position will clearly dampen the rewards from such innovation. The adverse impact this could have on dynamic efficiency incentives must then be weighed against any consumer and competition benefits that are expected to arise from protecting rivals who arrive late.

3.2. Applying AEC when there are scale effects

A distinct but closely related phenomenon arises where there are important scale effects in an industry such that rivals to a dominant firm have higher costs only because they have not yet achieved sufficient scale. Taking the simple cost curve illustration in Section 1 above, for example, imagine both the dominant incumbent and the entrant operate from precisely the same cost curve, but that the incumbent starts from a scale of 25 units (average unit cost €1.40) whereas the entrant is at 2 units (average unit cost €6). It is arguable that, despite the cost difference, the incumbent is not "more efficient" in any fundamental sense – it simply benefits from a first mover advantage. This can lead to calls to protect smaller rivals from full price competition until they have an opportunity to move down the cost curve towards a point where they face comparable unit costs to the incumbent.

Elements of this approach can be seen in the regulatory policies adopted in some of the formerly state-owned utility sectors in Europe, where regulators have a positive duty to *promote* competition rather than simply to prevent abuse. For example, the Commission's Guidelines on the application of the EU competition laws in the telecoms sector refer specifically to a "reasonably efficient competitor" test that seeks to take account of the likelihood that entrants against incumbent telecom operators need additional protection in order to establish themselves as effective rivals.[19] One way to interpret this more pro-active duty is that regulators suspend full application of the AEC test in order to provide temporary protection to rivals, or to apply the AEC test in a modified manner that has the same net effect.

Such protection for smaller rivals can be achieved through a variety of mechanisms, for example by deliberately configuring price cost tests such as not to allow the incumbent to take advantage of its scale and/or scope economies when responding to rivals, or even by applying market share caps on the incumbent to provide a safe harbour to enable smaller rivals to gain scale. All such forms of protection deny consumers the

[19] See EU Commission, "Guidelines on the Application of the EEC Competition Rules in the Telecommunications Sector", [1991] OJ C233/2, 6 September 1991.

benefits of more aggressive price competition in the short run. They also carry a risk that the protected rivals will devote more energy towards lobbying for continued protection than to the development of a more sustainable form of competition on the merits. But in principle it is possible that a regime of managed competition can deliver long term benefits to efficiency and consumers if it creates sustainable rivalry that would otherwise have been snuffed out by an aggressive incumbent response. Specialist industry regulators are faced with the complex task of achieving this kind of managed outcome.

It is one thing, however, to allow a specialist industry regulator to have discretion to protect smaller rivals from lower cost incumbents that enjoy first mover advantages, and quite another to incorporate such protection into enforcement policy on abuse of dominance more generally. If abuse of dominance laws are to include an obligation on dominant firms to soft pedal on competition with the deliberate intention of protecting rival suppliers until they have a chance to become established, it would at the very least be preferable to spell out the nature of those obligations in enforcement Guidelines rather than require dominant firms to second guess the way in which such obligations could be built in to a modified AEC test.

3.3. Applying AEC in the presence of "above-cost predation" concerns.

A further scenario in which dynamic considerations might make a case for a modified AEC test arises in the context of above-cost predation. Paragraph 23 of the Guidelines enigmatically suggest:

> "the Commission recognises that in certain circumstances a less efficient competitor may also exert a constraint which should be taken into account when considering whether a particular price-based conduct leads to anticompetitive foreclosure."

In other words, the Guidelines seem to hint that in some (unspecified) circumstances it will turn the AEC test on its head if it sees a wider benefit to competition in doing so.[20] This is hardly an approach that will lead to legal certainty in the enforcement of Article 102, but due to the possible existence of a phenomenon known as "above-cost predation" it is not a position that is completely devoid of economic justification.[21]

Consider a situation in which there is no disagreement or ambiguity about the costs of the dominant firm or its potential rivals. Specifically, suppose the dominant firm has costs of €2 per unit whilst any actual or potential rival is (and will always be) significantly and unambiguously less efficient with a cost of €3. The dominant firm in this case clearly has the ability to drive rivals out of the market and/or deter entry by its credible threat to charge a price of (say) €2.50. If it does so, there is no loss to consumer welfare or competition, but suppose the dominant firm's credible threat to

[20] Further support for this view can be read into paragraph 29 of the Guidelines, which states "Where there is no residual competition and no foreseeable threat of entry, the protection of rivalry and the competitive process outweighs possible efficiency gains".

[21] For a fuller discussion of this phenomenon, see Aaron Edlin, 'Stopping Above-cost Predatory pricing', (2001) Yale Law Journal 941.

drop prices to this level not only drives out rivals but also deters others from attempting to enter even if the dominant firm were to raise prices to (say) €5. Although entry appears profitable for less efficient rivals at this price level, it is the expectation of post-entry price levels that determines the business case for entry, and in this example that post-entry price is destined to fall back to the €2.50 level that will guarantee failure for any prospective entrant.

In this (admittedly stylised) illustration, there is a possibility that consumer welfare would be better served by placing a constraint on the dominant firm's pricing flexibility, imposing a price floor just above the costs of its less efficient rivals (say at €3.50). In that scenario of protection to less efficient rivals, entry will occur and market prices will settle at the protected €3.50 level, offering a more competitive price outcome to consumers than under monopoly conditions (€5). Hence, this illustration shows how in principle the protection of inefficient competition might lead to better outcomes for consumers than having no competition at all.

This is another instance in which some degree of managed competition can in theory create superior long run outcomes for consumer welfare than the application of a mechanistic cost and efficiency standard. Before rushing to implement an enforcement standard that set out to protect less efficient rivals, however, there is a need to look hard at a number of policy questions and possible unintended consequences of such a stance. It is by no means clear that the use of instruments such as Article 102 to effect this kind of managed competition, when set against the extraordinary complexity for dominant firms seeking to comply with such rules, the scope for enforcement errors and the risk that enforcement efforts will come to be distorted by special protectionist pleading, makes it attractive to apply this kind of departure from AEC test principles.

3.4. Selective application of the AEC test and the General Court's *Intel* Judgment

Finally, the recent Judgment of the General Court in the *Intel* case has raised the possibility that the application of the AEC principle could apply selectively, i.e. to some categories of exclusionary conduct by dominant firms but not to others.[22] At paragraphs 140 to 152 of this Judgment, the Court clearly states its view that there is no real role for the AEC test where the exclusionary conduct takes the form of exclusivity provisions or incentives, because such conduct is deemed to be abusive by its very nature when carried out by a dominant firm. At paragraph 152 the Court explicitly distinguishes exclusivity contracts from the other pricing conduct (such as price discrimination, margin squeeze and predation cases) in which the AEC framework has been applied by the ECJ in the *Post Danmark* case[23] and elsewhere:

> "The obligation resulting from those judgments to carry out price and cost analyses is attributable to the fact that it is impossible to assess whether a price is abusive without comparing it with other prices and costs. A price cannot be unlawful in itself. However, in the case of an exclusivity rebate, it is the condition

[22] Case T-286/09 *Intel Corp v Commission*, ECLI:EU:T:2014:547.

[23] *Post Danmark*, n 3.

> of exclusive or quasi-exclusive supply to which its grant is subject rather than the amount of the rebate which makes it abusive."

It remains to be seen whether an appeal by Intel against the General Court judgment will lead to a reversal of this aspect by the ECJ. In the meantime it is necessary for firms and legal advisers to address this existing case law. From a strictly economic perspective, however, the case for applying an AEC test applies uniformly across all categories of exclusionary conduct, since the essential theory of harm – the possibility that a dominant firm will evade effective competition by eliminating rivalry – is the same in all cases.

Moreover, the desirability of a common approach to AEC applies even to the extent that (as has been argued earlier in this paper) there can be a valid case for orienting Article 102 enforcement policy such as to place tougher constraints on the freedoms of dominant firms to respond to competition (even though doing so will deny short term benefits to consumers and static efficiency). That more interventionist rationale could also apply across all forms of dominant firm conduct, and not just to conduct that happens to include exclusivity provisions. For example, paragraph 88 of the *Intel* judgment justifies a tough stance on exclusivity provisions on the grounds that competition is distorted wherever access to the market is made "more difficult" for rivals. Most economists would argue that a prohibition on making life difficult for smaller rivals sets the bar for intervention against dominant firm behaviour unrealistically low, but if that were to provide the relevant standard the same logic would apply equally to many forms of pricing behaviour such as the price discrimination conduct that was explicitly cleared by the ECJ in the *Post Danmark* case.

Hence, the fundamental objection to the apparent adoption of a piecemeal adoption of the AEC test, based on form not effect, that arises from the *Intel* judgment is one of inconsistency. This objection applies irrespective of one's view about the general level of restrictions that should apply to exclusionary conduct by dominant firms.

4. CONCLUDING THEMES

The AEC test is an attempt to define the line between abuse of dominance and legitimate competitive responses by dominant firms in the context of alleged exclusionary abuses. It plays a crucial role in the establishment of a more effects-based approach to the enforcement of laws against abuse of dominance, and marks a clear path away from an enforcement approach that seeks to protect competitors rather than the competitive process.

The inclusion of the AEC test in the Commission Guidelines in 2008 was therefore a significant development, and the subsequent adoption of the same test by the ECJ in judgments such as *Post Danmark* in 2012 also provides vital confirmation that the Court is prepared to permit dominant firms to compete on price, even to the point at which they might drive rivals out of the market. The Court's willingness to confirm that price discrimination by dominant firms is not in itself abusive is welcome for similar reasons. On the other hand, the General Court's judgment in the *Intel* case has for the moment

at least apparently closed off the application of the AEC test to dominant firm conduct that involves exclusivity provisions.

However, even for those forms of exclusionary conduct where the AEC test is accepted as a workable tool for enforcement there remain a number of outstanding issues in the application of the test that still leave great uncertainty as to how dominant firms need to behave in order to come out on the right side of the AEC test. This paper has discussed some of these issues in relation to the various price-cost tests that can be used to conduct the AEC test in cases of exclusionary pricing abuse, such as those involving alleged predatory pricing or margin squeeze. It highlights two central issues: the choice between avoidable costs and long run costs; and that between average costs and incremental costs.

As regards the average v incremental cost distinction, both the Guidelines and the ECJ (through the *Post Danmark* judgment) appear to have settled on incremental cost as the more appropriate measure. This is an important development which means that where dominant firms enjoy economies of scope between two related activities it is lawful for them to treat such economies as a legitimate source of competitive advantage that can be used to provide discounts to consumers and to undercut rivals. This outcome might well appear unfair to rival firms in some circumstances but it has a clear basis in terms of economic efficiency.

The current Article 102 enforcement position is much less clear as regards the distinction between avoidable and long run costs. An approach to the AEC test that required dominant firms to respond to competitive threats based on the costs that they can control (i.e. an avoidable cost test) would have clear benefits from a static efficiency perspective, and would in many ways mirror the approach that has been taken by the Commission and the ECJ when opting for incremental costs over total costs. In contrast, requiring dominant firms to cover long run costs even within timeframes when they do not have the ability to control such variables can lead to perverse and inefficient responses to competition that deny potential benefits to consumers.

However, the Guidelines refrain from stating any clear preference between these options, instead proposing avoidable and long run cost tests in parallel. In practice many dominant firms are understandably risk-averse when considering how to set prices to avoid abuse allegations and so they try to adopt a long run cost measure as their price floor when responding to rivals. This can cause consumers to be denied the benefits of lower prices even in some cases where there would be no real threat to the competitive process from a more aggressive response to rivals.

There is a sound efficiency case to be made for favouring an avoidable cost standard to applying the AEC test, and in many respects advocating an avoidable cost approach would be consistent with the clear preference that has been shown for incremental costs over average total costs. But the absence of any definitive guidance on the long run v avoidable cost debate reflects in part the fact that there can also be dangers to consumer welfare from applying this approach in a mechanistic fashion. Indeed, there are circumstances in which preventing dominant firms from adopting their own most efficient response to competition could be the best route to protecting competition and

long term efficiency and consumer interests. One of the central policy questions raised by this is whether an instrument such as the Article 102 prohibition is the appropriate way to intervene in markets to manage competition in this way, especially in view of the difficulty that this places on defining sensible compliance policies and the substantial penalties facing firms that are found to be guilty of abuse.

Faced with this complexity, it is perhaps unrealistic to imagine that any one simple price/cost screen can draw a robust dividing line between pro- and anti-competitive conduct in all circumstances. The reality is that such screens probably need to be applied in the context of a wider review of the impact of the conduct on the competitive process, and on prices and dynamic rivalry across the longer term. Nevertheless, the debate between the relative merits of long run v avoidable costs as the basis for the AEC test can be a useful device for highlighting the policy choices that lie behind these seemingly dry accounting choices. With the current status of the Guidelines and the Article 102 case law, many of these debates lie hidden. A more transparent debate on this aspect of the approach to the AEC test could yield significant benefits for enforcement in this area of competition law.