Anticompetitive vs Competitive Explanations of Unilateral Practices: the Identification Problem[1]

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Abstract: We consider the application of Article 82 using an economic approach. We argue that proving a given practice to be anticompetitive or instead efficient requires to solve an identification problem. We need to spell out in details not only the anticompetitive story, related to the type of alleged anticompetitive strategy, but also the alternative competitive explanation, extracting the empirical predictions of the two. Comparing these latter we can identify the factual elements that, occurring under both circumstances, are admissible under both of them, and those that instead, being specific to one of the stories, allow discriminating between them. We apply this approach to a recent Italian case of selective price cuts, an example of predation where the dominant firm tries to eliminate a competitor by offering selectively discounts to the clients of the target. The Authority condemned RDB, a medium size firm active in the market for construction materials, based on a rich empirical analysis. We show that, once the two stories are properly described, the evidence provided in the decision of the Antitrust Authority is consistent with a competitive strategy of decentralized price negotiation while it is in sharp contrast with the empirical predictions derived from a predatory model of selective price cuts.

1. Introduction

Anticompetitive practices are one of the hot topics in the debate on competition policy in recent years. Following the important reforms on article 81 and merger control, the DG Competition has opened in 2004 the discussion on the enforcement of article 82. The punch-line, that reminds the parallel reforms in the previous years, rests on a more widespread use of the new findings of economic analysis in the enforcement against unilateral practices. In 2005 the report by a group of economic advisors of the Chief Economist and the Discussion paper by the offices have proposed, with some differences and many common elements, a new approach to the enforcement of article 82[2]. The general discussion on the method has come together with a detailed analysis of the different practices, showing how a deeper use of the economic findings can be translated into guidelines and protocols of investigation useful to the authorities and the firms.

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[1] I acted as economic expert for RDB in the case before the Italian Antitrust Authority. I wish to thank Guido Cervigni, Chiara Fumagalli, Massimo Motta and the participants to the MPI Conference "Foundations and Limitations of an Economic Approach to Article 82", Munich 2009, for helpful discussions and Massimo Tognoni for assistance in the empirical analysis. The views expressed in the paper do not involve RDB.

[2] See Gual J. Et al (2005) An Economic Approach to Artiche 82, Report for the DGCompetition, European Commission. 2005, published also in *Competition Policy International*, 2: 111-156, and DG Competition (2005), Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses.

In this paper we start in section 2 from a general methodological point on the use of economic analysis in the application of article 82, proposing what we call an identification approach, and then in section 3 we apply it to a specific anticompetitive practice, selective price cuts, using a recent Italian case.

2. Foreclosure vs intense competition: the construction of an identification test

The most compelling task in the application of article 82 rests on the need to distinguish unilateral practices aimed at foreclosing the market from conducts that characterize competition in an oligopolistic environment. The legal rule, indeed, prohibiting the abuse of a dominant position is intended to prevent the former without restricting too much the scope of oligopolistic competition. The enforcer should try to prevent abuses without chilling competition on the merits.

The traditional approach, implicitly based on an oversimplified economic analysis, in many cases tended to consider as anticompetitive the simple adoption of certain practices by a dominant firm: this "form-based" approach required to identify a given conduct looking at its formal characteristics and to assess dominance, without entering into more articulated arguments or analysis. The background that justified this approach could be found in the very simplistic analysis of certain practices in the traditional Industrial Economics up to the Seventies. The sharp critiques from the Chicago School broke this received view introducing simple but strong arguments that put doubts on the oversimplified presumption that certain practices had always an anticompetitive purpose and effect when adopted by a dominant firm. The rich contributions of the Post-Chicago Industrial Organization literature have offered additional arguments in favour of a more articulated analysis.

The current view on unilateral conducts stresses that a given practice may or may not lead to foreclosure according to the different strategies and characteristics of the firms involved and the economic environment in which they operate. The modern literature offers a rich set of explanations and models among which the enforcer can select the more appropriate to the case. This allows refining the underlying analysis and identifying the empirical predictions consistent with the economic interpretation, a sound preliminary step to consider the factual elements of the case.

In this perspective, we argue that the correct evaluation of a given episode requires a double task. First, we need to carefully specify the kind of anticompetitive story we have in mind. For instance,

if predatory pricing is the alleged practice, the enforcer cannot merely mention the case of aggressive commercial practices and low prices to prove the case. Today we know that predatory pricing can be realized in different ways, by building a reputation of aggressive player, or by manipulating the ability of the competitor to obtain external finance, of by jamming the signals on market profitability.[3] Each of these explanations is based on a different set of assumptions, that make it fit or unfit to the specific case under investigation, and implies different empirical predictions that can be compared with the data. The first task in the handling of a specific case, therefore, is to move from a vague reference to predation to a well specified anticompetitive story that supposedly fits the situation under investigation. This precise explanation allows listing the empirical facts that we should find according to it.

But this is not the whole job. Some of the empirical facts suggested by the anticompetitive story, indeed, may come along even when firms are adopting aggressive but lawful competitive strategies in the market, i.e. they are admissible under both an anticompetitive and a competitive interpretation. We need therefore, as the second step, to analyze the characteristics of the market environment and the mode of competition that would better fit the case when no anticompetitive strategy is in place. For instance, the industry under investigation might be characterized as a bidding market[4], or it might work through a sequence of auctions. Proceeding this way, we can identify a model of oligopolistic competition that might potentially fit the characteristics of the industry and obtain a parallel set of empirical predictions consistent with the specific mode of (lawful) competition in the market.

By spelling out the competitive and anticompetitive stories and extracting their empirical predictions, we can figure out which are the factual elements that may identify and validate one or the other explanation. We would distinguish those empirical observations that are admissible under both models, since both stories predict them, from those factual elements that instead allow discriminating between the alternative explanations, since they should be found only in one of the two cases. Applying the economic analysis, therefore, we can better refine the analysis of the case by selecting those empirical findings that indeed prove one explanation against the other, i.e. that allow to solve the underlying identification problem.

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[3]On the reputation model see Kreps D., R. Wilson (1982), Reputation and Imperfect Information, *Journal of Economic Theory,* 27: 253-79. Financial predation is introduced in Bolton, P,, and D. Scharfstein (1990), A Theory of Predation Based on Agency Problems in Financial Contracting, *American Economic Review*, 80: 93-106. Finally, the model of signal jamming is developed in Milgrom P., J. Roberts (1982), Predation, Reputation and Entry Deterrence, *Journal of Economic Theory*, 27: 280-312.

[4] See P.Klemperer, Bidding Markets, (2005). Available at SSRN: http://ssrn.com/abstract=776524

In the next section we apply this general approach to a recent case that involves selective price cuts and that has been handled by the Italian antitrust authority and gone through the Appeal phase.

3. The *RDB* case

In December 2005 the Italian Antitrust Authority (AA)[5] opened an investigation on RDB, a medium size company active in the construction materials industry. RDB offers a full range of concrete materials including the aerated autoclaved concrete (AAC), that is produced in the subsidiary RDB Hebel SpA (RDBH)[6], owned by RDB (51%) and Xella (44%) using a licence of this latter German company. Xella, that belongs to the international Haniel group, one of the largest operators in the industry, has also a commercial activity in Italy run by Xella Italia, directly distributing the AAC mainly in the northern regions. In 2006 RDB and RDBH turnover have been respectively 208 and 28 mln euros.

The case was initiated by the complaints of Italgasbeton (ITGB), a small competitor in the AAC segment that claimed to be the target of an aggressive commercial strategy realized during 2005 and intended to exclude it from the market.[7] ITGB is a small company located close to Rome producing and distributing mainly in centre Italy a specific variety of AAC under its own proprietary technology. Its turnover in 2006 has been 5 mln. euros.

The Authority identified the relevant market with the AAC products only, considering them a separate and independent component with respect to the other concrete products used in the construction industry. This approach seems extremely weak and the evidence provided is mainly based on the technical features that distinguish AAC from other concretes, on the gross differences in prices (not adjusted for quality or for the related setting up costs) and on interviews to the customers in which it was asked whether in their opinion "the AAC has specific technical characteristics compared to other concrete products". No SSNIP test was proposed to the interviewed customers, nor was it run any assessment of the degree of substitutability.

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[5] The Italian Authority is the "Autorità Garante della Concorrenza a del Mercato".

[6] RDB commercializes CCA produced by RDBH under an exclusive dealing agreement with this latter.

[7] Given the complex ownership structure of the RDB company, the AA added to the anticompetitive practice allegation also that of an agreement with Xella concerning a coordination of the commercial policies of RDB and Xella Italia in the final market.

We argue that the market definition was extremely restrictive given the wide substitutability with other concrete products (and quite instrumental to show that RDB has a dominant position). However, in this paper we want to focus on the allegation of selective price cuts, and therefore we do not go in depth into the discussion of the relevant market.[8] We just mention that RDB has a large market share in the AAC segment but is has a small market share if we consider the larger market of concrete products for the construction industry.

The development of the AAC market in Italy is relatively recent, contrary to the wide diffusion of this product in northern Europe. During the Nineties some small companies started to operate under foreign licences and RDB realized several acquisitions, consolidating its market position.[9] In particular, in 2000 and 2004 RDB acquired two producers located in the same area where traditionally ITGB had most of its clientele. As a result, the RDB's production plants are now located in northern and centre Italy[10]. Although in the decision the precise figures of market shares are not reported, in 2005 RDB covered around 70% of the AAC market as defined above, and ITGB around 15%. Hence, if the definition of the relevant market is accepted, RDB's market share is so large that any additional element to assess its dominant position would be considered unnecessary under the current practice.

In the AAC market (and in the market for concrete products at large) each producer operates through a distribution network of retail agents that contact the clients and negotiate the commercial conditions. In some areas the clients are mainly resellers that deal with the individual homebuilding enterprises while in other situations the agents directly negotiate with the (large) construction companies active in the area. The market process is therefore completely decentralized and the commercial terms are set client by client.

We move now to describe the anticompetitive and competitive explanations that fit these characteristics of the industry.

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[8] For the same reason we drop in this paper the discussion on the allegation of an agreement between Xella and RDB, the two main shareholders of the production unit RDBH, to limit the distribution activity of Xella Italia in the final market.

[9] A process of consolidation is observed in the same years also in Europe, where the Hasiel group reached a leading position in this segment.

[10] RDB closed the production plant of one of the two companies, Italsiporex, after the acquisition due to its inefficiency. This plant, located in Pratica (FR) was the closer to the production facilities of ITGB. This latter company before the entrance of the RDB in the centre Italy market was mainly competing with small and weak rivals.

3.1 The anticompetitive story: selective price cuts

The decision does not identify a specific model of predation, among those analyzed in the economic literature and considered in the practice[11], and interprets RDB's commercial strategies referring in general to selective price cuts and predation. The analysis is mainly empirical and it is based on a rich data-set of over 40.000 invoices that RDB issued to the clients during 2005. Each invoice reports the name of the client, the geographical area, the quantity and price of the order and additional commercial conditions.

The AA has applied the Akzo test invoice by invoice, distinguishing among them according to the level of the unit price and identifying three groups: those with a price above the average total cost (ATC), those with a price between the average total cost and the average variable cost (AVC) and those with a price below this latter threshold. Moreover, the AA sorted the invoices into three groups of clients: those that in the previous year already purchased from RDB (RDB long term clients, or simply "long-term"), clients that in 2005 purchased the AAC from both RDB and ITGB (RDB-ITGB common clients, in short, "common") and those customers that during 2005 moved completely from ITGB to RDB (clients subtracted to ITGB, or "subtracted"). The latter two groups are those that traditionally belonged to the ITGB clientele and that therefore were the potential target of the aggressive commercial strategy allegedly promoted by RDB.

The decision does not spell out how the process that leads to a given price offer takes place. However, we can imagine that the specific price set by firm i to client j depends first on the market strategy, i.e. predation according to the AA's view, and on other contingencies that may include the relative bargaining power of the agent and the client, the importance of the client in terms of location, flow of orders, future perspectives etc., and possibly the specific cost of serving that client. Hence, the price p_i^j of a given order of firm i to client j can be expressed as

$$p_i^j = p_i(ST_i^j, X_i^j, BP_i^j) \tag{1}$$

where ST_i^j is the strategy of firm i towards client j, X_i^j the vector of demand and cost conditions that characterize the provision of AAC to client j, and BP_i^j the bargaining power of firm i's sales agent when dealing with client j.

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[11]See Bolton, P., J. Brodley and M. Riordan, 2000, Predatory Pricing: Strategic Theory and Legal Policy, *Georgetown Law Review*, 88: 2239-2330.

According to the notion of a selective price cut strategy, if client *j* was served in the past by the target firm, firm *i* will offer, *coeteris paribus*, a lower price compared to those set to the clients of other companies or to its own historical clients. In the case under discussion, we can empirically identify the potential target clients of the alleged predatory strategy implemented by RDB. These are the clients that the authority classifies as common and subtracted. Hence, the first prediction that should be tested is that the variable ST_i^j induces a negative impact on the price p_i^j when *j=com,sub* while it does not affect the price when *j=lt*.

Turning back to the description of the price formation process in equation (1), if we consider explicitly just the strategy followed and group the effect of all the other explanatory variables into an error term ε_i^j, we obtain a distribution of prices:

$$p_i^j = P_i(ST_i^j) + \varepsilon_i^j \tag{2}$$

We can assume a symmetric and bell-shaped i.i.d. distribution $f(\varepsilon_i^j)$ with an associated cumulative density function *F(x)*. Then, we observe a distribution of observed prices around the predicted component $P_i(ST_i^j)$, that shifts down for *j=com, sub* according to the anticompetitive explanation.. If we fix a threshold at the average variable cost or the average total cost (ATC) according to the AKZO test, we should observe a higher frequency of orders whose price falls below ATC for clients *j=com,sub* than for clients *j=lt*. For instance,

$$F(ATC_i - P_i(ST_i^j, j = com, sub) > F(ATC_i - P_i(ST_i^j j = lt) \tag{3}$$

If instead, in an econometric estimate of equation (1), we condition also on the demand and costs controls X_i^j and use a dummy variable to identify common and subtracted clients (using long term clients as the benchmark), we should obtain a negative and significant coefficient for these two types of customers.

A selective price cut strategy, moreover, cannot be identified simply by looking at the frequency of below cost orders, since there is no obvious threshold for this frequency that would force the target firm to exit. We have indeed to consider an additional condition, namely that by replicating the pricing strategy of the incumbent and winning back the lost sales, the target firm would not incur in overall losses. This aggregate test allows to verify whether the losses incurred in the below cost orders would be more than balanced by the margins realized on the above cost invoices. Only if this

occurs, indeed, selective price cuts would be sufficiently relevant to force the target firm out of the market. Hence, letting q_i^j be the quantities sold to client j (or set in the j invoice), the second condition is

$$\sum_{j=1}^{J} p_i^j q_i^j < C_i(\sum_{j=1}^{J} q_i^j) \qquad (4)$$

where $C_i(\cdot)$ is the total cost function. The picture below shows the empirical implications of the model of selective price cuts.
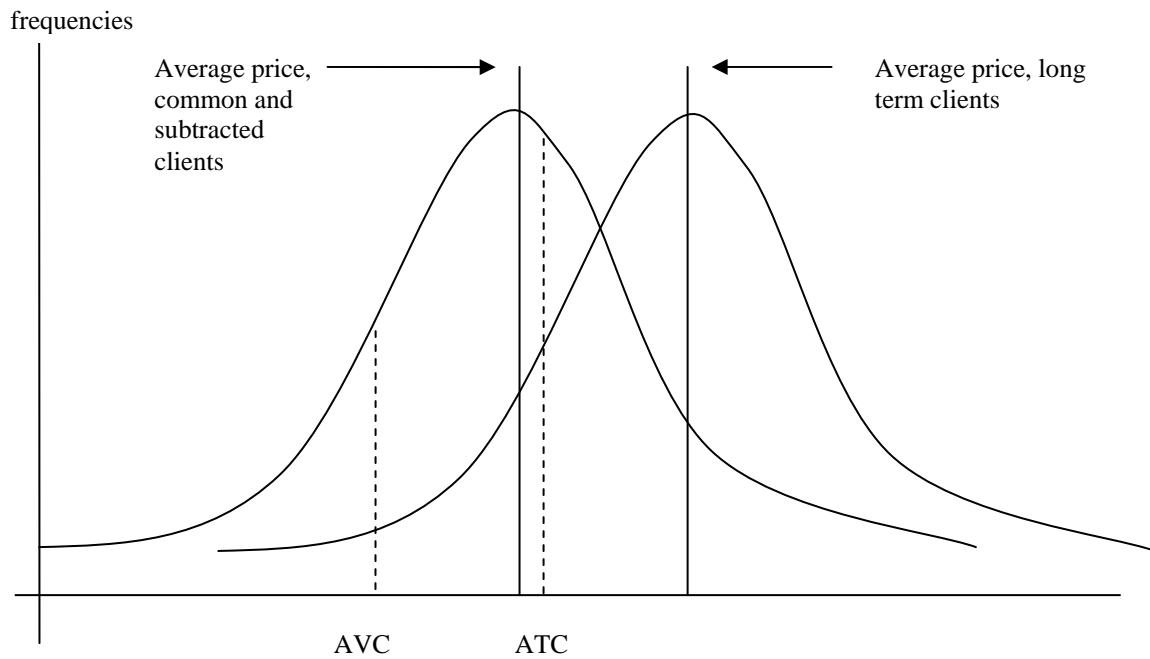

Figure 1 – <u>Price distribution according to the selective price cut explanation</u>

Summing up, if RDB wanted to force ITGB to leave the market we should observe the following facts:

a1: the average margin (p-AVC) is lower for common and subtracted clients than for long term clients;

a2: given the thresholds of the Akzo test, the percentage of invoices falling below AVC and between AVC and ATC is higher for common and subtracted clients than for historical ones;

a3: in an econometric estimate of the unit margin (p-ATC), once controlled for firm, client and market characteristics, the sign of the dummy variable for common and subtracted clients (using long term as the benchmark) is negative and significant;

a4: total revenues on common and subtracted clients fall short of total cost for their provision.

3.2 The competitive story: decentralized trade and multilateral negotiations.

Once spelled out the anticompetitive story, we turn to a possible alternative explanation of the facts. The decision does not address any analysis of how this market would work absent any predatory practice, what we call the competitive story. Although in the decision we cannot find any precise insight on how the agents contact and negotiate with the clients, there is a simple prediction that can be spelled out. The terms of trade will depend, first of all, on the pattern of negotiation that the client sets up and, more specifically, whether he starts bargaining with a single agent or, instead, at the same time with the agents of the two firms. The case of multilateral negotiations, indeed, allows exploiting some form of competition between the agents that leads to a lower price and better conditions for the client.

This seems a general property even if we cannot specify, on the basis of the information provided in the decision, the precise way in which negotiation takes place (client-agent bargaining, simple auctions organized by the client, etc). Hence, even without setting up a specific model of price formation, we expect that the terms of the contract should be more favourable to the clients when they negotiate at the same time with more than one provider, since in this case the customer would be able to compare the offers and create some competition among agents. Conversely, when dealing with a single source, the price should be higher. The same prediction would come out if, instead, the agent-customer relationship takes the form of a sort of procurement for the provision of AAC: even in this case, inviting to bid more than one agent should determine a more favourable outcome for the customer.

This argument leads us to consider the form of negotiation as crucial in determining the final price. The additional elements that characterize the single provision and/or client (cost and demand features, bargaining ability, etc.) will add to this component determining a distribution of prices around a mean that will differ for trades that started with single or multilateral negotiations.

If all the clients are completely free to choose how to set up their negotiation process, we expect that they will opt for multilateral negotiations with the agents of the two firms, accepting in the end the contract(s) associated to the best offer(s). This outcome may correspond to purchasing from a single provider, that proposed the better terms, or alternatively to sharing the provision between the two agents, if the offers are equivalent or the more convenient provider is not able to cover the

whole order. We define this first model of decentralized trade, in which the agents choose the form of negotiation, as the *model with endogenous negotiation*. The key empirical implication of this framework is that the process that leads to determine the final prices is the same for all clients, and the distribution of prices around the mean is the same no matter if the contract is signed with a single or with two providers.

A second possible description of the competitive process in this market assumes that not all the clients can freely choose how to set up their negotiation process. This constraint may depend for instance on logistic or geographical reasons that do not allow reaching on equal grounds the agents of both providers, or on a small scale of the orders that does not make it convenient to set up a more complex bargaining process, or on traditional habits in the business model adopted. We assume in this case that a fraction of the clients is exogenously adopting a single negotiation process while the others freely choose the preferred negotiation mode, opting for the multilateral one. In this second framework, which we can label as a *model with exogenous negotiation*, we expect that the final price will higher, *coeteris paribus*, for the clients committed to single negotiation than for those opting for multiple negotiations. Hence, we obtain two distributions of prices (determined, around the mean, by the additional idiosyncratic elements that enter in the individual negotiation processes): the one of committed (single negotiation) clients around a higher average price than the one of uncommitted (multilateral negotiation) clients.

The two competitive models of price formation with decentralized trades suggest that, if the mode of negotiation is endogenous the observed prices belong to the same distribution for all clients while we should have two different distributions for committed and uncommitted clients in case of exogenous mode of negotiation. In order to identify comparable empirical predictions of the competitive stories, we need to map the relevant types of clients that derive from the endogenous and exogenous negotiation models into the classification of long-term, common and subtracted clients adopted in the decision.

The endogenous negotiation case gives an immediate answer: the prices of long-term, common and subtracted clients are generated by the same competitive process and therefore belong to the same distribution; moreover, since the price formation is the outcome of oligopolistic competition with no foreclosure intent, the total revenues on each type of client covers the corresponding costs, implying full replicability of the incumbent commercial strategy. We can summarize these arguments in the following list of predictions:

b1: the average margin (p-AVC) is the same for common, subtracted and long term clients;

b2: given the thresholds of the Akzo test, the percentage of invoices falling below AVC and between AVC and ATC is not statistically different for common, subtracted and long-term clients;

b3: in an econometric estimate of the unit margin (p-ATC), once controlled for firm, client and market characteristics, the sign of the dummy variable for common and subtracted clients (using long term as the benchmark) is not statistically different from zero;

b4: total revenues on common and subtracted clients are larger than the total cost for their provision.

The figure below summarizes these predictions.

frequencies

average p long-term, common and subtracted clients
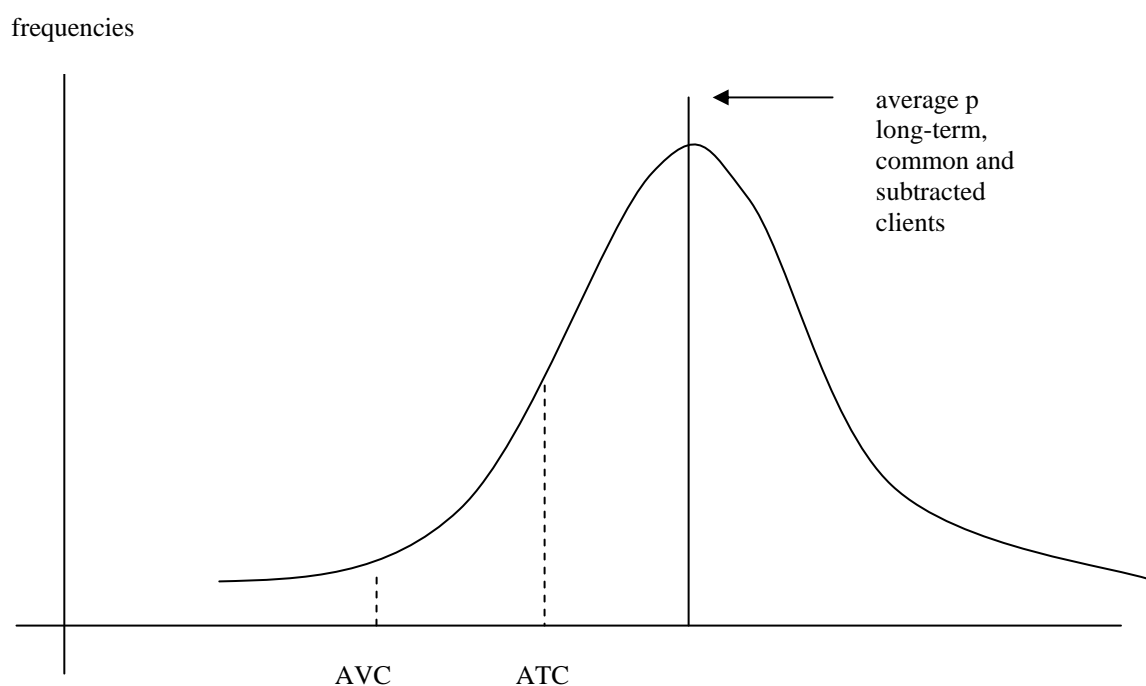
AVC   ATC

Figure 2 – <u>Price distribution according to the endogenous negotiation competitive explanation</u>

Turning to the second model of decentralized trade, in which a fraction of clients is exogenously committed to deal with a single agent, we can link this classification to the one adopted in the empirical analysis of the decision in the following way. First of all, all the clients that purchase from the agents of the two firms, i.e. the common clients, are customers that set up a multilateral negotiation and end it up buying from the two firms. On the contrary, the clients that, *ex-post*, purchase only from RDB (long-term and subtracted) may belong either to the fraction of committed customers that cannot manage multilateral negotiations, or to the uncommitted ones. These latter

start negotiating with both firms and decide in the end to purchase from RDB only. Hence, we conclude that while all the common clients are also uncommitted customers, long-term and subtracted clients include both committed and uncommitted customers. Since uncommitted clients (opting for multilateral negotiations), on average, receive better offers, we expect two different distributions of prices generated by the competitive process, one for the common clients and the other, around a higher average price, for the subtracted and long-term ones. Consequently, the cumulated frequency of prices that fall below the average total cost should be larger for common clients than for the other two groups, as represented in figure 3:

$$F(ATC_i - P_i(BP_i^j, j = com) > F(ATC_i - P_i(BP_i^j j = lt, sub)$$ (5)
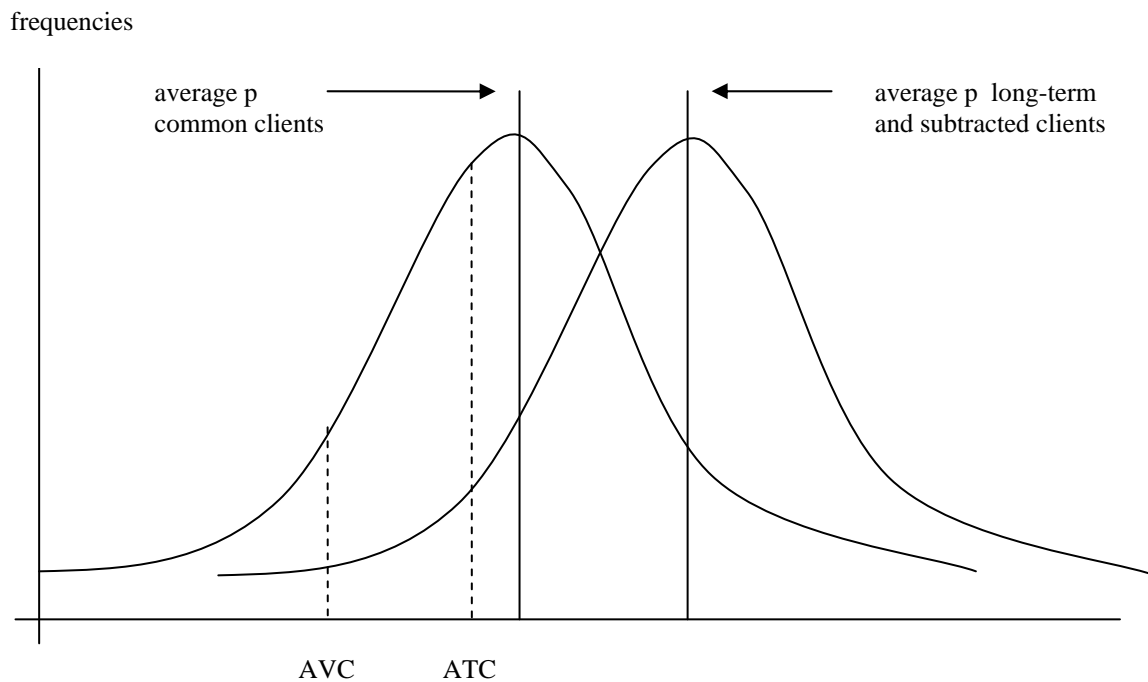

Figure 3– <u>Price distribution according to the exogenous negotiation competitive explanation</u>

We can sum up the empirical predictions of the exogenous negotiation model in the following:

> **c1**: the average margin (p-AVC) is lower for common than for subtracted and long term clients;
>
> **c2**: given the thresholds of the Akzo test, the percentage of invoices falling below AVC and between AVC and ATC is larger for common than for subtracted and long-term clients;
>
> **c3**: in an econometric estimate of the unit margin (p-ATC), once controlled for firm, client and market characteristics, the sign of the dummy variable for common clients is negative

and significant while that of subtracted clients (using long term as the benchmark) is not statistically different from zero;

c4: total revenues on common and subtracted clients are larger than the total cost for their provision.

The economic analysis has led us to three possible explanations of the basic facts: the anticompetitive story of selective price cuts and two competitive stories of decentralized trade in which all the customers can set up the preferred negotiation procedure (endogenous negotiation) or some of them are committed to deal with a single provider (exogenous negotiation). The corresponding empirical predictions (a1-a4, b1-b4 and c1-c4) offer a set of mutually excluding factual elements that can be compared with the data. In the next section we consider the evidence presented in the decision and try identifying the story consistent with the data.

3.3 The empirical findings in the decision

During its investigation the Authority implemented the Akzo test constructing a measure of average variable costs and average total cost based on RDB's internal industrial accounting.[12] The relevant thresholds have been then compared with the unit price invoice by invoice.

Table 1 shows the percentage of invoices issues by RDB in 2005 classified by type of client (long term, common and subtracted) and by price intervals, according to the Akzo thresholds. The total number of invoices, volumes and margins are reported as well.[13]

The decision shows (p.75) also a similar analysis that aggregates the invoices per client, indentifying those customers that over the year obtained on the overall purchases an average price falling in one of the three intervals. Among the long term customers an average price between the average total cost and the average variable cost is observed in 2005 with a frequency of 3.65%, while 15.03% of the common customers and 5.17% of the subtracted clients fall in the same price interval.

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[12] RDB claimed that the assessment of the fixed cost was excessive due to an incorrect yearly split of investment depreciation and advertising expenses. The average fixed cost assessed by the AA is 15.34 €/m^3 while the lower figure proposed by RDB amounts to 11.56 €/m^3. Although this difference affects the relative frequency of below cost invoices, the overall picture is qualitatively similar in the two cases and the main conclusions hold true under both scenarios.

[13] If we adopt the measure of the average fixed costs proposed by RDB, the relative frequency of the orders with a unit price between the average variable and the average total costs is 2.71% for the long term clients, 5,05% for the common customers and 3,27% for the subtracted ones.

Table 1 - Percentage of invoices by type of client and interval of prices

	RDB Long term clients	Common Clients	Subtracted Clients
p < AVC	0,36%	0,48%	0,82%
AVC ≤ p < ATC	**4,97%**	**10,65%**	**5,18%**
ATC ≤ p	94,67%	88,87%	94,00%
n. of invoices	40.474	2.066	733
volumes (cm)	402.959,50	21.464,70	5.662,53
p-AVC (€/cm)	23,89	20,99	22,60

Source: Case A372_RDB, Decision, p.73. The figures of RDB long term clients, not reported in the text, have been computed from the original data.

The results reported in Table 1 and those referred to the orders by clients deliver a consistent result[14]: the percentage of below cost invoices (or clients), i.e. those with $AVC < p < ATC$, is very similar[15] when we compare the long term clients and the subtracted ones. When instead we compare the relative frequency of below cost orders for the common customers, we find that such below cost invoices are significantly more frequent.

Table 2: Hypothesis test. H_0: no difference in the relative frequency of orders below cost

	Sample variance	Sample difference	*Lower bound*	*Upper bound*	*Result*
Long term vs subtracted	0,0083	-0,0021	*-0,0420*	*0,0420*	***Accept Ho***
Long term vs common	0,0052	-0,0568	*-0,0261*	*0,0261*	***Reject Ho***
Common vs subtracted	0,0111	0,0547	*-0,0559*	*0,0559*	***Reject Ho***

Fonte: Elaborazioni LECG su dati AGCM

Table 2 reports the hypothesis test on the difference in the frequency of below cost invoices and clearly shows that there is a common pattern in the deals involving long term and subtracted clients compared to those of the common customers. Hence, the empirical prediction c2 is confirmed while a2 and b2 are rejected.

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[14] We can immediately notice form Table 1 that the case of invoices with a unit price below the average variable costs is negligible.
[15] More precisely, this difference is not significantly different from 0 with a 1% confidence.

The unit margin over variable costs, as well, is quite similar for long-term and subtracted clients (prediction c1), contrary to what the anticompetitive explanation (a1) or the competitive model with endogenous negotiation (b1) suggest.

The AA presents also an econometric exercise on the determinants of the average invoice margin per cube meter (p – ATC), whose results are summarized in Table 3. The controls used are a constant, two dummies on the type of client (using the long run customers as the reference and recording with a dummy the common or subtracted clients), a dummy referred to the customers to distinguish between wholesale dealers and final users, dummies by region, by variety of AAC (blocks, components, etc.), by plant of production. All the variables are significant with the exception of the subtracted clients, while the coefficient referred to the common clients is negative and extremely significant. Given the definition of the dummies referred to the type of clients, the econometric analysis shows that, after controlling for other relevant characteristics, the average margin per invoice is not significantly different for the long term clients (assumed as the benchmark) and the subtracted clients (whose dummy coefficient is zero), while it is significantly lower for the common clients(whose dummy coefficient is negative and significant). Hence, the econometric evidence confirms prediction c3 while is inconsistent with b3 and a3.

Table 3 – Econometric analysis

Dependent variable: margin over total costs, p-ATC				
Method: Least Squares				
Observations: **43.273**				
White Heteroskedasticity-Consistent Standard Errors and Covariance				
Variable	Coefficient	Std.Errors	t-Statistics	Prob.
Constant	20.690	0.125	166.13	0.000
Common	-0.830	0.112	-7.405	0.000
Subtracted	0.134	0.158	0.842	0.399
Wholes./final user	0.796	0.086	9.295	0.000
Regional dummies	significant at less than 1%			
Plant dummies	significant at less than 1%			
AAC varieties	significant at less than 1%			
R-squared	**0.416**		Mean dep. variable	**24.728**
Adjusted R-squared	**0.416**		S.D. dependent variable	6.553
S.E. of regression	5.010		F-statistics	**993.70**
Sum squared resid.	1085241.0		Prob(F-statistics)	0.000

Source: Case A372_RDB, Decision, p.80.

Turning back to the empirical predictions of the anticompetitive and the competitive stories, the evidence provided by the Authority is consistent with the predictions of the competitive explanation with exogenous negotiation summarized in equation (5) while it is in sharp contrast with those of the anticompetitive story laid out in (3). In other words, the distribution of prices for common clients is centred around a lower value compared to the distribution of prices of long term and subtracted customers, as represented in figure 3. The evidence provided rejects instead the anticompetitive explanation, that would predict a different distribution of prices for the long-term clients of RDB compared with the target clients (common and subtracted), corresponding to figure 1. The data are also inconsistent with the other competitive explanation of endogenous negotiation, which predicts that the competitive process that determines the price is the same for all the groups of clients (figure 2).

The second issue of the predation story refers to the overall impact of the selective price cuts. When a company sets prices invoice by invoice, the observation that some deals are concluded with a price below the average total cost is not sufficient to conclude that replicating such commercial strategy would force the competitor to exit. If, indeed, the below cost episodes are relatively infrequent while most of the provisions entail a positive margin, it may be the case that the commercial strategy of the incumbent towards the (common and subtracted) clients of the competitor is perfectly replicable: the competitor, by slightly undercutting below the incumbent's offers, would be able to win back those clients and make a profit. To check if this additional condition is met, we need therefore to evaluate whether condition (4) holds or not in the data.

In the case of a complete win back of the common clients, ITGB indeed should apply a price slightly below the RDB one to the RDB sales. Suppose that, before considering such reaction, RDB is selling 100 m^3 of AAC to subtracted clients and 1000 m^3 to common customers, that still purchase, say, 800 m^3 from ITGB. If ITGB slightly undercuts RDB's offer and wins back its previous sales, the low price offered should be applied to all the sales to the subtracted customers (100 m^3) and to all the sales to the common customers, whether served by RDB or by ITGB (1000 + 800 m^3).

Hence, when such undercutting applies to subtracted clients, the economic result is (almost) equivalent to the one realized by RDB on these same clients since all the relevant sales are considered. When instead ITGB wins back common customers, the economic result applies to the

sales of RDB *and* ITGB on the shared clients. Hence, in order to exactly compute the profitability of the win back strategy we should know the sales of RDB *and* ITGB to each of the common clients. Unfortunately, we have only the information, contained in the RDB invoices, on the volumes supplied by this company to the common clients, but not those referred to ITGB's provisions (the additional 800 m^3 in our example above). However, an order of magnitude can be easily obtained even by computing the losses and profits that RDB realized in 2005 on the sales to the common and subtracted clients, the same that ITGB might win back by undercutting (the 100 + 1000 m^3 of our example). The overall impact of the win-back strategy by ITGB should add to these figures those realized on ITGB's provisions to the common clients (the residual 800 m^3).

Table 4: RDB profits and losses from invoices to ITGB clientele

	Common (C)	Subtracted (S)	Total (C+S)
Volumes (m^3)	21.465	5.663	27.128
Volumes below costs (m^3)	2.286	293	2.579
Average margin (€/m^3)	5,65	7,26	5,99
Losses from below cost orders (€)	**-14.901**	**-2743**	**-17.643**
Profits from above cost orders (€)	**136.178**	**43.856**	**180.033**
Total profits (€)	**121.277**	**41.113**	**162.390**

Source: Case A372_RDB, Decision, p.73 and our computations on the original data on RDB invoices.

Table 4 shows the main computations[16] that allow evaluating the losses and profits realized by RDB on the clients that are the potential target of the alleged predatory strategy, the common and subtracted ones. First of all, it is evident that the volumes of AAC that fall in the below cost case are very small. The same applies to the overall losses that on these same orders RDB has had, less than 15.000 €. If, for instance, we assume that the common customers split their orders evenly between RDB and ITGB, the overall losses that ITGB might experience trying to win back all the sales from the common clients would determine a 30.000 € loss. Adding the losses to win back the subtracted clients, ITGB would have less than 32.500 € of losses.

This figure, per se, casts severe doubts to the ability of RDB strategy to force the rival out of the market or to create to it a serious financial imbalance. Moreover, the overall replicability of RDB pricing strategy requires also to consider the other invoices to the target clients, those with a price above costs, to check the aggregate result. If we further consider the other orders to the old ITGB

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[16] We adopted in this table the AA estimate of the fixed costs, equal to 15.34 €/m^3. If the RDB computations were used (11.56 €/m^3) the overall profitability of replicating RDB commercial strategy would have added to ITGB profits around 265.000€

clientele characterized by above cost prices, we notice that RDB commercial strategy, if replicated, would have added around 180.000€ to ITGB revenues. In other words, the RDB commercial strategy towards the ITGB clientele, if replicated by ITGB itself, would have led to regaining the old customers with an economic profit of more than 162.000€ It is hard to understand how such an overall strategy might be considered as instrumental to exclude an equally efficient competitor from its traditional market.

We stress again that all these computations are run based on the same data used in the AA decision. Turning to the empirical predictions of the anticompetitive and competitive stories, Table 4 clearly rejects condition (4) and prediction a4, while it is consistent with predictions b4 and c4. Even considering the replicability issue, the anticompetitive story does not match the evidence provided by the Authority.

Summing up, the same quantitative exercises presented by the AA in the decision or further analysis based on the same file of the RDB invoices in 2005 lead to a striking conclusion: all the evidence is in sharp contrast with the empirical predictions of the predation model of selective price cuts (predictions a1-a4), while it is consistent with a simple competitive model of delegated price negotiation in which a fraction of the customers is unable to negotiate with multiple providers (c1-c4). The AA, after a detailed empirical analysis, which we have reported only in its essential parts, fails to interpret properly its same results.

Since the decision considers only the predation model of selective price cuts but does not discuss any alternative competitive explanation, it interprets the lower prices to common clients with respect to long-term ones as (partial) empirical validation of the predation model. However, once a proper identification test is constructed by spelling out the anticompetitive and competitive stories, it is evident that this fact occurs under both the selective price cut story and the exogenous negotiation competitive model. Hence, this factual element, if considered in isolation, is admissible under both stories and does not allow discriminating between then or drawing any conclusion. In order to identify one of the three possible explanations, instead, we have to consider whether common and subtracted clients show a different pattern of prices. The three stories, indeed, differ exactly under this respect, and this is the identifying factual element to be considered. We have shown that the evidence provided by the Authority allows indeed discriminating among the three possible explanations, confirming one of the competitive models against the other two stories.

Moreover, the AA does not control whether the overall pricing strategy of the dominant firm would allow excluding the rival from the market: when prices are set client by client, the relative frequency of below cost orders is not sufficient to establish the ability to foreclose. If such episodes are rare, above cost orders may more than compensate the below cost ones. A simple check confirms this point. But the same evidence provided in the decision (table VIII, p.71) would have suggested the same conclusion, since the average margin over average variable costs for common (20.99 €/m^3) and subtracted (22.6 €/m^3) clients is well above the average fixed costs (15.34 € m^3) to be covered.

4. Conclusions

In this paper we have discussed how to enforce the antitrust intervention towards unilateral anticompetitive practices, proposing the construction of an identification test. The anticompetitive and competitive stories have to be spelled out in detail, selecting from the economic analysis the explanations (models) that better fit the market environment and the firms' characteristics. This way we can obtain two sets of empirical predictions, some of which may be in common in the two stories and others that occur only in one of them. These latter factual elements are those that allow identifying the proper explanation.

We apply this approach to the practice of selective price cuts, a foreclosure mechanism in which the incumbent targets the clientele of the prey and offers abnormal discounts to exclude the rival from the market. This practice is investigated in a recent Italian case involving a medium size producer of construction materials, RDB.

The RDB case refers to a submarket of construction materials and the commercial strategy of a dominant firm, RDB, in centre Italy, where the prey is established. This latter argued that RDB has adopted in 2005 a selective and aggressive pricing strategy to subtract its clients and force it to exit. The Italian authority in the decision presents a very sketchy discussion of the theoretical underpinnings of the case, with a general reference to selective price cuts, and it does not analyze at all any alternative competitive explanation. As a consequence, it is not clear which are the empirical predictions that allow distinguishing the predatory from the competitive behaviour. The authority, instead, performed a very rich empirical investigation of the case, with a statistical and econometric analysis of all the invoices that RDB issued during the year, claiming that the evidence proved the anticompetitive intent and effect of the practice.

We suggest that the selective price cuts explanation should imply a higher frequency of below cost orders for those clients that were purchasing in the past from the target firm: these are classified as common clients if, during 2005, they split their purchases between the incumbent and the prey, or subtracted clients if they completely abandoned the prey to the advantage of the incumbent. Moreover, considering all the orders of the incumbent to the (common and subtracted) clients of the prey, its pricing strategy should not be replicable by the prey, i.e. it would imply an overall loss.

We contrast this explanation with a possible competitive story of decentralized negotiation. Clients can be distinguished in two groups: those that for some reason are committed to negotiate and purchase from a single company, and those that instead start negotiating with more that one provider and may end up purchasing from one or more firms. We expect the former to pay, on average, higher prices than the latter, which are able to improve their bargaining power by eliciting some competition between providers. In this case, the observed price should be, on average, higher for the customers that purchase from a single provider (that are more frequent among the traditional clients of the incumbent and the subtracted clients) than for those that double-source (common clients). Secondly, the competitive story implies that the overall pricing strategy of the incumbent towards the clients of the target firm is profitable and replicable.

The authority considered the observation that common clients receive lower prices than traditional clients of the incumbent as evidence of predatory selective price cuts. However, this conclusion is based on a specific factual element that is predicted (for different reasons) by both the anticompetitive and the competitive stories. In other words, this element does not allow discriminating between the two explanations.

We show that if a clear identification test is set up, pointing out which empirical evidence is needed to validate the competitive or anticompetitive explanations, the same evidence provided in the decision fails to confirm the predation story and it is on the contrary entirely consistent with the empirical predictions of the competitive story of a decentralized negotiation process. Indeed, the evidence provided in the decision shows that below cost orders are more frequent among common customers than among subtracted clients and traditional customers of the incumbent, in contrast with the prediction of the selective price cuts explanation. Finally, the incumbent realizes on the overall orders to the clients of the target firm a large margin of over 162.000€ that would allow an equally efficient competitor to win back profitably its customers.