



Tipping the Tax

How Government Surcharges Become Gratuities

2026 WORKING PAPER

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The payment screen multiplies every line item

- ▶ When a ride ends, the screen suggests **20/25/30 %**, computed on the **fee-inclusive total**: metered fare, rush surcharge, MTA tax, improvement surcharge, congestion surcharge, tolls — *whoever receives them*.
- ▶ Same ride, four minutes apart:

3:58 PM • NO SURCHARGE

20 % button: **\$4.34**



4:02 PM • +\$2.50 IN THE BASE

20 % button: **\$4.84**

- ▶ Nothing about the rider, driver, or route changed. **A statute entered the multiplication.**
- ▶ Fifty cents more proposed — exactly 20% of the \$2.50 surcharge.

Questions and contribution

Research questions

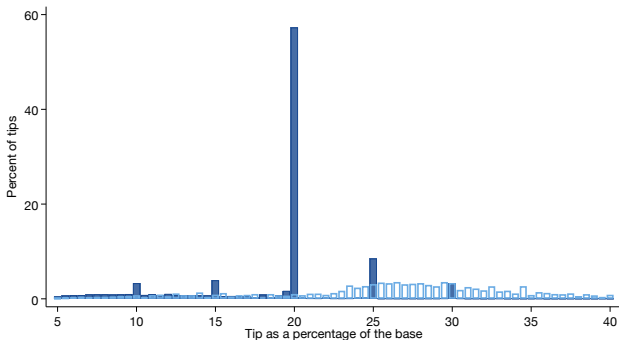
1. By how much does an additional **statutory dollar** on the meter change the average credit-card tip?
2. Is that pass-through rate **constant** across doses, fare structures, and sources of identifying variation?

Prior work defaults move tips (Haggag-Paci 2014) • unseen taxes are under-noticed (Chetty-Looney-Kroft 2009) • suggestion bases differ across vendors (Thakral-Tô 2026)

THIS PAPER ADDS

The **first causal per-dollar estimate** of government charges passing into tips, from statutory switches by **clock, calendar, and map**.

Riders do not tip on the subtotal



57.3% of card tips sit at exactly 20% of the fee-inclusive total; spikes at 25 and 30 (navy).

The same tips against the *fare alone* (outline): no bin above 3.6%.

The tip base is identifiable from behavior alone.

NYC TLC universe • 43M
standard-rate card trips • Sep
2021–Sep 2024 • minute cells • card
tips only

Design: difference-in-discontinuities at statutory minutes

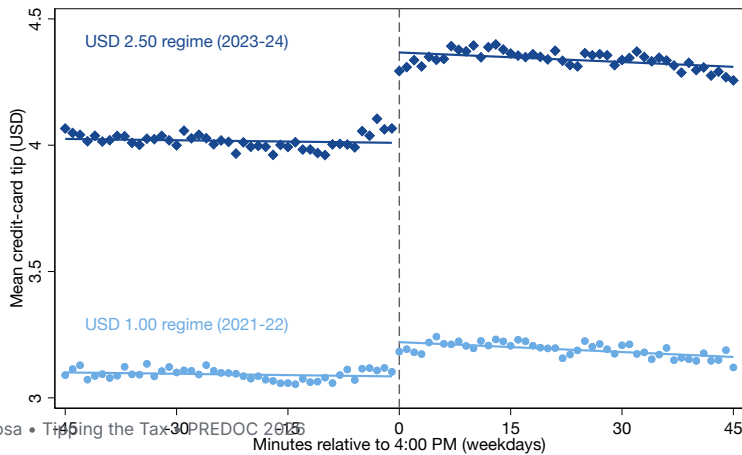
- ▶ Rush surcharge switches on at **exactly 4:00 PM**, assigned by the **pickup minute**. Weekends and exempt holidays: same clock, no surcharge.
- ▶ Fares also jump at 4 PM (rush traffic), so we difference the discontinuities:

$$T_{dm} = \alpha + \pi D_m + \omega W_d + \delta (D_m \times W_d) + \gamma B_{dm} + f(r_m) \times W_d + \varepsilon_{dm}$$

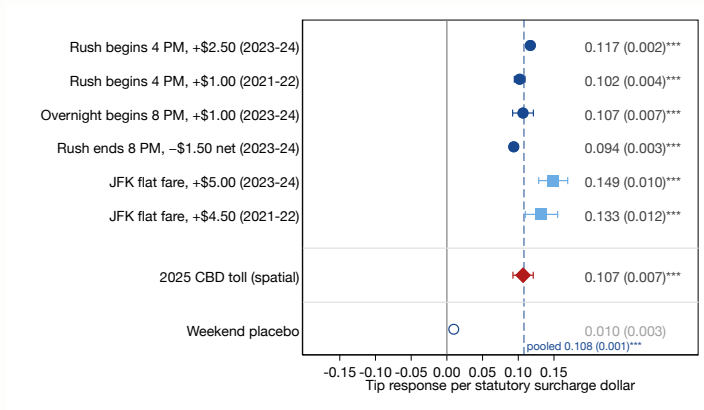
D_m : past the cutoff • W_d : weekday • B_{dm} : **non-surcharge base** (all-in total would be a bad control) • $f(r_m)$: local-linear minute trends by day type • cells weighted by card trips • SEs clustered by date (pickup zone for the toll).

- ▶ $\delta \div$ **statutory dose** = pass-through per legislated dollar — comparable across doses from \$0.50 to \$5.00.

Tips jump at the statutory minute, in both regimes



One experiment, eight statutory levers



Per statutory dollar, SEs in parentheses; *** $p < 0.01$. Clock designs use weekdays except overnight-begins (weekends); rush-ends dose is net. The unstarred row is the falsification set.

Two estimands, one benchmark

11¢

PER LEGISLATED DOLLAR
(ITT, POOLED 0.108, SE 0.001)

14¢

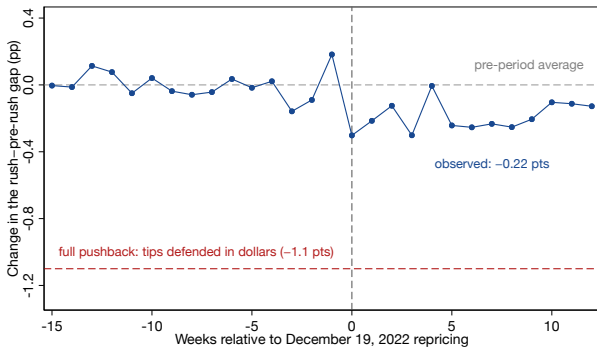
PER BILLED DOLLAR (2SLS
0.140, SE 0.004)

17.4%

THE RATE RIDERS TIP THE
FARE ITSELF

- ▶ Meters apply the surcharge imperfectly: **77¢ of each legislated dollar** reaches a bill (first stage 1.93/2.50).
- ▶ Surcharge dollars are tipped at **four-fifths** the rate of fare dollars — the missing fifth is the round-dollar tippers.
- ▶ We headline the **ITT**: legislatures move statutes, not meters, and the 2SLS exclusion restriction is unverifiable in a contaminated meter field.

Riders absorb a \$1.50 repricing



December 19, 2022: rush surcharge **\$1.00** → **\$2.50** overnight.

Tips defended in *dollars* predict the rush-window rate falls **1.1 points**.

Observed: **-0.22 points** — immediate, permanent, one-fifth of full pushback.

Riders keep percentage habits on the bigger base; the tip increase is mechanical.

Six sources of variation converge

4 PM cutoff • 8 PM cutoffs • holiday calendar • Dec 2022 repricing • JFK
flat fare • 2025 toll boundary

0.094–0.149 per statutory dollar • pooled 0.108 (0.001)

CHECK	OUTCOME
Quantity margins (retiming, cash, demand)	all null
Placebo cutoffs, 3:15 and 5:00 PM	null, both stages
Permutation over 60 cutoffs	none reaches the estimate
Exempt-holiday counterfactual	replicates weekends (0.096/\$)
MDE ($2.8 \times \text{SE}$), six designs	0.005–0.039 per \$

The fiscal transfer

\$141M/yr

GOVERNMENT CHARGES IN THE TIP BASE
(2025 SCHEDULE)

\$15–21M/yr

IN UNLEGISLATED GRATUITIES

- ▶ Composition: congestion surcharge \$72.7M, improvement \$30.7M, CBD toll \$17.4M, MTA tax \$15.4M, airport \$4.4M.
- ▶ Range endpoints are the two estimands (0.108 per legislated, 0.150 per billed dollar) — not a confidence interval.
- ▶ Riders bear **\$1.11–\$1.15 per statutory dollar**; drivers, not the government, receive the difference.
- ▶ **Ignoring tips misstates the incidence** of every charge in the stack.

Conclusion

- ▶ **11¢ per legislated dollar**, stable across six quasi-experimental designs: percentage habits on a fee-inclusive base, no re-optimization.
- ▶ \$141M/yr of government charges sit in the tip base, generating **\$15–21M/yr in gratuities no legislature enacted**.
- ▶ The policy lever is the **base**: exclude government charges from the suggestion, or legislate the transfer explicitly.
- ▶ Next: attention as congestion pricing matures; welfare netting of driver gains against rider burden; the same arithmetic in restaurants and rideshare.

Thank you



tylersotomayor.github.io/tipping-the-tax-companion

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Backup: the 6 AM cutoff fails as predicted

- ▶ The overnight surcharge ends at 6:00 AM; the design predicts a downward step.
- ▶ At dawn the weekday trip mix pivots to airport runs: covariate smoothness fails *before* looking at tips — the design predicts its own failure.
- ▶ The estimate misbehaves (-0.104), the weekend twin behaves, and we report it as a locked outcome. **A predicted failure is evidence the assumptions bind.**

Backup: sorting at the cutoff

- ▶ **Density:** weekday-vs-weekend volume step at 4 PM is +3.4% (0.6) — the wrong sign for avoidance; nobody flees the fee.
- ▶ **Donuts:** dropping ± 3 / ± 5 minutes around the cutoff gives 0.115 / 0.121 per dollar — the effect does not live at the boundary.
- ▶ **Composition:** tipping-style shares are unchanged at the cutoff; whole-dollar tips (the margin a wealthier pool would move) are inert.
- ▶ JFK riders are flight-constrained — cannot retime — and show the same per-dollar rate.

Backup: who passes it through

- ▶ Decomposition at the \$2.50 cutoff: exact-button tips +0.421 (0.011); custom tips +0.247 (0.027); whole-dollar tips +0.043 (0.025) ≈ 0 .
- ▶ Tipping-style shares do not move at the cutoff (<0.5 pp).
- ▶ The same one-fifth of dollar-defenders appears in the level of pass-through (four-fifths), the repricing give-back (-0.22 of -1.1), and here.