

Luigi Prosperetti¹

Uses and misuses of economics in the estimation of antitrust damages

(abstract)

1. Introduction

Private antitrust litigation has come a long way in Europe since the 2005 Green Paper: while of course there is a large variance across countries, the number of cases has been steadily growing, as the legislative framework was improved upon, parties became increasingly aware that civil remedies were available; judges increasingly confident in handling such cases; lawyers saw this as a profitable income stream and poured gasoline on the fire.

Much work remains to be done on legal issues, regarding in particular the evidentiary role of antitrust decisions, standing by indirect cartel victims, the use of evidence provided by leniency applicants, and of course collective actions. We are all waiting for Commission's further inputs in these areas. However, even if several pieces of the puzzle are still missing, the amount of damages being litigated is extremely high: a recent conference advertisement touted "one-billion damages", but the amount of claims outstanding is far higher. On the basis of my own experience, Italy alone exceeds this sum, combining stand-alone and follow-on actions. Furthermore, at least in some countries, damage cases seem to be the tip of a large iceberg of competition litigation that does not entail claims for damages, but seeks to obtain injunctive relief, or other interim measures².

Most of these cases will never reach a judicial decision, as very often they will be settled. Nonetheless, we should conclude that the European Commission's policy of increasing the frequency of private actions throughout Europe has already met with a broad success, and this is remarkable because it has done so without being embodied in any policy instrument. Policy instruments, hard or soft, are expected, and in any case success breeds success: therefore, it is reasonable to foresee that private actions will keep increasing throughout Europe, although with substantial differences across countries, mostly deriving from broader differences in legal traditions.

¹ Professor of Economic Policy, Law School, University of Milan. Paper presented at X Treviso Conference "Antitrust between EU law and national law" – Treviso, May 17 - 18, 2012.

² Peyer (2010) shows that, among the German claimants that sought remedies in 2005-8 only 11% claimed damages. Stand-alone actions were by far more frequent than follow-on ones, which accounted only for about 2% of the sample. Spain also seems to have a lively antitrust litigation not involving damages.

A noticeable feature of the broad policy thrust of the Commission has been the emphasis given to the role that economics should play in private antitrust actions, and especially in damages estimation. Indeed, reading some of the Commission's documents, and especially the 2011 Draft Guidance Paper³, one gets the feeling that they were written by economists, although I am assured that at least the latter has been written by lawyers.

Understandably, most economists have been delighted by this document. An interesting fact is that, on the other hand, several comments by legal experts have been far cooler, and some of them outright critical⁴. Two points raised by these comments are that the Paper overrates the role of expert judgement over other types of evidence, and does not spell out as clearly as it should that legal requirements concerning causation have to be satisfied before any damage is estimated. I believe that these comments are useful, as they point to two areas where economics can actually be misused in court, and I will discuss them below with reference to the proof of the existence of damage.

A further point that has been raised is that the Paper provides a list of methods, but does not provide any guidance as to which are more suitable to a particular type of cases. This raises several interesting issues concerning the uses of economics in court, which I will briefly address as well.

2. Economics and proof of damage

Can government spending increase growth? Do investors behave rationally? What are the costs and benefits of public ownership? We could continue for a while, but these questions make it obvious that there are wide disparities of views on problems like these among economists, which reflect heavily in the policy debate across the world. It is indeed particularly telling that there are substantial disagreements concerning basic macroeconomic issues, as this is the field in economics where we are able to draw upon the experience of tens of countries over many decades, and therefore we are data-wealthy.

The reason for this is of course that economics is not a natural science, where experiments in controlled conditions can be designed and conducted in order to test competing theories. Very often we do not have sufficient observations to do this, and in any case what we observe is affected by a number of variables, the effects of which we may not be able to identify clearly: even the careful use of statistics often cannot allow us to falsify existing theories. Several theories may be *observationally equivalent*, i.e. may be consistent with the very same data: thus conflicting theories

³ European Commission (2011). For a broader discussion of the Commission's views, see Prosperetti (2012).

⁴ The comments are available on DG Competition's site. I will refer to some of them below.

explaining the same phenomenon often co-exist in economics. This is of course far less frequent in the natural sciences.

All this should be kept in mind when economists are called to assist in proving the existence of a damage upon the claimant. In doing so, they often rely on a theoretical model which may be one of many, and therefore provide an "evidence" to the court which is only as good as the model is, but unfortunately we often do not have any clear way to assess how good the model is compared with others that explain the same facts with a different theory.

This problem is probably less relevant in cartel cases (see below), but is particularly relevant whenever the models regard competition among firms, as in a civilian court they are often bound to do in cases concerning exclusionary conduct. All this is in practice quite relevant, as a large body of litigation, and in some countries by far the largest, concerns single-firm conduct. As some recent papers show, the latter type of cases is the most frequent in 7 countries: this is certainly the case in Germany, where Peyer (2010) shows that out of 368 antitrust litigations concluded in 2005-7, about two thirds concerned single-conduct issues, and one third concerned agreements.⁵ For France, the contribution by Association française d'Etude de la Concurrence to the consultation on the Guidance Paper⁶ lists 15 civil cases, 11 of which concerned exclusionary behaviour, and only four agreements. Non-systematic evidence would suggest that also in Spain and Italy single-conduct cases are more frequent. For the UK, however, the opposite seems to be true, as a survey of 2005-8 cases⁷ quotes 41 cases, out of which 22 are based on agreements, and 12 on single-firm conduct⁸.

Industrial organisation, the area of microeconomics that deals with competition among firms, is an impressive theoretical construction which makes use of game theory and other mathematical tools, but if we look at it closely we soon see that its models embody very different basic assumptions: if we *assume* that firms compete on prices, quantities, or compete for the market, and depending on our *assumptions* about the relevance of product differentiation, we obtain very different results. When the role of innovation is considered, the range of results is even broader. Things are likely to stay this way for a long time, as in this area of economics we are in a state of a truly Franciscan data poverty, and the good-quality large data samples we would need to narrow such a range of results through extensive empirical analysis, are still quite rare.

⁵ As the author points out, this broadly agrees with the results of the Georgetown study: see Salop and White (1988).

⁶ European Commission (2011).

⁷ Rodger (2009a).

⁸ The remaining cases have a mixed basis.

Therefore, caution should be exercised whenever considering any "evidence" provided by experts relying on such models, and in particular it should be checked if any "direct evidence" (e.g. documents and witness statements) acquired by the court during the litigation is in contrast with the model's assumptions or results. As different models may be observationally equivalent, any evidence conflicting with a fundamental feature of the model should be given an appropriately high weight.

On the basis of the above, I agree with several of the critical remarks addressed to the Guidance paper. *Ex multis*, it "*understates the significance of "direct evidence". ... It should make clear that the assessment of damages is primarily based on real-life evidence and not on theoretical quantification models*"⁹. The paper "*does not explain sufficiently clearly that factual evidence, from documents and witnesses, is the fundamental platform and starting point for an assessment of loss or damage*"¹⁰; it "*should not suggest that all kind of evidence are equally fungible*"¹¹. And I also have a great sympathy for the English court that refused to accept an expert economic opinion concerning what a rational operator *would have done* in a given situation, as it did not agree with the evidence provided by factual witnesses about what the operator *was likely to do given its actual business situation*¹². Given the facts of the case, the rational operator could have chosen several courses of action, only one of which was considered to be the rational one in the light of economic theory. The reality in business life is very often far more rich in details and alternatives than any theoretical model of business life.

On the other hand, a somewhat higher reliance may be given to "expert evidence" relating to cartels, as economists can rely here upon to areas of economic theory (concerning market demand and monopoly behaviour) that have been subjected over the decades to extensive empirical analysis and testing, tend to provide clear-cut results, and do not give rise to any substantial disagreement within the economic profession¹³.

So, economic expert opinions concerning the two areas should not be considered in the same way in cases concerning exploitative behaviour and

⁹ ECLF (2011), p.4

¹⁰ Freshfields (2011), p.1.

¹¹ Assonime (2011), p.3.

¹² *Enron Coal Serviced Ltd (in Liquidation) v English Welsh and Scottish railway Ltd* [2009] CAT 36.

¹³ This is not the case for consumer theory in general, which is fully exposed to the critiques raised in the 1970s by Kahnemann and Tversky; as Kahnemann (2011) recently summed up "*to a psychologist, it is self-evident that people are neither fully rational nor completely selfish, and that their tastes are anything but stable. [Economics and psychology] seem to be studying different species*". Market demand, which is an aggregate of consumer demand, however behaves in practice as the theory would predict.

exclusionary behaviour: any economic analysis concerning the latter type of cases is inherently more uncertain than one concerning cartels.

3. Economics and causation

Several of the comments by legal experts to the Guidance paper have stressed that the "*issue [of damages] is only reached once both liability of a specific legal person and causation of loss have been established, and in the real-world context, it is likely that all of these issues would be contested simultaneously*"¹⁴; in any case "*the draft Guidance paper would benefit from a clear statement upfront that courts should not assume that every infringement necessarily results in compensable injury*"¹⁵.

I agree with these comments, and I would like to stress that often economic reasoning may be affected by sort of a "causation bias", which may lead an economist to underestimate the legal requirement of proving causation.

Such a bias may be caused by a mechanical interpretation of the basic postulate of modern economic theory, i.e. that consumers and firms are fully rational, and may arise when the expert has a strong grounding in economic theory, but a weak practical experience

After all – the reasoning may unfold - if a rational firm has adopted a behaviour that resulted in an antitrust offence, the company must have done so if the gains it was expecting to acquire with the offense are greater than the loss (i.e. damages, litigation costs, loss of reputation) it was expecting to suffer. Therefore, if there has been an offense, as the firm is rational, *an illicit gain must be there*. As in several civil litigations concerning cartels or exclusionary conduct the losses to the damaged party can be considered to be equal or to exceed the gains to the offender, if there has been an illicit gain, *a damage must also be there*. Of course, in some special cases the behaviour may have not generated a damage to the claimant, e.g. as the latter was not active on the market, or was not large enough to be affected by the behaviour. But if none of such exceptional circumstances applies, an expert economist may indeed follow the line of reasoning outlined above, either jumping straight to the conclusion that the damage is *in re ipsa*, or at least considering that the burden of proof should be in practice reversed, and the defendant expected to prove that it has not caused the damage.

Of course, the rationality postulate is very useful abstraction, as it allows economic theory to treat the firm as a single decision-making unit. It is also by and large empirically correct, in the sense that *on average*, and *over a reasonable amount of time*, firms do make rational decisions, although of

¹⁴ JWP (2011), p.1.

¹⁵ ABA (2011), p.2.

course they make many errors, and are not alien to ‘herd behaviour’. Thus, the postulate cannot be taken to entail that each and every decision is rational, and therefore cannot be used to bypass the legal requirements concerning causation in a given court case.

In any case, several decades of managerial literature convincingly prove that decisions within firms are reached through complex procedures, and are often influenced by a few individuals, who may not be as rational as economic theory purports them to be. A growing body of economic literature also now questions that “*managers seek to maximize the present value of current and future earnings, solve a dynamic optimization problem, and play a Bayesian Nash Equilibrium*”¹⁶.

Thus, I believe that the remarks on the treatment of causation in the Paper by several legal experts points to an issue that may be in practice quite relevant. Of course, in most cases such a bias will be litigated away if the economist acts as an expert for one of the parties, but it may not when he is acting as a Court’s expert.

4. Economics and damage estimation

The Paper distinguishes among three main types of approaches to damage estimation: comparator-based methods (these are given a rather detailed discussion), methods based upon cost analysis, and simulation models based upon industrial organisation theory. It dedicates only a few lines to the problem of choosing among them, where it rather vaguely states that the choice depends on the strengths and weaknesses of each method, the specific circumstances of any given case, and the data available. In a rather Solomonic moment it says that whenever several methods are employed and give different results the court should not take their average, nor considered that the methods cancel each other out, but “*examine the reasons for the diverging results and... carefully consider the strengths and weaknesses of each method and its implementation in the case at hand*”¹⁷, clearly not an easy task for anybody.

However, on the basis of the Paper’s own discussion, of the large body of precedents in the United States, and on the growing one in European courts, a few more explicit points may be made concerning the choice of economic methods for damage estimation, both from an ex-ante and an ex-post point of view.

From an ex-ante perspective, simulation models should probably be discarded in antitrust damage estimation. On the one hand, as we discussed

¹⁶ Goldfarb et al. (2011), p. 1. For a recent discussion of the consequences of such a literature in the antitrust field, see Arnaudo (2011).

¹⁷ At par. 107.

above, the economic theory upon which these models are based cannot be considered in any way as "settled". Furthermore, as anybody who has worked on them knows very well, the results of a model depend crucially on a number of assumptions that cannot be tested, e.g. concerning how the competition among firms takes place, what are the parameters of the cost curves and the demand functions. In general, any economist as good as the one who built the simulation model "proving" that the damage equals 100, can build a different model proving that the damage is zero or 200.

Thus models of this kind provide proof of the (relative) quality of the economic experts, but of course no "evidence" relevant to the case in a legal sense: their probatory value is nullified in most cases by the fact that their results are based on economic or mathematical hypotheses which, from a legal point of view, are mere assertions.

The method that the Commission calls "cost-based", and that the Oxera Report¹⁸ termed (more correctly) "financial-analysis-based" is not a method in the strict sense of the word, but rather the empirical construction of a but-for scenario on the basis of a variety of accounting and/or financial information concerning the claimant, and in some cases the defendant. This is a useful method, particularly in cases of damages arising from exclusionary behaviour, where it typically utilises plans that the claimant made before the illicit behaviour (of course, if it can be ascertained that they were made at that time), or detailed ex-post data, which may be modified on the basis of various information (e.g. concerning the characteristics of the claimant), and of the Court's assessment of the probability that it would have actually attained the objectives it had planned had the illicit behaviour not taken place.

The value of such an approach essentially lies in its flexibility in terms of that data inputs, and of the informed adjustments that it can accommodate. Thus, it can take into account any evidence that may have been acquired by the Court through a variety of sources, such as witness statements. It also can consider the consequences that the claimant's actions or non-actions might have had on the damage, a point that is relevant in most jurisdictions.

For this reason, empirical methods based upon company data (whether related to cost, or more generally to financial information) are often useful in estimating damages arising from exclusionary behaviour.

The "comparator-based" methods include a variety of techniques and approaches, and principally comparisons over time (before-and-after methods), or across markets or firms (yardstick methods).

Before and after methods often offer the standard solution to estimate the effects of a cartel. In some cases, these are pretty obvious from the price

¹⁸ Oxera (2009).

data, as in the oft-quoted case of the vitamins cartel¹⁹, but in several cases they do not: even when it has been ascertained the period during which the cartel was in operation, prices may not be clearly higher than in the period during which it was not. These are typically the cases in which econometric models may be useful, in order to disentangle the role of exogenous variables (e.g. costs or demand) from the effects of the cartel, thereby making it possible to estimate the overcharge.

Yardstick methods may also be used for cartel damages estimation, when the product is homogeneous, and demand and cost conditions do not vary appreciably across markets.

The use of yardstick methods in cases of exclusionary behaviour (e.g. when the claimant alleges that its market share would have been higher, absent the behaviour, and estimates the damage it has suffered on the basis of such a difference in shares) is more problematic, as it requires that the difference in shares may be reasonably attributed to the infringer's actions, and not to some other factor.

In practice, as I've shown elsewhere²⁰, an analysis of a broad set of precedents on both sides of the Atlantic shows how courts accept the method only when the product of the firm that has suffered the effects of the behaviour and that of the proposed yardstick are very similar. Furthermore, in order to be acceptable in court, the comparison should be *either* between company A (that alleges the damage) and a company B operating in the same geographical market, but which for some reason has not been affected by the behaviour, *or* between A's share in the market where the abuse has taken place, and A's share in a different geographical market where there was no abuse. Mixed comparisons, typically between A in one geographical market and B in a different geographical market are not accepted, as the number of factors that may influence the difference in shares is large, and it is in practice very difficult to isolate the specific effects of the exclusionary behaviour.

These are of course my own criteria for an ex-ante choice among different approaches, not necessarily shared by the Commission: but I think that this is the kind of criteria that would probably benefit the courts' work, although – wisely – it is likely that they will employ “*ultimately, a syncretistic approach, which aims to apply a combination of the ... methods. Given the objective difficulty that the parties face in finding relevant data, and where the quantity of evidence is not sufficient to apply such econometric models, it seems permissible to resort to presumptions, equitable assessments and sometimes corrections to the model*”²¹.

¹⁹ See Connor (2008).

²⁰ Prosperetti (2012).

²¹ Corte di Cassazione (2011).

On an ex-post basis, I believe that the Commission should have stressed *robustness* as an important criterion for the evaluation of a method's results, and consequently also as a criterion for choosing among methods, when several are proposed. Robustness (a statistical term) may be taken here to indicate that results should not change appreciably if one of the hypotheses upon which the chosen method is based (e.g. the shape of the demand or of the cost curves) is altered, or a small change is introduced in the data set.

A well-known US case concerning data robustness is *Conwood*²², where the exclusion of a single data point concerning sales in the smallest of the markets considered completely upended the results of the plaintiff's expert. Sadly, the court did not see this, and the defendant had to pay treble damages of about \$1 billion²³.

Robustness is not the only criterion, but the discussion of other criteria would require clarifying a few technical points, going beyond the scope of this brief paper.

In any case, they exist, and I believe that the courts would benefit from a Commission's clarification on this fundamental issue.

²²*Conwood Co. V. U.S. Tobacco Co*, 290 F.3d (6th Circ. 2002).

²³ See the discussion in Rubinfeld (2008).

References

American Bar Association (2011), *Comments of the ABA sections of antitrust law and international law on the European Commission's Draft Guidance Paper on quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the functioning of the European Union*, available on DG Competition's site.

Arnaudo, L. (2011), *The quest for behavioural antitrust: beyond the label battle, towards a cognitive approach*, available at <http://ssrn.com/abstract=1962515>.

Assonime (2011), *Comments on the Draft Guidance paper on "Quantifying harm in actions for damages based on breaches of Article 101 or 102 TFEU"*, available on DG Competition's site.

Baker & McKenzie (2011), *Response to the call for Public Consultation on the European Commission's Draft Guidance Paper: quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the functioning of the European Union*, available on DG Competition's site.

Connor, J.M. (2008) *the great global vitamins conspiracies, 1985-1999*.

Baker & McKenzie (2011), *Response to the call for Public Consultation on the European Commission's Draft Guidance Paper: quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the functioning of the European Union*, available on DG Competition's site.

Corte di Cassazione (2011) *Comments on the Guidance Paper on damages for breach of antitrust law*, available on DG Competition's site.

European Commission (2011), *Draft Guidance Paper - Quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the functioning of the European Union –Public Consultation*, available on DG Competition's site.

European Competition Lawyers' Forum (2011), *Quantifying harm in actions for damages based on breaches of article 101 or 102 of the Treaty on the functioning of the European Union – Comments of the European Competition Lawyers' Forum (ECLF) on the EU Commission's Draft Guidance Paper*, available on DG Competition's site.

Freshfields Bruckhaus Deringer (2011), *Response to European Commission Draft Guidance Paper on Quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union*, available on DG Competition's site.

Goldfarb, A. et al. (2011) *Behavioural Models of Managerial Decision-Making*. Available at SSRN: <http://ssrn.com/abstract=2011559> or <http://dx.doi.org/10.2139/ssrn.2011559>

Joint Working Party of the Bars and Law Societies of the United Kingdom (2011), *Response to the European Commission's Draft Guidance Paper: "Quantifying harm in actions for damages based on breaches of Article 101 or 102"*, available on DG Competition's site.

Kahneman, D. (2011), *Thinking, fast and slow*, Allen Lane, Penguin Books Ltd., London.

OXERA (2009) *Quantifying antitrust damages: towards non-binding guidance for courts: study prepared for the European commission Directorate General for competition*, December.

Peyer, S. (2010), *Myths and Untold Stories - Private Antitrust Enforcement in Germany*, Centre for Competition Policy Working Paper No. 10-12, available at <http://ssrn.com/abstract=1672695>.

Prosperetti, L. (2012), *Estimating damages to competitors from exclusionary practices in Europe: a review of the main issues in the light of national courts' experience*, in "Competition Law and Intellectual Property – A European Perspective", Caggiano G., Muscolo G., Tavassi M. (editors), Kluwer Law International, The Netherlands.

Rodger, B. (2009 a), *Competition law litigation in the UK courts: a study of all cases 2005-2008 - Part I*, Global Competition Litigation Review, pp. 93-114.

Rodger, B. (2009 b), *Competition Law Litigation in the UK Courts: a study of all cases 2005-2008 - Part II*, Global Competition Litigation Review (3). pp. 136-147.

Rubinfeld, D.L. (2008) *Quantitative methods in anti-trust*, in *Issues in Competition Law and Policy*, ABA Section of Antitrust Law.