



ANALYSIS GROUP

Understanding Walmart's Impact on the US Economy and Communities

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Executive Summary

Walmart¹ is the largest retailer in the US, selling a wide array of products—such as groceries, clothing, and general merchandise—and services, including pharmacy and basic financial services. As such, Walmart intersects with the lives of millions of people, and both academics and policy makers have long been interested in understanding how Walmart influences the economy and the local communities in which it operates. In this paper, we synthesize empirical research and academic literature to better understand the impact of Walmart on the US economy and communities. A summary of our findings follows:

- **Economic studies indicate that Walmart's "Every Day Low Prices" pricing strategy and its product variety significantly benefit consumers.** In contrast to the pricing strategies often used by competing retailers that focus on short-term promotions for specific products, Walmart's pricing strategy allows customers to expect consistently low prices for a wide variety of products, which mitigates the need for customers to shop strategically. A result of this strategy is that Walmart prices are often 10–25% lower than those of competitors, on average. Moreover, the effects of Walmart's presence in a community can extend to shoppers who do not shop at Walmart: Economic studies find that competing retailers tend to lower their prices and/or otherwise improve their shopping experience and quality to compete with Walmart. Those benefits are particularly valuable for low-income households because low prices—especially for groceries—disproportionately benefit these families, who often spend the largest share of their income on food.
- **Data show that Walmart often serves as a primary retailer for low-income families in non-metropolitan areas, including families receiving food assistance programs.** Academic research on the impact of Walmart's entry into a local area finds that Walmart's presence helps alleviate food insecurity, especially among low-income households with children.
- **Researchers find that Walmart maintains its low prices through its innovations in supply chain management and by harnessing economies of scale.** Both historically and at present, Walmart has consistently innovated to lower its costs and maintain low prices.
- **Retail workers in Walmart's stores earn hourly wages similar to or even higher than other retail workers in the US, according to data from the Bureau of Labor Statistics.** Entry wages for Walmart retail workers range between \$14 and \$19 per hour. Nationally, as of May 2023, the median wage for retail sales workers was just above \$16 per hour, with the range between the 25th and the 75th percentile of wages being \$13.75–18. While there is no consensus in the economic literature on how Walmart's entry affects local wages, most academic research finds modest increases in retail employment in local communities after Walmart enters the area.

¹ For expositional simplicity, unless otherwise stated, "Walmart" in this report refers to both Walmart and Sam's Club stores.

- **Walmart also offers several non-wage benefits that can help alleviate challenges faced by retail workers and improve their well-being.** For example, in contrast to the “just-in-time” scheduling commonly used in the retail sector, Walmart’s flexible and predictable scheduling practices better support workers, including, for example, parents who can better plan for and provide childcare. Similarly, economists have found that low-income families rarely participate in the stock market, which may perpetuate inequality by limiting their capital gains. By offering stock-based compensation and an employee stock purchase plan, Walmart helps these families own stock and accumulate wealth.
- **Walmart offers substantial career advancement opportunities to individuals without college degrees.** Economists have shown that the lack of a college degree can be a formidable barrier to climbing the career ladder, forming a “paper ceiling” for workers who have not pursued higher education and perpetuating existing inequalities. By contrast, Walmart has recently shifted to a “skills-based” hiring model at its corporate headquarters, eschewing traditional college-degree requirements in favor of relevant prior experience and non-college-based education and training. Walmart’s store managers, who are often promoted internally and many of whom do not have college degrees, are, on average, paid a six-figure base salary, and their total pay can exceed \$500,000 with bonus and stock pay.
- **Several economic studies suggest that suppliers often benefit from Walmart’s presence, mostly due to higher purchase volumes.** While some economists have expressed concerns about the effect of Walmart’s size and strong bargaining power on its suppliers, empirical evidence does not support this view. In fact, by reaching the eyes of millions of customers, suppliers who sell at Walmart are able to rapidly disseminate their products and reach new segments of the market. Some of those suppliers are small US businesses that have participated in Walmart’s “Open Call” initiative.
- **Although empirical evidence is limited, available economic studies suggest that Walmart’s entry has limited impact on small businesses.** Despite concerns about the negative effect of Walmart’s entry on small retailers, researchers have found that Walmart typically competes more directly with other big-box stores or large grocers rather than local “mom and pop” businesses.

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I. Walmart Benefits Consumers

A. Walmart's Low Prices and Wide Product Variety Benefit Consumers

1. Walmart Shoppers Benefit from "Every Day Low Prices" and Wide Product Variety

Consumers benefit from Walmart's low prices across a wide array of grocery and general merchandise products, including nationally recognized brands. Many retailers, including grocers, use a "high-low" pricing strategy, whereby occasional promotions are offered on a limited set of products.² This pricing strategy creates a need for consumers to shop around strategically to get the best value, which places an additional cost on consumers in the form of the time and effort required to search for promotions. Moreover, customers who do not have the ability or the resources to participate in strategic shopping are required to pay higher prices. By contrast, Walmart follows an "Every Day Low Prices" pricing strategy. This strategy aims to set customer expectations for consistently low prices and mitigates the need for customers to shop strategically. Many economists credit Walmart's success to its Every Day Low Prices philosophy because customers are attracted to its simplicity: the knowledge that they will consistently pay low prices for the products they actually want without needing to strategize or expend time and resources ensuring they are getting the best value.³

Empirical studies show that Walmart's prices tend to be significantly lower than those of its competitors.⁴ Walmart's low prices enable consumers to purchase products at a significant discount relative to prices at other competing retailers. For example, a 2023 study on rising prices of essential products—such as groceries, household cleaning supplies, pet food, and personal and skin care supplies—by market research firm DataWeave found that the same basket of grocery items cost consistently and meaningfully less at Walmart than at Amazon, Kroger, and Target⁵ (see **Figure 1**). These findings are consistent with findings in the economic literature, which have consistently shown that Walmart offers prices that are 10–25% lower than its competitors' prices.⁶

2 Paul B. Ellickson and Sanjog Misra, "Supermarket Pricing Strategies," *Marketing Science*, 2008.

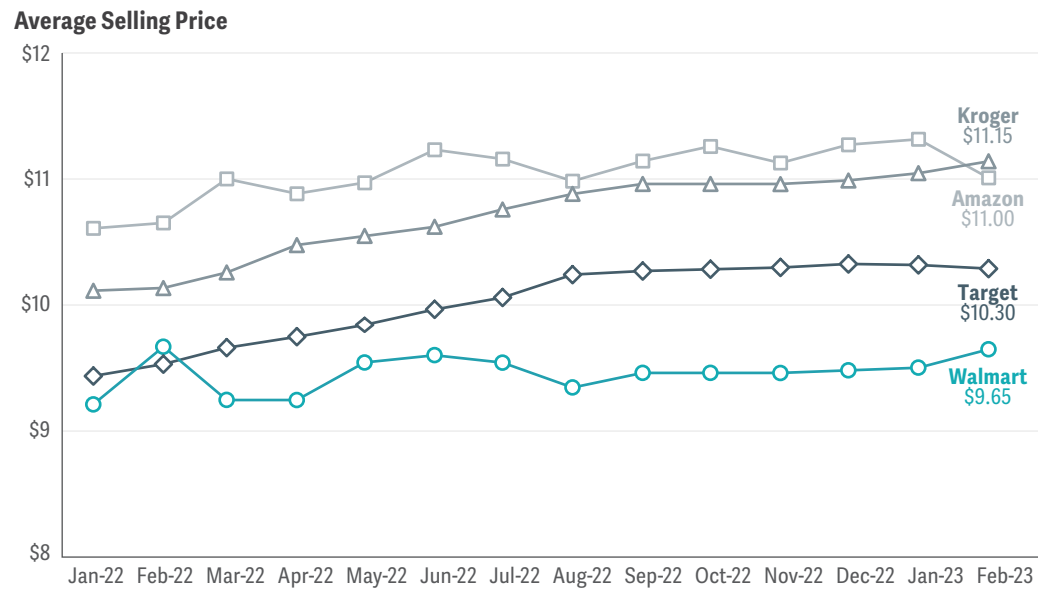
3 Rajiv Lal and Ram Rao, "Supermarket Competition: The Case of Every Day Low Pricing," *Marketing Science*, 1997; Eugene Jones, "Supermarket Pricing and Game Theory: The Presence of Wal-Mart," *The American Agricultural Economics Association*, 2004.

4 Certain discount grocery stores like Aldi, Trader Joes, or Costco may offer lower prices; however, those stores typically carry a limited variety of products, with a focus on their own "private labels" (e.g., Kirkland for Costco), such that their business model and value proposition are different than Walmart's. See, e.g., Sayan Chatterjee, "Two Efficiency-Driven Networks on a Collision Course: ALDI's Innovative Grocery Business Model vs Walmart," *Strategy & Leadership*, 2017.

5 DataWeave, "Impact of Inflation on Grocery: Pricing Insights on Leading US Retailers," June 16, 2023. DataWeave collected data on "a diverse range of products, from pantry staples like flour and rice to perishable goods like dairy and produce – a basket of around 600 SKUs matched across Amazon, Kroger, Target and Walmart, between January 2022 to February 2023."

6 Jerry Hausman and Ephraim Leibtag, "Consumer Benefits from Increased Competition in Shopping Outlets: Measuring the Effect of Wal-Mart," *Journal of Applied Econometrics*, 2007; Richard J. Volpe and Nathalie Lavoie, "The Effect of Wal-Mart Supercenters on Grocery Prices in New England," *Review of Agricultural Economics*, 2008; Emek Basker and Michael Noel, "The Evolving Food Chain: Competitive Effects of Wal-Mart's Entry into the Supermarket Industry," *Journal of Economics & Management Strategy*, 2009; James J. Csipak, Rohit Rampal, and Laurent Josien, "The Effect of a Wal-Mart Supercenter on Supermarket Food Prices: The Case of the City of Plattsburgh in Upstate New York," *Academy of Marketing Studies Journal*, 2014; PJ Glandon and Matthew Jaremski, "Sales and Firm Entry: The Case of Wal-Mart," *Southern Economic Journal*, 2014.

Figure 1: Walmart's Prices Are Consistently Lower Than Its Competitors' Prices



Note: Average selling price is a simple (unweighted) average calculated across a basket of 500+ SKUs across Target, Walmart, Kroger, and Amazon compiled by DataWeave. Prices are approximate. A sample of the categories of goods contained in the basket includes skin care, cosmetics, bread, cookies, packaged dinners and sides, baking supplies, oral care, household cleaning, coffee and soup, hair care, personal care, pet food, candy, nuts, and snacks.

Source: DataWeave, "Impact of Inflation on Grocery: Pricing Insights on Leading US Retailers," June 16, 2023, <https://dataweave.com/blog/inflations-impact-on-grocery-pricing-insights-on-leading-us-retailers>.

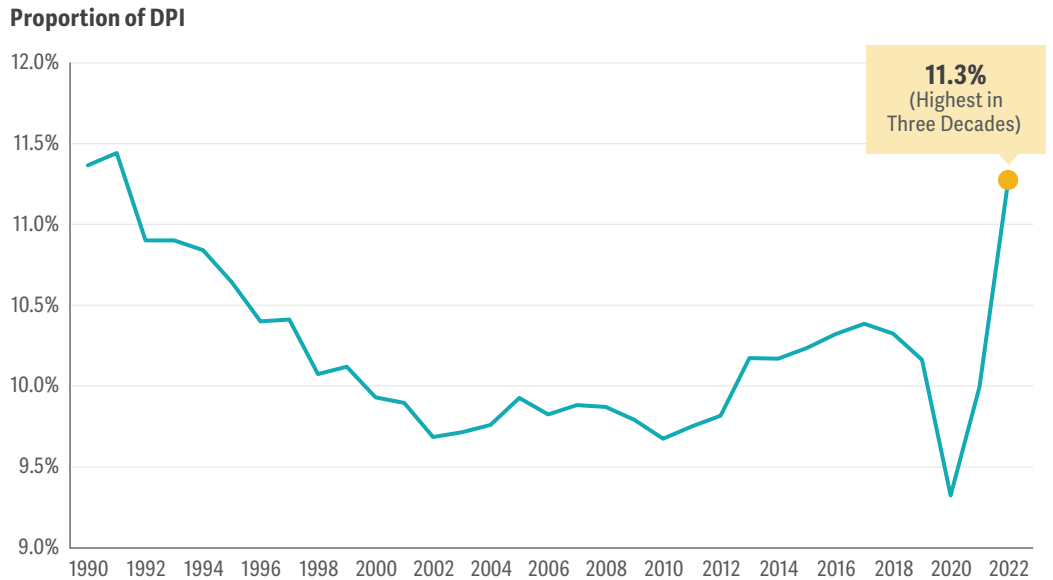
Consumers also benefit from a wide product and service variety that enables them to fulfill more of their shopping needs in a single stop and reduce time spent shopping and the cost of transportation. One economic study found that when Walmart expanded its product and service offering by converting its stores to supercenters, consumers increased their total spend substantially. This finding indicates that customers can meet more of their shopping needs at one store.⁷ To further increase product variety in its stores, Walmart in 2013 began the "Open Call" program in the US, through which American entrepreneurs are able to pitch new products for sale at Walmart stores.⁸

Walmart's value proposition has been particularly important as the COVID-19 pandemic and inflation drove large increases in household spending on food prepared at home.

According to the Economic Research Service at the US Department of Agriculture, household spending on food increased substantially between 2020 and 2022. In 2022, consumers spent the highest share of their disposable income (DPI) on food (11.3%) in three decades (see **Figure 2**).^{9,10}

7 Minha Hwang and Sungho Park, "The Impact of Walmart Supercenter Conversion on Consumer Shopping Behavior," *Management Science*, 2016.
 8 Walmart, "Open Call 2023: Celebrating a Decade of Opportunities."
 9 Jesse Newman and Heather Haddon, "It's Been 30 Years Since Food Ate Up This Much of Your Income," *The Wall Street Journal*, February 21, 2024; USDA Economic Research Service, "Food Prices and Spending."
 10 Michael K. Adjemian, Shawn Arita, Seth Meyer, and Delmy Salin, "Factors Affecting Recent Food Price Inflation in the United States," *Applied Economic Perspectives and Policy*, 2023; Michael K. Adjemian, Shawn Arita, Seth Meyer, and Delmy Salin, "Factors Affecting Recent Food Price Inflation in the United States," *Applied Economic Perspectives and Policy*, 2023.

Figure 2: In 2022, Household Spending on Food Reached the Highest Level in 30 Years



Source: US Department of Agriculture, Economic Research Service, “Food Expenditure Series,” accessed April 1, 2024.

Data indicate that during this period, grocery prices at Walmart were consistently lower than competitors’ prices. According to Reuters, an analysis of prices on a basket of common grocery items from January 2022 to February 2023 showed that Walmart’s average grocery prices rose by 3%, compared to the 7.5% US inflation rate and average price increases of 7.5% or more at Amazon, Kroger, and Target.¹¹ These lower prices attracted consumers who—in the face of inflation, restarted student loan payments, and other economic challenges—have become more value-conscious. In the first half of 2023, consumers—including both low- and high-income households—made more visits and spent more money per trip at Walmart.¹² These purchasing patterns demonstrate consumers’ “revealed preference” to shop at Walmart, and that US households—including those with higher incomes—are drawing increasing value from Walmart’s offerings and low prices.

2. Walmart’s Presence Also Benefits Non-Walmart Shoppers by Incentivizing Competitors to Lower Prices and/or Improve Quality

Economists have documented how Walmart’s presence in a community also benefits non-Walmart shoppers by incentivizing Walmart’s competitors to lower their prices and/or otherwise improve their shopping experience and quality to stay competitive. For example, one academic study examined competitors’ price responses to Walmart store openings for 10 commonly purchased items over a 20-year period.¹³ The study found that

11 Siddharth Cavale, “Walmart Keeps Grocery Prices Steady Amid Inflation, Antitrust Claims,” *Reuters*, May 5, 2023.

12 Jordyn Holman, “Walmart Draws More Shoppers, Helping to Bolster the Economy,” *The New York Times*, August 17, 2023; Anne Cain, “Americans With Incomes Over \$100,000 Are Flocking to Walmart to Save Money, Revealing How Soaring Prices Are Squeezing The Upper Middle Class,” *Business Insider*, August 20, 2022.

13 These items included aspirin, cigarettes, Coca-Cola, detergent, Kleenex, shampoo, toothpaste, shirts, pants, and underwear. Emek Basker, “Selling A Cheaper Mousetrap: Wal-Mart’s Effect on Retail Prices,” *Journal of Urban Economics*, 2005.

prices charged by Walmart's competitors decreased by 1.5–3% in the short-run and 7–13% in the long-run after Walmart's entry.¹⁴ Another published study examining grocery prices in supermarkets in New England found that Walmart supercenters caused other supermarkets to lower their prices of national brands by 6–7% and the prices of their private label grocery items by 3–8%.¹⁵

Other research suggests that competitors also react to Walmart's presence by making improvements along non-price dimensions, such as the variety of products offered, customer experience, or food quality and availability. A 2011 academic study, for example, found that stores facing greater competition from Walmart had fewer inventory shortfalls.¹⁶ Inventory shortfalls force consumers to either buy less-preferred (or more-expensive) alternatives or find an alternative retailer with the preferred good, which can be costly and inconvenient. Moreover, case studies on competition in the grocery sector, including retailers competing with Walmart, suggest that supermarkets increasingly compete on product quality, variety, and customer.¹⁷

B. Walmart's Low Prices, Product Diversity, and Geographic Reach Disproportionately Benefit Low-Income Households and Alleviate Food Insecurity

1. Walmart's Openings and Delivery Services Help Customers in Food Deserts Access Groceries

The past few decades have been marked by an increase in the prevalence of "food deserts"—geographic areas in the US with low-income residents who have limited or no access to affordable and healthy foods. Walmart is a primary retailer for many families, particularly in rural areas, and it has opened hundreds of stores in USDA-designated food deserts. Specifically, Walmart has owned or operated more than 400 stores in USDA-designated food deserts.¹⁸

Walmart stores may be the only source of access to healthy grocery items, including fresh produce, for vulnerable communities in these food deserts. Economic studies on the impact of Walmart's entry on access to affordable foods show that Walmart supercenters help alleviate food insecurity. A 2019 study analyzing data from the Current Population Survey on food security conducted by the US Census Bureau found that **closer proximity to a Walmart supercenter improves household and child food security, with the largest effects among low-income households and children.**¹⁹

14 Emek Basker, "Selling A Cheaper Mousetrap: Wal-Mart's Effect on Retail Prices," *Journal of Urban Economics*, 2005.

15 Richard J. Volpe and Nathalie Lavoie, "The Effect of Wal-Mart Supercenters on Grocery Prices in New England," *Review of Agricultural Economics*, 2008.

16 David A. Masta, "Competition and Product Quality in the Supermarket Industry," *The Quarterly Journal of Economics*, 2011.

17 Francoise Carre, Chris Tilly, and Brandynn Holgate, "Competitive Strategies in the US Retail Industry: Consequences for Jobs in Food and Consumer Electronics Stores," *Center for Social Policy Publications*, 2010.

18 Kathleen McLaughlin, "Providing Access to Affordable, Sustainable and Healthier Food," *Feeding America*, April 22, 2016.

19 Charles J. Courtemanche, Art Carden, Murugi Ndirangu, and Xilin Zhou, "Do Walmart Supercenters Improve Food Security?," *Applied Economic Perspectives and Policy*, 2018.

Following the COVID-19 pandemic, the emergence and growth of online grocery delivery services, such as Amazon's and Walmart's delivery services, have reshaped the landscape of food access.²⁰ These home delivery services have become an increasingly popular retail channel for groceries and can be particularly beneficial to households without access to a car.²¹ According to a 2022 study by the Brookings Institution—an independent and non-partisan think tank—90% of the US population living in low-income and low-access geographical areas traditionally defined as “food deserts” has access to at least one of the four “most prominent digital food delivery companies and platforms”: Walmart, Instacart, Amazon, and Uber Eats.²² In an effort to make delivery services affordable for low-income communities, Walmart offers the “Walmart+ Assist” program, through which households receiving government benefits are able to join Walmart+, a program offering unlimited free deliveries from local stores and fast shipping for online orders, at a 50% discount from the regular price.²³

2. Walmart's Low Prices Benefit Low-Income Households the Most, Including SNAP and WIC Beneficiaries

Access to affordable groceries is of particular importance to low-income households because food and groceries represent a higher portion of their disposable income. As shown in **Table 1**, the poorest 20% of US households spend more than 25% of their income on groceries (“food at home”) compared to 3.5% for the richest 20% of households. Economists have long recognized that higher food prices have a “regressive impact,” meaning that they disproportionately affect low-income households. This implies that Walmart's **low prices provide a greater relative benefit to households on the lower end of the income distribution**. This so-called “progressive benefit” of Walmart's low prices was highlighted in a study by Jason Furman—the former chair of the Council of Economic Advisers under President Obama—and in several studies by other economists.²⁴ A 2020 analysis of the characteristics of shoppers at Walmart and other retailers indicates that Walmart shoppers tend to have lower income than those who shop at competing retailers like Target, Costco, Kroger, or Amazon, suggesting that the savings provided by Walmart disproportionately benefit low-income households.²⁵

20 Caroline George and Adie Tomer, “Delivering to Deserts: New Data Reveals The Geography of Digital Access to Food in The U.S.,” May 11, 2022.

21 McKinsey & Company, “The State of Grocery in North America 2023,” September 25, 2023.

22 Caroline George and Adie Tomer, “Delivering to Deserts: New Data Reveals The Geography of Digital Access to Food in The U.S.,” May 11, 2022.

23 The discounted annual memberships cost approximately \$4 per month. Walmart, “Walmart+ Assist Membership | 50% Off Memberships.”

24 Jason Furman, “Wal-Mart: A Progressive Success Story,” 2005, p. 3. See also Emek Basker, “The Causes and Consequences of Wal-Mart's Growth,” *Journal of Economic Perspectives*, 2007, p. 187. Even today, while much of Walmart's growth is driven by an increase in high-income shoppers, low-income shoppers making less than \$40,000 per year remain an overrepresented group compared to the general population. Grace Dean, “It Looks Like High-Income Shoppers Are Becoming Increasingly Loyal to Walmart,” *Business Insider*, February 21, 2024; Numerator, “Walmart Retailer Snapshot.”

25 Mary Hanbury, “This Is What The Average Walmart Shopper Looks Like,” *Business Insider*, January 19, 2020. Additionally, Walmart has the highest percentage of shoppers with household incomes less than \$25,000, between \$25,000 and \$49,900, and between \$50,000 and \$74,900.

Table 1: Average Consumer Expenditures on Food at Home by Income Quintile (Data from 2022 US Bureau of Labor Statistics Consumer Expenditure Survey)

| | Average Income Before Taxes [A] | Average Annual Expenditure on Food at Home [B] | Food Share of Income [C]=[B]/[A] |
|-----------------------|---------------------------------|--|----------------------------------|
| Bottom Quintile (20%) | \$14,000 | \$3,600 | 25.7% |
| Second Quintile | \$37,000 | \$4,300 | 11.6% |
| Third Quintile | \$66,000 | \$5,500 | 8.3% |
| Fourth Quintile | \$109,000 | \$6,500 | 6.0% |
| Top Quintile (20%) | \$244,000 | \$8,500 | 3.5% |
| Average | \$94,000 | \$5,700 | 6.1% |

Source: US Bureau of Labor Statistics Consumer Expenditure Survey, 2022.

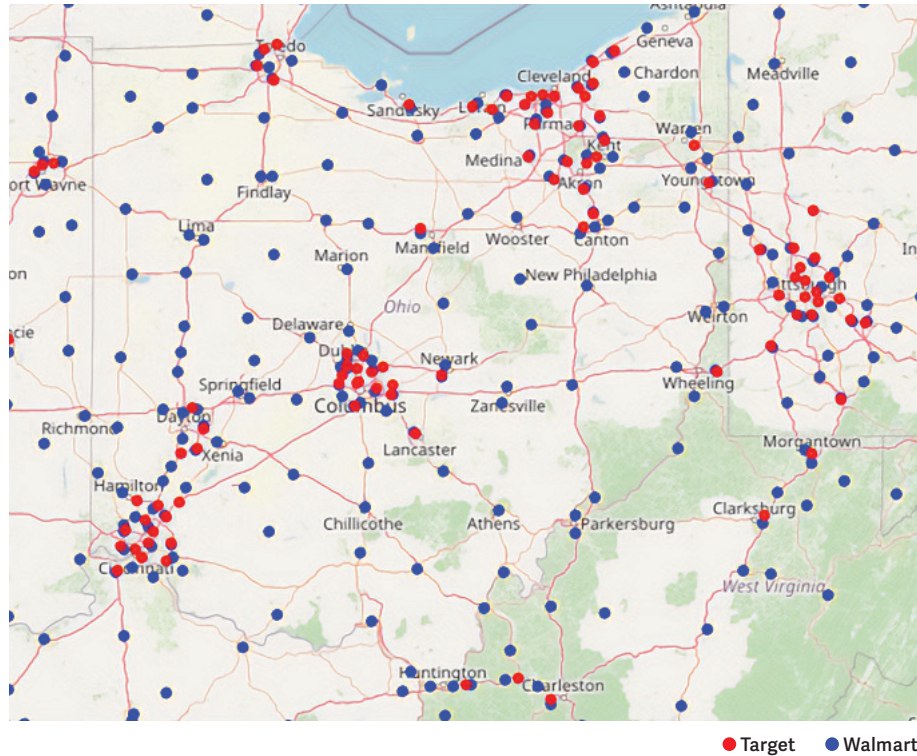
Not only are Walmart’s low prices more valuable to low-income households, but empirical research has also found that **Walmart is one of the primary retailers serving low-income, non-metropolitan areas²⁶ and recipients of food assistance programs.** For example, 38% of Walmart’s stores are in either rural or suburban areas, compared to only 9% for Target stores.²⁷ **Figure 3** provides an illustrative example from Ohio and West Virginia, where Target stores are typically found in urban areas, clustered around major cities like Columbus, Cincinnati, or Pittsburgh, while Walmart stores are more evenly distributed across the region, a relatively heavier footprint in rural areas. As a result, Target’s customers tend to have higher household incomes compared with Walmart’s customers (\$79,000 vs. \$62,000, a difference of 27%).²⁸

26 See, e.g., Numerator, “Walmart Retailer Snapshot.”

27 Bean Consulting L.L.C., “Compare Brands.”

28 Melissa Repko, “Walmart and Target’s Quarterly Results Lay Bare the Retailers’ Stark Differences,” CNBC, November 17, 2022.

Figure 3: Walmart and Target Store Locations in Ohio and Neighboring States



● Target ● Walmart

SNAP and WIC

SNAP and WIC are federal US programs that aim to provide low-income families access to healthy food. SNAP provides a set dollar amount that recipients can use to purchase food (colloquially called “food stamps”). WIC specifically targets pregnant, postpartum, and breastfeeding women, as well as infants and small children, and provides these groups with access to nutrition education and support, as well as checks or vouchers for specific foods and nutrients.³²

Walmart also plays a critical role servicing recipients of the Supplemental Nutrition Assistance Program (SNAP) and the WIC (Women, Infants, and Children) program. Research shows that the vast majority (84%) of SNAP spending takes place at large stores (super stores, supermarkets, or large grocery stores), and almost half takes place at super stores.²⁹ Walmart accounts for approximately 26% of all SNAP recipients’ grocery spending annually, and virtually all (97%) of SNAP recipients purchased groceries at Walmart in 2022.³⁰ Similarly, large stores such as Walmart account for the largest share of WIC vendors (63%) and over 75% of WIC retail spending.³¹

Given its importance to SNAP and WIC recipients, Walmart has also invested in technological features that allow for digital access to SNAP and WIC benefits. For example, Walmart was the first retailer to accept SNAP benefits online in all 50 states through its participation in the USDA’s SNAP Online Purchase pilot in 2019.³³ Unlike many of its competitors, Walmart’s website enables customers to filter for Electronic Benefit Transfer- (EBT)-eligible items, which allows SNAP recipients to authorize the transfer of

29 Laura Tiehen and Elizabeth Frazao, “Where Do WIC Participants Redeem Their Food Benefits? An Analysis of WIC Food Dollar Redemption Patterns by Store Type,” *US Department of Agriculture, Economic Research Service*, 2016, Table 5.
 30 Grocery Dive, “Walmart Captures Nearly 26% of SNAP Grocery Dollars,” May 19, 2023.
 31 Laura Tiehen and Elizabeth Frazao, “Where Do WIC Participants Redeem Their Food Benefits? An Analysis of WIC Food Dollar Redemption Patterns by Store Type,” *US Department of Agriculture, Economic Research Service*, 2016.
 32 U.S. Department of Agriculture, “WIC Frequently Asked Questions (FAQs),” March 26, 2024.
 33 Walmart, “Walmart Launches Walmart+ Assist: Half Price Memberships for Those on Government Assistance,” July 20, 2023.

their benefits from a federal account to a retailer account electronically.³⁴ Walmart has announced its intent to participate in a pilot online program administered by the USDA and Gretchen Swanson Center for Nutrition that makes it easier for shoppers to order and pay for WIC-eligible items online in the states of Massachusetts and Washington.³⁵

C. Innovations in Logistics, Distribution, and Inventory Control Have Been Central to Walmart's Ability to Provide Low Prices

Given Walmart's focus on offering Every Day Low Prices and product variety, the viability of its business model depends on its ability to generate a high volume of sales while running efficient operations. For instance, Walmart operates over 200 distribution centers and uses a fleet of over 80,000 trailers and 11,000 drivers. Each distribution center is more than 1 million square feet in size, supports between 90 and 100 stores, and turns over inventory every 24 hours.³⁶ As a result, economic research has documented how **Walmart has invested in innovative technologies in logistics, distribution, and inventory control to maximize the efficiency of these operations, harness economies of scale, and minimize costs.**³⁷ For example, Walmart was among the first retailers to connect all its stores and distribution centers to a computer network, implement the use of bar codes, and develop systems that enabled data sharing with suppliers.³⁸

In addition to driving increases in productivity at the firm level, technological innovation also extends to the broader economy and benefits consumers by enabling firms to offer new services or lower prices due to increased productivity.³⁹ Such innovation includes the development of digital technologies. Over the past 10 years, Walmart has expanded its e-commerce presence in response to increasing competition from firms like Amazon that leveraged digital technologies. Since 2017, Walmart's e-commerce sales have grown five-fold. Many factors have contributed to this growth, including its introduction of Walmart Pickup in 2015, its purchase of Jet.com in 2016, and the continued expansion of Walmart Marketplace and Walmart.com. As discussed in Section I.B.1, the expansion of grocery delivery services has helped improve food access in food deserts.

Beyond e-commerce, retailers and firms are exploring innovations on several other fronts, such as (i) the development of predictive analytics through Big Data and AI, (ii) advances in automation, and (iii) improvements in digital management and coordination. Big Data and AI, in particular, have generated considerable interest, with potential applications ranging from personalized recommendation algorithms for e-commerce to predictive

34 Walmart, "EBT Cash & SNAP Online Now Accepted in all 50 States."

35 Walmart, "Walmart To Participate in USDA, Gretchen Swanson Center for Nutrition's WIC Online Ordering Pilot," December 3, 2021.

36 Each Walmart store can be served by multiple distribution centers. Distribution centers can be specialized (e.g., grocery distribution centers and floral distribution centers). Walmart, "Supply Chain Standards," July 31, 2024, pp. 184-186

37 Emek Basker, "The Causes and Consequences of Wal-Mart's Growth," *Journal of Economic Perspectives*, 2007 p. 179.

38 As a result, in 1995, research estimated Walmart to be nearly 50% more productive than rival general retailers. Emek Basker, "The Causes and Consequences of Wal-Mart's Growth," *Journal of Economic Perspectives*, 2007. McKinsey Global Institute, "US Productivity Growth 1995-2000: Understanding The Contribution of Information Technology Relative to Other Factors," 2001.

39 N. Gregory Mankiw, *Principles of Economics 6th Edition Ed.*, South-Western, Cengage Learning, 2011.

maintenance systems for manufacturing industries. Although economic evidence on the quantitative impact of these innovations is still developing, initial signs indicate that these technological advances will likely further allow Walmart to keep costs (and prices) low.⁴⁰

- **Big Data and AI:** Walmart is investing in Big Data and generative AI technologies to address supply chain issues and improve coordination with suppliers:
 - Walmart has begun employing AI models to efficiently manage inventory flow, relying on decades of sales data to predict demand and distribution routes and accounting for weather patterns or macroeconomic indicators to adjust its supply chain in response.⁴¹
 - Walmart is also employing AI technology to manage relationships with its suppliers more efficiently and flexibly. Historically, Walmart lacked the capacity to negotiate with each supplier individually; as such, Walmart offered standardized contracts to roughly 20% of its smallest suppliers. In 2021, Walmart developed an AI negotiating program that allowed these suppliers to make counteroffers and individually negotiate the terms of their contracts.⁴² Interviews with participating suppliers following the trial of the program indicate that suppliers generally responded positively to the new technology.
- **Advances in Automation:** Walmart has introduced robotization and automation throughout its warehouses, distribution centers, and retail floors to supplement and remove some of the more repetitive and burdensome tasks performed by employees. Walmart expects average unit costs to decline by 20% due to the construction of “automated distribution centers,” which handle physically strenuous work using robotic arms and driverless forklifts.⁴³ Additionally, Walmart has introduced “Fast Unloaders” that automate the unloading, scanning, and sorting of inventory at stores—tasks that Walmart faced retention challenges when filling—allowing workers to take on more preferable assignments.⁴⁴ To that end, Walmart plans to reallocate employees affected by these changes (if any) to supervisory roles or to other segments of its business. These advances have the potential to increase worker satisfaction and safety; a 2022 survey, for example, found that warehouse workers frequently lauded automation efforts for alleviating physical stress that could lead to injury.⁴⁵

40 Georg Graetz and Guy Michaels, “Robots at Work,” *Review of Economics and Statistics*, 2015; William Nordhaus, “Climate Clubs: Overcoming Free-riding in International Climate Policy,” *The American Economic Review*, 2014; James Bessen, “Information Technology and Industry Concentration,” *Journal of Law & Economics*, 2020. These studies adopt a variety of approaches but all model automation as either capital or labor-enhancing.

41 Walmart Global Tech, “Decking The Aisles With Data: How Walmart’s AI-Powered Inventory System Brightens The Holidays,” October 25, 2023.

42 Remko Van Hoek, Micheal DeWitt, Mary Lacity, and Travis Johnson, “How Walmart Automated Supplier Negotiations,” *Harvard Business Review*, November 08, 2022.

43 Melissa Repko, “Walmart Chases Higher Profits Powered by Warehouse Robots and Automated Claws,” CNBC, April 11, 2023.

44 Laura Heller, “7 Ways Walmart Is Innovating With Technology,” *Retail Dive*, June 7, 2018.

45 Joe Lui et al., “Research: How Do Warehouse Workers Feel About Automation?,” *Harvard Business Review*, February 11, 2022.

- **Improvements in Digital Management and Coordination:** Walmart is also introducing new technology to better coordinate the actions of its employees and improve efficiency and reduce costs. In 2021, Walmart launched the “Me@ Walmart” app for employees, which enables scheduling, timekeeping, peer-to-peer communication, and augmented-reality scanning of inventory, all from a company-provided mobile phone.⁴⁶ The app also includes the “Ask Sam” voice assistant, as well as a store map, a price checker, a product locator, and other services that allow employees to efficiently navigate the store and answer customer questions.⁴⁷ Walmart also provided its fleet of trucks with tablet systems that allow for real-time inventory tracking and driver-to-warehouse communication. These features facilitate efficient and automated scheduling and navigation, leading to faster turnaround times for drivers and enabling individual stores to better anticipate and plan for upcoming deliveries.

II. Walmart Benefits Retail Workers and Local Labor Markets While Having Limited Impact on Local Businesses

A. Walmart's Presence Benefits Retail Workers

1. Walmart Employees Are Compensated Fairly

Walmart is one of the largest private employers in the US. In 2023, Walmart employed approximately 1.6 million US workers across a wide range of roles, including retail, trucking, distribution, management, and in campus offices. Even within one Walmart store, various types of positions are available. For example, store employees may work in customer-facing roles as cashiers, work around the store to provide general merchandise assistance, or work behind the scenes with stocking and unloading or, increasingly, preparing and delivering online orders.⁴⁸ Specific departments such as the bakery, pharmacy, auto care center, or fuel station may require specialized skillsets.

Walmart's hourly entry wage ranges from \$14 to \$19 for retail roles⁴⁹ and is commensurate with national retail wages. According to the most recent data from the Bureau of Labor Statistics (see **Figure 4**), the median wage for retail sales workers in the US was just above \$16 per hour, with the range between the 25th and 75th percentile of wages being \$13.75–18. Walmart store associates' wages compared even more favorably to

46 Walmart, “Walmart Unveils All-in-One Associate App, Me@Walmart, and Gives 740,000 Associates a New Samsung Smartphone,” June 3, 2021; Michael Browne, “Walmart Introduces In-Store App To Simplify Work Tasks, Including Voice-Activated Personal Assistant,” *Supermarket News*, June 04, 2021.

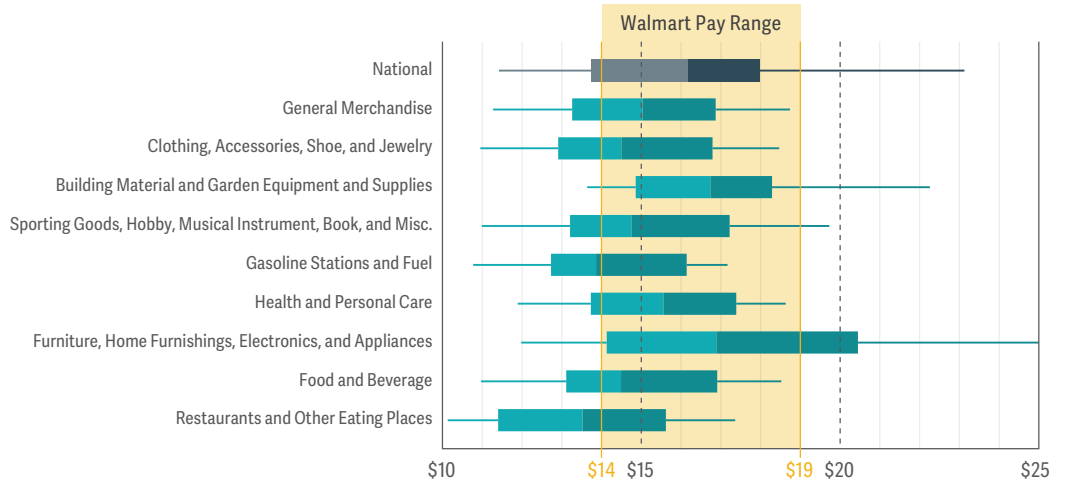
47 See, e.g., Danielle Abril, “What Walmart's Tech Investments Mean For Workers and Shoppers,” *The Washington Post*, March 28, 2022. Walmart, “Mobile App ‘Ask Sam’ Offers Answers and Emergency Alerts to Associates in Real-Time,” July 29, 2020.

48 Employees also work in jobs across Walmart's extensive distribution network. Walmart operates 210 distribution centers, from which it delivers products received in bulk to stores, via a fleet of over 9,000 tractors, 80,000 trailers, and 11,000 drivers. Walmart, “About Walmart.”

49 Supermarket News, “Walmart Boosts Wages, Benefits as Job Market Remains Tight,” January 25, 2023.

wages of retail workers in sectors offering jobs closest to those offered by Walmart, such as the general merchandise, food, and restaurant sectors.

Figure 4: Hourly Wages for Retail Salespersons in the US as of May 2023 at Walmart and Others



Note: Median wages are represented by the vertical white line in the middle of each box. Boxes represent the interquartile range (i.e., 25th to 75th percentiles), while the ends of the whiskers represent the 10th and 90th percentiles of hourly wages. For Furniture, Home Furnishings, Electronics, and Appliances, the 90th-percentile hourly wage is \$27.29.

Sources: Bureau Of Labor Statistics Occupational Employment and Wages, May 2023; Melissa Repko, “Walmart Raises Minimum Wage as Retail Labor Market Remains Tight,” CNBC, January 24, 2023.

2. Walmart Offers Valuable Non-Wage Benefits to Workers

Workers are typically compensated with more than just wages—they receive benefits like health insurance and paid leave, as well as intangible features of the job such as flexibility and predictable hours. Labor economists have documented that these forms of non-wage compensation are valued by employees. **Walmart offers a range of non-wage benefits to workers, such as scheduling predictability and flexibility, stock awards, health insurance, paid parental leave, and free training opportunities.**

- Scheduling Predictability and Flexibility:** Many hourly positions adopt “just-in-time” scheduling, where workers learn about their shifts on short notice (sometimes less than a week in advance) and shifts can only be changed or cancelled last minute.⁵⁰ Just-in-time scheduling can create income volatility and significant costs and labor market barriers for workers. It is particularly costly and disruptive for workers with children who may need to pay unexpected costs to arrange for childcare on short notice. In fact, economic literature has shown that estimates of workers’ willingness to pay to avoid just-in-time scheduling ranges from 22.7% to 29.3% of their salary, depending on the population sampled.⁵¹ Today, all associates are notified of their schedules at least two weeks in advance and are able to work consistent schedules

50 Katherine Guyot and Richard V. Reeves, “Unpredictable Work Hours and Volatile Incomes Are Long-Term Risks for American Workers,” August 18, 2020.

51 Alexandre Mas and Amanda Pallais, “Valuing Alternative Work Arrangements,” *American Economic Review*, 2017.

from week to week.⁵² By increasing predictability and flexibility, Walmart's shift to this new scheduling system makes working at Walmart more valuable to its workers.

- **Employee Stock Compensation:** As wealth inequality has increased over the past few decades in the US, economists have raised concerns that high rates of return to capital may perpetuate cycles of inequality.⁵³ Indeed, the majority of low-income families do not invest in the stock market, and therefore miss out on a tool for accruing greater wealth. Walmart has been making efforts to increase employee ownership of the company's publicly traded stock, which is atypical in the retail industry. For example, in February 2024, Walmart announced a 3-1 stock split (whereby each share is split into three shares such that a single share is lower priced) to make it easier for all employees to own equity in the company.⁵⁴ Additionally, Walmart offers an "Associate Stock Purchase Plan," through which eligible associates may purchase stocks via payroll deductions, and Walmart offers a 15% match for the first \$1,800 spent each year.⁵⁵ Walmart now has more than 440,000 participants in its Associate Stock Purchase Plan program, and has seen a 7% increase in participation since the 3-for-1 stock split in February 2024. In addition, Walmart grants store managers \$10,000–20,000 annually in Walmart shares.
- **Employee Benefits and Paid Parental Leave:** The US is one of the only countries in the world where employers are not required to offer paid parental leave to employees at the federal level, and only have to provide 12 weeks of *unpaid* leave for specified family and medical reasons.⁵⁶ At Walmart, however, salaried and full-time hourly associates receive paid parental and maternity leave benefits. When an associate welcomes a child through birth, adoption, or foster placement, they can take six weeks (hourly associates) or 12 weeks (salaried associates) of paid time off. Birth moms who are full-time associates receive up to 16 weeks (hourly associates) or 22 weeks (salaried associates) of paid time off when maternity and parental leaves are combined. Additionally, associates and their household family members may also take advantage of up to 20 confidential, no-cost mental health counseling sessions per year, per member. Walmart also offers medical coverage to full-time and eligible part-time associates. For 2024, medical coverage starts at \$34.50 per biweekly pay period, approximately one-third less than the average premium employees pay at other companies nationally.⁵⁷ To support financial well-being, Walmart offers associates access to tools and apps managed by expert third-party providers to help associates manage their money. Walmart offers eligible associates

52 Walmart, "New Scheduling System Gives Associates More Consistency and Flexibility," November 13, 2018; Walmart, "Walmart Scheduling Provides Work-Life Balance," August 17, 2023.

53 Matthew Smith, Owen Zidar, and Eric Zwick, "Top Wealth in America: New Estimates Under Heterogeneous Returns," *The Quarterly Journal of Economics*, 2022; Thomas Piketty, *Capital in the Twenty-First Century*, Harvard University Press, 2014.

54 Cheryl Winokur Munk, "What Walmart's New Focus on Employee Stock Means for The Labor Market and Average American Household," CNBC, February 03, 2024.

55 Walmart, "Walmart Announces 3-for-1 Stock Split," January 30, 2024.

56 Gretchen Livingston and Deja Thomas, "Among 41 Countries, Only U.S. Lacks Paid Parental Leave," Pew Research Center, December 16, 2019.

57 Kaiser Family Foundation, "2023 Employer Health Benefits Survey," October 18, 2023; Walmart, "2024 Benefits Rates," 2024; Walmart, "2024 Associate Benefits Book: Summary Plan Descriptions," January 1, 2024.

a 401(k) match of up to 6%. Additionally, Walmart associates and their spouses receive a 10% discount on fresh fruits, vegetables, and regularly priced general merchandise, plus select merchandise on Walmart.com.⁵⁸

- **Free Education Benefits and Training Opportunities:** Within the retail industry, only one-quarter of frontline workers have earned a college certificate or degree, the lack of which can often represent a “paper ceiling” for higher-paying jobs.⁵⁹ Via the Live Better U program, Walmart offers its employees opportunities to obtain bachelor's degrees, short-term certificates, and high school diplomas. The program pays for all tuition and certain educational fees, such as books. With over 126,000 participants since its inception in 2018, the program is one of the largest employer-sponsored educational benefits programs in the US. Moreover, the participants in Live Better U are generally older than typical high school and college students, the average age of participants is between 30 and 40, and most of them are women.⁶⁰ Walmart also does not require that employees stay with Walmart after graduating. In addition to sponsoring these external education opportunities, Walmart also offers internal training programs for career advancement (see Section II.A.2 for more details).

3. Walmart Offers Employees Substantial Career Advancement Opportunities, Especially for Those without a College Degree

Economic research indicates that the lack of a college degree can be a formidable barrier to climbing the career ladder, forming a “paper ceiling” for workers who have not pursued higher education. As a result, workers without college degrees typically have worse jobs and less job security than those with college degrees, are unable to accumulate as much wealth, and have more difficulty accessing credit.⁶¹ Access to college itself can be particularly difficult and unaffordable for marginalized or low-income communities.⁶² As such, this paper ceiling can perpetuate existing inequities. In addition to Walmart's free education benefits and trainings discussed above, it also provides an environment for career advancement of those without degrees.

Walmart has been relaxing or removing education requirements for hiring and career advancement opportunities. More than 75% of Walmart positions in the U.S. do not require a college degree, as **Walmart has moved to a “skills-based hiring”** model for its corporate headquarters and revised job descriptions for certain positions (e.g., in cybersecurity, data analytics, or operations) to allow applicants to demonstrate that they have the skills needed for the job based on prior experience or non-college training and education.⁶³ For example, under this new hiring model, prospective cybersecurity analysts can receive

58 The discount is available after three months of employment. Walmart, “Walmart Associate Discount Card,” 2019.

59 Pamela Loprest and Kelly S. Mikelson, *Frontline Workers in the Retail Sector: A Profile of Characteristics for Advancement*, Urban Institute: Income and Benefits Policy Center, August 2019, p. iii.

60 Walmart, “Walmart Expands Education Program for Associates, Aligns Live Better U Program to Future of Work with Additions of Skilled Trades and Digital Programs,” June 10, 2020.

61 Third Way, “Worlds Apart: The Non-College Economy,” May 19, 2023.

62 See, e.g., Caroline Hoxby and Christopher Avery, “The Missing ‘One-Offs’: The Hidden Supply of High-Achieving, Low-Income Students,” *Brookings Papers on Economic Activity*, 2013.

63 Jena McGregor, “Walmart Plans to Remove College Degree Requirements From Hundreds of Corporate Job Descriptions,” *Forbes*, September 28, 2023.

requisite certification in 9–12 months compared to the 2–4 years it would typically take to receive a college degree.

Additionally, many managers of Walmart stores do not have college degrees because they started out as hourly associates and were promoted internally. In fact, approximately 75% of Walmart U.S. store, club and supply chain management started their careers as hourly associates.⁶⁴ Career advancement at Walmart is associated with significant pay increases. The base salary for superstore managers starts at \$128,000, and their compensation also includes bonuses and stock grants. Superstore managers earn \$210,000 on average, and their total earnings can reach up to \$500,000.⁶⁵ As one example, Juan Trias, the store manager of Store 4490 in Tucson, AZ, started out as a temporary bicycle associate. At the time, he was a recent immigrant from Mexico and a new dad.⁶⁶ Over the years, Juan progressed through the ranks at Walmart and earned his bachelor's degree in business management through Walmart's Live Better U program. Under his leadership, the store improved along several dimensions, experiencing significant improvements in sales, profitability, employee retention, and customer satisfaction.

To facilitate career advancement within the company, **Walmart provides job-specific training programs to allow its employees to invest in job-specific human capital** through programs like Walmart Academy, the "Home Office Pathways Experience," and other training programs. Each program enables store associates to specialize in a particular area and increase their earnings.

- **Walmart Academy** aims to equip salaried managers and hourly supervisors with business skills such as how to calculate profit and loss statements and interpersonal management and soft skills, so that they are able to lead teams and run their departments like a small business.⁶⁷ In 2023, Walmart Academy trained over 300,000 US-based retail employees, part of its \$1 billion investment by 2026 in career-driven training and education programs for its employees.⁶⁸ Another part of that investment is the **Manager Academy** program, an immersive, one-week experience that brings facility leaders to corporate headquarters to focus on purpose, culture and leadership skills while interacting with senior company leaders.

64 Walmart, "More Than a Job – A Ladder of Opportunity: Walmart Promotes, on Average, 500 Associates Each Day," April 28, 2021.

65 Sarah Nassauer, "The \$400,000 Job That Doesn't Require a College Degree," *The Wall Street Journal*, January 29, 2024; Walmart, "Working at Walmart Supports Associates' Career Journey in Every Stage of Life," May 15, 2022; Jaewon Kang, "Yes, Walmart Store Managers Really Can Make \$500,000 a Year," *Bloomberg*, May 30, 2024.

66 Walmart, "Growing a Career at Walmart. One Opportunity at a Time," 2023.

67 Michael Corkery, "At Walmart Academy, Training Better Managers. But With a Better Future?," *The New York Times*, August 8, 2017.

68 Walmart, "The Walmart Academy Gives Associates the Skills to Excel in Their Jobs Today and in the Future," August 17, 2023; Walmart, "Walmart Launches One Global Walmart Academy To Help 2.3 million Associates Build and Grow Their Careers," June 02, 2022.

- The **Associate-to-Technician program** provides training opportunities to retail employees to advance into specialized, higher-paying technician roles like refrigeration and cooling maintenance, facilities maintenance, and automation technician. While entry-level associate pay typically ranges between \$14 and \$19 per hour, these technician roles make between \$19 and \$45 per hour.⁶⁹
- The **Associate-to-Driver program** provides training to Walmart's retail and supply chain employees so that they can obtain their commercial driver's licenses and become drivers in Walmart's private fleet of trucks. The starting pay for these roles can be nearly double the average salary for long-haul truck drivers (\$110,000 vs. \$57,000).⁷⁰

4. Studies Show Walmart's Entry Spurs Overall Retail Job Growth in Local Labor Markets

Due to its size and influence on the retail industry, the impact of Walmart on local labor markets has been the topic of an ongoing debate in public discourse as well as the academic literature. Many critics have expressed concerns that Walmart's entry reduces the number of retail jobs in local markets by harming small businesses and suppressing wages for low-income workers.⁷¹ Despite the level of attention these concerns have received, economic studies using rigorous study designs do not provide support for these criticisms.⁷²

Instead, **a literature review of economic studies on the impact of Walmart's entry on local labor markets indicates that "most studies [...] point to a modest increase in retail employment."**⁷³ For example, one review of Walmart's labor market impacts in rural and urban counties across the US found that Walmart's entry leads to significant increases in retail employment, ranging from 6% to 8% in rural counties and 20% in urban counties.⁷⁴

69 Siddharth Cavale, "Walmart Offers Bonus Program to About 700,000 Hourly US Store Workers," *Reuters*, June 5, 2024.

70 Walmart, "Drive-In Opportunity: Walmart Raises Driver Pay and Launches Private Fleet Development Program," April 7, 2022.

71 Common criticisms in early public discourse include Charles Fishman's book *The Wal-Mart Effect: How the World's Most Powerful Company Really Works—and How It's Transforming the American Economy* and Robert Greenwald's 2005 film *Wal-Mart: The High Cost of Low Price*. Charles Fishman, *The Wal-Mart Effect: How the World's Most Powerful Company Really Works*, Penguin Books, 2006; Robert Greenwald, *Wal-Mart: The High Cost of Low Price*, Brave New Films 2005.

72 Richard Volpe and Michael D. Boland, "The Economic Impacts of Walmart Supercenters," *Annual Review of Resource Economics*, 2022; Alessandro Bonanno and Stephan J. Goetz, "Walmart and Local Economic Development: A Survey," *Economic Development Quarterly*, 2012.

73 Richard Volpe and Michael D. Boland, "The Economic Impacts of Walmart Supercenters," *Annual Review of Resource Economics*, 2022, p. 58; Alessandro Bonanno and Stephan J. Goetz, "Walmart and Local Economic Development: A Survey," *Economic Development Quarterly*, 2012; Emek Basker, "The Causes and Consequences of Wal-Mart's Growth," *Journal of Economic Perspectives*, 2007; Michael J. Hicks, "Estimating Wal-Mart's Impacts in Maryland: A Test of Identification Strategies and Endogeneity Tests," *Eastern Economic Journal*, 2008; Russel S. Sobel and Andrea M. Dean, "Has Walmart Buried Mom and Pop? The Impact of Wal-Mart on Self-Employment and Small Establishments in the United States," *Economic Inquiry*, 2008; Art Carden, "Retail Innovations in American Economic History: The Rise of Mass-Market Merchandisers," *The Handbook of Major Events in Economic History*, 2012; Paul B. Ellickson and Paul L. E. Grieco, "Wal-Mart and the Geography of Grocery Retailing," *Journal of Urban Economics*, 2013; Michael J. Hicks, Stanley R. Keil, and Lee C. Spector, "Mom-and-Pops or Big Box Stores: Some Evidence of WalMart Impact on Retail Trade," *Economic Development Quarterly*, 2012; and Jacob Stapp, "The Walmart Effect: Labor Market Impacts In Rural And Urban Counties," *Journal of Agricultural Economics*, 2014.

74 Jacob Stapp, "The Walmart Effect: Labor Market Impacts In Rural And Urban Counties," *Journal of Agricultural Economics*, 2014.

Such a finding is consistent with economic research showing that Walmart primarily competes with other large retail chains, not mom-and-pop stores and small businesses.⁷⁵ In addition, although some studies have found that Walmart replaces low-productivity stores (see Section II.B below), these studies find that the net effect of Walmart on small businesses within a community is small because new productive businesses can still be created and exist within the community.⁷⁶ Section II.C below provides further discussion of Walmart's impact (or lack thereof) on small businesses.

Findings from studies of Walmart's impact on local wages are mixed and do not provide clear support for the concerns expressed by critics. Researchers note that estimated effects are context-dependent and can vary depending on the period of study and location,⁷⁷ with some studies finding that Walmart's entry led to significantly higher retail wages in the state, up to \$1.95 more per hour.⁷⁸ Overall, as researchers noted in a 2022 literature review, there is no consensus in the literature regarding Walmart's impact on local wages.⁷⁹

B. Walmart's Presence Benefits Suppliers

Walmart purchases groceries and a variety of other products from a complex network of over 100,000 suppliers of different sizes.⁸⁰ Some economists have hypothesized that Walmart may be able to rely on its size to force suppliers to offer lower prices. For example, size discrepancies between retailers and suppliers may result in imbalances in bargaining power, and therefore affect the outcome of supplier negotiations. However, several economic studies suggest that suppliers often benefit from Walmart's presence, mostly thanks to a high purchase volume. For instance, **a 2012 study found that, following Walmart's entry, suppliers' profits increased by 18%, almost entirely due to increased sales volume through Walmart.**⁸¹

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- 75 Michael J. Hicks, Stanley R. Keil, and Lee C. Spector, "Mom-and-Pops or Big Box Stores: Some Evidence of WalMart Impact on Retail Trade," *Economic Development Quarterly*, 2012.
- 76 See, e.g., Stephan J. Goetz and Sundar S. Shrestha, "Explaining Self-Employment Success and Failure: Wal-Mart Versus Starbucks, or Schumpeter Versus Putnam," *Social Science Quarterly*, 2009.
- 77 See, e.g., Michael J. Hicks and Kristy Wilburn, "Job Turnover and Wages in the Retail Sector: the Influence of Wal-Mart," *Journal of Private Enterprise*, 2007; David Neumark, Junfu Zhang, and Stephen Ciccarella, "The Effects of Wal-Mart on Local Labor Markets," *Journal of Urban Economics*, 2008; Alessandro Bonanno and Rigoberto Lopez, "Wal-Mart's Monopsony Power in Metro and Non-Metro Labor Markets," *Regional Science and Urban Economics*, 2012; Arindrajit Dube, T. William Lester, and Barry Eidlin, "A Downward Push: The Impact of Wal-Mart Stores on Retail Wages and Benefits," 2008.
- 78 Michael J. Hicks, "Estimating Wal-Mart's Impacts in Maryland: A Test of Identification Strategies and Endogeneity Tests," *Eastern Economic Journal*, 2008.
- 79 Richard Volpe and Michael D. Boland, "The Economic Impacts of Walmart Supercenters," *Annual Review of Resource Economics*, 2022, p. 54. See also Alessandro Bonanno and Stephan J. Goetz, "Walmart and Local Economic Development: A Survey," *Economic Development Quarterly*, 2012, p. 291.
- 80 Remko Van Hoek, Micheal DeWitt, Mary Lacity, and Travis Johnson, "How Walmart Automated Supplier Negotiations," *Harvard Business Review*, November 08, 2022.
- 81 Qingyi Huang, Vincent R. Nijts, Karsten Hansen, and Eric T. Anderson, "Wal-Mart's Impact on Supplier Profits," American Marketing Association, 2012. See also Martin Gosman and Mark Kohlbeck, "The Effects of Wal-Mart on the Profitability and Investor Valuation of Its Suppliers," Quinipiac University, 2006 and Sandra Mottner and Steve Smith, "Wal-Mart: Supplier Performance And Market Power," *Journal of Business Research*, 2009, who find similar results.

Additionally, there is no clear empirical support suggesting that smaller suppliers are harmed by Walmart's entry. A 2016 economic study found that differences in sizes between retailers and suppliers do not consistently determine profit levels. In fact, the study found that small suppliers often have similar profit shares as large suppliers.⁸² Findings from these studies are consistent with the success of Walmart's Open Call initiative, which each year continues to attract hundreds of small US suppliers that want to place their products on Walmart's shelves or website.

Market frictions such as limited brand recognition, consumer search costs, and limited access to distribution channels can hinder new and small businesses looking to introduce new products to the market. **Through Open Call and other initiatives, Walmart is able to use its scale to rapidly disseminate promising new products.** Open Call enables Walmart suppliers to improve their visibility to customers on regular shopping trips. During 2023's Open Call, more than 700 US businesses pitched over 1,000 products to Walmart, and nearly two-thirds of these products received deals to sell their products on Walmart shelves and online or will be considered for future deals.⁸³ Businesses must make, grow, or assemble their products in the US to be considered, as part of Walmart's America at Work initiative.

An example of a successful Open Call product that has become widely adopted is DUDE Wipes. During the 2017 Open Call, DUDE Wipes was among the small businesses who struck a deal with Walmart to put their products on store shelves. DUDE Wipes was started in 2013 by three roommates from their apartment. Since then, the company has sold over 4 billion wipes and created over 150 jobs in the US, facilitated by partnerships with national chains like Walmart.

Walmart also works with its suppliers to become more environmentally sustainable.

Its scale as a large customer of many different suppliers allows it to collect innovative ideas on sustainability and energy cost savings and disseminate these ideas via its "Sustainability Hub."⁸⁴ In 2017, it established Project Gigaton, one of the largest consortiums for climate action, under which suppliers voluntarily opt in to set emission reduction targets along one or more of six dimensions: Energy, Waste, Packaging, Nature, Transportation, and Product Use. Suppliers then report progress annually and receive recognition for progress toward their goals.⁸⁵ Since then, close to 6,000 suppliers have signed up to the initiative, and more than 3,000 suppliers have reported initiatives that are expected to reduce, avoid, or sequester one billion metric tons of emissions by 2030.⁸⁶

82 Carlos Noton and Andres Elberg, "Are Supermarkets Squeezing Small Suppliers? Evidence From Negotiated Wholesale Prices," *The Economic Journal*, 2016.

83 Walmart, "Walmart Wraps Up Its Tenth Annual Open Call Event, With Hundreds of Entrepreneurs Pitching Products Made, Grown or Assembled in the U.S.," October 26, 2023.

84 Walmart, "Walmart's Circular Connector."

85 Walmart, "Project Gigaton."

86 Walmart recently announced that it has achieved this goal ahead of six years ahead of schedule. Walmart, "Project Gigaton"; Walmart, "Walmart Suppliers Lead the Charge, Help Deliver Project Gigaton Goal More Than Six Years Early," February 21, 2024.

Beyond its supplier networks, Walmart itself has made efforts to improve its sustainability practices. **Walmart has publicly announced a zero-emissions target by 2040**, and it has invested heavily in renewable energies to achieve that goal.⁸⁷ For example, by the end of 2022, Walmart had more than 600 renewable energy projects operating or under development across over ten countries. In the same year, Walmart ranked 4th overall in commercial solar installation in the US (and 3rd for on-site generation). In addition, from fiscal year 2020 to 2023, Walmart executed power purchasing agreements that led to the construction of over 2 GW of wind, solar, and other renewable energy projects, and since 2021, Walmart investment in renewable energy companies enabled the construction and operation of five newly built solar projects.⁸⁸ The Green Power Partnership, a program established by the US Environmental Protection Agency, reported Walmart as the top retailer in terms of annual green power usage.⁸⁹

C. Walmart Predominantly Competes with Similar Large Businesses, and Its Impact on Local Businesses Is Minimal

Another common concern expressed about Walmart's entry into a local area is that it may negatively affect small businesses by reducing the profits of local chains and mom-and-pop stores and potentially forcing them out of business.⁹⁰ Predictions from economic theory on this question are not clear. For example, to the extent that businesses like Walmart compete more directly with other big retailers, such competition can shore up demand for small businesses by attracting consumers from neighboring communities to shop in the local area.

Although empirical evidence is limited, **available studies suggest that Walmart has a limited impact on small businesses**,⁹¹ as it tends to compete with larger competitors such as supermarket chains.⁹² For example, one study concluded that Walmart's entry only affected competitors within a two-mile radius, and found that the largest impact was on large supermarket chains, many of which were already in decline (as indicated

87 Walmart, "Walmart Suppliers Lead the Charge, Help Deliver Project Gigaton Goal More Than Six Years Early," February 21, 2024; Walmart, "Project Gigaton."

88 Walmart, "Climate Change," December 15, 2023.

89 United States Environmental Protection Agency, "Green Power Partnership Top 30 Retail."

90 Russel S. Sobel and Andrea M. Dean, "Has Walmart Buried Mom and Pop? The Impact of Wal-Mart on Self-Employment and Small Establishments in the United States," *Economic Inquiry*, 2008.

91 Emily A. Freedman, James C. McConnon, Jr, Gary L. Hunt, and Todd M. Gabe, "An Analysis of the Economic Impacts of Big-Box Stores on a Community's Retail Sector: Evidence from Maine," *The Journal of Regional Analysis and Policy*, 2016; John C. Haltiwanger, Ron S. Jarmin, and C. J. Krizan, "Mom and Pop Meet Big-Box: Complements or Substitutes?," *Journal of Urban Economics*, 2010; Alessandro Bonanno and Stephan J. Goetz, "Walmart and Local Economic Development: A Survey," *Economic Development Quarterly*, 2012; Russel S. Sobel and Andrea M. Dean, "Has Walmart Buried Mom and Pop? The Impact of Wal-Mart on Self-Employment and Small Establishments in the United States," *Economic Inquiry*, 2008.

92 See, e.g., Vishal Singh and Ting Zhu, "Spatial Competition with Endogenous Location Choices: An Application to Discount Retailing," *QME*, 2010; Paul B. Ellickson and Paul L. E. Grieco, "Wal-Mart and the Geography of Grocery Retailing," *Journal of Urban Economics*, 2013; Eric Anderson et al., "Informational Rigidities and the Stickiness of Temporary Sales," *Journal of Monetary Economics*, 2017; Richard Volpe, "Supercenters, Unionized Labor, and Performance in Food Retail," *Industrial Relations: A Journal of Economy and Society*, 2014; Minha Hwang and Sungho Park, "The Impact of Walmart Supercenter Conversion on Consumer Shopping Behavior," *Management Science*, 2016; David A. Masta, "Competition and Product Quality in the Supermarket Industry," *The Quarterly Journal of Economics*, 2011.

by employment levels) prior to Walmart's entry.⁹³ Similarly, another study concluded that Walmart competed more directly with large retailers and even department stores than with small businesses.⁹⁴ Both of these findings may help explain why earlier studies found limited long-term effects of Walmart's entry on the number and profitability of small local businesses.⁹⁵

93 Paul B. Ellickson and Paul L. E. Grieco, "Wal-Mart and the Geography of Grocery Retailing," *Journal of Urban Economics*, 2013.

94 Michael J. Hicks, Stanley R. Keil, and Lee C. Spector, "Mom-and-Pops or Big Box Stores: Some Evidence of WalMart Impact on Retail Trade," *Economic Development Quarterly*, 2012, pp. 311–320.

95 Russel S. Sobel and Andrea M. Dean, "Has Walmart Buried Mom and Pop? The Impact of Wal-Mart on Self-Employment and Small Establishments in the United States," *Economic Inquiry*, 2008; Stephan J. Goetz and Sundar S. Shrestha, "Explaining Self-Employment Success and Failure: Wal-Mart Versus Starbucks, or Schumpeter Versus Putnam," *Social Science Quarterly*, 2009.

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Analysis Group is one of the largest international economics consulting firms, with more than 1,200 professionals across 14 offices in North America, Europe, and Asia. Since 1981, Analysis Group has provided expertise in economics, finance, health care analytics, and strategy to top law firms, Fortune Global 500 companies, and government agencies worldwide.

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