Unemployment Insurance Take-Up Evaluation: Pre-Analysis Plan

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Abstract

Unemployment Insurance (UI) is instrumental for worker consumption smoothing during job loss. However, only half of eligible workers in the U.S. claim UI benefits. In this project, we investigate several key causes of incomplete UI take-up and its welfare consequences.

In partnership with Washington state, we plan to conduct an information provision RCT among roughly 60,000 newly-unemployed workers by targeting letters containing information about UI benefits. Through the experiment, we seek to distinguish between drivers of incomplete take-up such as lack of information about UI and its eligibility requirements, stigmatized attitudes towards UI, and misperceptions about both UI benefit amounts and the amount of time workers may spend unemployed. This information provision field experiment will feature treatment arms that cross-randomize messages that target each of these mechanisms for non-takeup. The relative application responses to each treatment arm will be used to calibrate a job search model that will quantify the impact of reduced claiming frictions on UI take-up, unemployment duration, and re-employment wages.

1 Project Description

Unemployment Insurance (UI) serves the critical role of providing workers with income support to consumption smooth during a jobless spell. The program, whose expenditures have exceeded 1 percent of U.S. GDP in the past two recessions, is the most prominent policy targeting unemployed workers by insuring their job loss risk. For decades, the workhorse models of unemployment used by economists assumed all jobless workers receive UI benefits as the outside option to employment. Despite this widespread modeling assumption, UI take-up rates – the fraction of eligible unemployed workers who claim benefits – are highly incomplete, ranging between 40 and 65 percent in the United States (Auray et al., 2019; Forsythe, 2021). In 2022, the average claimant received over $6,400 during their spell, suggesting non-claimants forfeit surprisingly large sums of money to which they are legally entitled.

Whether such non-take-up compromises UI's consumption smoothing goal depends critically on why some workers don't claim benefits. If fully-informed workers perceive their individual cost of claiming outweighs the benefits, such incomplete take-up may be efficient. However, if barriers such as lack of information, misperceptions of job finding rates or benefits levels, and stigmatized attitudes towards UI benefits contribute to lower take-up, policies which boost UI recipiency may enhance worker well-being.

This paper evaluates several main questions. Which workers do not claim UI benefits and why? Can governments implement information provision campaigns to increase UI recipiency, particularly among workers who most need benefits? To address these questions of mechanisms and policy implications, we partner with the Washington State Employment Security Department (ESD), the state agency which administers UI for the state of Washington. We use ESD's administrative records on employment and UI claims to produce detailed descriptive statistics on which types of workers lose their jobs and are likely eligible for UI benefits but do not claim.

To understand key mechanisms underlying incomplete UI take-up, we will construct a study population of approximately 60,000 newly-unemployed workers in Washington state who have not applied for UI but are likely eligible. We will send informational letters to the treated sample shortly after job loss with cross-randomized messages targeting different reasons for non-take-up. There will be a treatment group receiving basic informational letters about UI that highlight's UI's purpose, its eligibility criteria, and how to apply.

On top of this basic ("generic information") letter, we cross-randomize three different types of messages. The first message targets *stigmatized attitudes towards UI*, providing

information that UI is a social insurance system whose eligibility is earned through work history rather than granted because of financial need. The second message targets *misperceptions of UI benefit amounts* by providing information about how much workers might expect to receive on a weekly basis and a link where they can estimate their personalized benefit amount. The third message targets *misperceptions of job finding rates* by providing information about how long job search typically takes.

We randomized the workers into nine total groups: (i) a status quo control group, (ii) a generic information treatment, and seven cross-randomized treatments which supplement generic information: (iii) stigma, (iv) benefit amount, (v) job finding, (vi) stigma + benefit amount, (vii) stigma + job finding, (viii) benefit amount + job finding, and (ix) stigma + benefit amount + job finding. The differential application responses to each treatment arm will clarify which frictions play relatively larger roles in explaining incomplete UI take-up. Randomization will be stratified at the level of "UI experience," judged as whether a worker has ever claimed UI before.

Our study could also provide information useful information for policymakers. Despite low UI take-up in the United States, no state UI office engages in systematic, proactive outreach or recruitment among likely-eligible unemployed workers to increase UI application rates. Much how the application responses to different treatment arms will shed light on underlying mechanisms driving non-claiming, these application responses will also clarify what type of messaging in print mailers is most successful in inducing eligible workers to claim UI benefits to which they are entitled. Moreoever, we will learn which messages in information letters may have the greatest impact in improving take-up for workers with the highest marginal utility of UI benefits (because they may have the least ability to self-insure through accumulated savings, for example). We expect our study to provide insights for other states who may wish to increase their recipiency rate and improve equitable access to UI benefits (see "Action Area 5" from U.S. Department of Labor (2023)).

2 Research Design

As mentioned, the proposed project is an information provision field experiment. Our key research question is: what types of unemployed workers apply for (and receive) UI and what information motivates their decisions to apply?

3 Sample Selection

3.1 Recruitment

The experimental sample is generated from the quarterly employer-employee matched wage records that reported to ESD on a quarterly basis for the purpose of administering the UI system. Most employment is considered covered employment for UI purposes, meaning the vast majority of workers in Washington's formal labor market have the potential to be in our sample because their work is recorded in ESD's wage records.[1]

3.2 Eligibility

To be eligible for our experimental sample, workers must be monetarily-eligible (worked 680 hours or more in their base year) at the time of letter mailing. These workers must experience a "potential job loss in real-time." There are three criteria for such a job loss. The worker must

1. exhibit stable, full-time employment of between 340 and 700 hours in each of the two previous quarters prior to separations
2. record hours with only a single employer during the quarter of separation and two quarters prior
3. experience a sharp contraction in hours worked at their employer by at least 35 percent.[2]

Conditional on a worker experiencing a potential job loss in real time, we ensure several other conditions are true:

- The worker must have an address on file in our records, either with ESD because they have claimed UI at some point in their life or with Washington State Department of Licensing because they have a Washington state driver's license.
- The worker must have most recently worked at a firm in an industry *besides* one of the following: Mining, Quarrying, and Oil and Gas Extraction (NAICS 21), Information (NAICS 51), Finance and Insurance (NAICS 52), Management of Companies

[1] Typical exceptions to UI-covered employment include independent contractors and some agricultural laborers. See further discussion on ESD's website: https://media.esd.wa.gov/esdwa/Default/ESDWAGOV/employer-Taxes/ESD-exempt-professions-chart.pdf

[2] We also impose that hours fall below 340 hours in the most recent quarter, which might require a drop in hours strictly larger than 35 percent, depending on the previous quarter's hours worked.

and Enterprises (NAICS 55), Educational Services (NAICS 61), and Public Administration (NAICS 92).

- The worker earned less than $40 per hour in their previous job, measured as their average hourly wage across the previous two quarters of work prior to their potential separation.
- The worker must be between the age of 20 and 60 at the time of their most recent wages being reported.
- Workers must not be active UI claimants, active Paid Family and Medical Leave claimants, or actively receiving Workers' Compensation.

4 Econometric Specifications

4.1 Estimation Equations

The main equation to assess treatment effects of receiving any letter (i.e. effect of letters across treatments arms) is:

$$y_i = \beta_0 + \beta_1 T_i + \beta_2 E_i + \beta_3 T_i \times E_i + \varepsilon_i \tag{1}$$

In equation (1), y_i indicates UI application or receipt, T_i indicates receipt of any type of letter, and E_i indicates prior experience with the UI system. We choose to include this interaction in our baseline specification because we stratify treatment according to E_i (roughly 60% of the experimental sample has prior experience with UI) and we believe baseline experience with the UI system could mediate the effects of the letters in important ways. For example, the extent to which the letters mediate new information to workers about UI – as opposed simply serving as reminders to workers already aware of the system – can be inferred by judging the relative magnitudes of $\hat{\beta}_1$ and $\hat{\beta}_3$.

To investigate the differential impacts of the various treatment arms, we will also specify a "long" model which includes an indicator for letter receipt as well as for all the individual treatment arms:

$$\begin{aligned} y_i = \beta_0 + \beta_1 T_i + \beta_2 S_i + \beta_3 D_i + \beta_4 B_i + \beta_5 S_i \times D_i + \beta_6 S_i \times B_i \\ + \beta_7 D_i \times B_i + \beta_8 S_i \times D_i \times B_i + \varepsilon_i \end{aligned} \tag{2}$$

where S_i indicates letter receipt with the stigma message, D_i indicates letter receipt with the search duration message, and B_i indicates letter receipt with the benefit amount message. We can also interact equation (2) with E_i as in equation (1), but due to the full set of interactions being present, further splitting the sample by E_i will likely substantially reduce power to detect effects of various treatment arms. Thus, this will not be a baseline specification.

We also pre-specify running "short" models which only seek to detect the effect of one of the three types of treatment arms. Specifically,

$$y_i = \beta_0 + \beta_1 T_i + \beta_2 S_i + \varepsilon_i \tag{3}$$

only seeks to detect the effect of the stigma messaging on an outcome, independent of whether that stigma message is paired with search duration or benefit amount messaging. Models for testing only duration or benefit messaging can be similarly specified as equation (3).

Lastly, we pre-specify a "second stage" equation whereby we compare workers in the control group to workers in the treated group who were induced to apply because of treatment ("compliers"). The second-stage equation models the effect of receiving UI relevant outcomes using the predicted values from the first-stage as an instrument. The first stage predicts UI receipt based on the information treatment, while the second stage uses the predicted UI receipt to examine the impact on subsequent outcomes. The second stage equation can be written as

$$y_i^{(2)} = \gamma_0 + \gamma_1 \hat{R}_i + \nu_i \tag{4}$$

where $y_i^{(2)}$ is the outcome variable of interest and $\hat{R}_i$ is the predicted probability of UI receipt from the first stage and is used as the instrumental variable in (4).

4.2 Heterogeneous Treatment Effects

We test for heterogeneous treatment effects along multiple dimensions:

1. Base Year Earnings
2. Base Year Hourly Wage
3. Sex
4. Age (median split)

5. Disability status
6. Veteran status
7. NAICS 2-digit industry
8. SOC 2-digit codes (to the extent this data is available – see AEA Pre-registry for details)
9. ZIP-code level wealth measures (i.e. housing values) (median split)

5 Outcome Variables

5.1 First Stage

UI applications, measured from the time letters were first mailed out. We will assess application timing as measured both by effective date of claim (standard in UI literature) as well as the date of application, a variable which ESD's internal records record.

UI receipt, measured from the time letters were first mailed out. We will assess receipt associated with application timing similarly as above. Receipt is defined as receiving a positive dollar amount in compensation on a claim filed.

Other outcomes which will be examined in the first stage is whether appeals on claims were initiated, both from the claimant side and employer side.

5.2 Second Stage

Outcome variables for the second stage include **nonemployment duration** as measured by the quarterly wage records. The measure of nonemployment duration is coarse in these records but can be inferred by judging the fraction of a given quarter an individual worked (in hours) given their adjacent (presumably more complete) quarter of employment.

Other outcome variables include **re-employment hourly wage** as measured by the hourly wage in a worker's first job after receiving UI benefits. We also intend to measure **re-employment earnings** and **re-employment hours** once workers are stably employed again. To minimize measurement error, we will use the "sandwich method" of measuring wages, earnings, and hours in the *second* quarter of employment after a nonemployment spell, given the first quarter may contain incomplete and partial earnings records.

References

AURAY, S., D. L. FULLER, AND D. LKHAGVASUREN (2019): "Unemployment insurance take-up rates in an equilibrium search model," *European Economic Review*, 112, 1–31.

FORSYTHE, E. (2021): "Understanding Unemployment Insurance Recipiency During the Covid-19 Pandemic," .

U.S. DEPARTMENT OF LABOR (2023): "Building Resilience: A Plan for Transforming Unemployment Insurance," Technical report, U.S. Department of Labor.