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## Quantifying Antitrust Damages—Convergence of Methods Recognized by U.S. Courts and the European Commission

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## I. INTRODUCTION

The degree to which plaintiffs pursue antitrust damages actions in the United States and the European Union varies considerably. For almost 100 years, private enforcement of the antitrust laws through damages actions has played a major role in the development of U.S. antitrust jurisprudence. In the European Union, although private suits have increased in number in recent years, successful actions are infrequent, and legislative advances are piecemeal and limited to certain jurisdictions.

In its 2005 Green Paper on damages actions for breach of the EU antitrust rules, the Commission identified difficulties in quantifying the harm suffered by injured parties as one of the key stumbling blocks in antitrust damages actions in the European Union.<sup>2</sup> Subsequently, in its 2008 White Paper, the Commission announced its intention to draw up a framework with pragmatic, non-binding guidance on quantifying the harm suffered in such actions.<sup>3</sup> Most recently, in June 2011, the Commission released for comment a draft guidance paper on quantification of damages for EU antitrust violations (the “Guidance Paper”).<sup>4</sup> The Guidance Paper is intended to provide guidance to courts and parties to damages actions on the calculation of harm from antitrust infringements.

The Commission has declared, “the legal framework for more effective antitrust damages actions should be based on a genuinely European approach.”<sup>5</sup> Yet damages for competition law infringements have been awarded by courts in very few Member States, and “[o]f those cases, the economic models used to calculate damages appear to have been fairly simplistic.”<sup>6</sup> With more than a century of private antitrust litigation, U.S.-developed case law and quantification methods may therefore provide valuable lessons for quantifying antitrust damages in European private actions. As described below, the procedural and quantitative methods for calculating antitrust

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<sup>2</sup> European Commission Green Paper on Damages Actions For Breach of the EC Antitrust Rules, at §2.3 (December 2005). Available at [http://eurlex.europa.eu/LexUriServ/site/en/com/2005/com2005\\_0672en01.pdf](http://eurlex.europa.eu/LexUriServ/site/en/com/2005/com2005_0672en01.pdf).

<sup>3</sup> European Commission White Paper on Damages Actions For Breach of the EC Antitrust Rules, at §2.5 (April 2008). Available at <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0165:FIN:EN:PDF>.

<sup>4</sup> 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 (June 2011). Available at [http://ec.europa.eu/competition/consultations/2011\\_actions\\_damages/draft\\_guidance\\_paper\\_en.pdf](http://ec.europa.eu/competition/consultations/2011_actions_damages/draft_guidance_paper_en.pdf).

<sup>5</sup> White Paper at §1.2.

<sup>6</sup> Denis Walebrook, Donald Slater, Gil Even-Shoshan, *Study on the Conditions of Claims for Damages in Case of Infringement of EC Competition Rules* (Ashurst Study) (August 31, 2004), at §1.1. Available at [http://ec.europa.eu/competition/antitrust/actionsdamages/economic\\_clean\\_en.pdf](http://ec.europa.eu/competition/antitrust/actionsdamages/economic_clean_en.pdf).

damages outlined in the Guidance Paper are in fact generally consistent with the typical approaches to damage estimations recognized and approved by U.S. federal courts.

## II. QUANTIFYING DAMAGES IN OVERCHARGE AND FORECLOSURE CASES

The Guidance Paper focuses on two main categories of antitrust harm: exploitation of market power by raising customer prices in the form of overcharges, and exclusion of competitors from a market or reducing their market share.<sup>7</sup> It provides an overview of the main methods and techniques for calculating damages and discusses these approaches as applied to these two main categories of antitrust harm.

In the United States, private damage claims can also be classified generally into overcharge cases and foreclosure cases. In an overcharge case, the defendant illegally imposed noncompetitive prices through some sort of collusive scheme or through monopolizing activities.<sup>8</sup> Similarly, in a foreclosure case, the plaintiff is prevented from participating in a market, and the objective is primarily to calculate the loss of profit suffered by the excluded plaintiff.<sup>9</sup>

According to the Commission, the “central question” in quantifying damages from antitrust violations is “to determine what is likely to have happened absent the infringement.”<sup>10</sup> The Commission identifies two principal approaches in calculating antitrust damages. The first approach, using comparator-based methods, estimates the counterfactual scenario by looking at data from the time periods before or after the infringement or at markets that have not been affected by the infringement. The second approach consists of economic simulation models based on data from the actual market and estimates based on production costs. The Commission emphasizes that all of these techniques can be used to quantify both “the initial overcharge paid by the direct customers of the infringing undertakings”<sup>11</sup> as well as the harm “suffered because of an exclusionary practice.”<sup>12</sup>

Similarly, the objective of antitrust damages under U.S. law is to restore the plaintiff to the economic condition in which it would have been “but for” the violation.<sup>13</sup> As the Eighth Circuit Court of Appeals succinctly stated, “an antitrust plaintiff’s damages should reflect the difference between its performance in a hypothetical market free of all antitrust violations and its actual performance in the market infected by the anticompetitive conduct.”<sup>14</sup> The two most widely employed techniques recognized by U.S. courts for measuring antitrust damages are referred to as the “before-and-after” method and the “yardstick” method.<sup>15</sup> Both of these methods are consistent with the comparator-based methods discussed in the Guidance Paper.

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<sup>7</sup> Guidance Paper at ¶12.

<sup>8</sup> See PHILLIP E. AREEDA ET AL., *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION*, ¶391a (2d ed. 2000).

<sup>9</sup> *Id.*

<sup>10</sup> Guidance Paper at ¶11.

<sup>11</sup> *Id.* at ¶126.

<sup>12</sup> *Id.* at ¶174.

<sup>13</sup> See *Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 264 (1946).

<sup>14</sup> *National Farmers’ Organization, Inc. v. Associated Milk Producers, Inc.*, 850 F.2d 1286, 1306 (8th Cir. 1988)

<sup>15</sup> See Areeda at ¶391d.

### III. COMPARATOR-BASED METHODS ARE RECOGNIZED BY BOTH U.S. COURTS AND THE EUROPEAN COMMISSION

#### A. Comparator-based Methods Recognized by the European Commission

The Guidance Paper discussed a number of “comparator-based methods” which use comparable data to estimate what price would have been paid had there been no infringement. These methods examine prices immediately before or after the infringement period in the same market.<sup>16</sup> These methods can also be used to compare prices in a similar geographic market, in a similar product market, or “across different geographic or product markets.”<sup>17</sup>

The Commission described various pros and cons of each approach. Comparing prices in the same market before, during, and after the infringement is useful because the market characteristics are likely to be similar, even though market conditions might have changed for unrelated reasons and the exact dates of infringement are often uncertain.<sup>18</sup> Comparing prices in different geographic markets is mainly used when geographic markets are local, regional, or national and is most useful where the geographic markets in question are similar, except for the infringement.<sup>19</sup> Similarly, the usefulness of comparing prices of different product markets depends in large part on the degree of similarity between those products.<sup>20</sup> Where sufficient data is available, all of these approaches may be used “to isolate the effects of the infringement from other influences on the relevant variable.”<sup>21</sup>

#### B. Comparator-based Methods Recognized by U.S. Courts

U.S. courts widely recognize two different types of comparator-based methods that closely resemble the comparator-based methods discussed in the Commission's Guidance Paper. The “before-and-after” method looks exclusively at the violation market, but tries to compare prices, output, or some other index from the period prior to the violation period, subsequent to the violation period, or both.<sup>22</sup> The “yardstick” method compares prices, performance, or some other index of harm in the violation market with the same variable in some alternative, or “yardstick,” market that is assumed to be performing competitively.<sup>23</sup>

##### 1. Before-and-After Method

Under the before-and-after method, the plaintiff estimates damages using its performance before or after the antitrust violation to infer how it would have performed during the damage period. In overcharge cases, the plaintiff estimates the prices “but for” the illegal overcharges by using the prices charged before or after the price-fixing or monopolization.<sup>24</sup> In

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<sup>16</sup> Guidance Paper at ¶29.

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at ¶35-42.

<sup>19</sup> *Id.* at ¶43-47.

<sup>20</sup> *Id.* at ¶48-49.

<sup>21</sup> *Id.* at ¶50.

<sup>22</sup> See e.g. *In re Dynamic Random Access Memory Antitrust Litig.*, 2006 U.S. Dist. LEXIS 39841, at \*45-46 (N.D. Cal. June 5, 2006) (noting that the before-and-after methodology has been “upheld by numerous courts”).

<sup>23</sup> See, e.g. *In re Rubber Chemicals Antitrust Litig.*, 232 F.R.D. 346, 354 (N.D. Cal. 2005) (finding that the yardstick approach is a “reasonable and commonly-used formulaic [approach] to calculating damages”).

<sup>24</sup> *Areeda* at ¶391e.

foreclosure cases, the plaintiff estimates its profits “but for” the illegal practices by using its own economic condition before or after the antitrust violation.<sup>25</sup>

U.S. courts use the before-and-after approach as a “very accurate method ... to compute lost profit damages in cases where the market conditions are relatively static over time or where there is sufficient data from a competitive period.”<sup>26</sup> The comparison or “control” periods for before-and-after analyses have varied from one month to several years.<sup>27</sup> The Supreme Court has instructed that to use the before-and-after method, a firm should be able to show that its “decline in prices, profits and values” is “not shown to be attributable to other causes.”<sup>28</sup> Problems with this approach arise, for instance, when the plaintiff’s actual experience “is influenced by causal factors other than the unlawful conduct of the defendant. In general, the subsequent performance of the plaintiff can be caused by its own failings (i.e., managerial mishaps), the lawful behavior of the defendant, and changed market conditions.”<sup>29</sup>

## 2. Yardstick Method

Under the yardstick method of damages, the plaintiff compares its performance to the performance of a substantially similar business referred to as the “yardstick.” The plaintiff uses the yardstick business’ performance to draw inferences about how the plaintiff’s business would have performed “but for” the antitrust violation. Courts have held that when using the yardstick method to estimate the amount of damages, “product, firm, and market comparability are all relevant factors in the selection of a proper yardstick” and have also “cautioned that the yardstick firm must be unaffected, one way or the other, by the defendant’s antitrust violation.”<sup>30</sup>

In *Zenith Radio Corp. v. Hazeltine Research, Inc.*, for instance, the plaintiff complained of a conspiracy to exclude its imports into Canada.<sup>31</sup> The Supreme Court allowed the plaintiff’s economic experts to measure damages by contrasting the plaintiff’s “percentage share of the United States television market” with its “actual share of the Canadian market during the same period.”<sup>32</sup> The Court noted, “[d]amages were awarded on the assumption that [plaintiff], absent the conspiracy, would have had 16% of the Canadian television market ... throughout the damage period, rather than its actual 3% share.”<sup>33</sup>

The advantage of this approach is that it allows damage calculations where the plaintiff alleges the inability to enter the market or otherwise has no suitable prior history of its business to provide a foundation for damages. Where the plaintiff has not yet entered the market, the plaintiff must prove that it intended to enter it and was prepared to do so.<sup>34</sup> A showing of

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<sup>25</sup> *Id.*

<sup>26</sup> *Godix Equip. Export Corp. v. Caterpillar, Inc.*, 948 F. Supp. 1570, 1583 n.4 (S.D. Fla. 1996).

<sup>27</sup> See *Pierce v. Ramsey Winch Co.*, 753 F.2d 416, 439-40 (5th Cir. 1985) (one month); *Eiberger v. Sony Corp. of Am.*, 622 F.2d 1068 (2d Cir. 1980) (one year); *Eastman Kodak Co. v. Southern Photo Materials Co.*, 273 U.S. 359, 378-79 (1927) (four years).

<sup>28</sup> *Bigelow v. RKO Radio Pictures*, 327 U.S. 251, 264 (1946).

<sup>29</sup> *Areeda* at ¶391e.

<sup>30</sup> *Home Placement Serv., Inc. v. Providence Journal Co.*, 819 F.2d 1199, 1206 (1st Cir. 1987).

<sup>31</sup> *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100 (1969).

<sup>32</sup> *Id.* at 116 n.11.

<sup>33</sup> *Id.* at 116.

<sup>34</sup> See *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 994 (D.C. Cir. 1977).

preparedness can include prior experience in the industry, financial preparedness, and the taking of actual steps to effect entry.<sup>35</sup>

### **C. Econometric Techniques Increase the Degree of Accuracy of Comparator-based Methods**

The Guidance Paper noted, “[o]nce a suitable comparator-based method for establishing a non-infringement scenario has been chosen, various techniques are available to implement this method in practice.”<sup>36</sup> Recommended “simple” techniques consist of individual data observations, averages, interpolation, and simple adjustments.<sup>37</sup> Complex methods include regression analyses using statistical techniques to investigate patterns in the relationship between economic variables and to measure to what extent a certain variable of interest ... is influenced by other variables that are not affected by the infringement.”<sup>38</sup>

U.S. courts have widely accepted the usefulness of regression analyses applied to both the yardstick and before-and-after methods, stating, “if performed properly multiple regression analysis is a reliable means by which economists may prove antitrust damages.”<sup>39</sup> Some U.S. courts have specifically held that experts are, in fact, expected to conduct a regression analysis in order to produce robust estimates: The “prudent economist must account for these differences and would perform minimum regression analysis” when comparing prices before the relevant period to prices during the alleged conspiracy period.<sup>40</sup>

The Commission emphasized that techniques such as regression analyses can “provide valuable help in quantifying the harm suffered through infringements of Article 101 or 102 TFEU” but admitted, “[t]o date, little experience exists with econometric analysis in actions for antitrust damages before courts in the EU.”<sup>41</sup> In contrast, the use of regression techniques has become very common in U.S. litigation,<sup>42</sup> and thus may provide useful guidance to EU courts in implementing comparator-based methods employing these techniques.

## **IV. ADDITIONAL METHODS FOR CALCULATING ANTITRUST DAMAGES**

The Guidance Paper discussed several other methods to establish an estimate for the non-infringement scenario, including the simulation of market outcomes on the basis of economic models. Simulation models “draw on economic models of market behavior” and take into

<sup>35</sup> *Id.*

<sup>36</sup> Guidance Paper at ¶53.

<sup>37</sup> *Id.* at ¶¶57-62.

<sup>38</sup> *Id.* at ¶63.

<sup>39</sup> *Petruzzi’s IGA Supermarkets, Inc. v. Darling-Delaware Co.*, 998 F.2d 1224, 1238 (3d Cir. 1993). *See also In re Live Concert Antitrust Litig.*, 247 F.R.D. 98, 146 (C.D. Cal. 2007) (“Regression analysis is a well-recognized tool in determining antitrust damages.”).

<sup>40</sup> *In re Aluminum Phosphide Antitrust Litig.*, 893 F. Supp. 1497, 1504 (D. Kan. 1995). *See also Blue Cross and Blue Shield United of Wisconsin v. Marshfield Clinic*, 152 F.3d 588, 593 (7th Cir. 1998) (Statistical studies that fail to correct for salient factors, not attributable to the defendant’s misconduct, that may have caused the harm of which the plaintiff is complaining do not provide a rational basis for a judgment.”).

<sup>41</sup> Guidance Paper at ¶83.

<sup>42</sup> *See, e.g., Franklin M. Fisher, Multiple Regression in Legal Proceedings*, 80 COLUM L. REV. 702, 702 (1980); Areeda at ¶394.

account many market characteristics to predict profit over a time period, including the level of competition, the degree of product differentiation, the market's cost structure, and demand.<sup>43</sup>

The Commission also recognized that cost-based approaches can be used to estimate a likely non-infringement situation on the basis of production costs and a reasonable profit margin. Taking cost of production and other market factors into account, these methods approximate what profit margin the plaintiff might reasonably have achieved had the infringement not occurred. To obtain an estimate of the overcharge, the resulting per-unit non-infringement price can be compared to the per-unit price actually charged by the infringing undertaking.<sup>44</sup>

U.S. courts have similarly held that while the yardstick and before-and-after techniques are the most common methods for calculating antitrust damages, "a plaintiff may prove damages by a different measure tailored to the facts of the case."<sup>45</sup> For instance, while not used as widely as the yardstick and before-and-after methods, some U.S. courts also recognize the "market share" method for analyzing lost profit damages. Under this approach, the plaintiff calculates lost market share caused by the defendant's antitrust violations and determines the corresponding lost output and resulting loss of profit.

In *LePage's, Inc. v. 3M*, for example, the plaintiff's expert calculated the total United States transparent tape sales during the damage period and produced estimates of how these sales would be allocated between private label and branded sectors of the market.<sup>46</sup> He estimated that private label sector growth was 1 percent per year, and then estimated how the plaintiff's share of the market would have shifted but for the anticompetitive conduct, taking into consideration its shares of the private label and branded sectors.<sup>47</sup> By using this approach, the plaintiff was able to create a hypothetical offense-free world to use as a yardstick, which the court found acceptable.<sup>48</sup>

## V. Precision Is Not Required

U.S. courts recognize that precise antitrust damages calculations are often difficult or impossible.<sup>49</sup> The Supreme Court has held that reasonable approximations are sufficient, holding, "while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although

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<sup>43</sup> *Id.* at ¶86.

<sup>44</sup> *Id.* at ¶¶96-97.

<sup>45</sup> *Eleven Line, Inc. v. N. Tex. State Soccer Ass'n*, 213 F.3d 198, 207 (5th Cir. 2000). See also *Marshall Auto Painting & Collision, Inc. v. Westco Engineering, Inc.*, 2003 WL 25668018, \*20 (M.D. Fla. 2003) ("business can recover lost profits [if]...there is some standard by which the amount of damages may adequately determined.") (internal citation omitted).

<sup>46</sup> *LePage's, Inc. v. 3M*, 324 F.3d 141, 165 (3d Cir. 2003).

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* See also *Dolphin Tours, Inc. v. Pacifico Creative Serv.*, 773 F.2d 1506, 1511-1513 (9th Cir. 1985) (market share study was sufficient to avoid summary judgment); *General Leaseways, Inc. v. National Truck Leasing Ass'n.*, 830 F.2d 716, 726 (7th Cir. 1987) (approving jury verdict awarding no damages under market share analysis).

<sup>49</sup> *Bigelow*, 327 U.S. at 265 (discussing the "ancient" principle that "[t]he most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created," and noting that the "character" of antitrust cases "is such as frequently to call for its application").

the result be only approximate. The wrongdoer is not entitled to complain that they cannot be measured with the exactness and precision.”<sup>50</sup>

Similarly, the Commission recognized that it is not always possible to quantify damages with precision and that the inability to do so should not bar a claimant from recovering. The Commission emphasized, “quantification of harm in competition cases is, by its very nature, subject to considerable limits as to the degree of certainty and precision that can be expected. There cannot be a single ‘true’ value of the harm suffered that could be determined, but only best estimates relying on assumptions and approximations.”<sup>51</sup>

In the United States, however, rules governing the admissibility of expert opinions on the calculation of damages ensure that only reasonably reliable methods are employed. In deciding whether to admit proffered expert testimony, a district court is guided by the principles set forth by the Supreme Court in *Daubert v. Merrill Dow Pharm., Inc.*<sup>52</sup> Under *Daubert*, expert testimony may only be admitted if: (1) the expert is qualified to testify competently regarding the matters he intends to address; (2) the methodology by which the expert reaches his conclusion is sufficiently reliable; and (3) the testimony assists the trier of fact.<sup>53</sup> In *Kumho Tire Co. v. Carmichael*, the United States Supreme Court held that the *Daubert* “gate-keeping” obligation extended not only to scientific testimony but to all expert testimony.<sup>54</sup>

## VI. ACCESS TO DISCOVERY

Regardless of methodology, all damage estimates in U.S. cases must be “based upon sufficient facts or data.”<sup>55</sup> The data used in U.S. damages cases comes from a variety of sources. Plaintiffs generally have access to data relating to their own purchases, as well as access to various public sources. In addition, plaintiffs can obtain any relevant documents and data (including transaction-level sales data relating to purchases, orders, shipments, discounts, and rebates) in the possession of defendants in accordance with liberal U.S. discovery rules.<sup>56</sup>

In contrast, broad procedural rules governing discovery are almost non-existent in the European Union and there is relatively little discovery permitted in most of the EU Member States. In many jurisdictions where at least some discovery is permitted, such rights are severely limited by, for instance, the requirement that a party specifically identify the precise documents it is seeking by date, author, recipient, and subject matter.<sup>57</sup> The Commission has recognized that quantification of damages will be greatly affected by the procedural context, including the degree of discovery available to litigants. The Guidance Paper specifically noted that one of the

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<sup>50</sup> *Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555, 563 (1931).

<sup>51</sup> Guidance Paper at ¶14.

<sup>52</sup> *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 589 (1993).

<sup>53</sup> *Id.* at 592-93.

<sup>54</sup> *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).

<sup>55</sup> Fed. R. Evid. 702(1).

<sup>56</sup> Fed. R. Civ. P. 26(b) (1) (“Unless otherwise limited by court order, the scope of discovery is as follows: Parties may obtain discovery regarding any nonprivileged matter that is relevant to any party’s claim or defense—including the existence, description, nature, custody, condition, and location of any documents or other tangible things and the identity and locations of persons who know of any discoverable matter.”).

<sup>57</sup> See Edward B. Schwartz & Martin Rees, *Private Antitrust Enforcement in Europe: Are American-Style Class Actions on the Way?* at 2, ANTITRUST (October 2007).



challenges of the cost-based damages approach is that the relevant production cost data “may be in the possession of the opposing party or a third party”<sup>58</sup> and thus generally not easily accessible to the public.

Without more robust discovery allowances in the EU, therefore, there may be limits to how effectively parties can employ some of the methods and techniques discussed in the Guidance Paper. If the burden of proving damages is on the private claimant, as it is in the United States, the absence of meaningful discovery may frustrate efforts to provide effective redress to parties injured by antitrust violations. Moreover, the benefits of broad discovery may, in fact, outweigh the burdens to defendants, where access to relevant information prior to trial allows defendants to test and verify damage assertions made by plaintiffs, and ultimately prepare a more complete defense.

## VII. CONCLUSION

The acceptance of class actions and the need for class certification, broad disclosure rules, and jury trials are important features of the U.S. legal system that are not common in European proceedings. Given the differences in the legal environments of the United States and Europe, the wide-ranging U.S. experiences cannot be transferred directly to the European Union. Nonetheless, the methods recognized by U.S. courts and the European Commission underlying the procedural and quantitative tools and techniques for quantifying antitrust damages have more similarities than differences. The key principle underlying the assessment of damages relies on methodologies to reconstruct the “but for” world without the anticompetitive harm, requiring a sound understanding of how markets function and the application of quantitative skills. Going forward, both systems of antitrust enforcement will likely provide instructive roadmaps for one another as the European landscape of private antitrust actions continues to unfold.

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<sup>58</sup> Guidance Paper at ¶100.