

A Good Living:

Amazon Can and Must Make
a Middle-Income Livelihood
Possible for the People
Who Work in Its Warehouses

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starker when Amazon counties are measured against other high-earnings counties with warehouses. We also find that **this was not the case before Amazon arrived in those counties**, suggesting that **Amazon’s pay rates have substantially shifted average warehouse earnings lower** in the counties where it operates.

Examining the latest available Census data on county-level earnings, we have two major groups of findings.⁵ They are:

- 1. Comparing counties with and without Amazon fulfillment centers suggests that Amazon pays less than other warehouse employers.⁶**
 - i. Amazon predominately locates its warehouses in high-earnings counties.** Seventy-eight percent of counties with Amazon fulfillment centers are in the top 20th percentile of U.S. counties with warehouses with respect to average earnings for all workers in all industries.
 - ii. When measured against other comparable U.S. counties with no Amazon fulfillment centers, high-earnings Amazon counties show substantially lower pay for warehouse workers.** On average, warehouse workers in high-earnings Amazon counties make 18 percent less—\$822 less a month—than warehouse workers in non-Amazon counties that are similar with respect to average earnings for all workers in all industries.
 - iii. In the counties where Amazon operates, the gap between warehouse worker earnings and middle-income earnings is wider than in other counties.** In the high-earnings counties where Amazon operates fulfillment centers, warehouse workers’ earnings are substantially less than average earnings for all workers in those same counties—a difference of 30 percent.⁷ By contrast, in comparable non-Amazon counties, warehouse workers make closer to the average for all workers in those same counties, about 8 percent less.
- 2. Comparing warehouse earnings before and after Amazon’s arrival likewise suggests that Amazon pays less than other warehouse employers, making middle-income earnings further out of reach for warehouse workers.⁸**
 - i. Before Amazon’s arrival, warehouse worker earnings were on par with other warehouse counties.** In 2005, before Amazon had begun operating fulfillment centers in the counties in our analysis, earnings for warehouse workers in those future Amazon counties were similar to the earnings for warehouse workers in other comparable counties, suggesting that Amazon pays less than other warehouse employers.
 - ii. Before Amazon’s arrival, earnings were closer to middle-income.** In 2005, before Amazon established fulfillment centers in the counties that now host them, warehouse workers in high-earnings Amazon counties earned much closer to the average for all workers in those counties—10 percent less, compared to 30 percent less currently as mentioned above. By contrast, other comparable counties saw little change (negative 8 percent on average in both 2005 and 2022), suggesting that Amazon’s

arrival had a pivotal effect on warehouse worker earnings where it set up shop.

Amazon’s public filings show that it can easily afford to pay more if it prioritizes fair pay for its workers over profit, acquisitions, real estate purchases, and global expansion. Examining Amazon’s public filings as detailed below shows that by using just one tenth of its annual profit, Amazon could pay each of its U.S. front-line workers an additional \$2,225 a year, or nearly \$200 more per month.⁹ In addition, the amount that Amazon spent on acquiring other companies in 2022 and 2023 could fund a \$16,000 one-time bonus for each of its U.S. front-line workers.¹⁰ What’s more, reducing the money the company spends on expanding its real estate holdings by just a tiny fraction annually would likewise free up money that could provide thousands of additional dollars in pay per year to each of its U.S. front-line workers.¹¹ Finally, with one quarter of the money it has spent on average each year since 2010 to expand operations in Europe, Amazon could increase pay for each of its U.S. front-line workers by \$4,268 each year.¹² Taking measures like these would profoundly improve the standard of living for hundreds of thousands of people in the U.S.

We conclude with a series of recommendations aimed at ensuring that Amazon lives up to its promise of being a leader in worker compensation.¹³ Given Amazon’s role as a large-scale employer throughout the U.S., particularly of Black and Latinx workers, achieving a better livelihood for Amazon workers is a crucial step towards advancing racial justice and building a good jobs economy for all in this country.



Photo: Athena Coalition

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I. Introduction

“Amazon takes up a bigger part of my life than anything else, yet every day is a struggle to make ends meet for my family...And it’s not just my family having trouble—sometimes I share food with my coworkers because otherwise they wouldn’t eat. My husband and I wait in line for hours at the food pantry every Monday.”¹⁴

—Wendy Taylor, employee at STL8, an Amazon fulfillment center in Missouri

“Warehouse workers are the assembly-line workers of contemporary capitalism.”¹⁵

—Steven Vallas, Sociologist, Northeastern University

“Back in the 1970s, we talked about autoworkers as the backbone of the American middle class. Sure, the jobs involved hard labor, but people were proud to do it. And on the whole, with the steady pay and generous benefits and union protections, a job at a Ford or General Motors plant was a pretty good one. The same can't be said of a job at an Amazon fulfillment center.”¹⁶

—Aki Ito, writing for Business Insider

“We are going to be Earth’s Best Employer.”¹⁷

—Jeff Bezos, founder and former CEO of Amazon.com in his 2020 letter to shareholders

Over the last twenty years, Amazon's meteoric growth and increasing power has touched myriad aspects of life in the U.S.¹⁸ The company's reach as an employer has spread steadily across the country and Amazon now ranks as the country's second largest private sector employer.¹⁹ Amazon employs about one million people, without even counting the more than one hundred thousand drivers in its vast delivery networks whom it employs indirectly through intermediaries.²⁰ As it has enlarged its operations, Amazon has relied disproportionately on Black workers and on Black women in particular—the latter of whom are the largest demographic group within the company's frontline workforce—to power its warehouses.²¹ With Amazon's growing economic dominance and the decline of many other kinds of employment opportunities in recent decades, workers in many areas have described finding diminishing job options outside of Amazon.²²

As the U.S. struggles with the disappearance of middle-class jobs in recent decades, some have pointed to a potential role for Amazon in shoring up well-paid employment opportunities in this country.²³ These include former President Barack Obama, who visited an Amazon warehouse in Chattanooga, Tennessee, on his “Middle Class Jobs and Opportunities Tour,” to speak about the role that Amazon could play in building a good jobs economy in the U.S.²⁴

This proposition is not far-fetched given that many warehouse jobs in the U.S.—especially unionized ones—have allowed workers to build careers and attain a relatively solid standard of living. The jobs may require rigorous physical exertion, but people are compensated for that work. As one long-time warehouse worker in a unionized grocery warehouse not operated by Amazon said, “[In] [t]his job, you bust your butt, but you get paid.”²⁵

As an employer, Amazon has frequently touted high pay and quality jobs at its warehouses.²⁶ However, critics have challenged that claim, pointing out that Amazon jobs are a far cry from the unionized warehouse jobs that offer workers middle-income earnings and opportunities for advancement—jobs that are increasingly under threat as Amazon extends its dominance in multiple sectors of the U.S. economy including warehousing and logistics.²⁷ Major national publications have published recent headlines that include “Amazon Has Turned a Middle-Class Warehouse Career into a McJob” and “Amazon Says It Pays Alabama Workers Well; Other Local Employers Pay More.”²⁸

Amazon jobs are a far cry from the unionized warehouse jobs that offer workers middle-income earnings and opportunities for advancement.

Our focus in this report

Within this context, our report aims to shed light on two primary questions. First, how does Amazon’s pay compare to other warehouse employers? And, second, how far is Amazon’s pay for warehouse workers from middle-income compensation? Through our analysis, we aim to better understand Amazon pay for warehouse workers within the context of the broader U.S. warehousing industry, and within the localities where it operates by comparing four sets of earnings numbers:

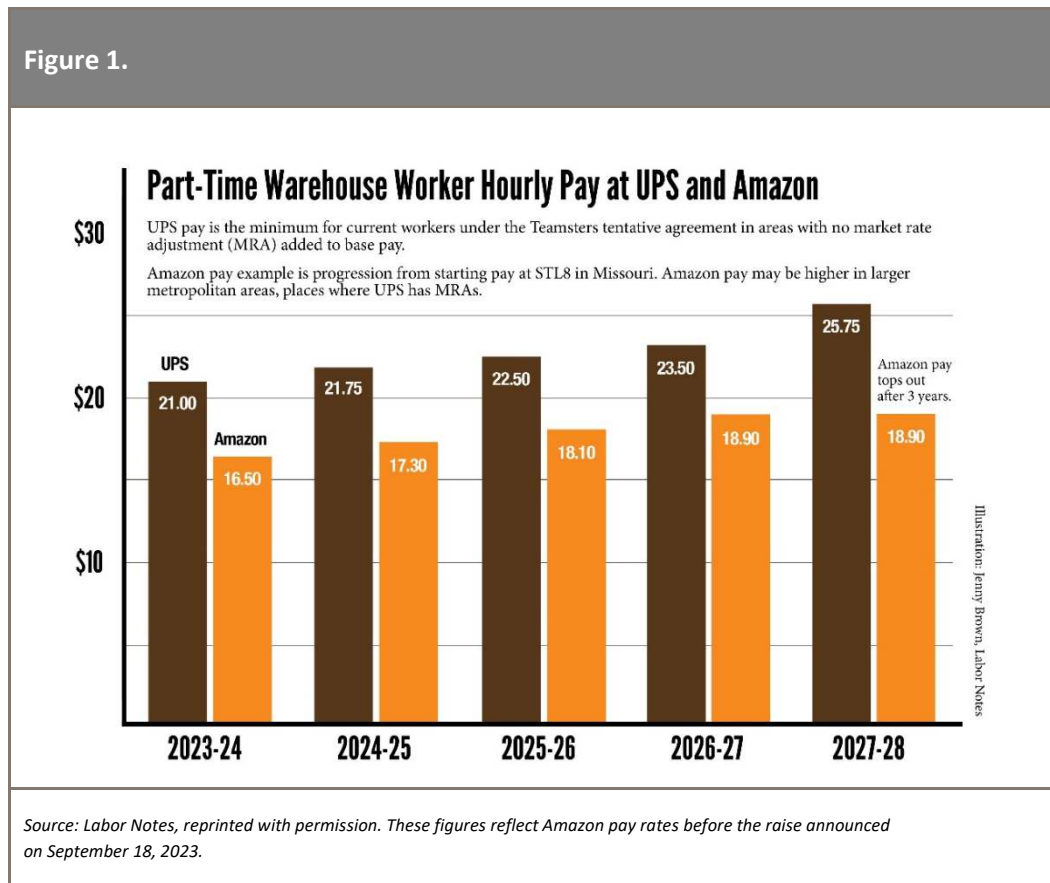
- average earnings for warehouse workers in the counties where Amazon operates its largest warehouses, or “fulfillment centers”;
- average earnings for warehouse workers in counties where Amazon does *not* operate fulfillment centers;
- average earnings for *all* workers in the counties where Amazon operates fulfillment centers; and,
- average earnings for *all* workers in counties where Amazon does *not* operate such warehouses.

For the remainder of this report, we refer to counties that have Amazon fulfillment centers as “Amazon counties,” and those who do not as “non-Amazon counties.” We also examine Amazon’s public filings to the Securities and Exchange Commission (SEC) to illustrate the scale of the company’s resources in relation to the wages it chooses to pay its warehouse workers.

Not a leader in wages

In September of 2023, amid growing momentum in worker organizing in Amazon facilities, Amazon announced an increase in its minimum starting pay for warehouse workers to \$17 an hour, with raises capped after three years.²⁹ While a good step, \$17 does not meet the cost of living in much of the country. According to the National Low Income Housing Coalition, on average, U.S. workers need to earn at least \$23.67 per hour to afford rent on a modest 1-bedroom apartment and to pay for other basic necessities such as food, clothing and transportation.³⁰ The cost of living is significantly higher in many metro areas where Amazon operates warehouses.³¹ Moreover, a \$17 wage does not truly represent a raise when taking inflation into account—today, \$17 is worth less in real terms than Amazon’s prior raise to \$16 in 2022. Indeed, the purchasing power of \$16 in 2022 was the equivalent of \$17.28 in September 2023.³² Further, instead of indexing raises to inflation, Amazon takes steps to the contrary and caps pay raises after three years for hourly employees, by design, as a way to foster high turnover and incentivize workers to leave.³³

Nor does a \$17 starting wage rate make Amazon a leader in the wage policy arena or in the warehousing industry. An increasing number of states and localities have adopted or are considering adopting minimum wages in the \$18 to \$25 range; and several localities have also reached or surpassed an \$18 per hour minimum wage as a result of indexing their wage floors to inflation.³⁴ This summer, union workers at UPS, one of the largest warehouse employers in the U.S., have negotiated pay increases that will result in pay ranging from \$21 to \$49 an hour.³⁵



The differences in pay for warehouse workers at UPS under the new contract and at Amazon are stark as shown below in a comparison of projected pay levels for warehouse workers in the St. Louis, Missouri, area in the next five years, from the publication *Labor Notes* (See **Figure 1**).³⁶

In the last year, Amazon workers around the country have escalated demands that Amazon raise pay, and in some cases have been successful in winning gains. For example, last November, Missouri workers at the 3,000-worker fulfillment center STL8 referenced in the above chart, went on strike to demand higher wages. In response, the company raised wages for part-timers.³⁷ However, even with recent raises, Amazon's pay is still inadequate by many measures, as we will detail later in this report. Moreover, hourly pay rates may not give a complete picture of take-home pay for Amazon workers given problems with uneven and inadequate hours, high rates of lost work time resulting from workplace injuries, and high rates of turnover reflecting both quits and fires.³⁸

Amazon can afford to pay its workers much more

As one of the most valuable companies in the world, Amazon can more than afford to raise pay for its warehouse workers, having seen record profits in 2020 and 2021 and having already more than recovered in 2023 from a minor dip in profit in 2022.³⁹ However, it has prioritized spending its vast resources on pursuing expansion and greater market dominance both in the U.S. and globally. Since 2020, this has included tens of billions of dollars in acquisitions of companies such as MGM Studios and One Medical.⁴⁰ Between 2020 and 2022, it almost doubled its U.S. real estate assets, in many places leading to over-capacity, which it has since had to correct.⁴¹ Moreover, Amazon has been found to be less generous than other employers during a period of record profits in the early years of the COVID-19 pandemic. A recent Brookings study ranked Amazon among the least generous towards workers with the extra profits garnered between 2020 and 2021, next to comparable employers.⁴²

Wide-ranging job quality problems

Finally, while our report focuses on pay for Amazon warehouse workers, there are many other job quality issues that are equally pressing for Amazon workers. Beyond the problem of inadequate pay, Amazon warehouse workers bear numerous other hidden costs from the low-quality jobs in which they toil—including illegal workplace hazards that lead to injuries, disabilities, lost work time, stress, and psychological tolls.⁴³ Many of these workers have described grueling jobs that leave their bodies spent.⁴⁴ Prior studies based on NELP research have also revealed the astronomical rates of worker turnover at Amazon, which in and of itself strongly suggests job quality problems.⁴⁵ While raising pay would represent an important improvement for Amazon workers, the company must also address these and other issues raised by workers.

II. Key Findings

1. *Comparing warehouse worker earnings in counties with and without Amazon fulfillment centers suggests that Amazon pays less than other warehouse employers.*

While Amazon does not disclose detailed wage or earnings information for its workforce, it is possible to gain insight into pay at Amazon warehouses by looking at county-level data on warehouse worker earnings compiled by the Census Bureau through its Quarterly Workforce Indicators dataset.⁴⁶ Because Amazon employs more warehouse workers than any other company in the country, and its largest warehouses—which it refers to as “fulfillment centers”—can employ thousands of workers, Amazon employees’ earnings can factor heavily into average earnings data for warehouse workers in those counties and can provide insight into Amazon pay rates.⁴⁷

For example, a 2020 Bloomberg analysis showed that in the counties where Amazon has opened its largest facilities, average industry compensation slips by more than 6% during the facility’s first two years, according to data from the Bureau of Labor Statistics.⁴⁸ Those findings point to the possibility that Amazon’s presence is large enough that its pay rates would be reflected in county averages of warehouse worker pay and that Amazon’s pay practices may have influence over the wages of other employers including warehouse employers in the area. Our research follows that work, and we offer three major findings in this section.

a. Amazon predominantly locates its fulfillment centers in higher-earnings counties.

First, to understand how Amazon’s pay might impact average warehouse wages in a county, we investigate the kinds of counties in which Amazon chooses to locate fulfillment centers. The vast majority (78 percent) of Amazon counties fall in the top 20th percentile of U.S. counties with respect to average earnings for all workers. The Amazon counties in this group range in average monthly earnings for all workers from \$4,119 in Pottawattamie, Iowa, to \$10,284 in Somerset County, New Jersey, with a median among counties of \$5,179.

Comparing average earnings for workers in all industries in counties with Amazon fulfillment centers and other counties, we find that average earnings for all workers tend to be higher in the places where Amazon operates.⁴⁹ This is consistent with prior studies that have found that Amazon chooses to locate fulfillment centers in proximity to higher-income consumer markets.⁵⁰ Among Amazon counties, we found that the median of monthly average earnings for all workers in all industries is 25 percent higher than among non-Amazon counties that also had warehouses—or \$4,756, compared to \$3,850.⁵¹

b. When compared to other high-earnings U.S. counties that also have warehouses, high-earnings Amazon counties show substantially lower earnings for warehouse workers.

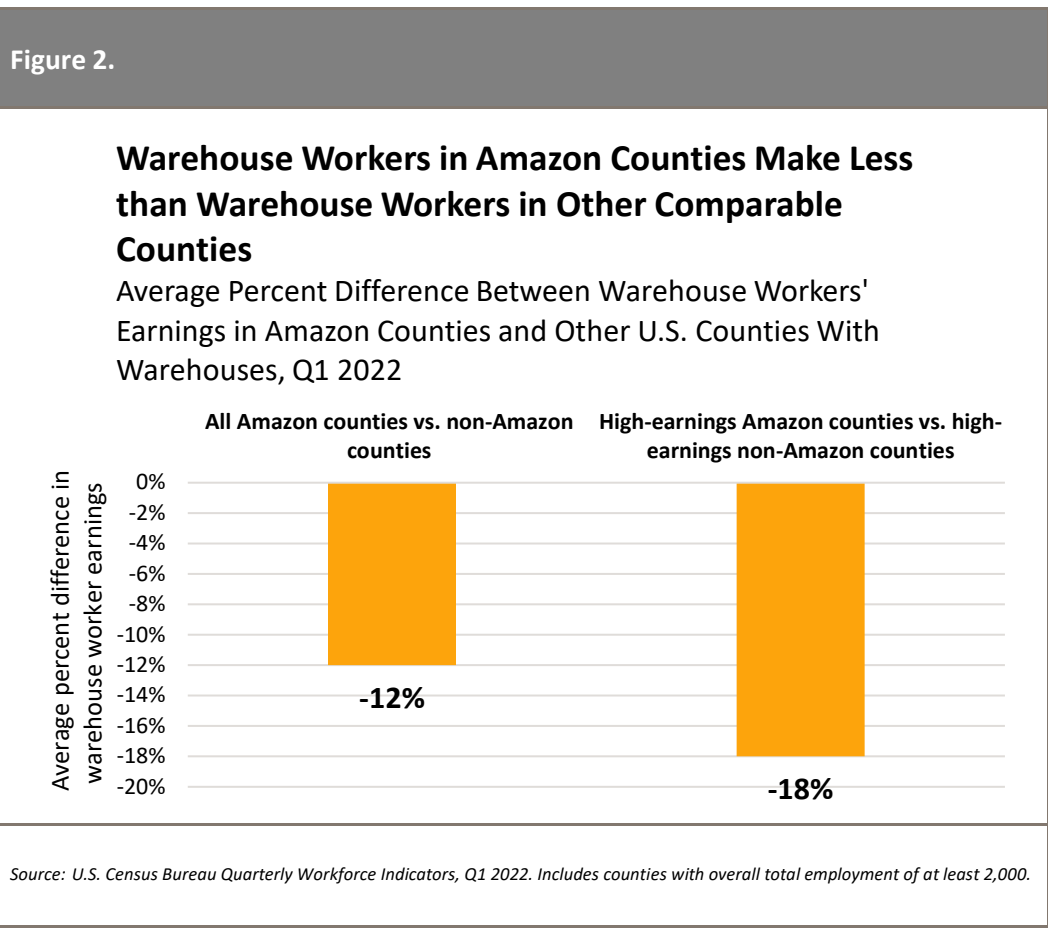
Second, as mentioned earlier, 78 percent of Amazon counties are in the category of U.S. counties that have warehouses and also fall in the top 20th percentile of U.S. counties in average earnings for all workers. Zeroing in on this group of counties provides an “apples to apples” basis for comparing warehouse worker earnings in Amazon counties to similarly high

earnings non-Amazon counties.⁵² This is a group of 641 counties and Amazon operates fulfillment centers in 123 of those counties.

Comparing Amazon and non-Amazon counties within this group (i.e., the 123 counties with Amazon fulfillment centers and the 518 U.S. counties that also have warehouses and are comparable in terms of average earnings for all workers), we find that **the average for warehouse worker earnings in high-earnings Amazon warehouse counties is 18 percent lower than in non-Amazon high-earnings counties—or roughly \$822 less a month in pay.**⁵³

This is especially troubling because even among this group of top 20th percentile counties, Amazon counties actually have higher average earnings for all workers than the non-Amazon counties (See **Table 2** on page 27). Yet, warehouse worker earnings are still lower on average in Amazon counties relative to non-Amazon counties.⁵⁴

As a further comparison, we also analyzed earnings for all 1,500+ counties with warehouses across the U.S., and **we found that on average warehouse workers in Amazon counties earn less than warehouse workers in non-Amazon warehouse counties in the rest of the country, not just high-earnings counties.**⁵⁵ We find that monthly average earnings for warehouse workers are on average 12 percent lower in Amazon counties as compared to all other U.S. counties with warehouses (See Figure 2).⁵⁶



It is important to note that these differences in earnings may reflect not only Amazon’s own wages, but the effect of Amazon’s pay rates on other employers in the area. Other studies have suggested that Amazon’s outsized presence and large-scale hiring may give it a wage-setting role among employers in a local area, as it drives up competition for workers.⁵⁷ However, rather than raise the floor, Amazon’s impact on local warehouse wages in particular has been shown to be negative or negligible.⁵⁸

Additionally, our findings on lower warehouse worker monthly earnings in Amazon counties relative to non-Amazon counties may also suggest that the hourly pay rates advertised by Amazon do not necessarily give a complete picture of true take home pay for Amazon workers. While it is outside the scope of our study, it is important to note that certain characteristics of Amazon jobs such as uneven and inadequate hours, high rates of lost work time related to workplace injuries, and high rates of turnover (reflecting both voluntary and involuntary separations) are all factors that may be reflected in lower monthly earnings.⁵⁹

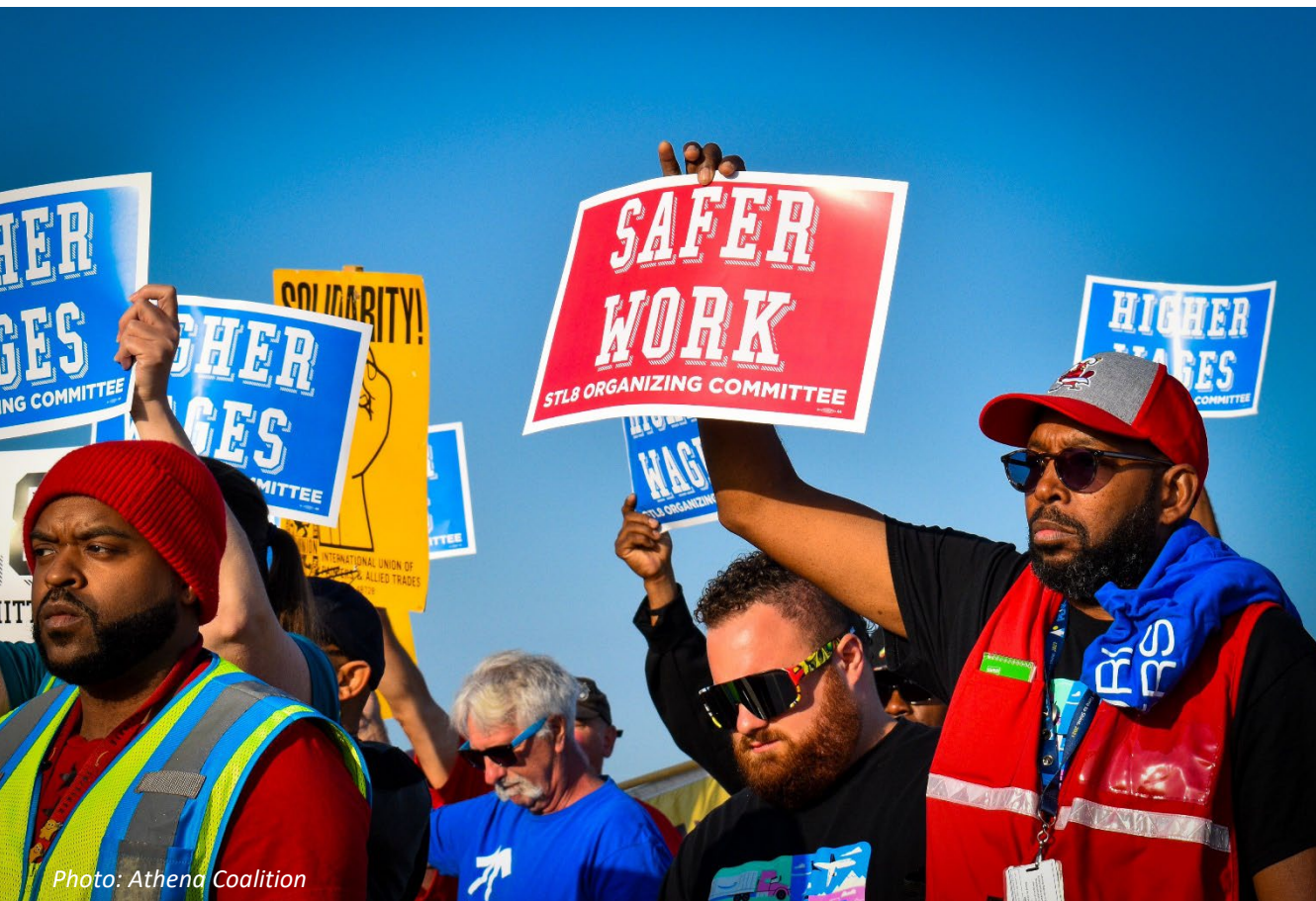


Photo: Athena Coalition

Stark differences in living standards

Differences in earnings among warehouse workers can result in dramatically different standards of living. For example, one warehouse worker who has worked for 19 years at a warehouse that stocks groceries for a supermarket chain that is not operated by Amazon describes a job that is physically strenuous but is rewarded with high wages that can support a good standard of living, including being able to afford to purchase a home and enjoy basic leisure activities such as vacations and restaurant meals. Bloomberg includes this profile of him in a 2020 article:⁶⁰

Joey Alvarado, 42, makes almost \$30 an hour moving boxes filled with pet food, shampoo, canned goods and other items sold by Stater Bros. Markets, a southern California supermarket chain. His wife stays home with their three children, and the family eats out twice a week, has a boat called Penny Lane and a travel trailer. They vacation on Lake Havasu and the Colorado River. They're buying a 2,000-square-foot home on half an acre...Alvarado belongs to the Teamsters Local 63, which he sees as the difference between what he is paid and what Amazon workers are paid. He has been on the job 19 years and plans to remain. He doesn't pay any premiums for medical benefits for himself and his family members and has a pension.

By contrast, with Amazon's current pay scale starting at \$17 an hour with raises capped after three years, many Amazon workers report struggling to meet basic expenses.

For example, Karen Crawford, a former teacher and bank worker is employed at ATL6, an Amazon fulfillment center in the Atlanta metro area in Fulton County, Georgia. Fulton County is a high-earnings county, with average earnings for all workers falling in the top 20th percentile of counties with warehouses in the U.S. Yet Karen makes just \$18.40 an hour at her job. She describes her struggle to make ends meet (See **Section VI** for her full testimony):

"I make \$18.40 an hour and work a minimum of 32 hours a week, which is not nearly enough to pay for basic necessities – like housing, groceries, utilities, my 10-mile commute, and daily expenses – let alone pay tuition for my daughter. I am currently experiencing homelessness, my daughter and I jumping from couch to couch until we can make enough money to afford a place."⁶¹

Wendy Taylor works at STL8, an Amazon fulfillment center in St. Charles County, Missouri. That county is also in the top 20th percentile of U.S. counties with respect to earnings for all workers. Average monthly earnings for all workers in that county are \$4,742. By contrast, warehouse workers there only average \$2,455 a month in pay.⁶² She shares her story, describing similar struggles (See **Section VI** for her full testimony):

“My husband had to stop working after a heart attack, and the \$18 an hour Amazon pays me is not enough to cover our bills.

My commute to work is over 20 miles each way. I share a car with my husband as well. His doctors’ visits, along with seeing his cardiologist, make keeping gas in our car very costly. It means we make impossible choices about whether to pay the electric bill or buy food; pay the mortgage or buy gas.”⁶³

These stories underscore the devastating human consequences of Amazon’s chronic underpayment of warehouse workers across the country.

c. In the counties where Amazon operates fulfillment centers, the gap between warehouse worker earnings and middle-income earnings is wider than in other counties.

Above, we observed that warehouse workers in Amazon counties make less relative to their counterparts in other U.S. counties, especially high-earnings counties with warehouses. Now we turn our attention to how their earnings compare relative to the average earnings for all workers in the counties where they work. In other words, how close are warehouse workers in Amazon counties to a middle-income standard?

We find that where Amazon operates, warehouse workers’ earnings are substantially below averages for all workers’ earnings for those same counties. **Warehouse workers in Amazon counties had earnings on average of 26 percent less each month than the average monthly earnings for all workers in those counties. By contrast, in all 1,400+ other U.S. warehouse counties that do not have Amazon fulfillment centers, warehouse workers make five percent more than the average earnings for all workers in those counties (See Figure 3).**

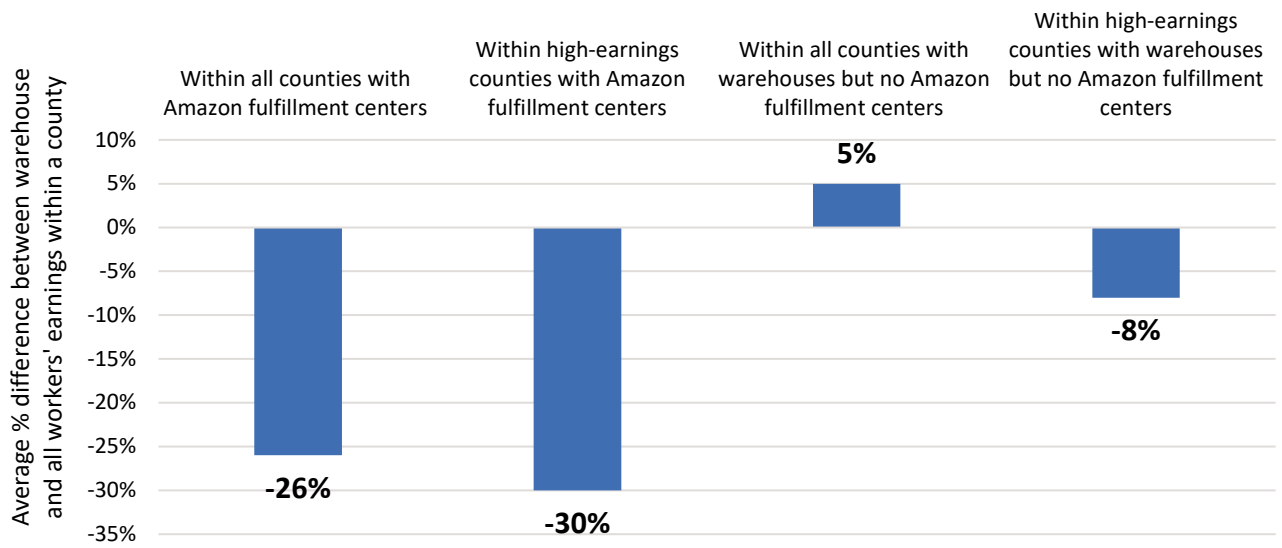
The picture that emerges from these data is that warehouse jobs are middle-income jobs or at least closer to middle-income jobs in most of the U.S., except in the counties where Amazon operates fulfillment centers.

In high-earnings Amazon counties (top 20th percentile for average earnings for all workers), this difference was even more stark. **Warehouse workers in high-earnings Amazon counties had earnings on average of 30 percent less each month than the average monthly earnings for all workers in those counties (See Figure 3).**⁶⁴ And in the 518 other high-earnings U.S. counties in which other warehouse employers operate, but in which Amazon does not have fulfillment centers, the gap was much smaller, with warehouse workers on average making about 8 percent less than average earnings for all workers in those counties (See Figure 3).⁶⁵ The picture that emerges from these data is that warehouse jobs are middle-income jobs or at least closer to middle-income jobs in most of the U.S., except in the counties where Amazon operates fulfillment centers.

Figure 3.

Warehouse Jobs in the U.S. are Close to Middle-Income Except in Amazon Counties

Difference Between Warehouse Workers' Average Monthly Earnings and All Workers' Average Monthly Earnings, Q1 2022



Source: U.S. Census Bureau Quarterly Workforce Indicators, Q1 2022. Includes counties with overall total employment of at least 2,000.

2. Comparing warehouse workers' earnings in counties before and after Amazon's arrival suggests that Amazon pays less than other warehouse employers, making middle-income earnings further out of reach for warehouse workers.

As mentioned above, previous studies have shown that when Amazon begins operations in a county, warehouse workers' earnings decline.⁶⁶ We seek to gain further clarity on how Amazon's pay rates have changed average warehouse earnings in the counties where it has fulfillment centers by examining data from Q1 of 2005 for those same counties, before they began hosting Amazon warehouses. Before 2005, there were only three Amazon fulfillment centers in the entire country. Amazon began operating six more in 2005 and has continued to add new facilities around the country in the intervening years, reaching a current total of more than 300 fulfillment centers.⁶⁷

We have two main findings in this category, which are detailed below.

a. Before Amazon's arrival, warehouse workers in future Amazon counties had earnings that were on par with other comparable counties.

First, it's important to note that in 2005, these future Amazon counties were relatively higher-earnings counties, as they are today.⁶⁸ However, in contrast to what we find in the most recent data from 2022, in 2005 there was no statistically significant difference between warehouse worker earnings in future Amazon counties and other warehouse counties. As one

might expect, warehouse worker earnings tracked earnings for all workers in a county.⁶⁹ In higher earnings counties, warehouse workers also earned more and vice versa. As we saw in our preceding analysis, that is no longer the case, with warehouse workers in Amazon counties earning less than their counterparts in other counties, especially when comparing higher-earnings counties.

b. Before Amazon arrived, warehouse workers in Amazon counties earned much closer to average earnings for all workers in those counties.

Above, we have seen above that warehouse worker earnings in Amazon counties are far below average earnings for all workers in those counties. However, that was not the case before Amazon began expanding its fulfillment center network in 2005. Examining earnings data from those counties in 2005 before they became Amazon host counties shows that warehouse workers earned much closer to the average earnings for all workers in those same counties.

As noted earlier, what we find is that in 2005, in the counties in which Amazon would eventually build fulfillment centers by 2022, average earnings for all workers were higher than in the counties in which Amazon would not build fulfillment centers, as is to be expected. **But in 2005, the gap between warehouse worker earnings and the average earnings for all workers was much smaller in future Amazon counties than it is in 2022—about negative 9 percent in 2005 as compared to negative 26 percent in 2022. By contrast, these gaps did not change much in the 1,400+ other U.S. warehouse counties in our sample (positive 3 percent in 2005 and positive 5 percent in 2022).**



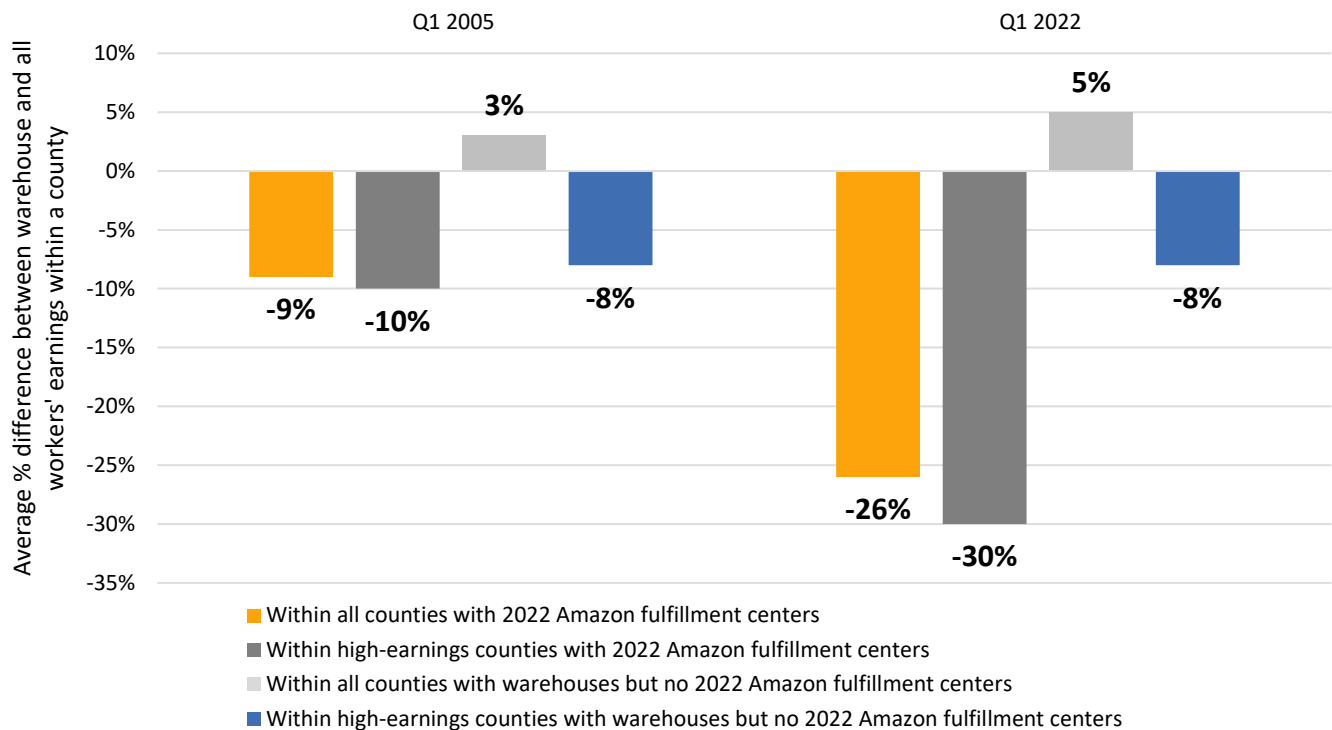
Photo: Athena Coalition

The difference is even starker when comparing high-earnings Amazon counties to other high-earnings warehouse counties. **In 2005, the gap between warehouse worker earnings and the average earnings for all workers was much smaller in future high-earnings Amazon counties than it was in 2022—about negative 10 percent in 2005 as compared to negative 30 percent in 2022.** For the other high-earnings counties with warehouses in 2005, there was no change in this gap (negative 8 percent as compared to negative 8 percent).⁷⁰

Figure 4.

Before Amazon Arrived, Warehouse Workers in Future Amazon Counties Made Closer to Middle-Income Earnings

Difference Between Warehouse Workers' Monthly Earnings and All Workers' Average Monthly Earnings in Counties Where Amazon Operates Fulfillment Center

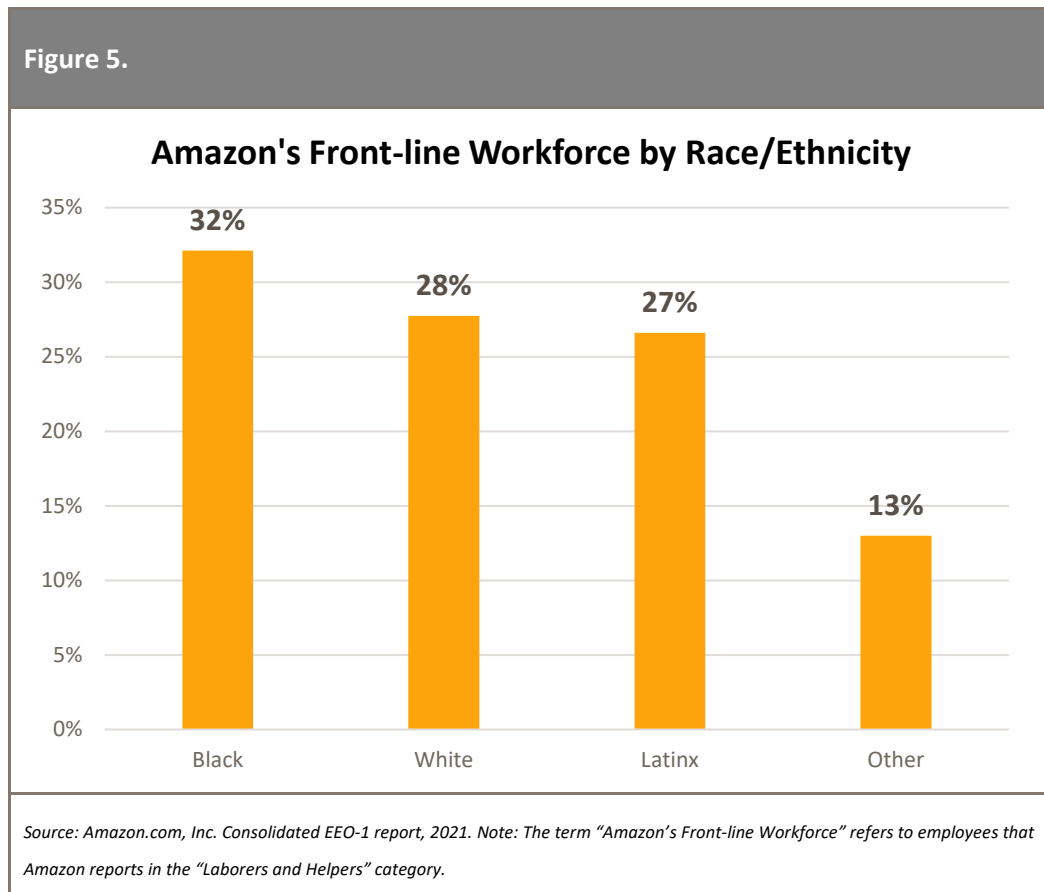


Source: U.S. Census Bureau Quarterly Workforce Indicators, Q1 2022 and Q1 2005. Includes counties with overall total employment of at least 2,000.

In sum, what we have seen by comparing Amazon counties with non-Amaon counties both before and after Amazon's arrival is that **there is strong evidence of Amazon's underpayment of its warehouse workers in comparison to other warehouse employers. There is also strong evidence that Amazon's pay is far from sufficient for middle-class earnings to be within reach for Amazon workers.**

III. Amazon relies on Black workers, particularly Black women, to work in its warehouses.

We now turn our attention to who it is that works in Amazon’s warehouses. The latest disclosures from Amazon to the Equal Employment and Opportunity Commission (EEOC) show the company relies disproportionately on Black workers, especially Black women, for its operations. The majority of Amazon’s workers fall under the EEOC’s “laborers and helpers” designation, representing 68 percent of Amazon’s total U.S. workforce. In the rest of this report, we refer to these workers as “front-line workers.” Amazon reported 761,568 workers in this category in 2021, the latest filing it has made public.⁷¹ This number does not include delivery drivers which Amazon employs through intermediaries or as independent contractors, even though they may not meet the criteria for independent contractor classification.⁷² Of the workers that Amazon reports are front-line, 32 percent are Black, 28 percent are white, and 27 percent are “Hispanic” of all races (**Figure 5**).⁷³ Black women, in particular, represent the largest share of workers in the “laborers and helpers” category. More than one in six Amazon workers in this category are Black women.



These workforce figures suggest that Black and Latinx workers bear the greatest impact of Amazon’s low relative pay in the warehouse sector and that Amazon’s pay policies may reinforce and perpetuate labor market inequities across the U.S.⁷⁴

Table 1. Amazon Front-Line Workers Ranked by Demographic Group

Demographic Group	As Share of Amazon's Front-line Workforce
Black women	17%
Black men	15%
White men	15%
Latinas	14%
Latinos	13%
White women	12%
Other women	6%
Other men	7%

Source: Amazon.com, Inc. Consolidated EEO-1 report, 2021. Note: The term "Amazon's Front-line Workforce" refers to employees that Amazon reports in the "Laborers and Helpers" category. Note: Totals may not add up to 100 due to rounding.



Photo: Athena Coalition

IV. Amazon has the means to greatly improve the livelihoods of its U.S. front-line workers if it prioritizes fair pay for them over profit, acquisitions, real estate purchases, and global expansion.

In recent years, Amazon has reported record revenues and profits and has also funneled substantial resources into various expansion efforts—including acquiring businesses such as MGM and One Medical and enlarging its real estate footprint in the U.S. and globally.⁷⁵ Many of these actions have faced scrutiny both in the U.S. and abroad.⁷⁶

Examining the company’s expenditures in recent years as detailed in its filings with the Securities and Exchange Commission (SEC) reveals how it has prioritized rapid and relentless expansion over sustainable pay for the workers who have made Amazon’s explosive growth possible. Below we offer some hypothetical scenarios with the aim of illustrating the scale of Amazon’s available resources in relation to the pay it offers its U.S. front-line workers—those that Amazon categorizes as “laborers and helpers” in its filings to the EEOC.⁷⁷ In 2021, the latest filing that Amazon has disclosed publicly, those workers totaled 761,568.⁷⁸

- 1. Using just one tenth of its annual profit, Amazon could pay each U.S. front-line worker an additional \$2,225 a year, or nearly \$200 more per month.** Amazon saw record profits in 2020 and 2021. It experienced a slight loss in 2022. Overall, it averaged \$17.3 billion in annual profits over those three years. Just a modest one tenth of this annual profit could provide each of the U.S. workers that the company counts in the “laborers and helpers” category with an additional \$2,225 a year.⁷⁹ This could go a long way to helping workers afford healthier groceries for their children, save for a down payment for a house or car, or pay for heat in the winter and air conditioning in the summer. Moreover, Amazon’s earnings reports so far in 2023 show that it has already more than recovered from its slight loss in 2022.⁸⁰

- 2. These profits have driven increases in Amazon’s stock price which have enriched shareholders, especially the largest shareholders such as Amazon founder Jeff Bezos who owns more than 10 percent of Amazon stock. This came into sharp relief during the pandemic when record profits sent stock prices soaring. A recent Brookings report states that, “between January 2020 and October 2021, Amazon’s shareholders grew 84% wealthier...the additional wealth for Amazon’s shareholders was 177 times greater than the additional pay that employees earned.”⁸¹**

In recent months, this trend has continued as Amazon has beat profit expectations in 2023 and shareholders have reaped the benefits.

After Amazon stock prices increased 11 percent in response to high profits in the second quarter of this year, Jeff Bezos’ wealth increased 12 billion dollars in just one day in August 2023. This amount could fund a \$15,000 bonus for every front-line Amazon worker in the U.S.⁸²

After Amazon stock prices increased 11 percent in response to high profits in the second quarter of this year, Jeff Bezos’ wealth increased 12 billion dollars in just one day in August 2023. This amount could fund a \$15,000 bonus for every front-line Amazon worker in the U.S.

- 3. The equivalent of money spent on major acquisitions in 2022 and 2023 could fund a \$16,000 one-time bonus for each U.S.**

front-line worker. Amazon used cash on hand to make large acquisitions in recent years including the purchase of MGM studios (\$8.5 billion, March 2022) and One Medical (\$3.9 billion, February 2023).⁸³ Those purchases totaled over 12 billion dollars, which is the equivalent of over \$16,000 for each of Amazon's front-line workers in the U.S. Even after these major purchases, Amazon continues to be able to afford all-cash acquisitions and has indicated it intends to complete its pending purchase of the consumer robot company iRobot (~\$1.7 billion) with cash on hand.⁸⁴

4. Amazon almost doubled its property and equipment assets in North America between 2020 and 2022, increasing them from \$55 billion to \$90 billion.⁸⁵ Those assets grew an average of 30.3 billion dollars a year in net additions to property and equipment. This growth in assets is reflected in high levels of spending on capital expenditures (spending related to acquiring and maintaining physical assets such as property and equipment), with the company reporting an average of \$49.6 billion dollars a year in capital expenditures from 2020 to 2022.⁸⁶ **By reducing capital expenditures by just 5 percent annually, Amazon could pay an additional \$3,254 per year to its U.S. front-line workers.** From 2020 to 2022, the company reported that these expenditures have included expansion of both its fulfillment operations and Amazon Web Services (AWS) operations, both domestically and globally, but with the majority of expenditures in North America. The company indicates in its Securities and Exchange Commission (SEC) filings that it intends to continue this level of capital expenditure in the future, suggesting that it anticipates having sufficient resources to do so.⁸⁷
5. Amazon has spent \$156 billion on expanding operations to Europe since 2010, which amounts to about 13 billion dollars a year.⁸⁸ It announced in May 2023 that it plans to continue that expansion.⁸⁹ **With one quarter of money it has spent on average each year since 2010 to expand operations in Europe, Amazon could increase pay for each of its U.S. front-line workers by \$4,268 each year.**

Using **just one tenth**
of its annual profit,

Amazon could pay each
U.S. warehouse worker
an additional \$2,225
a year, or nearly \$200
more per month.



V. Recommendations

“We need change and a pay increase to match the work we put in. Forty cents every 6 months is not helping in today’s economy with the cost of living steadily on the rise.”

—Nathaniel H., Amazon warehouse worker and member of Philadelphia Amazonians United

“We won historic raises in our new contract at UPS by organizing with our coworkers to demand what we deserve. I come from a struggle with a low pay rate, often going broke within hours just to pay bills, eating inexpensive meals, and seeking assistance to cover expenses. Now with the new contract, I make \$21.50/hour, and I am able to provide more support to my family, enjoy better Friday meals, save up to buy a car, and avoid the unpleasant experience of taking smelly buses. Now, I will be able to reduce my transportation time from 45 minutes to 30 minutes to get home. These companies make billions and can afford to pay us enough to afford food and a roof over our heads. Every warehouse worker should have what we have, all we have to do is fight for it.”⁹⁰

—Aldo Navarette, part-time UPS warehouse worker and member of Teamsters Local 804

Below, we offer some steps that Amazon can take to live up to its promise of high-quality employment, and to play a leadership role in fostering economic opportunity commensurate with its current size and power in the U.S. economy.

- a. **Raise pay.** Raise pay for all warehouse workers by at least 25 percent, index raises to the median wage for all U.S. workers, and end the 3-year pay raise cap. As the second-largest private sector employer in the U.S. and the largest warehouse employer, Amazon can be a standard bearer for fair pay.
- b. **Support workers right to organize.** Amazon should adopt freedom of association and neutrality policies to ensure that all workers who want to can join unions without fear or interference. Amazon should also bargain in good faith with its unionized employees.⁹¹
- c. **Adopt paid time off policies.** Provide workers with a minimum of 72 hours of paid sick leave, and a minimum of 12 weeks of medical and family leave. Especially given the high documented rates of lost work time resulting from job-related injuries experienced by Amazon workers, providing fair and adequate paid time off is imperative.⁹² At a time when more federal,⁹³ state and local⁹⁴ lawmakers are pushing for stronger earned sick leave and other paid time off policies, Amazon has a chance to be a leader in the private sector.

- d. **Release detailed pay and racial equity data.** In response to shareholder pressure, Amazon announced in 2022 that it is conducting a racial equity audit to evaluate any disparate racial impacts on its U.S. hourly employees.⁹⁵ Any meaningful audit of Amazon’s racial impacts must include detailed breakdowns of earnings, hours, and job titles by race, gender, and location.
- e. **Provide stable and predictable hours and schedules.** Research increasingly suggests that stable schedules not only benefit workers⁹⁶ but also employers, as predictable schedules increase productivity and reduce worker errors.⁹⁷ Amazon’s adoption of fair scheduling practices would therefore benefit not only its workforce but the company as well.
- f. **Address health and safety issues.** Amazon must first begin by widely implementing the ergonomics recommendations described in OSHA’s multiple 2023 citations of the company which detailed hazards in several Amazon warehouses around the country.⁹⁸
- g. **Establish fairness and transparency in discipline.** The company must also provide greater transparency in its use of quotas, performance standards, disciplinary protocols, and surveillance to reduce the climate of fear in the workplace.⁹⁹

In addition, federal, state, and local policy makers have a critical role to play in supporting Amazon workers’ efforts to improve pay and working conditions and should consider doing the following:

- a. Strengthen protections for workers’ right to organize unions and against employer retaliation.¹⁰⁰
- b. Adopt guaranteed paid leave laws.¹⁰¹
- c. Adopt fair scheduling laws.¹⁰²
- d. Require employer pay disclosures disaggregated by race, gender, and occupation.¹⁰³
- e. Pass strong minimum wage laws that include indexing to the median wage for all U.S. workers.¹⁰⁴
- f. Repeal preemption laws to allow local governments to raise wages.¹⁰⁵
- g. Establish ergonomics standards for the warehousing industry.¹⁰⁶
- h. Regulate the use of electronic monitoring and surveillance, and pass quota and disciplinary transparency laws.¹⁰⁷
- i. Reform the merger review process to screen for labor market effects.¹⁰⁸
- j. Separate Amazon’s major business lines into stand-alone firms to reduce Amazon’s outsize power within the U.S economy.¹⁰⁹

VI. Struggling to Make Ends Meet: Amazon Warehouse Worker Testimonies

Karen Crawford, ATL6, East Point, Georgia, United for Respect

“My name is Karen Crawford and I’ve been working at ATL6 for 5 years. I’m a mother of 2 daughters and grandmother of 4 grandchildren. I’ve been in Atlanta all of my life and am proud to call it home. I was a teacher for 5 years before Amazon, and before that I worked for Trust Bank when it was SunTrust for 15 years and Bank of America for 10 years. At Amazon, I feel beyond overworked and grossly underpaid. I make \$18.40 an hour and work a minimum of 32 hours a week, which is not nearly enough to pay for basic necessities – like housing, groceries, utilities, my 10-mile commute, and daily expenses – let alone pay tuition for my daughter. I am currently experiencing homelessness, my daughter and I jumping from couch to couch until we can make enough money to afford a place. Why am I struggling to afford housing when I work for a multi-billion dollar corporation like Amazon? It doesn’t make any sense. That’s why I decided to organize at my facility about a year ago with the help of United for Respect, because workers at Amazon deserve a livable wage.”¹¹⁰



Wendy Taylor, STL8, St. Peters, Missouri, STL8 Organizing Committee Member

“Amazon takes up a bigger part of my life than anything else, yet every day is a struggle to make ends meet for my family. My husband had to stop working after a heart attack, and the \$18 an hour Amazon pays me is not enough to cover our bills.

My commute to work is over 20 miles each way. I share a car with my husband as well. His doctors’ visits, along with seeing his cardiologist, make keeping gas in our car very costly. It means we make impossible choices about whether to pay the electric bill or buy food; pay the mortgage or buy gas. And it’s not just my family having trouble — sometimes I share food with my coworkers because otherwise they wouldn’t eat.

My husband and I wait in line for hours at the food pantry every Monday, while Amazon’s chief executives make millions of dollars off of our labor and are shielded from what we go through every day to survive. That’s why I’m fighting for a union and joining my coworkers in demanding a raise at Amazon.”¹¹¹



**Wendy Taylor, STL8,
St. Peters, Missouri,
STL8 Organizing
Committee Member**

Nathaniel H., DJE3, Logan Township, NJ, Philadelphia Amazonians United

“Hi, my name is Nathaniel H. an Amazonian working out of DJE3. We work hard at our site but unfortunately what we get paid does not reflect the work we are putting in. In a world where everything has gone up from gas, groceries, rent, and even utilities, most of us are living paycheck to paycheck and are forced to work a second job just to survive. Amazon is the #1 logistics company in the world yet its workers get paid less than all of the other logistics companies that’s out there. We need change and a pay increase to match the work we put in— .40 cents every 6 months is not helping in today’s economy with the cost of living steadily on the rise.”¹¹²

Note: As of the beginning of September 2023, the wage scale at DJE3, where Nathaniel works started at \$18.50 with steps to \$19.30, \$20.10, and \$20.90. Raises are capped after three years.¹¹³



**Nathaniel H., DJE3,
Logan Township, NJ,
Philadelphia
Amazonians United**

VII. Methodology

The main dataset we used for this analysis is U.S. Census Bureau’s Quarterly Workforce Indicators (QWI) from Q1 2005 and Q1 2022 (accessed August 3, 2023). The other government dataset that provides county-level measurements of earnings broken down by industry is the Quarterly Census of Employment and Wages (QCEW). The QCEW is much more limited in the number of warehouse counties for which it has data available—about 500 counties as compared to over 1,700 counties in the QWI.

The QWI county-level data provide average monthly earnings for all workers in a county that worked on the first day of a quarter by 4-digit NAICS industry code (EarnBeg). We chose to use this variable because it is available for the largest number of counties in our analysis. As a result, lower reported earnings may reflect the fact that workers don’t stay in the job for the entire quarter. As such, it is possible that earnings in Amazon counties are lower because of atypically large attrition and higher worker churn at Amazon facilities.¹¹⁴ Additionally, it is possible that earnings in Amazon counties are lower because of higher-than-average rates of lost work time resulting from worker injuries.¹¹⁵ The other earnings variable in the QWI is “EarnS”, which measures earnings for workers who worked the entire quarter. However, this variable is limited in its availability for the counties in our analysis.

The QWI earnings measure includes gross wages and salaries, bonuses, stock options, tips, and other gratuities, and the value of meals and lodging, where supplied. It does not include Old Age Survivor and Disability Insurance, health insurance, workers compensation, unemployment insurance, private pensions, and welfare funds. These data provide overall monthly earnings for workers, but not hourly pay or hours worked. Median earnings are not made publicly available.

We did not annualize earnings data for the counties in our study because Amazon opened many new facilities during 2022. Annualized earnings data over four quarters for these counties would not produce accurate results because many facilities began operation in the middle of the year. Q1 provides appropriate data for our study because it is unaffected by factors such as end-of-year bonuses which may make earnings appear higher. Additionally, monthly earnings for warehouse workers at Amazon and at other employers may be affected by fluctuations in hours and seasonal employment during Amazon’s annual “Prime Day” sales event and holiday shopping periods.

We looked at counties across that U.S. that reported earnings for warehouse workers in those quarters and reported overall employment in all industries in the county of at least 2,000 people. Our full analytic sample includes 1,582 counties in Q1 2022. We then identified counties in which there were Amazon fulfillment centers in operation in Q1 2022, for which the Census Bureau publishes monthly earnings data. There were 158 such counties in Q1 and Q4 respectively. This does not include counties that host other Amazon warehouses such as sortation centers and delivery stations, but not fulfillment centers. We constructed the list of Amazon fulfillment centers from a list of all facilities in operation that Amazon is required to report to the Occupational Health and Safety Administration. We used a facilities list maintained by logistics consulting firm MWPVL to identify the quarter in which facilities were opened. Seven counties with Amazon fulfillment centers did not have earnings data available in the QWI for Q1 2022 (See **Appendix Table** for full list of Amazon counties.)

For each county we calculated the percent difference between average monthly earnings for all North American Industry Classification (NAICS) codes in each county and average earnings for workers in the 4-digit NAICS code 4931 – Warehousing and Storage. We report an average of those percent differences for counties with Amazon fulfillment centers and for those without.

Note that the median and average percent differences we report are medians and averages across counties. They are not weighted by employment levels within counties. As such, large counties have the same weight as smaller counties. We believe this is appropriate because our goal is to understand both the differences within counties and between counties to get a picture of how warehouse workers across the country are faring within their particular local contexts.

We conducted a series of simple OLS regression analyses to estimate the effect of the presence of an Amazon fulfillment center on monthly warehouse worker earnings, average earnings for all workers and on the difference between the two within a county. We did not account for additional variables. This analysis showed that the presence of an Amazon fulfillment center had statistically significant effects on warehouse worker earnings (at $p < 0.05$), and average earnings for all workers in a county (at $p < 0.001$) and the difference between those two measures within a county (at $p < 0.001$).

To get an “apples to apples” comparison, we conducted the same analyses with a smaller group of high-earnings counties. These are the 641 U.S. counties with warehouses that fall in the top 20th percentile with respect to average earnings for all workers. This analysis showed that the presence of an Amazon fulfillment center had statistically significant effects on warehouse worker earnings (at $p < 0.05$), and average earnings for all workers in a county (at $p < 0.001$) and the difference between those two measures within a county (at $p < 0.001$). See Table 2 below for details on this group of counties.

Table 2. U.S. Warehouse Counties in the Top 20th Percentile, Average Earnings for All Workers, Q1 2022				
		<i>Average Earnings for All Workers in All Industries</i>		
	Number of Observations	Median	Mean	Standard Deviation
Amazon Counties	123	\$5,179	\$5,480	\$1,238
Non-Amaon Counties	518	\$4,612	\$5,057	\$1,389
<small>Source: U.S. Census Bureau, Quarterly Workforce Indicators, Q1 2022. Includes counties with overall total employment of at least 2,000.</small>				

Appendix – U.S. Counties with Amazon Fulfillment Centers in Quarter 1 of 2022

Appendix Table 1. U.S. Counties with Amazon Fulfillment Centers, Q1 2022		
County	State	Top 20th percentile (Average earnings for all workers employed in county)
Jefferson	Alabama	Y
Limestone	Alabama	N
Maricopa	Arizona	Y
Pima	Arizona	Y
Pulaski*	Arkansas	n/a
Alameda	California	Y
Fresno	California	N
Kern	California	N
Los Angeles	California	Y
Riverside	California	N
Sacramento	California	Y
San Bernardino	California	Y
San Diego	California	Y
San Joaquin	California	Y
Solano	California	Y
Stanislaus	California	Y
Tulare	California	N
Ventura	California	Y
Adams	Colorado	Y
Denver	Colorado	Y
El Paso	Colorado	Y
Hartford	Connecticut	Y
Middlesex	Connecticut	Y
New Haven	Connecticut	Y
New Castle	Delaware	Y
Broward	Florida	Y
Duval	Florida	Y
Escambia	Florida	Y
Hillsborough	Florida	Y
Marion	Florida	N
Miami-Dade	Florida	Y
Orange	Florida	Y
Palm Beach	Florida	Y
Polk	Florida	N
Volusia	Florida	N
Bibb	Georgia	Y

Cobb	Georgia	Y
Columbia	Georgia	N
Coweta	Georgia	N
Douglas	Georgia	N
Fulton	Georgia	Y
Gwinnett	Georgia	Y
Jackson	Georgia	Y
Canyon	Idaho	N
Cook	Illinois	Y
DuPage	Illinois	Y
Lake	Illinois	Y
Madison	Illinois	Y
St. Clair	Illinois	Y
Will	Illinois	Y
Allen	Indiana	Y
Boone	Indiana	N
Clark	Indiana	N
Hancock	Indiana	Y
Hendricks	Indiana	N
Johnson	Indiana	N
Marion	Indiana	Y
Polk	Iowa	Y
Pottawattamie	Iowa	Y
Johnson	Kansas	Y
Sedgwick	Kansas	Y
Wyandotte	Kansas	Y
Boone	Kentucky	Y
Bullitt	Kentucky	N
Fayette	Kentucky	Y
Taylor	Kentucky	N
Lafayette	Louisiana	N
Baltimore	Maryland	Y
Baltimore	Maryland	Y
Cecil	Maryland	N
Howard	Maryland	Y
Washington	Maryland	N
Bristol	Massachusetts	Y
Plymouth	Massachusetts	Y
Kent*	Michigan	n/a
Macomb*	Michigan	n/a
Oakland*	Michigan	n/a
Wayne*	Michigan	n/a
Dakota	Minnesota	Y
Hennepin	Minnesota	Y

Scott	Minnesota	Y
DeSoto*	Mississippi	n/a
Marshall County*	Mississippi	n/a
Greene	Missouri	Y
Platte	Missouri	Y
St. Charles	Missouri	Y
Clark	Nevada	Y
Sarpy	Nevada	Y
Washoe	Nevada	Y
Burlington	New Jersey	Y
Gloucester	New Jersey	Y
Mercer	New Jersey	Y
Middlesex	New Jersey	Y
Passaic	New Jersey	Y
Salem	New Jersey	Y
Somerset	New Jersey	Y
Union	New Jersey	Y
Bernalillo	New Mexico	Y
Orange	New York	Y
Rensselaer	New York	Y
Richmond	New York	Y
Cabarrus	North Carolina	N
Forsyth	North Carolina	Y
Mecklenburg	North Carolina	Y
Wake	North Carolina	Y
Cass	North Dakota	Y
Cuyahoga	Ohio	Y
Franklin	Ohio	Y
Hamilton	Ohio	Y
Madison	Ohio	N
Summit	Ohio	Y
Warren	Ohio	Y
Wood	Ohio	Y
Cleveland	Oklahoma	N
Oklahoma	Oklahoma	Y
Tulsa	Oklahoma	Y
Marion	Oregon	N
Multnomah	Oregon	Y
Allegheny	Pennsylvania	Y
Berks	Pennsylvania	Y
Cumberland	Pennsylvania	Y
Lackawanna	Pennsylvania	N
Lehigh	Pennsylvania	Y
Luzerne	Pennsylvania	N

Monroe	Pennsylvania	N
Northampton	Pennsylvania	Y
York	Pennsylvania	Y
Lexington	South Carolina	N
Spartanburg	South Carolina	Y
Bradley	Tennessee	N
Davidson	Tennessee	Y
Hamilton	Tennessee	Y
Rutherford	Tennessee	Y
Shelby	Tennessee	Y
Wilson	Tennessee	Y
Bexar	Texas	Y
Dallas	Texas	Y
El Paso	Texas	N
Fort Bend	Texas	Y
Guadalupe	Texas	Y
Harris	Texas	Y
Hays	Texas	N
Kaufman	Texas	N
McLennan	Texas	Y
Tarrant	Texas	Y
Travis	Texas	Y
Waller	Texas	Y
Salt Lake	Utah	Y
Chesterfield	Virginia	Y
Dinwiddie	Virginia	Y
Frederick	Virginia	Y
Prince George	Virginia	N
Richmond	Virginia	Y
Suffolk	Virginia	Y
Fairfax	Virginia	Y
Loudoun	Virginia	Y
King	Washington	Y
Pierce	Washington	Y
Snohomish	Washington	Y
Spokane	Washington	Y
Thurston	Washington	Y
Kenosha	Wisconsin	N
Milwaukee	Wisconsin	Y
Rock	Wisconsin	Y
Waukesha	Wisconsin	Y
<i>Source: Occupational Safety and Health Administration, Injury Tracking Application and U.S. Census Bureau, Quarterly Workforce Indicators, Q1, 2022. Includes all facilities that Amazon self-reported in NAICS code 493110 in the year 2022, minus facilities that began operations after Q1 as tracked by logistics research firm MWPVL. Asterisk denotes that earnings data are unavailable for county.</i>		

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ATL6 Associates organizing with United for Respect prepare to deliver a petition to management asking for a \$5 wage increase.



Endnotes

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- ⁵ Unless otherwise noted, all of the findings in this report are based on a NELP analysis of earnings data from the U.S. Census Bureau’s Quarterly Workforce Indicators for Q1 2022 and Q1 2005 and self-reporting by Amazon about its warehousing establishments to the Occupational Health and Safety Administration.
- ⁶ See findings detailed below and in Section II of this report.
- ⁷ The concept of “middle-income” can be measured in a variety of ways, usually based on median household income, household size and geography. See <https://www.brookings.edu/articles/a-dozen-ways-to-be-middle-class/>. For U.S.

warehouse workers, median household income and size data are not publicly available for counties or specific companies. In our analysis, we use average county earnings for all workers in their county of employment as a proxy for middle-income.

- ⁸ See findings detailed below and in Section II of this report.
- ⁹ Amazon.com, Inc., *Form-10K - for the fiscal year ended December 31, 2022*, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001018724/d2fde7ee-05f7-419d-9ce8-186de4c96e25.pdf>
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- ⁴³ Occupational Safety and Health Administration, “US Department of Labor finds Amazon exposed workers to unsafe conditions, ergonomic hazards at three more warehouses in Colorado, Idaho, New York,” February 1, 2023, <https://www.osha.gov/news/newsreleases/national/02012023>; Strategic Organizing Center, “In Denial: Amazon’s Continuing Failure to Fix Its Injury Crisis,” April 2023, <https://thesoc.org/what-we-do/in-denial-amazons-continuing-failure-to-fix-its-injury-crisis/>; Strategic Organizing Center, “The Injury Machine: How’s Amazon’s Production System Hurts Workers,” April 2022, <https://thesoc.org/what-we-do/the-injury-machine-how-amazons-production-system-hurts-workers/>; Ariel Zilber, “Amazon employees rage over being forced to work after colleague died from heart attack,” New York Post, January 10, 2023, <https://nypost.com/2023/01/10/amazon-employees-rage-over-treatment-of-coworker-who-died-in-warehouse/>.
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- ⁴⁶ Note these monthly earnings data are measured by industry, not occupation, and include all occupations within an establishment designated in that industry. Occupational earnings breakdowns at the county-level are not available. We use the term “warehouse worker” to refer to workers employed at a warehouse establishment regardless of occupation. Recent OEWS data show that the largest occupations in the warehousing and storage industry are as follows, “Laborers and Freight, Stock, and Material Movers, Hand” (22.5 percent), “Stockers and Order Fillers” (22.1 percent), Industrial Truck and Tractor Operators (16.5 percent).

- ⁴⁷ *The Economist*, “What Amazon Does to Wages,” January 20, 2018, <https://www.economist.com/united-states/2018/01/20/what-amazon-does-to-wages>;
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Our findings in this section reflect earnings from quarter 1 of 2022, which we believe to be the most appropriate for assessing warehouse worker earnings outside of seasonal fluctuations in hours and employment. However, even in quarter 4 of 2022, which captures earnings during the holiday shopping spike (when many employers including Amazon require mandatory overtime) and also after Amazon’s October 2022 raise, warehouse worker earnings in Amazon counties were still substantially lower than average earnings for all workers in those counties.

- ⁴⁸ Matt Day and Spencer Soper, “Amazon Has Turned a Middle-Class Warehouse Career Into a McJob,” Bloomberg, December 17, 2020, <https://www.bloomberg.com/news/features/2020-12-17/amazon-amzn-job-pay-rate-leaves-some-warehouse-employees-homeless>
- ⁴⁹ Note that these are averages among counties, not weighted averages. Neither the Census Bureau nor Amazon has disclosed microdata on workers earnings. These monthly earnings data do not account for difference in the number of hours worked.
- ⁵⁰ Prior studies have suggested that that Amazon may site facilities in the poorer parts of higher-earnings counties, in proximity to the consumer markets in which Amazon wants to operate. See Good Jobs First, “Mapping Amazon 2.0: Where the Online Giant Locates Its Warehouses and Why,” December 23, 2021, <https://storymaps.arcgis.com/stories/adc5ff253a3643f88d39e7f3ef1a09ee>; and Kaveh Woodall, “When Amazon Expands, These Communities Pay the Price”, *Consumer Reports*, December 9, 2021, <https://www.consumerreports.org/cars/corporate-accountability/when-amazonexpands-these-communities-pay-the-price-a2554249208/>. Note the Consumer Reports study doesn’t distinguish between fulfillment centers and other Amazon facilities. Taking these two studies together suggests that Amazon sites its’ facilities in the low-income areas of high-income counties. Many Amazon workers have also reported difficulties with meeting housing costs and need to commute far distances to their jobs at Amazon warehouses because they may be unable to afford to live in higher-earnings areas nearby. See Jennifer Berkshire, “For Amazon workers, a struggle to stay afloat,” *Economic Policy Institute*, January 19, 2021, <https://www.epi.org/unequalpower/worker-stories/foramazon-warehouse-workers-a-struggle-to-stay-afloat/>.

⁵¹ These differences were statistically significant at a $p < 0.001$.

⁵² Note these monthly earnings data are measured by industry, not occupation, and include all occupations within an establishment designated in that industry. Occupational earnings breakdowns at the county-level are not available. We use the term “warehouse worker” to refer to workers employed at a warehouse establishment regardless of occupation. Recent OEWS data show that the largest occupations in the warehousing and storage industry are “Laborers and Freight, Stock, and Material Movers, Hand” (22.5 percent), “Stockers and Order Fillers” (22.1 percent), Industrial Truck and Tractor Operators (16.5 percent). Note also that our earnings variable measures earnings for workers who

worked on the first day of the quarter. This may mean that earnings in Amazon counties are lower because of atypically high attrition rates and higher worker churn at Amazon facilities. Additionally, it is possible that earnings in Amazon counties are lower because of higher-than-average rates of lost work time resulting from worker injuries.

⁵³ This measures the difference between the average among each group of counties. The difference between Amazon and non-Amazon counties is statistically significant at $p < 0.005$. We compared 123 Amazon counties and 518 other counties in the U.S. that also have warehouses that are in the 20th percentile for average earnings for all works. See appendix for a table comparing the two groups. Our findings in this section reflect earnings from quarter 1 of 2022, which we believe to be the most appropriate for assessing warehouse worker earnings outside of seasonal fluctuations in hours and employment. However, we had similar findings when conducting the analysis using data from quarter 4 of 2022, which captures earnings during the holiday shopping spike (when many employers including Amazon require mandatory overtime) and also after Amazon's October 2022 raise.

⁵⁴ Note that these monthly earnings data from the Census do not contain information about the number of hours worked by each employee and therefore cannot provide detail on hourly wages for workers, only total earnings for the month. Lower earnings may reflect fewer hours worked and vice versa. This is important to take into consideration when interpreting our results given that uneven and unpredictable scheduling of hours has been an ongoing concern for many Amazon workers. See Kendall Glynn, East Point Amazon workers demand stable schedules, guaranteed hours after surprise shift cuts, Atlanta Civic Circle, May 18, 2023, <https://atlantaciviccircle.org/2023/05/18/east-point-amazon-workers-demand-stable-schedules-guaranteed-hours-after-surprise-shift-cuts/>. Also, note that the Census data we use measures earnings for workers that were working on the first day of the quarter. Many of those workers may not stay for the entire quarter, and the average monthly earnings will be lower as a result. This may be particularly true for Amazon workers given the high rates of turnover. See Jodi Kantor, Karen Weise and Grace Ashford, "The Amazon that Customers Don't See," New York Times, June 15, 2021, <https://www.nytimes.com/interactive/2021/06/15/us/amazon-workers.html>; Irene Tung and Debbie Berkowitz, "Amazon's Disposable Workers: High Injury Rates and Turnover at Fulfillment Centers in California,"

⁵⁵ Difference is statistically significant at $p < 0.05$.

⁵⁶ Note these monthly earnings data are measured by industry, not occupation, and include all occupations within an establishment designated in that industry. Occupational earnings breakdowns at the county-level are not available. We use the term "warehouse worker" to refer to workers employed at a warehouse establishment regardless of occupation.

⁵⁷ Ellora Derenoncourt, Clemens Noelke, David Weil & Bledi Taska, Spillover Effects from Voluntary Employer Minimum Wages, NBER Working Papers, October 2021, https://www.nber.org/system/files/working_papers/w29425/w29425.pdf (under revision); David Card, "Who Sets Your Wage?" *American Economic Review*, vol. 112, no. 4, April 2022, <https://www.aeaweb.org/articles?id=10.1257/aer.112.4.1075>.

⁵⁸ Previous analyses have shown that warehouse wages tend to fall when Amazon sets up shop. For example, a Bloomberg analysis showed that in the counties where Amazon has opened its largest facilities, average industry compensation slips by more than 6% during the facility's first two years, according to data from the Bureau of Labor Statistics. See ⁵⁸ Matt Day and Spencer Soper, "Amazon Has Turned a Middle-Class Warehouse Career Into a McJob," Bloomberg, December 17, 2020, <https://www.bloomberg.com/news/features/2020-12-17/amazon-amzn-job-pay-rate-leaves-some-warehouse-employees-homeless>. Likewise, a 2018 study from *The Economist* also found that in the two and a half years before the opening of a new Amazon warehouse facility, local warehouse wages increased by an average of 8 percent. In the two and half years after Amazon's arrival, those wages fall by 3 percent. See *The*

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- ⁵⁹ Atlanta Civic Circle, May 18, 2023, <https://atlantaciviccircle.org/2023/05/18/east-point-amazon-workers-demand-stable-schedules-guaranteed-hours-after-surprise-shift-cuts/> ; “In Denial: Amazon’s Continuing Failure to Fix Its Injury Crisis,” April 2023, <https://thesoc.org/what-we-do/in-denial-amazons-continuing-failure-to-fix-its-injury-crisis/>; Amazon issued 13,000 disciplinary notices at a single U.S. warehouse, Reuters July 12, 2022; <https://www.cnn.com/2022/07/12/amazon-issued-13000-disciplinary-notices-at-a-single-us-warehouse.html>; Jodi Kantor, Karen Weise and Grace Ashford, “The Amazon that Customers Don’t See,” New York Times, June 15, 2021, <https://www.nytimes.com/interactive/2021/06/15/us/amazon-workers.html>
- ⁶⁰ Matt Day and Spencer Soper, “Amazon Has Turned a Middle-Class Warehouse Career Into a McJob,” Bloomberg, December 17, 2020, <https://www.bloomberg.com/news/features/2020-12-17/amazon-amzn-job-pay-rate-leaves-some-warehouse-employees-homeless>
- ⁶¹ Conversations and correspondence between Karen Crawford and United for Respect staff, August 2023
- ⁶² U.S. Census Bureau, QWI Q1 2022
- ⁶³ Conversations and correspondence between Wendy Taylor and Missouri Worker Center staff, August 2023
- ⁶⁴ Note that these are averages among counties, not weighted averages. Neither the Census Bureau nor Amazon has disclosed microdata on workers earnings. These monthly earnings data do not account for difference in the number of hours worked.
- ⁶⁵ Note that these are averages among counties, not weighted averages. Neither the Census Bureau nor Amazon has disclosed microdata on workers earnings. These monthly earnings data do not account for difference in the number of hours worked.
- ⁶⁶ Matt Day and Spencer Soper, “Amazon Has Turned a Middle-Class Warehouse Career Into a McJob,” Bloomberg, December 17, 2020, <https://www.bloomberg.com/news/features/2020-12-17/amazon-amzn-job-pay-rate-leaves-some-warehouse-employees-homeless>
- ⁶⁷ MWPVL, *Amazon Global Supply Chain and Fulfillment Center Network*, https://www.mwpvl.com/html/amazon_com.html. Accessed August 15, 2023.
- ⁶⁸ In the counties in which Amazon would eventually build fulfillment centers by the year 2022, average earnings for all workers were 28 percent higher than in the counties in which Amazon would not eventually build fulfillment centers.
- ⁶⁹ Average earnings for all workers predicted warehouse worker earnings ($p < 0.001$), but future Amazon presence did not. This is also the case when comparing future Amazon counties to all U.S. counties with warehouses.
- ⁷⁰ Differences between categories in Q1 2005 are statistically significant at $p < 0.005$.
- ⁷¹ Amazon.com, Inc. – Consolidated EEO-1 Report, 2021, <https://assets.aboutamazon.com/ff/dc/30bf8e3d41c7b250651f337a29c7/2021-amazon-consolidated-eeo-1-report-2p.pdf>. It is important to note that Amazon does not include delivery drivers in this “laborers and helpers” category, which Amazon doesn’t consider as employees and employs via intermediaries called Delivery Service Providers

(DSPS), or as independent contractors.

- ⁷² Gibbs Law Group, *Amazon Flex Driver Lawsuits (2023)*, <https://www.classlawgroup.com/amazon-flex-lawsuit>
- ⁷³ Compare these figures to national data of the racial and ethnic composition of the warehouse industry workforce: Labor force statistics from the Current Population Survey (CPS) show that a majority of workers employed in warehousing and storage are white (65 percent), followed by “Hispanic” (35 percent) and Black (25 percent). (*Note that the CPS demographic estimates do not exclude Latinx workers from racial categories; thus, totals do not add up*). See Current Population Survey, 2022, <https://www.bls.gov/cps/cpsaat18.htm>. Accessed September 13, 2023.
- ⁷⁴ For the purposes of this analysis, we grouped earnings data for Latinx workers of all races, and did not include earnings data for Latinx workers with earnings data for Black workers or white workers.
- ⁷⁵ Diana Ionescu, “Amazon’s Growing Real Estate Empire,” Planetizen, June 11, 2022, <https://www.planetizen.com/news/2022/06/117483-amazons-growing-real-estate-empire>
- ⁷⁶ Mariella Moon, “Amazon’s iRobot purchase is under investigation by European authorities,” *Engadget*, July 7, 2023, <https://www.engadget.com/amazons-irobot-purchase-is-under-investigation-by-european-authorities-054857108.html>
- ⁷⁷ As noted above, these workers do not include delivery drivers whom Amazon employers through intermediaries or as independent contractors.
- ⁷⁸ Note we use the term “front-line worker” interchangeably with the EEO-1 term “laborers and helpers.”
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