

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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	:	11 MD 2293 (DLC)
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IN RE: ELECTRONIC BOOKS ANTITRUST	:	Related to all
LITIGATION	:	matters
	:	
	:	<u>OPINION & ORDER</u>
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DENISE COTE, District Judge:

After a bench trial in two closely related cases, defendant Apple Inc. ("Apple") was found to have colluded with five major publishers to fix e-book prices, violating Section 1 of the Sherman Antitrust Act, 15 U.S.C. § 1 ("Sherman Act").

Plaintiffs in the instant suit now move for class certification in their action against Apple based on the same conduct. This is a paradigmatic antitrust class action. Virtually all class members paid inflated prices for e-books as a result of a centralized price-fixing conspiracy, and they have proffered a sophisticated damages model to reliably determine damages. If certification were not appropriate here, no antitrust class action could be certified. For the reasons set out below, plaintiffs' motion is granted.

The parties have also moved to exclude the opinions rendered by each others' experts. Plaintiffs move for the exclusion of the opinions of Apple's experts, Dr. Joseph Kalt

and Mr. Jonathan Orszag. Because Kalt's and Orszag's opinions would not prevent class certification even if they were admissible, this Opinion does not decide plaintiffs' motions to exclude.¹ Apple's motion to exclude the opinions of plaintiffs' expert, Dr. Roger Noll, is denied in this Opinion.

Finally, plaintiffs move to strike portions of Apple's sur-reply opposition to the motion for class certification. Plaintiffs' motion to strike is granted in part, as described below.

BACKGROUND

On April 11, 2012, the United States of America ("DOJ") and sixteen states filed two antitrust lawsuits alleging that Apple and five book publishing companies conspired to raise and fix e-book prices in violation of Section 1 of the Sherman Act. United States v. Apple Inc., 12 Civ. 2826 (S.D.N.Y.) ("DOJ Action"); State of Texas v. Penguin Grp. (USA) Inc., 12 Civ. 3394 (S.D.N.Y.) ("States' Action").² The five publishers are Hachette Book Group, Inc. ("Hachette"), HarperCollins Publishers LLC ("HarperCollins"), Holtzbrinck Publishers LLC d/b/a Macmillan ("Macmillan"), Penguin Group (USA), Inc. ("Penguin"), and Simon & Schuster, Inc. ("Simon & Shuster") (collectively,

¹ A separate Opinion issued today rules on plaintiffs' motions to exclude Apple's experts.

² Today, thirty-three states and U.S. territories (the "States") are plaintiffs in the States' Action.

"Publisher Defendants"). The Publisher Defendants settled with the DOJ and the States; Apple alone went to trial.

A bench trial was held in these two actions from June 3 to 20, 2013 to determine liability. A July 10 Opinion found, inter alia, that Apple had committed a per se violation of the Sherman Act. 952 F. Supp. 2d 639, 694 (S.D.N.Y. 2013) (the "Liability Opinion"). In particular, the Opinion found that Apple played a central role in orchestrating a conspiracy among the Publisher Defendants to raise e-book prices. Id. at 647.

Even before the DOJ and the States sued Apple, class actions were filed alleging the same violation of the Sherman Act. Following the appointment of lead counsel for the class, a consolidated amended complaint was filed on January 20, 2012. While fact discovery in all the actions had concluded before the June 2013 trial on liability, expert discovery on damages in the class action and the States' Action was concluded after that trial.³ On October 11, 2013, class plaintiffs moved for certification of a class in advance of a damages trial to be held later this year.

The class plaintiffs expect to rely on the doctrine of collateral estoppel and do not intend to retry Apple's liability

³ The DOJ Action only sought declaratory and injunctive relief. Judgment was entered in the DOJ action on September 5, 2013, and an appeal is pending.

for violating the antitrust laws.⁴ In arguing against certification of a class here, Apple does not contend that any dispute over its liability precludes certification. To understand the parties' arguments concerning certification, however, it is necessary to understand the history and context of the price-fixing scheme. Accordingly, although familiarity with the Liability Opinion is assumed, findings relevant to the resolution of the motions addressed in this Opinion are set out below.⁵

I. Publishers' Discontent with the \$9.99 Price Point

The background to this conspiracy begins with Amazon's introduction of the first e-reader to gain widespread commercial acceptance. When Amazon's Kindle was launched in 2007, Amazon quickly became the market leader in the sale of e-books and e-book readers. Through 2009, Amazon dominated the e-book retail market, selling nearly 90% of all e-books. Id. at 648-49.

Amazon utilized a discount pricing strategy through which it charged \$9.99 for e-book versions of certain newly released hardcover books ("New Releases") and New York Times bestselling books ("NYT Bestsellers"). Amazon was staunchly committed to

⁴ A pending motion for summary judgment is addressed to issues of collateral estoppel.

⁵ To the extent that this recitation of the Liability Opinion's findings differs in any way from the findings as set out in the Liability Opinion itself, the Liability Opinion controls.

its \$9.99 price point and believed it would have long-term benefits for its consumers. In order to compete with Amazon, other e-book retailers also adopted a \$9.99 or lower retail price for many e-book titles. Id. at 649.

The "Big Six" of United States publishing -- the Publisher Defendants and Random House (collectively, the "Publishers") -- were unhappy with Amazon's \$9.99 price point. They determined that they needed to force Amazon to abandon its discount pricing model. Id. at 649-50.

The Publisher Defendants did not believe, however, that any one of them acting alone could convince Amazon to change its pricing policy. They also feared that if they did not act as a group, Amazon would use its ever-growing power in the book distribution business to retaliate against them. As a result, the Publisher Defendants conferred about their need to act collectively if they were to have any impact on Amazon's pricing. Id. at 650.

Beginning in at least early 2009, the Publisher Defendants began testing ways to get Amazon to move off its \$9.99 price point. One of the strategies that they adopted in 2009 to combat Amazon's \$9.99 pricing was the delayed release or "withholding" of the e-book versions of New Releases, a practice that was also called "windowing." By the end of 2009, four of the Publisher Defendants -- Macmillan, Simon & Schuster,

Hachette, and HarperCollins -- had announced or implemented a policy of windowing some of their most popular e-book titles sold on Amazon. By making the more expensive hardcover version available to the public before the lower priced e-book, the Publisher Defendants hoped to protect the sales of New Release hardcover books and to pressure Amazon to raise its e-book prices. Id. at 651-52.

Even though by the Winter of 2009 four of the Publisher Defendants had delayed the release of some e-books or announced an intention to do so, they knew that windowing was not a long-term solution to Amazon's \$9.99 pricing model. It was in this context that Apple arrived on the scene and provided the Publisher Defendants with the means to achieve their shared goal. Id. at 653-54.

II. Apple and the Agency Model

In 2009, Apple was close to unveiling the iPad. With this revolutionary tablet, Apple was able to contemplate the arrival of its first great device for reading e-books. Therefore, under the direction of Apple's Eddy Cue ("Cue"), Senior Vice President of Internet Software and Services, Apple began studying the e-book industry. Id. at 654.

By November 2009, Apple had concluded that selling e-books as individual apps was "flawed," and Apple's founder Steve Jobs ("Jobs") authorized Cue to pursue the development of a dedicated

Apple e-bookstore (the "iBookstore") for the iPad. Apple planned to demonstrate the iPad to the public at its launch on January 27, 2010 (the "Launch"), and to ship the devices to stores in early April 2010. Even though the iPad Launch would happen with or without an iBookstore, Apple did hope to announce its new iBookstore at the Launch. This left Cue with less than two months for Apple to acquire enough content to create a viable Apple e-bookstore, and that period included the Christmas and New Year holidays. As a result, Apple streamlined its efforts and concentrated on executing agreements with the Big Six Publishers for e-books. Id. at 654-55.

Cue met with the Publishers, separately, on December 15 and 16, 2009. Id. at 656. Hachette and later HarperCollins surprised Apple with their suggestion that, instead of a wholesale model, Apple adopt an agency model for the distribution of e-books.⁶ Id. at 657.

Days later, Apple decided to embrace the agency model, and settled on an agency model with a 30% commission, the same commission it was using in its App Store. Apple realized, however, that in handing over pricing decisions to the

⁶ Under a wholesale model, a retailer such as Amazon purchases e-books from publishers and resells them to consumers at a price Amazon sets. As an agent, Amazon does not set retail prices for e-books; the publishers sell the e-books through their agent at a price that the publishers set.

Publishers, it needed to restrain their desire to raise e-book prices sky high. It decided to restrain retail prices through the use of pricing tiers with caps. While Apple was willing to raise retail e-book prices by as much as 50% over Amazon's \$9.99, it did not want to be embarrassed by what it considered unrealistically high prices. Id. at 658-59.

Apple realized that if it moved to an agency model with the Publishers, Apple would be at a competitive disadvantage so long as Amazon remained on the wholesale model and could price New Releases and NYT Bestsellers at \$9.99, or even lower, to compete with Apple. Since it was inevitable that the Publishers would raise e-book prices when given the opportunity -- indeed, Apple expected the Publishers to raise the prices to the tier caps -- e-books priced at \$9.99 by Amazon would doom the iBookstore. Id. at 659.

To ensure that the iBookstore would be competitive at higher prices, Apple concluded that it needed to eliminate all retail price competition. Thus, the final component of its plan was to require the Publishers to move all of their e-retailers ("e-tailers") to the agency model. Id.

Things moved quickly. The week following Apple's first meetings with the Publishers, Cue met with key executives from Simon & Schuster, Macmillan, and Random House. Id. at 659-60. On January 4 and 5, Cue wrote six essentially identical emails

to the Publishers, describing the key components of Apple's proposed agency model. Id. at 661-62. It was as apparent to the Publishers as it was to Apple that Apple's proposal would only allow the Publishers to raise the consumer prices for e-book versions of their key titles above Amazon's \$9.99 price point to the proposed caps if they moved Amazon and their other e-tailers to an agency arrangement. Id.

On January 11, Apple sent its proposed eBook Agency Distribution Agreement ("Draft Agreement") to each of the Publishers. The Draft Agreement included a "Most Favored Nation" provision ("MFN") that guaranteed that the e-books in Apple's e-bookstore would be sold for the lowest retail price available in the market. The MFN eliminated any risk that Apple would ever have to compete on price when selling e-books, while as a practical matter forcing the Publishers to adopt the agency model across the board with their e-tailers. Id. at 662-63. The final agency agreements (the "Agreements") included an MFN. Id. at 666.

In the two intervening weeks before the Launch, Apple and the Publishers engaged in intensive negotiations. Id. at 664. The Publisher Defendants fought hardest to raise the price caps. They and Apple knew that these negotiations were really about setting the new industry prices for e-books. Id. at 667. The debate over price caps essentially ended on January 16. Id. at

668. Apple decreased the hardcover list price triggers for the \$12.99 and \$14.99 e-book caps, but carved out NYT Bestsellers for special treatment. Id. at 669. Except for small exceptions which were immaterial to Apple, this pricing proposal was the one finally adopted in the Agreements. Id.

As of January 16, the Launch was just eleven days away and Cue did not have a single agreement executed. Id. at 670. By January 26, the day before the Launch, Apple had executed its fifth Agreement. Id. The only Publisher to decline to sign the Agreement was Random House. Id. at 677. In separate conversations on January 20 and over the next few days, the Publisher Defendants all told Amazon that they wanted to change to an agency distribution model with Amazon. Id. at 672.

Thus, in less than two months, Apple had signed agency contracts with five of the six Publishers, and those Publisher Defendants had agreed with each other and Apple to solve the "Amazon issue" and eliminate retail price competition for e-books. The Publisher Defendants would move as one, first to force Amazon to relinquish control of pricing, and then, when the iBookstore went live, to raise the retail prices of e-book versions of New Releases and NYT Bestsellers to the caps set by Apple. This would not have happened without Apple's ingenuity and persistence. Id. at 677-78.

On January 27, Jobs launched the iPad, introducing both the iPad's e-reader capability and the iBookstore. Id. at 678. On January 28, John Sargent, CEO of Macmillan, met with Amazon and advised that Amazon had just two options: either (1) move to an agency arrangement, or (2) not receive Macmillan's Kindle versions of New Releases for seven months. Seven months was no random period -- it was the number of months for which titles were designated New Release titles under the Agreement and restrained by the Apple price caps and MFN. The meeting lasted roughly twenty minutes. Amazon let Macmillan know in blunt terms that it was unhappy. Id. at 679.

Macmillan had anticipated that Amazon might retaliate against it by removing the "buy buttons" on the Amazon site that allow customers to purchase books from Amazon's online store or from the Kindle. The evening of Thursday, January 28, Amazon removed the buy buttons for both print and Kindle versions of Macmillan titles. Id.

Over the weekend, it became obvious to Amazon that its strategy had failed. Amazon knew that its battle was not just with Macmillan but with five of the Big Six. Amazon announced on its website on Sunday, January 31, that it would "capitulate and accept" Macmillan's agency terms. Id. at 680-81. With help from Apple, Macmillan negotiated an agency agreement with Amazon, which was signed that Friday, February 5. Id. at 681.

In light of the Publisher Defendants' overlapping threats to remove content from Amazon's platform if it did not move to agency in early April, when the iPad became available, Amazon moved quickly to execute agency agreements with the remaining Publisher Defendants. Id.

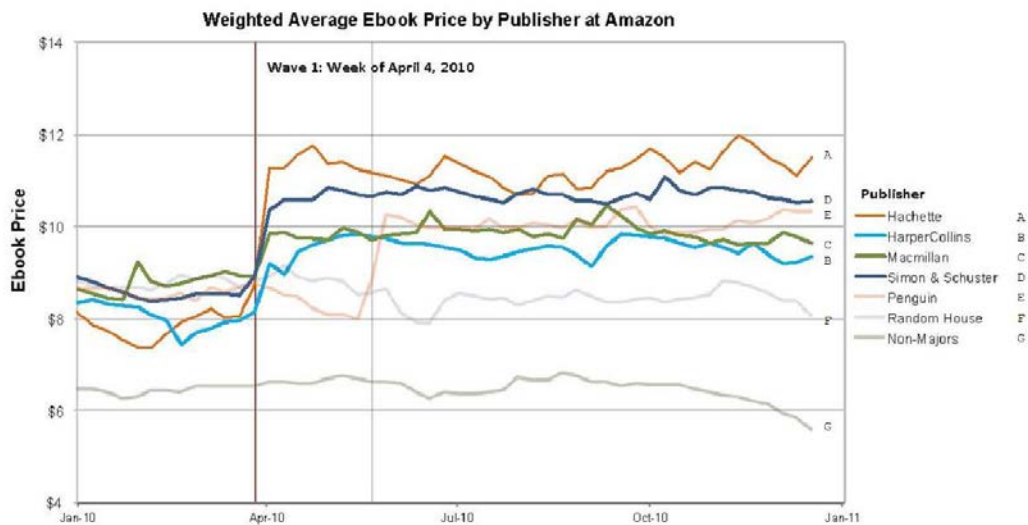
By the end of March 2010, Amazon had completed agency agreements with Macmillan, HarperCollins, Hachette, and Simon & Schuster. Because of circumstances that were unique to Penguin and its reseller contract, its agency agreement with Amazon was the last to be executed. Penguin signed its agency contract with Amazon on June 2, 2010, but before that date, Penguin had refused to allow Amazon to sell Penguin's new e-books. Id. at 682.

III. Prices After Agency

Just as Apple expected, after the iBookstore opened in April 2010, the price caps in the Agreements became the new retail prices for the Publisher Defendants' e-books. In the five months that followed, the Publisher Defendants collectively priced 85.7% of their New Release titles sold through Amazon and 92.1% of their New Release titles sold through Apple within 1% of the price caps. This was also true for 99.4% of the NYT Bestseller titles on Apple's iBookstore, and 96.8% of NYT Bestsellers sold through Amazon. The increases at Amazon within roughly two weeks of moving to agency amounted to an average per

unit e-book retail price increase of 14.2% for their New Releases, 42.7% for their NYT Bestsellers, and 18.6% across all of the Publisher Defendants' e-books. Id.

The following chart, prepared by one of Apple's experts for the liability trial, illustrates this sudden and uniform price increase. While the average retail prices for Random House's e-books hovered steadily around \$8, for four of the Publisher Defendants, the price increases occurred at the opening of the iBookstore; Penguin's price increases awaited the execution of its agency agreement with Amazon and followed within a few weeks. The bottom flat line represents the average prices of non-major publishers.



Id.

The Publisher Defendants raised more than the prices of just New Release e-books. The prices of some of their New

Release hardcover books were also raised in order to move the e-book version into a correspondingly higher price tier. And, all of the Publisher Defendants raised the prices of their backlist e-books,⁷ which were not governed by the Agreements' price tier regimen. Id. at 683.

The following two charts, one prepared by the DOJ and States' expert and another by an expert for Apple, compare the price increases for the Publisher Defendants' New Releases with the price increases for their backlist books. Despite drawing from different time periods, their conclusions are very similar. The Publisher Defendants used the change to an agency method for distributing their e-books as an opportunity to raise the prices for their e-books across the board. Id.

E-Book Average Price Increases at Amazon by Publisher Defendants Following the Move to Agency

Amazon Weighted Average Price Increases

Publisher	All eBooks	New Releases	NYT Bestsellers	Backlist
Hachette	33.0%	14.1%	37.9%	37.5%
HarperCollins	13.6%	12.5%	44.0%	15.2%
Macmillan	11.6%	14.0%	-	11.2%
Penguin	18.3%	19.5%	43.6%	17.6%
Simon & Schuster	18.0%	15.1%	28.7%	19.8%
Defendant Publishers	18.6%	14.2%	42.7%	19.6%
Random House	0.01%	1.9%	0.2%	0.3%
Non-Majors	-0.2%	-0.9%	1.1%	0.1%

⁷ Backlist books are books that have been on the market for more than one year. Frontlist books are those that have been on the market for less than one year.

E-Book Average Price Increases at Amazon by Publisher Defendants Following the Move to Agency

	Amazon	Barnes & Noble	Sony
Backlist			
Before Agency	\$7.16	\$6.84	\$8.07
After Agency	\$8.78	\$8.20	\$8.43
Percent Change	23%	20%	4%
Hardcover New Release and NYT Bestsellers			
Before Agency	\$10.37	\$9.99	\$11.31
After Agency	\$12.28	\$11.60	\$11.97
Percent Change	18%	16%	6%

Id. at 683-84.

If there were any doubt about the impact of the Apple Agreements on e-book prices, at least in so far as the market for trade e-books is concerned, the experience of Random House confirms each of the observations just made about the prices and sales of the five Publisher Defendants. Random House adopted the agency model in early 2011, and promptly raised the prices of its e-books and experienced a concomitant decline in e-book sales. Id. at 685.

IV. The Instant Litigation

Beginning on August 9, 2011, a number of putative class actions were filed alleging that Apple and the Publisher Defendants conspired to fix prices and consequently injured those who purchased e-books from the Publisher Defendants. See, e.g., 11 Civ. 3892 (N.D. Cal.); 11 Civ. 5576 (S.D.N.Y.). Actions filed outside the Southern District of New York were

transferred here by the United States Judicial Panel on Multidistrict Litigation.

As noted above, the DOJ and States have also brought suits against Apple and the Publisher Defendants alleging price-fixing in violation of the antitrust laws. On April 11, 2012, the DOJ Action was filed, seeking declaratory and injunctive relief against Apple and the Publisher Defendants. United States v. Apple Inc., et al., 12 Civ. 2826 (S.D.N.Y.). The DOJ quickly agreed to settle with Hachette, HarperCollins, and Simon & Schuster, and the first of the Publisher Defendants began terminating their Agreements on May 21, 2012. Final judgment was entered as to these three defendants on September 6, 2012. Penguin agreed to settle with the DOJ on December 18, 2012, and Macmillan executed a settlement agreement on February 8, 2013.

Also on April 11, 2012, the States' Action was filed against Apple, Macmillan, and Penguin, bringing claims parens patriae for injunctive relief and damages. The States' Action was transferred to this Court by the United States Judicial Panel on Multidistrict Litigation. State of Texas, et al. v. Penguin Grp. (USA), Inc., et al., 12 Civ. 3394 (S.D.N.Y.).

In a separately filed action, all of the states of the Union except for Minnesota, as well as the District of Columbia and five U.S. territories and possessions, settled their claims against Hachette, HarperCollins, and Simon & Schuster by a

settlement agreement executed June 11, 2012 and approved February 8, 2013. State of Texas, et al. v. Hachette Book Grp., Inc., et al., 12 Civ. 6625 (S.D.N.Y.).⁸ The litigating States and class plaintiffs entered into settlement agreements with the remaining Publisher Defendants, Macmillan and Penguin, on April 25 and May 20, 2013, respectively. The States' and class settlements were approved on December 6, 2013.

As noted above, the liability trial was held in the DOJ Action and the States' Action from June 3 to 20, 2013. The July 10 Liability Opinion found that Apple had committed a per se violation of the Sherman Act, and that the DOJ and States had also carried their burden to show a violation under the rule of reason test.

On October 11, 2013, plaintiffs Anthony Petru, Thomas Friedman, and Shane S. Davis moved for class certification, pursuant to Rules 23(a) and (b)(3), Fed. R. Civ. P, for those in twenty-three states and U.S. territories who purchased an e-book published by one of the Publisher Defendants after the agency model was adopted but before May 21, 2012, the date the first Publisher Defendants began terminating their Agreements pursuant

⁸ A class of Minnesota e-book consumers subsequently settled with Hachette, HarperCollins, and Simon & Schuster on June 20, 2013, through the class action.

to their settlements with government authorities. Specifically, plaintiffs seek to certify a class consisting of

[a]ll persons in the Non-Litigating Jurisdictions who purchased ebooks between April 1, 2010 and May 21, 2012, published by Hachette Book Group, Inc. ("Hachette"), HarperCollins Publishers L.L.C. ("HarperCollins"), Holtzbrinck Publishers, LLC d/b/a Macmillan ("Macmillan"), Penguin Group (USA) Inc. ("Penguin"), or Simon & Schuster, Inc. ("Simon & Schuster") directly from that publisher (including any of its imprints) after the adoption of the agency model by that publisher. The "Non-Litigating Jurisdictions" are American Samoa, California, Florida, Georgia, Guam, Hawaii, Kentucky, Maine, Minnesota, Mississippi, Montana, Nevada, New Hampshire, New Jersey, North Carolina, Northern Mariana Islands, Oklahoma, Oregon, Rhode Island, South Carolina, U.S. Virgin Islands, Washington, and Wyoming. Excluded from the Class are Defendants, their employees, co-conspirators, officers, directors, legal representatives, heirs, successors, and wholly or partly owned subsidiaries of affiliated companies, as well as the Honorable Denise L. Cote and persons described in 28 U.S.C. § 455(b)(4)-(5).⁹

Plaintiffs' motion for class certification was fully submitted on January 21, 2014.

With their reply, plaintiffs filed Noll's reply declaration on December 18, 2013.¹⁰ On December 27, this Court granted Apple

⁹ By Order of December 20, 2011, the Court waived any interest it might have in the putative class action and ordered that any motion for class certification would define the class so as to exclude individuals described in 28 U.S.C. § 455(b)(4)-(5).

¹⁰ On September 30, 2013, plaintiffs requested permission for Noll to file a rebuttal report. The Court granted this request on October 3, also ordering that "[t]o the extent the plaintiffs' rebuttal report includes new opinions that could not have been anticipated by Apple's expert(s), Apple may file a sur-reply report."

permission to file a sur-reply brief and sur-reply expert reports addressing "new opinions that could not have been anticipated by Apple's experts." The only "new opinion[] that could not have been anticipated" was Noll's decision to use a supercomputer to re-run his regression study using individual transaction records, rather than four-week average prices. That regression study is described below.

On January 21, 2014, Apple filed its sur-reply memorandum of law in opposition to class certification and the sur-reply declarations of Kalt and Orszag, all of which went well beyond the scope of Noll's addition of a finer-grained analysis. On January 27, class plaintiffs requested that the Court strike Apple's sur-reply memorandum of law in opposition to plaintiffs' motion for class certification and class plaintiffs and the States jointly requested that the Court strike the sur-reply declarations of Kalt and Orszag. Apple responded on January 31.

Plaintiffs' request to strike is granted as to Apple's sur-reply memorandum except for those passages that properly address Noll's new analysis.¹¹ Plaintiffs' request is also granted as to any new analyses by Kalt that are not directly responsive to

¹¹ The motion to strike is denied as to the first two paragraphs of the memorandum and the four paragraphs beginning with the first full paragraph on page 4.

Noll's use of individual transaction data.¹² Kalt and Orszag also devote a great deal of space to addressing Noll's criticisms of their rebuttal declarations. These criticisms could have been anticipated, and thus Kalt's and Orszag's responses are beyond the scope of the December 27 Order. Yet, in the interests of fully exploring the bases for Apple's experts' opinions, the Court declines to strike these responses. Accordingly, plaintiffs' request is denied as to the remainder of Kalt's sur-reply and as to Orszag's sur-reply.

A. Noll's Damages Model

Plaintiffs offer Dr. Roger G. Noll's declarations in support of their motion for class certification. Noll is a Professor Emeritus of Economics at Stanford University and a Senior Fellow in the Stanford Institute for Economic Research, where he has served as the Director of the Program in Regulatory Policy since 1984. He holds a B.S. in mathematics from the California Institute of Technology and a Ph.D. in economics from Harvard University. Noll's primary field of research is industrial organization, which includes antitrust economics, and he has taught courses in the fields of antitrust and regulation to undergraduate and graduate students for almost fifty years.

¹² The motion to strike is granted as to the following portions of Kalt's sur-reply: paragraphs 22-29, 39-43, 58-59, 71, 76, 81, 86, and 88-91; and figures 2A-2F, 3, 8A-8B, 11A-11B, and 18.

He has published more than 300 scholarly articles, books, and reviews, many of which concern antitrust or the information technology sector.

He sits on the board of editors of a number of economics journals, including the International Journal of the Economics of Business, Journal of Risk and Uncertainty, and the Economics of Governance. He has served on various committees of the National Research Council, and he is a member of the Board of Advisors of the American Antitrust Institute. His awards include, most recently, the Alfred E. Kahn Distinguished Career Award, given by the American Antitrust Institute in 2012, and a Distinguished Member Award given by the American Economic Association's Transportation and Public Utilities Group in 2013.

Plaintiffs asked Noll to determine whether anticompetitive harm arising from the conspiracy can be demonstrated for all class members, and whether the method for calculating damages to individual consumers is common to class members. Noll also calculated damages for both the class and the States. After considering the Liability Opinion, Noll determined that one element of anticompetitive harm is the transfer of wealth from consumers to sellers as a result of prices that are elevated due to anticompetitive conduct. Noll calculated that the anticompetitive conduct by the defendants caused prices to be higher for e-books that account for 99.8% of e-book sales by the

Publisher Defendants. Through this analysis, he concluded that the requirement to show class-wide anticompetitive harm had been satisfied.

To calculate damages, Noll adopted the widely-used "before and after" approach. Noll and his team used prices for titles from the Publisher Defendants before they began selling e-books under their agency agreements,¹³ as well as prices throughout this period for titles from other publishers that had not adopted the agency model, to calculate "competitive benchmark" prices. These benchmark prices -- which include Random House sales through mid-January 2011, when Random House adopted the agency model -- are presumed to be free of the effects of collusion.¹⁴

Noll controlled for a host of other factors that might influence an e-book's price. To do so, Noll built a hedonic

¹³ Noll's "competitive benchmark" includes sales of e-books from Hachette, HarperCollins, Macmillan, and Simon & Schuster between June 8, 2008 and April 1, 2010, and sales of e-books from Penguin between June 8, 2008 and May 26, 2010. It is not clear from Noll's declaration whether Penguin sales between May 26 and May 31 are considered pre- or post-agency.

¹⁴ Noll's use of these benchmarks creates a conservative model that likely underestimates damages. After all, the prices of titles from other publishers may well have risen because of the price-fixing of their major competitors. Thus, Noll's "competitive benchmark" may well include prices that were inflated by collusion.

pricing model to separate out these effects.¹⁵ Noll's model considers the following characteristics as independent variables for each e-book title: whether the title was "frontlist" or "backlist" when purchased (i.e., whether it was published more than a year earlier); whether it was a "new release," as determined by Amazon (i.e., available for 90 days or fewer); whether it was a NYT Bestseller; which of several genres it belonged to; whether the title had a hardcover print edition; whether it had a paperback edition; and which publisher offered the title. The model also includes, in its analysis of each transaction, a variable for monthly personal consumption expenditures on nondurable goods, to account for changing amounts of disposable income;¹⁶ a variable measuring how long the agency model had been in place, to account for unrelated trends affecting e-book prices; an indicator variable specific to each title, to account for pricing effects specific to a particular

¹⁵ A hedonic pricing model -- "hedonic" from the Greek meaning pleasure, as the method relates to consumers' desires -- measures the effect of various product attributes on price. See Freeland v. AT&T Corp., 238 F.R.D. 130, 149 n.15 (S.D.N.Y. 2006).

¹⁶ This variable incorporates data from the Bureau of Economic Analysis of the U.S. Department of Commerce.

e-book title; and a variable that reflects whether the sale was made under the agency model.¹⁷

To calculate the effects of these variables on an e-book's price, Noll ran a multiple regression analysis¹⁸ on transaction records for more than 149 million sales of 1.3 million different titles. Noll's data was comprised of transaction records compiled by Amazon, Barnes & Noble, Apple, Sony, Kobo, Google, and Books-A-Million for each e-book (except textbooks)¹⁹ sold between June 8, 2008 and April 8, 2012 (five weeks before the end of the damages period, May 21, 2012). To be included in the data set, an e-book title had to be purchased at least once

¹⁷ In addition, Noll includes a variable to account for the effects of Amazon's removal of the "buy button" from listings for all Macmillan titles, including e-books, between January 29 and February 6, 2010.

¹⁸ "Multiple regression analysis is a statistical tool used to understand the relationship between or among two or more variables. [It] involves a variable to be explained -- called the dependent variable -- and additional explanatory variables that are thought to produce or be associated with changes in the dependent variable." Federal Judicial Center, Reference Manual on Scientific Evidence, 305 (3d ed. 2011); see also Lavin-McEleney v. Marist Coll., 239 F.3d 476, 482 (2d Cir. 2001) (noting, in sex discrimination case, that "[i]t is undisputed that multiple regression analysis . . . is a scientifically valid statistical technique for identifying discrimination"); Bickerstaff v. Vassar Coll., 196 F.3d 435, 448 (2d Cir. 1999) (recognizing that "multiple regression analysis [is] a commonly accepted method of statistical analysis for examining the effect of independent variables on a dependent variable").

¹⁹ Textbooks fall outside the relevant market definition: trade e-books in the United States. Liability Opinion, 952 F. Supp. 2d at 694 n.60.

after the first Agreements went into effect on April 1, 2010. Of the 720 possible combinations of the variables listed above,²⁰ all sales of the Publisher Defendants' e-books were captured by 502 of these combinations.

After controlling for the factors listed above, Noll's model calculated the effect, if any, of Apple's anticompetitive conduct for each of these 502 combinations of the above independent variables. Each e-book falls into exactly one of these 502 categories. For instance, Noll's model calculates that a customer who purchased an e-book version of a Penguin hardcover book of fiction on the NYT Bestseller list during the agency period paid an overcharge of approximately 29.4%.

Damages calculations for each transaction are straightforward: damages for a given sale are equal to the price paid multiplied by the overcharge for that title's category. In the example above, purchasing the Penguin NYT Bestseller for \$14.99 would result in damages of $\$14.99 \times 29.4\% = \4.41 . Subtracting these damages from the actual price reveals the but-for price -- that is, the price a consumer would have paid but

²⁰ While there are 720 possible combinations of these variables for the Publisher Defendants' e-books, there are 1008 possible combinations for any given e-book: seven possible publisher values (one for each of the Big Six, and one for other), six genre categories, two possible values for the hardcover edition variable, two possible values for the paperback edition variable, and then three possible values for the title's age (new release, other frontlist, or backlist).

for the price fixing. In the example of the Penguin NYT Bestseller, the but-for price is \$10.58, that is, \$14.99 less \$4.41.

In the first model Noll submitted to this Court, he ran his regression analysis using the average price for each title over a four-week period, rather than the actual transaction price, to reduce computational complexity. Thus, a unit of observation was an average sale price of an e-book title for a four-week period through a specific retailer. After Apple's experts criticized him on this point, Noll employed a supercomputer to re-run his regression using both a one-week average sale price and the actual prices for each sales transaction.

The model estimated by Noll's regression analysis has an adjusted R^2 of 0.90 -- that is, it explains 90% of the variance in prices among e-book titles.²¹ Using the individual sales transaction data, Noll calculates the total damages to consumers, both putative class members and in the States, to be just over \$280 million. The fraction of e-book sales for which the model finds no damages is 0.2%.

²¹ This is the adjusted R^2 of Dr. Noll's initial model, not his later model that used individual transaction prices rather than four-week averages. The parties have not suggested that the adjusted R^2 of the later model is substantially different, although Apple's experts have re-run both of Noll's regressions and calculated related R^2 statistics for both models.

DISCUSSION

I. Plaintiffs' Motion for Class Certification

Apple opposes plaintiffs' motion for class certification on narrow grounds. It chiefly argues that Noll's damages model cannot reliably determine each class member's damages, and consequently plaintiffs cannot meet the commonality and predominance requirements.

A. Legal Standard

A party seeking certification of a class must "affirmatively demonstrate" compliance with each of the requirements of Rule 23. Comcast Corp. v. Behrend, --- U.S. ---, ---, 133 S. Ct. 1426, 1432 (2013) (citation omitted). Thus, plaintiffs will be able to sue as representatives of a class only if

- (1) the class is so numerous that joinder of all members is impracticable,
- (2) there are questions of law or fact common to the class,
- (3) the claims or defenses of the representative parties are typical of the claims or defenses of the class, and
- (4) the representative parties will fairly and adequately protect the interests of the class.

Fed. R. Civ. P. 23(a); see Police & Fire Ret. Sys. of the City of Detroit v. IndyMac MBS, Inc., 721 F.3d 95, 104 n.10 (2d Cir. 2013).

If the Rule 23(a) criteria are satisfied, an action may be maintained as a class action only if it also qualifies under at least one of the categories provided in Rule 23(b). Fed. R. Civ. P. 23(b); In re U.S. Foodservice Inc. Pricing Litig., 729 F.3d 108, 117 (2d Cir. 2013). Plaintiffs seek to certify a class under Rule 23(b)(3). Rule 23(b)(3) permits certification “if the questions of law or fact common to class members predominate over any questions affecting only individual members, and . . . a class litigation is superior to other available methods for fairly and efficiently adjudicating the controversy.” Fed. R. Civ. P. 23(b)(3); In re U.S. Foodservice, 729 F.3d at 117 (citation omitted). Among other factors, courts are to consider:

- (A) the class members’ interests in individually controlling the prosecution or defense of separate actions;
- (B) the extent and nature of any litigation concerning the controversy already begun by or against class members;
- (C) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; and
- (D) the likely difficulties in managing a class action.

Fed. R. Civ. P. 23(b)(3); In re U.S. Foodservice, 729 F.3d at 130 n.15 (citation omitted).

“To certify a class, a district court must make a definitive assessment of Rule 23 requirements, notwithstanding

their overlap with merits issues, must resolve material factual disputes relevant to each Rule 23 requirement, and must find that each requirement is established by at least a preponderance of the evidence.” In re U.S. Foodservice, 729 F.3d at 117 (citation omitted). In other words, the district judge must “receive enough evidence, by affidavits, documents, or testimony, to be satisfied that each Rule 23 requirement has been met.” Teamsters Local 445 Freight Div. Pension Fund v. Bombardier, Inc., 546 F.3d 196, 204 (2d Cir. 2008) (citation omitted).

B. Rule 23(a) Requirements

1. Numerosity

Rule 23(a) requires a finding that the putative class members are so numerous as to make joinder of each “impracticable.” Fed. R. Civ. P. 23(a)(1). Numerosity is presumed when a class consists of forty or more members. See Consol. Rail Corp. v. Town of Hyde Park, 47 F.3d 473, 483 (2d Cir. 1995).

Apple does not contest numerosity and does not dispute plaintiffs’ claim that the putative class consists of millions of consumers. Such a class meets the numerosity requirement.

2. Commonality

Commonality is established where “plaintiffs’ grievances share a common question of law or of fact.” Shariar v. Smith &

Wollensky Rest. Grp., Inc., 659 F.3d 234, 252 (2d Cir. 2011)

(citation omitted). As the Supreme Court taught in Dukes,

[w]hat matters to class certification is not the raising of common "questions" -- even in droves -- but, rather the capacity of a classwide proceeding to generate common answers apt to drive the resolution of the litigation. Dissimilarities within the proposed class are what have the potential to impede the generation of common answers.

Wal-Mart Stores, Inc. v. Dukes, --- U.S. ---, ---, 131 S. Ct.

2541, 2551 (2011) (citation omitted).

There are a host of common issues that will generate common answers in this litigation. They include the collateral estoppel effect of the Liability Opinion on issues to be litigated in the damages trial, and the applicability of Noll's damages model.

Apple contends that the plaintiffs cannot establish through common proof an injury to each individual plaintiff and his or her damages. For this same reason it argues that the common issues here do not predominate over individual issues. For the reasons described below in connection with the discussion of plaintiffs' showing of predominance, Apple's argument is rejected.

Because "the predominance criterion is far more demanding" than the commonality requirement, when plaintiffs move for certification of a class pursuant to Rule 23(b)(3), "Rule 23(a)(2)'s 'commonality' requirement is subsumed under, or

superseded by, the more stringent Rule 23(b)(3) requirement” of predominance. Amchem Prods., Inc. v. Windsor, 521 U.S. 591, 609, 624 (1997). As the plaintiffs have satisfied Rule 23(b)(3)’s predominance requirement, Rule 23(a)(2)’s commonality requirement is met as well.²²

3. Typicality

The typicality requirement is met when “each [class] member’s claim arises from the same course of events, and each class member makes similar legal arguments to prove the defendant’s liability.” Brown v. Kelly, 609 F.3d 467, 475 (2d Cir. 2010) (citation omitted). Commonality and typicality “tend to merge into one another, so that similar considerations animate analysis of both.” Id. (citation omitted).

Here, each putative class member’s claim arises from the same conduct: Apple’s conspiracy with the Publisher Defendants to fix e-book prices, which caused the prices of e-books to rise. They share the same measurement of their damages, using Noll’s model. And each class member would make similar legal arguments as to liability, including the extent to which collateral estoppel applies, barring Apple from disputing this

²² In a footnote, Apple refers to a September 27, 2013 letter it provided to the Court. To the extent Apple has made an argument in the text of its opposition to the motion for certification, it has been considered. The Court declines Apple’s invitation to review as well its September 27 letter for any arguments it might include that may be relevant to this motion practice.

Court's earlier finding of liability. This is sufficient to establish typicality. Apple does not dispute the existence of typicality here.

4. Adequacy

To determine the adequacy of representation, courts determine whether: "1) plaintiff's interests are antagonistic to the interest of other members of the class and 2) plaintiff's attorneys are qualified, experienced and able to conduct the litigation." In re Flag Telecom Holdings, Ltd. Sec. Litig., 574 F.3d 29, 35 (2d Cir. 2009) (citation omitted). The adequacy inquiry serves to "uncover[] conflicts of interest between named parties and the class they seek to represent." Id. (quoting Amchem, 521 U.S. at 625). Not every potential conflict will preclude a finding of adequacy, however. Id. "The conflict that will prevent a plaintiff from meeting the Rule 23(a)(4) prerequisite must be fundamental, and speculative conflict should be disregarded at the class certification stage." In re Visa Check/MasterMoney Antitrust Litig., 280 F.3d 124, 145 (2d Cir. 2001) (citation omitted), overruled on other grounds by In re Initial Public Offerings Sec. Litig., 471 F.3d 24 (2d Cir. 2006) ("In re IPO").

The named plaintiffs are adequate representatives of the class and class counsel are qualified, experienced, and able to conduct this litigation. Apple's only argument against a

finding of adequacy is that plaintiffs are not "seeking damages after May 21, 2012" and are consequently "waiving the rights of absent class members to seek such damages." Here, declining to seek damages for transactions after May 21, 2012 -- the date the first of the Publisher Defendants began terminating their agency agreements pursuant to their settlements with the DOJ and States -- is entirely reasonable and justified. Any effort to extend the class period beyond May 21, 2012 would substantially complicate plaintiffs' damages analysis. Apple cites no case where a similar limitation on a demand for damages was found to defeat class certification.

C. Rule 23(b)(3)'s Requirements

Plaintiffs having satisfied each of the elements of Rule 23(a), the next inquiry concerns the requirements of Rule 23(b)(3). After a discussion of the predominance requirement, the issues of superiority and ascertainability will be addressed.

1. Predominance

Predominance is established where the legal or factual issues that can be resolved through generalized proof are "more substantial than the issues subject only to individualized proof." In re U.S. Foodservice, 729 F.3d at 118 (citation omitted). In the predominance analysis, "resolved" issues are to be treated just the same as "contested" issues and are

weighed in analyzing the extent to which common issues will predominate over individual ones. In re Nassau Cnty. Strip Search Cases, 461 F.3d 219, 228 (2d Cir. 2006). The Second Circuit has emphasized that "Rule 23(b)(3) requires that common questions predominate, not that the action include only common questions." Brown, 609 F.3d at 484. "As long as a sufficient constellation of common issues binds class members together," individualized issues will not "automatically foreclose class certification under Rule 23(b)(3)." Id. at 483. The essential inquiry for predominance is whether the proposed class is "sufficiently cohesive to warrant adjudication by representation." Amgen Inc. v. Conn. Ret. Plans & Trust Funds, --- U.S. ---, ---, 133 S. Ct. 1184, 1196 (2013) (citation omitted).

Predominance is readily shown "in certain cases alleging . . . violations of the antitrust laws." Amchem, 521 U.S. at 625. For "where plaintiffs were allegedly aggrieved by a single policy of the defendant[], and there is a strong commonality of the violation and the harm, this is precisely the type of situation for which the class action device is suited." Brown, 609 F.3d at 484 (citation omitted).

This is just such a case. Apple conspired with the five Publisher Defendants to fix national e-book prices. Working together, the e-book prices of the Publisher Defendants rose

precipitously and with one exception, simultaneously,²³ after their adoption of Apple's Agreements.

To prove a violation of Section 1 of the Sherman Act, plaintiffs must show "a combination or some form of concerted action between at least two legally distinct economic entities that constituted an unreasonable restraint of trade either per se or under the rule of reason." PepsiCo, Inc. v. Coca-Cola Co., 315 F.3d 101, 109 (2d Cir. 2002) (citation omitted). Apple does not dispute that findings regarding any "unreasonable restraint of trade" will be based on class-wide proof and arguments.²⁴

To bring a private damages action pursuant to Section 4 of the Clayton Act, plaintiffs must also establish "antitrust standing." Gatt Commc'ns, Inc. v. PMC Assoc., LLC, 711 F.3d 68, 75 (2d Cir. 2013) (citation omitted). To do so, they must prove that they suffered an "antitrust injury" -- an injury "of the type that the antitrust statute was intended to forestall" -- and that they are "suitable plaintiff[s] to pursue the alleged

²³ As noted above, Penguin did not sign its agency contract with Amazon until June 2, 2010. Liability Opinion, 952 F. Supp. 2d at 682.

²⁴ Class plaintiffs' motion for partial summary judgment on collateral estoppel grounds is still pending before the Court. But how and where collateral estoppel applies is a class-wide issue, just as relitigation of any particular issue covered by the Liability Opinion would be based on class-wide evidence.

antitrust violations and thus [are] efficient enforcer[s] of the antitrust laws.” Id. at 76 (citation omitted). Apple does not dispute that a class member who suffered an overcharge on the Publisher Defendants’ e-books has standing to bring a claim here.

Instead, Apple challenges a finding of predominance on two other grounds. First, Apple argues that the putative class members are dissimilar, because each e-book transaction is “unique,” the prices of many e-books fell after the adoption of the agency model, many iBookstore customers purchased only one or two e-books, and many injured class members received offsetting benefits. Second, Apple argues that Noll’s damages model cannot reliably establish damages for each class member, and that the use of that model to determine damages would constitute an improper “trial by formula.” None of these arguments alters the conclusion that the common issues in this litigation will predominate over any individual ones.

a. Common Injury

i. Every E-Book Is Unique.

In presenting its first argument, Apple offers three reasons why the sale of every e-book is unique. According to Apple, class certification is improper here because “each of the 150 million e-book purchases that took place during the putative class period has its own unique history and must be evaluated

separately.” Although each transaction has “its own unique history,” it need only be “evaluated separately” if it is not susceptible to class-wide proof. Here, Noll’s multivariate regression analysis has disentangled the effect of collusion on e-book prices, generating a model that explains 90% of the variance among titles’ pricing. Apple has not identified any variable that Noll should have but did not include in his regression model.²⁵ An abstract argument that each transaction is “unique” or that some number of class members made very few purchases through the iBookstore does not cast doubt on Noll’s model.

Moreover, as the Liability Opinion explains, the Publisher Defendants set the prices of individual e-book titles by

²⁵ For the first time in its reply brief in support of its motion to exclude Noll’s opinions, Apple contends that a class should not be certified because Noll “disregards factors that would affect the price for a given transaction, including authors’ reputations, reviews, events such as a movie release of the title, ‘buzz’ and ‘word-of-mouth’ effects, and advertising and other marketing effects.” Apple could have raised this argument in its initial brief in opposition to class certification, but chose not to. Accordingly, the argument is waived. See Conn. Bar Ass’n v. United States, 620 F.3d 81, 91 n.13 (2d Cir. 2010) (“Issues raised for the first time in a reply brief are generally deemed waived.”).

Even if the argument were not waived, it would be easily dismissed. As Noll has explained, his regression does capture effects specific to an individual title, as it includes an “indicator variable” for every e-book title. Noll’s indicator variables are not perfect, as they must average these effects over time, but they allow his model to account for the idiosyncratic pricing influences on each e-book title.

reference to the categories to which they assigned them. E-books were not purchased by a consumer haggling over a price in a bookstall on a street corner. For example, Apple's pricing caps, which became the sales price for most of the Publisher Defendants' books, set the e-book price at \$12.99 for a NYT Bestseller whose hardcover was priced between \$25.01 and \$27.50, and at \$14.99 for NYT Bestsellers with a hardcover list price between \$27.51 and \$30. Liability Opinion, 952 F. Supp. 2d at 669.

In a variation on the same argument, Apple contends that the existence of any injury will depend on the specific titles purchased by a class member and the timing of those purchases since "over 50% of the Publisher Defendants' e-book titles' prices decreased or stayed the same after the switch to agency." Plaintiffs hotly contest the reliability of the analysis undertaken by Kalt which produced the over 50% figure, but it will be assumed for purposes of addressing this portion of Apple's argument that the figure is accurate.²⁶

In any event, Apple has identified no reason to believe that a decrease in the price of an e-book over the course of the class period is inconsistent with inflation due to the price-

²⁶ The reliability and admissibility of Kalt's work, including this figure, is discussed in the Opinion issued today addressing the motions to strike Kalt's and Orszag's expert opinions.

fixing scheme. A number of independent factors, like the release of a paperback edition, tend to cause a price decrease. Those independent factors did not cease to exist during the period of Apple's conspiracy with the Publisher Defendants. Noll's model accounts for such independent variables while measuring the impact of the scheme. Each e-book title and its history has been accounted for through the use of a title-specific indicator variable and through Noll's calculation of overcharges specific to each of 502 categories.

ii. Offsets

Apple argues that the dissimilarities among class members, which are evident when one examines each of their purchases of e-books, will prevent the plaintiffs from demonstrating common injury or damages. It contends that the examination of every e-book purchase by each class member -- including purchases of e-books issued by publishers other than the Publisher Defendants -- is necessary, and that such an examination will show that many class members benefitted by Apple's entry into the e-book market, that such benefits warrant offsets, and that individualized inquiry is necessary to determine the magnitude of these offsets. Thus, according to Apple, even if members of the class are entitled to damages due to Apple's participation in a price-fixing conspiracy and the inflated prices that consumers paid because of that conspiracy, Apple is entitled to

reduce that recovery by applying offsets to the damages. Apple identifies four benefits: (1) the prices of some e-books declined; (2) free and self-published e-books were more available; (3) some consumers purchased e-books from the iBookstore that they would not have purchased from another e-tailer; and (4) the agency model ended the practice of "windowing" e-books, allowing earlier access to certain e-books.²⁷

Apple's offset argument is rejected on several grounds. First, Apple is not entitled to reduce the amount of any damages that it owes because of any benefits that it claims consumers received when Apple entered the e-book market by selling e-books through its iBookstore. In simplest terms, Apple was not accused of nor found liable for violating the antitrust laws by the act of opening the iBookstore. What was illegal was joining and facilitating a conspiracy to raise e-book prices, a conspiracy that was effected through Apple's Agreements and their MFNs. At trial, the DOJ and States showed both that Apple's price-fixing conspiracy was a per se violation of the antitrust laws and that they were entitled to judgment under the rule of reason test. At that trial, Apple failed to show that

²⁷ Apple's expert, Orszag, provides lengthy opinions regarding another proposed benefit: cheaper e-reader prices. Apple has elected not to raise this as a reason to deny class certification.

“the execution of the Agreements had any pro-competitive effects.” Liability Opinion, 952 F. Supp. 2d at 694. As the Liability Opinion found, “[t]he pro-competitive effects to which Apple has pointed, including its launch of the iBookstore, the technical novelties of the iPad, and the evolution of digital publishing more generally, are phenomena that are independent of the Agreements and therefore do not demonstrate any pro-competitive effects flowing from the Agreements.” Id.²⁸

Even if Apple could challenge these findings, plaintiffs strenuously contest these “benefits” that Apple now identifies. As described below, the plaintiffs contest in some instances that the phenomena to which Apple points existed, or existed to the extent it asserts. In other instances, they contest that the phenomena are properly associated with the collusive behavior that triggered this action. Apple has proffered little reliable evidence in support of any pro-competitive benefits flowing from its illegal conduct. But, even if Apple were entitled to litigate these issues at trial and if it also had sufficient evidence to suggest that these purported benefits existed and could be attributed to the price-fixing conspiracy, the existence or non-existence of each of these offsetting

²⁸ Whether or not collateral estoppel applies, Apple does not dispute that these issues are subject to class-wide evidence and argument in the class action.

benefits would constitute a common issue for the class to litigate.

There is another reason, however, that the existence of these supposed pro-competitive effects do not provide an impediment to certification of a class. Apple appears to contend that common issues will not predominate over individual ones because it will be necessary to determine the extent to which each class member benefited from these four phenomena, to calculate the dollar value of that benefit, and to subtract that amount from any damages due the class member from the antitrust violation. In this case, however, the damages will be calculated by subtracting the but-for prices of e-books from the prices paid by class members.²⁹ Apple will not be entitled, as a matter of law, to reduce the amount it owes by applying its proposed offsets.

The proper measure of damages in a suit concerning a price-fixing conspiracy is "the difference between the prices actually paid and the prices that would have been paid absent the conspiracy." New York v. Hendrickson Bros., Inc., 840 F.2d 1065, 1077 (2d Cir. 1988); see also New York v. Julius Nasso Concrete Corp., 202 F.3d 82, 88 (2d Cir. 2000) (noting damages

²⁹ This is equivalent to multiplying the relative overcharge by the actual purchase prices, as a but-for price is equal to the difference between the actual price and the overcharge.

in antitrust suit alleging bid-rigging conspiracy would “ordinarily be the difference between the price actually paid by [plaintiff] . . . and the price it would have paid absent the conspiracy”). This Court has not found, and the parties have not cited, any authority for a different measure of damages in the context of a price-fixing conspiracy where the injured party paid an inflated price for a good because of the defendants’ illegal conduct. Cf. IIA Phillip E. Areeda, et al., Antitrust Law ¶ 395 (3d ed. 2007) (explaining damages in overcharge cases are determined either by lost profits or by overcharge, which is “the difference between the price actually paid and the price that would have been paid ‘but for’ the unlawful conduct multiplied by the quantity purchased”).

Moreover, antitrust jurisprudence not only limits the proof of damages in price-fixing cases to this formula, but it expressly refuses to impose extraordinary burdens on a plaintiff to construct the but-for price. Where the but-for price is uncertain, “the plaintiff’s burden of proving damages is, to an extent, lightened,” Hendrickson Bros., 840 F.2d at 1077, for “the wrongdoer shall bear the risk of the uncertainty which his own wrong has created.” Id. at 1078 (quoting Bigelow v. RKO Radio Pictures, Inc., 327 U.S. 251, 265 (1946)). Indeed, the Supreme Court has long taught that “damage issues in [antitrust] cases are rarely susceptible of the kind of concrete, detailed

proof of injury which is available in other contexts.” J. Truett Payne Co., Inc. v. Chrysler Motors Corp., 451 U.S. 557, 565 (1981) (citation omitted); accord Comcast, --- U.S. at ---, 133 S. Ct. at 1433 (noting, in antitrust case, that damages “[c]alculations need not be exact”) (citation omitted); see also Julius Nasso Concrete, 202 F.3d at 88 (quoting J. Truett language). For this reason, “it does not come with very good grace for the wrongdoer to insist upon specific and certain proof of the injury which it has itself inflicted.” J. Truett, 451 U.S. at 566-67 (citation omitted).

As significantly, an antitrust defendant may not alter this well-settled measurement of damages by speculatively raising potential offsets, even when those offsets are directly related to the goods at issue. In Hanover Shoe, Inc. v. United Shoe Machinery Corp., 392 U.S. 481 (1968), a monopolist refused to sell its shoe machinery, insisting that the plaintiff rent it. Id. at 483-84. As calculated in the lower courts, the damages were measured by the difference between what the plaintiff paid the monopolist in rental fees and what it would have paid to purchase the machines. Id. at 484. In affirming that straightforward measurement of damages, the Court rejected the monopolist’s argument that it was entitled to show that the plaintiff had passed on the overcharge to its customers and had suffered no actual loss. Id. at 488.

Particularly relevant here, the Court noted “the nearly insuperable difficulty of demonstrating that [a business] could not or would not have raised [its] prices absent the overcharge or maintained the higher price had the overcharge been discontinued.” Id. at 493. Because proving (or disproving) these features of the but-for world “would normally prove insurmountable,” and because antitrust defendants may “frequently seek to establish [the] applicability” of offsets based on such arguments if allowed, the Court taught that they should be barred. Id. Otherwise, “[t]reble-damage actions would often require additional long and complicated proceedings involving massive evidence and complicated theories.” Id.; accord Illinois Brick Co. v. Illinois, 431 U.S. 720, 737 (1977) (rejecting suit by plaintiff consumer alleging overcharge of retailer was passed-on on the basis of Hanover Shoe, noting any other result would “add whole new dimensions of complexity to treble-damages suits and seriously undermine their effectiveness”); cf. In re Coordinated Pretrial Proceedings in Petroleum Prods. Antitrust Litig., 691 F.2d 1335, 1341 (9th Cir. 1982) (holding Illinois Brick bars an “umbrella” theory of damages that would seek recovery for overcharge by price-fixer’s non-conspiring competitors on the grounds that price-fixing permitted competitors to raise prices, in part because such claims are “unacceptably speculative and complex”); Mid-West

Paper Prods. Co. v. Continental Grp., Inc., 596 F.2d 573, 585 (3d Cir. 1979) (rejecting umbrella theory, as “[a]part from its speculative nature, any attempt to determine the effect of defendants’ overcharges upon their competitors’ prices would transform this antitrust litigation into the sort of economic proceeding that the Illinois Brick Court was desirous of avoiding if at all possible”).

Applying these principles, the jury’s task in assessing damages will be confined to multiplying the relative overcharge by the actual purchase prices of Publisher Defendants’ e-books during the class period. Unless they are part of this calculation, none of Apple’s proposed offsets are relevant to that damages calculation, and therefore, exploration of these offsets will not affect any evaluation of whether common issues will predominate over individual ones.

Apple cites two principal cases in support of its argument that these four purported phenomena create offsets against any calculated damages. Neither supports Apple’s argument. The first is Hanover Shoe, which is quoted at length above. But, Hanover Shoe does not aid Apple. The plaintiffs have already adopted the analogous calculation of damages: the difference between what plaintiff(s) paid to the defendant and what plaintiff(s) would have paid, but for the illegal conduct. In Hanover Shoe, this was equal to the (actual) rental price less

the (but-for) purchase price; here, it is equal to the actual price paid for an e-book less the but-for price for that title. Indeed, the teachings of Hanover Shoe militate strongly against acceptance of Apple's proposed offsets.

The other case Apple cites is the Ninth Circuit's decision in Los Angeles Memorial Coliseum Commission v. National Football League, 791 F.2d 1356 (9th Cir. 1993). It is no more helpful to Apple. Although the calculation of damages it endorsed was made more complex by the fact that the antitrust conspiracy had denied the plaintiffs an opportunity to make a profit, the calculation was entirely consistent with that which the plaintiffs proffer here.

L.A. Memorial concerned a suit by a Los Angeles football stadium and the Raiders football team against the National Football League ("NFL"). The Raiders were prevented from moving from Oakland to Los Angeles by an NFL rule requiring unanimous consent of NFL teams. Id. at 1364. The NFL rule was held to be illegal as applied to the Raiders' move, and the trial court ordered that the Raiders be granted damages in the form of lost profits for the years the Raiders were prevented from moving. Id. at 1372. The Ninth Circuit held that, because the NFL was entitled to charge a new expansion team owner for the expansion opportunity, the (but-for) costs of a transaction (the move) must include that expansion charge and be netted against the

(but-for) lost profits expected from that transaction. Id. at 1373. The Ninth Circuit opined that a plaintiff's antitrust damages "are to be calculated by comparison of profits, prices and values as affected by the conspiracy, with what they would have been in its absence under freely competitive conditions." Id. at 1367 (citing Bigelow, 327 U.S. at 264).

Like the Supreme Court in Hanover Shoe, the Ninth Circuit went on to reject offsets requested by the defendant. The Ninth Circuit noted that the alleged "benefits," which included increased television revenue supposedly due to the challenged rule and benefits received from the Oakland community, were independent of the illegal conduct and would have existed regardless. It consequently affirmed the exclusion of defendant's proposed offsets. Id. at 1374.

The only other cases Apple cites in its offset argument are two district court opinions concerning securities fraud and an antitrust decision from this Court concerning an illegal tying agreement.³⁰ Each discusses a traditional measurement of damages that is directly related to the transactions at issue.

³⁰ In Freeland v. AT&T Corp., 238 F.R.D. 130, 150 (S.D.N.Y. 2006), this Court adopted the "package" approach in antitrust tying cases. Because a tying theory is based on the link between the tying and tied products, the Court held that damages should be set at the net amount plaintiffs were overcharged (or undercharged) for the tied and tying products. Id.

Applying these principles to each of the four offsets that Apple requests, it is readily apparent that none will create individualized issues that preclude class certification. Some of these offsets do not directly relate to the transactions at issue here; consequently, any imagined benefits are too remote to be considered in damages calculations. Others concern the relevant transactions, but are based purely on conjecture about speculative happenings in the but-for world. Pursuant to the sound policy taught by Hanover Shoe, such offsets must be rejected.

First, Apple argues that some plaintiffs were not injured because the prices of some e-books declined during the agency period.³¹ To the extent that Apple is referring to e-books not published by one of the Publisher Defendants, this phenomenon is too remote from the e-book transactions at issue here to be relevant to the damages calculation. To the extent that Apple is referring to the Publisher Defendants' e-books, plaintiffs claim no damages unless they can demonstrate that the conspiracy created a higher price for an e-book than would otherwise have existed. Noll's model identifies the few instances in which a purchaser of a title was not damaged, amounting to 0.2% of transactions. Of course, where an e-book's price was inflated

³¹ The plaintiffs vigorously dispute that Apple's experts have accurately described the path of e-book prices.

due to Apple's conduct but declined for an independent reason, like the introduction of a paperback edition, the decline is irrelevant to the proper calculation of damages and has been accounted for in the regression analysis.

Second, Apple argues that the advent of the iBookstore motivated Amazon to change its business terms to promote free e-books, largely from self-publishing authors. Yet, as noted in the Liability Opinion, the "launch of the iBookstore" was "independent of the Agreements and therefore do[es] not demonstrate any pro-competitive effect[] flowing from the Agreements." Liability Opinion, 952 F. Supp. 2d at 694. Regardless, because the self-published and free e-books were not the Publisher Defendants' e-books, they may not be incorporated into the damages calculation. Simply put, they are not relevant transactions when calculating damages. Moreover, for the very policy reasons identified in Hanover Shoe, such an offset would invite speculation and add unnecessary complexity to the trial.

Third, Apple speculates that some of the consumers who purchased e-books from the iBookstore may not have chosen to purchase these same e-books from any other e-tailer. If Apple is able to confirm that that occurred, it contends that these consumers should not be permitted to recover any damages even though the price they paid for the e-books that Apple sold to them was inflated by Apple's illegal conduct. Because Apple

cannot imagine any less onerous way to identify such consumers than examination of each and every iBookstore customer, it contends that individualized inquiry will defeat certification.

As noted above, the launch of the iBookstore was already held to be independent of Apple's illegal conduct, and thus as a factual matter plaintiffs have shown that Apple is unlikely to be able to establish any basis for this offset even if Apple were entitled to relitigate the issue. Furthermore, Apple and its expert, Kalt, cannot explain why someone who purchased an e-book on the iBookstore would be unwilling to purchase the same e-book for the same price (or less) via, for instance, a Kindle app on the iPad.

But regardless of these impediments, any argument concerning which iBookstore customers would have elected not to purchase which e-books in the but-for world is too speculative to support an offset. Any such argument would be shot-through with conjecture, and per Hanover Shoe, such an offset must be rejected. In addition, as an antitrust violator, Apple may not escape its obligation to compensate iBookstore customers whom it overcharged by arguing that some of them were too foolish or stubborn to have used the Kindle app. Cf. United States v. E.I. du Pont de Nemours & Co., 366 U.S. 316, 366 n.12 (1961) ("In general the object of the remedies under the anti-trust laws is to . . . deprive the wrongdoers of the fruits of their unlawful

conduct” (citation omitted)); Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 296 (2d Cir. 1979) (“An unlawful monopolist must be deprived of the fruits of its wrongful conduct, and one of the forbidden fruits is an excessive price. . . . So long as a monopolist enjoys the flower of evil at the expense of its customers, those victims must have a remedy.” (citation omitted)).

Finally, Apple alleges that the Agreements ended the practice of “windowing” e-books, which saved certain consumers from having to wait to purchase an e-book or being forced to purchase a more expensive hardcover edition. Factually, the Liability Opinion observed that “there is no reason to find that windowing would have become widespread, long-lasting, or effective,” and pointed to substantial evidence to the contrary. Liability Opinion, 952 F. Supp. 2d at 702. Legally, again, Hanover Shoe bars an offset argument rooted in rank speculation about the but-for world. Because of Apple’s conduct, there is no way to know whether a given title would or would not have been “windowed” and whether a given purchaser of its e-book would or would not have waited through the “windowing” period or purchased a hardcover edition. Furthermore, Apple may not avoid liability for overcharging a customer by speculating that that customer may have been better off paying the overcharge than being unable to purchase the good at all.

Because these proposed offsets are inappropriate, they do not inject a need for “individualized inquiry for each of the millions of class members,” as Apple argues. In fact, these disputes concerning the existence and relevance of pro-competitive benefits are themselves susceptible to class-wide argument and proof. Plaintiffs have therefore established that common issues concerning liability and damages overwhelmingly predominate over any individualized issues. Cf. Shahriar, 659 F.3d at 253 (affirming finding of predominance despite “some individualized damage issues”).

b. Noll’s Model Reliably Estimates Class Member Damages.

Apple also objects to class certification on the ground that Noll’s damages model is unreliable for the reasons raised in support of Apple’s Daubert motion. That motion is addressed below and is denied. As explained below, this Court has conducted a “rigorous analysis” of Noll’s model and finds it capable of reliably estimating class members’ damages. As a consequence, the application of this damages model will not be an impediment to a finding that common issues predominate over individualized ones.

Apple makes a few arguments in addition to those raised in its Daubert motion regarding the extent to which individual issues may exist. They are addressed here.

i. Noll's Model Is Reliable.

Apple raises only two arguments in its opposition to class certification regarding Noll's model that it does not raise in its motion to exclude Noll's opinions.³² First, Apple charges that Noll's model is unreliable because he "fails to account for key factors that would have increased e-book prices in the absence of a conspiracy." Apple speculates that Amazon's pricing strategy may have changed with the launch of the iPad, forcing Amazon to raise e-book prices. But the record evidence strongly indicates that Amazon was not planning to raise retail prices; indeed, the Liability Opinion noted that, if anything, the Publisher Defendants feared Amazon would force them to lower wholesale prices. See, e.g., Liability Opinion, 952 F. Supp. 2d at 649 (noting Publishers "were concerned that, should Amazon continue to dominate the sale of e-books to consumers, it would start to demand even lower wholesale prices for e-books"). Because the Publisher Defendants judged that Amazon would continue to resist their pleas that it raise e-book prices, they illegally joined with Apple to wrest control of retail pricing from Amazon and raise those prices themselves.

³² Apple's charge that Noll's model impermissibly aggregates data by using four-week average prices for e-books rather than transaction prices has been mooted, as Noll subsequently offered a damages model based on individual transaction prices.

In any event, Apple's speculation that Amazon would have unilaterally raised retail prices for e-books does not undermine the reliability of Noll's damages calculation. As already explained, such speculation is not a component of a damages calculation in a price-fixing case and Noll's regression model is not unreliable because it fails to account for such speculation.

Apple also wonders whether Barnes & Noble may have exited the e-books market but for the conspiracy's success in raising e-book prices. Apple complains that Noll does not account for the fact that Barnes & Noble consumers might not have purchased e-books at all in that case. This line of speculation fares no better. Apple does not explain why an e-book purchaser would not obtain e-books elsewhere if Barnes & Noble exited the market or how one would reliably determine that today for any Barnes & Noble customer in the period between 2010 to 2012. In any event, the law does not require Noll to engage in such speculation when constructing a damages model.

Apple next notes that Noll has admitted he has not studied Amazon's pricing algorithm, as it is proprietary and was not produced in the litigation. Apple charges that, given this admission, Noll is misleading when he states that "his methodology is 'consistent with the structure of Amazon's pricing formula.'" Noll's statement is not misleading. Noll

did review and rely on the summary of Amazon's pricing rules that was produced in discovery. In any event, this reference to Amazon's pricing formula occurred in the context of a discussion of how Noll chose to express his results. It did not concern the underlying process used to reach those results. Noll chose to express his results, specifically the coefficients of his variables (e.g., a title's publisher and its age), as percentage price effects, because that is "more consistent with the structure of Amazon's pricing formula." Noll's choice of the form in which to express the results of his regression model is purely superficial; his choice simply made his equation easier to read. Noll has not misleadingly claimed special insight into Amazon's proprietary algorithm, and there is no reason to reject his analysis as unreliable on this account.

For these reasons, and for the reasons set out below in the discussion of Apple's motion to exclude Noll's opinions, the Court finds that Noll's model can reliably estimate class members' damages.

ii. Remaining Arguments Regarding Individualized Issues

Apple raises three additional objections to class certification that appear to address the requirement that plaintiffs show that common issues will predominate over individualized ones. First, Apple argues that class

certification is inappropriate unless plaintiffs can prove “that all class members were in fact injured by the alleged conspiracy.” With the exception of dicta quoted from In re Rail Freight Fuel Surcharge Antitrust Litig., 725 F.3d 244, 252 (D.C. Cir. 2013), none of the cases Apple cites supports the proposition that certification is inappropriate where some putative class members may not have suffered injury. Rail Freight made the statement on which Apple relies as it rejected an admittedly defective damages model. The plaintiff’s expert in Rail Freight conceded that the model yielded false positives. Id. at 253. There is no such concession here.³³

As for the general principle, it is widely recognized that a class will often include persons who have not been injured by the defendant’s conduct; indeed, this is almost inevitable because at the outset of the case many of the members of the class may be unknown, or if they are known still the facts bearing on their claims may be unknown. Such a possibility or indeed inevitability does not preclude class certification.

³³ Apple argues that many class members may not have been injured, based on Kalt’s opinions that most e-book prices did not increase as a result of price fixing and that Noll’s model produces millions of false positives. As discussed in today’s Opinion deciding the States’ and class plaintiffs’ motions to exclude Apple’s experts’ opinions, both of these analyses are fundamentally flawed and inadmissible. Kalt’s finding that most e-book prices did not increase depends on his misclassification of prices set by Penguin under the agency model as “pre-agency” prices. And Kalt’s false positives analysis turns on his comparison of actual transaction prices to average but-for prices: his finding of “false positives” simply reflects the fact that actual prices for a given e-book were both above and below that e-book’s average price.

Kohen v. Pac. Inv. Mgmt. Co. LLC, 571 F.3d 672, 677 (7th Cir. 2009) (Posner, J.).

Next, Apple argues that Noll's damages model -- because it is a "formula to determine, and then distribute, damages" -- violates the Supreme Court's admonition in Dukes against "Trial by Formula." Apple is mistaken. The Supreme Court has never suggested that widely used tools of economic analysis like regression models must be banned from trials because they rely on a "formula."

The Supreme Court's reference to a "Trial by Formula" in Dukes was to a plan to try a sample set of class members' claims of sex discrimination and then multiply the average backpay award to determine the class-wide recovery without further individualized proceedings. --- U.S. at ---, 131 S. Ct. at 2561. Such a "novel" process would have robbed Wal-Mart of its right to litigate its defenses to individual claims, as liability for all but the sample set would have never been tried. Id. Here, Apple has had a full opportunity to present defenses to liability, and it will also have an opportunity to challenge plaintiffs' evidence in support of a damages award for the entire class. The plaintiffs' proposal reflects a classic method for arriving at a class-wide damages figure in an

antitrust lawsuit and is not the novel trial by formula rejected in Dukes.

Finally, citing to the Second Circuit's decision in McLaughlin v. American Tobacco Co., 522 F.3d 215 (2d Cir.), abrogated on other grounds by Bridge v. Phoenix & Indem. Co., 553 U.S. 639 (2008), Apple argues that Noll's model is "nothing more than an improper 'fluid recovery' mechanism" designed to "mask[] the prevalence of individual issues." Noll's individualized damages calculations are the very opposite of the gross estimate of damages that would be used in a "fluid recovery" procedure.

The plaintiffs in McLaughlin sought to recover damages for cigarette smokers who had been injured by the manufacturers' implicit representation that light cigarettes were healthier than full-flavored cigarettes. Id. at 220. In decertifying this class, the Second Circuit rejected a "fluid recovery" procedure whereby the court would "[r]oughly estimat[e] the gross damages to the class as a whole and only subsequently allow[] for the processing of individual claims." Id. at 231. This "rough estimate" was calculated according to "an initial estimate of the percentage of class members who . . . have valid claims" and an estimate of the average loss per plaintiff. The district court had conceded that the evidence supporting either estimate "appears to be quite weak." Id. at 231-32. The court

of appeals explained that "such an aggregate determination is likely to result in an astronomical figure that does not accurately reflect the number of plaintiffs actually injured by defendants and that bears little or no relationship to the amount of economic harm actually caused by defendants." Id. at 231.

In this case, by contrast, Noll's damages model produces individualized damage estimates based on individual transaction records. Apple will not be made to pay some "rough estimate" of damages; rather, it will pay to each injured claimant a conservatively calculated amount equal to damages due that claimant. Consequently, plaintiffs have established that common issues in this litigation will predominate over any individualized ones.

2. Superiority and Ascertainability

Finally, plaintiffs must establish that a class action would be "superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3). Where individual class members' possible recoveries are so small that no other practical method of adjudication exists, superiority is often satisfied. See Amchem, 521 U.S. at 617.

Here, where millions of putative class members each suffered minor injury -- an average overcharge of less than \$7,

in the case of iBookstore customers -- a class action is the superior method for adjudicating these claims. Apple argues that a class action is not a superior method for adjudicating this controversy because it violates its due process rights. This argument is an apparent reference to Apple's argument concerning a "Trial by Formula," and is rejected.

Plaintiffs' proposed class must also meet the related requirement of ascertainability. "[C]lass members must be ascertainable at some point in the case, but not necessarily prior to class certification." In re IPO, 471 F.3d at 45 (citation omitted). "To be ascertainable, the class must be readily identifiable, such that the court can determine who is in the class and, thus, bound by the ruling." Charrons v. Pinnacle Grp. N.Y. LLC, 269 F.R.D. 221, 229 (S.D.N.Y. 2010).

Apple argues that class members are not ascertainable, citing Carrera v. Bayer Corp., 727 F.3d 300 (3d Cir. 2013). In Carrera, the Third Circuit decertified a class of consumers of an over-the-counter diet supplement on the ground that such a class could not be reliably ascertained. Id. at 308. In doing so, the court observed that the method of determining whether someone is in the class must be "administratively feasible" and not require "individualized fact-finding or mini-trials." Id. at 307-08 (citation omitted). The Carrera court found it

unlikely that records existed establishing who had purchased the alleged falsely advertised diet supplement. Id. at 308.

By contrast, here, the parties have in their possession detailed transaction records, and using those records the class is already distributing proceeds from settlements in this action. Amazon, Barnes & Noble, Apple, and Kobo have each “identified, in its internal system, all individual customers who purchased qualifying E-books.” Due to the existence of digital transaction records, therefore, the class’s members in this lawsuit are readily ascertainable.

Plaintiffs have more than met their burden to establish each of the requirements of Rule 23(a), as well as the predominance, superiority, and ascertainability requirements of Rule 23(b)(3). Consequently, their motion for class certification is granted.

II. Apple’s Motion to Exclude the Opinions of Dr. Noll

In opposing class certification, Apple moved to strike Noll’s expert reports. The decision certifying a class rests in part on the rejection of that motion, and it is to that motion to strike that this Opinion now turns.

A. Legal Standard

Federal Rule of Evidence 702 grants an expert witness testimonial latitude unavailable to other witnesses, provided that (1) “the testimony is based on sufficient facts or data,”

(2) "the testimony is the product of reliable principles and methods," and (3) "the expert has reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702. "[T]he proponent of expert testimony has the burden of establishing by a preponderance of the evidence that the admissibility requirements of Rule 702 are satisfied." United States v. Williams, 506 F.3d 151, 160 (2d Cir. 2007). The district court performs the role of "gatekeeper" -- ensuring that the proponent has made the necessary showing and that the expert's testimony "both rests on a reliable foundation and is relevant to the task at hand." Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 597 (1993).

In order to be admissible, "[a]n expert opinion requires some explanation as to how the expert came to his conclusion and what methodologies or evidence substantiate that conclusion." Riegel v. Medtronic, Inc., 451 F.3d 104, 127 (2d Cir. 2006), aff'd on other grounds, 552 U.S. 312 (2008). An explanation is necessary because "when an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, Daubert and Rule 702 mandate the exclusion of that unreliable opinion testimony." Ruggiero v. Warner-Lambert Co., 424 F.3d 249, 255 (2d Cir. 2005) (citation omitted).

While a district court has "broad latitude" in deciding both "how to determine reliability" and in reaching "its ultimate reliability determination," it may not abandon this "gatekeeping function." Williams, 506 F.3d at 160-61 (citation omitted). "[N]othing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the ipse dixit of the expert." Kumho Tire Co. v. Carmichael, 526 U.S. 137, 157 (1999) (citation omitted).

"[A] trial judge should exclude expert testimony if it is speculative or conjectural or based on assumptions that are so unrealistic and contradictory as to suggest bad faith." Zerega Ave. Realty Corp. v. Hornbeck Offshore Transp., LLC, 571 F.3d 206, 213-14 (2d Cir. 2009) (citation omitted). "Other contentions that the assumptions are unfounded go to the weight, not the admissibility, of the testimony." Id. (citation omitted). "A minor flaw in an expert's reasoning or a slight modification of an otherwise reliable method" does not itself require exclusion; exclusion is only warranted "if the flaw is large enough that the expert lacks good grounds for his or her conclusions." Amorgianos v. Nat'l R.R. Passenger Corp., 303 F.3d 256, 267 (2d Cir. 2002) (citation omitted). This is because "our adversary system provides the necessary tools for challenging reliable, albeit debatable, expert testimony." Id.

“Vigorous 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.” Id. (quoting Daubert, 509 U.S. at 596).

The Daubert inquiry is “flexible” and “gives the district court the discretion needed to ensure that the courtroom door remains closed to junk science” Id. And it is “critical that an expert’s analysis be reliable at every step,” for “any step that renders the analysis unreliable” renders the expert’s testimony inadmissible. Id. (citation omitted).

B. Noll’s Model Is Reliable

Noll’s opinions easily meet the standards of Rule 702 and Daubert. Noll is eminently qualified and nationally respected in the field of antitrust economics. Here, Noll applies the “before and after” method, which is a well accepted method of measuring antitrust damages. See, e.g., In re Scrap Metal Antitrust Litig., 527 F.3d 517, 529 (6th Cir. 2008) (the “before and after” method “is broadly accepted for proving antitrust damages”); Eleven Line, Inc. v. N. Tex. State Soccer Ass’n, Inc., 213 F.3d 198, 207 (5th Cir. 2000) (noting “the two most common methods of quantifying antitrust damages are the ‘before and after’ and ‘yardstick’ measures”); In re NASDAQ Market-Makers Antitrust Litig., 169 F.R.D. 493, 521 (S.D.N.Y. 1996) (identifying “before and after” and “yardstick” methods as

accepted methodologies for measuring damages in antitrust cases) (quoting ABA Antitrust Section, Antitrust Law Developments, 669-73 (3d ed. 1992)); American Antitrust Institute, Private Enforcement of Antitrust Law in the United States: A Handbook, 229 (2012).

Noll has constructed a sophisticated hedonic pricing model that separately estimates damages for 502 categories. Noll's fixed-effects model not only accounts for all identifiable (and reliably estimable) structural influences on pricing, it also accounts for the idiosyncratic effects peculiar to a given title.

To generate this model, Noll performed a multiple regression analysis on 1.3 million e-book transactions, including nearly every e-book sold before and during the price-fixing conspiracy. The resulting model is remarkably able: it explains 90% of the variance among e-book titles' prices. Noll's methods are uniformly reliable, and his model will surely aid the trier of fact. Indeed, if Noll's opinions did not pass muster under Rule 702, it is difficult to imagine an opinion that could.

Apple moves to exclude the opinions Noll offers in support of class certification on very narrow grounds. For the reasons that follow, Apple's motion is denied.

Apple does not dispute that Noll is well qualified to serve as an expert with regard to each of the opinions that he is offering here. Nor does Apple take issue with the use of either a "before and after" method or a multiple regression analysis to calculate damages. Taking each of Apple's arguments singly or considering them as a whole, Apple has not identified any good reason to exclude Noll's opinion.

Apple makes four arguments:

1. Noll's opinions fail to meet professional standards;
2. Noll did not conduct a "factual study" of the but-for world and, at his deposition, did not have an opinion regarding "important specific features of th[e] but-for world";
3. Noll's model does not reliably fit the data;
4. Noll's methodology "assumes, rather than proves, common impact" and consequently "forces a positive overcharge estimate."

These arguments are considered in the order raised by Apple. Apple's arguments suggest, at most, lines of cross-examination that may be appropriate for trial. Many of these arguments, however, are at odds with fundamental tenets of econometrics and antitrust law, or rest on phrases pulled from court decisions and taken out of context. Indeed, one of Apple's chief arguments -- that Noll assumes, rather than proves, common injury -- misconstrues Noll's use of multiple regression analysis. Similarly, although Apple cites Comcast, --- U.S. at ---, 133 S. Ct. at 1433, no fewer than ten times in

its briefing of its motion to exclude Noll's opinions, it seems to have overlooked the Court's recognition that, in an antitrust case, damages "[c]alculations need not be exact." Id. at ---, 1433; accord J. Truett, 451 U.S. at 565-66; Julius Nasso Concrete, 202 F.3d at 88.

C. Noll's opinions do not fail to meet professional standards.

Apple claims that the Noll opinion on damages fails to meet professional standards because (a) Noll did not consider "whether his regression coefficients were statistically significant"; (b) at his deposition Noll could not recall the meaning of particular lines of code used to implement his regression analysis; and (c) Noll did not consider the analysis of Dr. Abraham Wickelgren.

Apple's first argument reflects a fundamental misunderstanding of econometrics. While the statistical significance of the forecasting model is relevant, the statistical significance of each and every coefficient is not.³⁴

³⁴ In particular, Noll noted that multicollinearity among the variables could be one reason useful variables appear not to be statistically significant. Multicollinearity occurs when several variables are correlated with each other -- that is, they overlap in the sense that they each capture some part of the same effect -- such that it is impossible from the data set to objectively determine the influence of one variable as opposed to the influence of these others. See Freeland, 238 F.R.D. at 147 & n.13. In that case, a model might estimate a smaller coefficient (influence) for one variable and a greater coefficient for other correlated variables; while the overall

Apple has offered no expert testimony to support its critique, and in its reply Apple has abandoned this argument.

Apple's second complaint, that at his deposition Noll was able to explain "very little of the coding" used to run his regression, is premised on a false assumption. Noll's role as the plaintiffs' expert was to identify the variables that would be included in the regression analysis. It was not to write the code. Therefore, Noll's inability to identify for Apple's counsel particular variable names in certain lines of code is of no significance.

Finally, Apple charges that Noll's failure to consider a damages analysis performed by Dr. Wickelgren exhibits a "studied ignorance of the work of fellow economists." This unfair charge distorts the record. Apple has not shown that Noll is unfamiliar with or failed to consider any published work in the field of antitrust economics or economics in general that would be relevant to his expert opinion in this case. Apple's charge relates instead to a non-public study done by another expert retained by plaintiffs' counsel in this case. Dr. Wickelgren

effect of these variables may be strongly statistically significant, each coefficient may not appear statistically significant on its own. Such an effect is noted in a resource upon which Apple's expert, Kalt, relies. See Jeffrey M. Wooldridge, Introductory Econometrics: A Modern Approach, 148-49 (5th ed. 2013) (setting out an example where jointly significant variables appear singly insignificant due to multicollinearity).

entered a declaration to support a finding that the amounts paid in settlement by the Publisher Defendants were reasonable. He performed a far less sophisticated analysis than Noll has, simply comparing the average price of a title in the four weeks after the introduction of agency with the average price in the four weeks before, and then weighting those differences according to unit sales, to estimate an average overcharge for the settling publishers for bestsellers, other frontlist titles, and backlist titles. Apple identifies no reason to believe that review of Wickelgren's analysis would have informed Noll's far more complex work.

D. Study of the but-for world

Apple next argues that Noll's opinions should be excluded because he did not conduct an independent analysis of the e-books market and failed to consider the following important specific features of the but-for world: whether the publishers would have entered into agency contracts; the size of Amazon's market share; whether Apple would have distributed e-books; whether Barnes & Noble would have exited the e-books market; Amazon's pricing algorithm; and the impact of evidence "suggesting" that "many" e-books' buyers bought only one or two

e-books during the class period. Apple's argument has little merit.³⁵

It is unsurprising that Noll did not develop an opinion about many of the issues that Apple contends are important features of a but-for world. After all, the but-for world does not exist. Noll was given the task of calculating what the prices for a given e-book would have been had Apple not conspired with the Publisher Defendants to engage in illegal price-fixing. To do so, he performed a sophisticated multivariate analysis to construct a pricing model.

While Apple argues that "Dr. Noll's damages calculations cannot stand without the false assumption that pricing dynamics in the but-for world were the same as in the pre-agency world," Noll makes no such assumption. To generate his model, Noll constructed a competitive benchmark against which to compare collusive prices -- benchmark data that included e-books sold by

³⁵ In its reply, Apple shifts the focus of its attack on Noll's opinion and contends that he failed to consider that there would have been higher e-reader prices in the but-for world. Because Apple elected to raise this argument for the first time in its reply -- thus preventing plaintiffs from responding -- Apple has waived it. See Conn. Bar Ass'n, 620 F.3d at 91 n.13 ("Issues raised for the first time in a reply brief are generally deemed waived.").

Were it not waived, this argument would fail. For the reasons explained in the discussion above concerning Apple's proposed offsets, damages for e-book overcharges will not be reduced to account for speculative benefits in purchases of e-readers, a wholly distinct product sold in a distinct market.

the Publisher Defendants in the pre-agency period and by other publishers during the pre- and post-agency periods -- and included variables in his regression to capture unrelated differences between the pre- and post-agency periods. Noll used a well-established mode of analysis to compare collusive pricing to competitive pricing and thereby to capture pricing that would have prevailed in the but-for world.

None of the features which Apple has identified in this line of attack on Noll's methodology suggest that his choice of variables or his methodology is wanting. Most of these features of the but-for world lost all relevance once the conspirators raised the prices for e-books. Only one of them -- the frequency with which a consumer may have purchased e-books -- has any relevance to a damages calculation.

E. Apple argues Noll's model does not reliably fit the data.

Apple next contends that Noll's opinions should be rejected because his model "does not reliably fit the data." Apple submits three bases for such a finding: (a) Noll's model does a poor job of explaining variation in a given title's prices; (b) his model generates "millions of false positives"; and (c) his model does not conform to the plaintiffs' theory that more e-book titles would have been priced at \$9.99 but for the conspiracy. Each argument is considered in turn.

1. Variation in pricing of a given title

Apple argues that Noll's model should be excluded because it cannot explain much of the variation in the prices of a given e-book title. This argument is a straw man.

The purpose of Noll's model is not to explain the variation in the pricing of an individual title; the purpose is to estimate the effects of collusion on e-book prices. To do so, it effectively compares prices of e-books affected by collusion to prices of e-books that are not affected. Thus, the relevant question is not whether the model can explain variances within the pricing data for a given e-book, but rather whether the model can reliably explain the differences between collusive e-book prices and competitive prices so that it can disentangle the effects of collusion.³⁶ Apple does not dispute that the Noll model has an adjusted R^2 of 0.90, which means that it explains 90% of the variation in the prices among e-book titles.

Apple argues that a pricing model that cannot explain variations within the pricing of a given e-book cannot reliably explain the differences between collusively and competitively

³⁶ While some comparisons between competitive and collusive transaction prices concern the same e-book title sold pre- and post-agency, and thus the effect of collusion implicates "within" variance rather than "between" variance, this is only a subset of such comparisons.

priced e-books so as to isolate the effect of collusion. This is not true.

The two cases Apple cites for this mistaken proposition do not even concern evaluation of the reliability of an expert's study. In Amorgianos, the Second Circuit held that it was not an abuse of discretion for a district court to exclude testimony that short-term exposure to a certain chemical could cause certain symptoms where the expert relied on articles reporting on long-term exposure to a variety of chemicals causing symptoms different from plaintiff's. 303 F.3d at 270. Here, far from relying on tangentially relevant studies performed by others, Noll has performed his own study of the very transactions at issue. And in In re Rezulin Products Liability Litigation, Judge Kaplan excluded expert testimony where the experts "offered no evidence" that injury like plaintiffs' was "possible" and indeed "nothing in the challenged expert reports gives any indication" of the possibility of such injury. 369 F. Supp. 2d 398, 427 (S.D.N.Y. 2005). Here, Noll has generated a model that explains 90% of the variance in pricing among e-books.

Finally, in making this critique of Noll's model, Apple relies extensively on an analysis by Kalt purporting to measure the variation in price for individual titles. This work by Kalt is subject to a separate motion to strike because it is error-

ridden, relies on irregular techniques, and manipulates data. Even if that work could survive a motion to strike, it would provide at most an avenue for cross-examination of Noll at trial. It does not provide a basis to exclude Noll's work.

2. False positives

Apple next argues that Noll's model produces "millions of false positives." To reach this result, Apple's expert, Kalt, compared the model's predicted average but-for price against actual transaction prices, and counted as a "false positive" any transaction where the actual price was below the average but-for price. There are several problems with Kalt's analysis. A discussion of two of them will suffice.

Although Noll's model was not intended to be used in this way, the model can be made to produce an estimated average but-for price of an e-book in a given four-week period. Noll's goal was to calculate the percentage elevation in prices due to price collusion for each e-book. By focusing on the level of prices, rather than the changes in prices attributable to collusion, however, Kalt misidentifies transactions as being unaffected by price collusion.

Noll provides a simple example to demonstrate the error. Assume the standard price for an e-book is \$20 before collusion (the "competitive price") and \$24 after, with the \$4 increase a result of price-fixing. Assume also that in both periods one-

third of customers pay the standard price; one-third receive a 25% discount; and one-third receive a 50% discount. Thus, consumers would pay the following:

	<u>Competitive</u>	<u>Collusion</u>	<u>Overcharge</u>
No discount:	\$20	\$24	\$4
25% discount:	\$15	\$18	\$3
50% discount:	\$10	\$12	\$2

As the model's predicted price is the average price, the model predicts a competitive price of \$15 and a collusive price of \$18.

Kalt's test, which simply compares the actual transaction price (i.e., the actual collusive price) to the predicted (average) competitive price, would flag as a "false positive" the transaction where consumers received a 50% discount, since the actual price they paid (\$12) is less than the average competitive price (\$15). But as this example presupposes, these consumers were damaged, by \$2 -- in the absence of price fixing, they would have paid \$2 less than \$12. Although Noll's model would properly estimate damages of \$4, \$3, or \$2 in this case (depending on the discount received), Kalt would mistakenly find one-third of these results to be "false positives." Apple's arguments concerning "false positives" provide no basis to challenge the reliability of Noll's regression model.

3. \$9.99 price point

Apple argues that Noll's model fails to fit the data in a third way. Although plaintiffs have argued that an "industry standard \$9.99 price point" existed, Apple asserts that Noll testified in his deposition that he did not know or care how many predicted but-for prices in his model are at the \$9.99 price point.

In fact, Noll's deposition testimony was more nuanced than Apple describes. At his deposition, Noll explained that it may be relevant whether the but-for prices of certain books are close to \$9.99, but that the percentage of but-for prices equal to "exactly" \$9.99 is not a "valid measure of [the] reliability" of his model. Noll also pointed out that \$9.99 -- which Apple here terms the "industry standard . . . price point" -- was the price Amazon charged for certain e-books, not all e-books. See Liability Opinion, 952 F. Supp. 2d at 649 (\$9.99 was the price for certain New Releases and NYT Bestsellers). Consequently, a perfect damages model would calculate but-for prices of \$9.99 for fewer than 100% of e-books.

Apple may cross-examine Noll at trial regarding the extent to which his model predicts prices at or near \$9.99. The fact that Noll had not done this calculation at the time of his

deposition is not a ground for striking his report or rejecting his model.³⁷

F. Common impact

Finally, Apple charges that Noll's pricing model assumes common impact. "Inherent in Dr. Noll's methodology is the assumption that all proposed class members that purchased titles within a certain category were either injured or not, regardless of whether an individual purchaser actually paid more for a specific title as compared to the but-for price of that title on the same day." Similarly, Apple contends that Noll's "averaged and aggregated percentage overcharges . . . are nothing more than a fictional composite." In a related argument, Apple asserts that Noll's 502 e-book categories are suspect because they are constructed from "highly aggregated" genre categories. Because the genre categories are over-inclusive, Apple argues, they undermine the reliability of any calculation of an overcharge for the book category.

Addressing this last argument, it should be noted that Noll largely adopted the genre categories from the New York Times

³⁷ Within a stricken portion of Kalt's sur-reply, Apple has offered a study performed by Kalt of the percentage of Noll's but-for prices that fall within 50 cents of \$9.99. It does not appear, at first blush, that that study makes any attempt to isolate the extent to which the predicted prices of New Releases and NYT Bestsellers fall close to \$9.99. In any event, the plaintiffs have not had an opportunity to respond to this calculation and it will not be further considered here.

bestseller lists, and his genre distinctions helped to generate 720 possible categories for the Publisher Defendants' e-books. The categories were so narrowly drawn that no e-book was sold in 218 of those categories. Apple has proffered no credible evidence that Noll's genre categories are too "aggregated" to reliably measure damages.

Apple's argument, at root, is that no expert analysis could reliably isolate the effects of collusion because every book is different. This ignores the factual record -- establishing that pricing grids were used both before and during Apple's price-fixing, based on the variables Noll considers -- and the fact that Noll's model succeeds in explaining 90% of the variance among titles' prices.

As reflected in the Liability Opinion, after the iBookstore opened in April 2010, the price caps in Apple's Agreements became the new retail prices for many of the Publisher Defendants' e-books. Liability Opinion, 952 F. Supp. 2d at 682. In the five months following the adoption of the agency model, the Publisher Defendants collectively priced 85.7% of their New Release titles sold through Amazon and 92.1% of their New Release titles sold through Apple to a price that was within 1% of the price caps. Id. This was also true for 99.4% of the NYT Bestseller titles on Apple's iBookstore, and 96.8% of NYT Bestsellers sold through Amazon. Id. The increases at Amazon

within roughly two weeks of moving to agency amounted to an average per unit e-book retail price increase of 14.2% for their New Releases, 42.7% for their NYT Bestsellers, and 18.6% across all of the Publisher Defendants' e-books. Id.

Noll's hedonic pricing model disaggregates the major quantifiable factors that might influence e-book pricing -- publisher, genre, bestseller status, age, and the availability of a hardcover or paperback edition -- and then controls for these factors to compare competitive prices against collusive prices. Noll's regression analysis assumes that, if all other variables are equal, the relative effect of collusion will be the same. So long as Noll has captured the salient characteristics for pricing purposes, this assumption is wholly proper.³⁸

To attack Noll's model, Kalt misleadingly quotes from a report on econometrics by the American Bar Association's Section of Antitrust Law, warning that

[t]he reduced-form pricing equation assumes that a conspiracy has the same effect on every purchaser and focuses on average effect, which may hide variation across class members. If one is attempting to test whether there is an impact on all members of a proposed class, however, that assumption is not valid, as it assumes the very proposition that is being tested.

³⁸ Apple was free to conduct its own regression study with other variables, but has elected not to do so.

ABA Section of Antitrust Law, Econometrics: Legal, Practical, and Technical Issues, 222 (2005) (Kalt's emphasis). Apple itself quotes the second sentence in its brief. But, astonishingly, Apple and its expert neglect to mention that in this passage the ABA report is discussing a single dummy variable to determine the full effect of an antitrust conspiracy. The ABA report goes on to recommend the very approach taken by Noll:

As a result, somewhat more complex models that do not make such an assumption must be used to test class-wide impact.

One approach is to divide the proposed class into categories and use a model that allows the value of the dummy variable to be different for different categories. This would be appropriate if members of the proposed class can be grouped using some observable structural characteristic that is believed to affect the price

Id. Noll has done just this, dividing the e-books purchased by the putative class into 502 categories and calculating the effect of collusion on each category.

Thus, Apple has not undermined Noll's model's assumption that similarly situated e-books -- that is, e-books for which the values of all explanatory variables identified by Noll's model are identical -- suffered the same relative overcharge. Noll's model identifies the variables that should account for most of the differences in e-book pricing, including

idiosyncratic factors affecting each title, and it proves able to explain 90% of the pricing variation among e-books.

G. Apple's Request for a Hearing

Apple requests that, before deciding the motion to exclude Noll's opinions, the Court hold a hearing "with live testimony by Dr. Noll." But Apple has already had the opportunity to question Noll at his deposition, and Apple's motion to exclude is based wholly on written materials, not disputed issues of fact best resolved through live testimony. Apple has not explained why it believes a hearing would aid the Court in deciding this motion. Because it is manifestly clear from the papers that Noll's opinions are admissible, a hearing is unnecessary.

A district court is granted "the same kind of latitude in deciding how to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability, as it enjoys when it decides whether that expert's relevant testimony is reliable." Kumho Tire Co., 526 U.S. at 152. "While the gatekeeping function requires the district court to ascertain the reliability of [an expert's] methodology, it does not necessarily require that a separate hearing be held in order to do so." United States v. Williams, 506 F.3d 151, 161 (2d Cir. 2007); accord In re United States Foodservice Inc. Pricing Litig., 729 F.3d 108, 129-30 (2d Cir.

2013); United States v. Jawara, 474 F.3d 565, 582-83 (9th Cir. 2006); Nelson v. Tenn. Gas Pipeline Co., 243 F.3d 244, 248-49 (6th Cir. 2001); Oddi v. Ford Motor Co., 234 F.3d 136, 155 (3rd Cir. 2000). When a hearing would be a mere "formality," it is not required. Williams, 506 F.3d at 161.

The cases Apple cites are not to the contrary.³⁹ Apple quotes from the Second Circuit's decision in Borawick v. Shay, 68 F.3d 597 (2d Cir. 1995), but fails to note the context. The Borawick decision addressed the utility of a hearing when addressing the admissibility of lay witness testimony in a highly unusual circumstance. In Borawick the Second Circuit held that the admissibility of a lay witness's "hypnotically-enhanced testimony" should be determined on a case-by-case basis and noted, after listing seven fact-intensive factors courts should consider in such cases, that "a pretrial evidentiary hearing is highly desirable to enable the parties to present expert evidence and to test credibility through cross-examination." Id. at 608.

³⁹ Apple did not cite any cases in its request for a hearing on its motion to exclude Noll's opinions, which was fully submitted on January 21, 2014. It first presented argument in favor of a hearing weeks later -- on February 21 -- in its opposition to class plaintiffs' motion for summary judgment. In that brief, Apple requested a hearing on plaintiffs' motions to exclude Apple's experts, which had also been fully submitted weeks earlier, on February 4.

Apple twice cites to the district court's opinion in Colon ex rel. Molina v. BIC USA, Inc., 199 F. Supp. 2d 53 (S.D.N.Y. 2001), but Colon excluded expert testimony without a hearing, noting that "[t]he party proffering [expert] testimony is not entitled" to an evidentiary hearing; that "[n]othing in Daubert, or any other Supreme Court or Second Circuit case, mandates that the district court hold a Daubert hearing before ruling on the admissibility of expert testimony, even where such ruling is dispositive of a summary judgment motion"; and that "the fact that the evidentiary record is well-developed in this case makes a Daubert hearing that much less necessary." Id. at 70-71. When, as here, it is overwhelming clear that an expert's opinions meet the standards of Daubert and Rule 702, a hearing would be an empty "formality" and is not required. Williams, 506 F.3d at 161. Thus Apple's request for a hearing is denied.


CONCLUSION

Plaintiffs' October 11, 2013 motion for class certification is granted; Apple's November 15, 2013 motion to exclude Noll's opinions is denied; and plaintiffs' January 27, 2014 request to strike portions of Apple's sur-reply memorandum of law in opposition to plaintiffs' motion for class certification and the

sur-reply declarations of Kalt and Orszag is granted in part.

SO ORDERED:

Dated: New York, New York
March 28, 2014



DENISE COTE
United States District Judge