



# PRICE-COST TEST IN PREDATORY ABUSES: TREATMENT OF COMMON COST AND MULTIPERIOD

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Predatory prices are a particular type of exclusionary abuses prohibited by antitrust law.

Predation occurs when a dominant firm, by charging a lower price, deliberately incurs losses, or foregoes profits, in the short term, with the intent to foreclose competitors. Through this strategy, the dominant firm aims to strengthen or maintain its market power, eventually harming consumers.

The main element of a predation strategy is the sacrifice phase where the dominant firm charges lower prices and incurs an expected loss, or lower profits. This behaviour is rational when the dominant firm expects to foreclose or deter the entry of smaller rivals and thereby to increase its market power in the long period.

The antitrust analysis of predatory conducts takes into consideration several factors both qualitative and quantitative. However, an important role, in almost all jurisdictions, is played by price-cost tests.<sup>1</sup> There are different versions of price-cost tests, but all of them share the same methodology based on the comparison of the retail price of the dominant firm against a suitable cost benchmark. These tests assume that it would not make economic sense for a dominant firm to charge prices below some certain levels of cost and check whether the revenue of the dominant firm

actually covers the cost incurred to provide the product or service to consumers. If this is not the case, then the conduct might be deemed exclusionary.

Although these tests appear intuitive, their application in the context of an antitrust investigation or a firm's compliance analysis is complex and requires accurate economic analysis.

The elements that one has to define thoroughly in the application of price-cost tests are the following:

- Relevant production;
- Price measure;
- Firm efficiency level;
- Cost benchmark.

The definition of these elements is straightforward only under very rare conditions (for instance in those cases that involve only single product firms in the context of spot markets). Indeed, the practical application of these tests often entails some crucial aspects that need to be appropriately considered. Among these aspects two are particularly prominent. First, in the context of the definition of the appropriate cost benchmarks, there is the issue of the allocation of common cost. Second, in case of costs or revenues with a multi-period nature the application of price-cost tests needs to be

adapted. Indeed, the exact time period in which revenues or costs are borne should not unduly affect the results of the test (this is the case when, for instance fixed cost have an economic lifetime that spans over more periods; or, in case of long-term contracts, when acquisition costs and one-off revenues are relevant).

### COMMON COST ALLOCATION

The appropriate definition of the downstream cost benchmark is crucial for the correct implementation of the test. The European Commission identifies two cost benchmarks that are likely to be used in determining whether a price should be regarded as exclusionary: Average Avoidable Cost (AAC) and Long-Run Average Incremental Cost (LRAIC).

For the definition of these benchmarks it is then necessary to correctly define those costs that are “avoidable” or “incremental” within the meaning of the adopted cost benchmark. A pre-requisite for correctly determining the cost benchmark is the proper classification of the different costs along the following key dimensions (the actual classification would be based on the relevant production chosen and on the time period considered):

- Variable or Fixed;

*All variable cost would then be considered avoidable.*

- For fixed cost: avoidable or not avoidable;

*Only avoidable fixed cost might enter in the cost benchmark.*

A further classification, especially when defining LRAIC, requires to identify those costs that are common. These are those costs that are jointly sustained to produce both the relevant production (i.e. the part of production object of the alleged predatory strategy) and other part(s) of the production not object of the alleged abusive sales (sales of other product or services, or sales to a portion of consumers not considered in the relevant production).

In general common costs should not be included in the LRAIC. Yet, any cost that can be avoided by not producing a specific product should not be regarded as common and the mere fact that a cost is shared among different services does not necessarily imply that it should not be included in the calculation.

Therefore, for the correct definition of the cost benchmarks, it is necessary to identify the avoidable share of the common cost. To clarify this issue consider the following example. Suppose that a firm sells two products: spare parts for racing cars and spare parts for normal cars. The production of these two products shares some recently acquired high tech quality control equipment. The firm is dominant only in the sales of spare parts for racing cars, which sales are allegedly predatory. Also suppose that, if the firm were not to sell spare parts for racing cars, it will likely not use the high tech quality control equipment but rather it would have just adopted some internal quality control checks. In this case the recently purchases quality control technology should not be classified as a “true” common cost and should rather be considered as specific to the relevant production of spare parts for racing cars.

### TIME HORIZON

In some market environments the choice of the number of years over which to perform the analysis and the way in which costs and revenues are allocated over time are important aspects of the test application. Indeed, the assumptions made in this process could well affect the results of the tests and their interpretation. For instance, considering a too short time horizon might not take into account lawful strategies aimed at increasing the market share in a growing market context. Conversely, adopting a too long time horizon risks to include in the assessment the “fruits” of the foreclosure strategy, unduly inflating the revenue measure and biasing the test interpretation.

From a purely theoretical viewpoint the relevant time period should be set in relation

to the economic lifetime of the assets involved to produce the relevant production or the average lifetime of the customer base affected by the alleged abusive practice (in case of long-term contract). At the same time the choice of the time period should avoid to consider the possible rewards of the exclusionary strategy, this both in the context of a historical analysis or in the framework of a prospective analysis. In any case, the choice of a proper time horizon should be made on a case by case basis taking into account the specific features of the abuse under investigation.

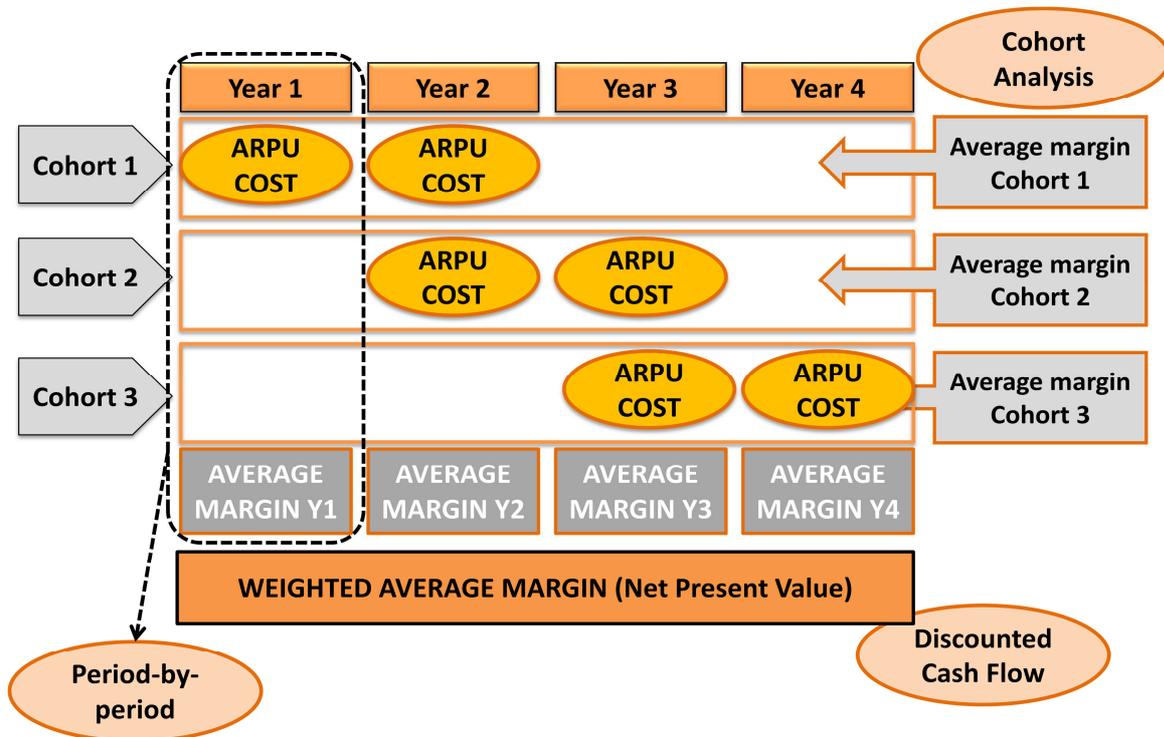
**Profitability Calculation**

Once defined the appropriate time period the application of the test requires to appropriately compare revenue and cost during the established time frame. There are three main methods to assess the profitability

of a firm in a multi period framework: the “period-by-period”, the discounted cash flow (“DCF”) and the “cohort” approach. Figure 1 presents a graphical representation of the different methods in a hypothetic market characterized by retail contracts with an average lifetime of two years.

The first method compares on a yearly (or shorter periods) basis the observed revenues and costs. This method is based on the comparison of modified cost and revenue figures that account for the amortised investment expenditures (or multi-period revenues) calculated over the appropriate time period. While relatively easy to implement, the period-by-period method, could suffer from accounting distortions and might not properly represent market dynamics and their impact on the profitability assessment (for instance in growing markets).

Figure 1



With the period-by-period methodology if revenues are above costs in every period the pricing strategy should not raise exclusionary concerns. Conversely if in all periods costs are below revenues there are clear signs of a possible anti-competitive foreclosure. In case the test fails only for some periods its interpretation is ambiguous and methods that directly aggregates costs and revenues over time might be preferred.

The second approach, namely the DCF, consists in summarizing the overall profitability of the firm over multiple periods in a single value. All the present and future cash flows are indeed discounted and aggregated in a single measure of overall profitability, the Net Present Value (NPV). The DCF is a dynamic approach that takes into account the dynamics of the firm's revenues and costs. If the NPV is positive there is evidence that the firm's strategy creates value. If it is negative it means that the alleged practice creates losses and this might raise anti-competitive concerns.

The DCF method is not without shortcomings. If the time horizon is not carefully chosen there might be the risk to include in the cash flows calculation the benefits arising from the anticompetitive behavior. Moreover, the approach is sensitive to the assumptions made, in particular the time horizon over which the analysis is performed and the discount rate used for the NPV calculation. Hence the sensitivity of the DCF analysis to these factors should be appropriately checked.

The third approach, called "cohort" analysis, measures the profitability of given groups of customers (the cohorts). The example given in Figure 1 considers cohorts of clients that have a lifetime horizon of two years. The profitability of the cohort is measured in an NPV framework, comparing the cost of acquiring the customers with the discounted future profits from those customers. This approach represents a valuable tool for assessing whether a service generates a sufficient margin and might be sustainable in

the long run. It can also be used in comparison with the DCF approach in order to interpret the results of the NPV analysis of the whole business, identifying which segment of a firm's business is unprofitable and might raise anticompetitive concerns.

## CONCLUSIONS

The antitrust analysis of price based exclusionary abuses (predatory prices and margin squeeze cases) almost always entails the application of price-cost tests. These tests assess the profitability of the strategy under scrutiny which might be deemed exclusionary if there is evidence that the dominant firm sustains losses, to provide the product or service to consumers, and this is not explained by other economic justifications.

Price-cost tests, although intuitive, are complex to compute and their implementation is based on the definition of several factors and assumptions. In particular the application of price-cost test in many market settings entails the careful identification of common costs and an appropriate allocation of revenues and cost over time. The definition of both these elements is indeed crucial in markets characterized, respectively, by multiproduct firms and long-term contracts, and their appropriate calculation is necessary for a correct test interpretation, both during an antitrust investigation or for compliance purposes.

If you would like further information about the implementation of these tests, please contact us.

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## Notes

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<sup>1</sup> Note that similar price-cost tests are applied in the margin squeeze cases, another type of price based exclusionary abuses. Accordingly, the discussion presented in this note can be extended also to the assessment of margin squeeze.