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THE GIG IS UP: THE HIDDEN ECONOMICS OF RIDESHARE PLATFORMS

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INTRODUCTION

Despite the claims of independence, flexibility, and good pay touted by Transportation Network Companies (TNCs) like Uber and Lyft, there's an emerging body of research showing that existing policies and biased algorithms stack the deck against drivers and riders. Gig platforms use hidden and biased algorithms and coercive worker incentives to employ "algorithmic wage discrimination," a new strategy that uses on-the-job surveillance of workers to harvest data and suppress worker's wages.¹ With little to no transparency on the real forces behind the price-setting algorithms, Coloradans lack the information to understand how the price that consumers pay is distributed between the pockets of Colorado drivers and the profits of out-of-state rideshare corporations. Is it right if only \$4 of a \$10 fare that the rider pays goes to the driver providing the service? Should we at least know how much rideshare companies are taking? Some estimates put that figure that companies take from a consumer's fare (called "take rates") between 50-70% of what the rider pays. Recent Colorado data suggests that the secret algorithmic influence and profiteering of TNC platforms is holding our state's economy, and the working people who drive its success, back from its full potential.

The Colorado Fiscal Institute (CFI) conducted an analysis to estimate the two disparities that can often lead to driver's earnings being overexaggerated by rideshare companies or misinterpreted by consumers. First, there are many costs that are being left out. For example, we explore the difference between driver's total earnings during their time clocked into the rideshare platforms and their real hourly wages, accounting for "deadheading time," or uncompensated time when drivers are going to a pickup location, as well as the costs of wear and tear, insurance, and payroll taxes in Colorado. Using data from 6,079 trips across multiple ride-hailing and food delivery apps, collected through the Driver's Seat Collective app and in partnership with Colorado Jobs with Justice,² we found that while total earnings during active hours for Denver drivers would average \$30.66 an hour, once we account for the out-of-pocket expenses and uncompensated working time, the average wage earned by Denver drivers was \$10.53 an hour. The biggest drivers of that \$20 difference are the time that drivers spend driving to their next rider, "deadheading" time, as well as the costs of wear and tear on their vehicle for their working hours.

INTRODUCTION

We then use this more accurate estimate for hourly wages to explore our second research question: how much earned income have drivers lost as workers have seen rising take-rates over time?³ While rideshare companies' lack of transparency creates multiple data limitations, we test this assumption based on survey data captured by voluntary Denver area drivers and the consumers they served. CFI estimates that if take rates were capped at 25%—that is, the app company takes \$2.50 of a \$10 fare and the driver gets \$7.50—drivers would earn an extra \$10 an hour (\$21.78 per hour on average compared to the \$10.53 that they currently make). Using the current estimate of a Denver driver's average annual income, which currently sits at \$20,867, we find that implementing this cap would raise drivers' average annual income to \$43,149.

Finally, we also explore existing evidence that the algorithms and labor policies employed by rideshare platforms can exacerbate racial biases and lead to discriminatory outcomes for both riders and drivers alike. A study from Chicago strongly suggests that rideshare algorithms lead to riders of color or those living in lower income areas paying higher fares;⁴ but we also find evidence that drivers, the majority of whom are workers of color in Colorado, are exposed to discriminatory algorithms and lack protections from the harms produced by inequities. For example, implicit race attitudes predict trustworthiness judgments.⁵ Discriminatory judgements of drivers can lead to unjust terminations from app-based work, cutting off these worker's main source of income; yet, drivers often lack clear information from the platforms on the reason for their deactivation or recourse if it was unjust.

These findings demonstrate the significant impact that absence of fair complaint processes and take-rate transparency for drivers has on their economic security. This has important policy implications for state legislators, who have opportunities to increase algorithmic transparency and protect Coloradan consumers and workers from predatory digital policies.

FINDINGS

MAJOR FINDINGS

01

Denver drivers earn \$10.53 an hour once accounting for out-of-pocket expenses, and TNC platforms currently take up to 50-70% of the consumer fares, leaving many drivers without sufficient income to make ends meet for their families.

These high “take rates” mean that the majority of the value created in Colorado by TNC drivers is leaking out of the state because out of state rideshare platforms continue to claim larger and larger shares of the fares paid by consumers.⁶

If take rates were about 25% lower, a rounding error relative to TNC’s net revenue,⁷ Colorado drivers and the state’s economy would gain over \$769 million in potential economic value that is currently claimed by TNC platforms.

02

2022 survey data indicates that over 1 in 5 Denver drivers reported being discriminated against on the basis of their identity, and the majority of drivers are workers of color.⁸ 15% of Denver drivers report being terminated, with many facing predatory termination from the platforms, in part due to their failure to protect drivers from discriminatory deactivations.

In other words, we may see that riders might rate drivers of color with lower stars or raise arbitrary complaints rooted more in biases than the realities of their service, which can result in unjust terminations.

For example, these drivers may experience systematically lower ratings from a few biased passengers, which then increases the likelihood that they must pick up consumers who have low rider ratings due to a record of poor behavior, further exacerbating the probability of inaccurate and biased ratings. While gig companies cannot shift bias in consumer behavior, they can ensure drivers have a fair process to voice concerns.

REVIEW OF EXISTING EVIDENCE

While a significant body of research has explored the earnings of ride-share drivers after accounting for out-of-pocket expenses, there is a large range of estimates and limited data that can be disaggregated for Colorado. This is due to the limited data that TNC platforms make available, and the difficulty of collecting statistically significant data on ride prices to estimate the distribution of consumer fares between drivers and the platforms they contract with (or “take rates”). Further, researchers must regard the potential for bias in many prominent study’s methodology as a result of their primary investigators being employed or under direct contract with Uber, Lyft, and other TNC platforms.⁹

However, existing data does call into question the veracity of the claims by many TNC platforms about the benefits of independent contractor status: making your own hours, getting paid fast, and earning up to 30 dollars an hour.¹⁰ These claims do not hold up when we closely examine empirical data at the national level or within Colorado; rather, the algorithms and labor policies promulgated by these apps make these empty promises for many full-time drivers.

False Claims of Profit Opportunity: Driver’s Real Wages Trail Minimum Wage and W-2 Employees

One study by Uber technologies employee and shareholder Jonathan V. Hall and former Uber consultant Alan Krueger concluded that Uber’s labor pool was attracted to the platform because of “the level of compensation.”¹¹ It is often claimed that through the flexibility of independent contractor status, drivers have a real opportunity to make smart business decisions and capture impressive profits that exceed the earnings potential of comparable jobs that require W-2 employment status.

This recruitment strategy is called into question when looking at average earnings data, which indicates that drivers are earning lower wages than meets the eye once accounting for the out-of-pocket expenses and lack of benefits that come with the gig. One 2018 study estimated that while

REVIEW OF EXISTING EVIDENCE (CONT)

gross fares per hour (prior to Uber taking its commission) were estimated at \$22.06, on average Uber drivers earned a real “wage”—comparable to the wages earned by regular W-2 employees—of only \$9.21.¹² This wage is a more accurate reflection of earnings because it subtracts costs like Uber fees, wear and tear, and other costs for the vehicle, as well as the costs of a modest benefits package, which Uber employees forgo as independent contractors.

There is some data on the earnings of rideshare drivers in Denver from before the COVID pandemic. In 2019, Heno and Marshall analyzed primary data collected by one of the authors, who became a driver for Uber and Lyft in the Denver area, to estimate gross hourly wages under three common expense scenarios.¹³ The results indicated that in 2019 net hourly wages ranged between \$5.72 and \$10.46 per hour before taxes, meaning that drivers earned less than the state minimum wage in Colorado.

More recent data from Denver, explored in CFI’s new analysis of 2022 Drivers Seat Collective data, confirms that hourly wage projections closer to the \$10 dollar an hour range are still accurate estimates,¹⁴ despite the drastic increase in cost of living in the state (these benchmarks are much lower than Colorado’s 2023 statewide minimum wage of \$13.65,¹⁵ and the City of Denver’s latest minimum of \$17.29 per hour¹⁶).

Drivers are also more likely to be earning extremely low wages compared to W-2 employees. A 2022 national survey by the Economic Policy Institute (EPI), polled gig workers at firms such as Uber, DoorDash, Lyft, Instacart, and Uber Eats. The researchers compare economic outcomes for gig workers to W-2 service-sector workers at large retail and food service companies like Walmart, McDonald’s, and Home Depot. More than twice as many of the gig workers surveyed (26%) as those in the W-2 sample (11%) reported earning less than \$10.00 per hour.¹⁷

REVIEW OF EXISTING EVIDENCE (CONT)

Drivers are Likely to Experience Economic Insecurity, Not Smooth Income and Timely Payment

The TNC-commissioned researchers Hall and Krueger also posit in a 2016 analysis of the U.S labor market for Uber's workers that "driver-partners often cited the desire to smooth fluctuations in their income as a reason for partnering with Uber."¹⁸ The ride-share company itself touts on its website that drivers can expect to "get paid fast" with earnings automatically transferred to their bank account, and "get support at every turn" to ensure their earnings are accurate and timely.¹⁹

Most Denver drivers rely on these platforms for their main source of income, and gig work is their full time job. A 2022 survey by independent researchers commissioned by Colorado Jobs with Justice, in partnership with Colorado Independent Drivers United (CIDU), collected a random, representative survey of 362 ride-hailing and food delivery drivers in Denver.²⁰ The results showed that gig workers spent a median of 38 hours working per week on the apps they were surveyed using, and over 6 in 10 drivers rely solely on gig income to pay their bills.

However, the EPI survey indicates that claims made by rideshare platforms touting a "smooth income stream" and responsive support for drivers regarding payment are inaccurate and misleading driver recruitment tools. The rideshare drivers reported higher rates of lost earnings and economic insecurity than the W-2 service-sector workers.²¹ While 3 out of every 5 gig workers had not been paid for their work on the job at least once, the study found that less than 1 in 5 W-2 service-sector workers failed to receive payments due to difficulties clocking in or out of work. Moreover, gig workers experience persistent barriers to receiving their fair pay: 36% of gig workers have not been paid for their work three or more times, compared to only 8% of W2 employees surveyed.

The insufficiency of driver's wages, combined with the uncertainty of receiving their earnings, leads to many drivers experiencing economic insecurity

About 19% of gig workers surveyed in the national survey experienced food insecurity in the last month, and 30% of gig workers used SNAP to put food on the table, twice the rate of W-2 service-sector workers (15%).

REVIEW OF EXISTING EVIDENCE (CONT)

Recent data from Colorado drivers confirms that these concerning trends hold true at the local level; the results of the 2022 Denver survey showed that 11.5% of Denver drivers rely on at least one form of public benefits, and 1 in 5 reported that they could not afford a \$400 emergency expense.²² This is nearly double the rate for all American adults; a Federal Reserve Board Report found that of all U.S. adults, 1 in 9 could not afford to cover a \$400 expense in 2021.²³ These are especially concerning data points once we understand that over 60% of Denver drivers were fully reliant on gig income, and 59% of local drivers are supporting at least one adult or child with their income.²⁴

One reason for this economic volatility may be the fluctuations that drivers see every day on their wages due to no fault of their own; rather, this could be attributed to the deployment of algorithms and surveillance systems on the TNC platforms that researchers have recently defined as “algorithmic wage discrimination.”²⁵

The Myth of Driver Autonomy is Made Obsolete by Hidden Algorithmic Wage Discrimination

Contrary to the claims of independence and profit opportunity advertised by TNCs, recent research at the intersection of consumer protection and anti-trust suggests that the companies hide the algorithms they use to institute coercive practices that boost their profits.²⁶ Behind the curtain, recent economic evidence suggests that TNC platforms are artificially raising consumer prices and capturing an increasing share of driver’s earnings.²⁷

TNC-commissioned researchers have used economic tools to estimate consumer surplus created by TNC apps, using Uber’s “surge” pricing algorithm and big data from multiple cities to show that this produces large consumer surplus.²⁸

Moreover, platforms like Uber also argue that their “commission-based compensation model,” or taking a fee based on each ride, is more beneficial for drivers than alternative arrangements like taxi driving where drivers pay a fixed medallion lease independent of their earnings or rides, and then keep all the fares. In one study, the authors offered a virtual lease to Uber drivers in Boston, and compared driver’s preference for leasing relative to Uber’s commission based model; the findings support their claim that ride-hailing drivers gain considerably from the opportunity to drive without leasing.²⁹

REVIEW OF EXISTING EVIDENCE (CONT)

However, this leaves out many other factors impacting driver's economic security, and the rideshare economy has changed considerably since this 2017 report. There is strong evidence that drivers are saddled with high out-of-pocket costs that eat away at the potential gains from the rideshare model.³⁰ Even more pertinent is the impact of the coercive price-setting practices used by TNC platforms, which force drivers to accept a fare and hide the price from the driver until after the trip. These anti-competitive practices harm both workers and riders.

One study explains how these practices "facilitate a tacit oligopoly of high prices and low pay" that harms both drivers and consumers.³¹ Drivers do not receive transparent data on the "take rate," or how much of their earnings from a given ride they keep (and can spend in our local economy) relative to the profits claimed by the out-of-state TNC platforms. Consumer behavior is also being affected by the lack of transparency by these platforms; drivers are reliant on tips to make ends meet, and yet riders do not know how much of their fare goes to the worker providing them service and how much is going straight to the TNC platform they are using. The 2022 survey of Colorado drivers found that over one-fifth of the typical Denver driver's income came from tips.³²

Some may raise that in past years, companies like Uber have operated in the red. However, a nuanced look at these companies' long-game strategies reveals that this is the result of anti-competitive tactics, not the absence of huge profit opportunities.³³ A brief history lesson reminds us that the inherent dysfunction of the rideshare economy mirrors the economics of the unregulated taxi industry; the oversupply of rides led taxi companies and drivers to race to the bottom to attract additional customers with unprofitably low pricing. History repeats itself as rideshare companies try to capture the "network effects" of being the biggest dog in the game, using predatory pricing to expand their market share, buy out competitors,³⁴ and invest in emerging app-based markets, even if it means operating at a loss. The upshot; the market operates in a way that inherently pits the desire of apps to expand against the welfare of the drivers, who bear the brunt of overhead and operating costs, yet see declining wages as the apps use their power to shirk accountability and employ wage-suppressing technologies.

A 2023 study by labor scholar Veena Dubal uses multi-year ethnographic data from gig workers to understand the new phenomena of "algorithmic wage discrimination" and how it strips workers of real choices, steady income, or a shot at economic mobility.³⁵

REVIEW OF EXISTING EVIDENCE (CONT)

Algorithmic wage discrimination is a dangerous threat to workers' basic economic liberty, emerging from gig companies' desire to harvest data that helps them pay workers as little as they will possibly accept for the gig. Firms are using on-the-job surveillance and coercive incentives to get the upper hand and differentiate wages in ways unknown to workers. **As a result, workers see constantly fluctuating wages, and otherwise identical workers are "paid different wages—calculated using opaque and ever-changing formulas reflecting individual driver location, behavior, demand, supply, and other factors—for broadly similar work."**

The study's author, an expert on gig work in California and Washington, notes that the dynamic pricing and incentive models that companies like Uber use are "undermining the possibility of economic stability and mobility through work by transforming the basic terms of how workers are paid."

A truly competitive, market-driven system – which is not manipulated by the algorithms and coercive labor practices of these third party platforms – would likely result in a fairer market for consumers and drivers. Evidence from an experiment in California shows that when drivers have a voice in setting prices and labor supply is closer to a free market, we see less corporate greed and a rideshare economy that truly affords drivers the flexibility and autonomy they sign up for. Data indicates that while that system was in place, drivers' earnings increased substantially and customers did not see a change in prices. This resulted in much lower take rates for the rideshare platforms.³⁶

TNC platforms also determine fares using price-discriminating algorithms that lead to disparities in price based on the demographics of the neighborhood where a ride is requested. One analysis of 100 million ride-hailing samples from the city of Chicago indicates "a significant disparate impact in fare pricing of neighborhoods due to AI bias."³⁷

While the authors were able to explain the higher pricing in younger neighborhoods and those with a higher education level through real market forces of demand and trip duration, the higher fare pricing in neighborhoods with higher non-white, below-poverty-level populations could not be explained by lower demand. On the contrary, researchers found evidence that the "artificial manipulation of supply by ride-hailing companies," such as using bonuses to incentivize drivers to shift their business to other areas, drove consumer prices up in high-poverty, majority non-white neighborhoods.

REVIEW OF EXISTING EVIDENCE (CONT)

Platforms fail to protect drivers from discriminatory terminations driven by systematic bias

Recent behavioral economic research has confirmed that racial biases, both explicit and implicit, lead to racial biases in both an individual's evaluations of trustworthiness and their economic decisions to trust another individual.³⁸ This phenomenon has been tracked by rideshare drivers in Denver; recent study data highlights that **1 in 5 Denver drivers reported being discriminated against on the basis of their identity, and the majority of drivers are workers of color.**³⁹

Many Colorado drivers of color working through TNC platforms have reported mistrust by riders and predatory terminations from the platforms on the basis of their racial or ethnic identity. Anecdotally, many Denver drivers report false accusations of driving while under the influence, disproportionately occurring among drivers of color—particularly Muslim drivers who abstain from alcohol. In Denver, 15% of drivers reported being deactivated at some point, and two-thirds of those deactivated drivers relied on gig income to make ends meet, earning at least 75% of their income from platform-based work.⁴⁰

Our review of literature demonstrates that drivers face high rates of material hardship and income volatility due to high take-rates, covert methods of algorithmic wage discrimination, barriers to payment, and a lack of fair recourse for terminations. This underscores the importance of ensuring drivers have access to more transparent data on their wages and take rates, as well as clear and just processes for drivers to voice grievances, so that Colorado workers and consumers have the full-information necessary to make informed economic decisions.

METHODOLOGY

CFI researchers used 2022 data from 6,079 trips across multiple ride-hailing and food delivery apps via the Drivers Seat Collective app and Jobs with Justice. In order to estimate the impact of out-of-pocket expenses, we formed a reasonable counterfactual to analyze opportunity costs to drivers. We calculate net wages by subtracting only the additional costs that drivers would not be paying anyway, if working another job, where we assume they could also have independent contractor status.

For example, wear and tear and deadheading time is a cost unique to drivers, because a person driving to a standard 9 to 5 or for personal reasons is not doing so as a means to an end to pick up a rider and to earn a potential source of income. In a counterfactual where gig drivers earned income as W2 employees at an employer like Walmart or McDonalds, they would not to spend work time or incur the additional wear and tear from getting to their next gig, which is a unique cost resulting from profit seeking behavior for independent drivers, but simply a personal expense for workers.

We use the following assumptions in our calculations:

Miles per hour	Uber's own studies estimate that drivers drive 20 miles in an hour ⁴¹
Weekly working hours	2022 local data indicates that Denver drivers work a median of 38 hours per week on the app they were surveyed using ⁴²
Deadheading time	DSC data allows us to estimate that deadhead time is about 21% of driver's total working time, given that: <ul style="list-style-type: none">• Total income/active hours = 30.66 per hour• Total income /active+deadhead = 24.2 per hour• Median total hours =38

METHODOLOGY (CONT)

Wear and tear	We rely on a U.S District Court ruling that the IRS standard mileage rate of 56 cents per mile is a “reasonable approximation” of vehicle expenses for a group of food delivery workers. ⁴³ We calculate wear and tear for only the miles driven as a rideshare driver, which we assume would be in addition to any driving that Colorado drivers do in their personal time.
Insurance Cost	AAA estimates car insurance costs at 8.34 cents/mile, ⁴⁴ While insurance is a cost which we assume that drivers would incur anyway, gig workers would not be paying it for the miles driven while working as a driver if they were in another job.
Unemployment Insurance and Workers Compensation	Drivers in Colorado do not pay into these programs- we do not include these costs.
Payroll tax	We use the 2023 Tax Form 1040-ES from the IRS, which rideshare drivers fill out during tax season each year, and filled out the “Self-Employment Tax and Deduction Worksheet” form using the estimated yearly income that results from our wage analysis of the DSC data. This calculation assumed that Payroll taxes are estimated at 7.65% of 92.35% of drivers “expected profits and income subject to the self employment tax,” once accounting for both the 12.4% tax for social security and 2.9% for Medicare, and including the 50% deduction in calculating AGI in accordance with line 11 of the form.

METRICS

Platforms fail to protect drivers from discriminatory terminations driven by systematic bias

Cost Metric	Findings
Deadheading time	<p>We divide total weekly income by weekly hours, accounting for both active and deadheading time, and multiply weekly hours by this new hourly pay to find total weekly income prior to out-of-pocket costs.</p> <p>Total income/active hours = 30.66 Accounting for deadheading: Total income /active+deadhead time = 24.2 per hour Median of 38 hours worked per week</p> <p>Weekly income = \$919.6 prior to out of pocket costs and taxes</p>
Insurance	<p>Average total miles: 38 hours worked (20 mph)= 760 miles a week Weekly insurance cost per average total miles: 760(.0834 insurance per mile)= 63.384 dollars a week in insurance</p> <p>919.6 - 63.384 = Weekly income = \$856.216 once accounting for insurance costs</p>
Wear and tear	<p>Weekly cost per average total miles driven: 760 (.56 wear and tear per mile)= 425.6</p> <p>856.216- 425.6 = Weekly income = \$430.616 once accounting for wear and tear costs</p>
Payroll Taxes	<p>Yearly income: 430.616 (52.1429)= 22453.5670264</p> <p>Tax calculations: 92.35% (22453.5670264)= 20735.87 20735.8691489(.029)= 601.34 20735.8691489 (.124)= 2571.24777446 3172.58797978 total .5 of this is 1586.29398989 22453.5670264- 1586.29398989 Yearly income after taxes =20867.2730365</p> <p>Hourly income 20867.2730365/52.1429 weeks= 400.193948486 400.193948486/38 hours = 10.531419697 an hour</p> <p>Estimated average hourly wage = \$ 10.53</p>

SUMMARY OF FINDINGS: WAGE ANALYSIS

We estimate that earnings during active hours for Denver drivers would average \$30.66 an hour. However, once we account for “deadheading time,” or uncompensated time when drivers are going to a pickup location, drivers earn \$24.20/hour across all hours worked. Then, once we account for the costs of wear and tear, insurance, and payroll taxes, the average wage earned by Denver drivers was \$10.53 an hour.

Take Rate Analysis: How Much Money is Leaking out of Colorado

Using both primary data from CFI staff member’s own consumer-side trips in the Denver area and voluntary driver data, as well as data from CIDU drivers and a former CFI employee who formerly drove for rideshare apps in the Denver area, we make a conservative estimate of “take rates” averaging 50%, far below the take rates we saw in the small data set we captured (based on driver and rider data).

To investigate how a reduction in take rates would impact both drivers’ economic security and our state’s economy as a whole, we project the gain to drivers’ wages and state economic stimulus if take rates were about 25% lower (bringing the rate down to 25% total). We chose this because it would roughly half current take rates, and because Uber reports that it “charges partners 25% fee on all fares,” which runs contrary to the data collected by many drivers and consumers in Colorado.⁴⁵

We use the following assumptions in our calculations:

We project that in 2022, at least 30,000 Coloradans worked for rideshare platforms, projecting recent industry growth BLS⁴⁶ data and tax returns from the Colorado Department of Revenue.⁴⁷ Then, we leverage the U.S. Bureau of Economic Analysis’ final demand multipliers for Colorado of 1.3 to estimate the potential value created by drivers spending just a third of this income in their local and state economy.⁴⁸

**SUMMARY OF FINDINGS:
WAGE ANALYSIS (CONT)**

Below, we repeat the same calculations as in our wage analysis, but start from a base hourly earnings estimate for all paid hours (total income/active hours + deadheading hours) = \$36.30, which we derive from taking the current wage estimate (accounting for deadheading) and projecting the change to drivers' wages across non-deadheading working hours if take rates were reduced to 25% of consumer fares. By assuming that current take rates sit at 50%, and therefore current hourly wage estimate for non-deadheading is half of what the consumer pays in fares, we then account for other out of pocket costs to find the net hourly income drivers would keep in this counterfactual world where take-rates average 25%.

Cost Metric	Findings
Take rate differential: recalculation of base hourly income (accounting for deadheading)	$\$24.20/\text{hour per hour, 38 hours a week of work}$ $24.2(2) = \text{consumer paid } 48.4 \text{ per hour}$ If only 25% of this fare was taken by the TNC platform and 75% kept by the driver: drivers keep 36.3 per hour as income $36.3(38 \text{ hours})$ Weekly income = \$1379.4 a week
Insurance	760 miles a week $760(.0834 \text{ insurance per mile}) = 63.384 \text{ dollars a week in insurance}$ $1379.4 - 63.384 =$ Weekly income = \$1316.016
Wear and tear	760 miles a week $760 (.56) = 425.6$ $1316.016 - 425.6 =$ Weekly income = \$890.416

Payroll taxes

Yearly income:

$890.416(52.1429) = 46428.8724464$

Tax calculations:

$92.35\% (46428.8724464) = 42877.0637043$

$42877.0637043(.029) = 1243.43484742$

$42877.0637043(.124) = 5316.75589933$

total is 6560.19074675

.5 of this is 3280.09537338

Yearly income after taxes:

$46428.8724464 - 3280.09537338 = 43148.777073$

Hourly income

$43148.777073 / 52.1429 = 827.510113036$

$827.510113036 / 38 = 21.776581922$

Estimated average hourly wage = \$21.78

SUMMARY OF FINDINGS: WAGE ANALYSIS (CONT)

Our analysis projects that if take rates were capped at 25%, drivers would earn \$21.78 per hour on average. This translates to an annual income of \$43,148.78 (over double the current estimate of annual driver income of \$20,867.27) if take rates were lower, demonstrating the significant impact that TNC platform's take rate algorithms have on drivers' economic security and the importance of transparency on how these rates are calculated.

Relative to a take rate of 25%, current TNC take-rates allow over \$668 million in potential household income to leak out of the state each year, compared to a scenario with lower take rates. Once accounting for the economic multiplier effect, this is equivalent to over \$769 million of lost economic value for the state economy.

POLICY IMPLICATIONS

As long as platforms continue to have sole discretion over prices and take rates, it is critical that they provide transparent information so drivers and consumers can know if they are getting a fair deal. TNC platforms withhold information that would allow drivers to make decisions for themselves and understand how price-setting strategies may impact their earnings.

When consumers only see their fare but not the percent going to a TNC platform, this impacts their tipping decisions, which comprise over one fifth of drivers' income in Denver. The hidden algorithms and coercive labor practices of rideshare platforms are having major impacts on Colorado's economy, yet workers and constituents are shut out from this behind-the-scenes economic manipulation.

Furthermore, Colorado drivers are also harmed when racial bias permeates economic transactions, leading to their deactivation from the platforms, and therefore the loss of their main source of income. Just as workers and consumers are forced to unknowingly accept low wages and high fares (respectively) without a clear understanding of how costs break down and are distributed between platforms and drivers, the lack of a clear process for platforms to process claims of unjust terminations also leaves drivers in the dark.

Policies like SB23-098, regarding Gig Work Transparency, can take critical steps to disclose this data to both drivers and consumers so that Coloradans can have true autonomy when making economic decisions around rideshare apps.

REFERENCES

1. Dubal, V. (2023, January 23). On algorithmic wage discrimination. by Veena Dubal :: SSRN. Retrieved January 31, 2023, from <http://dx.doi.org/10.2139/ssrn.4331080>
2. Dalal, S., & Leverage, E. (2022, October). The Gig Gap: the Reality of Denver Gig Workers 2022 Report. cojwj.org. Retrieved March 6, 2023, from http://www.cojwj.org/uploads/2/4/6/1/24613827/cjwj_white_paper_rd4.pdf
3. Based on local Denver data on take rates, as well as national trends in other geographic regions, such as NYC data: Konishi, A., Ramakrishnan, V., Waheed, S., & Herrera, L. (2023, February). Analysis of high volume for-hire vehicle data for New York City. UCLA Labor Center. Retrieved March 7, 2023, from <https://www.labor.ucla.edu/publication/for-hire-vehicle-data-new-york-city/>
4. Pandey, A., & Caliskan, A. (2021, May 3). Disparate impact of artificial intelligence bias in ridehailing economy's price discrimination algorithms. arXiv.org. Retrieved March 6, 2023, from <https://arxiv.org/abs/2006.04599>
5. Stanley, D. A., Sokol-Hessner, P., Banaji, M. R., & Phelps, E. A. (2011, April). Implicit race attitudes predict trustworthiness judgments and economic trust decisions. pnas.org. Retrieved January 31, 2023, from https://dash.harvard.edu/bitstream/handle/1/27414716/Stanley_2011_PNAS_A.pdf?sequence=1
6. See number 3
7. Dow Jones & Company. (2022). Uber Technologies Inc.. Annual Income Statement - WSJ. The Wall Street Journal. Retrieved March 7, 2023, from <https://www.wsj.com/market-data/quotes/UBER/financials/annual/income-statement>
- Needleman, S. E. (2023, February 8). Uber shares rise after ride-hailing company reports revenue, Profit Growth. The Wall Street Journal. Retrieved April 13, 2023, from <https://www.wsj.com/articles/uber-q4-earnings-report-2022-11675818987>
8. See number 2
9. Angrist, J. D., Caldwell, S., & Hall, J. V. (2017, October 9). Acknowledgements and Disclosures. Uber vs. taxi: A driver's Eye View. NBER. Retrieved March 7, 2023, from <https://www.nber.org/papers/w23891>
10. Uber Technologies Inc. (2023). Drive with uber: An alternative to traditional driving jobs. Uber. Retrieved March 7, 2023, from <https://www.uber.com/us/en/drive/>
11. Hall, J. V., & Krueger, A. B. (2016, November 21). An analysis of the labor market for Uber's driver-partners in the United States. NBER. Retrieved March 8, 2023, from <https://www.nber.org/papers/w22843>
12. Mishel, L. (2018). Uber and the labor market: Uber Drivers' compensation, wages, and the scale of Uber and the gig economy. Economic Policy Institute. Retrieved March 7, 2023, from <https://www.epi.org/publication/uber-and-the-labor-market-uber-drivers-compensation-wages-and-the-scale-of-uber-and-the-gig-economy/>

REFERENCES (CONT)

13. Henao, A., & Marshall, W. A. (2019, October 9). An analysis of the individual economics of ride-hailing drivers. *Transportation Research Part A: Policy and Practice*. Retrieved March 8, 2023, from <https://www.sciencedirect.com/science/article/abs/pii/S0965856419300333>
14. See number 2
15. New Year, new wages: Denver minimum wage is \$17.29 in 2023. City and County of Denver. (2022). Retrieved March 8, 2023, from <https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Auditors-Office/News/2022/English/New-year-new-wages-Denver-minimum-wage-is-17.29-in-2023#:~:text=DENVER%20%E2%80%93%20Denver%27s%20lowest%20paid%20workers,%E2%80%9D%20Auditor%20O%27Brien%20said>
16. Minimum wage. Department of Labor & Employment. (2023). Retrieved March 8, 2023, from <https://cdle.colorado.gov/wage-and-hour-law/minimum-wage#:~:text=2022%20Colorado%20State%20Minimum%20Wage&text=For%202023%2C%20the%20Colorado%20state,the%202023%20PAY%20CALC%20Order>
17. Zipperer, B., McNicholas, C., Poydock, M., Schneider, D., & Harknett, K. (2022). National survey of gig workers paints a picture of poor working conditions, low pay. *Economic Policy Institute*. Retrieved January 31, 2023, from <https://www.epi.org/publication/gig-worker-survey/>
18. See number 11
19. See number 10
20. See number 2
21. See number 17
22. See number 2
23. Consumer and Community Research Section of the Federal Reserve Board's Division of Consumer and Community Affairs (DCCA). (2022, May). Report on the economic well-being of U.S. households in 2021 - May 2022. Board of Governors of the Federal Reserve System. Retrieved March 8, 2023, from <https://www.federalreserve.gov/publications/2022-economic-well-being-of-us-households-in-2021-executive-summary.htm>
24. See number 2
25. See number 1
26. Peterson, C. L., & Steinbaum, M. (2022, August 30). Coercive rideshare practices: At the intersection of antitrust and Consumer Protection Law in the gig economy :: SSRN. Retrieved March 7, 2023, from <http://dx.doi.org/10.2139/ssrn.4196215>
27. See number 1, 3, and 26
28. Cohen, P., Hahn, R., Hall, J., Levitt, S., & Metcalfe, R. (2016, September 12). Using big data to estimate consumer surplus: The case of uber. *NBER*. Retrieved March 8, 2023, from <https://www.nber.org/papers/w22627>
29. Angrist, J. D., Caldwell, S., & Hall, J. V. (2017, October 9). Uber vs. taxi: A driver's Eye View. *NBER*. Retrieved March 7, 2023, from <https://www.nber.org/papers/w23891>

REFERENCES (CONT)

30. See numbers 12 and 13
31. See number 26
32. See number 2
33. Sherman, L. (2017, December 17). Why can't uber make money? Forbes. Retrieved April 13, 2023, from <https://www.forbes.com/sites/lensherman/2017/12/14/why-cant-uber-make-money/?sh=50ce8e1710ec>
34. Hendelmann, V. (2022, December 13). Why is uber not profitable? here are 5 reasons affecting its bottom line. productmint. Retrieved April 13, 2023, from <https://productmint.com/why-is-uber-not-profitable/>
35. See number 1
36. See number 26
37. See number 4
38. See number 5
39. See number 2
40. See number 2
41. Cook, C., Diamond, R., Hall, J., List, J., & Oyer, P. (2020, May). The Gender Earnings Gap in the Gig Economy: Evidence from over a Million Rideshare Drivers. stanford.edu. Retrieved March 8, 2023, from <https://web.stanford.edu/~diamondr/UberPayGap.pdf><https://web.stanford.edu/~diamondr/UberPayGap.pdf><http://www.nber.org/papers/w24732.pdf>
42. See number 2
43. Orth v. J & J & J Pizza, Inc., Civil Action No. 19-cv-10709-ADB (D. Mass. Mar. 25, 2020)
44. AAA. (2023). AAA estimate vehicle ownership costs. Retrieved March 8, 2023, from <https://www.aaa.com/autorepair/drivingcosts>
45. Tracking your earnings | Driver App | Uber. (2023). Retrieved March 8, 2023, from <https://www.uber.com/gh/en/drive/basics/tracking-your-earnings/>
46. U.S. Bureau of Labor Statistics. (2022). Bureau of Labor Statistics Data. Retrieved January 31, 2023, from https://data.bls.gov/timeseries/SMS08000004000000001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true
47. Office of Research and Analysis, Colorado Department of Revenue. (2021). Gig economy reports. Department of Revenue. Retrieved January 31, 2023, from <https://cdor.colorado.gov/data-and-reports/income-tax-data/gig-economy-reports>
48. Moreno, D., Valdez, A., Liston, L., McKean, H., Rodriguez, R., Young, M., Larson, L., & Meyers, P. (2022, January 13). Final Report of the Task Force on Economic Recovery & Relief Cash Fund. <https://leg.colorado.gov/>. Retrieved January 31, 2023, from https://leg.colorado.gov/sites/default/files/final_errtf_report_0.pdf

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