Unemployment Insurance Incentives and Platform Gig Work

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Abstract

Between 2019 and 2020, the platform gig economy in the United States grew by 1.2 million individuals, or 63 percent, amidst record entry and exit. Exploiting differences in state Unemployment Insurance (UI) generosity using a county border design, we estimate that, on average, an extra dollar of UI income paid to gig platform workers reduced their earnings by about 16-23 cents, leading to the exit of approximately 41,000 platform workers in 2020. However, we show that these disincentive effects are swamped by flows of new entry, with the largest flows coming from workers previously employed in industries most affected by COVID.

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What happens when unemployment insurance benefits are extended to previously ineligible workers? Recognizing gaps in the social safety net, the 2020 CARES Act created a new Pandemic Unemployment Assistance (PUA) program, which expanded unemployment insurance (UI) benefits to self-employed gig workers, among others on the margins of the labor force ineligible for traditional UI.[1] Additionally, workers eligible for traditional UI or PUA received a weekly top-up under Federal Pandemic Unemployment Assistance (FPUC) of $600 per week in the first half of 2020.[2] There has since been considerable debate about the labor supply incentives of these expanded unemployment insurance benefits and the role of these benefits in contributing to labor shortages.

In this paper, we study the labor supply effects of expanding unemployment benefits to workers in the gig economy. In particular, we study how the generosity of PUA benefits affected incumbent gig worker's continued participation in platform work during the first year of the COVID pandemic. Self-employment is one possible margin of adjustment against economic shocks, yet this margin is missing from previous analyses of UI incentives. This is potentially a more serious problem for analysis of UI during the COVID crisis, given that UI was extended to self-employed workers on a large scale. Platform gig work is also interesting to study given that workers have control over their hours, providing a real-world analogue of the neoclassical model of the labor market.

We build on our methodology in Collins et al. (2019) to match platform workers to unemployment insurance payments. We first show that although regular employment fell in 2020, the number of gig workers actually grew dramatically. However, this growth in platform work masks widespread exit of incumbent platform workers—the growth was driven by waves of new entrants, most of whom were engaged in traditional employment through 2019.

We find that PUA appears to have been successful in extending UI benefits to platform gig workers: We find that around half of workers who were primarily platform gig workers in 2019 received UI benefits in 2020, higher than the UI share among primarily wage workers and similar to the share of self-employed workers who received DUA after Hurricane Katrina. The average UI benefit in 2020 among those primarily

[1] This was not an entirely new program, but was modeled after Disaster Unemployment Assistance (DUA). In the Online Appendix, we conduct a comparable analysis of the DUA program on self-employed workers after Hurricane Katrina.

[2] The FPUC top up was $600 per week through July 2020. An additional $300 per week for six weeks was paid out through the "Lost Wages Assistance" (LWA) executive order.

engaged in platform gig work in 2019 was over $17,000, which was comparable with wage earners and much higher than typically received by self-employed or wage workers in previous crises. Among gig platform workers who received UI, most received more than their 2019 platform earnings.

Moreover, we document considerable variation across states in the share of 2019 platform workers receiving UI in 2020, from around 70 percent in Massachusetts to fewer than 20 percent in Utah. In addition, there is considerable variation across states in the annual amount of unemployment insurance received, which stems from the number of weeks claimed and approved. Our understanding of these differences across states is that they largely generate from different interpretations of PUA eligibility by state UI offices.

To test whether differences in benefit generosity affected labor supply decisions, we use a county-border design, now standard in the UI literature studying the effects of UI generosity during the Great Recession (see, e.g. Hagedorn et al., 2013; Boone et al., 2021). We compare individuals who live in adjacent counties but who happen to live in two different states in order to hold constant economic and pandemic conditions. Our focus is on incumbent platform workers who received the majority of their 2019 labor income from such work—the group that would have likely been eligible for PUA but not traditional UI. We estimate that, on average, an additional dollar of state UI benefits led to a reduction in earnings of 23 cents, and overall employment in platform work was 1.4 percentage points lower.

Despite the increase in exits, gig work expanded dramatically in 2020. We also briefly study the entry decision, focusing on individuals who were wage workers in 2019 with no platform or self-employment income. We show that entry into platform work is positively correlated with UI receipt. This suggests that gig work continued to operate as a countercyclical source of income, despite the unprecedented expansion in UI eligibility and generosity.

Most closely related to our work, Ganong et al. (2021) examine exits from UI to employment when FPUC benefits expire. Their results suggest overall employment was 0.2-0.4 percent lower as a result of expanded UI, relatively modest effects given the size of the benefits. Larrimore, Mortenson and Splinter (2021) also use tax data, examining UI takeup in 2020 among wage workers. Our paper differs in that our main focus is on the disincentive effects of PUA for self-employed gig workers.

This paper proceeds as follows: We discuss trends in platform work through 2020

in Section 1, as well as providing descriptive statistics on UI takeup during 2020. We discuss our main empirical approach n Section 2. Section 3 reports our results. Section 4 concludes.

1 Trends in Platform Gig Work and UI Takeup

Gig workers are independent contractors of the platforms they work on, and in this capacity are self-employed for tax purposes. Workers with a U.S. tax filing requirement are expected to file a tax form known as Schedule C to report their self-employment receipts and expenses. Platforms will issue 1099-MISC or 1099-K information returns to platform workers with a U.S. tax-filing requirement—and to the IRS—at the end of the year.[3] Following the methodology in Collins et al. (2019), we use these information returns to identify workers with any platform work on around 50 major gig economy platforms, over the course of the year. We link this information to their Schedule C self-employment tax filings containing reported profits and W2 information returns reporting any wage income, allowing us to determine whether the gig worker was primarily a wage worker or self-employed in 2019. We also link annual unemployment insurance receipt reported on Form 1099-G.

We begin with trends in platform work between 2017-2020. Figure 1(a) reports overall counts of gig platform work, with separate breakdowns by major gig industry: transporation and delivery;[4] "influencer," defined as platforms where people are paid for posting original content; and all other platforms, which includes platforms providing online tutoring, tele-health and other professional services.

The first takeaway is that transportation and delivery work are the largest components of gig work, with other platforms representing only a small share of the overall gig economy. In 2020, we see a jump in gig work by around 1.2 million workers. Over 1 million comes from transportation and delivery, and an additional 150,000 comes from influencer platforms. We see fewer than 10,000 new workers on any other platform. Figure 1(b) examines flows of entry and exit from platform work, showing that 2.1 million new workers entered the gig economy in 2020, a 97% increase over 2019, while

[3]The 1099-MISC has a reporting threshold of $600. The 1099-K has a higher reporting threshold of $20,000; however, platforms sometimes voluntarily report at lower thresholds and many workers will receive both a 1099-MISC and a 1099-K.

[4]We combine these because some transportation platforms are also delivery platforms, and we cannot separately identify the two.

830,000 exited, a 63% increase over 2019.[5]

We next turn to descriptive statistics on earnings volatility and UI receipt, pre- and post-COVID, in Table 1. We compare workers primarily working in the platform economy (Col 1), to those who had primary earnings from wage work (Col 2), to new entrants to gig platform work from wage work (Col 3) and to those who were only wage workers, with no platform work or self-employment in the current or previous year (Col 4). We make a distinction between primary versus secondary earnings in platform work since those who were primarily engaged in platform work in 2019 were most likely eligible for new PUA benefits, compared with traditional UI.[6]

Even in 2019 prior to COVID, a large share of workers have reductions in their primary source of earnings (defined as self-employment profits for primarily gig platform workers, and wages for all other workers) from year to year. Sixty-four percent of those who were primarily platform workers had reductions in their earnings between 2018-2019. Platform work is often short-term, and part of this reduction in earnings from year to year reflects churn out of platform work. The share with year-to-year earnings losses rose 12.8 percentage points to 76.6 percent between 2019-2020. Among wage earners, new entrants to platform work are the next most likely to have had wage reductions; 56.5 percent had a reduction in their wage earnings between 2018-2019, and 60.4 percent had reductions between 2019-2020. Among those who do no platform work, 38 percent had reductions in their earnings between 2018-2019, compared with 45 percent between 2019-2020.

In 2019, the economy was strong, and rates of UI receipt were quite low. Platform workers were not eligible for UI, unless they had eligibility from a wage job, and just 0.3 percent of 2018 incumbent platform workers received UI in 2019. The highest rate of UI claiming was among new platform gig entrants in 2019, with 3.5 percent receiving UI in 2019. We see a completely different story for 2020, however. Nearly half of the 2019 incumbent platform workers received UI in 2020, compared with 21 percent of wage workers, 36 percent of those with supplemental platform gig work in 2019 and 33 percent of new gig entrants in 2020. In terms of the targeting of this UI, while workers with earnings losses are more likely to receive UI, the rate of receiving UI without

[5]Reporting by gig platform companies has changed over time, most notably in 2016. We discuss these changes in our working paper on IRS Tax Stats where we also report a longer-run series back to 2012 adjusted for reporting over time.

[6]Some wage earners may have also received PUA if they were ineligible for regular UI. As noted in previous work, many wage workers do not take up UI following unemployment, which can reflect differences in eligibility across states (Blank and Card, 1991)

any primary earnings losses ranged from 10.9 percent among never-gig workers, to 26 percent among 2019 platform workers.[7]

Conditional on receiving UI, the median amount of UI received in 2020 was 1.62 times 2019 platform earnings. This ratio was 0.42 for wage workers, and 0.62 for new entrants. These ratios largely reflect differences in the earnings distribution across these workers. As shown in Appendix Figure A.1, the amount of UI received in 2020 varied little with income: the average benefit received by incumbent platform gig workers making less than $2,500 in 2019 was over $17,300, whereas the average benefit for those making between $30,000-$60,000 was around $19,700. As shown in the second to last row of Table 1, UI in 2020 dramatically lowered the share of workers with earnings reductions. Among new platform gig entrants, UI reduced the share with a primary earnings loss by 14 percentage points, from 60 to 46 percent; profits from platform gig work reduced the share further only by 3 additional percentage points.

In Figure A.2, we examine the full distribution of earnings changes for each of these groups. We show that earnings losses were more extreme between 2019-2020 than between 2018-2019, especially for platform gig workers. After accounting for UI, the earnings distributions shift to the right, but this shift is much larger for those who were primarily platform workers.

While we examined earnings changes from 2018-2019 in Table 1, a more apt comparison might be to compare 2020 to past crises. While gig work is a relatively recent phenomenon, in Appendix C, we examine UI experience among self-employed, independent contractors broadly defined, and W2-only workers in two past crises: the 2007-9 Great Recession and in 2005 following Hurricane Katrina. The latter was notable because Disaster Unemployment Assistance (DUA) extended UI to self-employmed workers. We show that UI takeup among self-employed workers in 2005 following Hurricane Katrina was almost as high as PUA, around 35 percent of self-employed and independent contractors took up UI. Despite these similar takeup rates, one important difference was that the amount of benefits received during COVID was much higher. This is because DUA only paid at most the maximum weekly benefit amount in Louisiana. As a result, the average amount of annual benefits received at the time was only around $1,000.

We next examine simple descriptive correlations between labor supply and UI, which motivate our research design discussed in the next section. In panels (a) and (c)

[7]This could partly reflect differences in timing, if someone receives UI early in the year and found better earnings opportunities later in the year.

of Figure 2, we show simple state-level correlations between the share with platform work in 2020 and the share receiving UI in the state, separately by whether someone was primarily a platform worker in 2019 or solely a wage worker.[8] Panels (b) and (d) show a similar correlation between the share with platform work in 2020 and the average annual dollar amount of UI received conditional on receiving UI. The average annual amount of UI we observe in the tax data is a function of the number of weeks of benefits that were received.[9]

This figure makes two things clear: first, as apparent by the range on the X-axis, there was considerable variation in the share receiving UI and the dollar amount of UI approved across states. Second, these correlations imply different labor supply responses: more UI receipt among incumbent platform workers is associated with reduced platform work in 2020, whereas more UI receipt among wage workers is associated with an increase in platform work. Note, we separate out New York City from the rest of New York state. Interestingly, in Panel (a), we see that New York City is far from the trend line, suggesting much lower exits given its high share with UI. New York City drivers are more likely full-time and have more stringent and costly licensing and other requirements, and as a result likely had lower replacement rates and potentially higher job attachment overall.

What generates the large differences in the share and amount of UI received across states? We hypothesize that these differences reflect two major factors: 1) the size of the economic shock faced by the state, and 2) differences in UI screening and the interpretation of PUA eligibility across states, which we will refer to loosely as "PUA generosity." Unlike for traditional UI, states had much more discretion for eligibility determinations for PUA. For example, DOL guidance explicitly mentions ridesharing, one of the largest components of gig work: "a driver for a ridesharing service who receives an IRS Form 1099 from the ride sharing service... may still qualify for PUA benefits if he or she has been forced to suspend operations as a direct result of the COVID-19 public health emergency."[10] This guidance leaves considerable discretion to the states to determine eligibility.

[8] Because COVID affected work from late March 2020, many workers would still have been available to work in early 2020, and this income would be reported on their information returns. To deal with this, we define exits as having earnings in 2020 less than 3/12 of 2019 receipts. We define earnings based on 1099s and Schedule C receipts.

[9] States that gave out more benefits also tended to provide more dollar benefits: the correlation between the two among primarily platform gig workers is 0.56.

[10] See https://wdr.doleta.gov/directives/attach/UIPL/UIPL_16-20.pdf

Previous research has shown that many workers enter gig platform work following an economic shock, such as unemployment (see, for instance Koustas (2018, 2019); Jackson (2020)), which is one story for the positive association among wage workers. We provide brief suggestive evidence on the economic shock channel in Panels (d)-(e) of Figure 2 for wage-only workers. By the nature of the COVID shock, different industries were differentially affected by the drop in demand: in some industries, like grocery stores, demand increased, and very few workers received UI, whereas in the hospitality industry, which suffered a large negative demand shock, nearly 60 percent received UI. In these panels, we show the correlation between entry and the share and amounts of UI received within each 4-digit industry code. Industries that are more affected by COVID, as evidenced by higher UI receipt, are industries with *more* new entry into platform gig work, which is suggestive that entry was related to the size of the shock.[11]

Our empirical approach, which we discuss next, will allow us to separate out the role of PUA generosity from economic shocks facing platform gig workers.

2 Empirical Strategy

To determine the impact of expanded UI benefits on platform gig work, we follow the recent UI literature in examining county border pairs. The intuition is that each county border pair should face similar economic conditions, and similar pandemic-related risk, allowing us to isolate the impact of different UI generosities across states, all else equal.

We restrict our estimation sample to incumbent platform workers who derived a majority of their 2019 earnings from gig work, since these workers would most likely been eligible for PUA. As discussed above, we believe differences across states in part reflect differences in interpretation of PUA eligibility. By focusing on border counties, we are able to control for the size of the shock, while exploiting this variation. In contrast, primary wage workers would have been eligible regular UI. Thus for wage workers, differences in UI across counties, even border counties, largely reflects differences in the industry composition of the county and hence the size of the local shock, rather than state UI generosity. Note that unlike traditional UI, which is based on the location of your employer, PUA eligibility was determined by state of residence. We determine

[11] Because our data are annual, we cannot determine whether individuals participated in gig work while simultaneously receiving UI.

assignment of PUA based on the address an individual's 2019 1099 information return was sent to.

Our main specification uses data aggregated to the county level and is given as follows:

$$y_c = \beta UI_{s(c)} + \delta' X_c + \zeta_{p(c)} + \epsilon_c \tag{1}$$

where the subscript c indexes county, $s(c)$ is the state of county c, and $p(c)$ is the border county pair for county c.[12]

The key object of interest is β, which tells us the effect of $UI_{s(c)}$, a measure of UI generosity, on y. Previous work studying UI generosity during the Great Recession has focused on measures like the number of weeks of extended benefits (Hagedorn et al., 2013; Boone et al., 2021), the maximum weekly benefit, and maximum replacement rates (Marco and Kermani, 2013). We consider two measures of UI generosity, depending on the outcome we examine:

Our first main outcome of interest is the share of incumbent platform workers residing in the county (as of 2019) who exited platform work in 2020, which we regress on the share of primary platform workers who received UI state-wide. The interpretation of β is the increase in exits for every 1 p.p. increase in UI expansion. Again, we're assuming that once we condition on the border-pair, any differences in UI takeup across states come from differences in state policy.

Our second main outcome of interest is the average change in total earnings (self-employment profits and wages) among primary platform workers who lived in the county in 2019, which we regress on the unconditional average dollar amount of UI compensation workers received in the state in 2020. Now, the interpretation of β becomes the average change in earnings in the county, for a dollar increase in average UI compensation paid in the state.

The regression also includes a set of county-level controls, X_c: the log population of the county, the log area of the county, the percent of the county classified by the BLS as urban, and the percent of the population living in an urban area. For our border design to be valid, there have to be no omitted variables correlated with our measures of UI generosity and our outcomes. As a test of our identifying assumption, we also consider "placebo" versions of our outcomes, lagged by one year so that they refer to

[12]Note: one county can appear in more than one matched county pair, so the final dataset used in this analysis expands based on the number of county pairs.

the period prior to COVID, to test they are unrelated to UI generosity in 2020.

For disclosure purposes, we restrict our regressions to counties that had at least 10 incumbent platform workers. These counties are shown in a map in Appendix Figure A.3. We report results giving each county equal weight and weighted by county population.

3 Results

Our results are reported in Table 2. Panel (a) examines the relationship between exits from platform gig work in 2020 and state UI generosity. Before restricting to border counties, we first examine all counties in Columns (1)-(2); Column (1) gives each county equal weight, while Column (2) is weighted by the number of incumbent platform workers. We find a strong relationship between the share receiving UI and exits in 2020, consistent with the state-level scatterplots shown in Figure 2. The remaining columns report results from our main specification. Columns (3)-(5) focus on border counties and include border-pair fixed effects. In the unweighted specification, we estimate that a 1 p.p. increase in PUA generosity is associated with a 0.163 p.p. increase in exits. Given average UI takeup of 47.1 percent, the point estimate implies exits from platform work in 2020 were 7.7 (= 0.163*0.471) p.p. higher because of the availability of PUA benefits. The 2018-2019 exit rate among primary platform workers was 17.9 percent, so in percentage terms this implies a percent increase in exits of 43 percent. Columns (4)-(5) weight by county population. Column (5) excludes the New York City counties since these counties have a large number of gig workers and appeared to follow different trends in Figure 2. Including New York reduces the point estimate somewhat to 0.13, and excluding New York City the point estimate rises to 0.174.

Columns (6)-(7) are a placebo running the same regression, but changing the outcome to be defined based on the change from 2018-2019 (the number of counties falls because fewer counties had 10+ incumbent platform workers active in 2018). There is no statistically significant relationship—the point estimate in the unweighted regression is opposite signed and the weighted regression is a precise zero—suggesting our results are not spuriously driven by trends or other omitted variables correlated with 2020 UI takeup.

Panel (b) examines the relationship between earnings changes and the average

amount of UI received in the state. We find a point estimate of -0.16 in the unweighted specification, column (3), and -0.225 in the weighted specification, column (4), which implies a dollar increase in average UI is associated with a reduction in earnings of 16 to 23 cents. Again, the placebo is small in magnitude and statistically insignificant.

In Appendix B, we run a version of our main county-border specification at the individual level to examine heterogeneity by worker characteristics. We interact our measures of state UI generosity with quintiles of total earnings in 2019. We find that the average effect estimated in Table 2 masks significant heterogenetiy by earnings: the lowest quintile of earners, making under $3,800 in 2019, are about two times more likely than other quintiles to exit platform work in 2020 in response to a 1 p.p. increase in the availability of UI in the state. This effect we observe stemming from the increased probability of receiving UI appears to be independent of the variation across states in the amount of UI received. On the other hand, higher earners appear much more likely to reduce their earnings proportionally in response to an additional dollar of UI. For the top quintile of 2019 earnings where average earnings is around $50,000, we estimate a reduction in earnings of approximately 43 cents for every dollar increase in average state UI compensation paid out.

One source of comparison with our estimates of earnings responses to increases in UI are estimates of the Marginal Propensity to Earn out of unearned income (MPE). Receiving income from UI in a given week is typically conditional on not working in that week; therefore, our estimates are a combination of the MPE plus any moral hazard effects leading to a reduction in annual labor supply. In Appendix B, we report IV estimates comparable to these MPE estimates in the literature.[13] Golosov et al. (2021) examine lottery winners in the U.S. and estimate an MPE of close to 0.5. We find a smaller average effect of -0.289, and can reject an estimate as large as 0.5. We estimate a larger effect, -0.824, for the highest-quintile earners.

[13]Our estimates reported in the main body of the text are reduced form estimates of the effect of average state UI generosity. We show in Appendix B that the first-stage relationship between the average state values and individual values have a slope less than 1, suggesting a weaker first-stage relationship after conditioning on county-border pair fixed effects and other controls. In the appendix, we also report instrumental variable (IV) estimates. As is well known, the interpretation of IV estimates is the effect on compliers. Depending on our specification, compliers are individuals who take up UI because UI is more generous in that state, or receive an additional dollar in UI because the state pays out more in UI. The IV estimates are approximately double the magnitude of our reduced form estimates.

4 Conclusion

In 2020, policymakers had to balance uncertainty about the pandemic with concern for workers outside of the traditional social safety net. To our knowledge, we provide the first well-identified estimates of the effect of UI on labor supply in platform gig work. Our main outcome of gig platform work is difficult to measure in survey data. While it is beyond the scope of this paper to consider optimal UI policy, the effects we estimate should be useful inputs to policymakers considering reforms to expand unemployment insurance in the future. Moral hazard among gig workers in particular has not been previously estimated, and is a particularly policy relevant parameter. The fact that our estimates are smaller than other estimates of the MPE in the literature suggests that gig workers may be somewhat less responsive than other low-wage workers.

Our estimates imply an overall reduction in gig work due to PUA of about 41,000 thousand platform workers.[14] However, this effect is swamped by over one million new workers entering gig platform work. While our research design does not allow us to estimate the effect of increases in traditional UI generosity, notably FPUC, on dampening new entry, we showed that record entry into gig work from wage work was largest in industries that received more UI. Thus the much discussed channel of gig work providing extra income to workers facing income shocks appears to have been operating, even with generous expansions in UI benefits.

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[14] (0.077*532,938 2019 platform workers)

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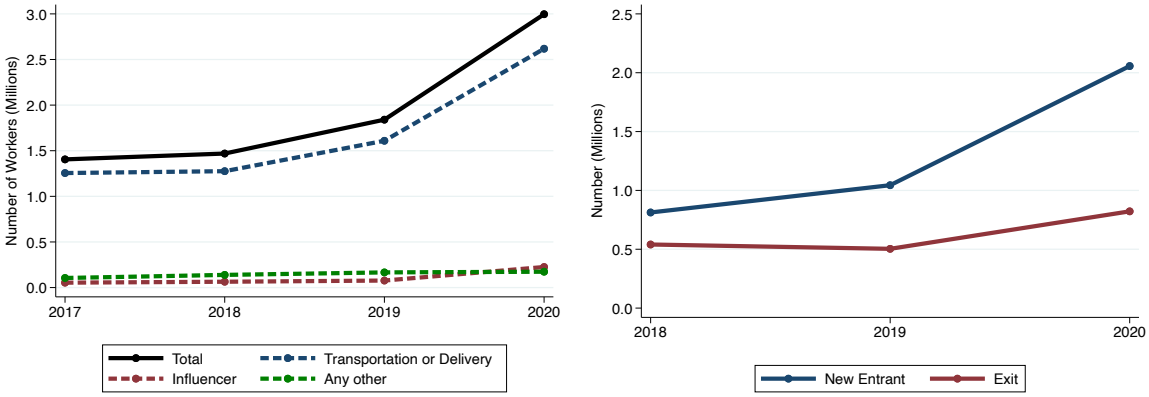
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Figures

Figure 1: Platform Gig Work, 2018-2020

(a) Totals

(b) Entry and Exit



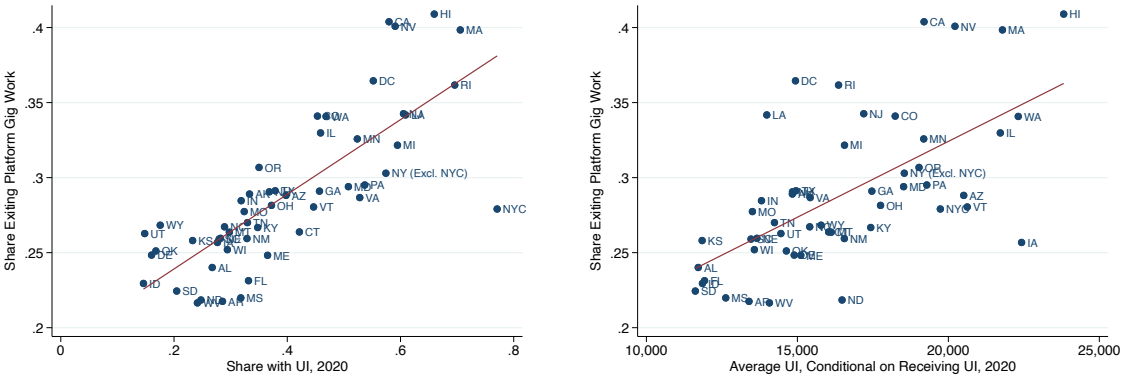
Notes: Left-hand figure shows total number of workers, in millions, active at some point in the year indicated on the x-axis. Right-hand panel shows flows, in millions, of new entry and exit. "New Entrant" is defined as someone with a 1099 from a platform gig company who had no 1099 from a platform gig company in the previous year. "Exit" is defined as having a 1099 from a platform gig company in the previous year, and gross receipts in the present year (as measured on a 1099 or Schedule C) less than 1/4 of the previous year.

Figure 2: UI and Gig Platform Participation

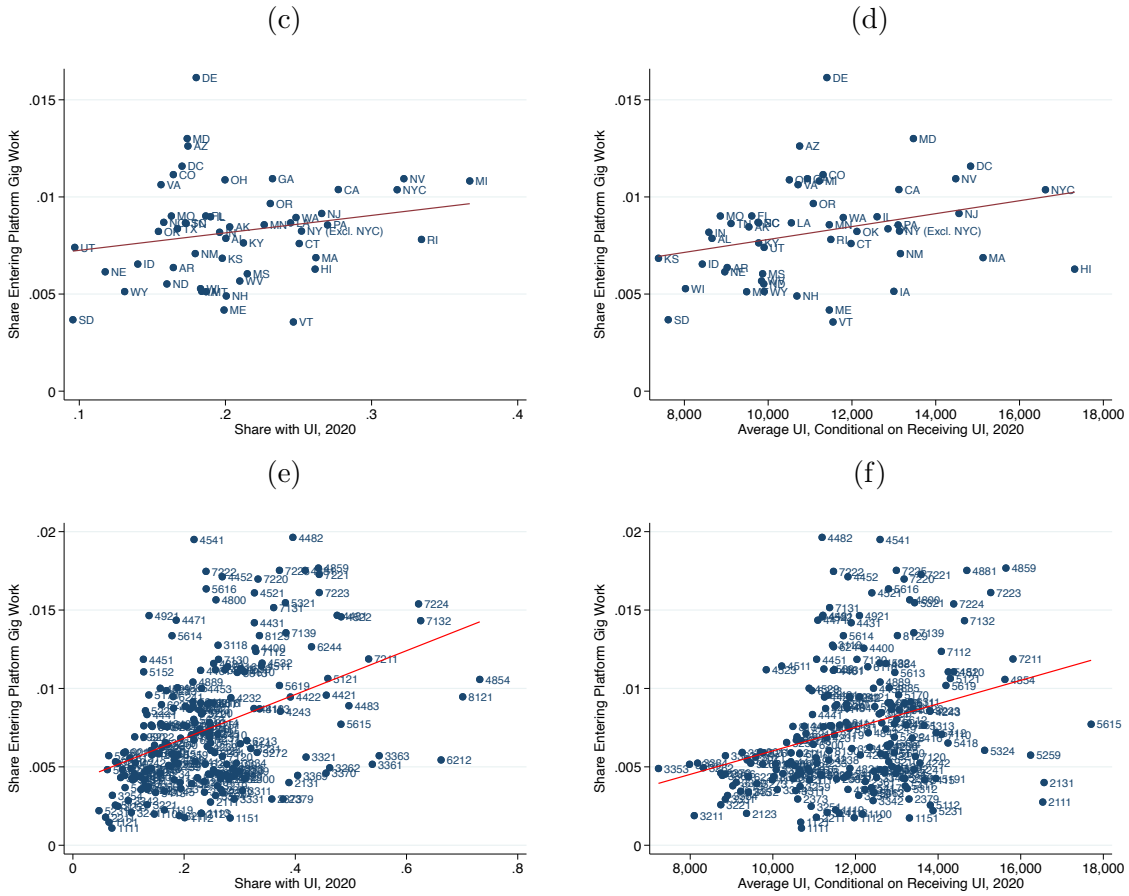
Exit, Primarily Platform Workers in 2019

(a)

(b)



New Entry, Wage-Only Workers in 2019



Notes: Panels (a)-(b) examine exits in 2020 among primarily platform gig workers in 2019. Panels (c)-(f) examine entry in 2020 among wage-only workers in 2019. Panels (a)-(d) examine state variation, and panels (e)-(f) use industry variation. Industry determined by the 4-digit NAICS code associated with the employer from largest W2 in 2019; figure restricted to individuals with non-missing NAICS, in industries with at least 100,000 workers in 2019. Left-hand panels use share with UI on the x-axis; right-hand panels use the average dollar amount of UI, conditional on receiving UI.

Table 1: Earnings Losses and UI Receipt

	(1) Primarily Platform Gig in $Year-1$	(2) Supplemental Platform Gig in $Year-1$	(3) New Platform Gig Entrant in $Year$	(4) Never Platform Gig or Self-Employed
N, 2019	387,935	985,217	645,082	144,712,550
N, 2020	532,938	1,296,450	1,360,155	146,092,900
% with primary earnings loss, 2019	63.8	35.6	56.5	38.4
% with primary earnings loss, 2020	76.6	40.4	60.4	45.2
% with UI, 2019	0.6	4.2	6.7	3.9
% with UI, 2020	47.1	35.9	32.8	21.0
... and has primary earnings loss	53.4	50.8	41.2	33.2
... and no primary earnings loss	26.4	25.7	20.0	10.9
2020 UI, % of 2019 primary earnings, Median (Conditional on UI)	162.2	77.4	59.6	39.8
% with 2020 primary earnings + UI < 2019 primary earnings	43.7	25.7	45.5	35.9
% with 2020 total earnings + UI < 2019 total earnings	35.4	26.1	42.3	35.9

Note: Table reports descriptive statistics on earnings changes and UI generosity for 2018 and 2019 platform and wage workers in the indicated years. In column (1), primary earnings are defined as Schedule C profits. In columns (2)-(5), primary earnings are based on W2 wages.

Table 2: Main Regression Results

(a) Exits

	(1) Exit 2020	(2) Exit 2020	(3) Exit 2020	(4) Exit 2020	(5) Exit 2020	(6) Exit 2019	(7) Exit 2019
State 2020 Share w/ UI	0.113**	0.243**	0.163**	0.130***	0.174***	-0.0561	-0.00101
	(0.0405)	(0.0763)	(0.0499)	(0.0313)	(0.0243)	(0.0383)	(0.0209)
N	1262	1262	542	542	536	370	364
Dep. Mean, X< $p25$	0.239	0.265	0.237	0.294	0.294	0.179	0.174
R^2	0.116	0.373	0.666	0.879	0.874	0.567	0.629
Counties	All	All	Border	Border	Border, Excl. NYC	Border	Border, Excl. NYC
Cluster	State	State	State,BP	State,BP	State,BP	State,BP	State,BP
Weighted		X		X	X		X
Border FE			X	X	X	X	X

(b) Change in Total Earnings

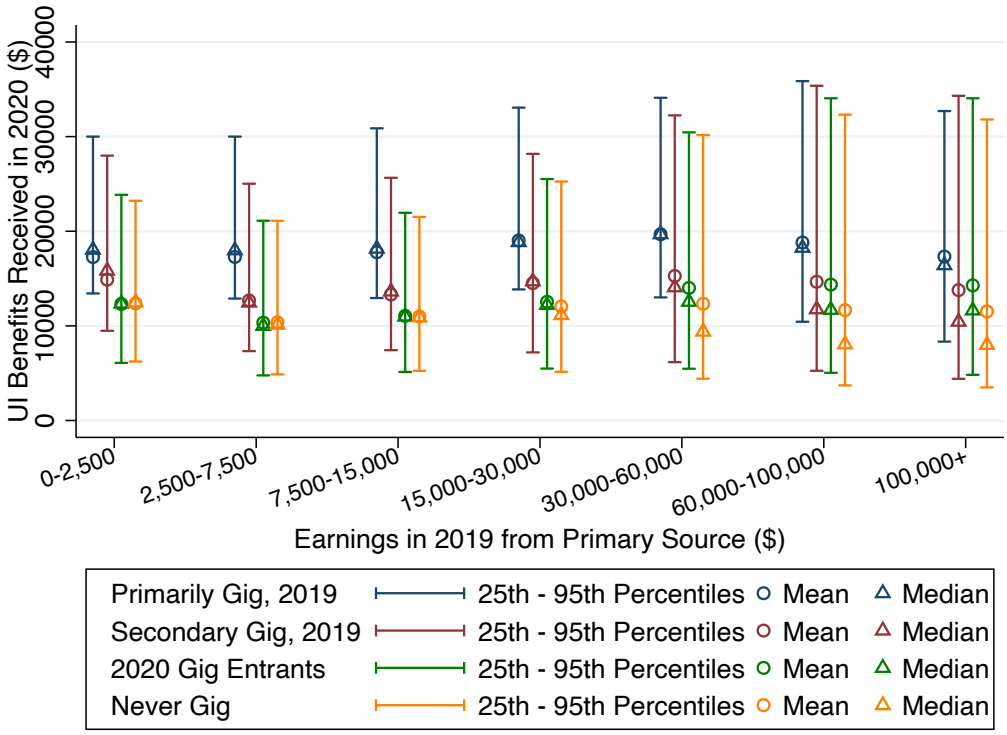
	(1) Δ Earn 2019-2020	(2) Δ Earn 2019-2020	(3) Δ Earn 2019-2020	(4) Δ Earn 2019-2020	(5) Δ Earn 2019-2020	(6) Δ Earn 2018-2019	(7) Δ Earn 2018-2019
State Ave UI Comp	-0.144***	-0.450***	-0.160*	-0.225***	-0.216***	-0.0201	0.0186
	(0.0393)	(0.0299)	(0.0670)	(0.0489)	(0.0505)	(0.0506)	(0.0357)
N	1262	1262	542	542	536	370	364
Dep. Mean, X< $p25$	-577	-863	-515	-2,112	-2,112	1,693	1,323
R^2	0.0557	0.735	0.595	0.931	0.863	0.526	0.621
Counties	All	All	Border	Border	Border, Excl. NYC	Border	Border, Excl. NYC
Cluster	State	State	State,BP	State,BP	State,BP	State,BP	State,BP
Weighted		X		X	X		X
Border FE			X	X	X	X	X

Note: Table reports results from estimating Specification 1 in the text. In Panel (a), the dependent variable is the share of a county's primary platform workers in $year-1$ exiting platform work in the indicated year. An exit is defined as having less than 1/4 of a previous year's gross earnings. The independent variable is the state share of primary platform worker who received UI in 2020. In Panel (b), the dependent variable is the average change in total earnings (Schedule C profits + W2 wages) in the indicated year, among primary platform workers in $year-1$. The independent variable is the unconditional average amount of UI compensation received among platform workers in the entire state, i.e. the state 2020 share with UI times the average amount of UI conditional on receiving UI. All results control for the log population of the county, the log area of the county, the percent of the county classified by the BLS as urban, and the percent of the population living in an urban area.

A Appendix (For Online Publication)

A.1 Appendix Figures and Tables

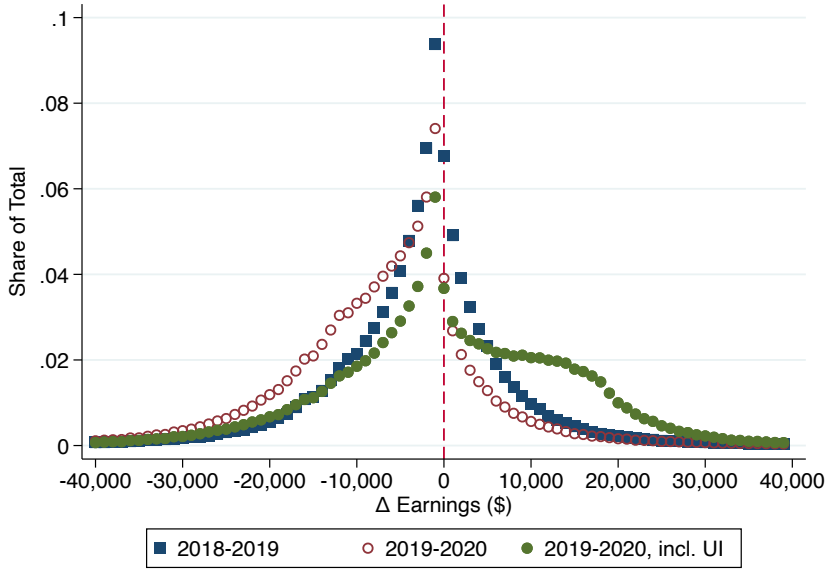
Figure A.1: UI Compensation Had a Flat Earnings Gradient



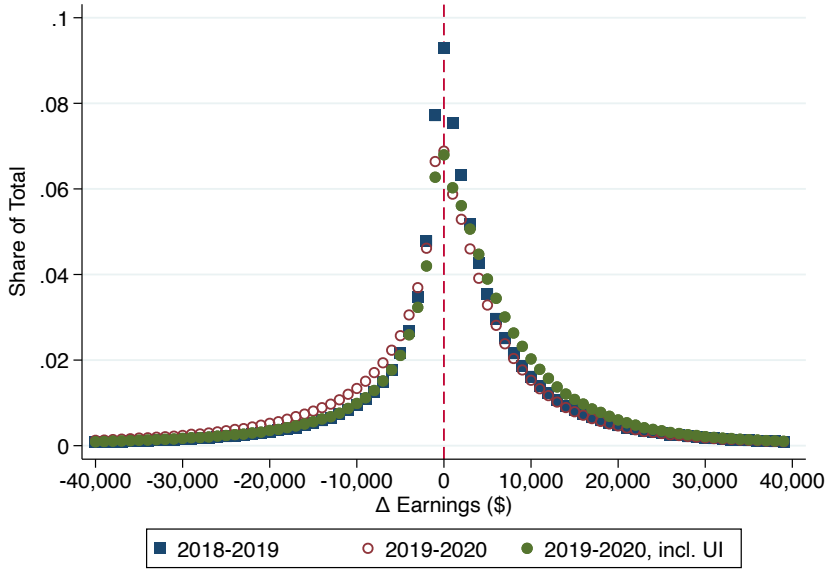
Note: Figure shows the distribution of the amount of UI compensation received, conditional on receiving UI, by the income groups shown on the x-axis, and separately for each group indicated in the legend.

Figure A.2: Change in Earnings, Pre/Post COVID

(a) Primarily Platform Workers in Base Year

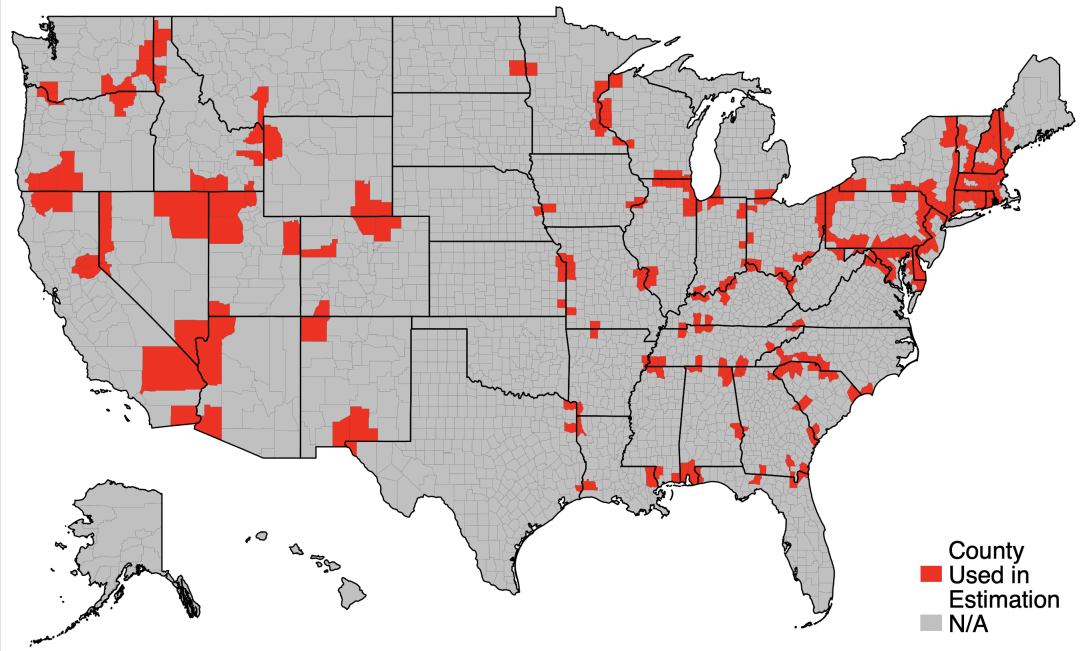


(b) Wage-Only Workers in Base Year



Note: Figure shows the distribution of earnings changes between 2018-19 and 2019-2020. We also report earnings changes inclusive of UI for 2019-2020. Panel (a) shows these distributions for primarily platform workers in the base year, and panel (b) shows these distributions for wage-only workers in the base year.

Figure A.3: Border Counties with At Least 10 Full-time Platform Workers in 2019



Note: Figure shows the border-county pairs with at least 10 primary platform workers in 2019 which comprise our main estimation sample.

B Individual-level regression

Instead of aggregating our data to the county level, we can equivalently run Specification 1 given in the text at the individual level. The specification becomes:

$$y_i = \beta UI_{s(i)} + \delta' X_{c(i)} + \zeta_{p(i)} + \epsilon_i \tag{2}$$

where i now indexes an individual worker. Running the specification at the individual level allows us to examine heterogeneity by individual-level variation. We proceed by running this regression separately by 2019 total earnings quintiles (Schedule C profits + W2 wages). Results by income quintile are reported in Column (2) of Tables B.1-B.2.

The estimates reported in the main body of the text and Columns (1)-(2) of Tables B.1-B.2 are reduced form estimates of the effect of average state UI generosity. Columns (3)-(4) of Tables B.1-B.2 report the first-stage relationship between state averages and individual outcomes of UI takeup and the average of the amount of UI received (average including $0s). The first-stage relationship has a slope less than 1 after conditioning on county-border pair fixed effects and other controls. This likely reflects the fact that some of the state variation is the result of border-pair specific economic conditions, which is being absorbed by the fixed effects and controls. We also note that there is little variation in the effect of the first stage across income groups, suggesting that the heterogeneity we observe by earnings quintile is not the result of our instrument having a differential effect across quintiles.

We report instrumental variable (IV) estimates in Columns (5)-(6). As is well known, the interpretation of IV estimates is the effect on compliers. Depending on our specification, compliers are individuals who take up UI because UI is more generous in that state, or who receive an additional dollar in UI because the state pays out more in UI. The estimates are approximately double the size of our reduced form estimates.

Table B.1: Individual-Level Regression, Exit

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep: Exit		Dep: Has UI		Dep: Exit	
	Ind: State Share with UI		Ind: State Share with UI		Ind: Has UI	
All	0.130***		0.449***		0.289***	
	(0.0312)		(0.0813)		(0.0652)	
					[30.547]	
q1: 2019 Earn < $3,800		0.226***		0.448***		0.504***
		(0.0603)		(0.0793)		(0.122)
						[31.944]
q2: 2019 Earn $3,800-$9,200		0.0756		0.496***		0.152
		(0.0465)		(0.0930)		(0.0962)
						[28.438]
q3: 2019 Earn $9,200-$14,400		0.135**		0.391***		0.345**
		(0.0419)		(0.0912)		(0.124)
						[18.337]
q4: 2019 Earn $14,400-$21,700		0.137**		0.382**		0.359**
		(0.0447)		(0.109)		(0.0480)
						[12.223]
q5: 2019 Earn > $21,700		0.111		0.467***		0.238*
		(0.0580)		(0.0875)		(0.0625)
						[28.3490]
OLS/IV	OLS	OLS	OLS	OLS	IV	IV
N	271,965	-	271,965	-	271,965	-
Counties	Border	Border	Border	Border	Border	Border
Cluster	State,BP	State,BP	State,BP	State,BP	State,BP	State,BP
Controls	X	X	X	X	X	X
Border FE	X	X	X	X	X	X

The estimation sample includes primary platform workers in 2019 living in border counties. In Columns (1)-(4), the independent variable is the state share of primary platform workers who received UI in 2020. Columns (5)-(6) are IV estimates instrumenting an individual's receipt of UI using the state share of primary platform workers who received UI in 2020 as the instrument. Columns (2), (4), and (6) report results running separate regressions by quartile of 2019 total earnings (Schedule C profits + W2 wages). All results control for the log population of the county, the log area of the county, the percent of the county classified by the BLS as urban, and the percent of the population living in an urban area. Standard errors in parentheses* $p < 0.05$, ** $p < 0.01$, ***$p < 0.001$. Kleibergen-Paap first-stage F statistic in brackets.

Table B.2: Individual-Level Regression, Earnings Changes

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep: ΔEarn		Dep: UI Comp $		Dep: ΔEarn	
	Ind: State Average UI Comp $		Ind: State Average UI Comp $		Ind: UI Comp $	
All	-0.225***		0.554***		-0.406***	
	(0.0487)		(0.0678)		(0.0826)	
					[66.825]	
q1: 2019 Earn < $3,800		-.0535		0.501***		-0.107
		(0.0328)		(0.0542)		(0.0660)
						[85.469]
q2: 2019 Earn $3,800-$9,200		-0.0587		0.562***		-0.105
		(0.0409)		(0.0785)		(0.0713)
						[51.142]
q3: 2019 Earn $9,200-$14,400		-0.129**		0.560***		-0.231**
		(0.0463)		(0.0782)		(0.0774)
						[51.182]
q4: 2019 Earn $14,400-$21,700		-0.0690		0.569***		-0.121
		(0.0429)		(0.0798)		(0.0731)
						[50.836]
q5: 2019 Earn > $21,700		-0.443***		0.538***		-0.824***
		(0.0882)		(0.0894)		(0.172)
						[36.191]
OLS/IV	OLS	OLS			IV	IV
N	271,965	-			271,965	-
Counties	Border	Border	Border	Border	Border	Border
Cluster	State,BP	State,BP	State,BP	State,BP	State,BP	State,BP
Controls	X	X	X	X	X	X
Border FE	X	X	X	X	X	X

The estimation sample includes primary platform workers in 2019 living in border counties. In Columns (1)-(4), the independent variable is the unconditional average amount of UI compensation received among platform workers in the state in 2020, i.e. the state share of primary platform workers who received UI in 2020 times the average amount of UI they received conditional on receiving UI. Columns (5)-(6) are IV estimates instrumenting the dollar amount of UI compensation received by an individual using the unconditional average amount of UI compensation received among platform workers in the state in 2020 as the instrument. Columns (2), (4), and (6) report results running separate regressions by quartile of 2019 total earnings (Schedule C profits + W2 wages). All results control for the log population of the county, the log area of the county, the percent of the county classified by the BLS as urban, and the percent of the population living in an urban area. Standard errors in parentheses* $p < 0.05$, ** $p < 0.01$, ***$p < 0.001$. Kleibergen-Paap first-stage F statistic in brackets.

C UI Takeup in Previous Crises

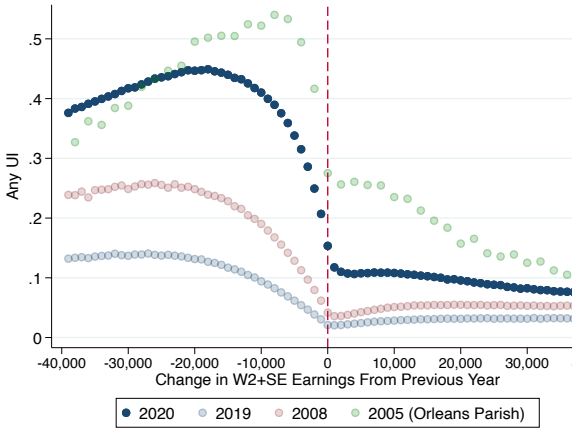
In this Appendix, we compare UI experience among self-employed and IC workers to W2-only workers in two past crises: the 2007-9 Great Recession and in 2005 following Hurricane Katrina. The latter was notable because Disaster Unemployment Assistance (DUA) extended UI to self-employmed workers.

In C.4, we show that UI takeup among self-employed workers in 2005 following Hurricane Katrina was almost as high as PUA, around 35 percent of self-employed and gig workers took up DUA. In comparison, we see very little takeup of UI during 2008, when no UI was extended to self-employed workers.

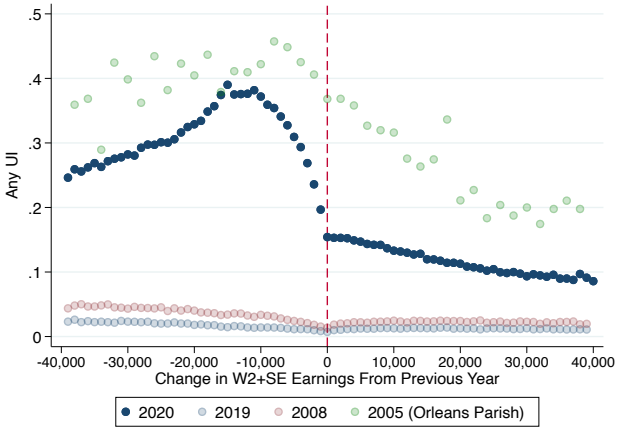
Despite the high UI takeup rates among self-employed during 2005, the amount of money received was small, as shown in C.5. This is because DUA only paid at most the maximum weekly benefit amount in Louisiana. As a result, the average amount of benefits received at the time was only around $1,000.

Figure C.4: Share Receiving UI

(a) W2-Only in Year-1



(b) SE, No IC, No W2 in Year-1



(c) IC, No W2 in Year-1

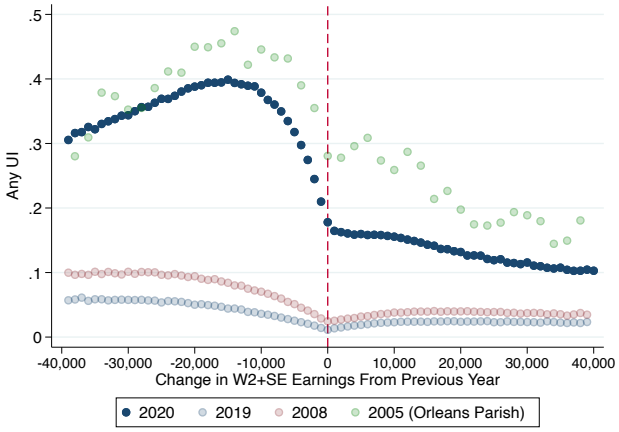
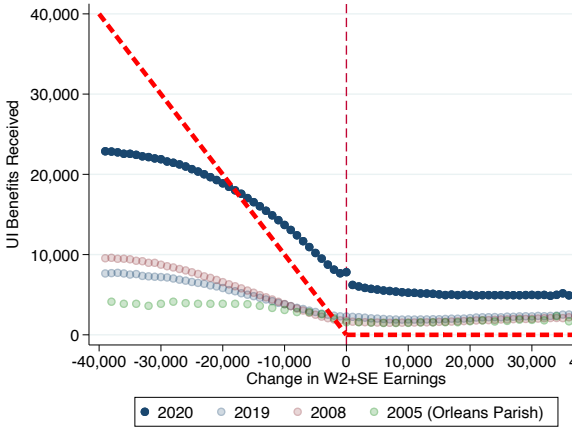
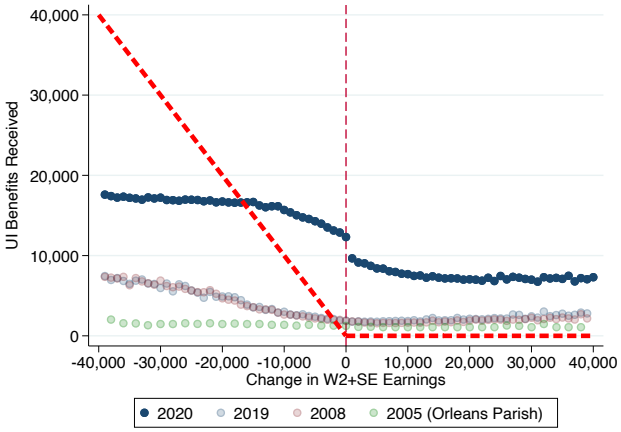


Figure C.5: Median $ UI, Conditional on Receiving UI

(a) W2-Only in Year-1



(b) SE, No IC, No W2 in Year-1



(c) IC, No W2 in Year-1

