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The UK High Court of Justice rejects methodology for estimating overcharges on cables based on economic evidence (*BritNed / ABB*)

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UK High Court of Justice (Business and Property Courts), *Britned Developement / ABB*, Claim No. HC-2015-000268, 9 October 2018

Pinar Bagci | The Brattle Group (London)

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ABSTRACT

In the first cartel overcharge claim brought in the English High Court, [*1*] the claimant's methodology for estimating ABB overcharges on the BritNed cable was comprehensively rejected. The Court concluded that the claimant's econometric analysis was insufficiently grounded in facts and therefore unreliable. The Court was more persuaded by the defendant's gross margin analysis that showed a lower gross margin on the BritNed project than on ABB's post-cartel projects. Despite rejecting the overcharge claim, the Court nevertheless awarded damages to BritNed using a novel, cost-based approach, comprised of the cartelist's "baked-in inefficiencies" and so-called "cartel savings." These unorthodox methods bore no direct relation to the actual loss suffered by BritNed and, accordingly, raise a serious question of whether the award is compensatory. From an economic perspective, the decision appears to be a rejection of complex econometric techniques in favour of a more simple, cost and margin based approach to estimating cartel overcharges. But more careful examination suggests is better viewed as an exception rather than a new rule, given the bespoke nature of the BritNed cable project and the very small sample of comparable projects in this case. The purpose of this article is to consider the different approaches to estimating cartel overcharges used by the parties' economic experts with the view to drawing lessons for the use and interpretation of economic analysis in future cartel damages actions.

THE POWER CABLES CARTEL

The ABB-BritNed case is an overcharge damages action following on from a European Commission (EC) cartel decision in which ABB was found to have participated in a global cartel in high voltage submarine and underground power cable projects during 1999-2009. [*2*] According to the EC, there was excess capacity that the cable

producers dealt with by maintaining prices and allocating bids. ABB had tendered and was awarded the project to construct BritNed, a submarine power cable between the UK and the Netherlands. The final contract price was close to €289m. Following the EC decision, BritNed sued ABB for an overcharge of around 22%, suggesting damages of €61.3m. The court rejected the claimant's evidence, and instead awarded instead €13m, (later reduced to €11m), using its own cost-based methodology.

ESTIMATING CARTEL OVERCHARGES

As a follow-on damages claim, the issue before the High Court was not whether ABB had participated in the cartel, which it did not dispute, but whether there was an overcharge on the BritNed cable project; the amount of the overcharge; and any economic harm associated with the estimated overcharge. Both the claimant, BritNed, and ABB, the defendant, presented economic evidence estimating the purported overcharge and associated economic damages.

The standard economic approach to determining cartel overcharges involves an estimation of what the price of the cartelized product would have been if the cartel had not existed. This is the so-called "but-for" price. The overcharge is then calculated as the difference between the cartelized price and the "but-for" price. Estimation of "but-for" prices falls into three broad approaches: (i) during/after comparison of prices during and after the cartel period, whilst adjusting for changes in market factors, such as input costs over this period; (ii) control group methodology comparing the cartel period with a "clean" control group, such as the prices and profits of the same products in a different jurisdiction; and (iii) econometric estimation of but-for market prices based on industry characteristics (costs, demand, capacity etc.). The first two of these methodologies use observed prices (prices during and after the cartel and cartel prices compared with prices of non-cartel products) as proxies for counterfactual prices. The third involves the estimation of a counterfactual "but-for" price using a mixture of observed and estimated variables. Importantly, the statistical method results in an estimated "but-for" price. All three approaches involve assumptions about how prices would been determined absent the cartel, which is consistent with the EC's guide on quantifying harm in actions for damages [*3*] This approach was critiqued, however, on the basis costs of underground and submarine projects varied significantly. Moreover, excluding the underground projects from the estimation resulted in the estimated cartel effect becoming larger but at the same time, statistically insignificant. [*4*]

- **Use of Proxy cost data**: The claimant's expert considered that ABB's cost data were unreliable and decided, instead, to use proxy data in her analysis. In particular, ABB's input costs were higher than the prevailing market prices of inputs, such as copper. The approach of using proxy, rather than the defendant's actual, cost data was comprehensively rejected by the judge, Mr Justice Marcus Smith: *"In my judgment, where there is a choice between using actual data and a proxy for that data, the former ought to be preferred, unless there is a good reason for not relying on the actual data." [5]* Justice Smith concluded that ABB's direct costs could be relied upon, after accounting for "baked–in" inefficiencies and cartel savings. [*6*] The Court implicitly acknowledged that the defendant's cost data may be biased, to some extent, but nevertheless expressed preference for using it compared with using proxy data. Given the ultimate aim of obtaining correct and unbiased results, it is important to emphasize that an econometric model, of the type used by the claimant, estimates the relationship between prices and so-called exogenous market factors that shift supply or demand. A variable is exogenous if the participants in the market (defendants and wholesale buyers) treat them as outside their control. Variables that are determined by market participants (such as cost of goods sold), are endogenous (able to be influenced by the defendant) and therefore cannot be regarded as unbiased. Ideally, any econometric model should capture exogenous, and objectively verifiable, data rather than rely on the defendant's own cost data or on proxy variables that may have been created for the purpose of estimation.

- **Inclusion of time trend and capacity variables**: two variables were included in the claimant's regression to explain variations in prices (between the cartel and post-cartel period) that may be caused by changes in costs and capacity. These were captured by two proxy variables: a time-trend variable to capture changes in costs through time, and a capacity variable (order backlog) aimed to capture the defendant's willingness and ability to bid for new projects. But the Court found that the time-trend variable was unrealistic as it assumed that any cost changes through time would affect both underground and submarine cables in exactly the same way. The inclusion of a capacity variable was also questioned on the basis that insufficient capacity would have more likely resulted in ABB not participating in a tender, rather than having an effect on prices.

- **Robustness check:** The claimant's methodology of widening the sample, using proxy cost data, and including time trend and capacity variables, resulted in a statistically significant overcharge. However, standard sensitivity analysis showed that the exclusion of each of these variables by themselves overturned the claimant's finding of a statistically significant overcharge. [7] Failure to carry out sensitivity analysis appears to have been a crucial error for the claimant's expert. Econometric analysis should always be subject to tests of robustness to determine whether the model has been correctly specified. If the inclusion and/or exclusion of certain variables obtains results that are no longer statistically significant, it then raises a question over the reliability of the estimation methodology and the results obtained. For example, exclusion of the underground cables from the data-set halved the sample size, and increased the overcharge from 22% to 27.7% which, although economically meaningful, was not statistically significant. The overcharge estimate should not have changed so much if underground and submarine cables were sufficiently similar or if the analysis included explanatory variables that captured cost differences between the two types of cables.

- **Average versus project-specific overcharges** : Finally, the claimant's regression methodology estimated an average overcharge across all cartelized projects rather than a specific overcharge for the BritNed project. The approach ignored the bespoke nature of bidding contracts, effectively assuming an average level of overcharge across each. In particular, such an approach failed to take account of the very different circumstances of individual submarine projects. In particular, whilst the claimant's econometric model predicted an average overcharge of 22%, there was significant factual evidence suggesting that ABB had competitively bid the BritNed project. The BritNed cable may have been the project which was the exception to an otherwise sample of cartelized projects.

THE DEFENDANT'S GROSS MARGIN ANALYSIS

The defendant's expert took a more simplified approach but also carried out analysis to cross-check the results of the claimant's methodology. ABB's expert compared the price of the BritNed project with the price offers made by ABB for other submarine power cables projects after the end of the cartel, deducting the project-specific costs that ABB expected to incur in supplying these projects. This approach effectively compared the gross margin on the BritNed project with gross margins on ABB's post cartel projects. The size of any margin difference would provide a measure of the size of the BritNed overcharge.

The defendant's methodology principally differed from the claimant's in three important respects: (i) it sought to estimate an overcharge solely on the BritNed cable, whereas the claimant's methodology estimated average overcharges across all cartelized projects; (ii) only submarine cables were included in the analysis, whereas the claimant's analysis included underground cables; and (iii) it used ABB's actual costs, not proxy costs. ABB's expert also used three complementary methods to assess what the price of the BritNed project would have been, but for the cartel: a price comparison analysis controlling for ABB's actual costs of supply, an econometric analysis of the

relationship between prices and ABB's actual costs of supply, and as a cross-check of the claimant's methodology, a price comparison analysis that did not directly control for ABB's actual costs of supply, but instead used proxy measures based on the technical characteristics of the projects.

The defendant's analysis found that, although ABB's gross margins on the other cartelized projects were materially higher (average 26.7%) than post cartel projects (average 21.1%), ABB's margin of 18.6% for the BritNed project was actually lower than average post-cartel margins, adjusting for project specific costs. [*8*] ABB's expert also found a statistically strong correlation between ABB's costs and prices, suggesting that any price differential between different projects was attributable to differences in project costs. This result also appeared to fit the "cost-plus" approach described by ABB's key fact witness. Justice Smith accepted that the key ABB personnel who negotiated the BritNed contract and formulated the bid had no knowledge of the cartel and had based their bid on costs as well as the desire to be the successful bidder. This was reinforced by the direct evidence that ABB's adjustments to bid offers, when participants in the conspiracy could have influenced bids, were only in a downward direction. And with respect to the BritNed project in particular, ABB's final price was materially affected by a major concession during final negotiations by someone unaware of the cartel. [*9*]

LESSONS FROM THE TWO APPROACHES

The two different approaches resulted in two diametrically opposed conclusions, with the claimant finding a significant level of average overcharge across all cartel period projects but the defendant finding a lower gross margin on the BritNed cable than on non-cartel projects. Justice Smith expressed his preference for the defendant's gross margin analysis for several reasons: (i) it was more simple and straightforward than the regression methodology used by the claimant; (ii) it included only directly comparable submarine cable projects; (iii) it was specifically concerned with estimation of the overcharge on the BritNed project, rather than an average overcharge across all cartel projects; (iv) it was tied very closely to the facts, using ABB's actual cost data, rather than proxy costs; and (v) the results of the claimant's econometric analysis were strongly affected by model specification, becoming more or less significant with the exclusion and/or inclusion of particular variables. Ultimately, the results of the sensitivity analysis led the Court to conclude that the claimant's model was unreliable and insufficiently grounded in facts. The defendant, on the other hand, relied on actual cost data and, as a result, needed to make far less use of proxies than the claimant. Hence, the potential for uncertainty was significantly reduced in the defendant's approach but, by using the defendant's actual cost data (under the defendant's influence), the estimation method was potentially biased. However, the defendant's cross-check also indicated a strong relationship between project costs and prices, which was consistent with the fact witness statements that the BritNed project price was tied to costs and any adjustments were made downwards, to win the tender. The lower gross margin of the BritNed project, compared with post-cartel projects, supported the fact witness testimony.

FINDING OF A LOWER CARTEL MARGIN

The defense's methodology, which found a lower gross margin on the BritNed project than on comparable post-cartel projects, is counter to economic intuition regarding cartel effects and goes against the EC's own presumption regarding the effect of cartels. The EC's antitrust damages guidelines draw on a comprehensive study (the Oxera Study [*10*]) which found that cartels lead to a positive overcharge 93% of the time and that the average cartel effect is around a 20% overcharge. The Oxera analysis was a "meta-study" which examined 114 peer-reviewed social science studies of cartel effects.

Several factors, however, need to be borne in mind in considering this effect in relation to other cartel findings. The first is that the BritNed cable project was unique and bespoke with circumstances differing greatly from other ABB projects (and from many cartelized products and industries covered in the Oxera study). More importantly, bidding cartels are different from other types of cartels in that bidding outcomes are often unpredictable and more nuanced than cartels involving commodities such as lysine or car-glass that tend to be bought and sold under similar conditions. Further, margins can move around significantly in competitive and cartelized markets so the lower margin may have been project specific. Indeed there was significant variance in gross margins both during and after the cartel. In this particular case, the staff at ABB responsible for negotiating the BritNed tender were apparently not aware of a cartel. It was also clear that ABB in fact reduced its price following negotiation with BritNed. These facts strongly suggested that the BritNed project was not contaminated by the cartel, which appears to have had a strong bearing on the Court's decision to side with the defense on the analysis of the overcharge. If the gross margin analysis found the pricing of the BritNed cable to be more in line with other cartel projects, and in line with the average overcharge estimate of the claimant, it may have been more difficult for the Court to reject the claimant's econometric analysis.

COURT'S OWN METHOD FOR ESTIMATING CARTEL DAMAGES

Whilst the judge sided with the defense's finding, that there was no direct effect of the cartel on ABB's pricing of the BritNed project, that result would be difficult to reconcile with the EC's finding that ABB participated in a cartel and that cartels typically result in overcharges.

Justice Smith concluded that an overcharge could, in theory, arise in two ways: by way of "baked-in inefficiency"; it could be the case that ABB was an inefficient producer of cables and therefore tendered a higher (non-competitive) price for the cable element that ABB actually considered to be competitive. The effect of the cartel would be to cause ABB's price to be accepted because of an absence of competition from other, more efficient, suppliers. Second, by way of cartel savings arising from the absence of or reduction in competition. The advantage of a cartel is that such costs may be avoided or reduced.

These two approaches to awarding damages are unique and perplexing and, most importantly, do not appear to be directly related to the claimant's loss. [***11***] Neither do they relate to any specific overcharge on the BritNed cable which contradicts Justice Smith's claim to be concerned with the narrow issue of an overcharge arising from a single, specific transaction, instead of the claimant's estimation of an average overcharge. It also conflicts with the rationale of the Court's expressed preference for the defense's fact-based gross margin analysis, using ABB's actual costs, instead of the claimant's use of proxy costs. In recognizing "baked in" inefficiencies in BritNed's data, the Court raises a question over the reliability of using ABB's actual costs in the overcharge analysis.

"It could, for example, be the case that ABB was an inefficient producer of cables and therefore tendered a higher (non-competitive) price for the Cable element which ABB actually considered to be competitive. The effect of the Cartel would be to cause ABB's price to be accepted because of an absence of competition from other, more efficient, suppliers. Such inflation of price arises out of the natural inefficiency of cartels, whereby an uncompetitive supplier receives business it would otherwise not receive simply because of the absence of competition caused by the cartel. Such inefficiencies are structural within the business of the cartelist, who may not even be aware of such inefficiencies." [***12***]

An important reason for the Court rejecting the claimant's methodology was that it made use of proxy costs which introduced uncertainty into the estimate of overcharges. It is surprising therefore that an element of the damages award is related to an estimated inefficiency which may have contributed to a price for the BritNed cable above a

competitive market benchmark. The judge does not specify what the competitive market price would have been absent the cartel. If ABB's actual costs were higher than they should have been due to inefficiencies, then the defendant's gross margin estimate would be biased downwards. If instead of actual costs, the margins were calculated on the basis of an unbiased estimate of efficient costs, the results may show a higher margin on the BritNed cable and, effectively, a cartel overcharge. By awarding damages reflecting baked in inefficiencies, the Judge implicitly acknowledges that the defense's claim of a lower gross margin on the BritNed project is likely to be downward biased.

Cartel savings were described by Justice Smith as savings arising out of the fact that the cartelist does not have to incur the full costs of competition. But these savings might arise in many ways. In this case, for example, a cartelist who had not been allocated a particular project, might treat the tender process much less seriously (indeed, might not tender at all), and so incur fewer costs. Equally, the advantage of knowing which projects have been "allocated" to which cartelists will make a significant difference in terms of planning future work capacity. [*13*] However, the award for "common cost savings" from the absence of competition between cartelists lacks any compensatory objective. Rather, it is based on a view that common costs would have been lower as a result of the cartel and such lower costs should be passed on to claimants. If the Court wished claimants to benefit from lower common costs during the cartel, then the correct approach would have been to estimate common costs but-for the cartel and then estimate prices and margins in the but-for case, based on higher level of common costs, provided it could be estimated with certainty what any cartel savings might be.

WHAT DOES THE DECISION TELL US ABOUT FUTURE USE OF ECONOMIC EVIDENCE?

- **The court preferred simplicity:** the claimant's approach was clearly significantly more complicated than that of the defense and so inherently more prone to error. However, some of the problems identified in the econometric analysis, in particular a sample that was not sufficiently homogenous, was also a feature of the gross margin analysis used by the defense's expert. The defense compared simple average gross margins for cartel and post-cartel periods. This assumed that the type and mix of projects in both periods were similar. But, they were not. There were significant differences in average contract price and size between the cartel and post-cartel periods. Such project and cost size differences should have been taken into consideration in the gross margin estimation. Without such an adjustment, the defense's analysis suffers from the same bias, of an insufficiently homogenous sample, as the econometric methodology employed by the claimant. The defendant's methodology of using ABB's actual cost data is also likely to have biased downward the estimated margin on the BritNed project particularly if, as the Court claimed, there were "baked in inefficiencies" in ABB's cost data.

- **Economic analysis should suit the data:** Bidding cartels are complex as they usually affect highly bespoke projects, making it difficult to compare costs and prices between projects through time. Projects are also negotiated so that a buyer with economic power may be able to drive down the price of a cartelist. Such bargaining is not present in the sale of many commoditized projects subject to cartels. In bidding cartels there is considerable merit in avoiding presumptions and instead examining in detail the particular circumstances of each project, examining project specific costs and comparing them with independent and objectively verifiable cost data available from market sources, as well as the costs of other projects. Whilst this is time-consuming, such an exercise is likely to be more informative when the sample size is small and diverse.

- **Robust statistical analysis requires a correctly specified model, and a large, homogenous data-set:** the claimant was criticized for including a time trend variable which assumed a constant cost-effect through time, as well as the construction of a capacity variable. The model's results ceased to be significant when these variables were omitted. At the same time, widening the sample to include underground cables,

improved the statistical power of the regression analysis. However, excluding the underground cables resulted in a significant increase in the estimated overcharge, even though the results were no longer statistically significant. Such a large effect on the overcharge estimate suggests that the sample was not sufficiently homogenous. These results suggest that any regression model should be subject to tests of robustness to ensure it is correctly specified. There should not be large changes in result caused by the inclusion or exclusion of specific variables.

The Court's Decision in this matter should not lead to the rejection of econometric analysis in estimating cartel overcharges. Rather, it highlights that any selected methodology must be rooted in objectively verifiable facts and that the model is properly specified and tested. In general, the methodology should suit the size and nature of the sample. The bespoke nature of the bidding cartel made it difficult to compare projects and the small sample size made it difficult to obtain statistically reliable results. However, the gross margin methodology employed by the defense's expert suffered from similar problems of a small and diverse sample and biases introduced by using the defendant's own cost data. But the Court's novel method for awarding damages is not a reliable alternative: it is neither rooted in fact nor based on persuasive economic logic, and it does not relate to direct harm suffered by the claimant, a critical underlying premise of awarding cartel damages. Here, however, the award appears to violate an important principle that damages should compensate victims for the economic harm actually suffered. And it is therefore not surprising that both the claimant and defendant have been granted leave to appeal.

This article was presented at IBA Florence 2019.

[1] BritNed v. ABB [2018] EWHC 2616 (Ch)

[2] AT. 39610 – Power Cables ("the Decision")

[3] European Commission Staff Working Document Practical Guide on Quantifying Harm in Actions for Damages (the "Practical Guide on Quantifying Harm"), I:16 and I:17

THE CLAIMANT'S REGRESSION ANALYSIS

The claimant, BritNed, presented what it characterized as standard econometric analysis to estimate the size of the cartel overcharge. The approach used the price of cable projects after the cartel period as the benchmark for the competitive counterfactual price, while controlling for factors that affect the price of projects (such as costs and capacity during and after the cartel period), and which differ between projects and over time. This approach assumes post-cartel prices are at competitive levels and simply adjusts for differences in costs, capacity and other market related factors between the cartel and post-cartel period in estimating the price "but-for" the cartel. The intuition is that if there was no overcharge, any difference between prices in the two periods would be explained by objectively measurable factors such as differences in costs and industry capacity. Any inexplicable differences would be attributable to the existence of the cartel which is captured by the inclusion of an indicator variable. However, several features of the claimant's methodology were challenged during cross-examination, and by the Judge, on the basis that they introduced uncertainties and reduced the reliability of the claimant's estimated overcharge:

- **The sample size was considered too small to produce a reliable estimate of overcharges**: as a starting point for the regression analysis, it is necessary to identify a dataset of "during" and "after" projects that can be the subject of the analysis. This dataset must: (a) be sufficiently large to enable a robust statistical analysis; the larger the sample, the less likely it is that an outlier will distort the analysis; and (b) be sufficiently homogenous to enable meaningful analysis: in the present context, as there were relatively few comparable submarine cable projects, the sample size was too small to enable reliable statistical analysis. To increase the statistical power of the model, the claimant's expert expanded the sample by including underground cable projects. This had the effect of increasing the sample from 49 projects to 92 projects, giving the model greater statistical power.[[Statistical power is defined as the probability of rejecting the null hypothesis while the alternative hypothesis is true. This is also called a type II error. The statistical power of a test is therefore the probability of avoiding a type II error. As statistical power tends to increase with the sample size, all else held equal, a larger sample size gives greater power. However, it is possible that by increasing the sample size, to include projects that are not directly comparable, the sample is no longer homogenous, raising questions over the reliability of the results (and the risk of a type II error), unless differences in the characteristics of the projects (such as input costs) can be adjusted for.

[*4*] A type II error is when a test fails to reject a hypothesis that is false. The statistical power of a test is the probability of avoiding a type II error. See "The power of a test is just one minus the probability of a type II error". Wooldrige, J. (2008) Introductory Econometrics 4th Edition, Wouth-Western p 771.

[*5*] Para 414 ibid.

[*6*] Para 415 (1) of ABB v Britned Judgment.

[*7*] It is a convention in economic science for both the notion of "confidence interval" and "statistical significance" to use a 95% threshold of probability. It should be stressed that this represents a pure convention and that more as well as less stringent thresholds (for instance: 99%, or 90% probability) may likewise provide useful information. This is because statistical significance is determined, in part, by the number of observations in the data set: other things being equal, the statistical significance increases as the sample size increases.

[*8*] Paras 385 and 443 of Judgment.

[*9*] Paras 439-444.

[*10*] Oxera (2009) Quantifying Antitrust Damages: Towards Non-binding Guidance for the Courts, available at *http://ec.europa.eu/competition/antitrust/actiondamages/quantification_study.pdf* ↗.

[*11*] Directive 2014/104/EU of the European Parliament and of the Council of 26 November 2014 on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union [2014] OJ L349 affirms the principle of that anyone has a right to claim full compensation for the harm caused by antitrust infringements and allows claims for damages for the real value of the loss suffered, taken together: (i) the actual loss, (ii) loss of profit, and (iii) the right to interest.

[*12*] Para 215 (1)

[13] Para 370