

This PDF is a selection from a published volume from the National Bureau of Economic Research

Volume Title: The Role of Innovation and Entrepreneurship in Economic Growth

Volume Authors/Editors: Michael J. Andrews, Aaron Chatterji, Josh Lerner, and Scott Stern, editors

Volume Publisher: University of Chicago Press

Volume ISBNs: 978-0-226-81078-2 (cloth),
978-0-226-81064-5 (electronic)

Volume URL:

<https://www.nber.org/books-and-chapters/role-innovation-and-entrepreneurship-economic-growth>

Conference Date: January 7-8, 2020

Publication Date: February 2022

Chapter Title: Comment on "The Recent Evolution of Physical Retail Markets: Online Retailing, Big Box Stores, and the Rise of Restaurants"

Chapter Author(s): Emek Basker

Chapter URL:

<https://www.nber.org/books-and-chapters/role-innovation-and-entrepreneurship-economic-growth/comment-recent-evolution-physical-retail-markets-online-retailing-big-box-stores-and-rise>

Chapter pages in book: p. 365 – 370

www.cnu.org/publicsquare/2019/09/23/%E2%80%98retail-apocalypse%E2%80%99-myth-and-thats-good-news-shopping-industry-and-downtowns.
Zumbach, Lauren. 2016. "Shopping Centers Look to Entertainment, Recreation to Fill Empty Anchors." *Chicago Tribune*, September 16. <https://www.chicagotribune.com/business/ct-retail-entertainment-0916-biz-20160916-story.html>.

Comment Emek Basker

Definitions

To understand the recent evolution of physical retail markets, it is useful to start by defining physical retail markets.

The retail sector, narrowly defined, consists of business establishments—stores—that primarily sell merchandise to consumers, generally without transformation. It is distinct from the wholesale sector, which sells merchandise to retailers (and sometimes transforms or packages the products).

In addition, the retail sector has long been considered distinct from other types of business that serve end customers and are often located in the same malls and streets as retailers but are primarily engaged in providing *services* rather than merchandise. For example, gyms are part of the arts, entertainment, and recreation sector; ceramics studios are classified under educational services; and hair salons, automotive repair shops, and dry cleaners are all classified under other services. Bank branches are classified in the finance and insurance sector, and rental locations (whether renting videos, formalwear, or furniture) are classified under real estate & rental & leasing.¹

A major part of Lafontaine and Sivadasan's chapter (chapter 6, this volume) concerns restaurants, which provide both a good and a service. As noted by Lafontaine and Sivadasan, these were considered by the Census Bureau to be part of the retail sector under the Standard Industrial Classification (SIC) system used until 1997, but they are part of the accommodation and food services sector in the North American Industrial Classification System (NAICS), which has been used by the Census Bureau since 1997.

Emek Basker is an economist at the US Census Bureau.

Any opinions and conclusions expressed herein are those of the author and do not necessarily represent the views of the US Census Bureau. No confidential data are used in this comment. I thank Randy Becker, Cathy Buffington, and Shawn Klimek for helpful comments and conversations. For acknowledgments, sources of research support, and disclosure of the author's material financial relationships, if any, please see <https://www.nber.org/books-and-chapters/role-innovation-and-entrepreneurship-economic-growth/comment-recent-evolution-physical-retail-markets-online-retailing-big-box-stores-and-rise>.

1. Alternative classifications of businesses, based on type of customer or location, are feasible to create using the microdata collected by the Census Bureau.

In the retail sector (SIC 52–59, NAICS 44–45), stores' industrial classification codes have historically depended on their primary product. Thus, stores that primarily sell shoes are classified as shoe stores, and stores that primarily sell food for consumption off the premises are classified as grocery stores. There are only two exceptions to this rule. First, “general-merchandise” stores (SIC 53, NAICS 452) sell a variety of products—for example, a combination of shoes, groceries, home furnishings, and apparel. Second, “nonstore retailers” (SIC 596, NAICS 454) are classified not by what they sell but by how they sell it. These establishments have historically included catalog showrooms, vending-machine operators, mail-order retailers, and direct-selling retailers (such as door-to-door encyclopedia sales). Today, this industry also includes retailers primarily engaged in e-commerce.

The assignment of industry codes in Census Bureau business statistics is done at the establishment level, rather than at the firm level or at the worker level. An *establishment* is a location of business and employment; a *firm* is the owning entity. Some stores are so-called “mom-and-pop” businesses, which operate a single location. In those cases, there is no need to distinguish between the establishment's line of business and the firm's. Other stores belong to chains, and some chains own other types of establishments, such as warehouses, marketing arms, or manufacturing facilities. A retail chain may have one manufacturing facility, for example; workers in that facility are considered to be in manufacturing. Conversely, even if the primary business of the firm is manufacturing, the employees in its outlet store are considered retail workers in Census Bureau business statistics.

An establishment's industrial classification is determined by the line of business for which it either has the highest revenue or the largest employment or payroll. Thus, even if a hair salon sells some hair products, as long as it earns most of its revenue from the service of haircuts, styling, dyeing, and so on, it is classified as a hair salon. As a result, a worker whose job is to sell hair products could be classified as an employee of a hair salon (if the establishment at which she works is a hair salon) or as an employee of a retail establishment (if the establishment at which she works earns most of its revenue from the sale of merchandise to consumers). Likewise, a worker delivering restaurant food to consumers' homes could be classified as a worker of a restaurant (if he is employed by the restaurant) or as a worker in the delivery business (if he works for a delivery service).

Alternative classifications, based on the occupation of the workers, require information on workers rather than on businesses. The Current Population Survey and the American Community Survey collect such information on samples of workers; survey weights allow researchers to generate economy-wide statistics from these samples.

This background helps explain the big-picture trends presented by Lafontaine and Sivadasan. The rise in employment by restaurants, for example, excludes workers who support the restaurant business but work in ware-

houses or deliver food for delivery services. The increase in nonstore-retail employment excludes employees working at physical stores that have online channels (even if those workers are primarily engaged with website design and maintenance), as well as workers in the “customs computer programming services” industry (NAICS 541511) who may be contracted to design or maintain websites or apps.

Major Historical Developments in the Retail Sector

Next, it is useful to put the current surge in innovative activity in the retail sector into historical context. The modern retail sector arguably dates to the late 1800s, when many retail chains started their operations. In the grocery-retailing industry, chains were almost nonexistent in 1890. Of the 1,718 retail chains the Federal Trade Commission (FTC) identified in 1928, only 42 were created before 1900 (FTC 1932, table 29, p. 54). Interestingly, the growth of chains coincided with a technological innovation—the mechanical cash register—which was invented in 1878 and became standard equipment in all stores by the 1920s and which helped ameliorate retailers’ principal-agent problem (Basker 2016, pp. 38–39).

If the first half of the twentieth century brought us chains, the second half brought us large general-merchandise stores, such as Walmart, Kmart, and Target, and large warehouse-style clubs, such as BJ’s, Sam’s, and Costco. Facilitating this development was the barcode scanner, which was first installed only in large grocery stores and subsequently became standard equipment across the retail sector by the 1990s (Basker and Simcoe 2021).

In the 2000s, the sector has seen another remarkable transformation with the growth of e-commerce. Now, instead of walking to the corner store (as in 1930) or driving to the strip mall on the edge of town (as in 1990), consumers purchase goods from the comfort of their homes and have the goods delivered to them. Like the previous transformations of retailing, this change has been attributed to a technological innovation—the rise of the Internet. This innovation has been transformative and stands apart from the prior changes. Whereas the cash register and the barcode scanner changed the way stores operated and affected the scale and scope of retailers, they remained recognizably *stores*; consumers continued to interact with them in much the same way. In contrast, as noted by Lafontaine and Sivadasan, the Internet has changed the very nature of retailing.

Measuring Retailing in the Internet Age

This major change has consequences for measuring economic activity, both in the retail sector and in other, related, sectors, particularly warehousing and transportation, services, and wholesale.

First, the classification system that distinguished “shoe stores” from “non-

store retailers” becomes meaningless when shoes are sold online. The Census Bureau has attempted to address this problem by including an e-commerce question in its Annual Retail Trade Survey (ARTS) and Monthly Retail Trade Survey (MRTS) since at least 1999.² However, the classification problem is likely to get more severe as more specialized businesses move entirely online.

Second, e-commerce has further blurred the lines between retail and service industries. For example, delivery services are an increasingly important line of business. While the Census Bureau’s business statistics capture formal employment in delivery services (which has increased since 2012), measuring “gig” workers, who do not have formal employment contracts, has been a much more complex task (Abraham et al. forthcoming). At the same time, retailers are increasingly offering such services as delivery, shopping services, and curbside pickup, particularly in the grocery industry. The 2017 Census of Retail Trade asked supermarkets for the first time whether they offer “pre-ordering or delivery services by website, app, fax, phone, or other means.” Responses to this question have not yet been tabulated, but I am hoping this question helps us quantify this type of industry blurring.³

In addition, as more businesses sell online, they often outsource website hosting, design, and maintenance, so the workers performing these functions are classified outside the retail sector. This type of measurement problem is not new—it has long been true that many firms outsource such tasks as marketing, accounting, and landscaping—but e-commerce represents a qualitative shift in this type of misclassification. For an online seller, the website *is* the business, so omitting the workers maintaining the web operations from the employment count is qualitatively different from omitting workers performing other support operations that are ancillary to the firm’s primary business.⁴

2. The ARTS and MRTS are administered to taxpaying units (EINS) and firms rather than to establishments. For e-commerce questions, this is a better sampling unit than an establishment (store), because large retailers are likely to allocate e-commerce receipts to separate administrative units and not to individual stores. In 2019, the ARTS asked, “Did this [entity] have any e-commerce sales in 2019?” and, for those responding in the affirmative, followed up with: “What were the total e-commerce sales in 2019?” For the purposes of this survey, the Census Bureau defines e-commerce as “the sale of goods and services where the buyer places an order, or the price and terms of the sale are negotiated, over an Internet, mobile device (M-Commerce), extranet, EDI network, electronic mail, or other comparable online system. Payment may or may not be made online.” (Source: 2019 ARTS form SA-44; <https://www2.census.gov/programs-surveys/arts/technical-documentation/questionnaires/2019/sa-44-19.pdf>. Accessed January 25, 2020.) Some, but not all, MRTS forms include similar questions.

3. See Basker et al. (2019) for details and background on this question. Another, tangentially related, issue is the rising importance of retailers’ non-merchandise receipts, such as insurance and service contracts, particularly for consumer electronics stores. Census microdata on revenue breakdowns capture these revenues, albeit imperfectly, and could help determine when a retail establishment starts to become more of service provider.

4. This issue is akin to the measurement issues raised by “factoryless” manufacturing firms; see Bernard and Fort (2015).

Uneven Effects of E-Commerce on Retail and Consumer-Facing Service Industries

Finally, it is worth noting that the “retail apocalypse” discussed by Lafontaine and Sivadasan has not been uniform across retail industries. Lafontaine and Sivadasan focus on the growth of restaurant employment, but other, traditional, retail industries have also flourished. Published data from County Business Patterns show that employment in bookstores (NAICS 451211) has fallen from near 1 percent of all retail employment in the late 1990s to half as much by the late 2010s.⁵ Employment in furniture stores (NAICS 442110) has also dropped dramatically, from about 1.9 percent of retail employment to only 1.4 percent. In contrast, employment in clothing stores (NAICS 448) increased over this period from 9 percent to over 11 percent of retail employment.

In addition, the patterns that Lafontaine and Sivadasan document in the restaurant industry have parallels in other “Main Street”-type businesses that fall outside the traditional retail sector. For example, there have been large increases in employment at fitness and recreational sports centers (NAICS 713940) and in nail salons (NAICS 812113).

These trends are consistent with Lafontaine and Sivadasan’s conclusion that restaurants’ gains are due to increased demand. Like restaurants, gyms and nail salons offer consumers something that cannot be easily replicated online: an experience beyond the purchase of a widget, and a chance for an in-person interaction. As even physical retail increasingly offers “self-service” options that remove personal interaction, consumers seem to find these alternative spending categories more fulfilling. The 2017 Census of Retail Trade asked stores for the first time whether they offer “self-service” checkout. This question was asked of home centers, supermarkets, convenience stores, health- and personal-care stores (including pharmacies and drug stores), department stores, and general-merchandise stores.⁶ A question for further research is whether increased reliance on self-service in some retail outlets is correlated with an increase in demand for personal interaction in other outlets and industries.

References

Abraham, Katharine, John Haltiwanger, Kristin Sandusky, and James Spletzer. 2021. “Measuring the Gig Economy: Current Knowledge and Open Issues.” In *Measuring and Accounting for Innovation in the 21st Century*, edited by Carol Cor-

5. County Business Patterns data since 1986 can be downloaded from <https://www2.census.gov/programs-surveys/cbp/datasets/>. (Accessed January 25, 2020.) Wu (2017) uses Census Bureau microdata to study the impact of e-commerce on traditional booksellers.

6. See Basker et al. (2019).

- rado, Jonathan Haskel, Javier Miranda, and Daniel Sichel. Chicago: University of Chicago Press.
- Basker, Emek. 2016. "The Evolution of Technology in the Retail Sector." In *Handbook on the Economics of Retailing and Distribution*, edited by Emek Basker, 38–53. Cheltenham, UK: Edward Elgar.
- Basker, Emek, and Tim Simcoe. 2021. "Upstream, Downstream: Diffusion and Impacts of the Universal Product Code." *Journal of Political Economy* 129(4): 1252–86.
- Basker, Emek, Randy Becker, Lucia Foster, Kirk White, and Alice Zawacki. 2019. "Addressing Data Gaps: Four New Lines of Inquiry in the 2017 Economic Census." CES Working Paper No. 19–28. Washington, DC: Center for Economic Studies.
- Bernard, Andrew B., and Teresa C. Fort. 2015. "Factoryless Goods Producing Firms." *American Economic Review* 105(5): 518–23.
- Federal Trade Commission. 1932. *Chain Stores: Growth and Development of Chain Stores*. Washington, DC: 73d Congress, 1st Session, Senate Document No. 100.
- Wu, Sherry. 2017. "Adaptation or Death? Bookstore Chains Meet Online Competition." Unpublished paper, Duke University, Durham, NC.