

A Tale of Digital Disruption

By Aselia Urmanbetova and Patrick McCarthy

In a recent article on the effects of innovation, Richard Gilbert [“E-books: A Tale of Digital Disruption,” *Journal of Economic Perspectives* 29(3):165-184] provides thoughtful insights into what he calls the ‘severe technological disruption’ that traditional publishers experienced with the introduction of e-readers, in particular the Amazon Kindle, in 2007. Despite the long history of e-books, effectively begun in 1971 when Michael Hart, author and best known as the inventor of e-books, launched Project Gutenberg (<http://thisdayintechhistory.com/12/01/project-gutenberg-launched>), it was not until 2007, thirty-one years later, that the market share of e-books underwent a dramatic increase. In 2013, sales of e-books increased at triple-digit growth rates, reaching 20.8% of revenues of all trade books (Figure 1). Amazon’s large inventory of books and well established online book selling business had placed the company in a highly favorable position to compete for the leading position in the e-book market.

Gilbert untangles three major controversies surrounding e-books and Amazon: (1) the question of if, and to what extent, e-books are substitutes for printed books (p-books); (2) whether Amazon, as a seller of both e-books and e-readers, is enjoying monopoly power as a seller or monopsony power as a buyer; and (3) the legal conflict between Amazon and traditional publishers over different industry pricing models. Amazon favored the ‘wholesale’ pricing model where retailers set the final retail prices, while publishers preferred the ‘agency’ model, wherein publishers set final retail prices that build in a retailer’s commission.

In answering the first and third questions, Gilbert characterizes the situation as a newly emergent market and its legal entrenchments. In particular, Amazon

presented a threat to traditional retailers and publishers. It was able to lower e-book prices, an action which, although benefitting consumers, harmed traditional competitors by reducing publishers’ total book revenues from book sales and harmed authors by reducing royalties that authors received. Gilbert documents that five major publishing companies – namely Hachette Book Group, HarperCollins, Macmillan, Penguin, and Simon & Schuster – worked with Apple to set retail prices with built-in e-retailer commissions. The US Department of Justice alleged this behavior to be in violation of antitrust regulations. The publishers settled with Justice, agreeing to not trying to set retailing prices for two years, after which they can negotiate contracts.

Possibly the most interesting discussion in the article focuses on the question of whether e-books are substitutes for traditional p-books. On the surface, the data appear to support this claim as seen in Figures 1 and 2. In Figure 1, the increase in e-book sales virtually matches the decrease in p-books. In addition, while the number of bookstore establishments was on a negative trend prior to 2007, Figure 2 indicates that the total sales of the bookstores decreased dramatically from 2007 to 2012. But these simple relationships do not tell the whole story and exemplifies how ‘simple’ statistics can be misleading.

Gilbert cites more detailed and richer empirical analyses that point to a different reality in two significant ways. First, if e-books were strong substitutes for p-books, then we would expect that withholding e-books from the market would increase p-book sales. And second, in the hypothetical absence of e-books, we would expect that all sales of e-books would have been experienced in the p-books markets. Hu and Smith (2013) and Li (2013) empirically tested these two scenarios. Interestingly, Hu and Smith (2013) found that withholding e-book sales of the most popular titles did result in the substitution of sales to the p-book titles.

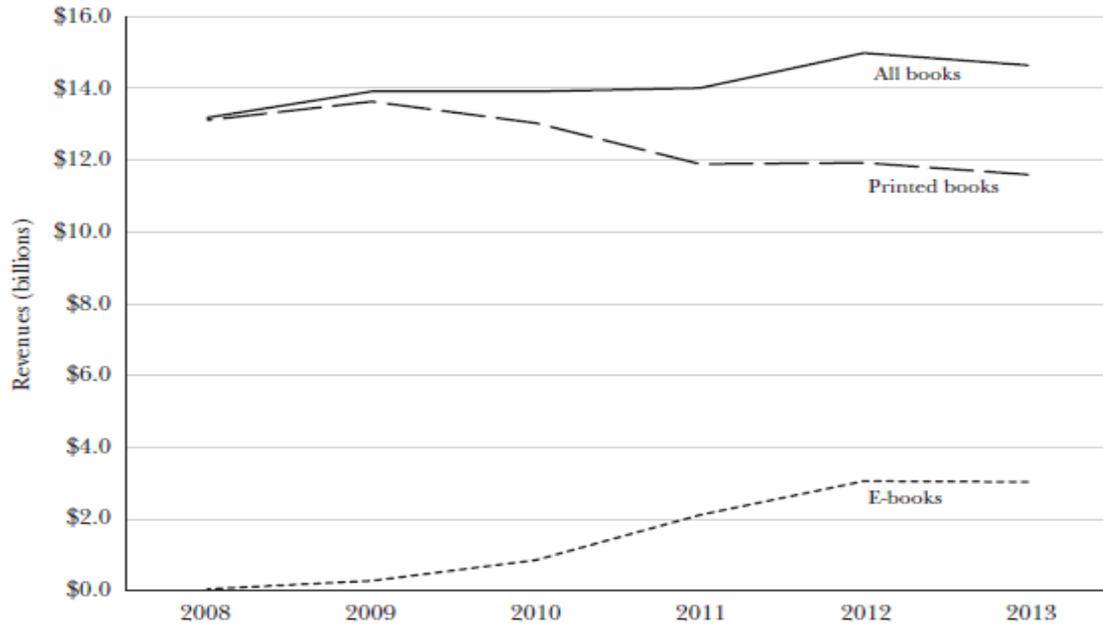


Figure 1. Sales of Trade E-books and Printed Books (Source: Book Industry Study Group [2001, 2014])

Notes: Trade books include adult and juvenile fiction and nonfiction and religious titles. These genres account for about one-half of all book sales. Non-trade books include educational materials and professional and scholarly books.

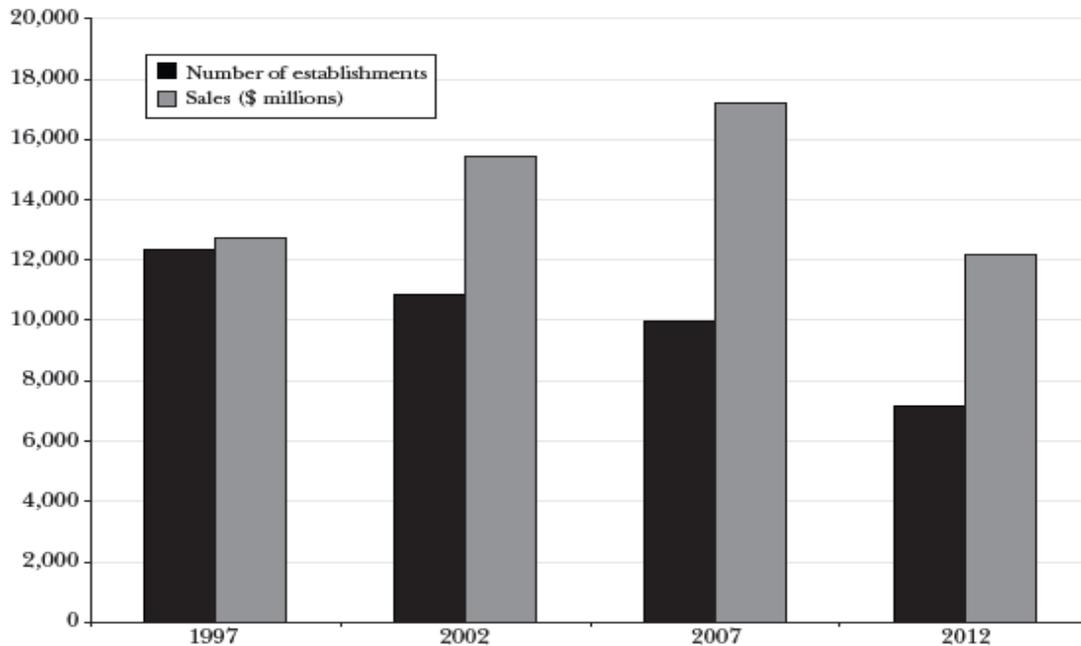


Figure 2. Number of Bookstores and Total Sales at Bookstore Establishments. (Source: US Census, Economic Census of the United States and Monthly Retail Trade Survey, 1997–2012.) Notes: Trade books include adult and juvenile fiction and nonfiction and religious titles. These genres account for about one-half of all book sales. Non-trade books include educational materials and professional and scholarly books.

But the study also found that withholding the low-awareness titles from the market resulted in the loss of total sales, both in p- and e-book markets. Similarly, using the data on the shopping behavior of Internet users during 2008-2012 to construct a hypothetical scenario without the e-books, Li (2013) estimated that 42% of e-book sales would have occurred in the p-book sector, while the rest 58% would not have occurred at all. These analyses led Gilbert to conclude that “on average, withholding e-books tended to reduce total book sales” (Gilbert 2015, p. 169). Completing this result, Gilbert finds that the impact of e-books on independent sellers is not large, primarily due to the fact that independent sellers had already experienced strong competition from mass merchandisers, online sales, and chain bookstores. And while the online sales curtail the importance of bookstores, online sales also open up a number of other online promotional opportunities and publisher / author communication channels.

The moral of the story, as Gilbert notes, is that the hazards arising from adjusting to the new equilibria – in this case the introduction of e-books and e-readers – are the result of many factors, not simply the introduction of Amazon Kindle. The flattening of e-book sales in 2012-2013 suggests “consumers will continue to enjoy printed books for years to come” (Gilbert 2015, p. 170), welcome news indeed to the pulp and paper industry.

References

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Trend Indicators from Industry Intelligence Inc.

Industry Intelligence Inc. has provided market intelligence to more than 600 companies worldwide since it began as Forestweb in 1999. Industry Intelligence delivers a daily report featuring news of

the paper and forest products industries. For your subscription visit: <http://www.industryintel.com>

Below is a sampling of recent Industry Intelligence headlines, chosen to mirror significant trends and other interesting developments in and around the paper and forest products industries.

China exports 28,886 tonnes of kraft paper valued at US\$22.6M in August, bringing total year-to-date to 200,428 tonnes of kraft paper exported at total value of US\$192.2M, up year-over-year by 26.4% and 19.7%, respectively: China Customs

Data courtesy of Xinhua News Agency

Jackson Paper's 100% recycled-based corrugating medium mill in Sylva, North Carolina, operating full out, producing more than 100,000 tons/year; mill is one of only three paper mills in US that recycle all wastewater produced rather than discharging it

The mill makes corrugating medium from recycled corrugated containers.

Longbow: WestRock's indefinite idling of Fernandina Beach, FL 520,000-ton linerboard mill and 166,000-ton medium machine at Uncasville, CT mill post SP Fiber merger should alleviate price pressure on grade and regional basis, particularly in Northeast

The closures represent 3.2% of total North American recycled medium capacity and 2.6% of North American kraft linerboard capacity. Over the past three years, containerboard capacity has expanded by 2.6 million tons.

Global kraft lignin market forecast to grow by 3% CAGR over 2014-2021, with Asia Pacific showing highest growth of 3.5% CAGR during 2015-2021; kraft lignin market expected to increase in value to more than US\$81.4M in 2021 from nearly US\$66.4M in 2014

The report, prepared by MarketResearchEngine.com, cites contributing factors that include the facts that lignin (the “glue” that stiffens and cements the fibers in trees) is the only abundantly available biomass of its kind and is sustainably sourced. Another important factor is the availability of the newly developed “Lignoboost” process for separating lignin from spent kraft pulping liquor.

Smurfit Kappa Mexico to increase high-strength corrugating medium capacity by about 100,000 tonnes/year, boost energy efficiency of papermaking line at its Los Reyes mill in Mexico; contract signed

with PMP Group for rebuild, with restart set for Q1 2017

A new paper machine will be a blend of repurposed and refurbished assets (originally installed on PMs in Spain and Germany).

Washington Dept. of Ecology begins drafting rule to require state's largest polluters to cut their GHG emissions; facilities producing 100,000 tonnes/year or more might be covered by rule, including paper mills in the state owned by GP, Boise, and others

"This year's record-setting drought and wildfires are sobering examples of what our future could look like if we don't take action on climate change," said Ecology Director Maia Bellon.

European paper companies, including UPM, Stora Enso and others, increasingly shifting more production to bio-materials instead of paper, as global growth in paper consumption fell 80% in the years through 2014; investment high in biofuels and biochemicals

Stora Enso got 38 percent of its earnings from paper last year, down from 70 percent in 2006.

Financial situation in Lawrence County, Alabama, has been in decline since IP closed its paper mill in Courtland in 2014, say two local officials at meeting held to assess next year and a budget that is not expected to have any additional revenue

County departments were asked to trim 30 percent from their budgets.

Swedish forest industry's overall export value up 4.0% during H1, with higher export values for pulp and sawn wood products but volumes down amid relatively weaker export markets; H1 paper production declines 2.0% year-over-year: Skogindustrierna

The Swedish Forest Industries Federation reports that while the weaker Swedish currency is positive for exports, there is relatively weak demand on Sweden's export markets and it expects the situation to remain sluggish.

AF&PA Statistics

Since our last reporting of American Forest and Paper Association statistics releases, the Association has issued its August and September Printing and Writing and Boxboard Reports and its September Kraft and Containerboard Reports

Printing & Writing

September: Total shipments decreased 4 percent in September compared to September 2014. Total inventory levels decreased 4 percent from August. Uncoated free sheet (UFS) shipments were slightly (less than 1 percent) ahead of comparable shipments in September 2014, the second increase in the past four months. Imports of UFS decreased 25 percent year-over-year in August. September coated free sheet (CFS) shipments decreased 1 percent compared to September 2014. Imports of CFS papers increased 15 percent in August, the fifth year-over-year increase in the past six months. Uncoated mechanical (UM) paper shipments decreased 7 percent when compared with September 2014. Imports of UM papers were down 15 percent in August, the fourteenth consecutive monthly decline. Coated mechanical (CM) shipments decreased 18 percent relative to September 2014. Imports of CM increased in August, up 18 percent, the fourth year-over-year increase in the past six months.

August: Total shipments decreased 6 percent in August compared to August 2014. Total printing-writing paper inventory levels increased less than one-half of one percent from July. Uncoated free sheet (UFS) paper shipments were essentially flat compared to August 2014, with imports of UFS decreasing 29 percent year-over-year in July. August coated free sheet (CFS) paper shipments decreased 7 percent compared to August 2014. Imports of CFS papers decreased 15 percent in July, the second year-over-year decrease in the past 12 months. Uncoated mechanical (UM) paper shipments decreased 13 percent when compared with August 2014. Imports of UM papers were down 16 percent in July, the thirteenth consecutive monthly decline. Coated mechanical (CM) shipments in August decreased 18 percent relative to August 2014. Imports of CM increased in July, up 29 percent, while exports of CM were down 34 percent, the second decrease in the past six months.

Boxboard

September: Total boxboard production decreased 1.1 percent when compared to September 2014 and decreased 4.9 percent from last month. Unbleached kraft boxboard production decreased over the same month last year and decreased compared to last month. Total solid bleached boxboard and liner production decreased when compared to September 2014 and decreased compared to last month. The production of recycled boxboard was flat compared to

September 2014 and decreased when compared to last month.

August: Total production decreased 2.3 percent compared to August 2014, but increased 1.3 percent from July. Unbleached kraft boxboard production increased over the same month last year and increased compared to July. Total solid bleached boxboard & liner production decreased compared to August 2014, but increased from July. The production of recycled boxboard decreased compared to August 2014, but increased compared to last month.

Kraft

Total kraft paper shipments were 136.6 thousand short tons, 1.5 percent lower compared to September 2014. Bleached kraft paper shipments decreased slightly from 8.7 thousand short tons in August 2015 to 8.6, while unbleached shipments decreased from 134.9 to 128.0 thousand short tons. Overall, year-to-date shipments up to September 2015 were 1.5 percent higher compared to the same period in 2014. Total month-end inventories decreased to 72.6 thousand short tons.

Containerboard

Production was 0.4 percent lower than in September 2014. The month-over-month average daily production compared to August 2015 was 3 percent lower. The containerboard operating rate for September decreased slightly to 96.1 percent.

Purchase the full reports by contacting Caroline Nealon, Statistics_Publications@afandpa.org or 202-463-2448.

Paper Quotes

“You can’t hack into a sheet of paper.” – *John D. Williams, President and CEO, Domtar, during a keynote address at the TAPPI PEERS Conference, Atlanta, Oct. 26, 2015.*

Statistics Corner: Pulp Production and Exports by Country

The figure below is from the web site of Skogsindustrierna, the Swedish Forest Industries Federation. It shows 2013 wood pulp production and exports for selected countries, the worlds 10 largest producers of pulp and no 12 Germany, no 13 Portugal, no 14 Spain and no 23 Norway. ■

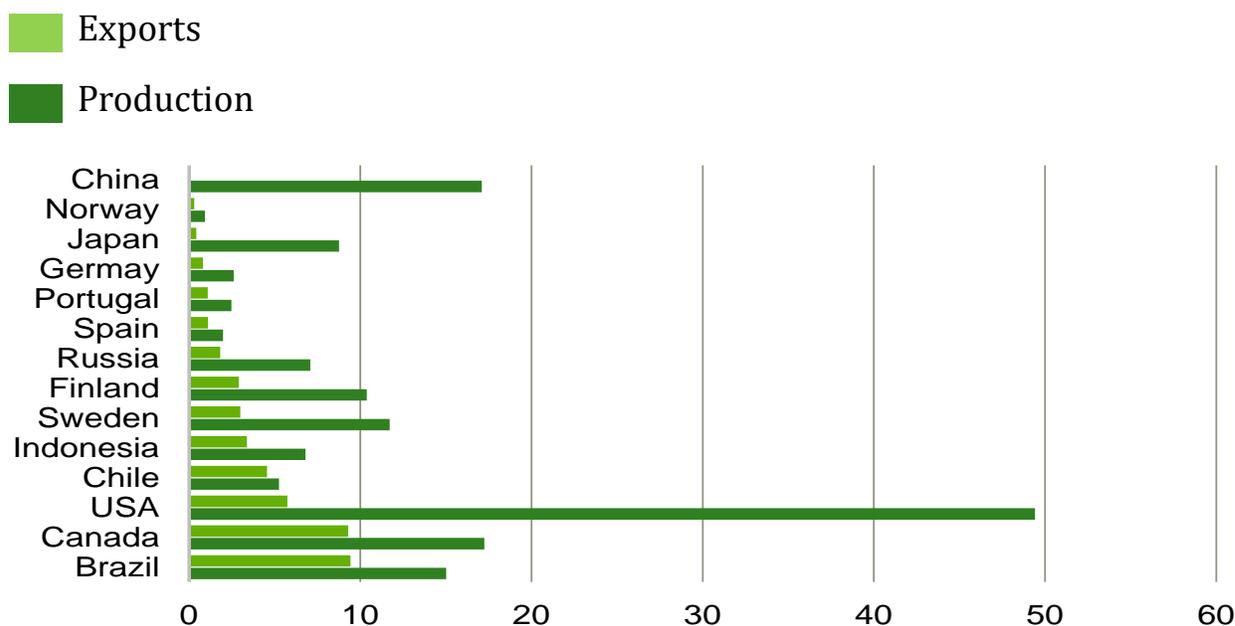


Figure 1. Production and Exports of Pulp, 2013 (millions of tonnes)

(Source: Skogsindustrierna, PPI, CEPI)