UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE: ELECTRONIC BOOKS ANTITRUST LITIGATION	No. 11-md-02293 (DLC) ECF Case
THE STATE OF TEXAS, et al., Plaintiffs v. PENGUIN GROUP (USA), INC., et al., Defendants	No. 12-cv-03394 (DLC) ECF CASE

CORRECTED DECLARATION OF JONATHAN ORSZAG

November 25, 2013

CONTENTS

I. Qualifications

1. My name is Jonathan Orszag. I am a Senior Managing Director and member of the Executive Committee of Compass Lexecon, LLC, an economic consulting firm. My services have been retained by a variety of public-sector entities and private-sector firms ranging from small businesses to Fortune 500 companies. These engagements have involved a wide array of matters, from entertainment and telecommunications issues to issues affecting the sports and retail industries. I have provided testimony to the U.S. Congress, U.S. courts, the European Court of First Instance, the Federal Communications Commission ("FCC"), and other domestic and foreign regulatory bodies on a range of issues, including competition policy, industry structure, and fiscal policy.

2. Previously, I served as the Assistant to the U.S. Secretary of Commerce and Director of the Office of Policy and Strategic Planning and as an Economic Policy Advisor on President Clinton's National Economic Council. For my work at the White House, I was presented the Corporation for Enterprise Development's 1999 leadership award for "forging innovative public policies to expand economic opportunity in America."

3. I am a Fellow at the University of Southern California's Center for Communication Law & Policy and a Senior Fellow at the Center for American Progress. I received an M.Sc. in economic and social history from Oxford University, which I attended as a Marshall Scholar. I graduated *summa cum laude* in economics from Princeton University, was elected to Phi Beta Kappa, and was named to the *USA Today* All-USA College Academic Team.

4. While I served in the federal government, I worked on a number of policy issues involving the technology sector, including how the federal government could promote access to the Internet and issues related to the export of high-speed computers.

5. Since leaving government, I have been active in applied analysis of issues affecting the technology sector. For example, I recently published a paper about the consumer benefits associated with increased access to broadband. I have also worked on numerous mergers involving hardware, software, and Internet companies and I have worked on litigation matters involving the same sectors, including testifying before the European Court of First Instance about Microsoft's anticompetitive conduct in the seminal *Microsoft v. European Commission* case. In addition, among other technology firms, I have consulted for IBM, Microsoft, Yahoo!, Google, Oracle, Hewlett-Packard, AT&T, RealNetworks, nVidia, Equinix, RealNetworks, and Micron.

6. Finally, I have testified or consulted on the damages phase of a number of disputes in a range of industries, such as software, computer servers, airlines, sports, pay television, medical devices, and credit cards.

7. My full *curriculum vitae*, including prior testimony, is included as Appendix A. The hourly rate charged by Compass Lexecon for my work on this matter is $895. I have a financial interest in the overall profitability of the firm, but I have no financial interest in the outcome of this case.

II. Assignment and Summary of Conclusions

8. I have been asked by counsel for Apple Inc. ("Apple") to estimate damages incurred by the Plaintiffs due to Apple's alleged anticompetitive conduct, as determined by this Court in its *Opinion and Order*.[1] I have also been asked to review the report submitted on behalf of Plaintiffs in this matter by Professor Roger Noll and to assess and respond to his arguments as they pertain to damages allegedly incurred by Plaintiffs in this matter.[2]

9. I assume for the purposes of my analysis that "Apple conspired to raise the retail price of e-books."[3] The time period selected by Plaintiffs for assessing damages is April 1, 2010 to May 21, 2012.[4]

10. I reach the following conclusions with respect to damages incurred as a result of Apple's alleged anticompetitive actions:

- *The actual harms suffered by consumers as a result of Apple's allegedly anticompetitive conduct are modest*: I use an econometric model similar to Professor Orley Ashenfelter's and make several improvements to it (some of which Professor Noll proposes in his report).[5] These improvements have only a small effect on its conclusions about overall average price effects. I then account properly for the incentives market participants would have had in the absence of the allegedly anticompetitive conduct. Based on this analysis, I conclude that damages to consumers resulting from Apple's allegedly anticompetitive conduct were not more than $30 million. Moreover, I present illustrative calculations of the impacts of the other offsetting benefits to consumers that indicate that my estimate of damages is likely to be conservative (i.e., overstate any harm to consumers).

- *Professor Noll's econometric model relies on inappropriate assumptions, which cause him to overstate substantially the effect of agency contracts on e-book prices*: Professor Noll compares the pricing of e-books sold by the Publisher Defendants[6] with a so-called control group of e-

---

1 On July 10, 2013, the Court found that Apple conspired to restrain trade in violation of Section 1 of the Sherman Act and relevant state statutes. (See Opinion & Order, *United States v. Apple Inc., et al.*, No. 12-cv-02826-DLC; *State of Texas, et al., v. Penguin Group (USA) Inc., et al.*, No. 12-cv-03394-DLC (S.D.N.Y. July 10, 2013) (hereinafter, *Opinion and Order*), at 159.) I understand that Apple is appealing this ruling.

2 See Corrected Declaration of Roger G. Noll, October 18, 2013 (hereinafter, *Noll Report*).

3 *Opinion and Order*, at 5.

4 Professor Kalt explains in his Declaration why Professor Noll's methodology cannot be used to calculate damages on a group-wide basis. For a discussion of issues related to class certification and damages, see Declaration of Joseph P. Kalt, PhD, November 15, 2103 (hereinafter, *Kalt Declaration*).

5 See Report of Orley Ashenfelter, February 8, 2013 (hereinafter, *Ashenfelter Report I*), Section V; Rebuttal Report of Orley Ashenfelter, March 1, 2013 (hereinafter, *Ashenfelter Report II*), Section V; Direct Testimony of Orley C. Ashenfelter, Ph.D., April 25, 2013 (hereinafter, *Ashenfelter Testimony*), Section V.

6 The Publisher Defendants 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 & Schuster" or "S&S").

books sold by other publishers. However, the e-books sold by the other publishers in Professor Noll's control group, while in the same relevant market and substitutes to a certain extent, are subject to different economic forces than those sold by the Publisher Defendants. Moreover, Professor Noll includes data from non-representative time periods in his control group. Both of these issues cause Professor Noll to overstate substantially the impact of agency contracts on the prices of e-books sold by the Publisher Defendants. Correcting these issues, by using a model more similar to the one used by Professor Ashenfelter in the first phase of this litigation, leads to the conclusion that the agency price effect is substantially lower than claimed by Professor Noll.

- *Professor Noll's damages analysis is incomplete and inconsistent with his own testimony, which suggests that damages were substantially lower than he estimates*: While acknowledging that e-books and e-readers are complementary products whose prices are inextricably linked, Professor Noll ignores completely the implications of this fact when assessing damages. Instead, he focuses only on the impact on e-book prices in isolation. Properly accounting for the impact of the agency contracts on the pricing incentives of e-books and e-readers sold via Amazon.com ("Amazon") and other retailers leads to the conclusion that Professor Noll substantially overstates the harm to consumers from Apple's actions.

- *Professor Noll's damages analysis ignores other offsetting benefits to consumers*: The evidence shows that the move to agency contracts created a number of other changes in the industry that benefited consumers, including the introduction of Apple's iBookstore with the launch of the iPad, which helped lead to an increase in self-publishing and the availability of free e-books, and the sustainability of Barnes & Noble as a viable competitor. While some of these outcomes would likely have occurred to a certain extent but-for the agency contracts, the evidence is clear that these benefits would not have accrued to consumers to the same degree in the absence of the agency contracts. Professor Noll ignores these factors, which further undermine his damages analysis. Illustrative examples provided in this report show that the exclusion of these offsetting benefits for consumers means that Professor Noll may have overstated damages by millions, if not tens of millions, of dollars.

11. In the following sections, I describe in more detail the facts and analyses that lead to these conclusions. A list of the materials I have relied on in forming my opinions is included as Corrected Appendix B. My opinions and estimates may be revised in light of any new evidence that may emerge. I, therefore, reserve the right to incorporate such evidence into my analysis.

III. Background

12. The publishing industry has experienced dramatic change in recent years as consumers have shifted toward reading more content in a digital format. Publishers now release titles in a variety of formats, including hardcover, trade paperback, mass-market paperback, audio (e.g., Books on Tape),

book applications (or "apps"), and e-books.[7] Consumers purchase physical books through a retailer, either a traditional brick-and-mortar store (e.g., Barnes & Noble, Walmart, or smaller independent bookstores) or an online retailer (e.g., Amazon or Barnes & Noble's online site BN.com). A consumer can also purchase an e-book online through an e-bookstore, such as Amazon's Kindle Store, Barnes & Noble's Nook Book Store, or Apple's iBookstore.[8]

13. Plaintiffs have defined the relevant market in this case as trade e-books (i.e., general interest fiction and non-fiction e-books) sold in the United States.[9] I make the same assumption for purposes of this report. Print and digital trade books make up approximately 55 percent of U.S. book publishers' revenues.[10] In the United States, Hachette, HarperCollins, Macmillan, Penguin, and Simon & Schuster, and Random House, Inc. ("Random House") represent the largest trade book publishers.[11] According to the Association of American Publishers ("AAP"), in 2012, trade book sales were approximately $15 billion, of which approximately 20 percent ($3 billion) were e-books.[12] As a result of the growth in e-book sales from 2008 to 2012, total sales of trade books increased by 14 percent, despite decreasing print book sales.[13]

14. An e-book can be purchased online and downloaded to a variety of electronic devices, including dedicated e-readers, general-use tablet computers, personal computers, or other types of mobile devices, such as smartphones.[14] The type of device used may limit the retailer from which the e-book can be purchased.[15] For example, Apple allows an iPad user to download third-party apps (e.g.,

---

7 Many books are released simultaneously in hardcover print and e-book formats with a trade and/or mass-market paperback edition released a year or so later.

8 E-books have been around since the 1970s, but did not become a commercially viable format until the release of the Sony Reader in 2006 and Amazon's Kindle in 2007. (MAC0038365-402, at 381; SEL-R-1357315-19, at 16; PEN379983-86; and PEN-LIT-00159549-68.)

9 *Opinion and Order*, at 121, n. 60.

10 Other categories of books include academic textbooks, reference materials, and other texts. See Jim Milliot, "Trade Sales Rose 6.9% in 2012," *PublishersWeekly.com*, May 15, 2013.

11 Collectively, I will refer to the Publisher Defendants and Random House as the "Big 6" publishers. Random House is the largest of the Big 6, followed, in descending order of size, by Penguin, Simon & Schuster, HarperCollins, Hachette, and Macmillan. During 2010, the Publisher Defendants represented approximately 47 percent of the total e-book revenues. Random House merged with Penguin in July 2013. (See *Publishers Weekly*, "Random House, Penguin Merger Completed," July 1, 2013.)

12 Jim Milliot, "Trade Sales Rose 6.9% in 2012," *PublishersWeekly.com*, May 15, 2013.

13 During this period, sales of print books fell 8.4 percent, from approximately $13 billion to just over $12 billion. (Jim Milliot, "BEA 2013: The E-book Boom Years," *PublishersWeekly.com*, May 29, 2013.)

14 In this report, I generally refer to e-reader devices to include dedicated e-readers (such as the Kindle or the Nook) and general use tablets (such as the iPad or the Kindle Fire).

15 Some independent e-book retailers do not have a hardware or software platform of their own, but partner with another firm to provide e-reader support. For instance, independent book retailers (such as Powells) partnered with Kobo. When customers go to the retailers' web site or Kobo's own bookstore and

the Kindle App for the iPad) such that, in addition to being able to read e-books purchased from Apple's iBookstore, the user can also read e-books purchased from Amazon, Barnes & Noble, and several other retailers. On the other hand, dedicated e-readers such as the Kindle typically do not allow a user to download third-party apps. Consequently, a consumer with a dedicated e-reader cannot access e-books from another retailer (e.g., an e-book purchased from Apple's iBookstore or Barnes & Noble's Nook Book Store cannot be accessed through Amazon's Kindle e-reader).[16]

15. Through the Kindle platform, Amazon is the largest e-book retailer. The next largest e-book retailers are Barnes & Noble, which introduced its Nook platform in November 2009, and Apple, which introduced its iBookstore in April 2010.[17] Other smaller players in the e-book/e-reader market include Sony (although Sony has recently exited the U.S. market), Kobo, Books-A-Million ("BAM"), and Google (see Figure III-1).[18]

---

purchase an e-book, the title is downloaded to their Kobo reading device or Kobo reading app on another device. In addition, some brick-and-mortar retailers sell the Kobo reading devices at their stores. (See Kobo Café, "Kobo and Independent Bookstores Join Forces to Expand eReading Across the U.S., Kobo.com," August 29, 2012, *available at* http://cafe.kobo.com/press/releases/kobo-and-independent-bookstores-join-forces-to-expand-ereading-across-the-u-s. See also Indiebound, "Independent Bookstores Selling Kobo eReaders and eBooks," *available at* http://www.indiebound.org/ebooks; and Powell's Books, "Kobo," *available at* http://www.powells.com/kobo.)

16 Some retailers also provide their e-books in universal formats (e.g., PDF) or a variety of formats readable on an array of devices, such as Scribd. (See Scribd, "About us", available at http://www.scribd.com/about.)

17 During 2009, Amazon reached a 90 percent share of e-book revenues. [redacted]

18 For the growth in total paid e-books, see Appendix C, Figure C-1. In September 2013, Sony confirmed that it would not be selling its latest e-reader device, the PRS-T3, in the United States. (Michael Kozlowski, "Sony Abandons the eReader Market in the United States," *GoodEreader.com*, September 26, 2013.)

Figure III-1: E-Books Sold by Retailer (Paid e-books sold over 4-week periods, June 2008 – March 2012)

A. Amazon and Sony in the pre-conduct period

16. Sony launched the first e-reader device in the United States – the Sony Reader (a.k.a, PRS-500) – in September 2006.[19] Simultaneously, Sony launched its content store, with approximately 10,000 titles.[20] Demand for e-readers increased dramatically with Amazon's release of the Kindle in November 2007, which quickly became the market leader.[21] Amazon's Kindle bookstore featured more than 90,000 titles, including more than 90 percent of the books on *The New York Times*

---

19 See Barb Dybwad, "Sony Reader details and pics," *Engadget.com*, January 6, 2006. Sony had previously released the Libre e-reader in Japan in 2004. (See SEL00093124-44, at 26.) Sony also followed the PRS-500 a year later with the PRS-505, in October 2007. (See http://gdgt.com/sony/reader/prs-505/specs/.)

20 Barb Dybwad, "Sony Reader details and pics," *Engadget.com*, January 6, 2006.

21 "Introducing Amazon Kindle," *Amazon.com press release*, November 19, 2007, *available at* http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=1079388.

bestsellers list.[22] Amazon also initiated a business strategy of marketing certain new releases and bestsellers at $9.99.[23] (Subsequently, Amazon narrowed the window during which it priced these titles at $9.99 to [redacted][24]

17. Amazon and Sony released new e-reader models in 2009.[25] Amazon also released the Kindle App for Apple's iPhone and iPod Touch.[26] While Sony reduced the prices of its *New York Times* bestsellers from $11.99 to $9.99 to match Amazon's prices, expanded its library to 120,000 titles, and allowed users to access more than one million free public-domain titles from Google, sales of Sony's Reader devices lagged far behind those of Amazon. [27, 28]

18. Prior to April 2010, Amazon and Sony acquired e-books from publishers through a wholesale pricing model. Under the wholesale model, the publisher set a suggested retail price (or list price) and then sold the e-books to retailers at a wholesale price, typically a percentage of the list price. The retailers then determined the retail price at which to offer the e-book to consumers.[29]

---

22 For more detail regarding the growth in e-book titles at Amazon's Kindle Store, see Trial Exhibit DX-463, *USA v. Apple Inc., et al.,* No. 12-CV-02826-DLC.

23 "Introducing Amazon Kindle," *Amazon.com press release*, November 19, 2007, *available at* http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=1079388.

24 See n. 119.

25 Amazon released the Kindle 2 and the Kindle DX (a larger screened version of the Kindle) in February 2009 and May 2009, respectively. In August 2009, Sony announced two new devices: the Reader Touch at $299 and the Reader Pocket at $199. (See "Introducing Amazon Kindle 2," *Amazon.com press release*, February 9, 2009 *available at* http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=1254544&highlight=; "Introducing Kindle DX – Amazon's Large Screen Addition to the Kindle Family of Wireless Reading Devices," *Amazon.com press release*, May 6, 2009, *available at* http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle_pf&ID=1285140&highlight=; and Motoko Rich and Brad Stone, "Sony to Cut E-Book Prices and Offer New Readers," *The New York Times*, August 4, 2009, SEL00060359-63, at 61-62.)

26 "Kindle for iPhone and iPod touch Now Available for Free From Apple's App Store," *Amazon.com press release*, March 4, 2009, *available at* http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=1262380&highlight=.

Sony did not release a reader app for Apple products until late 2012. (Dianna Dilworth, "Sony Releases iOS App For Reading," *Mediabistro.com*, November 6, 2012.)

27 See Motoko Rich and Brad Stone, "Sony to Cut E-Book Prices and Offer New Readers," *The New York Times*, August 4, 2009, SEL00060359-63, at 61-62; and SEL00063904-91, at 25. See also Andrea Nusca, "Sony, Google announce 1 million free books," *ZDNet*, July 29, 2009. Sony also expanded its library by signing deals with self-publishing content providers. (SEL00063904-91, at 25; SEL00033107-08; SEL00059764-68, at 64.)

28 See, e.g., Motoko Rich and Brad Stone, "Sony to Cut E-Book Prices and Offer New Readers," *The New York Times*, August 4, 2009, SEL00060359-63, at 61.

29 Publishers also used a wholesale model to sell print books.

B. Introduction of Barnes & Noble's Nook and Apple's iPad

19. Barnes & Noble acquired e-book retailer Fictionwise in March 2009 and subsequently launched its own e-bookstore in July 2009, featuring a library of 700,000 titles (and an additional 500,000 free public domain titles).[30] Barnes & Noble priced new releases and bestsellers at $9.99.[31] In November 2009, Barnes & Noble introduced the Nook e-reader, which it sold at the same price ($259) as Amazon's Kindle.[32] Barnes & Noble's share of the e-book market grew rapidly during the first half of 2010, reaching approximately a [redacted] percent market share, which it maintained in 2011 and 2012 (see Figure III-2).

20. In December 2009, Apple executives had a first round of meetings with the Big 6 publishers.[33] During these meetings, Apple made it clear it would only enter the e-books market if it could earn profits on e-book sales and effectively compete with Amazon on selection and price.[34] Prior to the iPad launch, the five Publisher Defendants signed agency agreements with Apple.[35] Under the agency model, a publisher sets the retail price and the retailer sells the e-book as its agent. In its contracts with the Publisher Defendants, Apple earned a 30 percent commission on e-book sales, the same commission it earned on app sales in its App Store.[36]

---

30 Barnes & Noble released an upgraded Fictionwise reader app for most platforms (iPhone, iPod Touch, Blackberry, Windows, and Mac). See "Barnes & Noble Acquires Fictionwise," *Barnes & Noble press release*, March 5, 2009, *available at* http://www.barnesandnobleinc.com/press_releases/2009_march_5_fictionwise.html; "Barnes & Noble Launches World's Largest eBookstore; Introduces 'Every Device' Strategy; Upgrades eReader Application," *Barnes & Noble press release*, July 20, 2009, *available at* http://www.barnesandnobleinc.com/press_releases/2009_july_20_ebookstore.html.

31 "Barnes & Noble Launches World's Largest eBookstore; Introduces 'Every Device' Strategy; Upgrades eReader Application," *Barnes & Noble press release*, July 20, 2009, *available at* http://www.barnesandnobleinc.com/press_releases/2009_july_20_ebookstore.html.

32 "Barnes & Noble Introduces nook, its Wireless eBook Reader with E Ink Display & First Color Touch Screen for Navigation," *Barnes & Noble press release*, October 20, 2009, *available at* http://www.barnesandnobleinc.com/press_releases/2009_oct_20_nook.html.

33 Declaration of Eddy Cue (Apple), April 26, 2013 (hereinafter, *Cue Declaration (Apple)*), ¶38 and Deposition of Eddy Cue (Apple), January 25, 2011 (hereinafter, *Cue Deposition (Apple)*), 47:17-24 and Exhibit 1. Prior to the iPad's development, Apple CEO Steve Jobs did not believe Apple had a device that would make a great e-reader, and thus Apple had not entered the market. E-reading was possible on Apple products via stand-alone apps (which Apple considered flawed) and various e-reading apps, including Amazon's Kindle App and Barnes & Noble's e-reading App. (*Cue Declaration (Apple)*, ¶¶23-24.)

34 *Cue Declaration (Apple)*, ¶¶13, 28, 40-41, 50 and *Cue Deposition (Apple),* 40:10-43:17, 48:17-49:13.

35 See APLEBOOK-00013101-23; APLEBOOK-00013040-65; APLEBOOK-00013025-39; APLEBOOK-00013082-100; and APLEBOOK-00013066-81. Random House eventually signed an agency agreement with Apple in January 2011. (See RH-USDOJ-00025408-30.)

36 The final agreements also included a Most Favored Nation ("MFN") clause, term length of one year, a clause forbidding windowing, and price caps for new releases and bestsellers. (See n. 35.)

21. Apple announced the iPad on January 27, 2010 and began to ship it on April 3, 2010.[37] The iBookstore was announced on the same day as the iPad. When it opened on April 3, 2010, Apple's iBookstore offered 60,000 titles, including approximately [redacted] percent of the current bestsellers.[38] Upon opening the iBookstore, Apple's share of paid e-book unit sales fluctuated between [redacted] percent (see Figure III-2).

Figure III-2: Shares of Paid e-Book Units by Retailer (January 2009 – March 2012)

22. In January 2010, each Publisher Defendant also began to negotiate agency contracts with Amazon.[39] Amazon agreed to agency contracts with Hachette, HarperCollins, Macmillan, and Simon & Schuster

---

37 "Apple Launches iPad," *Apple press release*, January 27, 2010, *available at* http://www.apple.com/pr/library/2010/01/27Apple-Launches-iPad.html; and "iPad Arrives This Saturday," *Apple press release*, March 29, 2010, *available at* http://www.apple.com/pr/library/2010/03/29iPad-Arrives-This-Saturday.html.

38 See, e.g., APPLETX00018016.

39 AMZN-MDL-0161098-103, at 100-101.

by the end of March 2010 and with Penguin by the end of May 2010.[40] Each Publisher Defendant also negotiated agency contracts with other retailers, including Barnes & Noble and Sony.[41]

IV. Overview of Professor Noll's Damages Model

23. Professor Noll presents an econometric model that purports to show that prices of e-books sold by the Publisher Defendants would have been approximately 19.9 percent lower, on average, in the absence of the agency agreements than they were after the agency agreements went into effect.[42] Professor Noll then computes damages as the product of the quantity of e-book sales by the Publisher Defendants and the difference between the actual retail prices paid for those e-books and the but-for prices predicted by his econometric model, summed over all post-agency sales by Publisher Defendants during the damages period. On the basis of these calculations, Professor Noll concludes that the allegedly anticompetitive conduct resulted in approximately $308 million dollars in damages during the damages period.[43]

24. The econometric model presented by Professor Noll is similar in many respects to the model presented by Professor Ashenfelter in the first phase of this litigation.[44] Both Professor Noll and Professor Ashenfelter rely on a "difference-in-differences" methodology that assesses the impact of the agency agreements by comparing the change (from pre- to post-agency) in the average price of e-books sold by Publisher Defendants to the change in the average price of e-books sold by a control group of non-Publisher Defendants, while also controlling for other observable characteristics of e-books.[45]

25. However, Professor Ashenfelter concluded average price effects in the range of 15-17 percent "seem[] like[] a reasonable number."[46] Such a range is below the average price effect estimated by

---

40 See AMZN-TXCID-0000436-63; AMZN-TXCID-0000468-85; AMZN-TXCID-0000486-97; and AMZN-TXCID-0000543-60. Penguin did not sign its agency contract with Amazon until May 25, 2010 (the contract went into effect on June 2, 2010). (See AMZN-TXCID-0000345-65 at 62.) During the period between the iBookstore opening (April 3, 2010) and signing its agency agreement with Amazon, Penguin withheld all new release e-book titles from Amazon. (See AMZN-TXCID-0009984.)

41 See BN00104150-66; BN00104167-89; BN00046926-41; BN00104191-229; BN00104230-52; SEL-R-0013029-41; HC-TXAG-0906440-58; SEL-R-0001126-44; and SEL-R-1697218-37.

42 *Noll Report*, Exhibit 2.

43 *Id.*

44 See *Ashenfelter Report I*, Section V; *Ashenfelter Report II*, Section V.

45 *Noll Report* at 19-22. See also *Ashenfelter Report I*, ¶22. For a discussion of difference-in-differences models, see William H. Greene (2012), *Econometric Analysis*, 7th Ed., Prentice Hall: Boston, MA (hereinafter, *Greene (2012)*), Section 6.2.5.

46 Trial Transcript, *United States v. Apple Inc., et al.*, No. 12-cv-02826-DLC; *State of Texas, et al., v. Penguin Group (USA) Inc., et al.*, No. 12-cv-03394-DLC (S.D.N.Y) (hereinafter, *Trial Transcript*), Orley Ashenfelter, June 12, 2013, at 1496:21.

Professor Noll. There are a number of important differences in the implementation of the analyses that explain the different results.[47]

26. These differences include (but are not limited to):

- Professor Noll includes data from all publishers (thereby using data from Random House *and* other non-Publisher Defendants in his control group), while Professor Ashenfelter included data only from the Publisher Defendants and Random House;
- Professor Noll includes data from the week of June 8, 2008 through the week of April 8, 2012, while Professor Ashenfelter used data only from 24 weeks before and after April 1, 2010;
- Professor Noll includes data from all retailers, while Professor Ashenfelter used data only from Amazon, Apple, and Barnes & Noble;[48]
- Professor Noll weights his regression results using sales quantities after April 1, 2010, while Professor Ashenfelter estimated unweighted regressions; and
- Professor Noll estimates average price differences between the prices of Publisher Defendants' e-books and those in the control group for multiple different categories of e-books (depending on the publisher and genre), while Professor Ashenfelter estimated a single average agency coefficient.

Some of these differences derive from the fact that Professor Noll is addressing damages issues while Professor Ashenfelter was not. Nonetheless, it is instructive to consider the impact of the different modeling choices. While several of the modeling decisions made by Professor Noll appear to be unobjectionable, others are inappropriate and cause him to overstate the impact of the agency agreements on the prices of the Publisher Defendants. I discuss the empirical implications of these modeling choices further in Section V.

Professor Ashenfelter reported the price effect as a percentage of but-for prices, whereas Professor Noll reports the price effect as a percentage of actual prices. To the extent that but-for prices are lower than actual prices, on average, the former approach yields a higher percentage (although the implied dollar amount is the same). Professor Ashenfelter's point estimate of 16.8 percent of but-for prices is equivalent to 14.4 percent of actual prices (i.e., Professor Ashenfelter claimed that but-for prices would have been 14.4 percent lower than actual prices, on average).

[47] I also note that Professor Noll's estimated damages are approximately 40 percent higher than those estimated by Professor Abraham Wickelgren, an expert retained by the settling states to evaluate the settlement reached with the Publisher Defendants. (See Letter from Rebecca Fisher, Senior Assistant Attorney General, Texas, to The Honorable Denise L. Cote, *State of Texas, et al., v. Penguin Group (USA) Inc., et al.*, No. 12-cv-03394-DLC (S.D.N.Y. July 10, 2013). See also Declaration of Abraham L Wickelgren, Ph.D. Regarding Damages to Eligible Consumers and the Proposed Plan of Allocation, August 27, 2012 (hereinafter, *Wickelgren Declaration*).)

[48] Professor Ashenfelter also estimated additional models that included data from Sony. (See *Ashenfelter Testimony*, ¶56.)

27. Before discussing in further detail the specifics of Professor Noll's econometric model, it is worth noting that Professor Noll makes a number of assumptions in his damages analysis – most of which are implicit, since he does not lay out with any specificity his key assumptions. In particular, Professor Noll implicitly assumes at least the following:

- The prices of e-books sold by non-Publisher Defendants were unaffected by the alleged conspiracy;[49]
- But-for the shift to agency contracts, the relative prices of e-books sold by Publisher Defendants compared to non-Publisher Defendants would have been the same in the post-agency period as in the pre-agency period, despite important changes in the industry (including entry by Barnes & Noble and Apple);
- The prices of complementary products such as e-reader devices did not change as a result of the allegedly anticompetitive behavior;
- All e-book sales by Apple would have occurred in the but-for world, regardless of whether Apple would have introduced its iBookstore in the absence of agency agreements;
- All e-book sales by Barnes & Noble and other retailers would have occurred in the but-for world, regardless of whether these retailers would have been profitable in a but-for world with lower e-book prices; and
- The observed growth in self-publishing and the availability of free e-books after the move to agency and Apple's entry with the iBookstore would have also occurred, to the same extent, in the but-for world.

In Section V, I discuss issues with Professor Noll's econometric model. In Sections VI and VII, I discuss the implications of the economic factors that he omits entirely from his model.

V. Professor Noll's Econometric Model Overstates the Increase in e-Book Prices During the Damages Period

28. Professor Noll's econometric model is flawed in at least two respects that cause him to overstate the magnitude by which the prices of e-books from Publisher Defendants increased relative to those in the control group. First, Professor Noll uses an inappropriate set of publishers in his control group. Second, Professor Noll uses data from time periods that are non-representative and can contaminate his results. I discuss each in turn.

[49] Professor Noll indicates that an exception is Random House, since it is possible that Random House's move to agency contracts in early 2011 may have been influenced by the alleged conspiracy. As a result, he removes Random House from his control group once it moves to agency contracts. See n. 66 for further discussion.

A. Professor Noll's econometric model uses an inappropriate control group

29. In describing his difference-in-differences econometric model, Professor Ashenfelter stated: "To capture the changes in price and quantities sold that would have occurred anyway, I *assume* that changes in demand for e-books were also reflected in the prices and quantities sold of e-books from Random House."[50] Professor Ashenfelter then explicitly considered whether the alleged conspiracy might have affected Random House, thereby potentially biasing his results.[51]

30. Professor Noll's econometric analysis also relies on the assumption that changes in demand for e-books were also reflected in the prices of e-books in his control group. Professor Noll performed no analysis to verify this assumption.[52] It is therefore notable that Professor Noll's "other" category of publishers, which forms the bulk of his control group, consists of tens of thousands of unique publishers.[53] The "other" category consists primarily of e-books published by specialty publishers and self-published titles. Table V-1 shows the top-20 publishers in Professor Noll's data ranked by quantity of e-book sales and highlights important differences between the Big 6 publishers and other publishers.[54] First, the "other" publishers are substantially smaller than the Big 6. The largest non-Big 6 – Harlequin, a "leading publishers of books for women"[55] [redacted][56] Second, whereas the Big 6

---

50 *Ashenfelter Report I*, ¶22 (*emphasis added*).

51 *Ashenfelter Report I*, ¶23. See Expert Rebuttal Report of Professor Daniel L. Rubinfeld, March 1, 2013, Section II.B., for a critique of Ashenfelter's use of Random House as a control group.

52 Deposition of Roger G. Noll, November 1, 2013 (hereinafter, *Noll Deposition*), 140:23-141:13: "Q: Would your regression results be biased if e-book prices in your control group responded differently to changes in market circumstances coincident with the move to agency? A: I am not sure what you're asking there. Something happened simultaneously with the introduction of agency? That sounds like the same argument that was given and rejected in the liability phase, that there were other independent factors that would have caused the price to go up and they explained why the price went up, and that was rejected by the Court. *So I've just assumed that all of that – all of that kind of argument isn't true for the sake of doing my damages report.*" (*emphasis added*)

53 Specifically, after accounting for various adjustments made by Professor Noll, I find that within Professor Noll's "other" category there exist 106,446 unique values for his publisher variable. Figure C-2 in Appendix C shows the growth in the share of e-books sold by "other" publishers.

54 Collectively, the publishers in Table V-1 account for approximately 81 percent of e-book revenue in Professor Noll's sample.

55 See Harlequin, "About Harlequin," available at http://www.harlequin.com/articlepage.html?articleId=36&chapter=0.

56 Titles published by the Big 6 also sell more units, on average, than do "other" titles. For example, in Professor Noll's regression sample, the mean number of paid units sold for a Big 6 title was 1,966 while the median was 111. In contrast, the mean number of units sold for a non-Big 6 book was 196 and the median was 6. So, on average, Big 6 titles sell ten times as many units as do non-Big 6 titles.

publish a broad range of different types of e-books, the non-Big 6 publishers tend to specialize in particular genres.[57]

Table V-1: Top 20 Publishers in Professor Noll's Sample

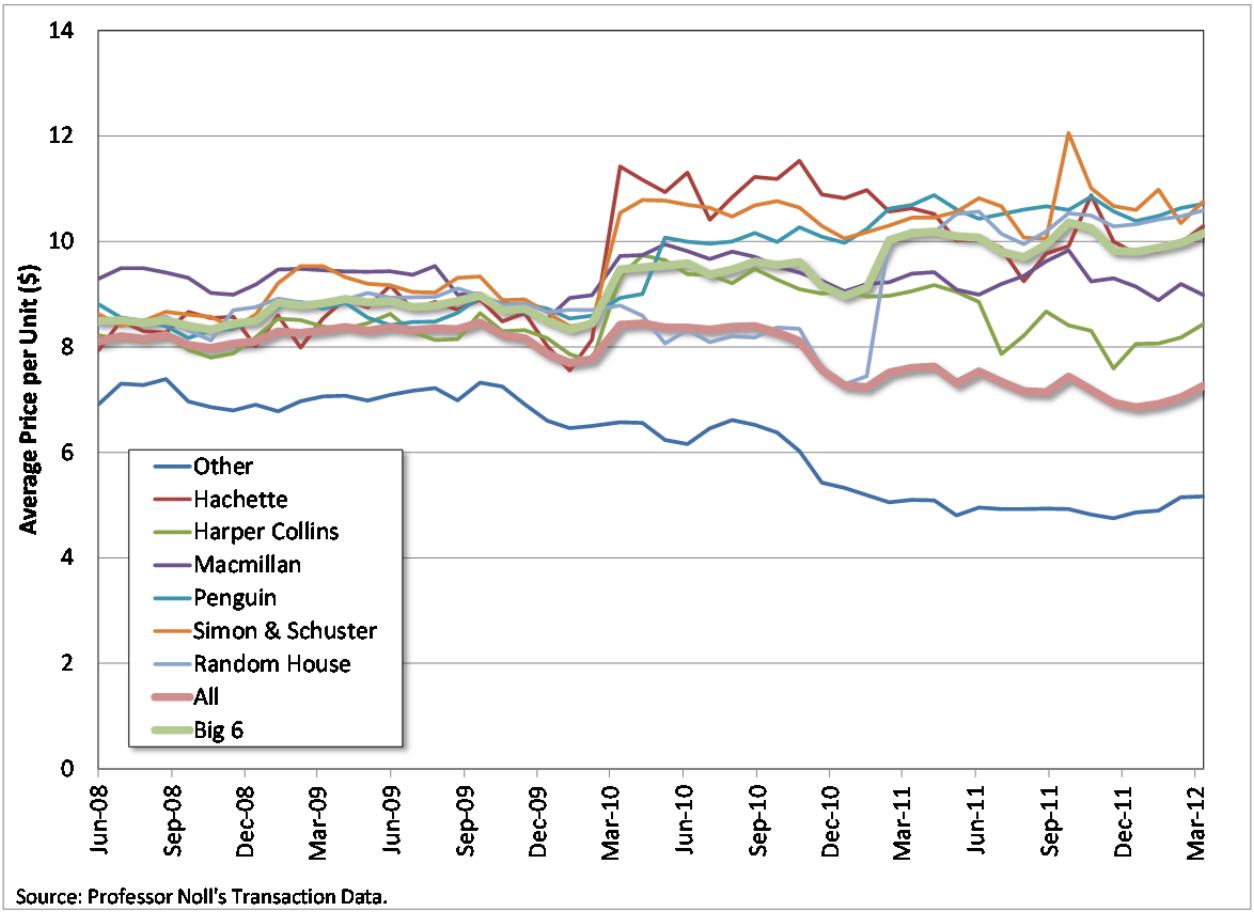
31. Figure V-1 further illustrates the differences between the Publisher Defendants, Random House, and "other" publishers. The average price of e-books published by the Big 6 in the pre-agency period was nearly $2 higher than the average price of the e-books sold by "other" publishers.[58]

---

57 [redacted] I have implemented Professor Noll's analysis using all of the non-Publisher Defendant general interest publishers in the top 20 (including Random House, Kensington, Perseus, Headline, Norton, and Hyperion) as the control group and find that the results are not substantively different from those that I report in Section V.C.

58 See also Appendix C, Figure C-3, and Trial Exhibit DX-719, *USA v. Apple Inc., et al.,* No. 12-CV-02826-DLC. The analysis in Figure V-1 excludes free e-books. Professor Noll also excludes free e-books from his econometric analysis. I discuss free e-books further in Section VII.B.

Figure V-1: Average e-Book Price, by Publisher



32. The differences in prices and quantities between e-books published by the Big 6 and e-books published by "other" publishers reflect different supply and demand conditions. Although all of these books are in the same market for trade e-books, there is no reason to expect, as Professor Noll implicitly assumes, that books in the "other" category would respond in the same way to changes in competitive conditions facing e-books. As Professor Noll acknowledged, there exists product differentiation in the market for trade e-books and the degree of substitutability varies among books within that market.[59]

33. Indeed, the data in Figure V-1 suggests that it would be incorrect to assume that e-books in the "other" category responded in the same way to the competitive forces affecting the industry. While there is no obvious downward trend in price of the "other" category in the pre-agency period, the average price of the "other" category declines from around $7 in the pre-agency period to

[59] *Noll Deposition,* 35:22-36:5.

approximately $5 by the end of the sample period.[60] Certainly, there are some publishers and/or titles in the "other" category that could be appropriate to include in the control group, but Professor Noll makes no attempt to determine which publishers or titles are appropriate controls and which ones are not. He simply assumes, without any analysis, that any title published by a non-Big 6 publisher is appropriately included, which is a deeply flawed assumption.

34. As I describe further in Section VII.A, one reason for the decline in average price in the "other" category was the rise of self-publishing. The entry of Apple induced Amazon to change its royalty model for self-published titles. Amazon began offering much more generous royalties to self-publishing authors in June 2010, shortly after the move to agency.[61] As a result of the entry of Apple's self-publishing platform along with more generous royalties, the supply of self-published e-books increased dramatically. Economic theory indicates that the increase in supply of self-published titles should decrease the price of self-published titles. Moreover, because self-published titles are likely to be closer substitutes for each other than for books published by the Big 6 publishers, the increase in supply of self-published e-books can be expected to have a differential impact on the prices of self-published titles in Professor Noll's control group relative to e-books published by the Publisher Defendants. Such a conclusion suggests that Professor Noll's "other" category does not provide an appropriate control group.[62]

B. Professor Noll's econometric results are sensitive to the choice of pre-agency time period

35. As discussed in Section IV, in contrast to Professor Ashenfelter, Professor Noll uses data as far back as June 2008, when the e-book industry was in its incipiency and sales volumes were very small relative to the damages period. For example, Figure V-2 shows the dramatic increase in e-book

---

[60] Professor Noll may be tempted to argue that the title fixed effects in his regression account for the reduction in the average price of the "other" category. It is therefore informative to note that, while the weighted average residual for the "other" category is positive prior to April 1, 2010, it is negative in the period after April 1, 2010. Such a result indicates that prices for "other" e-books are higher than can be explained by Professor Noll's model in the pre-agency period and lower than can be explained in the post-agency period. As I show in the next section, this pattern causes him to overstate the effect of the alleged conspiracy on e-book prices.

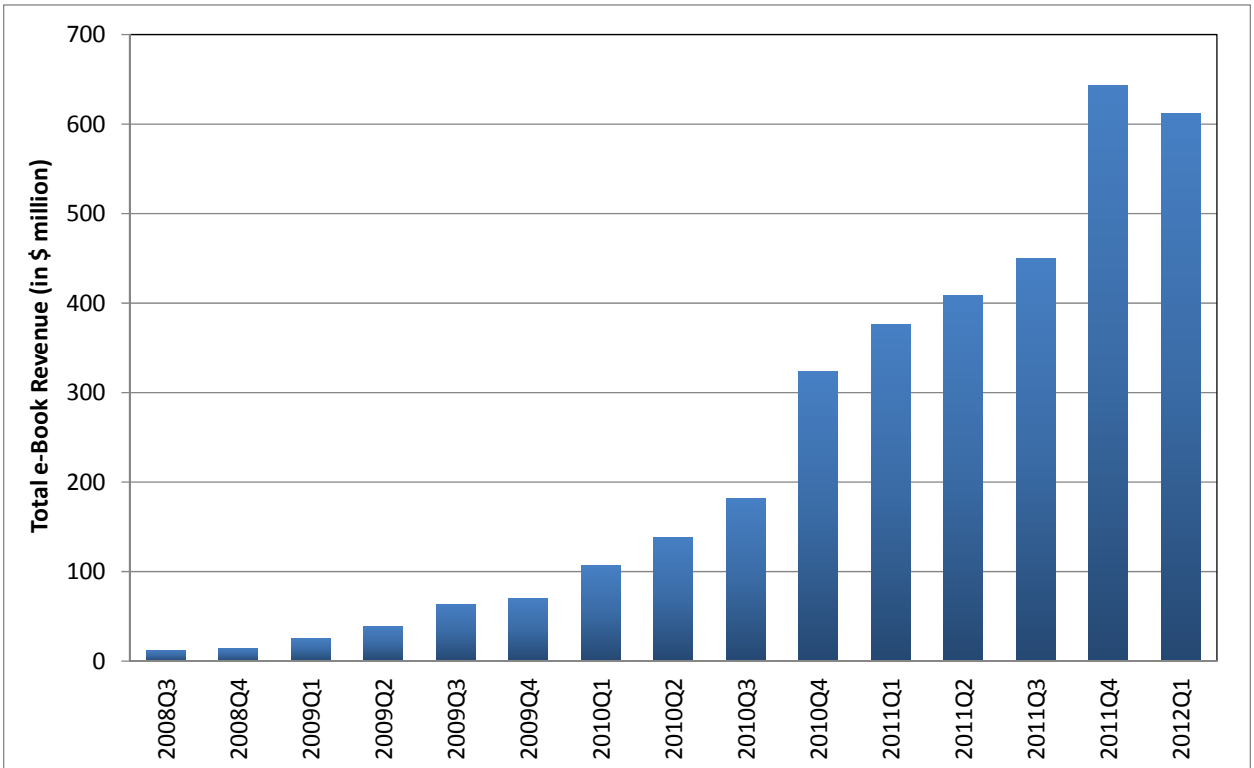
At his deposition, Professor Noll argued that if the alleged conspiracy caused prices for non-colluding publishers to increase, then his model underestimates damages. The converse also holds. To the extent that the alleged conspiracy or other concurrent industry events caused prices for non-colluding publishers to decline, his model overestimates damages. (See *Noll Deposition,* 78:20-79:18.)

[61] On January 20, 2010, Amazon announced that it would implement a new 70-percent royalty option for e-books with a list price between $2.99 and $9.99 by which a self-publishing author would get 70 percent of the list price. (AMZN-MDL-0153986-89.)

[62] Another perspective on this same point is that Professor Noll fails to control for factors affecting the "other" category that are potentially changing during the relevant period and, as a result, his model suffers from so-called omitted variable bias.

revenue from the beginning of Professor Noll's sample to the end of his sample. Total e-book revenue from July-December 2008 was approximately $27 million, while total e-book revenue from July-December 2011 was approximately $1.1 billion, an increase of approximately 4000 percent.[63]

Figure V-2: Total e-Book Revenue (2008-2012, by Quarter)



Source: Professor Noll's Transaction Data.
Note: Quarters assigned based on 15th day of 4-week time period.

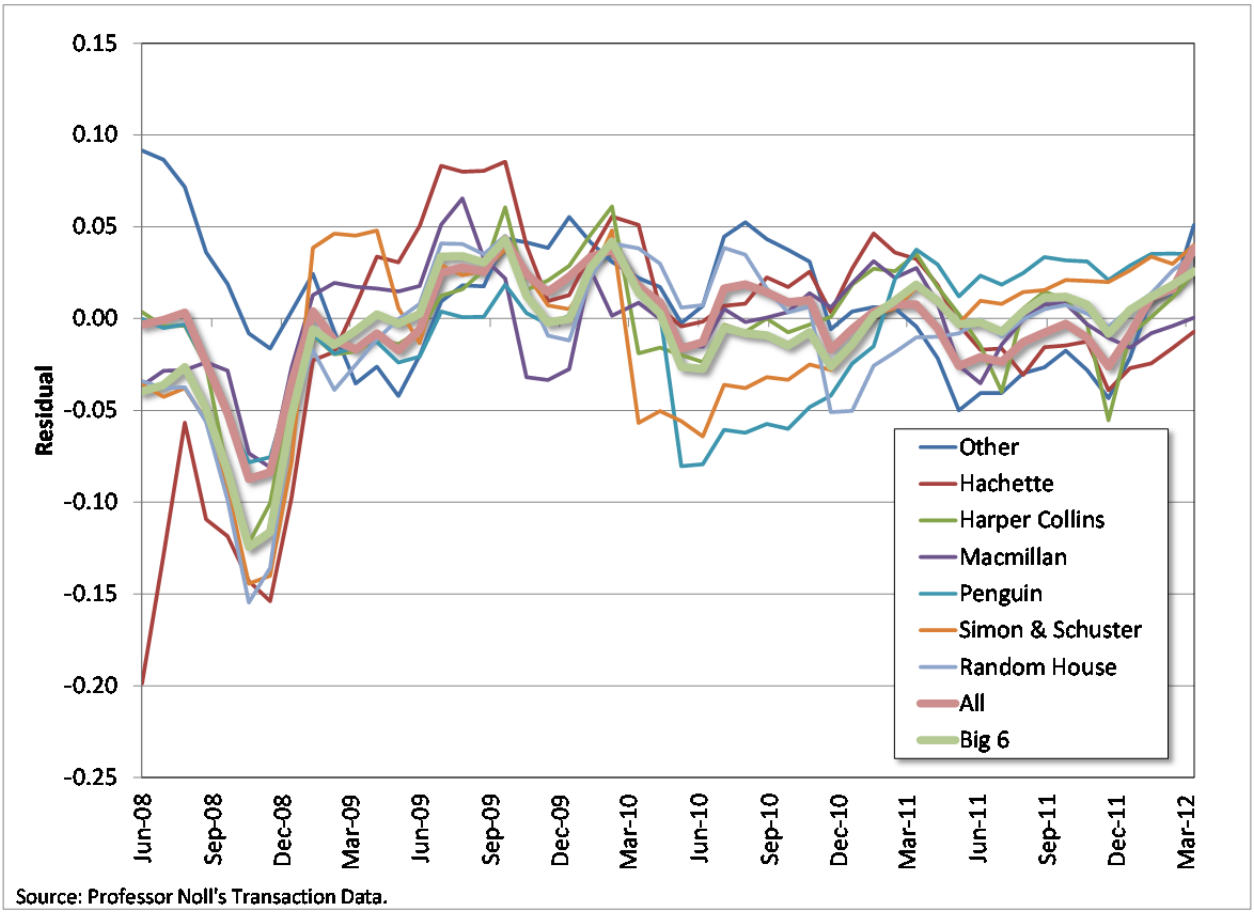
36. To further examine this issue, I calculate the "residuals" generated by Professor Noll's econometric model and plotted them over time in Figure V-3. The residuals are the portion of the price that is unexplained by Professor Noll's econometric model (i.e., the difference between what the model predicts for each observation and what the actual data show). As with all regressions, the residuals in Professor Noll's regression are equal to zero, on average, with some greater than zero and others less than zero.[64] However, the data suggest that the pattern in the second-half of 2008 and early 2009 is substantially different from the rest of the sample, calling into question the validity of using this portion of the sample as part of the pre-agency control period. In the following section, I investigate the sensitivity of Professor Noll's results to the inclusion of this time period.

---

[63] For the purposes of this calculation, I define June-December 2008 to cover the 28-week period from June 22, 2008 to January 3, 2009. I define June-December 2011 to cover the 28-week period from June 26, 2011 to January 7, 2012. Figure C-1 in Appendix C shows the increase in the total quantity of paid e-books.

[64] See *Greene (2012)*, Section 2.3.3.

Figure V-3: Average e-Book Residual, by Publisher



Source: Professor Noll's Transaction Data.

C. Professor Noll's econometric model generates lower estimated agency price effects when using a sample more similar to Professor Ashenfelter's sample

37. To investigate the sensitivity of Professor Noll's model to the choice of control group and pre-agency time period, I start with Professor Noll's computer code and then make modifications to his code in order to isolate the key factors driving his results.[65]

38. First, I limit Professor Noll's analysis to the Big 6 publishers following the approach used by Professor Ashenfelter.[66] Making this change alone reduces the average effect of the conspiracy on e-book

[65] Aside from the modifications discussed in this section, I maintain Professor Noll's other modeling decisions.

[66] Because Random House moved to agency contracts with retailers in early 2011, in the regressions in which Random House is the only control group, the agency effect is identified off of sales prior to Random House's move to agency.

prices from 19.9 percent to 14.9 percent (excluding the other factors described in the following Sections).[67, 68]

39. Next, I follow Professor Ashenfelter's approach of limiting the pre-period to 24 weeks prior to April 1, 2010 and limiting the post-period to 24 weeks after April 1, 2010. Limiting the post-period may be particularly important because Professor Noll's model cannot explain the reduction in the average Random House e-book prices in the months prior to its move to agency. Random House informed Amazon of its intention to move to agency several months before the agency contracts were finalized, during which time Amazon retained pricing control over Random House titles. The reduction in average price that is evident in Figure V-1 and the negative Random House residuals in that period that are evident in Figure V-3 indicate that Professor Noll's model cannot explain this pricing pattern. Once I implement this change, the average agency effect in this specification is 15.5 percent (again, excluding other factors described below).

40. Finally, I note that Figure V-1 indicates that the average prices of the Big 6 publishers declined during the first quarter of 2010, just prior to the introduction of the agency contracts and the iPad's entry. Given that the iPad's imminent arrival and Apple's negotiations with publishers were both known at least by the end of January 2010, prices in this quarter may be non-representative. For example, Apple's negotiations with publishers and subsequent entry led to a competitive response by Amazon and that response would be absent in the but-for world where Apple does not enter in the absence of agency contracts. To test the sensitivity of Professor Noll's results to this possibility, I limit his analysis to one year prior to April 1, 2010 and 24 weeks after April 1, 2010, but exclude the first quarter of 2010. This specification generates an estimated average agency effect of 14.2 percent (ignoring factors described in Section VI and VII).

41. The results presented in this section indicate that Professor Noll's analysis overstates the likely average effect of the agency contracts on e-book prices due to his use of an inappropriate control

---

Professor Noll does not claim damages based on Random House's move to agency contracts nor has there been any claim that Random House's move to agency was conspiratorial. Consequently, excluding Random House from the control group following its move to agency, as does Professor Noll, overstates damages. However, for the purposes of comparability, I adopt Professor Noll's approach and exclude Random House prices from the control group following its implementation of agency contracts.

67 Throughout this section, I will refer to the average percentage price effect generated by Professor Noll's econometric model as the "agency effect."

68 Professor Noll's total damages estimate excludes the price reductions that he estimates on 0.5 percent of e-books. (*Noll Report,* at 26.) This exclusion is inappropriate as an economic matter as these reductions benefit consumers and should be included in the total damages estimate. Moreover, as Professor Kalt discusses, Professor Noll's econometric approach averages over various price changes, including price reductions, within the groups defined in Professor Noll's Exhibit 1. (See *Kalt Declaration*, Section V.D.) There is no logical basis to include negative price changes within groups but to exclude negative price changes across groups. Including these estimated price reductions reduces Professor Noll's overall effect to 19.8 percent. In all estimated effects reported in this section, I net out the impact of estimated price reductions.

group and his reliance on non-representative time periods in his control group. Straightforward modifications to Professor Noll's calculation result in a likely average agency effect in the range of 15 percent (excluding other factors that cannot possibly be included in the econometric analysis), in line with Professor Ashenfelter's results and the range Professor Ashenfelter determined was "reasonable" at trial.[69]

VI. Professor Noll incorrectly characterizes the but-for world and ignores the change in Amazon's and other retailers' economic incentives

42. Economic theory, the record evidence in this case, and Professor Noll's own testimony show that e-books and e-readers are complementary products. Complementary products are typically consumed together. Consumer demands are interconnected such that when the price of one product increases – holding everything else constant – demand for the other decreases. Classic examples of complementary products are left and right shoes, printers and ink cartridges, DVD players and DVDs, and boots and laces.[70] Prices for complementary products are inextricably linked: Consumers care about what they pay for both—not just what they pay for one component.

43. In this case, there is no dispute that e-books and e-reader devices are complementary products: Professor Noll agreed with that simple proposition.[71] But the proposition has important implications for determining damages since it means that the pricing incentives of e-books and e-readers are tightly interconnected. By focusing his damages analysis solely on the prices of e-books published by the Publisher Defendants relative to prices in a control group, Professor Noll ignores the interconnection between prices of e-books and prices of e-readers that he identifies in his own testimony.[72] This omission renders his damage calculation incomplete and leads to the unrealistic and incorrect conclusion that retailers would have earned low or even negative margins on e-books *and* e-reader devices.

44. Economic analysis indicates that, in a but-for world without agency agreements, two effects would have operated in the same direction:

- E-book prices would have been higher than Professor Noll claims (because the entry of the iPad changed Amazon's and other retailers' incentives to earn profits on e-book content rather than on devices); and/or

---

69 *Trial Transcript,* Orley Ashenfelter, June 12, 2013, at 1496:21. As discussed in the *Kalt Report*, the average effect does not imply common impact throughout the class. In fact the averages mask a wide range of price movements – including negative movements. (See *Kalt Declaration*, Section V.C.)

70 See, e.g., *Noll Deposition*, 40:3-14.

71 *Noll Deposition*, 40:20-41:11.

72 See *Noll Report*, at 13-15; and *Noll Deposition*, 38:19-39:4, 43:12-44:1, 44:13-23.

- Device prices would have been higher than Professor Noll assumes (because e-book sales would have been less profitable than in the actual world and therefore retailers would have had less incentive to sell devices below cost).

45. The extent of the reduction in device prices that took place after the introduction of the iPad both required and was the result of an increase in e-book prices. The entry of Apple not only increased competition in the e-book/e-reader market, but also fundamentally changed Amazon's and other retailers' economic incentives. Following Apple's iPad entry, retailers had an incentive to reduce device prices (to compete with Apple's new product) and instead try to earn profits on the device's complementary product: content sales. And the mechanism to make money on content sales, of course, would be by higher e-book prices, even in the absence of the alleged collusion.

46. At the same time, the higher e-book margins due to agency contracts created an incentive to reduce device prices (which, ignoring the impact of higher e-book prices, also benefitted consumers) and helped to expand e-book libraries on multiple electronic platforms (also to the benefit of consumers). It is incorrect to assume the dramatic reduction in device prices observed in the actual world would have occurred in the same magnitude in the but-for world if Amazon and other retailers could not recover at least some of the losses through earning higher margins on the sale of e-books. Such an assumption is contrary to economic logic and unsupported by the evidence in this case and Professor Noll's own testimony.

47. Another perspective on this same point is that the increase in e-book margins under agency contracts had a number of effects:

- it incentivized Amazon to lower its prices for devices and invest more in its Kindle business (in order to attract more customers to the Kindle platform, while earning positive margins on content);
- it allowed Barnes & Noble and other retailers to stay in business and invest in new devices; and
- it enabled Apple's introduction of the iBookstore with the launch of the iPad.

48. Professor Noll completely ignores these effects in his analysis, which means he dramatically overstates damages. When asked in deposition whether he had analyzed these aspects of the but-for world, Professor Noll simply responded that he did not, because the Court had rejected any possibility of procompetitive effects from the conspiracy.[73] From an economic perspective, conduct

[73] See *Noll Deposition*, 20:23-21:21, 208:11-22. See also *Noll Deposition*, 53:13-25, 57:17-58:8, and 77:1-14. Professor Noll appears to point to the Court's statement regarding the absence of procompetitive effects from the introduction of the iPad, the iBookstore, and other market changes. (See *Noll Report*, at 13-14, citing *Opinion and Order*, at 121.) In its analysis of procompetitive effects, the Court did not discuss any effects on e-reader prices and the interconnection with e-book prices. (*Opinion and Order*, at 121-122, 155-158.) Moreover, the Court also stated, for example, that Apple was not willing to introduce the iBookstore if it could not make money on it, and that Amazon's introduction of the 70-percent royalty option for self-publishing authors was in response to publishers moving to agency agreements with Apple. (See *Opinion and Order*, at 31, 68-69.)

can be found to be anticompetitive to the extent that the procompetitive effects do not outweigh its anticompetitive effects. Nonetheless, to compute accurately damages suffered by Plaintiffs, it is necessary to consider whether the harm to consumers could have been partially offset by procompetitive effects. Professor Noll failed to do so. I present abundant evidence in this Section and Section VII that benefits to consumers from Apple's conduct at least partially offset the increase in content prices. Although it is difficult to quantify some of these effects, ignoring them entirely – as Professor Noll did – presents a misleading and inaccurate picture of the net economic impact of the challenged conduct.

49. Second, Professor Noll ignores that e-books and e-readers are consumed in combination and their prices are interconnected. Such is true both from the consumers' perspective and the retailers' perspective.[74] It thus makes no economic sense to analyze the impact of Apple's conduct on e-book prices in isolation. Prices on one side of the market inevitably affect incentives and prices on the other side of the inextricably linked market. Professor Noll's incorrect assumption leads him to an incomplete damages calculation that ignores the impact of the alleged conspiracy on e-reader prices.

A. Amazon's *pre-conduct* business strategy: [redacted]

50. [redacted][75] [redacted][76] [redacted]

---

74 From the consumers' perspective, Professor Noll admits that a change in the price of one component affects the demand of the other component (*Noll Report*, at 13-15), which in turn would affect the price of the second component. From the retailers' perspective, the economic literature is also clear that a company setting the price on one component (e.g., an e-reader) would respond to an exogenous change in the price of the complementary component (e.g., e-books). For example, when the profit margin for e-books is high, retailers have the incentive to lower prices for e-readers in order to increase e-book sales.

75 [redacted] (AMZN-TXCID-0019428-42, at 32.) In what follows, I include Amazon's profits from the sale of accessories in the calculation of device profits and profit margins.

76 [redacted]

[redacted][7]

51. [redacted]"[79] [redacted] the government's claim that "[f]rom the time of its launch, Amazon's e-book distribution business has been consistently profitable, even when substantially discounting some newly released and bestselling titles."[80]

52. [redacted]

> I participated in the decision to establish Amazon's price for the Kindle version of most current *New York Times* best sellers and some other new releases at $9.99. In many cases early on, $9.99 was a breakeven price… In any event, having some titles as loss leaders is quite common in both book-selling and retailing generally.[81]

53. [redacted][2]

---

77 [redacted] (See *Kindle 2011 OP1*, at 24.) Unless noted, I use the terms profit, profit margins, and gains/losses to refer to the short-term measure of profitability from accounting statements, which is based on revenues minus a measure of variable costs. These measures (gross profits or contribution profits), however, typically exclude other operating expenses and fixed costs, which are relevant in assessing whether a company has the incentive to make additional investments in the business. In addition, these measures of profitability do not include certain capital costs and other costs and revenues in the same way they would be included in a calculation of economic profits. [redacted]

78 See Deposition of Russell Grandinetti (Amazon), January 28, 2013 (hereinafter, *Grandinetti Deposition (Amazon)*), 53:6-10.

79 *Grandinetti Deposition (Amazon)*, 51:19-20.

80 Complaint, *United States v. Apple Inc. et al.*, No. 12-cv-02826-DLC (S.D.N.Y. April 11, 2012), ¶30.

81 Direct Testimony of Russell C. Grandinetti (Amazon) (hereinafter, *Grandinetti Testimony (Amazon)*) , ¶25.

82 Kindle 2009 OP1 Review, October 6, 2008, AMZN-D-00000024-35 (hereinafter, *Kindle 2009 OP1*), at 29.

[redacted]3, 84

B. Amazon's *post-conduct* business strategy in the actual world:

[redacted]

54. Amazon's business fundamentally changed in 2010 as a result of increased competition from the new and innovative iPad and the new agency contracts with publishers. Amazon responded by cutting its device prices substantially [redacted] But after the move to agency contracts with the Publisher Defendants, Amazon's retail prices on certain e-books increased [redacted].[85] [redacted]0.[86] [redacted][87]

55. [redacted][8]

---

83 *Kindle 2009 OP1*, at 30 (*emphasis added*).

84 Third-party analysts also understood that Amazon set low prices for e-books in order to sell more Kindle devices. See, e.g., Motoko Rich and Brad Stone, "Publisher Wins Fight With Amazon Over E-Books," *The New York Times*, January 31, 2010.

85 Not all of the growth in Amazon's margins on e-books can be attributed to higher prices on certain e-book titles. Amazon also benefited from lower per-unit payments to agency publishers. (See, e.g., *Noll Deposition*, 161:23-162:7.)

86 Note that Amazon has not produced actual figures for the entire year. The only produced document projects 2010 figures as of October 2010. See *Kindle 2011 OP1*, at 24.

87 See *Kindle 2011 OP1*, at 24. [redacted]

88 See Declaration of John Lange in Support of Motion to Quash or Modify Subpoena Duces Tecum, *In Re Amazon.com*, No. 12-mc-00351-P1 (S.D.N.Y. October 5, 2012) (hereinafter, *Lange Declaration (Amazon)*). As discussed below, third-party "teardown" analyses show that Amazon continued to sell e-readers at or below cost after 2010. See n. 158.

[redacted][89]

Figure VI-1: Amazon Contribution Profits on Kindle (2009-2010)

[redacted]

56. [redacted] In June 2010, Amazon reduced the price of its Kindle device by 27 percent, from $259 to $189. In August 2010, it introduced a new Kindle at an even lower price.[90] Later, in September 2011, Amazon further reduced the price of the Kindle by 42 percent, to $109.[91] Competition from Apple and Amazon also

89 Data on contribution margins for print books are only available for 2007 to 2009. See AMZN-TXCID-0000799-832, at 800; and AMZN-TXCID-0000771-98, at 87.

90 In July 2010, Amazon announced the third-generation Kindle. (See Nicholas Kolakowski, "Amazon Kindle Features Hint at Future Direction," *eWeek*, July 29, 2010.)

91 Amazon had not implemented price reductions of this magnitude before the introduction of the iPad. Amazon had reduced the Kindle price by 10 percent in May 2008, by 17 percent in July 2009, and by 13 percent in October 2009. (See backup file "Device Prices.xlsx.")

induced Barnes & Noble and Sony to reduce their device prices. In June 2010, Barnes & Noble reduced the price of the Nook device by 23 percent (from $259 to $199) and introduced a new device at a lower price.[92] Soon after, Sony reduced prices of its e-readers by 12-15 percent.[93]

57. The increase in competition to sell e-reader devices led to a reduction in device prices that outpaced the decline in manufacturing costs for electronic devices.[94] Consumers benefited not only because retailers passed on to consumers the reduced manufacturing costs of the devices, but also because retailers reduced their profit margins on the devices. The price cuts on devices were seen by industry analysts as a "fundamental change" in Amazon's and Barnes & Noble's business strategy. For example, one analyst wrote:

> Barnes & Noble on Monday slashed nearly $60 off the $199 prices of Nook eBook reader. Hours later, Amazon dropped the retail price on the Kindle eBook reader to $189, down from $259. Not coincidentally, Apple launched its iBook application, making the free reader software available on the iPad, iPhone and iPod… With zero profits on their hardware, both these companies now hope to make their money in this market through the sale of ebooks. This is the same 'razor/razor blade' business model successfully employed in the video game console business, where the hardware is sold at a loss and profits are made on sales of content.[95]

58. Apple's iPad entry changed the economic incentives of rival retailers and prompted a competitive response by Amazon [redacted] This conclusion is confirmed by contemporaneous industry analysts. For example, according to a report by Goldman Sachs, "For AMZN, we believe Kindle sales matter less than e-book sales and e-book market share.[96] A *Wall*

---

92 Brad Stone, "In Price War, E-Readers Go Below $200," *The New York Times*, June 21, 2010.

93 Nicholas Kolakowski, "Sony Follows Amazon, Slashes E-Reader Prices," *eWeek*, July 6, 2010.

94 "Prices of e-readers have fallen faster and further than anyone expected." (Jeffry Bartash, "Price war, iPad rapidly reshaping young e-book market; Analysis: Amazon, Barnes & Noble might lose profits, but gain market power," *Market Watch*, July 1, 2010.) See also William Kidd, "iPad Spurs eBook Reader Price War," *iSuppli*, June 23, 2010; and Brad Stone, "In Price War, E-Readers Go Below $200," *The New York Times*, June 21, 2010.

95 William Kidd, "iPad Spurs eBook Reader Price War," *iSuppli*, June 23, 2010. See also Brad Stone, "In Price War, E-Readers Go Below $200," *The New York Times*, June 21, 2010. I should note that in June 2010 Barnes & Noble reduced the price of the Nook e-reader by $60 off the $259 price, which resulted in a price of $199. The iSuppli article quoted here incorrectly reports the price reduction from a starting price of $199.

96 Goldman Sachs, "Americas: Retail – E-reader price cuts signify iPad pressure (bad) and scale (good)," June 21, 2010, PEN-LIT-00188802-06, at 02.

Street Journal article concluded, "A price war for low-end e-readers could force Barnes & Noble and Amazon to rely more heavily on their profit from selling e-books… 'Booksellers are actually making money off of e-books now'."[97] Other industry analysts reached similar conclusions:

> The cuts are so deep, market-research firm iSuppli calculates, that the cost of making the e-readers is virtually equal to their price. The result: Amazon and B&N can't make money on the sale of devices, so profits will have to come from the sale of digitized books and other content.[98]
>
> Given that Amazon sells its Kindle Fire tablet for $199, one could easily presume that the company is not making much money out of its otherwise well-selling device. After all, once the guys at iSuppli gave it the teardown treatment, it became evident that the actual cost of its components exceeds its retail price by a few bucks. However, you might be surprised by the amount of revenue the Kindle Fire is likely to bring straight into Amazon's pockets.[99]

C. But-for world: a change in business strategy at Amazon and other retailers would have also occurred absent the alleged conspiracy

59. A change in business strategy at Amazon and other retailers would necessarily have occurred absent the alleged conspiracy. Such a conclusion is clear from the fact that even in the but-for world Apple still would have introduced the iPad, which would necessarily have changed retailers' incentives. In particular, the entry of a new competing device created a greater incentive for retailers to make money on content rather than devices. Professor Noll acknowledges this relationship between the prices of content and devices but ignores this fundamental fact in his analysis of e-book prices.[100] As a result, he incorrectly assumes that in the but-for world e-book retailers would have reduced device prices without any increase in content prices (relative to the pre-conduct period). By ignoring the interconnected nature of prices of content and devices, Professor Noll's proposed model systematically and substantially overstates the damages suffered by consumers.

60. [redacted]

---

97 Geoffrey A. Fowler, "Price Cuts Electrify E-Reader Market," *The Wall Street Journal*, June 22, 2010.

98 Jeffry Bartash, "Price war, iPad rapidly reshaping young e-book market; Analysis: Amazon, Barnes & Noble might lose profits, but gain market power," *Market Watch*, July 1, 2010.

99 PhoneArena, "Amazon will rake in $136 additional revenue from each Kindle Fire sold, claims study," January 19, 2012 (*emphasis omitted*).

100 Moreover, Professor Noll did not consider the documents produced in this case related to device prices and retailers' profit margins on content and devices. See *Noll Deposition*, 76:20-77:6, 82:15-22. See also *Noll Report*, Appendix B.

[redacted].[101] First, by selling e-books at (or below) cost that could then be read using the iPad, Amazon risked making the iPad more attractive to consumers, thereby cannibalizing sales of Kindle devices while not generating positive margins on content. Professor Noll recognized this logic in his report, but failed to consider its implications for Amazon's pricing incentives.[102] Second, and relatedly, for those consumers who would buy an iPad anyway, the only way Amazon could make money on them would be through setting prices such that it earned positive margins on e-book sales.

61. [redacted]

03

04

105

62. Testimony from Amazon's Vice President for Kindle, Mr. Grandinetti, summarizes the new business environment:[106]

> *We have a healthy business selling Kindle books to people who don't own a hardware device that we built, and we like that*.

63. Economics textbooks analyze the relationship between prices for content and devices in the context of complementary goods and bundled sales.[107] When consumers purchase complementary goods from the same seller (for example, when IBM computer customers purchased IBM punch cards), the seller can collect profits from the basic device (the computer), the complementary content (the punch cards), or both. Depending on the business environment (i.e., consumer demand,

---

101 Plaintiffs' experts agree that Amazon would have released the Kindle App for iPad, which allowed customers to read Kindle e-books on the iPad regardless of whether they owned a Kindle device. See Direct Testimony of Jonathan B. Baker, Ph.D., April 25, 2013 (hereinafter, *Baker Testimony*), ¶136; and Direct Testimony of Richard J. Gilbert, Ph.D., April 25, 2013 (hereinafter, *Gilbert Testimony*), ¶27, 255-258.

102 *Noll Report* at 14 ("The decision by a consumer to buy an electronic device that can be used as an e-reader is based on the expected net benefit of the device. Higher prices for e-books are like a tax on e-reading that reduces the value of an e-reader as well as the net value of e-books.")

103 Kindle eBook Monthly Business Review, October 2010, AMZN-DOJ-000302-67, at 04 [redacted]

104 See *Kindle 2011 OP1*, at 26.

105 [redacted]

106 *Grandinetti Testimony*, ¶18.

107 See, e.g., Jean Tirole, 1988, *The Theory of Industrial Organization*, The MIT Press, pp. 143-148.

competition, and production costs), a company may find it profitable to sell the device or the complementary good at or below cost. When consumers are homogeneous in their demands, a profit-maximizing monopolist would tend to sell the content at cost and collect profits through the sale of the device.[108] [redacted]

64. [redacted][109] Once Apple entered the device market, consumers could buy an iPad and read Amazon's low-priced e-books with the Kindle App. As a result, Amazon's incentives changed and it had a greater incentive to earn positive margins on content purchases from these customers.

65. There are many examples from other industries in which, in the presence of competition, companies attract customers by offering a device at or below cost and then make money on complementary goods. The standard razors-and-blades model is one such example.[110] Similarly, wireless companies heavily subsidize the price of the handset device and recover that loss through annual or multi-year service contracts.[111] Google follows a similar model with its Android system software. It provides the software for Android tablets for free and makes money on applications and media sold through its Google Play marketplace.[112] Videogame platforms subsidize game consoles and make money on the games sold.[113]

66. Examples from other industries also show how the price structure can change under different market conditions and the presence of new competitors. A clear example of the transition between sources of revenue is the broadcast TV industry.[114] Broadcast TV networks had traditionally

---

108 See Jean Tirole, 1988, *The Theory of Industrial Organization*, The MIT Press, p. 145.

109 See, e.g., Randal C. Picker, 2011, "The Razors-and-Blades Myth(s)," *The University of Chicago Law Review*, 78, 225-255, at 228.

110 See, e.g., Randal C. Picker, 2011, "The Razors-and-Blades Myth(s)," *The University of Chicago Law Review*, 78, 225-255, at 225: "Large chunks of modern technological life-from VCRs and DVD players to video game systems like the Xbox and now e-book readers-seem to operate subject to the same dynamics of razors-and-blades."

111 "Amazon makes its money not on Kindle hardware, but on the paid content and other products it plans to sell the consumer through the Kindle. This is a similar business model to wireless companies such as AT&T or Verizon. They sell you a phone that costs them $400 to $600 or more to make for a price of only $200. However, they expect to more than make up for that loss with a two-year service contract." (Andrew Rassweiler, "Amazon Kindle Fire Costs $201.70 to Manufacture," *iSuppli*, November 18, 2011.)

112 BBC News, "Kindle Fire HD and Paperwhite sales Make Amazon no profit," October 11, 2012.

113 Robin S. Lee, 2013, "Vertical Integration and Exclusivity in Platform and Two-Sided Markets," *The American Economic Review, forthcoming*, p. 7.

114 See Michael L. Katz, Jonathan Orszag, and Theresa Sullivan, "An Economic Analysis of Consumer Harm from the Current Retransmission Consent Regime," *Study Commissioned by the National Cable &*

depended on advertising revenues from having a large audience on broadcast affiliates and cable systems. After broadcasters suffered a decline in advertising revenue, they pushed for higher retransmission fees (i.e., per-subscriber fees to retransmit the broadcaster's signal) from cable operators. In order to continue producing the same quality of programming, broadcasters had to replace advertising revenue with retransmission fees. (Like a balloon, if pushed on one end, it will need to expand on the other end.)

67. Absent the agency agreements, such a change in business strategy would have been necessitated by the increased competition among devices. Amazon's CEO Jeff Bezos would later summarize Amazon's new business strategy, "[w]e want to make money when people use our devices, not when they buy our devices."[115] Amazon's CEO further explained why it made economic sense to sell low-priced devices, "What we find is that when people buy a Kindle they read four times as much as they did before they bought the Kindle. But they don't stop buying paper books. Kindle owners read four times as much, but they continue to buy both types of books."[116] Third-party analysts also highlighted Amazon's new incentive to make money on content rather than on devices.[117]

68. The evidence also shows that Amazon's model was under pressure in the pre-agency contract period [redacted][118][redacted][119]

69. [redacted]

Telecommunications Association, DIRECTV, and DISH Network, November 12, 2009; Aaron Bartell and Dana Frix, "Time Warner Cable and CBS: Anatomy of a Retransmission Dispute," *TMT Perspectives*, August 5, 2013; Mike Farrell, "Study: Retrans Fees Boost B'cast Revenue," *Multichannel News*, January 5, 2009; and PRWeb, "SNL Kagan Projects Growth in TV Station Ad Revenue in 2010," August 19, 2009.

115 Therese Poletti, "How Amazon really declared war on Apple; Commentary: Bezos says he's aligned with the customer," *Market Watch*, September 11, 2012.

116 BBC News, "Kindle Fire HD and Paperwhite sales make Amazon no profit," October 11, 2012.

117 See, e.g., Goldman Sachs, "Americas: Retail – E-reader price cuts signify iPad pressure (bad) and scale (good)," June 21, 2010, PEN-LIT-00188802-06, at 2: "For AMZN, we believe Kindle sales matter less than e-book sales and e-book market share. Amazon possesses 15% share of US physical book sales and we believe it can retain about 30% share of US e-book sales even if dedicated e-readers disappear because some Apple users, and many non-Apple users, may buy e-books from Amazon." See also n. 95 and 98.

118 AMZN-TXCID-0002410-13, at 12-13. See also AMZN-TXCID-0005308-22, at 16. [redacted] See *Kindle 2009 OP1*, at 25.

119 See MCMLN-LIT-00106678-81, at 79; RH-USDOJ-00040780-81, at 80; AMZN-TXCID-0005308-22, at 16; and PEN-LIT-00172856. See also *Grandinetti Deposition (Amazon)*, 254:6-13.

[redacted][20]

70. There was also pressure from publishers to change the relationship with Amazon.[121] Publishers were particularly troubled by Amazon's $9.99 price for new releases and bestsellers. They feared that Amazon's discount pricing strategy would have negative short-term and long-term effects for the publishing industry.[122] Although publishers had not been successful before the move to agency in changing Amazon's discounting strategy for new releases and bestsellers, the evidence shows that some publishers were considering several strategies to discourage Amazon from selling e-books below their acquisition cost, including "windowing" certain titles and raising the wholesale price paid by Amazon.[123] In late 2008 and early 2009, some publishers began to increase digital list prices ("DLPs") for their e-books to match the list prices for print books.[124] Since Amazon and other retailers typically pay the publisher roughly half the DLP, the increase in the DLP results in a higher wholesale price for Amazon. Even Random House, which had not moved to agency with the Publisher Defendants, eventually found that Amazon's model was not sustainable vis-à-vis other retailers and signed agency agreements with Amazon, Apple, and Barnes & Noble during the first quarter of 2011.[125]

71. Amazon documents also show that the proliferation of competitive products could require a change in business strategy.[126]

72. Third-party analysts also understood that the proliferation of competitive products and the pressure from publishers could require Amazon to change its business strategy. Lazard Capital Markets wrote that, "we believe that Amazon ultimately needs to transition from hardware as a profit center to

---

[120] AMZN-TXCID-0018298-302, at 299.

[121] See, e.g., *Trial Transcript*, John Sargent (Macmillan), June 10, 2013, at 1138:4-12.

[122] See, e.g., Brad Stone, 2013, *The Everything Store: Jeff Bezos and the Age of Amazon*, Little, Brown and Company, p. 279.

[123] See, e.g., Declaration of John Sargent (Macmillan), April 26, 2013, ¶¶16-17. Windowing refers to the practice of delaying the release, or "withholding," the e-book versions of new releases.

[124] See, e.g., Direct Testimony of Laura Porco (Amazon), ¶9; Direct Testimony of David Naggar (Amazon), April 23, 2013 (hereinafter, *Naggar Testimony (Amazon)*), ¶14; Deposition of Dennis Eulau (Simon & Schuster), Vol. 1, January 11, 2011, 105:11-21; Deposition of Brian Murray (HarperCollins), Vol. 1, August 25, 2010, 144:22-147:21. See also Jeffrey A. Trachtenberg and Geoffrey A. Fowler, "Publisher Delays E-Book Amid Debate on Pricing," *The Wall Street Journal*, July 13, 2009. Simon & Schuster's publishing arm began setting its own prices on nearly 5,000 e-books sold by Scribd, a website that allows people to post and read documents online.

[125] Declaration of Madeline McIntosh (Random House), April 25, 2013, ¶¶23-29.

[126] See Kindle 2010 OP1 report, October 30, 2009, AMZN-TXCID-0019428-42, at 36.

content as a source of profits."[127] Another investment bank concluded that, "[i]n our projections, we assume that the weighted average retail price per eBook increases at a 5.3% compound annual rate from 2009-2014, as it appears to us that book publishers are becoming increasingly uncomfortable with Amazon's low retail price on Kindle books (e.g., fear of devaluing book content)."[128]

73. [redacted] was highlighted by Amazon's CEO in an interview:

> *People don't want gadgets, they want services.*[129]

74. Amazon's executives have also testified that the pricing strategy on e-books was "no different" than Amazon's pricing strategy on print books.[130] [redacted][131]

---

127 Lazard Capital Markets, "Rise of the e-reader and Apple's tablet – impact on Amazon and Semiconductors," January 25, 2010, at AMZN-MDL-0153831-55, at 40. In order to make profits on content, the report mentions that one or more of the following changes must occur: (i) increase the average selling price for e-books, (ii) lower wholesale prices from publishers; and (iii) increase the mix of self-published titles.

128 Credit Suisse "Amazon.com Inc. Everything you need to know about the Kindle; 2Q2009 Preview," July 20, 2009, SS-MDL-000032558-99, at 78.

129 Bloomberg Businessweek, "As the Kindle Turns Five, Amazon Girds for a New Fight," November 26, 2012 (*emphasis added*). "On Nov. 15, Amazon also began shipping its newest Kindle tablets, including the Wi-Fi version of the Kindle Fire HD 8.9-inch, which sports an iPad-like screen. At $299 for the 16 GB model, it's cheaper than comparable tablets from Apple and Google and funnels customers into the universe of Amazon digital content, likely converting them into more voracious online shoppers as well." (*Id.*)

130 "Amazon's pricing strategy was highly sustainable and, quite frankly, no different than the Amazon print book pricing model…" *Naggar Testimony (Amazon)*, ¶11; [redacted]

131 See AMZN-TXCID-0000799-832, at 800; and AMZN-TXCID-0000771-98, at 87. [redacted] See, e.g., AMZN-TXCID-0000799-832, at 826.

[redacted][32][redacted][133, 134].

75. The evidence presented in this section makes clear that a change in business strategy at Amazon would have occurred as a result of the introduction of the iPad, regardless of whether Apple had agency agreements and whether or not it introduced the iBookstore. As discussed below, in the absence of agency agreements, Apple would have likely launched the iPad without introducing the iBookstore. Since the introduction of the iBookstore created a competing platform for Amazon and other e-book retailers, it is possible that in the actual world consumers benefited from additional competition on device prices that may not have occurred in a but-for world without the iBookstore. However, the introduction of the iPad as a reading device, by itself, required a change in business strategy for Amazon because it was no longer optimal to sell e-books at (or below) cost when a large share of customers could read them on competing devices.

D. As complementary products, e-book and e-reader prices are related: Allegedly collusive price increase in e-books had the effect of reducing device prices

76. The evidence in the previous section shows that, but-for the alleged conspiracy, e-book prices would have been higher than Professor Noll claims. However, to the extent that Amazon and other e-book retailers would not have changed their content pricing strategies and increased e-book prices immediately after the introduction of the iPad, they would not have had an economic incentive to reduce device prices as much as they did in the actual world. In the actual world, the higher margins on e-books under the agency agreements gave retailers an additional incentive to lower devices prices in order to attract even more customers to their platforms.[135]

77. The economic literature is consistent with the market dynamics I describe here. A company setting the price of a device, such as an e-reader, would respond to an exogenous increase in the price of complementary content, such as e-books, by reducing the price of the device. In pricing digital

---

[132] *Id.* See also AMZN-TXCID-0009369-92, at 69: [redacted]

[133] *Naggar Testimony (Amazon),* ¶11: "[the print book pricing model,] which has always included some loss leaders, was and is sustainable [redacted] "

[134] One commentator related Amazon's e-book strategy to its strategy in the diapers line of business, in which Amazon "competed to lower diaper prices; then it acquired the smaller business; then it raised prices." See Ken Auletta, "Paper Trail: Did Publishers and Apple Collude Against Amazon?" *The New Yorker*, June 25, 2012, p. 6: "The pressure from stockholders to increase profits will only grow, and, like conventional publishers, Amazon may want to make more money on its best-selling books."

[135] In other words, if e-book prices in the but-for world would have been higher than Professor Noll claims, but lower than they were in the actual world, Amazon and other retailers would not have had as strong an economic incentive to reduce device prices as they had in the actual world.

devices, companies take content prices (and competition) into consideration. When the profit margin on content increases, companies have an incentive to lower prices for digital devices in order to facilitate content sales.[136]

78. The antitrust literature also analyzes this relationship between prices of complementary goods in the context of price-fixing cartels. When a price-fixing agreement increases the price of one good, multiproduct retailers have a strong incentive to lower the price of the complementary good for consumers willing to buy both goods from the same retailer.[137] Competition on the complementary good will make the cartel less effective and reduce harm to consumers relative to the scenario in which retailers fix the price of a good that has no complements.

79. The evidence in this case shows that the higher margins on e-books post-agency facilitated the large price cuts on e-reader devices. [redacted][38]

[redacted][39]

80. A recently published book about Jeff Bezos and Amazon, based on hundreds of interviews with Amazon's executives and employees (and discussions with Bezos himself), reaches the same conclusion: the move to the agency model helped Amazon sustain the price reductions in Kindle devices.[140]

81 [redacted]

---

136 See, e.g., Aimin Yu, Yong Hu, and Ming Fan, 2011, "Pricing strategies for tied digital contents and devices," *Decisions Support Systems,* 51, 405-412.

137 Plaintiffs' expert Jonathan Baker describes the incentive of firms in a price-fixing conspiracy to sell the complementary good at below cost in order to drive demand of good for which the price has increased. See Jonathan B. Baker, 1989, "The Antitrust Analysis of Hospital Mergers and the Transformation of the Hospital Industry," *Law and Contemporary Problems*, 51:2, 93:164, at 135-136, and n. 201.

138 See, e.g., *Noll Deposition*, 161:23-162:7.

139 *Kindle 2011 OP1*, at 27 (*emphasis added*).

140 Brad Stone, 2013, *The Everything Store: Jeff Bezos and the Age of Amazon*, Little, Brown and Company, pp. 13 and 283.

Professor Noll neither considered the financial data produced by Amazon nor did he factor it into his analysis.[141] Consequently, he failed to consider all the relevant factors affecting consumers.

82. In summary, Professor Noll's damages analysis fails to capture a basic factor: He ignores that the device price reductions of the magnitude discussed in this Section could only have taken place if e-book retailers were earning positive margins on content. Professor Noll readily admits that (i) e-books and e-readers are complements; (ii) e-book and e-reader prices are related; and (iii) consumers care about what they pay for both—not just what they pay for one component.[142] It is therefore striking that when analyzing the effects of the alleged conspiracy on consumers, he restricts his attention to e-book prices and ignores any offsetting changes in device prices. Professor Noll argues that the conspiracy reduced consumer welfare because it increased e-book prices and reduced e-book sales. He further provides an estimate of the "dead-weight loss" in consumer welfare based solely on the change in e-book prices and quantities.[143] This estimate is an incomplete and unreliable measure of consumer injury because it ignores device prices (and quantities). In particular, if consumers paid less in total for the combination of device and e-books, their welfare is likely to increase. From a theoretical perspective, one may even observe that consumers purchase more e-books at higher prices (because they save more money on the device).

E. A quantification of the relationship between e-book and device prices shows that Professor Noll's model substantially overstates damages suffered by consumers

83. In this section, I quantify the benefit to consumers that Professor Noll ignores. The main challenge in quantifying this effect is separating the price reduction in devices that occurred as the result of increased competition (which would have reduced Amazon's overall profitability in the but-for world) from the changes in prices due to both Amazon's changed business strategy in response to Apple's introduction of the iPad *and* the drop in device prices resulting from the elevation in e-book prices due to the adoption of the allegedly collusive agency agreements. Professor Noll fails to undertake this necessary analysis in his damage estimate. He simply assumes that all of the change in e-book prices that occurred was the result of the alleged collusion (ignoring changes in Amazon's business strategy and device prices). Professor Noll's failure to consider these factors renders his damage analysis incomplete and incorrect.

---

141 See *Noll Deposition*, 76:20-77:6.

142 *Noll Deposition*, 40:20-41:11; 44:13-23; and 40:3-14.

143 *Noll Report*, at 12-13. Professor Noll does not include the dead-weight loss in his estimate of damages. (*Noll Deposition*, 99:9-20.) Professor Wickelgren stated that he did not estimate the dead-weight loss component because such an estimate would be almost certainly very small and difficult to calculate with any degree of certainty. (See *Wickelgren Declaration*, ¶13.)

84. [redacted][44]

85. [redacted] To see the implications of this, note that Professor Noll estimates that the harm to consumers from e-books sold by Publisher Defendants at Amazon was approximately $40 million in 2010 (as discussed in Section V, this estimate itself is overstated). [redacted] At the average e-book price, Professor Noll's estimated overcharge implies a consumer harm of approximately $2 per e-book [redacted][145]

144 Amazon has not produced data on profit margins for later periods. See *Lange Declaration (Amazon)*.

145 [redacted]

Table VI-1: Amazon's Contribution Profit on Content and Devices (2009-2010)

86. The data in Table VI-1 is sufficient to provide a reasonable estimate of the portion of the reduction in device prices that was related to the increase in e-book prices.

87. Note that Amazon's Vice President for Kindle, Mr. Grandinetti, testified that Amazon's goal was not to use sales of e-books to "subsidize" the Kindle device. Instead, Amazon's goal had been "to have both parts of the business sustainable in their own right."[146] Professor Noll and other Plaintiffs' experts argue that Amazon would not have changed its business strategy in the but-for world in April 2010 forward.[147] If Professor Noll is correct that Amazon's strategy in the but-for world would have continued to emphasize low e-books prices—not to "subsidize" the device, then it is reasonable to assume that Amazon would have reduced device prices in the presence of competition from the iPad, but it would not have sold the devices at a loss (i.e., devices would have been sustainable "in their own right"). Moreover, Professor Noll claims that Amazon would have been profitable in the but-for world,[148] yet his damages model assumes that Amazon would have lost money on devices and overall.

88

---

146 *Grandinetti Testimony (Amazon)*, ¶26.

147 *Noll Deposition*, 75:22-23: "I see no reason to believe that there would be a change in Amazon's pricing policy on April 1st." See also *Baker Testimony*, ¶114, and n. 43; and *Gilbert Testimony*, ¶64, and n. 25.

148 *Noll Deposition*, 75:25-76:15.

89.

90. Before netting out these consumer benefits, one must consider that Amazon captures profits from e-book sales over the useful life of the device, not just during a particular year. Documents from Amazon suggest that the average useful life of a reading device is approximately three years.[149] Professor Noll understands that customers use a Kindle or Nook device, on average, for only about 18 months.[150] While it would be reasonable to assume a useful life of two or three years, I make a conservative assumption to account for uncertainties related to the limited financial information available and other factors not included in this calculation. I assume that the useful life of the Kindle is four years (a shorter useful life reduces my estimate of damages).[151]

91 [152]

149 Amazon was also reported to have considered a three-year lifecycle for the Kindle. (See AMZN-MDL-0088298.)

150 *Noll Deposition*, 44:24-46:1. Professor Noll also stated that, from his experience in another case, consumers use a computer, on average, for about three years.

151 I reserve the right to revise my opinions and estimates in light of any new evidence that may emerge.

152

[redacted] Finally, Professor Noll's model is based on the assumption that in 2010 the agency model only raised prices for the five Publisher Defendants relative to a competitive benchmark.[154] The Publisher Defendants represent approximately [redacted] percent of Amazon's e-book revenue during this period [redacted]

Table VI-2: Offsetting Consumer Benefits from Device Prices

[redacted]

92. [redacted].[155, 156] Other factors suggest that the calculation in Table VI-2 is conservative.[157] Because the

---

[redacted] (See AMZN-TXCID-0007031-46, at 40, 46; AMZN-DOJ-002453-95 at 94; BN00530423-24; BN00530426; and BN00512546-62 at 48.)

153 To be conservative, I do not discount future e-book revenues. If one discounts future e-book revenues using Amazon's weighted average cost of capital ("WACC") (11.4 percent as of June 2010, based on Bloomberg data), the offsetting effect from devices increases by approximately two percentage points.

154 See *Noll Report*, at 6.

155 I also conducted a series of sensitivity checks to measure how changes in the main parameters of this model affect my calculation. I included in the sensitivity analyses further losses in profits from competition, a shorter useful life for the Kindle, a discount rate for future revenues, positive growth in e-book revenue, and additional revenues from physical books or unrelated content. In all cases, the resulting offset ranged between nine percent and 17 percent of Publisher Defendants' e-book prices. These calculations are provided in the backup to my report. I should note that it would not be surprising, as a matter of economic theory, if the consumer benefit from lower device prices fully offsets the allegedly collusive price increases for e-books. See Jonathan B. Baker, 1989, "The Antitrust Analysis of Hospital Mergers and the Transformation of the Hospital Industry," *Law and Contemporary Problems*, 51:2, 93:164, at 135-136, and n. 201. However, I am assuming, based on the Court's *Opinion and Order*, that this would not be the case.

financial data necessary for this calculation are only available [redacted] and limited to 2010, I apply this percentage offset to all retailers during the entire damages period. Third-party analyses show that Amazon and Barnes & Noble continued to sell devices at or below manufacturing cost after 2010.[158]

VII. Professor Noll ignores other offsetting effects from the move to agency

93. In his cursory examination of the e-book industry, Professor Noll ignores other effects that mitigated the impact of higher content prices for many consumers. In particular, Professor Noll admits that he did not conduct any analysis related to the availability of self-published titles, free e-books, and the increased supply of e-books from Apple's iBookstore and Barnes & Noble.[159] This section documents how Apple's entry facilitated the expansion of self-published titles and increased e-book offerings, including free e-books and paid e-books that may not have been purchased in the absence of Apple's iBookstore.

A. The growth in self-publishing would not have occurred to the same extent in the absence of Apple's agency agreements with publishers

94. The move to agency was followed by a substantial increase in self-published titles and sales. Professor Noll did not conduct any analysis of self-published titles or the extent to which the growth

---

156 The actual increase in e-book prices relative to Professor Noll's but-for prices would be larger than [redacted] percent. This is because the [redacted] percent figure from Table VI-2 is calculated as a percentage of actual prices. To be consistent with Professor Noll's convention, I report these figures as percentages of actual prices. See also n. 46.

157 [redacted]

158 See Jason Perlow, "The Coming eReader Apocalypse," *ZDNet*, December 21, 2012: "Clearly, both of these devices have reached a zero-margin or below manufacturing cost go to market price for both of these companies. Obviously, both companies [Amazon and Barnes & Noble] still have been able to justify selling them at that price point, by taking losses on the hardware and making money on the content;" and Andrew Rassweiler, "Amazon Kindle Fire Costs $201.70 to Manufacture," *iSuppli*, November 18, 2011: "The Kindle Fire, at a retail price point of $199, is sold at a loss by Amazon, just as the basic Kindle is also sold at a loss at the current $79 retail price point." See also Seth Fiegerman, "Exclusive: Amazon's $79 Kindle Costs $84 to Make," *The Street Network*, November 9, 2011; and PhoneArena, "Amazon will rake in $136 additional revenue from each Kindle Fire sold, claims study," January 19, 2012.

159 *Noll Deposition*, 106:5-24, 134:1-19, 136:1-5, 95:17-25.

in self-publishing was driven by increased competition to attract self-published authors such as Amazon's royalty-raising reaction to the publishers' move to agency and Apple's entry with an e-book platform open to self-publishers.[160] In a but-for world without agency agreements and no iBookstore, consumers would have had a more limited supply of self-published e-books (which tend to be priced at relatively lower levels).

95. Amazon introduced its self-publishing platform in 2007. Amazon initially offered self-publishing authors a 35 percent royalty on all e-books.[161] On January 20, 2010, Amazon announced a new royalty option under its Kindle Direct Publishing program by which self-publishing authors could receive a 70 percent royalty if they priced their e-books from $2.99 to $9.99.[162] Books priced below $2.99 or above $9.99 earned the standard royalty rate of 35 percent.[163] Amazon implemented this royalty structure on June 30, 2010.[164]

96. By May 2010, Apple announced its self-publishing program, which offered a 70 percent royalty to authors, regardless of the price the author charged.[165] Since the iBookstore terms were similar for publishers and self-publishers, Apple provided a convenient new outlet for self-publishers. In particular, Apple provided a more convenient outlet than Amazon for self-publishing authors who wished to offer their e-books for free.[166] Although Barnes & Noble's launched its self-publishing platform in October 2010, it offered slightly lower royalties for authors and did not become a

---

160 *Noll Deposition*, 57:11-58:18, 134:1-19, 135:14-22.

161 Deborah Solomon, "Questions for Jeffrey P. Bezos, Book Learning," *The New York Times*, December 6, 2009.

162 Jacqui Cheng, "Amazon hikes Kindle royalties to 70%, with a catch," *ArsTechnica*, January 20, 2010.

163 David Carnoy, "Amazon ups author royalty Kindle, matching Apple," *CNET*, January 20, 2010.

164 See AMZN-DOJ-002496-536, at 504.

165 Geoffrey A. Fowler and Jeffrey A. Trachtenberg, "'Vanity' Press Goes Digital," *The Wall Street Journal*, June 3, 2010.

166 The minimum price for self-published e-books on Amazon is $0.99. (See Kindle Direct Publishing Terms and Conditions, List Price Requirements, available at https://kdp.amazon.com/self-publishing/help?topicId=A301WJ6XCJ8KW0.) A self-publishing author can only offer an e-book for free (and for only 5 days) if she becomes a member of Kindle Direct Publishing Select ("KDP Select"), which requires the e-book to be exclusively available at Amazon for a minimum of 90 days. In some cases, Amazon would match the price at zero if the e-book is not part of KDP Select but is available for free on another retailer. (See, e.g., Eric Griffith, "How To Self-Publish Your Novel on the Amazon Kindle," *PCMag*, October 1, 2012.) [redacted] ee backup files "Free e-books (April 2010).xlsx" and "Free e-books (April 2011).xlsx".)

significant competitor to Amazon's self-publishing platform.[167] Competition for self-published e-books was centered around Amazon's and Apple's platforms.

97. Figure VII-1 shows the growth in self-published e-books as a percentage of the total e-books sold by each retailer.[168] [redacted]

98. In claiming that the change in Amazon's royalties for self-publishing are not relevant for his model,[169] Professor Noll ignores the Court's finding that Amazon's decision to increase the royalty for self-publishers was in response to information Amazon had received that most of the publishers were likely to enter agency agreements with Apple.[170] Just two days after receiving confirmation that publishers were likely to enter agency agreements with Apple, Amazon announced the new 70-percent royalty option for self-published e-books. Third-party accounts also interpreted Amazon's intensified focus on its self-publishing platform as a reaction to the publishers' moving to the agency model.[171]

---

167 Barnes & Noble offered a 65 percent royalty on e-books priced from $2.99 to $9.99, while e-books under $2.99 and over $9.99 received a 40 percent royalty. (See Jim Milliot, "B&N's PubIt Newest Self-Publishing Entrant," *Publishers Weekly*, October 11, 2010.)

168 Professor Noll's data do not distinguish self-published e-books from other non-Big 6 publishers. To identify self-published e-books, I first identified those e-books for which the author is the same as the publisher. (This first step follows Dr. Burtis' methodology; see Rebuttal Expert Report of Dr. Michelle Burtis, March 1, 2013, ¶18.) I then reviewed the publisher and imprint data fields and added e-books that appeared under known self-publishing platforms (e.g., Smashwords, Lulu.com). I excluded any e-books associated with the Big 6 publishers and reviewed the largest of these records to remove obvious errors. A review of the largest entities identified via this methodology suggests that it reasonably captures most of the self-published titles. Complete documentation is provided in my backup materials.

169 *Noll Deposition*, 58:13-18: "I have no idea what they would have adopted in the but-for world in terms of the specific contract form with independent publishers. The issue is not -- that I'm addressing is what the price would be of those books, not what the impact for the publisher would be."

170 *Opinion and Order,* at 68-69.

171 Brad Stone, 2013, *The Everything Store: Jeff Bezos and the Age of Amazon*, Little, Brown and Company, p. 283.

Figure VII-1: Shares of Self-Published E-Books at Each Retailer (June 2008 – March 2012)

99. Furthermore, under this new royalty option for self-published authors, Amazon adopted essentially the same royalty model that Apple used in its App Store (and would eventually offer in its iBookstore).[172] [redacted].[173] [redacted].”[174] Without the presence of Apple’s

[172] See, e.g., David Carnoy, “Amazon ups author royalty Kindle, matching Apple,” *CNET*, January 20, 2010: “That’s a big jump from its current 35 percent royalty rate and not coincidentally, the same number Apple doles out to developers who sell their apps in Apple’s App Store.”

[173] Kindle eBook Monthly Business Review, April 2010, AMZN-TXCID-0003759-98, at 66-67: [redacted]” See also Kindle eBook Monthly Business Review, May 2010, AMZN-DOJ-002453-95, at 62.

[174] Kindle eBook Monthly Business Review, April 2011, AMZN-MDL-0003711-58, at 25.

iBookstore, Amazon would have been the default platform for self-publishing content.[175] There would have been no need for Amazon [redacted] to increase author royalties, at least not to the same extent that it did at the time of Apple's entry. Third-party analysts also viewed Amazon's new royalty option as a response to the threat of Apple's entry to the e-book business.[176]

100. Although the move to agency resulted in lower unit payments for Publisher Defendants, the change in royalties at Amazon and Barnes & Noble, as well as the introduction of the iBookstore, dramatically increased compensation for self-publishing authors. Not surprisingly, this increased the supply of self-published titles (see Figure VII-1).[177] The increased royalties made self-publishing more attractive for authors relative to the traditional model from publishing houses. This is because authors typically receive from publishers between 7 percent and 15 percent of the list price of physical books and around 25 percent of the net price that publishers receive for digital books.[178] For example, for an e-book priced at $9.99, an author would receive $3.50 under Amazon's old model, $6.99 under Amazon's (and Apple's) new model, and approximately $2.50 from traditional publishers.

101. It is undeniable that the introduction of Apple's iBookstore with the launch of the iPad contributed to expand the supply of self-published titles, and that Amazon's dramatic increase in royalties for self-published authors was, in large part, a reaction to the move to agency contracts.

---

175 [redacted] In addition, as discussed below, without agency agreements, Barnes & Noble likely would have exited or downsized its e-book business.

176 See, e.g., Jacqui Cheng, "Amazon hikes Kindle Royalties to 70%, with a catch," *ArsTechnica*, January 20, 2010: "The decision to offer such an appealing royalty system comes just a week before the expected launch of an Apple tablet, which some believe may aim directly at the Kindle with its own e-book distribution system;" and Matthew Shaer, "New Amazon royalty terms could be tied to release of Apple Tablet," *The Christian Science Monitor*, January 20, 2010: "Amazon announced today that it would raise royalty rates for authors and publishers using the Kindle Digital Text Platform, a self-publishing service. The move appears to coincide with the launch of the Apple Tablet, which many expect to become a major player in the e-book game… By reaching out to 'little guy' authors, Amazon is likely trying to lessen the damage of a full-frontal assault by Apple." See also Sarah Weinman, "Publishers Try to Protect E-Book Prices from Apple, Amazon," *InvestorCenter*, January 20, 2010.

177 See, e.g., Kindle eBook Monthly Business Review, June 2010, AMZN-DOJ-002496-536, at 504: [redacted]"

Kindle eBook Monthly Business Review, October 2010, AMZN-DOJ-000302-67, at 15: [redacted]

178 See Motoko Rich, "Amazon Increases Royalty Rate for Books on Its Kindle E-Reader," *The New York Times*, January 20, 2010; and Matthew Shaer, "New Amazon royalty terms could be tied to release of Apple Tablet," *The Christian Science Monitor*, January 20, 2010.

102. To illustrate the impact of the increase in self-publishing, I note that self-published titles accounted for 1.5 percent of paid unit sales of e-books in the year prior to April 1, 2010. In the post-agency period, self-published titles accounted for approximately 6.6 percent of unit sales. The entire growth in self-publishing may not be attributed to Apple's introduction of the iBookstore, which the evidence shows would not likely have been launched in the absence of the agency agreements (see Section VII.C). Moreover, the iPad would have been introduced regardless of the presence of agency agreements and the iPad was a compelling new device to display e-book content, including self-published content.

103. Nonetheless, Amazon's introduction of a more generous royalty for self-published titles (matching Apple's 70-30 agency split) and the option of self-publishing through the iBookstore certainly increased the number of self-published titles. To illustrate the consumer welfare benefits from the increase in self-publishing, I consider the impact on consumers if between 25 and 50 percent of the increment in the share of self-publishing is due to Apple's entry with the agency model. (I do not rule out an alternative percentage but for my illustrative purposes this range suffices.) I then adopt the elasticity of -1.01 calculated by Professor Ashenfelter to characterize the demand curve for e-books.[179] Using these assumptions, a welfare calculation suggests that the benefit to consumers from the increased supply of self-published e-books was approximately $15 million to $30 million.[180, 181] As noted, I provide this range only for illustrative purposes. However, it is worth noting that ignoring the consumer benefits from an increase in self-published titles between the but-for and actual worlds overstates damages – and may overstate damages by a significant amount.

B. The agency period was accompanied by an expansion in free e-book offerings

104. As explained in Section VI.D, the increased profitability of e-books under the agency agreements (from higher retail prices and lower wholesale prices to publishers on certain e-books) gave retailers the incentive to lower device prices. The same logic suggests that retailers would have the incentive to invest in their platforms by expanding the selection of free e-book titles. [redacted]

179 See *Ashenfelter Testimony*, ¶10.

180 To estimate the welfare gain, I assume a linear demand with an elasticity of minus one at the actual price (which is similar to the elasticity estimated by Professor Ashenfelter). The increased welfare to consumers is (1/elasticity) x P x ΔQ, where P is the average price of self-published e-books and ΔQ is the increase in self-published e-books estimated by the econometric model. This calculation is consistent with either a shift out in the demand curve generated by the greater selection of self-published titles, or by a shift out in the supply curve for self-published titles, which leads to a decrease in the price.

181 As noted above, Professor Noll's estimate of the loss in consumer welfare is incomplete because it ignores the impact of the agency model on devices. (See *Noll Report*, at 12-13.) My estimates of consumer welfare in this Section are in addition to the consumer benefits from changes in Amazon's business strategy and device prices estimated in Section VI.E.

[redacted][182] The logic is straightforward: Free e-books, much like low-priced devices, attract more customers to the Kindle platform and increase Amazon's profits on future sales of paid e-books.

105. The evidence in this case shows that Apple entered the market with a very large share of promoted e-books at a price of zero. Immediately after Apple's entry, Amazon and other retailers emphasized their own free e-book offerings. The increase in promotions of free e-books was in large part driven by the competitive threat from Apple's iBookstore, which the evidence shows would not likely have been launched in the but-for world (see Section VII.C).

106. Figure VII-2 shows that, when Apple entered the market, more than [redacted] percent of the e-books customers downloaded from the iBookstore were available for free. Although Apple had a relatively small share of the e-book industry [redacted] it dramatically expanded the supply of free e-books. During the first year after Apple's entry, customers downloaded from the iBookstor [redacted][183] In addition, under an agreement with Penguin, Apple purchased the e-book version of "Winnie the Pooh" and gave it away for free when iPad users clicked on the iBookstore icon.[184] (Apple's shares of free e-books in Figure VII-2 do not include downloads of "Winnie the Pooh".) Publishers could also offer e-books for free on the iBookstore.[185]

107. [redacted][186] In particular, it was more difficult for self-published authors to offer their e-books for free on the Kindle Store. In some cases, Amazon matched the price at zero if an e-book was offered for free at another retailer.[187] [redacted]

---

182 *Kindle 2011 OP1*, at 27.

183 [redacted]

184 See *Trial Transcript*, Eddy Cue (Apple), June 17, 2013, at 1919:16-21; and *Trial Transcript*, David Shanks (Penguin), June 4, 2013, at 422:7-20.

185 *Cue Declaration (Apple)*, ¶60.

186 The transaction data produced by Amazon and Apple for free titles do not always include the e-book identification number and publisher. (And Barnes & Noble did not produce data on free titles.) I examined the data available for April 2010 and April 2011 and analyzed whether the top titles available for free on Apple's iBookstore were also available (under the same or similar title) on the Kindle Store.

187 Eric Griffith, "How To Self-Publish Your Novel on the Amazon Kindle," *PCMag*, October 1, 2012.

Figure VII-2: Shares of Free e-Books as Percentage of Total e-Books Sales

108. [redacted][88] [redacted][89] Although the share of free e-books had been increasing over time, between March and April 2010, Amazon experienced a [redacted]

188 Kindle eBook Monthly Business Review, April 2011, AMZN-MDL-0003711-58, at 15: [redacted]

189 See AMZN-DOJ-001023-32, at 27: [redacted] See RH-MDL-00052068-70, at 69.)

percent growth in free e-book downloads.[190] [redacted] [91]

109. Other retailers also expanded their offers of free e-books. In July 2010, Barnes & Noble rolled out a new promotion offering a weekly list of approximately 10 classic e-books at no cost.[192] Borders Group, in partnership with Kobo, also announced a promotion of five free top-selling books valued at over $40 to anyone who downloaded Borders' app.[193] Google launched its e-bookstore in December 2010. Six months after its launch, Google had more than three million free e-books available on its e-bookstore.[194]

110. Professor Noll does not factor into his analysis of damages that some free e-books would not have been available or would not have been offered for free in a but-for world without agency agreements and without Apple's iBookstore.[195] To illustrate the potential impact of the increase in free e-books, note that the share of unit sales accounted for by free e-books increased from approximately 30 percent in the year prior to April 1, 2010, to approximately 53 percent in the post-agency period. If I assume that between 25 and 50 percent of the share increase is attributable to Apple's entry with the iBookstore and that consumers are willing to pay $0.50 for each of these free e-books, then I find that consumer welfare increased, all else equal, by $20 million to $41 million as a result of the increased supply of free e-books.[196] (The consumer benefit here equals the difference between a consumer's willingness to pay ($0.50) and the actual price ($0).) However, this calculation is for illustrative purposes only.

---

190 See Kindle eBook Monthly Business Review, April 2011, AMZN-MDL-0003711-58, at 15. [redacted] See AMZN-MDL-0154848-49, at 48.)

191 Kindle eBook Monthly Business Review, May 2010, AMZN-DOJ-002453-95, at 53, 55 [redacted]

192 Entertainment Close-Up, "Barnes & Noble Offers Weekly Series of Free Classic eBooks," July 22, 2010. Except for Amazon and Apple, other retailers did not provide comprehensive data on free e-books downloads.

193 As discussed above, some independent e-book retailers do not have a hardware or software platform of their own, but partner with another firm to provide reader support. Borders' promotion followed the launch of the Borders-branded e-Book store and the release of Borders' app for iPad and other devices, all powered by Kobo. (See Internet Business News, "Borders offers free books to customers downloading Borders application," July 9, 2010.)

194 Laurie Sullivan, "Google eBooks: A Digital Publishing ARM," *MediaPost.com*, May 25, 2011.

195 In fact, Professor Noll did not conduct any analysis related to the availability of free e-books. See *Noll Deposition*, 136:1-137:7.

196 [redacted] I conservatively assume an average willingness to pay of $0.50.

C. Professor Noll incorrectly includes in his damages model all e-book sales from Apple's iBookstore

111. Plaintiffs' and Defendant's experts in this case have assumed that, in the absence of agency agreements, Apple would have likely launched the iPad without introducing the iBookstore.[197] Although Apple would have allowed other retailers' e-book apps on the iPad, it would not have entered the e-book distribution business as a retailer.

112. The conclusion of the experts in this case is based on the unambiguous statements of Apple's executives that Apple would not have entered the e-book industry absent the agency agreements. Apple was only willing to enter the e-book industry if it could make a small profit. It was not possible to do that and match Amazon's pricing, given the wholesale prices publishers charged before agency and the fact that Amazon was setting the retail price of bestselling titles below cost.[198, 199] While the Kindle Store was essential to the success of the Kindle, the iBookstore was not critical to the success of the iPad because the iPad was a multiuse device. In addition, the iBookstore did not play the same role as the Kindle Store. The iBookstore was not used to the same extent as the Kindle Store to attract buyers to other products, such as those sold at Amazon.com.

113. Professor Noll's damages model assumes that all of Apple's sales of e-books would have occurred in the but-for world.[200] But such an assumption assumes that (a) either Apple would have introduced the iBookstore with the launch of the iPad or (b) if Apple did not introduce the iBookstore, that

---

197 See, e.g., *Baker Testimony*, at n. 165: "More specifically, in the 'but-for' world against which I evaluate harm to consumers, publishers would have wholesale model distribution contracts with retail outlets, … Apple would have launched the iPad without introducing the iBookstore." See also Deposition of Jonathan B. Baker, April 3, 2013, 225:22-226:17, 265:5-13; Rebuttal Report of Jonathan B. Baker, March 1, 2013, ¶43; *Gilbert Testimony*, ¶54; and Deposition of Richard J. Gilbert, April 10, 2013, 389:11-390:5.

See, e.g., Declaration of Professor Kevin M. Murphy, April 26, 2013, ¶¶16, 49, 54; Rebuttal Expert Report of Dr. Michelle Burtis, March 1, 2013, ¶25; Deposition of Benjamin Klein, March 26, 2013, 86:14-87:12, 146:16-25; and Expert Report of Professor Daniel L. Rubinfeld, ¶¶25, 150.

198 See *Cue Declaration (Apple)*, ¶¶13, 28, 41, 50-51; and Deposition of Keith Moerer, December 13, 2012, 40:1-22. See also *Cue Deposition (Apple)*, 40:10-43:17.

199 According to Apple's executives, with a 30-percent commission Apple generally makes a single-digit profit. (See *Cue Declaration (Apple)*, ¶13.) Based on Apple's 30 percent commission under the agency agreements, I estimate that Apple collected approximately [redacted] in commissions during the damages period. (See Appendix C, Figure C-4.) I also note that, contrary to Professor Noll's statement that Apple had a "guaranteed 30 percent margin" over the retail price, there are other costs associated with the sale of e-books, including the costs of developing and running the iBookstore. (See *Noll Report*, at 10-11.) [redacted] See *Kindle 2011 OP1*, at 24.)

200 *Noll Deposition*, 95:17-25. Professor Noll also stated in deposition that he made no assumptions on whether Apple would have introduced the iBookstore, other than what was stated in the *Opinion and Order*. See *Noll Deposition*, 53:13-17.

every sale made through the iBookstore in the actual world would have been made through an alternative retail channel in the but-for world.

114. Professor Noll admits that if this is not the case, some sales would be lost.[201] Professor Noll and I agree that not all Apple sales would be lost in the but-for world. Indeed, some Apple customers would have purchased the same e-books that they purchased through the iBookstore through either another device (e.g., the Kindle or a Nook) or an e-books app on the iPad. But there are certainly many customers who did not have another e-reader device (e.g., the Kindle or a Nook) and would not have downloaded the Kindle or Nook apps for the iPad.[202]

115. For such individuals, in the but-for world, they would not have purchased e-books at all without the iBookstore. Professor Noll has neither conducted an analysis of this factor nor has he even provided a methodology to assess the extent to which these customers would have purchased any e-books in the absence of the iBookstore. He admits that his damages estimates assumes an overcharge on 100 percent of Apple's e-book sales, which would overstate damages in the likely scenario that some of those sales would not have occurred in the but-for world.

116. Although it is difficult to estimate the exact share of e-book sales that would have occurred through other retailers in the absence of iBookstore, the following illustration shows that Professor Noll's methodology likely overstates damages associated with Apple's e-book sales.[203] Figure VII-3 shows that approximately [redacted] percent of Apple's customers purchased [redacted] e-books or less. These customers represent approximately [redacted] percent of iBookstore revenue. Survey data also show that between 60 and 67 percent of iPad owners do not have a Kindle device.[204] If I assume that [redacted] percent of Apple's e-book sales (60 percent of [redacted] may not have occurred in the but-for world,[205] Professor Noll's model would overstate damages by approximately $4 million (based on Apple's share of e-book sales). If one assumed that only those customers who purchased two e-books or less (and did not own a Kindle) would not have made any purchases in the but-for world,

---

201 *Noll Deposition*, 97:22-98:21.

202 There are a number of possible explanations for this phenomenon: For example, Apple promoted its iBookstore. For someone not particularly familiar with e-book retailers and not particularly tech savvy, they may have downloaded the product associated with the manufacturer of the device (i.e., the iBookstore), but not known about the Kindle or Nook apps.

203 This calculation and the calculation in Section VII.D are conservative because they do not take into account the gain in consumer welfare from the availability of additional e-books in the actual world. They only provide a measure of the damages erroneously included in Professor Noll's model for sales that would not have occurred in the but-for world.

204 See Book Industry Study Group, "Consumer Attitudes Toward E-Book Reading," Vol. 3, Report 2, April 2012, MCMLN-LIT-00321918-57, at 30-31.

205 [redacted]

the result would be $3 million. If one included customers who purchased less than 10 e-books, the result would be $8 million.[206]

Figure VII-3: Number of e-Book Purchases on Apple's iBookstore (April 2010 - April 2012)

D. Without a change in its business model, Barnes & Noble's existing e-book business would have been unsustainable

117. Professor Noll also assumes, incorrectly, that all of Barnes & Noble's e-book sales would have occurred in the but-for world.[207] The evidence in the record is clear that Barnes & Noble would not have been profitable and likely would have reduced its operations at the but-for prices proposed by Professor Noll. Indeed, the evidence shows that the increase in e-book prices under the agency agreements allowed Barnes & Noble to stay in business and continue to invest in new devices and other services.

---

206 Under the corrected version of Professor Noll's econometric model (see Section V.C.), the range would be approximately between $2 million and $6 million.

207 *Noll Deposition*, 98:22-99:8.

118. [redacted]"[208] When Barnes & Noble launched its e-book store (in July 2009, prior to the Nook's release) it attempted to price e-book titles at a premium. But it soon realized that it had to more closely match Amazon's prices to be competitive.[209] Barnes & Noble lowered prices on some e-books, but the result of this price-matching strategy was that it began to suffer "severe losses."[210] [redacted]

12

119. [redacted]

[213]

---

208 [redacted] Deposition of William Lynch (Barnes & Noble), June 23, 2011 (hereinafter *Lynch Deposition (Barnes & Noble)*), 168:9-11.) See also Declaration of Theresa Horner (Barnes & Noble), April 26, 2013 (hereinafter, *Horner Declaration (Barnes & Noble)*), ¶15: "we predicted that if we stayed on the same course we would continue to lose money at an unsustainable rate;" and Declaration of John Sargent (Macmillan), April 26, 2013, ¶12: "A Barnes & Noble executive told us that he felt that they had to match Amazon's $9.99 pricing on certain new releases and bestsellers, but they could not afford to continue losing money over an extended period of time. We thought that Barnes & Noble would eventually be forced to exit the e-books market if aggressive below-cost pricing continued."

209 [redacted] See also *Horner Declaration (Barnes & Noble)*, ¶¶13-14.

210 See *Horner Declaration (Barnes & Noble)*, ¶15. Barnes & Noble's shift to a price matching strategy in November 2009 [redacted] its overall margin on e-books from about [redacted] percent to [redacted] percent. BN00044959-62, at 59; and BN00044796-800. Gross margins on e-books continued to [redacted] and reached a [redacted] point in January 2010, with an overall [redacted] margin of [redacted] percent. (See BN00093250-81 at 70; and BN00120696-744 at 720.) Overall, before the agency agreements Barnes & Noble had an average gross margin on e-book content of [redacted] percent (before considering fixed costs). (See BN00120840 and BN00120841 (fiscal year 2010 refers to the period May 2009 to April 2010).)

211 *Lynch Deposition (Barnes & Noble)*, 88:12-89:15. In the last year before the agency agreements, Barnes & Noble had [redacted] gross margins on devices, of [redacted] percent for online sales and [redacted] percent for sales at retail stores. (See BN00118217-30 at 22-23 (online stores; calculated as device margin divided by device sales); and BN00111903-38 at 09 (retail stores).

212 See BN00118217-30 at 23. See also BN00120840, BN00120841. [redacted]

213 Barnes & Noble has not produced data on gross margins for the entire year. Data produced by Barnes & Noble show gross margins for e-books for May through November 2010. See BN00117468.

[redacted][214] [redacted] [215]

120. Without agency agreements, Barnes & Noble likely would have exited the e-book business [redacted][216] According to Barnes & Noble executives, absent the agency agreements, Barnes & Noble would have been unlikely to make the investments it made on its electronic bookstore and Nook devices and would not be operating anywhere near the scale it operated after the agency agreements.[217]

121. Professor Noll neither considered nor analyzed the financial data produced by Barnes & Noble.[218] He admits that retailers had to be profitable in order to stay in business.[219] Yet the implications of his model are clear, since he assumes that but-for the allegedly anticompetitive conduct, e-book prices would have been, on average, 19.9 percent lower. In such a case, Barnes & Noble would have continued to be unprofitable [redacted][220]

122. In fact, the main reason cited by Random House to move to agency was to maintain its relationship with Barnes & Noble, which was losing money on Random House titles under the wholesale model.[221] By relying on Random House (before agency) and other publishers' prices as the

---

214 BN00663317.

215 [redacted] teardown analysis from March 2010, before the price cut on the device, already showed that the Nook devices were not profitable for Barnes & Noble. (See Amy Teng and Ben Lee, "Teardown Report: Barnes & Noble's Nook E-Book Reader," *Gartner*, March 12, 2010, BN00120819-36, at 19.)

216 [redacted]

217 [redacted] *Trial Transcript*, Theresa Horner, June 18, 2013, 2204:18-2205:2.

218 *Noll Deposition*, 82:15-22.

219 *Noll Deposition*, 75:25-76:6.

220 "Selling nook hardware is not a profitable business for Barnes & Noble. Instead, it is a strategic move to generate sales at its e-book store." (Amy Teng and Ben Lee, "Teardown Report: Barnes & Noble's Nook E-Book Reader," *Gartner*, March 12, 2010, BN00120819-36, at 19.)

221 Declaration of Madeline McIntosh (Random House), April 25, 2013, ¶¶23-27: "That decision was primarily driven by our relationships with bricks-and-mortar resellers, such as Barnes & Noble, Books-a-Million,

competitive benchmark, Professor Noll implicitly assumes that Barnes & Noble would have lost money on Publisher Defendants' titles as it did with Random House titles and, overall, would have operated at a huge loss. The reduced market presence from Barnes & Noble and other retailers,[222] together with the absence of a competing iBookstore from Apple, would have changed the structure of the e-book market, a factor also ignored by Professor Noll.

123. Thus, Professor Noll's methodology clearly overstates damages associated with Barnes & Noble's sales since he assumes that every sale would have occurred in the but-for world. To illustrate the magnitude of the potential overstatement, I conduct a similar analysis to the one I use for the iBookstore and estimate that Professor Noll's damages overstatement may be between approximately $6 million and $18 million.[223] As in the case of Apple's customers, some Barnes & Noble customers purchased few e-books (but presumably customers who purchased the Nook device are likely to be more avid readers than iPad customers). Many of these customers did not have a Kindle device and, unlike iPad users, could not download a Kindle App to their Nook devices. If Barnes & Noble had exited the market or reduced its operations – as would have been the case in Professor Noll's but-for world, some of Barnes & Noble customers may not have purchased e-books at all.[224]

VIII. Conclusion and Summary of Damages Calculations

124. Professor Noll claims that e-book prices from the Publisher Defendants would have been, on average, 19.9 percent lower but-for the allegedly anti-competitive conduct. Based on e-book sales during the same period, he estimates that purchasers of e-books from the Publisher Defendants suffered damages of $307.8 million.[225] However, Professor Noll's damage estimate includes almost $20 million for consumers whose location is "unidentified," and thus, one cannot confirm that they are U.S. residents. Significantly, neither Class Plaintiffs nor Plaintiff States purport to bring claims on behalf of non-residents of the United States or its territories.[226] Excluding such consumers lowers Professor Noll's damage estimate to $288.3 million.[227]

Indigo, and independent bookstores." Internal documents from Barnes & Noble confirm that the retailer had negative margins on Random House titles during 2010. See, e.g., [redacted] BN00109051.

222 Not being able to compete with Amazon and Barnes & Noble's prices, Sony recently exited the e-reader book business in the U.S. (Michael Kozlowski, "Sony Abandons the eReader Market in the United States," *GoodE-Reader.com*, September 26, 2013.)

223 Under the corrected version of Professor Noll's econometric model (see Section V.C.), the range would be approximately between $5 million and $14 million.

224 My analysis does not account for the further detriment to consumers that would result from the loss of retailer competition if Barnes & Noble or other retailers exited the market.

225 *Noll Report*, Exhibit 2.

226 See First Amended Class Action Consolidated Complaint, *In Re Electronic Books Antitrust Litigation*, No. 11-md-02293-DLC (S.D.N.Y. October 23, 2013); and Second Amended Complaint for Injunctive Relief, Civil

125. In his damages model, Professor Noll uses an inappropriate control group as competitive benchmark, relies on data from non-representative time periods that contaminate his results, and inappropriately ignores negative price effects (see Section V). A corrected version of Professor Noll's econometric model indicates that the average agency effect was in the range of 15 percent.

126. In addition, Professor Noll's analysis focuses on e-book prices in isolation and ignores the interconnection between prices of e-books and prices of e-reader devices that he identifies in his own testimony. As a result, the damages estimated by Professor Noll imply an unrealistic but-for world in which e-book retailers, such as Amazon and Barnes & Noble, would sell e-books and e-readers at or below cost and would lose money, even before considering other costs associated with the investment and operation of their electronic bookstores.

127. There is no dispute in this case that e-books and e-readers are complementary products whose prices are tightly interconnected. The reduction in device prices that took place after the introduction of the iPad both required and was the result of an increase in e-book prices (see Section VI). I use available data from Amazon to calibrate this relationship between e-book and e-reader prices and conclude that [redacted] I also conclude that in the absence of the conspiracy, either e-book prices from the Publisher Defendants would have increased at least by 12.9 percent (relative to Professor Noll's benchmark) or device prices would not have decreased by an equivalent amount.[228]

128. After incorporating these corrections, damages to consumers were no larger than approximately 1.9 percent of e-book sales by Publisher Defendants—which would imply damages of approximately $28 million ($30 million including sales to "unidentified" locations).[229] In Appendix C, Table C-1, I apply Professor Noll's methodology to allocate these damages by state:

- Consumers who reside in and are represented by the states and territories that are plaintiffs in this litigation account for 55.4 percent ($16.8 million) of damages.

Penal Ties & As Parens Patriae on Behalf of Consumers, *State of Texas, et al., v. Penguin Group (USA) Inc., et al.*, No. 12-cv-3394-DLC (S.D.N.Y. May 17, 2012).

227 Specifically, Professor Noll includes in his estimate of total damages $19.5 million to consumers whose location is "unidentified." (*Noll Report*, Exhibit 3.) Professor Noll incorrectly assumes that these represent sales to U.S. residents temporarily living abroad (*Noll Report,* at 29, and Exhibit 3, n. 3.) [redacted] (See E-mail from Marjorie Walter, Kipling Law Group, re: Ebooks Data follow up HIGHLY CONFIDENTIAL, February, 1, 2013, 5:47 PM.) [redacted]

228 See supra, paragraphs 87-92 and n. 156.

229 This estimated figure does not include any deduction to reflect offsets associated with Publisher Defendants' settlements, which I understand provided for monetary payments to consumers, to the extent that any consumer has received a settlement payment.

- Consumers who reside in other states and territories account for 37.9 percent ($11.5 million) of damages.
- Armed forces personnel stationed overseas account for 0.3 percent ($0.1 million) in damages.
- Consumers in the unidentified category (including non-U.S. residents) account 6.3 percent ($1.9 million) in damages.
- Residents of Micronesia, Palau, and the Marshall Islands (who are not represented in this litigation) account for $320 in damages.

129. This $28 million damages estimate is conservative because it does not take into account other offsetting factors from benefits to consumers that would not have occurred, at least not to the same extent, in the absence of Apple's iBookstore and the agency contracts, including (i) the substantial increase in self-published titles; (ii) the increased availability of free e-books; (iii) e-book sales through Apple's iBookstore; and (iv) e-book sales through Barnes & Noble's e-bookstore (see Section VII).

I declare that the foregoing is true to the best of my knowledge and belief.

Jonathan Orszag

Executed on November 25, 2013, in West Palm Beach, FL.