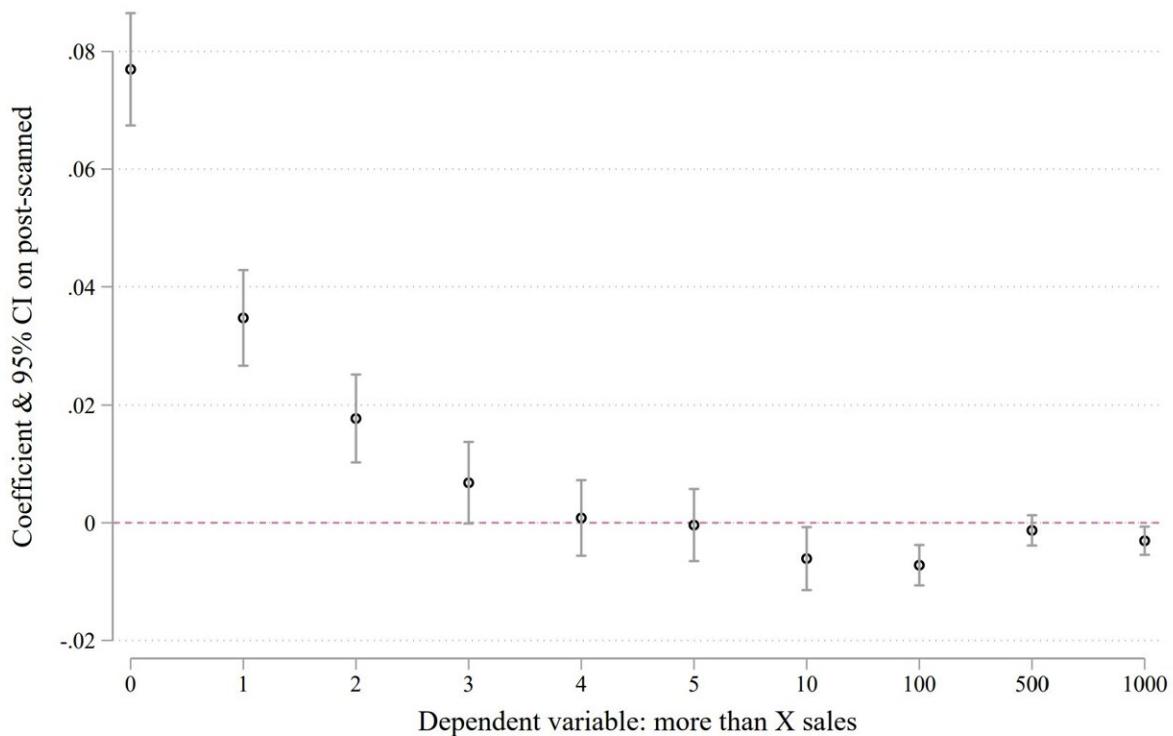


Digitizing books can spur demand for physical copies

October 31 2023, by Tom Fleischman



Estimated Probability of Surpassing Varying Sales Thresholds. Note: This figure shows estimated coefficients and their 95% confidence intervals of the “post-scanned” variable in separate regressions. The dependent variable in each regression is an indicator that equals one if the sales threshold indicated on the x-axis is surpassed for a book in a year. The “post-scanned” variable equals one in all years after the book has been digitized. The regression includes book and year-location fixed effects, and standard errors are clustered at the book level. Credit: *American Economic Journal: Economic Policy* (2023). DOI: 10.1257/pol.20210702

Book publishers cried foul—in the form of numerous legal challenges—nearly two decades ago when the Google Books project digitized and freely distributed more than 25 million works.

The publishers argued that free digital distribution undermines the market for physical books, but new research from Cornell's Imke Reimers and a collaborator reveals that the opposite—increased demand for physical books, through online discovery—could be true.

Reimers, an associate professor in the Charles H. Dyson School of Applied Economics and Management, in the Cornell SC Johnson College of Business, and Abhishek Nagaraj, assistant professor at the Haas School of Business at the University of California, Berkeley, exploited a natural experiment condition to examine the impact of Google's massive book-digitization project on physical sales.

Their paper, "[Digitization and the Market for Physical Works: Evidence from the Google Books Project](#)," published Oct. 31 in *American Economic Journal: Economic Policy*.

Their main findings: Digitization can boost sales of physical books by up to 8% by stimulating demand through online discovery. The increase in sales was found to be stronger for less popular books and even spilled over to a digitized author's nondigitized works.

"It's always this question of the publishers, of course, being unhappy with people just making their copyrighted products available for free," said Reimers, who arrived at Cornell this summer after nine years at Northeastern University, in the Department of Economics.

"For us, it's not obvious that digitization should hurt sales," she said,

"because it can lead to more awareness of certain nondigitized products."

The Google Books project, launched in 2005, digitized millions of works, and made the text searchable via optical character recognition technology. This allowed users to search through the voluminous set of printed works and find those related to a specific topic or theme.

"Say you search the term 'photosynthesis' on Google," Reimers said. "You might find an excerpt from a particular book, and then you might want to buy it, because you see it on the page and decide that it's a useful book."

Reimers and Nagaraj focused on a particular subset of Google Books' digitized works: those from Harvard University's Widener Library, which helped seed the project in its early days. The condition that enabled their experiment: Harvard's digitization effort only included out-of-copyright works, published before 1923, which were made available to consumers in their entirety.

Since the order in which books from the Widener Library were digitized was basically random (by stack location, not by subject), and since popularity of 100-year-old books wasn't likely to change during the project, "that allowed us to essentially just compare these two worlds—sales before and after digitization, relative to changes in sales for books whose digitization status didn't change," Reimers said.

The researchers analyzed a total of 37,743 books scanned between 2005 and 2009. They looked at sales for the two years before this digitization period compared to the two years after, and found stark differences in the likelihood of increased sales between digitized and nondigitized cohorts. Approximately 40% of digitized titles saw a sales increase from 2003-04 to 2010-11, compared to less than 20% of titles that were not digitized.

Reimers admitted the findings were a bit surprising.

"We didn't necessarily expect the positive effect on sales," she said. "We expected a positive effect on use, because if a book is readily available online, people can find it more easily and naturally they're going to use it more. But the positive effect on sales was something we didn't anticipate."

Reimers said the "discovery effect"—which even spills over to nondigitized books by an author whose digitized works a user is seeking—is a strong driver of increased sales. "It's not a huge jump in sales," she said, "but it's still good news for publishers."

And book lovers, Reimers said, are known for their affinity for physical books, as opposed to digital versions, which could also play a role. "Whenever I talk to people about my research on books," she said, "at some point they all say, 'I just love the feel of a book in my hand.'"

More information: Abhishek Nagaraj et al, Digitization and the Market for Physical Works: Evidence from the Google Books Project, *American Economic Journal: Economic Policy* (2023). [DOI: 10.1257/pol.20210702](https://doi.org/10.1257/pol.20210702)

Provided by Cornell University

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