UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE ELECTRONIC BOOKS ANTITRUST LITIGATION	No. 11-md-02293 (DLC) ECF Case
This Document Relates to: ALL ACTIONS	CLASS ACTION

**CLASS PLAINTIFFS' MEMORANDUM OF LAW IN OPPOSITION TO
DEFENDANT APPLE'S MOTION TO EXCLUDE OPINIONS OFFERED BY
DR. ROGER NOLL IN SUPPORT OF MOTION FOR CLASS CERTIFICATION**

SUBMITTED UNDER SEAL
Pursuant to Protective Order

010260-11 662395 VI

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES

I.   INTRODUCTION AND BACKGROUND

This Court already found that Apple violated the Sherman Act by "knowingly and intentionally participat[ing] in and facilitat[ing] a horizontal conspiracy to eliminate retail price competition and to raise the retail prices of e-books."[1] This conspiracy increased the price of the co-conspirator Publisher Defendants' books, including new release and backlist books.[2]

Applying his decades of economic experience to the facts of this case, Dr. Noll used a standard, widely accepted multi-variable regression analysis to demonstrate impact and estimate damages caused by Defendants' conspiracy.[3] Dr. Noll's multiple regression model accounts (controls) for key market variables (including retailers, price, time since release, popularity, and genre) and demonstrates that the conspiracy resulted in higher e-book prices for more than 99.6% of e-books sales by the Publisher Defendants, resulting in estimated damages of between $280-$307 million.[4]

Dr. Noll used a long-established and well-accepted regression modeling methodology known as "before-after."[5] Dr. Noll's analysis compares the prices of almost every single e-book sold before and during the conspiracy by conspiring and non-conspiring publishers in the trade e-book market and uses this information, while controlling for market conditions and each book's characteristics (such as publisher, release date, presence on a New York Time bestseller's list, and existence of a corresponding physical book). For every combination of these variables

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[1] *United States v. Apple Inc.*, No. 12-cv-2826, 2013 U.S. Dist. LEXIS 96424, at *151 (S.D.N.Y. July 10, 2013). All internal citations and quotations omitted and all emphasis added unless otherwise stated.

[2] *Id.*, at *131.

[3] *See* Corrected Declaration of Roger G. Noll ("Noll Decl."), Oct. 21, 2013, ECF No 428; Reply Declaration of Roger G. Noll ("Noll Reply Report"), concurrently filed herewith. All ECF references hereto are to *In re Electronic Books Antitrust Litig.*, No. 11-md-2293 (DLC) (S.D.N.Y.), unless otherwise noted.

[4] Noll Decl. at 6-7; Noll Reply Report at 17.

[5] Noll Decl. at 16-18.

approximately 500 different "hedonic" categories – Dr. Noll calculated a percentage overcharge unique to each category. And to be clear, within each category, every single e-book title has its own indicator variable to account for characteristics specific to each title. The percentage overcharge unique to each category is then multiplied by total sales for the given category to estimate the damages from the conspiracy.[6] If any one of these categories does not show a positive overcharge, all sales within the category are excluded from the damages calculations.

This type of model is widely accepted as relevant and reliable for these purposes in antitrust cases.[7] Dr. Noll's application of the before-after methodology is also reliable here. It is grounded in the Court's liability finding against Apple and accounts for the major explanatory factors in setting e-book prices that economic theory and investigation suggest.

Apple has nevertheless moved to exclude Dr. Noll's testimony under *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993). Apple essentially makes three arguments: (1) Dr. Noll's model is not properly specified to the facts of the e-books market and fails to sufficiently fit the data; (2) Dr. Noll's model cannot reliably demonstrate wide-spread injury; and (3) Dr. Noll's analysis is incapable of estimating individual damages.[8]

Apple's criticisms are wrong.

- Dr. Noll's regression accounts for the most significant factors that explain variance in e-book prices. Apple is wrong about the significance of the other variables it identifies, and does not even attempt to show that their inclusion affects the outcome.

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[6] *Id.* at 23-24.

[7] *See, e.g., In re K-Dur Antitrust Litig.*, No. 01-cv-1652, 2008 WL 2699390, at *19 (D.N.J. Apr. 14, 2008)("*K-Dur I*"), *aff'd*, 686 F.3d 197 (3rd Cir. 2012) (observing that the "[d]efendants do not dispute that the 'before and after' methodology proposed by Dr. Leitzinger is 'judicially recognized and commonly accepted'"); *In re NASDAQ Market-Makers Antitrust Litig.*, 169 F.R.D. 493, 521 (S.D.N.Y. 1996) (recognizing that "[m]ethodologies of this kind . . . have been cited with approval by numerous courts in granting class certification").

[8] *See* Def. Apple Inc.'s Mem. of Law in Supp. of Its Mot. to Exclude Opinions Offered by Dr. Roger Noll in Supp. of Mot. for Class Cert. ("Apple Br."), Nov. 15, 2013, ECF No. 445.

- Dr. Noll's regression is capable of showing – and does show - widespread injury to the class (Plaintiffs need not show injury to every class member). While Dr. Kalt's pre- and post-agency price comparisons are fundamentally flawed, even his analysis shows that Dr. Noll's model is capable of demonstrating widespread injury to the class.

- Damages are properly calculated and awarded on an aggregate basis initially, with individual damages calculations to occur in a subsequent proceeding – which Dr. Noll's model can accommodate.

Moreover, Apple misapprehends *Daubert* itself. *Daubert* motions are "not intended to serve as a replacement for the adversary system."[9] Instead, "rejection of expert testimony is the exception rather than the rule," and is not warranted simply because an opposing expert or party relies on different contested facts, or employs different methodology, or reaches different conclusions.[10] Such disputes go to the weight of the expert testimony, not its admissibility, and are for the jury alone to resolve at trial.[11] *Daubert* exists to screen junk science from the courtroom - to exclude evidence falling outside the "range where experts might reasonably differ."[12] But that is not this case. Apple does not dispute Dr. Noll's qualifications or basic regression methodology; it simply tries to poke holes in the details of his analysis. Apple's complaints are inaccurate and overstated. As the Supreme Court explained, "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence . . . . These conventional devices, rather than wholesale exclusion . . . are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702."[13]

Plaintiffs have presented a rigorous analysis from a highly qualified expert with an

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[9] Fed. R. Evid. 702, Notes of Advisory Committee on 2000 Amendments ("Committee Notes").

[10] *Id.*

[11] *See Daubert*, 509 U.S. at 596.

[12] *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 153 (1999).

[13] *Daubert*, 509 U.S. at 596.

- 3 -

impeccable academic and professional reputation, which builds upon an extraordinarily powerful

record of e-book price increases across the board by the Defendant Publishers. Apple's motion

should be denied.

II. LEGAL STANDARD

Expert testimony is admissible under Federal Rule of Evidence 702 when the witness is

qualified as an expert and "(a) the expert's scientific, technical, or other specialized knowledge

will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the

testimony is based upon sufficient facts or data; (c) the testimony is the product of reliable

principles and methods; and (d) the expert has reliably applied the principles and methods to the

facts of the case."[14] The *Daubert* standard is flexible and permissive, consistent with the "liberal

thrust of the Federal Rules and their general approach of relaxing the traditional barriers to

opinion testimony."[15] Accordingly, "the rejection of expert testimony is the exception rather than

the rule."[16]

The *Daubert* inquiry is not whether the expert's analysis is perfect, or even correct, but

whether it is reasonable.[17] "As the Second Circuit has noted, district courts should presume

expert evidence is reliable."[18] When evaluating the reliability of an expert's proposed testimony,

a court's focus "must be solely on principles and methodology, not on the conclusions that they

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[14] Fed. R. Evid. 702; *see also Kumho*, 526 U.S. at 141.

[15] *Daubert*, 509 U.S. at 588.

[16] Fed. R. Evid. 702 Committee Notes; *Park W. Radiology v. CareCore Nat'l LLC*, 675 F. Supp. 2d 314, 327 (S.D.N.Y. 2009).

[17] *Kumho*, 526 U.S. at 153 (Rule 702 is concerned with junk science falling outside "the range where experts might reasonably differ"); *see also, In re Linerboard Antitrust Litig.*, 497 F. Supp. 2d 666, 673 (E.D. Pa. 2007) ("The requirement of reliability is lower than the standard of correctness. . . . The judge does not have to determine that these methods are necessarily the best grounds to ascertain certain facts, but only that the evidence presented will help the trier of fact.").

[18] *UMG Recordings, Inc. v. Lindor*, 531 F. Supp. 2d 453, 456 (E.D.N.Y. 2007).

-4-

- 5 -

generate."[19] However, an expert's conclusions must be "supported by good grounds for each step in the analysis."[20] "Although expert testimony should be excluded if it is speculative or conjectural . . . or if it is based on assumptions that are so unrealistic and contradictory as to suggest bad faith or to be in essence an apples and oranges comparison . . . other contentions that the assumptions are unfounded go to the weight, not the admissibility, of the testimony."[21]

At class certification, the court must do more than ensure that an expert's opinion is not "fatally flawed;" rather the Court must make a "rigorous analysis" to determine the "requisite findings" that the proposed damages model is appropriately based on the wrongful conduct, provides a universal means of calculating damages, and is feasible.[22] This limited inquiry is particularly important in antitrust cases, where "causes and effects in the realm of economics are not nearly as clear-cut as they are in other disciplines, such as chemistry or engineering; there is room for disagreement among the experts."[23]

The Supreme Court has long emphasized that antitrust plaintiffs need not estimate

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[19] *Daubert*, 509 U.S. at 595; *see also Petruzzi's IGA Supermarkets, Inc. v. Darling-Del. Co., Inc.*, 998 F.2d 1224, 1238 (3d Cir. 1993) (multiple regression analysis "is reliable" and should not be excluded so long as it is "done properly"). Nonetheless, "when an expert purports to apply principles and methods in accordance with professional standards, and yet reaches a conclusion that other experts in the field would not reach, the trial court may fairly suspect that the principles and methods have not been faithfully applied." Fed. R. Evid. 702 Committee Notes.

[20] *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002).

[21] *Boucher v. U.S. Suzuki Motor Corp.*, 73 F.3d 18, 21 (2d Cir. 1996); *see also Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993) ("[W]hen indisputable record facts contradict or otherwise render [an expert] opinion unreasonable, it cannot support a jury verdict."); *Tse v. Ventana Med. Sys., Inc.*, 123 F. Supp. 2d 213, 227 (D. Del. 2000) (testimony may not rest on "demonstrably false assumptions").

[22] *In re U.S. Foodserv. Inc. Pricing Litig.*, 729 F.3d 108, 129-30 (2d Cir. 2013).

[23] *In re Se. Milk Antitrust Litig.*, No. 08-md-1000, 2010 WL 5102974, at *2 (E.D. Tenn. Dec. 8, 2010); *see also In re Scrap Metal Antitrust Litig.*, No. 02-cv-0844, 2006 WL 2850453, at *12-*13 (N.D. Ohio Sept. 30, 2006) ("[E]ven in the most complicated cases . . . [competing expert opinions] should be tested by the adversary process . . . rather than excluded."); *Allapattah Servs. Inc. v. Exxon Corp.*, 61 F. Supp. 2d 1335, 1340-41 (S.D. Fla. 1999) (*Daubert* is broad enough to allow competing testimony from competing experts in complex cases).

010260-11 662395 VI

damages with exacting precision, and that reasonable estimates will suffice:

> [Damage] issues in these cases are rarely susceptible of the kind of
> concrete, detailed proof of injury which is available in other
> contexts. The Court has repeatedly held that in the absence of more
> precise proof, the factfinder may conclude as a matter of just and
> reasonable inference from the proof of defendants' wrongful acts
> and their tendency to injure plaintiffs' business . . . that defendants'
> wrongful acts had caused damage to the plaintiffs. [24]

The reason for this long-settled rule is that "the 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."[25] Apple's motion ignores the framework supplied by *Daubert* and suggests

improperly that the Court must determine that Dr. Noll's model is correct in order for Class

Plaintiffs to rely on it in support of their motion for class certification. While Class Plaintiffs will

ultimately prove that Dr. Noll's analysis is right, that is simply not the *Daubert* standard.

III.   DR. NOLL'S MULTIPLE REGRESSION ANALYSIS

Multiple regression modeling is the standard methodology used to establish impact and

damages in price-fixing cases.[26] Dr. Noll's "before-after" approach uses prices that were not

subject to the anticompetitive conduct to calculate a "competitive benchmark," which is then

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[24] *J. Truett Payne Co. Inc. v. Chrysler Motors Corp.*, 451 U.S. 557, 565-66 (1981); *see also Loeb Indus., Inc. v. Sumitomo Corp.*, 306 F.3d 469, 493 (7th Cir. 2002) ("Since the days of *Eastman Kodak Co. v. Southern Photo Materials Co.*, 273 U.S. 359, 379 (1927), it has been established that in complicated antitrust cases plaintiffs are permitted to use estimates and analysis to calculate a reasonable approximation of their damages.").

[25] *Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 263-66 (1946); Philip Areeda & Herbert Hovenkamp, Antitrust Law, 333, ¶ 392 (Aspen Press 2001) ("[S]ince the defendant created the need for damage estimation by violating the antitrust laws, it should bear the burden of uncertainty in proving the consequent damages.").

[26] *See, e.g.*, *Bickerstaff v. Vassar Coll.*, 196 F.3d 435, 448 (2d Cir. 1999) (regression analysis is a commonly accepted statistical tool used to examine "the effect of independent variables on a dependent variable"); *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517, 529 (6th Cir. 2008) ("*Scrap Metal II*"); *Conwood Co. LP v. U.S. Tobacco Co.*, 290 F.3d 768, 793 (6th Cir. 2002); *Petruzzi's*, 998 F.2d at 1238; *Sun Microsystems, Inc. v. Hynix Semiconductor Inc.*, 608 F. Supp. 2d 1166, 1200 (N.D. Cal. 2009); *In re Linerboard*, 497 F. Supp. 2d at 670 & n.8; *In re Polypropylene Carpet Antitrust Litig.*, 93 F. Supp. 2d 1348, 1359 (N.D. Ga. 2000).

compared against prices set as a result of the anticompetitive conduct. The benchmark is used to estimate the percentage increase in prices – if any - due to the conspiracy; damages then equal the percentage overcharge times the sales total.[27] The before-after approach is commonly accepted in antitrust cases.[28] Here, Dr. Noll used a benchmark (or control group) of e-book market prices not subject to the Publisher Defendants' agency agreements.[29] These prices were then compared to market prices after the publisher's adoption of the agency model.

In order to implement this approach, Dr. Noll developed a "hedonic pricing model" to measure the effects of product attributes on price. E-books are differentiated products, meaning that they have different attributes that can – but not necessarily do - lead to different prices. The hedonic pricing model explains prices using an equation in which the dependent variable is the product's price and the independent variables are measures of the products' attributes that result in different prices.[30] Using the hedonic pricing model, Dr. Noll could then estimate the prices

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[27] Noll Decl. at 17.

[28] *See, e.g., K-Dur I,* 2008 WL 2699390, at *19; *NASDAQ,* 169 F.R.D. at 521.

[29] Noll Decl. at 19. The control group also includes purchases of e-books from non-defendant publishers after the Publisher Defendants' adoption of the agency model. This improves the analysis by including additional data from products in the market that were not subject to the collusive agreements. *See* Noll Reply Report at 41-49; Exhibit 10 to the Declaration of Steve W. Berman in Further Support of Class Plaintiffs' Motion for Class Certification and *Daubert* Motions ("Berman Declaration") at 126:15-22. (All exhibit references hereto are to the Berman Declaration, unless otherwise noted.) If anything, use of these titles produces conservative results, because their prices may have risen in response to the conspiracy. *See* Noll Reply Report at 13-14.

[30] Noll Decl. at 17-19. Apple's suggestion that a hedonic price regression is inappropriate because it "assumes common impact" (Apple Br. at 19; Declaration of Joseph P. Kalt, Ph.D. ("Kalt Decl.") at 53-54., filed under seal on Nov. 15, 2013), is incorrect and refuted by the very publication that Apple and Dr. Kalt cite. The ABA publication warns not of using reduced-form hedonic price regressions, but against equations that use a single indicator variable to measure the effect of anticompetitive conduct for all purchases. ABA Section of Antitrust Law, Econometrics: Legal, Practice, and Technical Issues 221-23 (2005). The recommended solution is the very one used by Dr. Noll in employing variables that combine to form more than 500 different categories, as well as an indicator variables for every single title within each category. This approach allows the model to account for structural features of the market (e.g., genre, release date, etc.) that may cause differential effects on prices. *See id.; see also* Noll Reply Report at 5-6.

-7-

that would have been charged absent anticompetitive conduct. Dr. Noll has previously utilized

hedonic pricing models in multiple antitrust cases in which a class has been certified.[31]

Dr. Noll specified his hedonic pricing model based on independent variables (that is,

attributes) likely to result in different e-book prices. These included:

- How long the e-book had been available: Variables indicating whether the e-book had been released in the past 90 days (a "new release") and whether it had been on the market for over a year.[32]

- How popular the e-book was: Variables indicating whether the print version of the e-book title was or had recently been on the New York Times bestseller list.[33]

- The type of e-book: Variables categorizing the title along the genre lines used by the New York Times bestseller list and the Defendants.[34]

- Whether the e-book was also available in other editions: Variables indicating the presence of hardcover or paperback editions.[35]

- The effect of income on e-book demand: Data from the Bureau of Economic Analysis of the United States Department of Commerce on monthly personal consumption expenditures on nondurable goods.[36]

- Trends affecting e-book prices that were unrelated to the conspiracy: Variable indicating the number of months since the introduction of Defendants' agency model, in order to take account of e-book market changes such as "the evolution of digital publishing more generally"[37] that would not be expected to be tied to the agency model.[38]

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[31] *See In re Static Random Access Memory (SRAM) Antitrust Litig.*, No. 07-md-01819, 2010 WL 5071694 (N.D. Cal. Dec. 7, 2010); *In re Dynamic Random Access Memory (DRAM) Antitrust Litig.*, No. M 02–1486, 2006 WL 1530166 (N.D. Cal. June 5, 2006); Ex. 10 at 124:2-7 (discussing prior use of hedonic pricing models); *see generally Freeland v. AT & T Corp.*, 238 F.R.D. 130, 149 n.15 (S.D.N.Y. 2006) (discussing the use of a hedonic regression analysis for evaluating a change in price over time).

[32] Noll Decl. at 20.

[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] *Id.* at 20-21.

[37] *Apple Inc.*, 2013 U.S. Dist. LEXIS 96424, at *141.

[38] Noll Decl. at 21.

Dr. Noll also included variables for each publisher to reflect whether the title under examination was being sold while that publisher's agency model was in effect – that is, whether the sale was subject to Defendants' anticompetitive agreement.[39] These variables combine to create 720 unique combinations or categories of e-book characteristics.[40] In addition, within each category, Dr. Noll included an indicator variable for each title, to control for title-specific price effects. Based on standard statistical tests, this model fit the data well, explaining 90 percent of the variance in prices among e-book titles.[41]

In order to run his model, Dr. Noll used data from every major e-book retailers, including Amazon, Barnes & Noble, Apple, and Sony.[42] He analyzed e-book prices for e-books sold at least once after April 1, 2010 (when the agency model was first adopted), examining the price charged before the conspiracy took effect and during the conspiracy. His data included over 1.3 million e-book titles.[43] When initially implementing the model, for each e-book title and retailer, Dr. Noll used the average price of that title for each four-week period sold through that retailer.[44] This approach had three benefits. One, it minimized the effect of any errors in the individual observations in the dataset, since once incorporated into the four-week average they had less of an effect on the outcome of the model.[45] Two, it allowed for robust computations where there

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[39] *Id.*

[40] While the variables combine in 720 unique combinations, only approximately 500 of the categories contained data observations.

[41] *Id.* at 24.

[42] Indeed, Apple's counsel has described it as "the largest and most comprehensive database of transactional eBook sales" ever compiled. Ex. 11 at 1571:4-5. While the database also includes data from other retailers, Amazon, Barnes & Noble, Apple, and Sony account for 98 perfect of the Publisher Defendants' e-book sales. *See* Noll Decl. at 29.

[43] Noll Decl. at 19.

[44] *Id.*

[45] Ex. 10 at 154:18-155:20.

- 9 -

would have been too few data points (i.e., not enough sales during a shorter period) for statistical analysis. Finally, it was the same technique used by both the Defendants' and Plaintiffs' experts in the liability phase, and so facilitated comparison with their results.[46]

Apple attacked Dr. Noll's use of four-week average prices, Dr. Noll responded in his rebuttal report by also implementing the regression using both weekly average prices and individual transaction prices. Using weekly average prices, and the same weighting as with the four-week analysis, resulted in almost identical estimated damages as four week averages. And for the transaction-by-transaction analysis, weighting was not used and the damages estimates were approximately 9 percent lower. Notably, both estimates showed an even greater percentage of unit sales with overcharges –99.6 percent.[47]

Dr. Noll's regression calculated whether each category produced an overcharge, and if so the percentage of elevation in prices due to price collusion for each of the categories containing observations.[48] He then multiplied each percentage by total sales for the category to determine aggregate damages for that category, and totaled the results across all categories to determine total aggregate damages. Using all three methods – transaction, weekly, and four week averages – the estimated range of damages is $280 - $307 million.[49] These overcharge percentages can

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[46] Noll Decl. at 19.

[47] *See* Noll Reply Report at 40. The specification of the regression and the calculation of the damages is otherwise unchanged from the model described in Dr. Noll's initial report and here.

[48] Noll Reply Report at 15-16.

[49] Noll Decl. at 24-27; Noll Reply Report at 16-17; Ex. 2. This equates to a total overcharge percentage of between 18.1-19.9 percent, which is roughly equivalent to the damages percentages calculated by other experts in this litigation. *See* Noll Decl., Ex. 2 and Noll Reply Decl., Ex. 2 (providing 19.9 and 18.1 percent overcharge calculation); Ex. 12, ¶ 132 (18.6 percent damages percentage) (Feb. 8, 2013); Ex. 13,¶ 36 (18.8 percent damages percentage) (Feb. 8, 2013); Ex. 14 at ¶¶ 29-30 (16.8 percent damages percentage, calculated using the data set advocated by Apple's expert Dr. Burtis). While Apple attempts to make much of the fact that Dr. Noll did not review Professor Wickelgren's report (Apple Br. at 9-10), this was a litigation declaration (not a peer-reviewed article) prepared more than a year earlier on

also be used to calculate damages for any individual, based on the specific e-book titles that individual purchased.[50]

IV.   DR. NOLL'S OPINIONS ARE RELIABLE

Dr. Noll performed his analysis exactly as a qualified economist should, and his resulting opinions are admissible. He used a methodology accepted by countless courts in antitrust and other class action cases. He built his regression model on variables that are explained in Dr. Noll's reports, based on the nature of the e-books market, and consistent with Defendants' own documents and how they price e-books.

Notably, Apple does not challenge the use of multiple regression analyses generally or the before-after approach specifically. To the contrary, Apple's expert Mr. Orszag testified that this methodology is "absolutely" appropriate to use as part of a damages calculation.[51] These techniques have repeatedly been accepted by courts,[52] and should be here as well. Apple only challenges narrow details of how Dr. Noll implemented the regression, and in most instances these are merely hypothetical complaints, submitted without any evidence that accounting for them would have any meaningful effect on the outcome. As explained below, Apple's arguments are also wrong, but even if they were correct they would not warrant exclusion of Dr. Noll's opinions. They amount to "different methodology" and "different conclusions," evidence of the sort that goes to the weight of the expert testimony, not its admissibility, and at best are addressed through "[v]igorous cross-examination, presentation of contrary evidence, and careful

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more limited data and without the benefit of the outcome of the liability case. *See* Ex. 10 at 228:15-229:16. The two results are simply not comparable.

[50] Noll Decl. at 27; Noll Reply Report at 16-18.

[51] Ex. 9, 58:18-60:18.

[52] *See, e.g.,* cases cited *supra* note 26.

- 11 -

instruction on the burden of proof" at trial.[53]

V.   APPLE'S ARGUMENTS DO NOT UNDERMINE DR. NOLL'S CONCLUSIONS NOR DO THEY JUSTIFY THE EXCLUSION OF DR. NOLL'S OPINIONS

A.   Dr. Noll's Regression Model Is Properly Specified and Fits the Data

Apple makes a number of arguments that Dr. Noll failed to properly specify his

regression for the facts of this case. It is incorrect.

Dr. Noll started his analysis with the Court's opinion in the liability phase of the

litigation.[54] It is hard to imagine an approach more consistent with the Supreme Court's

admonition in *Comcast* that "any model supporting a plaintiff's damages case must be consistent

with its liability case."[55] Dr. Noll's analysis is not just consistent with Plaintiffs' liability *theory*,

it is deeply rooted in this Court's liability *finding*. The Court's reasoned order was based on

substantial testimony by economists from all sides finding double-digit average price increases.

Dr. Noll then went beyond the Court's opinion to the nature of the e-books market and

Defendants' own conduct in determining how to specify his model. As discussed above, he

included numerous independent explanatory variables.[56] These variables are grounded in the

factors that retailers and the Publisher Defendants themselves used to determine the price of their

e-books, as revealed in their contemporaneous pricing formulae.[57]

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[53] Fed. R. Evid. 702, Committee Notes; *Daubert*, 509 U.S. at 596.

[54] Noll Decl. at 5.

[55] *Comcast Corp. v. Behrend*, _U.S._, 133 S. Ct. 1426. 1433 (2013). Apple paradoxically argues both that Dr. Noll cannot base his analysis on the liability case and that his opinion must be rejected as inconsistent with an element of the liability theory expressed in Class Plaintiffs' complaint. *See* Apple Br. at 15-16. What matters is that Class Plaintiffs' damages model is consistent with the liability case proven, not the case alleged. *See Comcast*, 133 S. Ct. at 1433-35 (rejecting plaintiffs' economic analysis because it was premised on liability theories not accepted by the trial court).

[56] *See* Noll Decl. at 20-21.

[57] *See* Noll Reply Report at 14-15; *see also* Ex. 10 at 58:19-59:1 ("I reference the discovery material from Amazon and I think Barnes & Noble within the report about how they did pricing, and that fed into

- 12 -

Apple contends that Dr. Noll should have accounted for other factors that could possibly explain price differences in the but-for world without the conspiracy. But these "factors" are mostly of Apple's own creation:

- Amazon e-book prices:[58] Amazon had no plan to raise retail prices,[59] and Apple, the Publisher Defendants, and industry observers all expected that Amazon would lower wholesale prices.[60] Indeed, the fear that Amazon would start demanding lower wholesale prices was a driving reason behind the Defendants conspiracy.[61]

- Granularity of genre:[62] Dr. Noll's genre categories were not "meaningless e-book categories of [his] own construction," but rather the main genre categories used by the *New York Times*.[63] Even Defendants commonly used the broader "fiction" and "non-fiction" categories.[64] Similarly, Apple and the Publisher Defendants used Dr. Noll's genre categories –"fiction," "non-fiction," and "advice" – when setting the price caps in their agency agreements.[65]

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how I constructed the econometric model of pricing. I wanted to make it consistent with Amazon's model.").

[58] Apple Br. at 12-13.

[59] *See, e.g.*, Ex. 15, ¶ 29 ("Some of the publishers argued with us that our pricing for ebooks wasn't sustainable, or that we must have a plan to gain control of the market and then raise prices. None of these claims were true, and we told them that repeatedly. There never has been any plan or assumption that at some point in the future consumer prices would or should be higher."); Ex. 16 at 135:2-24 (no discussion in April or June of 2009 of taking the $9.99 price point out of the marketplace).

[60] *See, e.g.*, Ex. 17,¶ 8 (Simon and Schuster believed that Amazon would eventually demand lower wholesale prices); Ex. 18, ¶ 13 (same re Macmillan); Ex. 19, ¶ 14 (same re Hachette); Ex. 20 at 81:8-82:7 (publishers expressed concern to Apple that if "the players" were selling e-books at a loss at some point they would demand lower wholesale prices).

[61] *Apple Inc.*, 2013 U.S. Dist. LEXIS 96424, at *15-16.

[62] Apple Br. at 17.

[63] *See* The New York Times Bestsellers, NYTimes.com (Dec. 17, 2013), *available at* www.nytimes.com/best-sellers-books/overview.html.

[64] For example, when Penguin analyzed price elasticity in January 2009, these were the only two genres it used. *See* Ex. 21 at PEN-LIT-00177068 -78.

[65] *See* Ex. 22 at HBG-HC-00000032 (Jan. 24, 2010 Hachette-Apple agency agreement); Ex. 23 at MAC00000054 (Jan. 25, 2010 Macmillan-Apple agency agreement); Ex. 24 at PEN00015648 (Jan. 25, 2010 Penguin-Apple agency agreement); Ex. 25 at SS00000016 (Jan. 25, 2010 Simon & Schuster-Apple agency agreement); Ex. 26 at HC-TXAG-00095625 (Jan. 26, 2010 HarperCollins-Apple agency agreement).

- Self-publishing rates:[66] Apple's suggestion that its agency model caused Amazon to increase its self-publisher royalty is contradicted by the record. Self-publishing royalty rates above 70 percent existed before the agency agreements took effect.[67] Amazon also planned a 70 percent royalty *before* learning that Defendants were implementing an agency model,[68] and industry participants expected self-publishing to increase before Apple entered the market.[69] Apple itself did not innovate in self-publishing until 2012, and even then focused on textbooks, not trade e-books.[70]

- Barnes and Noble survival:[71] Barnes & Noble's decision in early 2010 to continue to develop and sell its Nook e-reader was not contingent on adoption of the agency model.[72]

- E-book sales to Apple customers:[73] Even if Apple had not launched the iBookstore, iPad owners would have been able to purchase e-books for reading on the iPad from Amazon or other retailers.[74]

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[66] Apple Br. at 12 n.4

[67] Lulu offered a royalty rate of 80% at least as early as September 2008. *See* http://lulupresscenter.com/uploads/assets//Press_Kit_908.pdf. It raised the royalty rate to 90% in 2011. Community Manager, *Earn More on eBooks - 90% Revenue*, Lulu.com (Aug. 2, 2012), http://connect.lulu.com/t5/Lulu-Announcements/Earn-more-on-eBooks-90-Revenue/td-p/154959. Smashwords offered a royalty rate of 85 percent at least as early as April 2009 (Mike Shatzkin, Ideas Triggered by Amazon Buying Lexcycle, The Idea Logical Company (Apr. 28, 2009), http://www.idealog.com/blog/ideas-triggered-by-amazon-buying-lexcycle/), and continues to do so (Smashwords Support Center FAQ, Smashwords.com, https://www.smashwords.com/about/supportfaq (last visited Dec. 17, 2013)).

[68] *See* Ex. 27 (December 10, 2009 Email from Jeff Bezos to Russ Grandinetti, Felix Anthony, Steve Kessel, and Ian Freed: "How about we do a bigger rev share on DTP . . . give them 70 percent of revs."); Ex. 28 (January 11, 2010 meeting notes re new price structure – a week before any publisher told Amazon that it was considering moving to agency).

[69] *See* Ex. 29 at 132:18-133:22 ("[T]he danger that authors will bypass publishers and instead deal directly with the electronic retailers becomes greater if price pressure makes them demand a larger portion of the income . . . because the income is so small.") (quoting Reidy Exhibit 11); Ex. 30 at 20:7-21:14 (describing Barnes & Noble's plans to increase self-publishing as part of its entry into the market).

[70] *See* Ex. 31 at 189:14-24 ("iBooks Author was initially launched in January of 2012 to support textbooks. At the time, we launched with about a dozen textbooks, and just a few, I think it was four trade or consumer titles.").

[71] Apple Br. at 12.

[72] *See* Ex. 30 at 139:12-18.

[73] Apple Br. at 11.

[74] *See* Ex. 32 at 60:21-65:7 ("Q. Isn't it true that regardless of what Apple ultimately decided to do with its own iBookstore, that individuals would still have been able to read books through the Kindle app or other similar applications? . . . A. So to the extent that e-reader apps were in compliance with Apple's

- 14 -

Dr. Noll's model is firmly grounded in the facts of how publishers set e-book prices. Every single Publisher Defendant imposed a pricing grid to set both frontlist and backlist e-book prices formulaically.[75] These categorical pricing rules set each e-book title's price based on (1) the list price of the corresponding title in physical format; (2) the available physical formats of the title (*i.e.*, hardcover, trade paperback, or mass market paperback); (3) the age of the title (i.e., whether it was "frontlist" or "backlist"); and (4) whether the title was on a *New York Times* Best Seller list.[76] Publisher Defendants intended these pricing grids to be followed closely.[77] Notably, these are the *very same criteria* Dr. Noll used to construct his regression model.[78]

In contrast to Dr. Noll's studied analysis premised on the facts of how e-book prices are

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policy that would be true, and I would expect that some, perhaps most, would meet – would have met and that certainly has been proven to be the case."); Ex. 31 at . 81:13-82:10.

[75] *See* Ex. 33 (Hachette "Agency TOS Pricing Matrix" as of April 8, 2010); Ex. 34 (HarperCollins "Price Range" grid as of Mar. 18, 2010); Ex. 35 (Macmillan "Agency Model Day 1 Pricing Recommendation" as of May 20, 2010); Ex. 36 (Penguin "Suggested eBook Pricing as of March 15, 2010"); Ex. 37 at SS00001073 ("S&S eBook Pricing Cheat Sheet" as of Apr. 9, 2010); *see also, e.g.*, Ex. 38 at PEN00072031 (October 2010 Penguin Board discussion paper: "Our current methodology for e-book pricing is essentially an algorithm of print prices (front list grid or discount off backlist print price).").

[76] *See supra* note 75.

[77] *See, e.g.*, Ex. 39 (Penguin President Susan Kennedy: "If the [imprint] publisher wishes to consider a different price from the one recommended, you would talk to me or [CEO] David [Shanks]."); Ex. 40 (A Macmillan senior executive ██ Ex. 59 (Simon & Schuster Director of Business Intelligence Bill Kinneman: "We agreed that the lowest ebook price would be $5.99, so I applied that as a floor price."; Simon & Schuster Executive Vice President and Publisher, Simon & Schuster Children's Publishing Division: "I think we go with using the backlist pricing model on all existing children's titles whether they're frontlist or backlist."); Ex. 33 (Hachette Senior Vice President Maja Thomas: "The short answer is no: No HBG ebooks will be priced less than the mass market edition."); *see also, e.g.*, Ex. 41 at 159:24-25 ("[W]e definitely raised the prices on our trade paperback books when we could.").

[78] This is also the approach advocated by the ABA Section of Antitrust Law's Econometrics: Legal, Practice, and Technical Issues, on which Dr. Kalt extensively relied. Where a single indicator variable may not measure the effect of anticompetitive conduct for all purchases, it recommends "group[ing class members] using some observable structural characteristic that is believed to affect the price that they pay." ABA Section of Antitrust Law, Econometrics: Legal, Practice, and Technical Issues 221-23 (2005); *see also* Noll Reply Report at 14-15.

set, Apple's critiques are premised on a studied ignorance of the evidence. Dr. Kalt claims he reviewed evidence regarding how publishers set prices but decided that it wasn't "pertinent to [his] analysis."[79] When asked about price grids, he admitted having "read about things like that," and acknowledged that some evidence in the data was "consistent with some kind of formula, grid, or rule," but he did not find it necessary to explore the issue further.[80] Dr. Kalt's lack of interest in the Publisher Defendants' pricing formulae also fails to square with his claimed need for "detailed knowledge of the operation of Amazon's pricing system" in order to understand pre-conspiracy pricing.[81] Contrary to Apple's suggestion,[82] Dr. Noll in fact considered and incorporated into his analysis a summary of Amazon's pricing rules that was produced in the litigation.[83] It is Dr. Kalt who failed to consider such pertinent information, leaving his critiques unmoored from the record and without weight.

Similarly, Dr. Kalt criticizes Dr. Noll for not including variables to account for "[h]edonic attributes known to affect consumers' choices," such as reputational changes, reviews, marketing, and "buzz."[84] How Dr. Kalt can point to these variables while at the same time testifying they were not pertinent is beyond explanation. Regardless, as explained above, e-book prices are set largely based on other factors, and before any such "buzz" is generated. Because print list prices were set based on publishers' *predictions* of demand, and during agency

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[79] *See, e.g.*, Ex. 8 at 295:9-13; *see generally id.* at 282:7-311:21. He also revealed a fundamental misunderstanding of the price caps in the agency agreements, believing the caps to be "keyed off list prices, digital list prices, for example." *Id.* at 60:8-11. The caps were keyed off *hardcover* list prices, not digital list prices.

[80] *See Id.* at 306:10-23; 309:23-310:8; *see also id.* at 238:12-239:5 (acknowledging that Fig. 9 shows that between 55 percent and 60 percent of e-book transactions prior to agency occurred in just two price bands).

[81] Kalt Decl., ¶ 43(a).

[82] *See* Apple Br. at 12.

[83] *See* Noll Decl. at 10 n.3 (citing AMZN-TXCID-0009667-8 (Ex. 59)).

[84] Kalt Decl., ¶¶ 119(b)(2), 124(b).

e-book prices were set formulaically based on print list prices, subsequent developments

typically had no effect on an e-book's retail price.[85] Dr. Kalt ignored these facts and contended

that *when* Publisher Defendants set prices was "not pertinent to [his] analysis and [his]

conclusions."[86] Additionally, Dr. Noll's model contained an indicator variable for each title in

the regression, which means that the regression accounts for title-specific factors – such as

"buzz" – when examining the effect of collusion on the price of any specific title.[87]

So, long as Dr. Noll accounted for the "major factors" (which he did), even if not "all

measurable variables," his opinion is admissible.[88] And Apple has note even tried to demonstrate

that different variables would return a different result. For example, Apple makes much of the

genre categories that Dr. Noll used, but did not attempt (despite having the data to do so) to run

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[85] Indeed, at least on some occasions, Publisher Defendants actually fought *against* changing prices of e-books to account for buzz. *See, e.g.*, Ex. 42 (email thread in which Penguin argues with an agent asking to lower the price of a Steve Jobs biography to gain sales against Walter Isaacson's *Steve Jobs*).

[86] Ex. 8 at 298:3-12. Dr. Kalt's argument also runs afoul of established economic theory that retail prices tend to be sticky and insensitive to changes in supply and demand, particularly when set by manufacturers. *See, e.g.*, P. Goldberg & R. Hellerstein, "Sticky Prices: Why Firms Hesitate to Adjust the Price of Their Goods," *Current Issues in Econ. & Fin.* (Nov. 2007).

[87] *See* Noll Reply Report at 14-15.

[88] *Bazemore v. Friday*, 478 U.S. 385, 400, (1986); *In re Wireless Tele. Servs. Antitrust Litig.*, 238 F.R.D. 130, 145 (S.D.N.Y. 2006); *see also, e.g.*, *Hemmings v. Tidyman's Inc.*, 285 F.3d 1174, 1188 (9th Cir. 2002) ("In most cases, objections to the inadequacies of a study are more appropriately considered an objection going to the weight of the evidence rather than its admissibility."); *In re High Fructose Corn Syrup Antitrust Litig.*, 295 F.3d 651, 660 (7th Cir. 2002) (denying *Daubert* challenge where opposing expert "added a couple of variables to the analysis" and the model changed); *In re Indus.Silicon Antitrust Litig.*, No. 95-2104, 1998 WL 1031507, *3 (W.D. Pa. Oct. 13, 1998) ("[A] party cannot successfully challenge the admissibility of a regression analysis by simply pointing to a laundry list of possible independent variables that were not included in the study.").

Additionally, *no* regression model can account for every single factor that may influence price; "some cannot be measured, and others may make little difference." Daniel L. Rubinfeld, Reference Guide on Multiple Regression, Reference Manual on Scientific Evidence 314 (3d 2011). An omitted variable is only relevant at all if it correlated with the dependent variable (*id.* at 315), and Apple presents no persuasive evidence that that is the case. *See also, e.g.*, *In re Linerboard*, 497 F. Supp. 2d at 678 ("Unless the party challenging a regression model proffers evidence that an omitted variable is correlated with the depend[e]nt variable and is likely to affect the result of the regression analysis,' the Court will not find that omission of the variable implicates the reliability of the model.").

- 17 -

the regression using more narrow categories.[89] Dr. Kalt likewise does not indicate how "buzz"

could actually be modeled in a regression beyond Dr. Noll's title indicators (which Dr. Kalt does

not even acknowledge), let alone attempt to do so.

Apple tries to make much of Dr. Noll's use of average prices,[90] but it both misleads

regarding how Dr. Noll actually used average prices and is wrong that such use introduces any

bias into the result. To be clear, Dr. Noll's model used average prices in one specific way: for

each title, the price of an e-book that is used to estimate the regression is the average price over a

four-week period.[91] Prices of different e-book titles are not averaged together. Additionally,

when Dr. Noll re-ran his regression using weekly average prices and individual transaction

prices, both showed a modest *increase* in the amount of unit sales that were higher as a result of

Defendants' collusion, and the same or a marginally lower damage estimate.[92] This refutes any

suggestion that use of average e-book prices would be a reason to exclude Dr. Noll's opinions.

Apple's contention that "Dr. Noll's results do not satisfy standard statistical tests" is

wholly misleading.[93] Dr. Noll calculated the R-squared value of the model, a standard statistical

test measuring the fit of the model to the data. His model has an R-squared value of 0.90,

meaning that it explains 90 percent of the variance in prices between titles.[94] Apple's claim that

Dr. Noll should have determined the statistical significance of the coefficients in his regression

for each of the independent variables misconstrues the purpose of the regression and how it

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[89] Apple likewise offers no evidence that the results would be any different had Dr. Noll taken
discounts from Amazon into account. *See* Apple Br. at 12.

[90] *E.g.*, Apple Br. at 17-18.

[91] Noll Reply Report at 16.

[92] *See id.* at 17.

[93] Apple Br. at 8.

[94] Noll Decl. at 24.

works mathematically.[95] As Dr. Noll explained, you "evaluate [significance] on the basis of the equation, not on the basis of a coefficient."[96]

> The point of a forecasting model is do the best job of explaining the noncollusive prices and then add to that the effect of collusion. And there are all kinds of reasons why you might get specific variables being statistically insignificant but you still would want them in the equation because of possible interaction with the effect you're measuring. So the question [regarding the significance of the regression coefficients] is premised on an incorrect conceptualization of what the forecasting model is supposed to do and how you construct it.[97]

Apple's criticism of Dr. Noll's regression model on this score is divorced from the nature of the model and what it is designed to estimate.[98]

B.   Dr. Noll's Model Is Capable of Showing – and Indeed Does Show – Widespread Injury to the Class

Plaintiffs need to show widespread injury to the class, not prove to a mathematical certainty an overcharge for every single transaction, for every single class member. Courts overwhelmingly have certified classes – and antitrust classes in particular – notwithstanding the inclusion of a small proportion of potentially uninjured class members.[99] These holdings are

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[95] Apple Br. at 7-9, 13-15.

[96] Ex. 10 at 165:18-19.

[97] *Id.* at 164:20-165:5.

[98] Apple's critiques regarding within R-squared are likewise misplaced. *See* Apple Br. at 14-15. Dr. Noll's model need not explain all variance in prices of individual book titles (nor could any model do so), just sufficient variance in order to model the effects of Defendants' collusion. As Dr. Noll explains in his rebuttal report, much of Dr. Kalt's analyses showing substantial variance in e-book prices is largely the result of his errors, employing irregular techniques, or manipulation of the data. *See* Noll Reply Report at 24-28 & 34-39. Moreover, the purpose of the model is to estimate the percentage of price elevation due to collusion, not to predict the "actual price" for every single individual e-book transactions in a hypothetical "but-for" world. *See id.* at 18. Apple creates a straw man, critiquing the model for "failing" to do something it was not designed to do in the first place.

[99] *See, e.g., In re K-Dur Antitrust Litig.*, 686 F.3d 197, 221(3d Cir. 2012) (affirming class certification notwithstanding the defendants' arguments that some class members were uninjured because they exhibited "zero or negative damages") *vacated and remanded on other grounds, Upsher-Smith Labs, Inc. v. La. Wholesale Drug. Co.,* _U.S._, 133 S. Ct. 2849 (2013); *In re Whirlpool Corp. Front-Loading*

consistent with the Supreme Court's *Dukes* decision. There, the Supreme Court states that "the

essential question" is "whether 0.5 percent or 95 percent of the employment decisions at Wal-

Mart might be determined by stereotyped thinking."[100] The Court was not concerned with

whether *all* class members (or even whether 99.5 percent of class members) were harmed, but

rather whether the conduct was *mostly* common or mostly individual.[101]

Under any reasonable definition of "widespread," Dr. Noll's analysis is capable of

meeting this standard. He found that prices for at least 99.5 percent of Publisher Defendants' e-

book sales after they implemented agency increased above what would be expected in a

competitive environment. This is more than sufficient to show widespread injury.

Apple's argument regarding "false positives" does not undermine this conclusion.[102] Dr.

Kalt's very definition of "false positives" is misleading. For example, as Dr. Noll's explains, Dr.

Kalt uses Dr. Noll's model to calculate predicted prices for specific transactions and then

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Washer Prods. Liability Litig., 678 F.3d 409, 420 (6th Cir. 2012), *vacated on other grounds*, _U.S._, 133
S. Ct. 1722 (2013) ("Even if some class members have not been injured by the challenged practice, a
class may nevertheless be appropriate."); *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 808
(7th Cir. 2012) (reversing decertification of class and recognizing that "the degree of uniformity the
district court demanded simply is not required for class certification); *Sullivan v. DB Invs., Inc.*, 667 F.3d
273, 297 (3d Cir. 2011) (en banc), *cert. denied*, Murray v. Sullivan, _U.S._ 132 S.Ct. 1876 (2012) ("Rule
23(b)(3) does not, as urged by the objectors and the dissent, require individual class members to
individually state a valid claim for relief."); *DG ex rel. Stricklin v. Devaughn*, 594 F.3d 1188, 1201 (10th
Cir. 2010) ("That a class possibly or even likely includes persons unharmed by a defendant's conduct
should not preclude certification."); *Mims v. Stewart Title Guar. Co.*, 590 F.3d 298, 308 (5th Cir. 2009)
("Class certification is not precluded simply because a class may include persons who have not been
injured by the defendant's conduct."); *Kohen v. Pac. Inv. Mgmt. Co. LLC*, 571 F.3d 672, 677 (7th Cir.
2009) ("[A] class will often include persons who have not been injured by the defendant's conduct. . . .
Such a possibility or indeed inevitability does not preclude class certification."); *In re Chocolate
Confectionary Antitrust Litig.*, No. 1:08-MDL-1935, 2012 WL 6652501, at *18 n.30 (M.D. Pa. Dec. 7,
2012) (certifying class notwithstanding identification of "approximately sixty-eight class members that
were not impacted by the subject price increases").

[100] *Wal-Mart Stores, Inc. v. Dukes*, _U.S._, 131 S. Ct. 2541, 2553-54 (2011).

[101] *See also* Class Plaintiffs' Reply in Support of Motion for Class Certification at 4-5, concurrently
filed herewith.

[102] Apple Br. at 13, 15.

compares those predictions to actual prices. But doing so wrongly focuses on price levels rather than price changes.[103] Dr. Noll illustrates by example how Dr. Kalt's approach misidentifies transactions as being unaffected by collusion or affected in ways that benefits consumers even if the actual price paid was elevated by the conspiracy.[104] This is plainly wrong.

Second, even for e-book prices that went down after the Defendants implemented the conspiracy, falling prices does not translate to a showing that Defendants' anticompetitive conduct caused those prices to fall or that any consumers were benefitted by the conspiracy. The distribution of price changes before and after adoption of the agency model was affected by other factors in the market, as well as the stage of each e-book in its product lifecycle. For example, the introduction of a paperback edition of an e-book title causes a sharp reduction in the price of the e-book edition, both before and after collusion. If a paperback edition of a book was released around the time that price collusion was implemented, the resulting reduction in the e-book price should not be counted as a benefit of collusion.[105] Likewise, Dr. Gilbert's analysis shows that after adoption of the agency model, Defendant Publishers had many more books with price increases, and many fewer books with price reductions, than would have been expected based on the distribution of prices for non-colluding publishers.[106] Apple's conclusion that *all* price reductions were a *benefit* from collusion is premised on its implicit assumption that, in the absence of collusion, no prices would have been cut. Yet this is refuted by Professor Gilbert's analysis, which shows that Defendant Publishers cut price less often (and increased prices more

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[103] Noll Reply Report at 19-20.

[104] *Id.*

[105] *Id.* at 22.

[106] Ex. 2, ¶ 156; Ex. 12; Noll Reply Report at 22-23 (discussing the Gilbert Report).

- 21 -

often) after implementing the agency agreements than non-conspiring publishers.[107]

Third, even if Dr. Kalt's comparisons were theoretically proper, his calculations are inaccurate. Specifically, he makes the following errors in his price comparisons, which bias Dr. Kalt's results in favor of his preferred conclusion that impact and damages cannot be shown with common evidence:

- **Modal prices:** Dr. Kalt uses the mode, or the number that appears more often in the data set, rather than the median or average, when choosing a number to represent the "central value" of a data set. While Dr. Kalt criticizes Dr. Noll's use of average prices, the mode is widely recognized as the *least* useful measure of the central value and modal changes often bear no relationship to changes in the underlying distribution.[108] Additionally, Dr. Kalt used different constructions of mode (daily, weekly, and highest and lowest daily modal price during a week), without explanation of either his choice of modal price or why different time periods of modal prices were used in different calculations.[109] This all suggests Dr. Kalt simply cherry-picked a methodology to get the results he wanted.

- **Collusion start date:** In comparing prices charged pre-agency and post-agency, Dr. Kalt defines the pre- and post-agency periods incorrectly such that many of his supposed "pre-agency, post-agency" comparisons are actually "post-agency, post-agency" comparisons.[110] Correcting these errors substantially increases the percentage of e-books that sold at higher prices as a result of collusion, as well as substantially decreasing the percentage of those with prices that did not change, even before accounting for Dr. Kalt's erroneous use of modal prices.[111]

- **Data exclusion:** In "adjusting" Dr. Noll's calculations to account for the degree of correlation of prices pre- and post-agency, Dr. Kalt excluded substantial data from his analyses. This included the unexplained exclusion of titles based on release date and all books for which the modal price did not change.[112] These exclusions had the effect of understating the effect of price stability.[113]

These errors significantly undermine Dr. Kalt's critiques of Dr. Noll's analyses.

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[107] *See* Noll Reply Report at 22-23.

[108] *Id.* at 24-28.

[109] *Id.* at 24.

[110] *Id.* at 28-34.

[111] *Id.* at 33-34.

[112] *Id.* at 34-38.

[113] *Id.* at 38.

- 22 -

Fourth, even if Dr. Kalt's calculations and methods were correct, they would still show widespread injury to the class. Dr. Kalt's most aggressive calculation suggests that approximately 84 percent of class members' transactions resulted in damages due to Apple's anticompetitive conduct.[114] This means that *according to Apple*, the vast majority of e-book purchasers were injured. And while injury to 84 percent of class members is Dr. Kalt's lower bound, even under his analysis the rate could be much closer to 100 percent Since the majority of e-book purchasers buy more than one book,[115] the fact that 84 percent of *transactions* involved injury suggests that more than 84 percent of *purchasers* were injured, since the 16 percent of transactions with no injury were likely distributed among customers who also made other purchases that did involve injury. Similarly, Dr. Kalt cannot opine that even *one percent* of the class benefitted from Apple's unlawful conduct, let alone a number sufficient to challenge a showing of widespread injury.[116]

Finally, any supposed false positives can be identified in the data. As explained below, Dr. Noll's regression model can be used to calculate the predicted "but-for" price for each e-book title for each four-week period. These can be compared to the actual average price for each e-book title for each period, and any titles where the actual average price was lower than the predicted average but-for price can be excluded.

C.   Dr. Noll Properly Calculated Damages in Aggregate

Apple is incorrect that Dr. Noll should have calculated damages for each individual class

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[114] Apple Br. at 13.

[115] According to Dr. Kalt, more than 55% of iBookstore customers purchased multiple e-books through Apple's iBookstore. *See* Kalt Decl. Fig. 8. Additionally, 81 percent of iPad owners have an e-reader application on their iPads in addition to Apple's app, and many iPad owners also have an additional e-reader device, suggesting that they may have purchased e-books from multiple retailers. *See* Memorandum of Law In Support of Class Plaintiffs' Motion to Exclude the Expert Opinions Offered by Dr. Joseph Kalt at 25, concurrently filed herewith.

[116] *See* Ex. 8 207:21-209:15.

member.[117] Dr. Noll's proof of aggregate class-wide damages is consistent with established law.

Price-fixing plaintiffs are subject to a relaxed burden of proof on the element of damages, under

which reasonable estimates and aggregate proof will suffice.[118] Indeed, "[t]he use of aggregate

damages calculations is well established in federal court and implied by the very existence of the

class action mechanism itself," and any holding to the contrary "would quickly undermine the

class-action mechanism."[119] This approach assists with the efficiency goals behind Rule 23:

"[b]y eliminating individual damage proofs at trial, the length, complexity and attendant costs of

litigation are greatly reduced."[120]

Furthermore, the specific damage methodology presented by Dr. Noll and Class Plaintiffs

here – multiple regression analysis used to estimate the class-wide overcharge caused by price-

fixing – is the standard approach used for proving cartel damages, and has been accepted time

and again in similar matters.[121] Apple would have the Court supplant decades of Rule 23 and

antitrust authority with a new rule under which only a customer-by-customer showing can

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[117] *See* Apple Br. at 16-18.

[118] *See, e.g., J. Truett*, 451 U.S. at 565-66 (1981) (flexible burden of proof); *Scrap Metal II*, 527 F.3d at 534 (approving aggregate class damage estimate); 3 Newberg on Class Actions § 10:2 (4th ed. 2002) ("Proof of aggregate monetary relief for the class is feasible and reasonable under various circumstances. In fact, the ultimate goal in class actions is to determine the aggregate sum, which fairly represents the collective value of claims of individual class members. The evidentiary standard for proof of monetary relief on a classwide basis is simple – the proof submitted must be sufficiently reliable to permit a just determination of the defendant's liability within recognized standards of admissible and probative evidence.").

[119] *In re Pharm. Indus. Avg. Wholesale Price Litig.*, 582 F.3d 156, 195, 197 (1st Cir. 2009); *id.* at 198 ("Thus, to the extent that AstraZeneca argues that the district court's decision to use an aggregate damages methodology violated Rule 23 or the company's due process rights, AstraZeneca's challenge fails in the starting gate.").

[120] *NASDAQ*, 169 F.R.D. 493 at 525-26.

[121] *See, e.g., Scrap Metal II*, 527 F.3d at 529; *In re Ethylene Propylene Diene Monomer (EPDM) Antitrust Litig.*, 256 F.R.D. 82, 95 (D. Conn. 2009) ("In an antitrust suit, plaintiffs will generally use multiple regression analysis to demonstrate that . . . class members paid a higher price than the basic economic principles of supply and demand would otherwise dictate, thus demonstrating collusive behavior was at work.").

- 24 -

support a reasonable jury inference of class-wide injury and damages. Such an approach would eviscerate the utility of Rule 23 in price-fixing cases, and is not law.

In any event, Dr. Noll's model can be used at the distribution stage as a common method for determining damages for each class member. The regression model calculates a unique percentage overcharge for over 500 categories.[122] The purchase records for each class member show the titles that class member purchased. For each title purchased, damages equal the actual price paid multiplied by the percentage overcharge for that e-book's category, and then damages for all titles for that class member are summed together.[123] Apple has already confirmed the feasibility of this approach: Individual records for purchases from Apple's iBookstore were produced during the litigation, and Dr. Kalt used this data to calculate individual damages for those purchasing through that platform.[124] While his calculations contain improper modifications to Dr. Noll's regression model, they nevertheless confirm that individual damage calculations can easily be determined from the overcharge rate for each title.

VI.   CONCLUSION

For the foregoing reasons, Class Plaintiffs respectfully request that the Court deny Apple's motion to exclude the testimony of Dr. Roger Noll.

DATED: December 18, 2013   HAGENS BERMAN SOBOL SHAPIRO LLP

By _____

STEVE W. BERMAN (*Pro Hac Vice*)

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[122] Noll Decl. at 24-25; Noll Reply Report at 4-5.

[123] Noll Decl. at 27; Noll Reply Report at 5.

[124] Kalt Decl., ¶¶ 134-140; Ex. 8 at 275:20-277:5.

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