Does Unemployment Insurance Attenuate the Scarring Effect?*

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ABSTRACT: A large body of research has highlighted the substantial and persistent earnings losses suffered by displaced workers, referred to as the "scarring effect." However, policy interventions aimed at alleviating these losses remain largely unexplored. This paper bridges this gap by evaluating the long-term effects of unemployment insurance (UI) on post-displacement outcomes. Leveraging cross-state variations in UI policy over time, I find that a 13-week extension in maximum UI duration reduces long-term earnings losses by 10-15% over a 10-year period. This reduction is primarily driven by an increase in hours worked, with minimal impact on wage rates. Conversely, UI replacement rates have a small and largely insignificant effect on earnings, wage rates, and labor supply. These patterns are consistent across different educational levels, racial backgrounds, and economic conditions at the time of displacement. To explore the mechanisms, I show that the non-pecuniary aspects of a job improve with longer maximum duration, and explain a substantial portion of the effect of maximum duration on labor supply. A search model incorporating the intensive margin of labor supply and non-pecuniary benefits suggests these patterns are driven by shifts in reservation utility. The model indicates that either there is a low correlation between non-pecuniary benefits and wage rate offers along with a small variance in wage rate offers in the market, or that workers prefer non-pecuniary benefits over wage rates, or a combination of these two factors.

KEYWORDS: job displacement, scarring effect, unemployment insurance, job search model
JEL CLASSIFICATION: H5, J63, J64, J65

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1 Introduction

An emerging body of research has documented that the earnings decline following job displacement is large and persistent, referred to as the "scarring effect" (Jacobson et al., 1993; Stevens, 1997; White, 2010; Couch and Placzek, 2010; Davis and von Wachter, 2011). Notably, studies conducted in the United States and Germany show that earnings losses persist even for two decades with a magnitude of 10-20% compared to earnings of workers who were not displaced (Schmieder et al., 2010; Davis and von Wachter, 2011). To uncover the underlying drivers of these long-term losses, recent research increasingly decomposes their sources, examining factors such as human capital depreciation, job ladder disruption, occupational shifts, employer wage premiums, and worker-employer matching (Krolikowski, 2017; Jung and Kuhn, 2019; Burdett et al., 2020; Lachowska et al., 2020; Gulyas and Pytka, 2021; Jarosch, 2021; Huckfeldt, 2022; Braxton and Taska, 2023; Leender, 2023; Schmieder et al., 2023). However, two crucial areas remain largely unexplored. First, policies aimed at addressing these losses have primarily focused on initial income replacement through safety net programs, with limited attention to their role in mitigating long-term earnings declines. Second, despite the multi-dimensional nature of employment, evidence on scarring effects beyond earnings, such as hours worked, wage rates, and non-pecuniary job attributes, and how these interact with governmental policies is sparse. These limitations hinder a comprehensive assessment of the scarring effect and the potential of policy interventions to address it.

This paper bridges these gaps by examining how unemployment insurance (UI) interacts with scarring across multiple labor market outcomes. Using survey data with detailed job information from post-displacement periods, I analyze the impact of UI generosity on displaced workers. This analysis leverages four decades of semiannual changes in state UI legislation through an event study with continuous treatment based on UI generosity. There are two key findings. First, a 13-week extension in maximum UI duration reduces long-term earnings losses by 10-15%, equivalent to approximately $10,000 over a 10-year period. The reduction in losses is driven primarily by increased labor supply, with no significant change in wage rates. In contrast, UI replacement rates have a small and statistically insignificant impact on these outcomes. Second, longer maximum duration enhances non-pecuniary job attributes, and controlling for these attributes reduces the maximum duration coefficients in the labor supply regression by 10-35%. I then extend a standard job search model in the UI literature to incorporate non-pecuniary benefits and the intensive margin of labor supply, showing that my empirical findings align with a theoretical framework based on specific job offer distributions and worker preferences. Together, these findings suggest that more generous UI policy can mitigate the scarring effect through less-examined channels and highlight the importance of understanding both labor market structure and worker preferences to design policies that effectively support displaced workers.

Unemployment insurance in the U.S. is particularly relevant to job displacement, as it provides financial assistance to workers who lose their job involuntarily, provided they have a sufficient employment history, and are actively searching for new employment. Over the past few decades, the take-up rate of UI, which represents the proportion of eligible workers who actually receive UI benefits, has stood at approximately 75-80% (Auray et al., 2019). This implies that UI provides benefits to a substantial number of displaced workers.

The theoretical prediction for the effect of UI on post-displacement outcomes remains uncertain. Extensive empirical research has demonstrated that UI tends to lengthen the duration of nonemployment (unemployment) (Moffitt, 1985; Lalive, 2007; Chetty, 2008; Rothstein et al., 2011; Schmieder et al., 2012a; Farber and Valletta, 2015). Given that longer nonemployment duration is associated with lower post-nonemployment wages (Schmieder et al., 2016; Nekoei and Weber, 2017), there is a possibility that UI could exacerbate long-term losses.[1] On the other hand, UI could help mitigate losses by enabling workers to find a better match (Addison and Blackburn, 2000; Nekoei and Weber, 2017; Kugler et al., 2022; Bahk, 2021). If UI provides individuals with more opportunities to secure higher-paying jobs, it could potentially alleviate long-term losses by increasing wages. Furthermore, if workers seek better non-pecuniary job aspects, a more generous UI program could enable them to find jobs that better align with their preferences, potentially enhancing job stability and increasing labor supply.

However, most existing studies have primarily examined the immediate effects of UI on

[1]On the demand side, longer nonemployment duration could result in human capital depreciation and send a negative signal to potential employers, thereby reducing labor market demand for the workers. On the supply side, it could lower workers' reservation wages (Le Barbanchon et al., 2024).

earnings, while evidence regarding its impact on other outcomes, such as wage rates, various labor supply measures, and non-pecuniary job attributes, remains limited.[2] Moreover, the long-term effects of UI on these outcomes are often overlooked and largely unexplored.[3] Therefore, the impact of UI on post-displacement earnings trajectories and other labor-related outcomes remains an open empirical question, which is the subject of this study.

The National Longitudinal Survey of Youth 79 (NLSY79) and restricted geocode data, covering the period from 1979 to 2018, serves as the primary dataset for this study. Utilizing the NLSY79 offers several notable advantages over the administrative data and other widely used surveys. First, it provides detailed weekly-level employment histories, wage rates, and various labor supply measures, along with information that can serve as proxies for non-pecuniary job aspects, such as fringe benefits and job satisfaction. Thus, the data allows for an in-depth investigation into the scarring effects on a range of labor outcomes. Another key strength of the NLSY79 lies in its comprehensive coverage of respondents' employment history, commencing from the early stages of their careers. This extensive employment record enables a thorough examination of individuals' lifetime work experiences. Additionally, the dataset includes specific details regarding the reasons for job separations. This feature allows for a precise differentiation between job separation attributed to displacement and those stemming from other causes (henceforth, "non-displacement").[4]

A major data collection effort in this paper involves constructing a "UI calculator," a tool that generates two essential measures of UI generosity: replacement rates and maximum duration.

[2]One reason for the limited evidence on these other labor outcomes is that administrative data, often used in the UI literature, provides only restricted information on certain job attributes.

[3]Several studies have examined the effects of UI on post-unemployment outcomes within the first five years (Lemieux and MacLeod, 2000; Card et al., 2007; Schmieder et al., 2012b; Schmieder et al., 2016; Flamang and Kancherla, 2024). However, these studies generally focus on unemployed workers who may not necessarily be displaced, and they primarily explore specific outcomes such as UI receipt, earnings levels and growth, and unemployment duration. This paper offers a more comprehensive analysis by incorporating a broader set of variables and detailed employment histories from a longitudinal survey, while also examining outcomes over a longer period following displacement.

[4]While the term "job displacement" is occasionally used to describe the separation of long-tenured employees during mass-layoff periods (e.g., Jacobson et al., 1993; Couch and Placzek, 2010; Davis and von Wachter, 2011; Schmieder et al., 2023), this study adopts a definition encompassing any involuntary job separation caused by factors beyond the worker's control (plant closure and layoff), following the approach of Stevens (1997), White (2010), and Huckfeldt (2022). Furthermore, previous studies often use the term "non-displaced" workers to describe both those who experienced job separation and those who have never been separated. In this paper, the term specifically refers to workers who experienced a job separation but not due to displacement.

These measures are designed to capture variations resulting from semiannual adjustments in both state and federal UI legislation over four decades, independent of individual characteristic. The information for the calculator has been collected from a range of authoritative sources as well as previous research (Gruber, 1997; Chetty, 2008; Kroft and Notowidigdo, 2016; Kuka, 2020).[5] Unlike most studies on UI, which examine either variations in replacement rates (or benefit levels) or maximum duration, the UI calculator in this paper allows researchers to explore the effects of both factors simultaneously.[6]

I employ a two-way fixed effects event study with continuous treatment (UI generosity) for the main analysis.[7] The identification of the UI effect primarily stems from within-state changes in UI generosity over time, affecting workers displaced at different points in time.[8] The key assumption is that the UI generosity measures, constructed using the UI calculator, are exogenous when various state characteristics at the time of displacement are further flexibly controlled for. To assess the relative magnitude of earnings changes associated with UI generosity compared to those of the scarring effect, I quantify the average earnings losses resulting from job displacement by itself, closely following established methods in the literature. This identification of earnings (and other outcomes) losses for displaced workers is achieved by comparing them to a control group of individuals who have never experienced displacement. Consequently, I demonstrate the earnings trajectory of displaced workers exposed to more generous UI policy and compare it to the average earnings trajectory of displaced workers.

In comparing the trajectory of losses for workers with different maximum UI duration, I find that in the short-term, the trajectory with longer maximum duration is indistinguishable from that of workers with a shorter duration. However, the paths begin to diverge two years post-displacement. A 13-week extension of the maximum duration significantly mitigates earn-

[5] The methodology closely aligns with the utilization of a simulated policy eligibility instrument, as proposed by Currie and Gruber (1996) and Gruber (1997).

[6] Simultaneously exploiting both measures can provide additional identification advantages; see Landais (2015) and Appendix A Proposition 1 of this paper.

[7] There has been extensive discussions on identification and interpretation issues in staggered difference-in-differences (e.g., Callaway and Sant'Anna, 2021; Sun and Abraham, 2021; Callaway et al., 2024a; Callaway et al., 2024b). To ensure the robustness of my results, I apply alternative estimation methods suggested in these studies.

[8] Within-state variation is exploited through the use of state-fixed effects. In other words, the effect of UI is identified using a dynamic difference-in-differences approach.

ings losses by approximately $10,000-$11,500 over a 10-year period, compared to estimated cumulative losses from displacement of $75,000-$93,000 over the same period. Thus, a 13-week extension of maximum duration alleviates around 10-15% of the total long-term earnings decline. In contrast, variations in UI replacement rates do not significantly affect the earnings trajectory of displaced workers.

To delve into the effect of maximum duration, I decompose earnings into hourly wage rates and annual hours worked, evaluating the trajectories of these outcomes. The findings reveal that the mitigation of long-term earnings losses with a longer maximum duration is primarily driven by an increase in hours worked. As observed in previous research, the longer maximum duration initially lengthens the unemployment spells and reduces working hours in the short-term. However, this pattern shifts two years after the displacement event, with a reversal in the reduction of hours worked, further increasing over the course of 10 years. In contrast, the trajectory of hourly wage rates remains unaffected by variations in maximum duration. Moreover, changes in replacement rates have no impact on any of these outcomes. These findings are consistently observed across various labor supply measures, such as weeks worked, the probability of full-time employment, and the likelihood of employment in post-displacement periods. This suggests that the effect may operate through both the intensive and extensive margins of labor supply.

Furthermore, the paper demonstrates that, despite significant heterogeneity in the estimated magnitudes and persistence of earnings losses across groups defined by education level, race, and economic conditions at the time of displacement, the effect of maximum duration, resulting in increased labor supply for over 10 years, is consistently observed across nearly all groups with similar magnitude. This finding suggests that while extended maximum duration helps mitigate long-term losses for a broad range of the population, it is less effective for workers experiencing larger earnings losses, those with lower education levels, Hispanic and Black workers, and individuals displaced during recessions.

To explore the mechanisms behind the increase in labor supply, I examine the effect of more generous UI on non-pecuniary job attributes in the post-displacement period. I first estimate the average effect of displacement on non-pecuniary aspects of employment, an area that has been largely unexplored in the literature. The scarring effects of displacement are evident in these findings: displaced workers report lower job satisfaction and are more likely to be employed in positions with fewer fringe benefits. However, longer maximum UI duration reduces the likelihood of job dissatisfaction and increases the probability of being employed in jobs offering health and life insurance. These patterns suggest that displaced workers may prioritize non-pecuniary job attributes, and extended maximum duration gives them the opportunity to secure jobs that align with these preferences. Moreover, when these non-pecuniary attributes are included in the regression, the coefficients for maximum duration on various labor supply measures decrease by 10-35% in the post-displacement period. Other potential mechanisms, such as changes in household assets and spousal income during this period does not provide additional explanation on the effect of maximum duration on labor supply.

The standard job search model with UI, which does not account for non-pecuniary job attributes and the intensive margin of labor supply, cannot fully explain these findings. Therefore, I extend the model to incorporate these factors and assess whether the empirical results align with this extended framework. A key assumption is that non-pecuniary aspects and hours worked are complements, implying that better non-pecuniary job attributes are associated with longer working hours.[9] In the model, job offers are characterized by both wage rates and non-pecuniary benefits, and workers decide to accept or reject offers based on compensating differentials. In this framework, more generous UI reduces search intensity and raises reservation utility. Two effects follow: more generous UI leads to longer nonemployment duration but also encourages workers to find better jobs. Following Schmieder et al. (2016), I decompose the effect of UI on wage rates (and hours worked) into these two components: the effect of nonemployment duration and the effect of changes in reservation utility on wage rates (and hours worked).

The results show that longer nonemployment duration has minimal effect on wage rates and hours worked. Instead, the impact of UI on these outcomes is entirely driven by a shift in reservation utility. Given that my findings indicate longer maximum duration increases labor supply without raising wage rates, this suggests that extended maximum duration shifts workers' reservation utility, leading them to accept jobs with better non-pecuniary attributes rather than

[9]For instance, workers may be willing to work longer hours when they are satisfied with certain job aspects, and fringe benefits are often contingent on working a minimum number of hours.

higher wage rates. This can occur if workers place a stronger preference on non-pecuniary attributes relative to wage rates, or if the correlation between non-pecuniary benefits and wage rate offers in the labor market is weak, and the variance in non-pecuniary benefit offers is greater than that of wage rate offers. It could also be a combination of these two scenarios. The model also provides a potential explanation for why the effect of maximum duration is larger than that of replacement rates.

The findings of this paper have significant policy implications. The conventional approach to designing UI tends to focus on the short-term fiscal impact of benefit payments and the potential loss of tax revenues due to extended periods of nonemployment. However, my results show that a more generous UI policy mitigates long-term earnings losses, suggesting that the optimal level of UI generosity, especially in terms of maximum duration, may differ substantially from what is commonly proposed in the existing literature. I further demonstrate this by deriving a dynamic Baily-Chetty formula that incorporates the long-term effect of maximum duration on earnings.

1.1 Related Literature

This paper builds on the extensive literature examining long-term losses from job displacement, which has explored the patterns and sources of persistent earnings declines (Jacobson et al., 1993; Stevens, 1997; Kletzer and Fairlie, 2003; Mroz and Savage, 2006; White, 2010; Couch and Placzek, 2010; Davis and von Wachter, 2011; Gregory et al., 2021; Rinz, 2022; Albrecht, 2022a; Albrecht, 2022b), with a focus on human capital and the job ladder (Krolikowski, 2017; Jung and Kuhn, 2019; Burdett et al., 2020; Jarosch, 2021; Leender, 2023), occupation switching (Huckfeldt, 2022; Braxton and Taska, 2023), employer wage premiums and worker-employer matching (Gulyas and Pytka, 2021; Lachowska et al., 2020; Schmieder et al., 2023), and subsequent job separations (Stevens, 1997; Farber, 2017). However, most of these studies rely on administrative data that often includes a narrow set of outcomes. In contrast, this study incorporates a broader range of labor-related outcomes, including various labor supply measures and, more importantly, non-pecuniary job characteristics, to provide a more comprehensive understanding of the scarring effects of job displacement.

Additionally, limited research has explored whether government policies can mitigate these long-term losses. Although some studies have examined income replacement through safety net programs during unemployment spells, they often lack a causal analysis of the long-term effects of these programs on earnings trajectories and various labor market outcomes (e.g., East and Simon, 2020; Schmieder et al., 2023).[10] In contrast, this study provides novel evidence that more generous UI policies can mitigate long-term losses from job displacement across a broad range of outcomes.

This paper also contributes to the literature on the effects of UI on post-unemployment outcomes. While some research finds that UI helps workers find better job matches, leading to higher re-employment wages or improved job quality (Addison and Blackburn, 2000; Nekoei and Weber, 2017; Kugler et al., 2022; Bahk, 2021), a substantial body of research has found either negative or no effects (Addison and Blackburn, 2000; Card et al., 2007; Lalive, 2007; Van Ours and Vodopivec, 2008; Schmieder et al., 2016; Nekoei and Weber, 2017; Kugler et al., 2022). This lack of consensus does not contradict theory, as the theoretical prediction of the impact of UI remains uncertain due to two countervailing forces.[11] Therefore, empirical results depend on factors such as treatment type, variations in benefit level and duration, characteristics of UI programs across different countries, and differences in the groups studied (Nekoei and Weber, 2017). In this context, it is important to note that, unlike previous studies, which explore unemployed workers who are not necessarily displaced, this paper provides direct evidence of the effects of UI on displaced workers.[12] Therefore, the findings of this paper should be interpreted within the context of job displacement.

Moreover, previous studies have primarily focused on the short-term effects of UI on outcomes, with its potential long-term impact receiving relatively less attention. Several studies are closely related to this paper in that regard. Lemieux and MacLeod (2000) finds that initial

[10] An exception is Jung and Kuhn (2019), who evaluated retraining and placement support programs using a structural model, finding these programs play a limited role in reducing losses from job displacement.

[11] On one hand, higher UI generosity may encourage recipients to be more selective in their job search, resulting in higher subsequent wages (or improved job quality). On the other hand, it may prolong nonemployment duration, leading to fewer job opportunities and reducing wages (or job quality).

[12] Most administrative data do not include information to identify displacement, and in some countries, displacement is not a requirement for UI eligibility. To the best of my knowledge, this is the first study to investigate the effect of UI on displaced workers over long-term periods.

exposure to a new UI system increases the likelihood of future UI claims. Card et al. (2007) and Schmieder et al. (2016) investigate post-unemployment outcomes such as job-leaving hazards, days employed, and wages, finding little or no effect of UI generosity within the first five years.[13] This paper's findings align with those of Schmieder et al. (2012b), who show that longer maximum duration initially lengthens nonemployment spells but reduces them after the first spell over a five-year period.

Additionally, this paper contributes to the literature on job search models with UI benefits by extending the models of Schmieder et al. (2016) and Hernandez Martinez et al. (2023) to include non-pecuniary aspects of a job and the intensive margin of labor supply.[14] The extended model distinguishes the effects of UI on wage rates and hours worked, while also considering the long-term impact of UI when deriving the dynamic Baily-Chetty formula for welfare analysis (Baily, 1978; Chetty, 2008).

The remainder of this paper is organized as follows. Section 2 provides an overview of the U.S. unemployment insurance system. Section 3 describes the data. Section 4 outlines the econometric approach and key identification strategy. Section 5 presents the results. Section 6 introduces the extended job search model, and Section 7 concludes.

2 Institutional Background

2.1 Regular Benefits

Unemployment Insurance (UI) is a social insurance program created by Congress in 1935 and jointly administered by the federal and state governments. The purpose of this program is to provide temporary financial assistance to eligible workers who meet three specific criteria: First, workers must have lost their jobs through no fault of their own. Second, they should have a sufficient employment history. Third, they must be actively seeking new employment. While all states share a common system for eligibility and benefit amount, they have the autonomy to set

[13] Flamang and Kancherla (2024) leverage a unique variation, delays in UI benefit payments due to an outage, to explore the effects on earnings, employment, and firm wage premiums during the first five years after unemployment, finding that delays have a positive impact on these outcomes.

[14] See Le Barbanchon et al. (2024) for a comprehensive review of UI literature and search models.

their own benefit schedules such as minimum and maximum amounts of benefit, duration, and eligibility criteria. Most states calculate the benefit level based on the applicant's employment history such as hours and weeks worked and pre-unemployment wages during the "base period," which usually consists of the first 4 of the last 5 completed calendar quarters. However, due to the variation in state-level parameters, there is significant variability in benefit amounts across states.

Regular benefits are available anytime regardless of economic conditions. There are two main measures for UI generosity, replacement rates, a proportion of pre-unemployment weekly earnings compensated by UI benefits, and maximum duration. In general, regular benefits provide about 50% of replacement rates in most states (Chetty, 2008). The maximum potential number of weeks that an individual can collect UI benefits is capped at 26 weeks in vast majority of states under regular benefits scheme.

2.2 Extended Benefits

As state-provided unemployment benefits are subject to financial constraints and are typically limited in duration to avoid disincentivizing job searches, regular benefits are usually capped at a specific duration in every state (Nicholson and Needels, 2004). During economic downturns, however, the maximum weeks of benefits may not be sufficient to help alleviate the financial hardships of unemployed workers.

For this reason, the Federal-State Extended Unemployment Compensation Act of 1970 (EUCA) established the Extended Benefits program as a permanent state legislation triggered by the state-level unemployment rate. Workers who exhaust their regular benefits are eligible for additional weeks of benefits when the state unemployment rate meets a specific criterion. Before 1993, the maximum duration of Extended Benefits provided up to 13 additional weeks on top of regular benefit duration. After March 1993, states were given a choice between two options, one of which provides up to 20 weeks of additional benefits. Some states, such as Alaska, Connecticut, Kansas, Oregon, Rhode Island, Vermont, and Washington, adopted an optional trigger capped at 20 weeks between 1993 and 1998. The Extended Benefits program has been less active in recent years due to several reasons, including fewer triggers for the program's activation and temporary federal extensions paid before Extended Benefits upon the exhaustion of regular benefits (Nicholson and Needels, 2004).[15]

2.3 Special Federal Extension and Supplemental Benefit Programs

Congressional legislation has further established temporary extensions of unemployment benefits during severe recessions on an emergency basis, in contrast to the Extended Benefits, which is a permanent standby program. From the first introduction of such extension in the late 1950s, 13 different temporary programs have been enacted, many of which have multiple phases with varying maximum duration. The maximum duration of benefits can change rapidly within a state, and these complexities can also interact with the Extended Benefits program.

The maximum duration of benefits offered through Extended Benefits and special extension programs varies significantly across states over time. During the early 1980s recession, the Federal Supplemental Compensation (FSC) augmented regular and Extended Benefits, providing a maximum of 55 weeks of benefit duration. These extensions commenced in September 1982 and persisted until June 1985. The Emergency Unemployment Compensation (EUC) introduced special extensions from November 1991 to April 1994, with the longest extension lasting 59 weeks. Temporary Extended Unemployment Compensation (TEUC) offered extensions for a relatively brief period, from March 2002 to March 2004, but provided longer extensions of up to 72 weeks. In the midst of the Great Recession, Congress enacted two special benefits programs: Federal Additional Compensation, which added an extra $25 to weekly benefits, and Emergency Unemployment Compensation 08, initiating extensions from July 2008 to January 2014, with the longest extension lasting 99 weeks (CRS, 2014). The comprehensive history of these federal extensions is detailed in Appendix C Table C1.

[15] See CRS (2014) and ETA (2016) for a detailed description of the rule of the trigger and its history.

3 Data

I use the National Longitudinal Survey of Youth 79 (NLSY79) and restricted geocode data supplemented by the UI calculator and various state characteristics. There are a few distinct features of this dataset that allow for a study on the long-term effect of UI on the earnings path of displaced workers and an investigation into potential mechanisms. The UI calculator used in the literature (e.g., Gruber, 1997; Chetty, 2008; Kuka, 2020) has been incorporated and updated to construct two different UI generosity measures for each state over four decades.

3.1 Data Sources

National Longitudinal Survey of Youth 79 (NLSY79) is a longitudinal panel survey consisting of a nationally representative sample of young men and women. The NLSY79 surveys 12,686 respondents whose ages were 14-22 in 1979 when they are first interviewed. The survey was conducted annually from 1979 to 1994 and became biennial thereafter.

The NLSY79 serves as a valuable source of information on employment history, income, program participation, and key demographic variables. A significant advantage of the NLSY79, when compared to the administrative data often utilized in the scarring effect and UI literature, is its provision of a broader range of information. For instance, while almost all state administrative data only offer quarterly earnings records, they lack details such as hourly wage rates, hours worked, and other specific variables related to labor market outcomes.[16] In contrast, the NLSY79 includes a broader range of variables, such as weekly-level employment history, wage rates, various labor supply measures, including weekly and annual work hours, as well as information on non-pecuniary job characteristics, such as fringe benefits and self-reported job satisfaction. This enriched set of variables facilitates a more nuanced investigation into the various channels that influence the trajectory of post-displacement earnings. This dataset also enables a thorough examination of individuals' lifetime work experiences, including start and stop dates, and the reasons for leaving a job. This information is crucial for identifying the

[16] An exception is the earnings records of Washington state, which provides quarterly work hours; see Lachowska et al. (2020) for details.

"first" displacement event, which constitutes the main focus of the analysis.[17] Furthermore, the NLSY79 distinguishes between different separation reasons, such as voluntary quits, firings, layoffs, and firm closures, enabling a clear differentiation between displacement and job separation due to other reasons.

In this study, I distinguish between two job separation types: displacement and "non-displacement." Job displacement is characterized by a separation from employment due to firm closure or layoff, while non-displacement encompasses job separation for all other reasons. It is crucial to note that the definition of job displacement aligns with the first criterion for eligibility for UI benefits, "workers must have lost their jobs through no fault of their own." This implies that displaced workers are potentially UI-eligible workers. Conversely, non-displacement includes separations resulting from firing, voluntary quits, and various other reasons, rendering these workers ineligible for UI benefits.[18]

It has been demonstrated in the literature that multiple displacements for a given worker are common, and subsequent displacement events are endogenous to the first one (Stevens, 1997; Jolly and Phelan, 2017; Albrecht, 2022a)[19]. Since the first displacement event could occur at a very early age, I track job separations (including both displacement and non-displacement) that happen after the age of 24, a point at which workers are typically attached to the labor market, for the main analysis.[20] Additionally, previous studies on the scarring effect often impose restrictions on tenure at displacement, ranging from no restriction to 6 years.[21] In this study, I implement a minimum tenure requirement of at least 1 year to establish a reasonable level of

[17]In comparison, other widely used surveys, such as the Survey of Income and Program Participation (SIPP), have a shorter time frame, while the Panel Study of Income Dynamics (PSID) lacks the necessary information to identify a comprehensive employment history in recent years. Although the NLSY97 is similar to the NLSY79, it has some limitations in fully recovering employment history for the analysis. For example, if a job ended within 13 weeks, the reasons for leaving are not reported. Consequently, a worker eligible for UI may not be identified since the reasons for leaving are unobservable.

[18]While non-displacement workers are generally ineligible for UI, some may report receiving positive UI benefits, possibly due to measurement errors, administrative process errors, or exceptional reasons for leaving the job, such as a lack of skill to perform a job or a voluntary quit for "good cause" (Lachowska et al., 2022).

[19]This paper will also show that workers who experienced the initial displacement are more likely to experience it again.

[20]Several studies also focus on the first displacement; see Stevens (1997), Kletzer and Fairlie (2003), Odongo (2018), and Huckfeldt (2022).

[21]For example, Stevens (1997), White (2010), Odongo (2018), Birinci (2021), and Huckfeldt (2022) do not impose any restriction on tenure, while Kletzer and Fairlie (2003), Davis and von Wachter (2011), and Schmieder et al. (2023) require at least 3 years, Schmieder et al. (2010) imposes 5 years, and Jacobson et al. (1993), Couch and Placzek (2010), and Lachowska et al. (2020) require 6 years of tenure.

restriction, ensuring a sufficient number of displaced workers in the sample. Furthermore, avoiding the restriction to excessively long-tenured workers is crucial to address potential selection issues when examining the effect of UI on the earnings of UI-eligible workers. In summary, the primary focus of the analysis is on the first displacement occurring after the age of 24 with at least 1 year of tenure.[22]

The sample is drawn from the 1979-2018 surveys.[23] To exclude workers with weak attachment to the labor market, the sample is restricted to male workers aged 20 years or older. Availability of key demographic variables such as state of residence, pre-displacement earnings and number of children are also required to construct UI eligibility. Furthermore, workers in the top 1 percentiles for annual earnings and hourly wages are excluded. Lastly, individuals who have never experienced any job separations after the age of 24 throughout the entire sample period are excluded.[24] The final sample consists of 3,593 individuals with 52,314 observations.[25]

By excluding "Never-separated", the sample is divided into two categories: "Ever-displaced," which includes workers who have experienced at least one displacement and are potentially UI-eligible, and "Never-displaced," comprising workers who have experienced non-displacement but have never been displaced and are UI-ineligible. Ever-displaced workers serve as the treatment group, while never-displaced workers constitute the control group in the main analysis, with UI generosity representing treatment effect heterogeneity. The ever-displaced group consists of 1,612 individuals with 26,360 observations, while the never-displaced group comprises 1,981 individuals with 25,954 observations.

Finally, the sample is further supplemented by various state characteristics, including state unemployment rates, average personal income level, and per capita welfare program expenditure to control for potential spurious state-level confounders.[26]

[22] Results are robust to different age and tenure restrictions. They will be discussed in a later section.

[23] Although it spans a long time frame, Bick et al. (2024) demonstrates that even after 40 years of data collection, the NLSY79 still accurately represents national cohorts. Key labor outcomes, such as hours worked and lifetime earnings, align well with those from the CPS and Social Security Administration data.

[24] These workers, constituting about 8% of the sample, are excluded because they demonstrate an exceptionally strong attachment to their employers at an earlier age. However, results remain robust even with the inclusion of these workers, and this will be discussed in a later section.

[25] The number of observations is associated with the earnings analysis, but it may vary slightly depending on the specific outcome variables under consideration.

[26] State unemployment rates for the period 1979-2018 are sourced from the Local Area Unemployment Statistics provided by the Bureau of Labor Statistics. Average personal income data spanning the same time frame is

3.2 Construction of Unemployment Insurance Generosity Variables

The main empirical analysis explores two different UI generosity measures, (after-tax) replacement rates and maximum potential duration, each of which builds on data collection efforts.[27] First, I have incorporated previous UI calculators used in the literature to construct replacement rates variable. The original calculator was developed by Gruber (1997) and has undergone subsequent updates by Chetty (2008), East and Kuka (2015), Kroft and Notowidigdo (2016), and Kuka (2020). Since each study investigates different time periods, I have gathered them, made calculation process consistent, and further updated it to account for periods not covered in previous studies. This version of the calculator reflects semiannual state legislation, determining weekly benefits amount, (after-tax) replacement rates, and maximum duration from regular benefits for over four decades.[28]

The second phase of data collection involves the compilation of information on Extended Benefits and Special Federal Extensions spanning the period from 1978 to 2018. To achieve this, I consulted a range of authoritative sources, including Trigger Notices for the Extended Benefits program, articles published by the Congressional Research Service, notices in the Federal Register, and EUC expenditure data from the Employment and Training Administration. The information from these diverse sources are integrated into the UI calculator developed for this study. Consequently, the UI calculator enables the determination of replacement rates and the maximum duration of UI benefits for displaced workers throughout the years 1978-2018, reflecting variations in UI laws across states over time.

Rather than using individual-level replacement rates, I adopted a method referred as the simulated policy eligibility instrument. This approach, widely used in the literature (see, for example, Currie and Gruber, 1996; Gruber, 1997; Kuka, 2020), exploits variations in state legislation to mitigate issues of endogeneity. Since UI benefits are based on pre-displacement

obtained from the Bureau of Economic Analysis. Per capita state welfare expenditures covering the years 1979-2015 are derived from Kuka (2020). Information on welfare expenditures will be used for robustness checks. Additionally, state population data for 1979-2018, which is used for constructing the replacement rates variable, is also merged into the dataset, sourced from the SEER data by the National Cancer Institute.

[27] All replacement rate variables employed in this paper are after-tax values.

[28] The relevant information is typically sourced from Significant Provisions of State Unemployment Insurance Laws by Employment and Training Administration.

earnings, each worker's replacement rate is inherently endogenous. The simulated policy instrument approach addresses this by focusing on state-level legislative changes, rather than on individual-level UI generosity, which is influenced by individual characteristics.[29]

Specifically, I identify all displacement event in the data. This is a fixed, national sample that is used to calculate average replacement rates for each number of children, state, and half-year cell.[30] Specifically, I use pre-displacement earnings, number of children, and marital status to assign tax rates and weekly benefits amount for each individual for every state and half-year in the sample by using the UI calculator. That is, UI legislation of every state and half-year is repeatedly assigned to fixed, national sample, reflecting number of children each individual has. Then I divide weekly UI benefit by after-tax pre-displacement earnings to obtain replacement rates. Finally, I collapse them to the number of children, state, and half-year cell and calculate the average UI replacement rates.[31]

Figure 1 and Figure 2 provide comprehensive summaries of the primary sources of variation in the constructed UI generosity variables across states over time.[32] Figure 1 presents the variations in state generosity over time. Panel (a) shows that there is a little variability in maximum duration across states during economic expansions. However, significant variations emerge across states during four distinct recessions in the early 1980s, 1990s, 2000s, and the Great Recession. This pattern underscores the importance of considering economic conditions when incorporating this variation into the analysis. In contrast, panel (b) demonstrates substantial variations in replacement rates across states, with limited variability over time. Throughout most periods, average replacement rates are at around 50%. This suggests that replacement rates are relatively less influenced by economic conditions, except during the Great Recession when the federal government introduced an additional $25 of weekly benefits.

Moving to Figure 2, it delves into within-state variations in UI generosity over time. Since

[29] It is worth noting that replacement rates still depend on certain characteristics, such as the number of children. However, these factors are controlled for in the primary analysis, and the results with an alternative generosity variable that does not rely on these factors are similar to the main results.

[30] If the number of children is larger then 4, I take the value of 4.

[31] The average is weighted by the state-year level population size obtained from the SEER data by the National Cancer Institute.

[32] The generosity in each state for each half-year is calculated by averaging the values for different numbers of children.

the main analysis includes state fixed effects, these are the key variations used to identify the impact of UI generosity on various outcomes. The interquartile range in panel (a) indicates that most within-state variations are concentrated in the range of 26 to 40 weeks. Similarly, variations in replacement rates primarily occur around 40-60%.

3.3 Descriptive Statistics

In the main analysis, the treatment is job displacement, with treatment effect heterogeneity represented by UI generosity. A key aspect of identifying the UI effect is estimating this heterogeneity by comparing displaced workers under more generous UI policy to those under less generous policy. To measure the extent to which earnings losses are mitigated (or exacerbated) by UI generosity, I also include a control group consisting of never-displaced workers. The earnings trajectories of these workers help identify the average losses of displaced workers over time, while the differential paths based on UI generosity illustrate the magnitude of changes in these losses.

Table 1 presents the sample characteristics for the treatment group (workers who have been displaced at least once) from 1-3 years prior to the displacement event, categorized by higher and lower replacement rates (50%). Displaced workers with lower replacement rates exhibit longer weeks worked and are more likely to be married and Hispanic. However, the overall differences in characteristics are not substantial. Additionally, the differences in industry composition between these two groups are small and statistically insignificant. Some statistically significant differences could be attributed to the correlation between state economic conditions and UI generosity, which will be flexibly controlled for in the main analysis.

Table 2 shows the descriptive statistics for longer and shorter maximum duration (26 weeks). Although the maximum duration is more closely related to economic conditions, the characteristics of these two groups are largely comparable.[33] Each of these groups in Table 1 and Table 2 is compared to one another to identify the UI effect.

Table 3 presents the sample characteristics for the ever-displaced workers from 1-3 years

[33] Using different cutoffs for the comparison reveals similar patterns for both replacement rates and maximum duration.

prior to the displacement event, alongside the never-displaced workers for the entire period. On average, displaced workers exhibit lower earnings, hourly wage rates, hours worked, and weeks worked during the pre-displacement periods. This difference may be attributed to age variations, as the displaced workers are approximately one year younger than their never-displaced counterparts. While there are modest differences in years of education and marital status between the two groups, the ever-displaced group has a higher representation of Hispanic and Black workers, potentially influenced by variations in industry composition among racial groups. On average, displaced workers are eligible for 50% of replacement rates, with a maximum duration of 33.7 weeks. When state UI laws are hypothetically assigned to never-displaced groups from their first non-displacement date, they become eligible for similar amounts of replacement rates and maximum duration.[34]

The bottom panel of Table 3 illustrates differences in industry composition by displacement status, with ever-displaced workers having a higher proportion in the Construction and Manufacturing industries, while never-displaced workers are more represented in Professional and related services and Public administration. Overall, the disparities between the treatment and control groups are not substantial. When estimating the earnings paths of displaced workers relative to the control group, these differences will be controlled for, along with individual fixed effects, to account for selection into the treatment group and industries.

4 Empirical Strategy

The main objective is to identify the effect of UI generosity on long-term losses from displacement. The initial step involves assessing losses associated with displacement. This will enable the quantification of earnings changes based on different levels of UI generosity, in comparison to the estimated losses resulting from job displacement.

[34] Appendix C Table C2 and Table C3 show the relationship between self-reported UI receipt information in the data and constructed UI variables. As expected, the UI variables generated by the UI calculator predict self-reported UI receipt well.

4.1 Estimation of Losses from Displacement

Ignoring UI generosity, the long-term earnings losses are estimated following a pioneering work of Jacobson et al. (1993).

$$y_{it} = x_{it}^{'}\beta + \sum_{k \geq -3}^{10} \delta^k D_{it}^k + \delta^{11+} D_{it}^{11+} + \alpha_i + \gamma_t + \epsilon_{it} \tag{1}$$

where i and t indicate individual and survey year. y_{it} is an outcome variable of interest at survey year t. $x_{it}^{'}$ is a vector of time variants including education years, martial status, and a quartic polynomial of age. α_i and γ_t are individual and time fixed-effects respectively. The impact of job displacement is identified using a set of dummy variables denoted as D_{it}^k. These variables take a value of 1 if a worker i in a given survey year t is k^{th} years after the displacement and 0 otherwise. For instance, $D_{i1993}^3 = 1$ if a worker i experienced displacement in 1990 and $D_{it}^3 = 0$ for $t \neq 1993$. Since the main time window of interest is from -3 to 10 years upon displacement event, 11 or more years after the displacement are pooled into a dummy variable D_{it}^{11+}.[35]

In this event study, the ever-displaced group serves as the treatment group, while the never-displaced group serves as the control group. The identification of the series of coefficients δ^k, representing the trajectory of earnings for displaced workers relative to the control group, stems from two primary sources: 1) the comparison of the treatment and control groups, and 2) the comparison between earlier and later displaced.[36] While some distinctions exist, the specification remains largely comparable to past research.

4.2 Estimation of UI Generosity Effects on Losses

To explore differential earnings (and labor-related outcomes) path by UI generosity at displacement event, I first augment Equation 1 with constructed UI variables and additional subscripts c and s, indicating number of children and state of residence, respectively, and $t_d^{'}$ repre-

[35] 4 or more years before displacement ($k \leq -4$) are omitted periods in Equation 1, which builds on an assumption that there are no discernible differences in the treatment and control groups during these periods. This is a common assumption in the scarring effect literature.

[36] See Miller (2023) for a discussion on event study data structures and how treatment effects are identified.

senting time (half-year) at displacement.

$$
\begin{aligned}
y_{icst} =& x_{it}^{'}\beta + \sum_{k\geq -3}^{10}\left[\delta^k D_{it}^k + \eta^k D_{it}^k \times \tilde{UI}_{cst_d'}\right] + \delta^{11+}D_{it}^{11+} + \eta^{11+}D_{it}^{11+} \times \tilde{UI}_{cst_d'} \\
&+ \alpha_i + \gamma_t + \epsilon_{icst}
\end{aligned} \tag{2}
$$

where $\tilde{UI}_{cst_d'}$ is a vector of demeaned UI generosity at displacement. Assuming the exogeneity of UI generosity measure ($\tilde{UI}_{cst_d'}$), the identification of η^k is from displaced workers under different UI generosity across states over time.

Recognizing UI generosity exhibits a strong correlation with economic conditions (extended benefits and special federal extensions, as described above), it is implausible to assume the exogeneity of $\tilde{UI}_{cst_d'}$ in Equation 2. Additionally, variations in UI generosity, influenced by the number of children and state of residence, raise concerns about potential spurious correlations originating from decisions related to fertility and mobility, which could impact earnings and other labor market outcomes. To address these issues, I extend the specification of Equation 2 as follows.

$$
\begin{aligned}
y_{cst} =& x_{it}^{'}\beta + \sum_{k\geq -3}^{10}\left[\delta^k D_{it}^k + \eta^k D_{it}^k \times \tilde{UI}_{cst_d'}\right] + \delta^{11+}D_{it}^{11+} + \eta^{11+}D_{it}^{11+} \times \tilde{UI}_{cst_d'} \\
&+ \tilde{Z}_{st}\Gamma + \tilde{Z}_{st_d}\Gamma^{'} \times D_{it}^{-3+} + \alpha_i + \gamma_t + \theta_s + \nu_c + \lambda_s t + \epsilon_{icst}
\end{aligned} \tag{3}
$$

where $\tilde{Z}_{st}$ includes demeaned cubic polynomials for state unemployment rates and average personal income level in state s and during calendar year t. Given that state characteristics at displacement significantly influence UI generosity, it is more important to control for $\tilde{Z}_{st_d}$ which consists of the same polynomials but representing the state of residence (s) and year (t_d) at the time of displacement. This term is then interacted with D_{it}^{-3+}, which is a pooled dummy for $k \geq -3$, including all the periods of interest upon displacement event. As a result, $\tilde{Z}_{st_d}\Gamma^{'} \times D_{it}^{-3+}$ allows the isolation of the impact of UI generosity on post-displacement outcomes from the broader state-specific business cycle effect influencing UI policy at the time of displacement.

θ_s and ν_c represent state and number of children fixed effects, respectively. Given that Equation 3 has individual fixed effects, these effects are identified through individuals who undergo changes in their state of residence and experience an increase in the number of children. This approach effectively accounts for endogenous decisions related to mobility and fertility, which could otherwise introduce potential correlations between post-displacement outcomes and UI generosity measures. For instance, a state with a more generous policy might induce individuals to relocate or encourage them to have more children to avail higher benefits. Inclusion of state and number of children fixed effects helps to mitigate these concerns. Additionally, the inclusion of $\lambda_s t$, representing a state-specific linear time trend, serves to address any other potential spurious correlations between state UI generosity and the outcomes of interest over time.[37]

The identification strategy employed in Equation 3 hinges on the assumption that, by flexibly controlling for state characteristics and various fixed effects, UI policy measures are exogenous. The identification of the UI effect comes solely from displaced workers exposed to different levels of UI generosity at the time of displacement. With state fixed effects, this approach represents a dynamic difference-in-differences strategy, exploiting within-state variations in UI generosity over time. It also illustrates treatment effect heterogeneity by UI generosity in comparison to the earnings paths of the control group, which consists of never-displaced workers.

A potential concern arises regarding whether these controls fully capture policy variations influenced by state or national economic conditions. To address this, I assess the robustness of the results by employing different polynomial specifications (linear, quadratic, and quartic) of state characteristics instead of cubic terms. Furthermore, if the result is fully driven by economic conditions, it would be expected that the longer maximum duration, mostly observed during economic downturns, would result in a negative relationship with post-displacement earnings, as earnings of those displaced during recessions tend to be persistently lower (Davis and von Wachter, 2011). However, I find that the opposite pattern is observed, suggesting that economic conditions do not drive the result.[38]

A second potential concern involves the possibility of changes in UI policy coinciding with changes in generosity of other safety net programs. In such cases, the estimated η^k may capture the effects of both UI and these other programs. To address this concern, I investigate whether

[37] The results remain robust when using state-by-year fixed effects instead of state-specific linear time trend.

[38] If economic conditions are not fully controlled as concerned, it can also be interpreted that my result with maximum duration variable, which is mostly positively estimated, is a lower bound of the true effect.

the constructed UI generosity variables exhibit predictive power for self-reported receipts of AFDC/TANF, Food Stamps, Supplemental Security Income, and other programs. I also test the robustness of the results by controlling for various state welfare expenditures in Equation 3.[39]

5 Results

5.1 Effects of UI Generosity on Losses

In this section, I present the estimated earnings path of displaced workers in comparison to the control group and how it varies by state UI generosity. Subsequently, I break down this comparison into paths of hourly wage rates and hours worked. Then I further explore the UI effect incorporating a range of labor supply measures as outcome variables. To ensure the robustness of the findings, I test them against various specifications to validate the results. Then I discuss heterogeneity and potential mechanisms of the UI effects.

5.1.1 Earnings Path over 10 Years

I first present the average earnings losses of displaced workers, without accounting for variations in UI generosity. In Figure 3, the estimated (log) earnings paths of displaced workers are presented in comparison to those of the control group, employing three different specifications. The black dashed line, a result of estimating Equation 1, closely replicates the common specification in previous studies. The magnitude of initial losses, observed in the year of displacement and the subsequent year, is approximately 25-30%, persisting over a 10-year period and ultimately converging to losses around 15-20%. These figures closely align with the estimated magnitudes derived from administrative data, as indicated in studies such as Davis and von Wachter (2011).[40]

The gray dashed line represents the same specification but includes never-separated workers

[39]These results are available in Appendix D.

[40]Appendix C Figure C1 presents a comparison between the estimates from this study and those from Davis and von Wachter (2011). While there is a slight difference in the pre-displacement period, likely due to variations in data and sample specifications, once this difference is accounted for, the earnings path patterns estimated in this study (which include both recessions and expansions) fall between the estimates for recessions and expansions reported by Davis and von Wachter (2011).

in the control group. Although this group will be excluded in the subsequent analysis, Figure 3 confirms that their inclusion does not affect the identification of earnings losses. The black solid line illustrates the estimated earnings losses (δ^k in Equation 3) with all state controls and additional fixed effects incorporated for the analysis with UI variables. Since my UI generosity variables are demeaned, it also represents the earnings path with average UI generosity. Once again, the inclusion of these controls does not alter the estimation of earnings losses from the displacement event. For the remainder of the analysis, I will use this specification (Equation 3) as the primary one for both estimating losses and assessing the effects of UI generosity.

The primary focus of this paper is to demonstrate the divergent earnings paths resulting from state UI policies, as denoted by the series $\delta^k + \eta^k$ in Equation 3 spanning over 10 years ($-3 \leq k \leq 10$). Figure 4 presents these paths, showing the impact of extending the maximum duration by 13 weeks and increasing the replacement rates by 6 percentage points on the earnings trajectory.[41]

Panel (a) of Figure 4 shows that more generous UI policy, measured by maximum duration, does not affect the earnings of displaced workers in the pre-displacement periods. Even during the short-term period (year and the next year of displacement), the earnings are not differentiated with those of workers eligible for average level of maximum duration. However, the path starts to diverge from 2 years after the displacement, with the earnings with 13 weeks longer maximum duration have higher earnings compared to those with average duration, with a magnitude of about 3-10% percentage point for the most of the rest periods. Panel (b) shows the differences between these two paths and 95% confidence intervals.[42]

To enhance statistical power, adjacent event-time dummies are pooled, and these pooled dummy variables are included in Equation 3 instead of each year-relative displacement event dummies (D_{it}^k). Specifically, the 14-year time window is categorized into past-term (1-3 years before displacement), short-term (year of and the year after displacement), medium-term (2-5 years post-displacement), and long-term (6-10 years post-displacement). The outcomes with

[41] 13 weeks is the most common variation observed in the data, as many states provide an additional 13 weeks of extended benefits. This is also close to the standard deviation of maximum duration. Similarly, the standard deviation of replacement rates is 6.

[42] The relatively modest statistical significance is likely due to a small sample size of the survey.

these new dummy variables are presented in Table 4, where the first column outlines earnings losses from job displacement across the classified time periods, and the second and third column reveal the impact of an extended maximum duration and higher replacement rates on the earnings losses.

Consistent with Figure 3, column (1) shows substantial and persistent earnings losses following displacement. A significant past-term effect may suggest a decline in labor demand during the pre-displacement period. In column (2), no significant effects are observed in either the past-term or short-term periods. In the medium term, although statistically insignificant, the estimates indicate that earnings losses are attenuated by about 3 percentage points. In the long term, a 13-week extension in maximum duration serves as a mitigating factor, reducing displacement-related earnings losses by approximately 6 percentage points. This reduction accounts for about 30% of the estimated long-term earnings losses.

Panel (c) of Figure 4 shows that a more generous UI policy, in terms of higher replacement rates, results in small and imprecise estimates. As illustrated in Panel (d), the differences between workers with a 6 percentage point increase in replacement rates and those with average replacement rates are statistically insignificant across all periods. Similarly, the third column of Table 4, which presents results using pooled dummies, indicates no significant effects of replacement rates across the examined time periods.

5.1.2 Paths of Hourly Wage Rates and Hours Worked

To further investigate the impact of UI generosity on earnings losses, I track the trajectories of hourly wage rates and hours worked across different levels of UI generosity.[43] In Panel (a) of Table 5, the impact of UI generosity on (log) hourly wage rates is presented using pooled dummy variables. In column (1), the short-term losses amount to approximately 8-9%, and these losses persist over a 10-year period without recovery. This result aligns with prior research, highlighting

[43] It is crucial to recognize that earnings may not be precisely decomposed into hourly wage rates and hours worked. Earnings and hours worked are aggregated at the annual level, while hourly wage rates are solicited for the current or most recent job. Consequently, if a worker holds multiple jobs or undergoes job changes within a year, earnings do not equate to the product of hourly wage and hours worked. To address this, I conduct additional analyses using the mean hourly wage rates for every job in a given year. However, this alternative approach yields consistent results without altering the overall findings.

wage rates losses as a main driver of the scarring effect (Lachowska et al., 2020; Schmieder et al., 2023). Notably, none of the coefficients in columns (2) and (3) of Panel (a) are statistically significant. This observation is corroborated by the event study plot in Figure 5, revealing that the differences in paths between a more generous UI policy (considering both maximum duration and replacement rates) and average UI generosity are statistically indistinguishable from zero across almost all periods.

Conversely, the findings for (log) hours worked in Panel (b) reveal a distinct pattern. In column (1), despite a significant reduction in work hours in the short-term, the magnitude of losses diminishes to approximately one-fourth in the long term. Notably, a longer maximum duration significantly increases work hours in both the medium and long-term. Specifically, workers with a 13-week longer maximum duration experience a recovery of approximately half of the medium-term losses and two-thirds of the long-term losses resulting from job displacement. Once again, there is no discernible significant effect stemming from higher replacement rates. The confirmation of these patterns is evident in Panel (b) and (d) of Figure 6, which demonstrate that differences in work hours' paths in most periods 2 years after displacement are statistically significant only with a longer maximum duration, not with higher replacement rates.

These findings suggest that the mitigation of long-term earnings decline with a longer maximum duration is primarily driven by an increase in work hours, while losses in hourly wage rates, a key factor contributing to the scarring effect, remain unaffected. Furthermore, the magnitude of the increase in work hours two years after the displacement event is fairly stable, consistently holding at around 4-5%. This indicates that workers with a longer maximum duration consistently augment their labor supply in subsequent jobs by a similar amount across periods.

One reason the effect starts to appear two years after displacement could be due to the timing of the event. Workers displaced late in the year might stay unemployed for several months into the next year before securing a new job. Consequently, labor market outcomes during the post-displacement period may not be fully reflected until two years after the displacement.[44]

[44] Thus, the annual-level analysis of the short-term UI effect is subject to noise, leading to a small and statistically insignificant estimate. Still, the event study specification (Equation 1) is common practice in the scarring effect literature, primarily because the main purpose of the analysis is to explore the persistence of losses not the short-term effect. Table C4 shows that both UI generosity measures significantly lengthen the duration of unemployment, with magnitudes consistent with those found in the literature.

This pattern also helps explain the effect of maximum duration on earnings. Panel (b) of Figure 4 shows that the reduction in earnings losses, driven by increased labor supply, also begins two years after displacement. The weak statistical significance in the medium-term may result from imprecise estimates of earlier effects or fluctuations in wage rates, which are also imprecisely estimated. Since the reduction in losses is entirely due to a consistent rise in labor supply starting two years post-displacement, the interpretation should not be that the effect of UI on earnings grows over time.

5.1.3 Paths of Other Labor Supply Measures

Panels (a) and (b) of Table 6 investigate these patterns with hours and weeks worked without logarithmic transformation (including zero values). In line with the previous findings concerning the log hours worked, the results demonstrate that a longer maximum duration enhances both medium and long-term labor supply for both measures.

Specifically, a 13-week extension in maximum duration leads to an average increase of 68 annual work hours in the medium-term. This increase remains similar in the long-term, with an average gain of 79 annual work hours, totaling approximately 667 additional hours over the 2-10 years post-displacement. Likewise, a 13-week longer maximum duration results in an average increase of 1.2-1.5 additional weeks worked in the medium and long-term, amounting to about 12.3 extra weeks over the 2-10 years post-displacement. Overall, the rise in annual hours and weeks worked, starting two years after displacement, equates to an average of 74 extra hours and 1.4 additional weeks per year. Once again, replacement rates show no significant effects in these patterns.[45]

Panels (a) and (b) of Table 7 investigate the probability of full-time employment, assessed through annual work hours exceeding 2,080 and 1,920, respectively. The findings reveal that a longer maximum duration enhances the likelihood of full-time employment in both the medium and long-term, with similar magnitudes observed for both measures.

Table 8 explores changes in employment status over time. The outcomes are categorized into

[45] Figure C2 and Figure C3 show these results using event dummies for each year instead of a pooled dummies version.

employed without job separation, experiencing displacement, experiencing non-displacement, and not employed with zero earnings in a given year. Each column in Table 8 represents the regression result with a binary dependent variable for each employment status. Since workers belong to one of the status categories, the coefficients in each row sum to 1.[46]

Panel (a) of Table 8 indicates that the displacement event tends to occur repeatedly over the long-term period, while the probability of non-displacement remains unaffected. Additionally, there is a slight increase in the probability of being unemployed with zero earnings in the years following a displacement event. This confirms that subsequent job displacements are endogenous to the initial displacement, and the scarring effect could also be influenced by instability in post-displacement employment. Panel (b) demonstrates that a 13-week longer maximum duration is associated with a higher likelihood of remaining employed without job separation for the medium and long-term period. This effect is primarily driven by a reduction in the probabilities of experiencing non-displacement and not being employed with zero earnings. This pattern suggests that longer maximum duration also affects employment on an extensive margin, though the statistical significance of the effect is relatively modest.

5.1.4 Overall Impact of UI generosity on Labor Outcomes

Table 9 presents the estimated magnitude of losses in earnings, wage rates, hours, and weeks worked over a 10-year period. Panel (a) shows the losses calculated from the year of displacement, while Panel (b) shows the losses starting two years post-displacement. In Panel (a), the estimated earnings losses total approximately $92,500, with reductions of about 2,000 hours and 35 weeks worked. Since the initial effect of UI during the year of displacement and the following year lengthens nonemployment duration and reduces labor supply, the overall impact of UI, particularly maximum duration, during this period is relatively smaller and statistically weaker. The estimates indicate that a 13-week longer maximum duration attenuates earnings losses by about $10,000, which accounts for about 11% of the total losses from displacement.[47]

[46]If a worker experiences both displacement and non-displacement in the same year, I categorize this worker as displaced.

[47]Present discounted value for earnings is not calculated to maintain consistency with the calculations for hours and weeks worked.

However, when considering the period beginning two years post-displacement, more significant results emerge. Even excluding the initial losses around the time of displacement, the earnings losses remain largely persistent, amounting to around $74,000, with reductions of 1,260 hours and 21 weeks worked. A substantial portion of these losses is mitigated by a longer maximum duration. In these periods, a 13-week longer maximum duration reduces earnings losses by about $11,500, 414 hours, and 8 weeks worked, which represents about 15% of earnings losses, 33% of hours lost, and 38% of weeks worked lost due to displacement.[48]

In my sample, the average weekly benefit amount is around $200, adjusted to year 2000 CPI. Therefore, a 13-week extension provides a maximum of $2,600 to displaced workers. After applying a 25% marginal tax rate, approximately $2,500 in income taxes, roughly equal to the maximum benefits paid by the government, will be financed by these workers. Since not all workers receive benefits until exhaustion, the additional benefits are, in many cases, largely self-financed.

5.2 Robustness

I now explore the robustness of the prior estimates across two distinct aspects. First, I examine the sensitivity of the previous findings to different sample restrictions and regression specifications. Next, I address the interpretational challenges related to estimates in event studies with staggered and continuous treatment.

5.2.1 Different Sample Restrictions and Regression Specifications

Previous estimates of the effect of UI generosity on various outcomes are robust to different sample restrictions and regression specifications. Specifically, the results remain consistent regardless of different age and tenure restrictions. Additionally, limiting the analysis to ever-displaced workers or including never-separated workers does not alter the findings. As suggested by Wiswall (2013), the specification of event dummies, particularly how time periods are pooled, may influence the results. However, I find similar outcomes across various event dummy specifications.

[48] Similar results are found when extending the analysis to include 11 or more years post-displacement.

I also test the sensitivity of state controls by using linear, quadratic, or quartic state characteristics in place of the current cubic terms, and I include additional state welfare expenditures to control for concurrent changes in safety net generosity.[49] Lastly, I conduct previous analysis only for annually-surveyed periods (before 1994), all of which do not affect the findings. All these results are available in Appendix D.[50]

5.2.2 Staggered and Continuous Treatment

Recent studies, such as Callaway and Sant'Anna (2021) and Sun and Abraham (2021), highlight key assumptions and propose alternative methods for interpreting two-way fixed effects models in settings with staggered treatment adoption. This paper builds on these approaches but extends the analysis by incorporating treatment heterogeneity through continuous measures of UI generosity. Callaway et al. (2024a) and Callaway et al. (2024b) provide an extensive discussion of the interpretational challenges related to this approach. Unlike the binary treatment case, they argue that using an event study with continuous treatment requires stronger assumptions and an alternative estimation strategy to effectively address these challenges.[51]

Given these critiques and the complexities involved, previous estimates should be interpreted with caution. As an additional robustness check, I convert continuous UI generosity measures into binary variables, differentiating between more and less generous UI laws, and apply both two-way fixed effects and the method proposed by Sun and Abraham (2021) to address the negative weights problem inherent in standard two-way fixed effects approaches. While employing binary treatment heterogeneity may yield different estimates compared to the continuous heterogeneity approach, this method bypasses the challenges associated with continuous treatment and avoids the need for the stronger assumptions outlined by Callaway et al. (2024a) and

[49] I also investigate whether UI variables have any predictive power for self-reported welfare program receipts, and I find no evidence of such an effect. See Appendix D.

[50] I also replicate the analysis by assigning UI generosity to never-displaced (UI-ineligible) workers at the time of their first non-displacement event. Specifically, I classify never-displaced workers as the treatment group and include never-separated workers (who have never experienced either displacement or non-displacement) as the control group. I then examine the first non-displacement event of never-displaced workers, assigning state UI generosity at that time and re-running Equation 3. The results show that most of the coefficients are insignificant. However, these results should be interpreted with caution, as non-displacement includes voluntary separations, which are likely to be endogenous.

[51] These assumptions include stronger parallel trends and ruling out treatment effect dynamics and heterogeneous causal responses.

Callaway et al. (2024b).[52]

To provide further detail, I generate displacement event dummies to categorize individuals experiencing more generous and less generous UI policies based on maximum duration and replacement rates, respectively. Specifically, I create dummy variables to represent longer and shorter maximum durations, as well as higher and lower replacement rates.[53] Subsequently, I substitute the existing event dummies and dummies interacted with UI generosity with these new binary variables. This approach essentially mirrors the estimation of the displacement effect for two distinct subgroups characterized by more and less generous UI policies at the time of displacement. The regression equation is written as follows:

$$\begin{aligned} y_{cst} =& x_{it}^{'}\beta + \sum_{k \geq -3}^{10} \left[\delta^{k,H} D_{it}^{k,H} + \delta^{k,L} D_{it}^{k,L} \right] + \delta^{11+,H} D_{it}^{11+,H} + \delta^{11+,L} D_{it}^{11+,L} \\ & + \tilde{Z}_{st}\Gamma + \tilde{Z}_{st_d}\Gamma^{'} \times D_{it}^{-3+} + \alpha_i + \gamma_t + \theta_s + \nu_c + \lambda_s t + \epsilon_{icst} \end{aligned} \tag{4}$$

where $D_{it}^{k,H}$ and $D_{it}^{k,L}$ represent event dummies for high and low UI generosity. I then apply both two-way fixed effects method and Sun and Abraham (2021)'s interaction-weighted estimator to Equation 4. The estimates presented in Appendix D indicate that both estimation methods yield similar results, consistent with earlier findings. This suggests that staggered treatment adoption does not appear to significantly bias the main analysis of this paper.

5.3 Heterogeneous Effects of UI Generosity

To delve into the heterogeneous treatment effects across different groups, I extend my analysis by introducing interaction terms between subgroup dummies and event dummies and interaction terms in Equation 3. These subgroups encompass varying education levels (13 or more years versus 12 or fewer years), racial categories (Hispanic/Black versus White/Others), and displacements occurring under different economic conditions (expansions versus recessions).

[52] I also apply the method proposed by Sun and Abraham (2021) to estimate earnings losses from displacement. The results from the two-way fixed effects model are very similar to those obtained using Sun and Abraham (2021)'s interaction-weighted estimator. See Appendix D Figure D1.

[53] I use 39 or 26 weeks as well as 50% or 49% as the cutoffs to distinguish between high and low UI generosity. For simplification, I conduct separate regressions for maximum duration and replacement rates.

The results, illustrated in Figure 7, Figure 8, and Figure 9 depict the estimated losses and the impact of extended maximum duration on these losses over the short-term, medium-term, and long-term following displacement. Since the majority of replacement rate coefficients are statistically insignificant, I focus solely on the estimated effects of longer maximum duration.[54]

In Panel (a) of Figure 7, the analysis shows markedly larger earnings losses for less-educated workers and individuals displaced during recessions, compared to their counterparts. However, Panel (b) illustrates comparable reductions in losses during the medium and long term due to the extension of the maximum duration for each subgroup. This implies that the recovery of losses for less-educated individuals and those displaced during recessions is relatively limited compared to the recovery experienced by their counterparts. On the other hand, although there is a slight disparity in losses across different racial groups, the impact of maximum duration is notably more substantial for the "White/Others" category. Overall, the effect of extended maximum duration appears to more significantly alleviate earnings losses for "more advantaged" groups.

Panel (a) and (b) of Figure 8 conduct the same analysis on hourly wage rates. In Panel (a), losses are notably more substantial for less-educated and Hispanic/Black racial groups across all periods. Conversely, wage losses of workers displaced during recessions closely align with those displaced in expansions. Moving to Panel (b), although I find no discernible effect of maximum duration on hourly wage rates within the full sample and most subgroups, there is a nonnegligible increase in hourly wage rates for the White/Others group in the medium and long term.

Shifting focus to annual hours worked, Figure 9 presents the results. In comparison to the variability in losses of hourly wage rates across subgroups, Panel (a) indicates small variation in losses in hours worked. An exception is the significant short-term losses of workers displaced during recessions, potentially attributed to harsher labor market conditions lengthening nonemployment spells. The impact of maximum duration on an increase in medium and long-term work hours is consistently found across all subgroups in Panel (b). This highlights that the role of longer maximum duration in increasing labor supply applies uniformly across various

[54] See Figure C4, Figure C5, and Figure C6 for the results with replacement rates.

demographic groups. Additionally, since variations in maximum duration during expansions and recessions span different parts of the distribution of UI generosity, this suggests that the effect of maximum duration is fairly consistent across the distribution.[55]

5.4 Mechanisms

5.4.1 Effects of UI Generosity on Non-pecuniary Job Attributes

On the supply side, experiencing job displacement may lead workers to prioritize job characteristics beyond wage rates, such as work environment, commuting time, job security, flexibility, and fringe benefits. This shift in priorities, combined with more generous UI, could result in higher job satisfaction, a lower likelihood of job separation, and increased labor supply in subsequent jobs, without significantly affecting wage rates. On the demand side, if displaced workers receive job offers with substantial variation in non-pecuniary characteristics but little variation in wage rates, workers with longer maximum duration may only have the opportunity to find jobs with better non-pecuniary attributes, but not higher wage rates. These hypotheses imply that non-pecuniary job attributes are complements to labor supply, as workers may be more inclined to stay in a job or increase their working hours when they are satisfied with these attributes.[56]

To investigate this hypothesis, I use self-reported data on job satisfaction and fringe benefits. Respondents were asked to rate their job satisfaction using four categories ("like very much", "like fairly well", "dislike somewhat", and "dislike very much"). I construct a binary variable indicating whether respondents reported "dislike very much".[57] I also treat the four categorical responses as continuous variables (ranging from 0 to 1) and use them to test whether these outcomes are influenced by UI generosity measures.

Column (1) of Panel (a) and (b) in Table 10 shows that displaced workers are generally less

[55] For additional results using hours (including zero values) and weeks worked, see Figure C7, Figure C8, Figure C9, and Figure C10. Most of the results with maximum duration are consistent with Figure 9, except that the impact of maximum duration in the long-term is weaker for highly educated workers compared to other groups.

[56] Moreover, fringe benefits are often offered to workers who meet certain time requirements, such as working a minimum number of hours. As a result, the availability of these benefits can be associated with longer working hours.

[57] Workers who reported strongly disliking their job would have a higher likelihood of job separation.

satisfied with their next job. In Panel (b), the probability of strongly disliking the job increases by 1.6, 1.2, and 0.3 percentage points in the short, medium, and long term, respectively. Given that the average for this binary variable is around 0.02, this represents a substantial effect. In Column (2) of Panel (a), the effect of longer maximum duration on the continuous job satisfaction measure is not significant and even turns negative 11 or more years after displacement. However, the longer maximum duration significantly reduces the probability of strongly disliking the job, with a decrease of 0.9 percentage points over 5 years. This reduction accounts for three-fourths of the increase in this probability caused by displacement.

Table 11 provides further evidence on fringe benefits, specifically health and life insurance.[58] Column (1) shows that the scarring effects of displacement are also observed in these aspects, as displaced workers are less likely to have jobs that offer these insurances. Similar to wage rates, these losses are almost not recovered even 10 years after the displacement event. Column (2) demonstrates that a longer maximum duration significantly mitigates these losses. While the long-term effect is not statistically significant, the estimated coefficients represent approximately 50% and 25% of the losses for health and life insurance, respectively.

5.4.2 Non-pecuniary Benefits as a Channel for Increased Labor Supply

To test whether non-pecuniary attributes explain the increase in labor supply resulting from longer maximum duration, I include these variables in the regression analysis. Specifically, binary variables for each job satisfaction category, as well as the existence of health, life, dental insurance, and parental leave, are interacted with event dummies and controlled for in Equation 3 as presented in Table 12 and Table 13. The results should be interpreted with caution, as these non-pecuniary proxies may be endogenous.

Although the sample size is smaller than in the previous analysis due to the limited availability of fringe benefits data, the estimated magnitudes of the maximum duration effect remain largely consistent with the main analysis. In the first two columns of Table 12, the results show that controlling for non-pecuniary attributes reduces the magnitude of the maximum duration

[58] There is additional information on fringe benefits available in the data; however, these benefits were included in the survey in later years, leading to much smaller sample sizes. Similar patterns are observed for fringe benefits like dental insurance and parental leave, though the statistical significance is weaker (Appendix C Table C5).

effect in the medium and long-term by about 15%. This suggests that these attributes partially explain the maximum duration effect. Similar results are found for log hours worked in columns (3) and (4) and for weeks worked in columns (1) and (2) of Table 13, where non-pecuniary benefits explain about 10-20% of the maximum duration effect. In columns (3) and (4) of Table 13, where the dependent variable is binary, indicating whether workers were employed without experiencing job separation in a given year, the maximum duration effect is reduced by 30-35%. I also test the changes in coefficients for hourly wage rates. Although some differences are found, most of the coefficients still remain insignificant.

Given that the job satisfaction variable is relatively crude (with about 90% reporting the first two categories) and only a few fringe benefits are included, the reduction in coefficients is substantial. These results suggest that the longer maximum duration increases labor supply, at least partially, through improvements in non-pecuniary aspects of a job.

To further test other potential mechanisms, I conduct the same analysis with household assets and spousal income. These factors could be related to the increase in labor supply if maximum duration affects them in post-displacement periods. For example, if workers with longer maximum duration remain nonemployed for a longer period by self-insuring through household assets, they may be motivated to work more later to replenish their savings. Additionally, if more generous UI disincentivizes a spouse from entering the labor market after the husband's displacement, the relatively lower household income (due to the spouse not entering the labor market) in post-displacement periods may lead workers to increase their labor supply. However, including these variables in the regression has minimal impact on the estimated coefficients for all labor supply measures, indicating that they do not provide additional explanation for the effect of maximum duration.[59]

6 Job Search Model

To investigate whether the empirical findings align with the theoretical framework, I extend the search model presented in the literature. The extended model builds on the reservation

[59] See Appendix C for these results.

wage framework of random search with unemployment insurance (UI) benefits (Schmieder et al., 2016; Hernandez Martinez et al., 2023). A key tweak in this framework is the inclusion of hours worked and non-pecuniary attributes of a job. The utility derived from non-pecuniary attributes is modeled as the product of hours worked and a non-pecuniary benefits parameter, which abstracts all non-monetary aspects that are complements to labor supply. Job offers are characterized by a combination of wage rate and this non-pecuniary benefits parameter, meaning that unemployed workers aim to maximize utility by securing a job with both a higher wage rate and better non-pecuniary attributes.

A major distinction from previous models is that, unlike the one-dimensional reservation wage model, which predicts that reservation wages always increase with more generous UI benefits, this model introduces a reservation curve that combines the reservation wage and non-pecuniary attributes. As a result, an accepted job may offer a higher non-pecuniary benefits parameter in exchange for a lower wage rate. Workers accept job offers as long as they provide higher utility than the reservation curve, meaning the realized wage rate and non-pecuniary attributes depend on their joint distribution in the labor market, as well as workers' preferences. If the wage rate and non-pecuniary attributes are negatively correlated, more generous UI will make workers more likely to accept offers with either a higher wage rate or better non-pecuniary attributes, compensating for a worse outcome in the other. If the correlation is positive, workers are more likely to accept offers with both a higher wage rate and better non-pecuniary benefits when UI is more generous.

Similar to Schmieder et al. (2016), the model suggests that the overall effect of UI on wage rates and hours worked is driven by two forces: the effect of a shift in the reservation curve and the effect of a lengthened nonemployment duration. The direction of the former depends on the joint distribution of job offers as well as workers' preference, while the latter is always negative on both wage rates and non-pecuniary benefits (hours worked). This decomposition helps determine whether the insignificant results for wage rates are due to these two forces canceling each other out or because both effects are small. These scenarios have different implications. In the first case, workers might pursue higher-wage jobs with more generous UI, but this effect is offset by skill depreciation or stigma from longer nonemployment. In the second case, it suggests either that workers do not prioritize wage rates over non-pecuniary benefits or that there are few higher-paying jobs available in the market.

6.1 Model Setup

Consider an agent who enters period $t-1$ without a job. Suppose unemployed workers receive UI benefits, denoted as b, for up to B periods. The agent chooses search intensity s, which is normalized to the probability of receiving a job offer. Let $\psi(s)$ denote the disutility of job search effort, which is strictly increasing and convex. Jobs offer a non-pecuniary parameter α and a wage rate w, which are drawn from a joint distribution $F_t(\alpha, w)$. I assume that the means of the job offer distribution, for both α and w, decrease as t increases, reflecting that longer nonemployment duration leads to human capital depreciation and potentially be stigmatized by employers. Upon receiving an offer, a worker decides whether to accept it or not. A worker who accepts a job offer proceeds to the next period t and decides on their working hours h_t, given the non-pecuniary parameter α and wage rate w. Employment is an absorbing state. A worker who does not receive an offer or who rejects the offer proceeds to the next period as unemployed. A summary of the setup is illustrated in Figure 10.

More formally, the value of being employed given α, w and the Bellman equation for unemployed workers are written as follows:

$$
\begin{aligned}
V_t &= \sum_{k=t}^{\infty} \beta^{k-t} \max_{h_t} [u(wh_t) + \alpha h_t] = \frac{1}{1-\beta}[u(wh_t^w) + \alpha h_t^w] \\
U_{t-1} &= u(b_{t-1}) + \beta \Bigg[\max_{s_t} \big[-\psi(s_t) + (1-s_t)U_t \\
&\quad + s_t \int_w \Big[\int_\alpha \max_{Accept, Reject} \{V_t, U_t\} dF_t(\alpha|w) \Big] dF_t(w) \big] \Bigg]
\end{aligned}
$$

Note that the value of being employed, V_t, is determined by the job offer accepted at time t and both the wage rate and non-pecuniary benefits parameter remain fixed thereafter.[60]

[60] All the details of derivations are in Appendix A.

6.2 Effects of UI Generosity on Wage Rates and Hours Worked

The optimal acceptance rule is determined by the reservation non-pecuniary benefits parameter over the support of wage rate offer distribution (reservation curve), denoted as $\alpha = \alpha^{W,r}$, as shown in Panel (a) of Figure 11. Job offers from the area above this curve will be accepted.

In the model, the direct effect of UI benefits is on the optimal search intensity and the reservation curve, with all other effects operating through these channels. More generous UI benefits reduce optimal search intensity and shift the reservation curve to the right. This shift, illustrated in Panel (b) of Figure 11 means that workers are more likely to reject job offers in pursuit of securing a better one. Since the job finding probability is a combination of the likelihood of receiving and accepting an offer, more generous UI decreases the job finding probability and thus lengthens the nonemployment duration.

Conditional on nonemployment duration, a shift in the reservation curve leads to the acceptance of a better job. Unlike previous models that focus on a single job characteristic (typically the wage offer), more generous UI benefits do not necessarily result in higher accepted wages (in this case, the wage rate), due to the presence of another dimension, non-pecuniary benefits, that can substitute for the wage rate offer. An unemployed worker will accept a job that lies above the shifted reservation curve, which could involve accepting a lower wage rate in exchange for better non-pecuniary benefits. Since hours of work are a complement to non-pecuniary attributes, this would lead to an increase in working hours. Therefore, the overall impact of UI benefits on changes in accepted wage rates and non-pecuniary attributes (hours of work) depends on their joint distribution in the market as well as the shape of the reservation curve.[61]

6.3 Decomposition of the Effect of UI Generosity

Following the method outlined by Schmieder et al. (2016), the UI effect on wage rates and hours of work can be decomposed into two components. The first component arises from the shift in the reservation curve, conditional on nonemployment duration. This shift reflects a change in workers' behavior, leading them to search for better job opportunities due to more

[61] Although the direction and magnitude of changes in wage rates and the non-pecuniary benefits parameter are theoretically indeterminate, they always lead to an increase in utility.

generous UI benefits. The second component represents the impact of longer nonemployment duration, resulting from generous UI benefits, on wage rates and hours worked. This reflects the negative consequences of extended nonemployment spells on subsequent job, occurring through human capital depreciation and the signaling effect on potential employers, both of which reduce labor market demand for these workers.[62] Additionally, it reflects a lower reservation utility for workers who are nonemployed for longer periods.

Appendix A provides the theoretical derivation and empirical implementation of this decomposition analysis. In that section, I demonstrate that the estimated maximum duration effect on wage rates is small and insignificant because both components have minimal impacts, rather than these components cancelling each other out. Conversely, the estimated maximum duration effect of the first component on hours of work is large, while that of the second component is relatively small. In contrast, the effect of replacement rates on all these components yields small estimates for both wage rates and hours worked.

These results indicate that the main findings of this paper, that the effect of extended maximum duration leads to an increase in labor supply, are entirely driven by a shift in the reservation curve. This implies that the shift in the reservation curve enables workers to secure jobs with better non-pecuniary benefits without impacting wage rates. It is important to note that two factors determine how changes in the reservation curve produces the observed results in the empirical analysis: the joint distribution of wage rates and non-pecuniary benefits in the market, as well as workers' preferences.

Although it is not possible to observe job offer distributions directly in the data, the magnitude and direction of the UI estimates offer a rough approximation of how these distributions, as well as workers' preferences, might appear. Since no significant effect of replacement rates was found in the analysis, the focus will be on the effect of maximum duration.

Figure 12 illustrates three hypothetical scenarios of job offer distributions. Panel (a) represents a scenario where there is a positive correlation between wage rates and non-pecuniary benefits parameters. In this case, if the reservation curve shifts due to more generous UI, it

[62] In the model, this is reflected in a shift in the job offer distribution, characterized by a lower mean for both wage rates and non-pecuniary aspects, as workers remain nonemployed for longer periods.

leads to increases in both wage rates and non-pecuniary benefits. Panel (b) depicts a scenario with a negative correlation, where a shift in the reservation curve results in better non-pecuniary benefits but lower wage rates. The opposite outcome is also possible, depending on the shape of the reservation curve and the job offer distribution. However, neither Panel (a) nor Panel (b) aligns with the empirical findings.

The scenario depicted in Panel (c) aligns more closely with the results. Here, wage rates and non-pecuniary benefits are uncorrelated, and the variance of the non-pecuniary parameter is much larger than that of the wage rate. In this case, the shift in the reservation curve results in a higher likelihood of receiving a job offer with a better non-pecuniary attributes, while the wage rate remains almost constant due to the low variance in the wage rate offers received.

Figure 13 highlights that, given a job offer distribution with high variance in wage rates and modest correlation between wage rates and non-pecuniary benefits, different worker preferences can lead to varying outcomes. In Panel (a), workers place much less importance on wage rates, while Panel (b) shows that workers value both pecuniary and non-pecuniary aspects. In the former case, a shift in the reservation curve results in better non-pecuniary benefits without affecting wage rates, whereas in the latter case, it leads to improvements in both wage rates and non-pecuniary benefits. Thus, the empirical findings in this paper are possible given a specific shape of the job offer distribution, workers' preferences, or a combination of both.

6.4 Model Predictions

In the empirical analysis, I used self-reported job satisfaction and fringe benefits as proxies for the non-pecuniary benefits of a job. Although the non-pecuniary attributes in the theoretical model varies with hours worked, a higher parameter can be interpreted as an indication that workers experience higher satisfaction and, as a result, are more willing to work longer hours. Fringe benefits, such as health insurance, are often provided to employees who work full-time or exceed a certain number of hours. Therefore, job satisfaction and fringe benefits can serve as proxies for job characteristics that influence workers' willingness to engage in longer working hours.

In the model, a change in hours worked in the next job is driven by an increase in reservation non-pecuniary benefits, conditional on the wage rate. Figure 14 illustrates how the non-pecuniary benefits offer distribution would look, conditional on the wage rate. The truncated job offer distributions, represented by black and gray vertical lines, correspond to scenarios without (black) and with (gray) an increase in UI benefits.

Based on Figure 14, there are two predictions for how UI generosity would affect accepted non-pecuniary benefits:

1. More generous UI would make workers less likely to accept a job offer with the lowest level of non-pecuniary attributes, conditional on the wage rate.

An increase in UI benefits raises the reservation level, represented by the gray vertical line, compared to the level without the increase (black vertical line). As a result, the area between these two lines, which corresponds to previously acceptable offers with poorer non-pecuniary benefits, is no longer considered acceptable. This indicates that workers receiving higher UI benefits are significantly less likely to accept an offer where they would experience lower job satisfaction.

2. More generous UI benefits would improve the overall level of accepted non-pecuniary benefits, conditional on the wage rate.

On average, the accepted non-pecuniary attributes improve due to further truncation with an increase in benefits, represented by the black and gray dotted vertical lines. Both of these predictions are supported by the findings in Table 10 and Table 11. A longer maximum duration has the strongest impact on improving the lowest level of job satisfaction. While it does not increase overall job satisfaction, it does increase the probability of securing a job with better fringe benefits.

6.5 Why Does the Maximum Duration Have a Stronger Impact than the Replacement Rate?

In the data, both higher replacement rates and longer maximum duration increase the number of unemployed weeks, but only higher replacement rates increase nonemployed weeks (See Appendix C Table C4). This suggests that higher replacement rates are associated with a longer time out of the labor force, while longer maximum duration results in shorter periods out of the labor force.[63] This implies that displaced workers receiving more generous benefits through higher replacement rates may reduce their job search intensity, leading to a stronger moral hazard effect compared to those benefiting from extended maximum duration. These findings provide suggestive evidence for why the positive impact of UI generosity on post-displacement outcomes is not observed for replacement rates.

The stronger effect of maximum duration can also be explained within the model framework. In the model, both an extension of maximum duration and an increase in benefits level (or replacement rates) are converted into income increments at different points in time. As a result, both effects are expected to influence search intensity and the reservation curve in the same direction, but with varying magnitudes. Thus, the empirical findings of a stronger maximum duration effect and a weaker replacement rates effect do not contradict the model. In Appendix A, I further explore the case where the former has a stronger impact. Below, I provide a brief intuition for this result.

The scales of UI generosity measures used in the empirical analysis (a 13-week extension and a 6 percentage point increase in replacement rates) do not represent equivalent increments in UI benefits. To address this, I convert them into equivalent dollar amounts. In Appendix A, I demonstrate with the model framework that a dollar increment in benefits level (or replacement rates) has a stronger effect on search intensity and the reservation curve than an increase in maximum duration (converted to the same dollar increment) in the earlier periods. This suggests that when a worker receives benefits through higher replacement rates, they search less intensively and hold out for better job offers compared to a worker who receives the same

[63] This pattern is also observed in Appendix C Table C10.

amount through an increase in maximum duration.

However, when workers approach the point of benefit exhaustion, the maximum duration effect becomes stronger in these later periods. Since the model environment becomes stationary once UI benefits are exhausted, both the optimal search intensity and the reservation curve stabilize at a constant level thereafter. Therefore, the UI effect disappears earlier for workers with shorter maximum duration, while it persists longer for those with extended duration. This dynamic is illustrated in Figure 15. Panels (a) and (b) show the paths of optimal search intensity and shifts in the reservation curve with longer maximum duration and higher replacement rates. Both UI generosity measures have an effect in the same direction, but the impact is stronger for replacement rates in the earlier periods and weaker in the later periods. Consequently, the two curves intersect at a point denoted as $t^{'}$, which represents the time when the magnitudes of these two effects are reversed.

Thus, the shape of the optimal paths and shifts, along with the location of $t^{'}$, determine the overall magnitudes of the UI effects. This suggests that, while the present analysis finds a stronger effect for maximum duration, it is possible for replacement rates to have a stronger impact under different data, samples, and contexts.

6.6 Policy Implications

The back-of-the-envelope calculation in the previous section showed that, due to the long-term effect of maximum duration, the benefits are largely self-financed. In Appendix A, I further explore the policy implications by deriving the dynamic Baily-Chetty formula with the long-term UI effect on earnings, closely following the methods of Schmieder and Von Wachter (2016) and Le Barbanchon et al. (2024). A key distinction in my approach is that, instead of a lump sum tax, I incorporate a proportional UI tax and account for changes in earnings based on different levels of UI generosity.

In the framework of Schmieder and Von Wachter (2016) and Le Barbanchon et al. (2024), a marginal change in welfare due to more generous UI benefits consists of two parts: the social value of transferring money from the employed to the unemployed and the behavioral cost associated with the lengthened nonemployment duration. By incorporating the effect of UI on earnings, I demonstrate that, in addition to these two components, there is an additional benefit due to an increase in earnings, represented by the elasticity of earnings with respect to UI generosity.

Since the effect of replacement rates is small and statistically insignificant, the elasticity is close to zero. This implies that the first-order condition for the optimal level of replacement rates remains exactly the same as derived in previous literature. On the other hand, the elasticity for maximum duration is large and positive, indicating that the marginal welfare effects of a longer maximum duration are greater than previously derived in the literature. This suggests that the optimal maximum duration should also be longer.[64]

7 Conclusion

This paper demonstrates that the substantial earnings losses resulting from job displacement can be mitigated through a more generous UI policy, particularly with an extended maximum duration. A 13-week extension in maximum duration attenuates approximately 10-15% of earnings losses in the post-displacement period over 10 years. This reduction is primarily driven by an increase in labor supply, including more annual hours worked, additional weeks worked, and greater job attachment. These findings align with those of Schmieder et al. (2012b), who showed that a longer maximum duration is associated with a reduction in future nonemployment spells. A significant portion of the increase in labor supply with longer maximum duration is explained by improvements in non-pecuniary benefits offered in post-displacement jobs. These findings are consistent with a job search model that incorporates non-pecuniary attributes and the intensive margin of labor supply. The model suggests that either higher wage rate job offers are scarce in the market, workers place a stronger preference on non-pecuniary benefits over wage rates, or both.

This paper provides novel evidence of the long-term effects of UI on displaced workers. The

[64] It is important to note that this approach provides a method for calculating marginal welfare effects, specifically the effects of local changes around values observed in the data. As a result, it is not possible to precisely derive the optimal levels of benefit amounts and maximum duration (Chetty, 2008).

rich set of variables in the survey data enables a comprehensive investigation of the scarring effects on various outcomes, including earnings, wage rates, different labor supply measures, and non-pecuniary job attributes. Additionally, the extended job search model offers a framework to explain the empirical findings and introduces a modified dynamic Baily-Chetty formula that incorporates the earnings attenuation effects of a more generous UI policy.

The findings of this paper also underscore the importance of considering wage rates and labor supply separately when studying the effect of UI policy. Some previous studies, which found no significant UI effect on earnings, might have missed the opposite effects on wage rates and labor supply, which may have canceled each other out. Although the findings in this paper show that only labor supply is affected by the UI policy, the theoretical model indicates that other results are possible, UI effects on wage rates and hours could be either positive, negative, or in different directions, depending on the job offer distribution in the labor market and workers' preferences. Since these factors vary by time, country, and labor market conditions, different UI effects could also be observed.

The updated UI calculator used in the analysis can be applied to other datasets as well. It requires only several individual characteristics, such as state of residence, job separation year, pre-unemployment earnings, and a few more, making it adaptable to widely used surveys and administrative data. Additionally, most UI literature focuses either on changes in benefit levels or variations in maximum duration. The UI calculator allows researchers to explore both measures simultaneously, offering the opportunity to compare their effects. This can provide additional identification advantages, as seen in the identification of moral hazard and liquidity effects in Landais (2015) and Appendix A Proposition 1 of this paper.

Several avenues for future research remain. First, this paper primarily focuses on prime-aged male workers, but the effects of UI on displaced female workers could be significantly different. Given that female labor force participation is closely related to marriage and fertility decisions, these factors need to be carefully considered. Second, while most U.S. administrative data do not distinguish between wage rates and hours worked, Lachowska et al. (2020) uses Washington state administrative records to explore the scarring effect on both working hours and wage rates. Research using such datasets would provide more precise estimates. Finally, although this paper uses several variables to proxy non-pecuniary job attributes, the information remains limited, as is the case with most data sources. These non-pecuniary aspects, combined with wages, contribute to overall job quality, which could be a more accurate measure for studying job search behavior. Since job characteristics span multiple dimensions, developing indices that summarize key job attributes could help researchers better understand how individuals respond to policies following job displacement.

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Tables and Figures

Table 1: Sample Descriptive Characteristics by Replacement Rates

	RR < 50%		RR ≥ 50%		T-test Diff
	Mean	SD	Mean	SD	
1-3 Years before Displacement					
Earnings ($)	31,197	23,978	31,699	23,168	-502
Hourly Wage ($)	13.8	7.6	14.0	7.5	-0.2
Hours Worked	2,133	555	2,077	626	56*
Weeks Worked	47.7	7.0	46.5	8.1	1.3***
Age	31.2	8.2	31.4	8.9	-0.2
Education Years	12.4	2.3	12.6	2.2	-0.2
Married (=1)	0.50	0.48	0.41	0.47	0.1***
Race					
Hispanic	0.23	0.42	0.16	0.37	0.06***
Black	0.30	0.46	0.27	0.44	0.03
Non-Black, Non-Hispanic	0.47	0.50	0.57	0.50	-0.10***
Industry					
Agriculture, forestry, fisheries	0.03	0.14	0.02	0.13	0.00
Mining	0.01	0.11	0.03	0.14	-0.01
Construction	0.16	0.33	0.15	0.33	0.01
Manufacturing	0.28	0.41	0.26	0.40	0.01
Wholesale, retail trade	0.17	0.33	0.20	0.36	-0.02
Finance, insurance, real estate	0.03	0.17	0.03	0.17	0.00
Transportation, communication, public utilities	0.09	0.26	0.09	0.26	0.00
Business, repair services, personal services	0.10	0.26	0.10	0.26	0.00
Entertainment, recreation services	0.02	0.13	0.02	0.13	0.00
Professional and related services	0.07	0.24	0.06	0.22	0.01
Public administration	0.02	0.12	0.02	0.10	0.00
Number of Individuals / Observations	857 / 857		643 / 643		

Notes: Earnings and wage rates are adjusted to year 2000 CPI.

Table 2: Sample Descriptive Characteristics by Maximum Duration

	Dur ≤ 26 Weeks		Dur > 26 Weeks		T-test Diff
	Mean	SD	Mean	SD	
1-3 Years before Displacement					
Earnings ($)	31,155	23,956	31,938	22,956	-784
Hourly Wage ($)	13.5	7.3	14.7	7.8	-1.1***
Hours Worked	2,126	563	2,074	631	52
Weeks Worked	47.5	7.2	46.6	8.3	0.8*
Age	30.8	7.9	32.3	9.5	-1.6***
Education Years	12.4	2.3	12.6	2.2	-0.2
Married (=1)	0.45	0.47	0.49	0.48	-0.04
Race					
Hispanic	0.21	0.41	0.18	0.39	0.02
Black	0.29	0.45	0.28	0.45	0.01
Non-Black, Non-Hispanic	0.50	0.50	0.54	0.50	-0.04
Industry					
Agriculture, forestry, fisheries	0.02	0.13	0.03	0.15	-0.01
Mining	0.02	0.13	0.01	0.10	0.00
Construction	0.16	0.33	0.16	0.33	-0.00
Manufacturing	0.28	0.41	0.27	0.41	0.02
Wholesale, retail trade	0.19	0.39	0.18	0.38	0.01
Finance, insurance, real estate	0.04	0.19	0.03	0.18	0.00
Transportation, communication, public utilities	0.09	0.29	0.09	0.29	0.01
Business, repair services, personal services	0.10	0.30	0.10	0.30	0.00
Entertainment, recreation services	0.02	0.13	0.03	0.16	-0.01*
Professional and related services	0.06	0.23	0.09	0.29	-0.03**
Public administration	0.02	0.13	0.01	0.10	0.01*
Number of Individuals / Obs	1,007 / 1,007		493 / 493		

Notes: Earnings and wage rates are adjusted to year 2000 CPI.

Table 3: Sample Descriptive Characteristics by Displacement Status

	Ever-Displaced		Never-Displaced		T-test Diff
	Mean	SD	Mean	SD	
1-3 Years before Displacement					
Earnings ($)	31,412	23,627	36,953	28,026	-5,541***
Hourly Wage ($)	13.9	7.5	15.3	9.2	-1.4***
Hours Worked	2,109	587	2,168	755	-59***
Weeks Worked	47.2	7.6	47.9	10.0	-0.7***
Age	31.3	8.5	32.2	9.7	-0.9***
Education Years	12.5	2.3	13.3	2.5	-0.9***
Married (=1)	0.46	0.47	0.53	0.50	-0.06***
Race					
Hispanic	0.20	0.40	0.15	0.36	0.05***
Black	0.29	0.45	0.21	0.41	0.08***
Non-Black, Non-Hispanic	0.51	0.50	0.64	0.48	-0.13***
First Job Separation					
Replacement Rates	0.50	0.06	0.50	0.06	-0.00
Maximum Duration	33.7	15.6	31.8	11.6	1.9***
Industry					
Agriculture, forestry, fisheries	0.03	0.14	0.03	0.18	-0.01
Mining	0.02	0.12	0.01	0.09	0.01***
Construction	0.16	0.33	0.09	0.29	0.07***
Manufacturing	0.27	0.41	0.18	0.38	0.10***
Wholesale, retail trade	0.18	0.34	0.17	0.38	0.00
Finance, insurance, real estate	0.03	0.17	0.05	0.21	-0.01**
Transportation, communication, public utilities	0.09	0.26	0.10	0.30	-0.01*
Business, repair services, personal services	0.10	0.26	0.10	0.30	-0.00
Entertainment, recreation services	0.02	0.13	0.02	0.15	-0.00
Professional and related services	0.07	0.23	0.16	0.36	-0.08***
Public administration	0.02	0.11	0.08	0.27	-0.06***
Number of Individuals / Observations	1,500 / 1,500		1,981 / 25,954		

Notes: Earnings and wage rates are adjusted to year 2000 CPI.

Table 4: The Effect of UI Generosity on Log Earnings

	Dep: Log Earnings		
	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Past-term ($-3 \leq k \leq -1$)	-0.032*	0.010	0.004
	(0.018)	(0.020)	(0.020)
Short-term ($0 \leq k \leq 1$)	-0.311***	0.003	0.018
	(0.025)	(0.024)	(0.025)
Medium-term ($2 \leq k \leq 5$)	-0.236***	0.032	0.004
	(0.023)	(0.020)	(0.022)
Long-term ($6 \leq k \leq 10$)	-0.203***	0.059**	0.002
	(0.027)	(0.025)	(0.027)
11+ Years ($k \geq 11$)	-0.192***	0.041	-0.013
	(0.029)	(0.034)	(0.028)
Observations		52,314	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 5: The Effect of UI Generosity on Log Hourly Wage Rates and Log Hours Worked

	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Panel (a): Log Hourly Wage			
Past-term ($-3 \leq k \leq -1$)	-0.027**	0.004	0.002
	(0.010)	(0.010)	(0.011)
Short-term ($0 \leq k \leq 1$)	-0.082***	0.006	0.017
	(0.013)	(0.010)	(0.012)
Medium-term ($2 \leq k \leq 5$)	-0.141***	0.005	-0.010
	(0.014)	(0.011)	(0.014)
Long-term ($6 \leq k \leq 10$)	-0.126***	0.000	-0.011
	(0.016)	(0.015)	(0.015)
11+ Years ($k \geq 11$)	-0.141***	-0.004	0.001
	(0.019)	(0.021)	(0.018)
Observations		55,141	
Panel (b): Log Hours Worked			
Past-term ($-3 \leq k \leq -1$)	-0.023*	-0.001	-0.014
	(0.013)	(0.015)	(0.014)
Short-term ($0 \leq k \leq 1$)	-0.223***	0.003	-0.005
	(0.018)	(0.017)	(0.018)
Medium-term ($2 \leq k \leq 5$)	-0.103***	0.049***	-0.002
	(0.016)	(0.012)	(0.014)
Long-term ($6 \leq k \leq 10$)	-0.066***	0.044***	0.007
	(0.017)	(0.016)	(0.015)
11+ Years ($k \geq 11$)	-0.057***	0.024	0.009
	(0.019)	(0.022)	(0.017)
Observations		53,719	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 6: The Effect of UI Generosity on Hours and Weeks Worked

	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Panel (a): Hours Worked			
Past-term ($-3 \leq k \leq -1$)	-40.300**	19.789	-26.436
	(17.651)	(18.381)	(18.926)
Short-term ($0 \leq k \leq 1$)	-385.728***	-14.453	-15.590
	(24.277)	(23.761)	(24.741)
Medium-term ($2 \leq k \leq 5$)	-175.323***	67.629***	-22.292
	(23.148)	(18.849)	(22.423)
Long-term ($6 \leq k \leq 10$)	-131.394***	78.875***	-13.892
	(26.484)	(26.774)	(25.401)
11+ Years ($k \geq 11$)	-145.439***	51.452	3.044
	(30.434)	(37.223)	(28.557)
Observations		55,434	
Panel (b): Weeks Worked			
Past-term ($-3 \leq k \leq -1$)	-0.165	0.422	-0.446
	(0.291)	(0.313)	(0.320)
Short-term ($0 \leq k \leq 1$)	-7.504***	-0.342	-0.042
	(0.416)	(0.463)	(0.437)
Medium-term ($2 \leq k \leq 5$)	-2.933***	1.189***	-0.384
	(0.372)	(0.325)	(0.363)
Long-term ($6 \leq k \leq 10$)	-1.716***	1.485***	-0.013
	(0.405)	(0.437)	(0.394)
11+ Years ($k \geq 11$)	-1.866***	0.928*	0.346
	(0.456)	(0.535)	(0.419)
Observations		55,434	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 7: The Effect of UI Generosity on Full-time Employment Probability

	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Panel (a): Hours Worked ≥ 2,080 (Mean: 0.68)			
Past-term ($-3 \leq k \leq -1$)	-0.029**	0.005	-0.011
	(0.012)	(0.010)	(0.012)
Short-term ($0 \leq k \leq 1$)	-0.276***	0.016	0.001
	(0.014)	(0.012)	(0.014)
Medium-term ($2 \leq k \leq 5$)	-0.094***	0.046***	-0.014
	(0.013)	(0.011)	(0.013)
Long-term ($6 \leq k \leq 10$)	-0.054***	0.042***	-0.010
	(0.014)	(0.015)	(0.014)
11+ Years ($k \geq 11$)	-0.043***	0.036*	-0.004
	(0.016)	(0.018)	(0.015)
Observations		55,434	
Panel (b): Hours Worked ≥ 1,920 (Mean: 0.73)			
Past-term ($-3 \leq k \leq -1$)	-0.023**	0.007	-0.012
	(0.011)	(0.010)	(0.011)
Short-term ($0 \leq k \leq 1$)	-0.261***	0.003	-0.007
	(0.014)	(0.012)	(0.014)
Medium-term ($2 \leq k \leq 5$)	-0.092***	0.041***	-0.010
	(0.013)	(0.010)	(0.012)
Long-term ($6 \leq k \leq 10$)	-0.049***	0.045***	-0.012
	(0.014)	(0.013)	(0.013)
11+ Years ($k \geq 11$)	-0.045***	0.030	-0.008
	(0.016)	(0.018)	(0.014)
Observations		55,434	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 8: The Effect of UI Generosity on Employment Status

	(1)	(2)	(3)	(4)
	Employed	Displaced	Non-displaced	Not Employed
Mean	0.80	0.03	0.13	0.04
Panel (a): Losses from Displacement				
Past-term ($-3 \leq k \leq -1$)	0.034***	-0.004***	-0.023***	-0.007
	(0.009)	(0.002)	(0.007)	(0.004)
Short-term ($0 \leq k \leq 1$)	-0.457***	0.561***	-0.104***	-0.000
	(0.010)	(0.008)	(0.008)	(0.005)
Medium-term ($2 \leq k \leq 5$)	-0.091***	0.074***	0.007	0.010**
	(0.011)	(0.005)	(0.009)	(0.005)
Long-term ($6 \leq k \leq 10$)	-0.048***	0.048***	-0.011	0.011*
	(0.011)	(0.004)	(0.009)	(0.006)
11+ Years ($k \geq 11$)	-0.041***	0.036***	-0.008	0.013**
	(0.011)	(0.003)	(0.008)	(0.007)
Panel (b): Interaction with Maximum Duration				
Past-term ($-3 \leq k \leq -1$)	0.014*	0.002	-0.006	-0.010**
	(0.008)	(0.002)	(0.007)	(0.004)
Short-term ($0 \leq k \leq 1$)	-0.000	-0.000	0.003	-0.003
	(0.011)	(0.010)	(0.006)	(0.006)
Medium-term ($2 \leq k \leq 5$)	0.027***	-0.007	-0.013*	-0.007
	(0.010)	(0.005)	(0.007)	(0.005)
Long-term ($6 \leq k \leq 10$)	0.024*	0.002	-0.013	-0.013**
	(0.013)	(0.007)	(0.010)	(0.006)
11+ Years ($k \geq 11$)	0.017	-0.004	-0.008	-0.005
	(0.014)	(0.006)	(0.010)	(0.009)
Panel (c): Interaction with Replacement Rates				
Past-term ($-3 \leq k \leq -1$)	0.000	-0.003*	0.001	0.002
	(0.009)	(0.002)	(0.007)	(0.004)
Short-term ($0 \leq k \leq 1$)	0.011	-0.017**	0.001	0.006
	(0.011)	(0.009)	(0.007)	(0.006)
Medium-term ($2 \leq k \leq 5$)	0.003	0.001	-0.006	0.002
	(0.010)	(0.005)	(0.008)	(0.005)
Long-term ($6 \leq k \leq 10$)	0.017*	0.001	-0.011	-0.007
	(0.010)	(0.005)	(0.008)	(0.006)
11+ Years ($k \geq 11$)	0.009	-0.001	-0.006	-0.002
	(0.010)	(0.004)	(0.007)	(0.006)
Observations			55,434	

Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 9: The Magnitudes of the Losses from Displacement and the Effect of UI over 10 Years

	Earnings	Hourly Wage	Hours Worked	Weeks Worked
Panel (A): Post-displacement periods (0-10 years)				
Losses from displacement (average UI generosity)	-92,571***	-22.1***	-2,003***	-35.4***
	[-106,773, -78,369]	[-27.3, -16.9]	[-2,365, -1,642]	[-40.9, -29.8]
Losses for 13 weeks longer maximum duration	-82,485***	-20.5***	-1,683***	-29.0***
	[-103,118, -61,853]	[-27.7, -13.4]	[-2,241, -1,125]	[-37.2, -20.8]
Effect of 13 weeks longer maximum duration	10,086	1.5	320	6.3**
	[-2,671, 22,843]	[-2.9, 6.0]	[-71, 713]	[0.7, 12.0]
Losses for 6 percentage points higher replacement rates	-87,415***	-21.1***	-2,110***	-37.6***
	[-105,141, -69,689]	[-27.2, -14.9]	[-2,603, -1,617]	[-45.3, -29.9]
Effect of 6 percentage points higher replacement rates	5,156	1.0	-106	-2.3
	[-7,975, 18,286]	[-3.4, 5.4]	[-464, 251]	[-7.9, 3.4]
Panel (B): Post-displacement periods (2-10 years)				
Losses from displacement (average UI generosity)	-74,178***	-18.9***	-1,262***	-20.5***
	[-86,885, -61,471]	[-23.5, -14.3]	[-1,576, -947]	[-25.3, -15.7]
Losses for 13 weeks longer maximum duration	-62,694***	-17.2***	-848***	-12.2***
	[-80,956, -44,433]	[-23.6, -10.7]	[-1,346, -349]	[-19.6, -4.7]
Effect of 13 weeks longer maximum duration	11,483**	1.7	414**	8.4***
	[33, 22,934]	[-2.3, 5.7]	[44, 784]	[2.9, 13.8]
Losses for 6 percentage points higher replacement rates	-69,860***	-18.4***	-1,361***	-22.8***
	[-85,966, -53,754]	[-23.8, -13.0]	[-1,801, -921]	[-29.9, -15.7]
Effect of 6 percentage points higher replacement rates	4,318	0.5	-100	-2.3
	[-7,553, 16,188]	[-3.5, 4.5]	[-412, 212]	[-7.4, 2.8]

Notes: The bootstrapped standard errors, using 100 replications, are used to construct 95% confidence intervals.

Table 10: The Effect of UI Generosity on Job Satisfaction

	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Panel (a): Job Satisfaction (Mean: 0.77)			
Past-term ($-3 \leq k \leq -1$)	-0.010*	-0.004	-0.000
	(0.006)	(0.005)	(0.006)
Short-term ($0 \leq k \leq 1$)	-0.025***	-0.006	0.001
	(0.007)	(0.006)	(0.007)
Medium-term ($2 \leq k \leq 5$)	-0.012*	0.007	0.001
	(0.007)	(0.006)	(0.006)
Long-term ($6 \leq k \leq 10$)	-0.006	-0.006	-0.005
	(0.007)	(0.008)	(0.007)
11+ Years ($k \geq 11$)	-0.007	-0.023**	0.002
	(0.008)	(0.009)	(0.007)
Observations		54,523	
Panel (b): Dislike Very Much (=1) (Mean: 0.02)			
Past-term ($-3 \leq k \leq -1$)	0.005	-0.003	0.003
	(0.004)	(0.003)	(0.004)
Short-term ($0 \leq k \leq 1$)	0.016***	0.004	0.005
	(0.005)	(0.005)	(0.005)
Medium-term ($2 \leq k \leq 5$)	0.012***	-0.009***	0.003
	(0.004)	(0.003)	(0.004)
Long-term ($6 \leq k \leq 10$)	0.003	-0.003	-0.004
	(0.004)	(0.004)	(0.004)
11+ Years ($k \geq 11$)	0.001	0.005	-0.001
	(0.005)	(0.006)	(0.004)
Observations		54,523	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 11: The Effect of UI Generosity on Fringe Benefits

	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Panel (a): Health Insurance (Mean: 0.79)			
Past-term ($-3 \leq k \leq -1$)	-0.004	0.002	-0.002
	(0.011)	(0.009)	(0.011)
Short-term ($0 \leq k \leq 1$)	-0.060***	-0.000	0.011
	(0.014)	(0.011)	(0.013)
Medium-term ($2 \leq k \leq 5$)	-0.067***	0.027***	-0.003
	(0.014)	(0.010)	(0.013)
Long-term ($6 \leq k \leq 10$)	-0.046***	0.022	-0.030**
	(0.015)	(0.015)	(0.014)
11+ Years ($k \geq 11$)	-0.026	-0.013	-0.039**
	(0.017)	(0.022)	(0.015)
Observations		47,304	
Panel (b): Life Insurance (Mean: 0.67)			
Past-term ($-3 \leq k \leq -1$)	-0.017	-0.001	0.025*
	(0.013)	(0.011)	(0.013)
Short-term ($0 \leq k \leq 1$)	-0.084***	-0.001	0.013
	(0.015)	(0.013)	(0.015)
Medium-term ($2 \leq k \leq 5$)	-0.087***	0.018*	0.016
	(0.016)	(0.011)	(0.015)
Long-term ($6 \leq k \leq 10$)	-0.064***	0.017	0.004
	(0.017)	(0.017)	(0.016)
11+ Years ($k \geq 11$)	-0.029	-0.012	-0.017
	(0.019)	(0.023)	(0.018)
Observations		46,757	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table 12: Non-pecuniary Benefits Channel on Hours Worked

	(1)	(2)	(3)	(4)
	Hours Worked		Log Hours Worked	
Panel (a): Losses from Displacement				
Past-term ($-3 \leq k \leq -1$)	-35.711	-41.294*	-0.023	-0.024
	(24.917)	(24.588)	(0.017)	(0.017)
Short-term ($0 \leq k \leq 1$)	-368.832***	-360.068***	-0.187***	-0.173***
	(31.638)	(32.143)	(0.022)	(0.022)
Medium-term ($2 \leq k \leq 5$)	-154.286***	-133.531***	-0.073***	-0.059***
	(29.329)	(28.925)	(0.018)	(0.018)
Long-term ($6 \leq k \leq 10$)	-118.689***	-109.172***	-0.053***	-0.044**
	(31.824)	(31.602)	(0.019)	(0.019)
11+ Years ($k \geq 11$)	-132.888***	-135.503***	-0.033*	-0.025
	(34.860)	(35.037)	(0.020)	(0.020)
Panel (b): Interaction with Maximum Duration				
Past-term ($-3 \leq k \leq -1$)	12.221	14.267	-0.010	-0.009
	(19.148)	(19.113)	(0.014)	(0.014)
Short-term ($0 \leq k \leq 1$)	-15.257	-13.354	-0.009	-0.005
	(27.064)	(27.031)	(0.019)	(0.018)
Medium-term ($2 \leq k \leq 5$)	62.026***	50.936**	0.031***	0.025**
	(20.839)	(20.814)	(0.012)	(0.012)
Long-term ($6 \leq k \leq 10$)	71.769**	63.458**	0.032**	0.028*
	(29.219)	(29.288)	(0.015)	(0.016)
11+ Years ($k \geq 11$)	50.505	54.766	0.016	0.017
	(39.945)	(39.139)	(0.020)	(0.020)
Panel (c): Interaction with Replacement Rates				
Past-term ($-3 \leq k \leq -1$)	-3.262	-4.982	-0.007	-0.009
	(22.443)	(22.242)	(0.016)	(0.016)
Short-term ($0 \leq k \leq 1$)	5.101	5.558	0.002	0.002
	(29.390)	(29.389)	(0.020)	(0.020)
Medium-term ($2 \leq k \leq 5$)	-21.068	-22.330	-0.007	-0.008
	(26.335)	(26.258)	(0.015)	(0.015)
Long-term ($6 \leq k \leq 10$)	-1.880	6.589	0.010	0.015
	(28.340)	(28.124)	(0.015)	(0.014)
11+ Years ($k \geq 11$)	4.256	10.282	0.005	0.007
	(30.552)	(30.231)	(0.016)	(0.015)
Control Non-pecuniary Proxies	x	o	x	o
Observations	36,883		35,815	

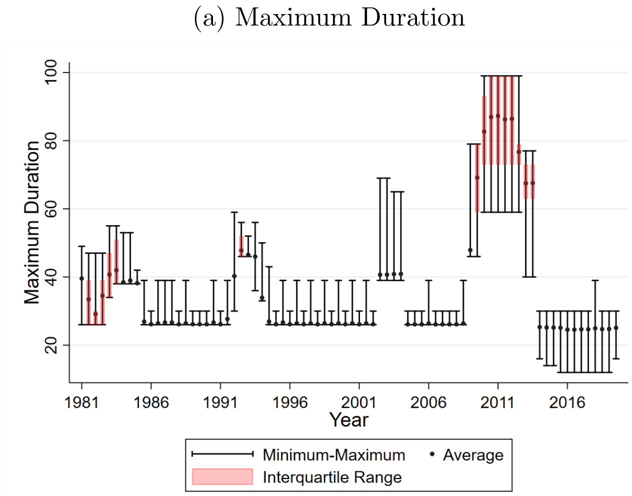
Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates. Non-pecuniary proxies, including binary variables for each job satisfaction category and the availability of health, life, dental insurance, and parental leave, are interacted with event dummies and controlled for.

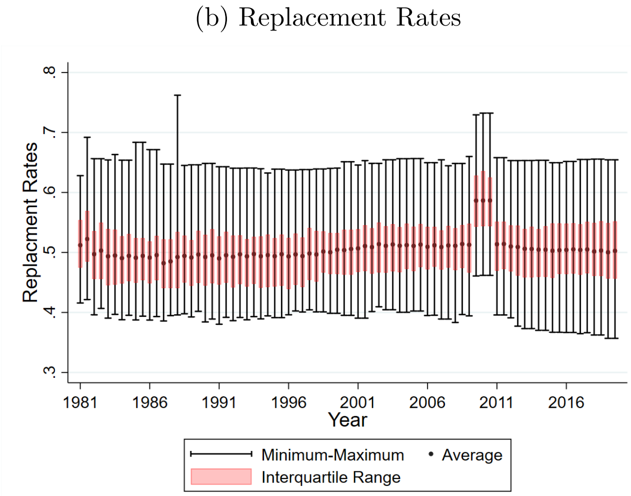
Table 13: Non-pecuniary Benefits Channel on Other Labor-related Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
	Weeks Worked	Weeks Worked	Employed (=1)	Employed (=1)	Log Hourly Wage	Log Hourly Wage
Panel (a): Losses from Displacement						
Past-term ($-3 \leq k \leq -1$)	-0.177	-0.300	0.036**	0.035**	-0.030**	-0.024*
	(0.377)	(0.370)	(0.014)	(0.014)	(0.015)	(0.014)
Short-term ($0 \leq k \leq 1$)	-7.465***	-7.350***	-0.453***	-0.447***	-0.081***	-0.069***
	(0.521)	(0.531)	(0.016)	(0.017)	(0.016)	(0.016)
Medium-term ($2 \leq k \leq 5$)	-2.805***	-2.367***	-0.073***	-0.056***	-0.140***	-0.125***
	(0.443)	(0.428)	(0.015)	(0.015)	(0.017)	(0.017)
Long-term ($6 \leq k \leq 10$)	-1.654***	-1.455***	-0.032**	-0.025*	-0.132***	-0.119***
	(0.470)	(0.463)	(0.016)	(0.015)	(0.019)	(0.018)
11+ Years ($k \geq 11$)	-2.114***	-2.130***	-0.026	-0.023	-0.159***	-0.157***
	(0.528)	(0.536)	(0.016)	(0.016)	(0.022)	(0.021)
Panel (b): Interaction with Maximum Duration						
Past-term ($-3 \leq k \leq -1$)	0.527	0.571*	0.016*	0.017*	0.005	0.005
	(0.328)	(0.325)	(0.009)	(0.009)	(0.010)	(0.010)
Short-term ($0 \leq k \leq 1$)	-0.174	-0.131	0.014	0.015	-0.001	0.001
	(0.532)	(0.533)	(0.014)	(0.014)	(0.012)	(0.011)
Medium-term ($2 \leq k \leq 5$)	1.277***	1.060***	0.022**	0.014	-0.003	-0.008
	(0.364)	(0.356)	(0.011)	(0.011)	(0.012)	(0.012)
Long-term ($6 \leq k \leq 10$)	1.386***	1.239***	0.016	0.011	-0.020	-0.025
	(0.470)	(0.467)	(0.015)	(0.015)	(0.016)	(0.015)
11+ Years ($k \geq 11$)	1.017*	1.105*	0.016	0.018	-0.032	-0.026
	(0.607)	(0.595)	(0.017)	(0.016)	(0.021)	(0.019)
Panel (c): Interaction with Replacement Rates						
Past-term ($-3 \leq k \leq -1$)	-0.155	-0.171	-0.005	-0.006	0.005	0.004
	(0.361)	(0.355)	(0.012)	(0.011)	(0.012)	(0.011)
Short-term ($0 \leq k \leq 1$)	0.361	0.350	0.020	0.021	0.023*	0.021*
	(0.516)	(0.518)	(0.015)	(0.015)	(0.013)	(0.013)
Medium-term ($2 \leq k \leq 5$)	-0.463	-0.526	0.006	0.003	0.025	0.023
	(0.406)	(0.401)	(0.013)	(0.012)	(0.015)	(0.015)
Long-term ($6 \leq k \leq 10$)	-0.066	0.044	0.014	0.017	0.020	0.025
	(0.433)	(0.425)	(0.013)	(0.013)	(0.016)	(0.015)
11+ Years ($k \geq 11$)	0.183	0.284	0.012	0.015	0.025	0.031*
	(0.454)	(0.444)	(0.013)	(0.012)	(0.018)	(0.017)
Control Non-pecuniary Proxies	x	o	x	o	x	o
Observations	36,883		36,883		36,734	

Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates. Non-pecuniary proxies, including binary variables for each job satisfaction category and the availability of health, life, dental insurance, and parental leave, are interacted with event dummies and controlled for.

Figure 1: UI Generosity Variations over Time





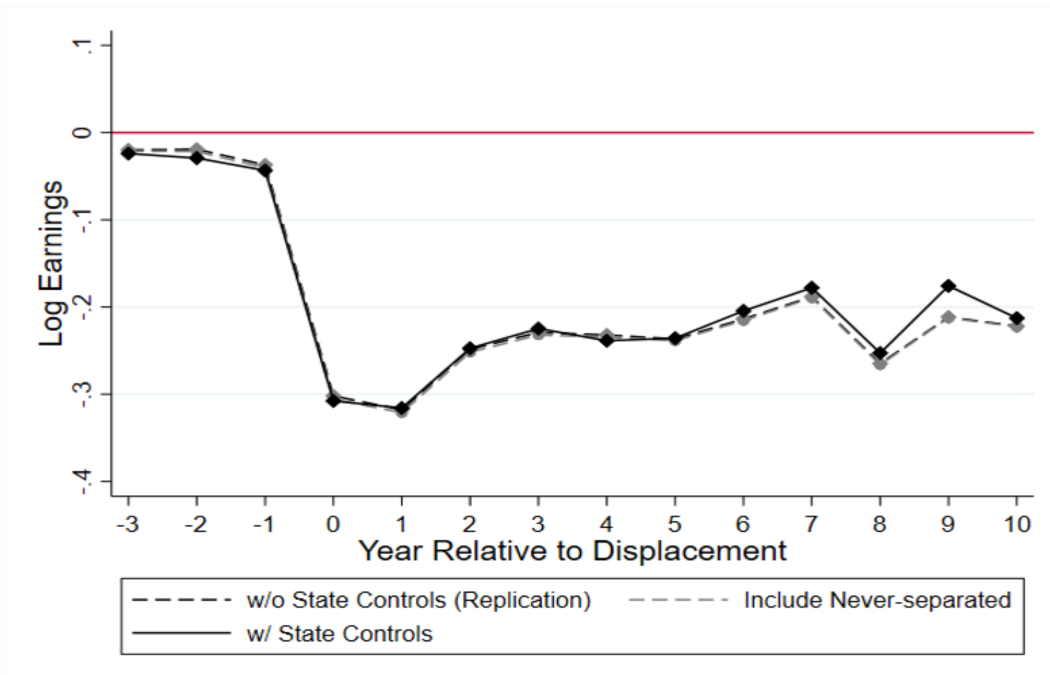
Notes: Panel (a) and (b) present semiannual UI legislation changes over time. Each plot shows the average, minimum and maximum value, and interquartile range of UI generosity. To construct these measures, each displaced worker in the sample is hypothetically aligned with the semiannual UI legislation for every state. I then calculate the average UI legislation for each state across each half-year. Due to the data provider's policy, measures in this figure are constructed without using state-of-residence information. However, the measures used in the main analysis account for the state of residence, using the population size of each state as weights to create UI generosity variables, which are then assigned to each individual's state of residence in the displacement year.

Figure 2: UI Generosity Variations within States

(a) Maximum Duration (b) Replacement Rates

Notes: Panel (a) and (b) present variations in UI generosity over the period 1981-2018 for each state. Each plot shows the average, minimum and maximum value, and interquartile range of UI generosity. To construct these measures, each displaced worker in the sample is hypothetically aligned with the semiannual UI legislation for every state. I then calculate the average UI legislation for each state across each half-year. Due to the data provider's policy, measures in this figure are constructed without using state-of-residence information. However, the measures used in the main analysis account for the state of residence, using the population size of each state as weights to create UI generosity variables, which are then assigned to each individual's state of residence in the displacement year.

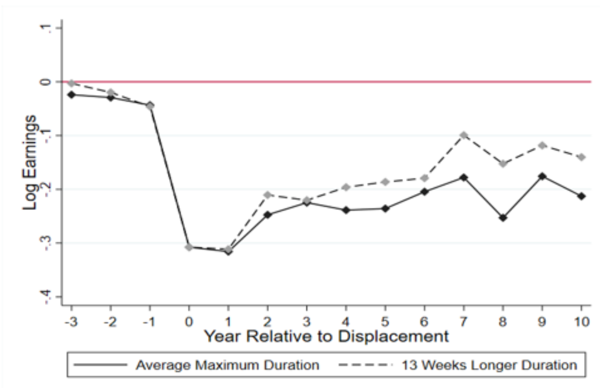
Figure 3: Earnings Path of Displaced Workers Relative to Control Group



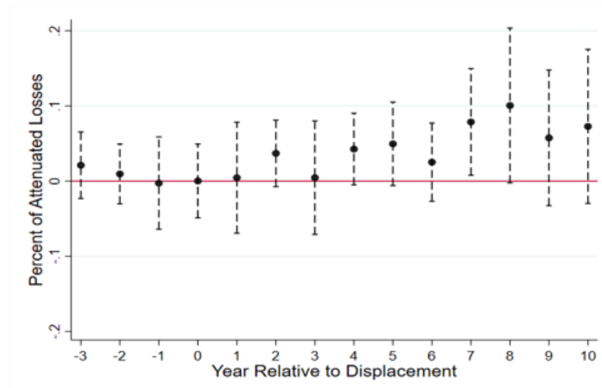
Notes: The figure illustrates the earnings trajectory of displaced workers in comparison to that of the control group. The black dashed and gray dashed lines represent δ^k in Equation 1, with the latter incorporating "Never-separated" workers. The black solid line presents δ^k in Equation 3.

Figure 4: The Effect of UI Generosity on Log Earnings Path of Displaced Workers

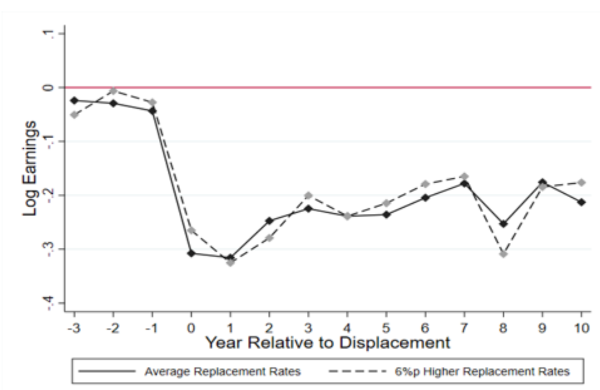
(a) Earnings Paths of Average and 13 Weeks Longer Maximum Duration



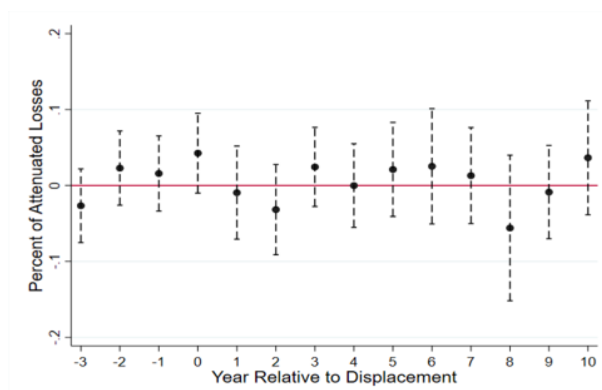
(b) Differences between Paths of 13 Weeks Longer and Average Maximum Duration



(c) Earnings Paths of Average and 6 p.p Higher Replacement Rates



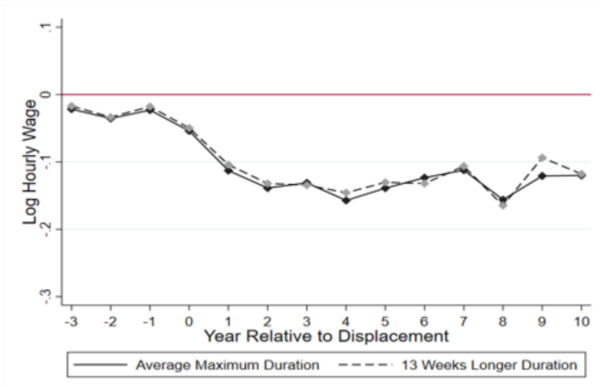
(d) Differences between Paths of 6 p.p Higher and Average Replacement Rates



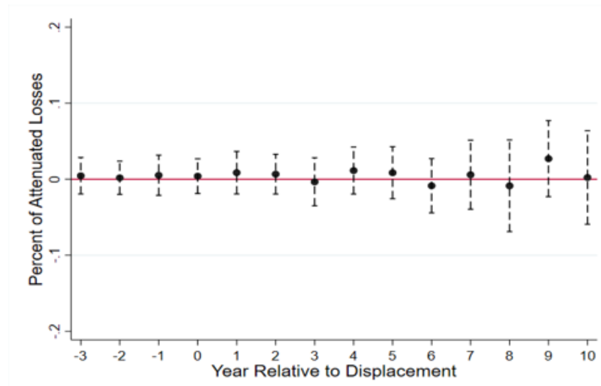
Notes: Panel (a) depicts the earnings paths of displaced workers with an average maximum duration and those with a 13-week longer duration. In Panel (b), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals. Likewise, Panel (c) depicts the earnings paths of displaced workers with an average replacement rates and those with a 6 percentage point higher rates. In Panel (d), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals.

Figure 5: The Effect of UI Generosity on Log Hourly Wage Path of Displaced Workers

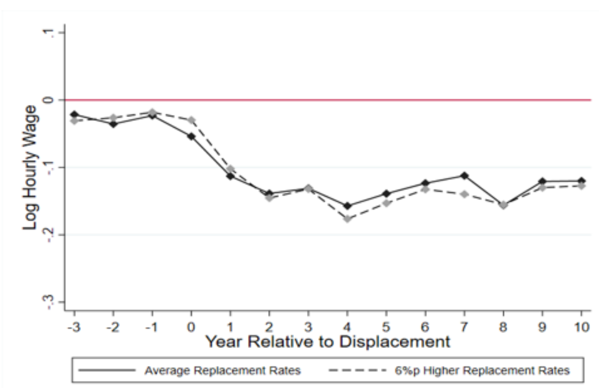
(a) Hourly Wage Paths of Average and 13 Weeks Longer Maximum Duration



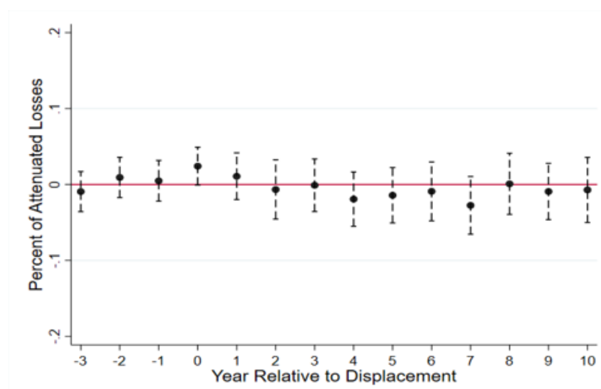
(b) Differences between Paths of 13 Weeks Longer and Average Maximum Duration



(c) Hourly Wage Paths of Average and 6 p.p Higher Replacement Rates



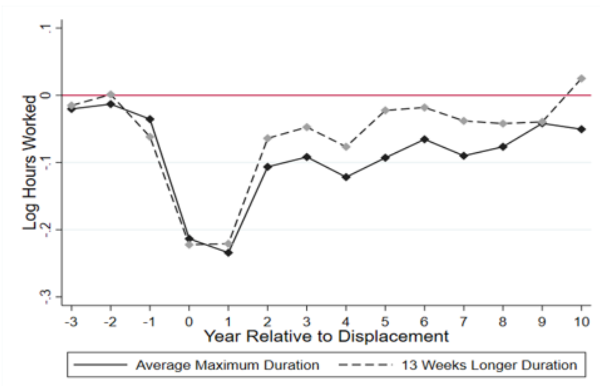
(d) Differences between Paths of 6 p.p Higher and Average Replacement Rates



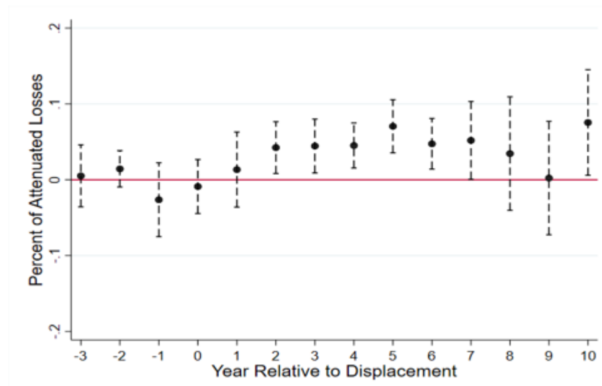
Notes: Panel (a) depicts the hourly wage paths of displaced workers with an average maximum duration and those with a 13-week longer duration. In Panel (b), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals. Likewise, Panel (c) depicts the hourly wage paths of displaced workers with an average replacement rates and those with a 6 percentage point higher rates. In Panel (d), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals.

Figure 6: The Effect of UI Generosity on Log Hours Worked Path of Displaced Workers

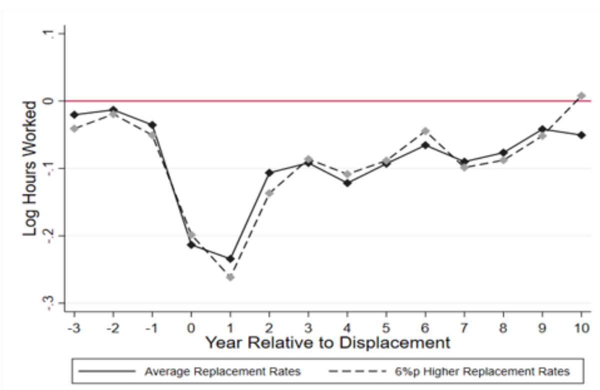
(a) Hours Worked Paths of Average and 13 Weeks Longer Maximum Duration



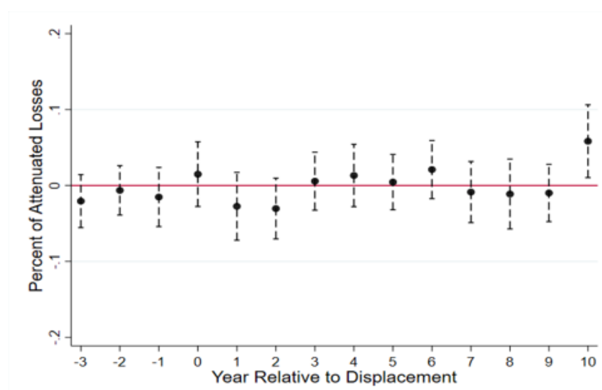
(b) Differences between Paths of 13 Weeks Longer and Average Maximum Duration



(c) Hours Worked Paths of Average and 6 p.p Higher Replacement Rates



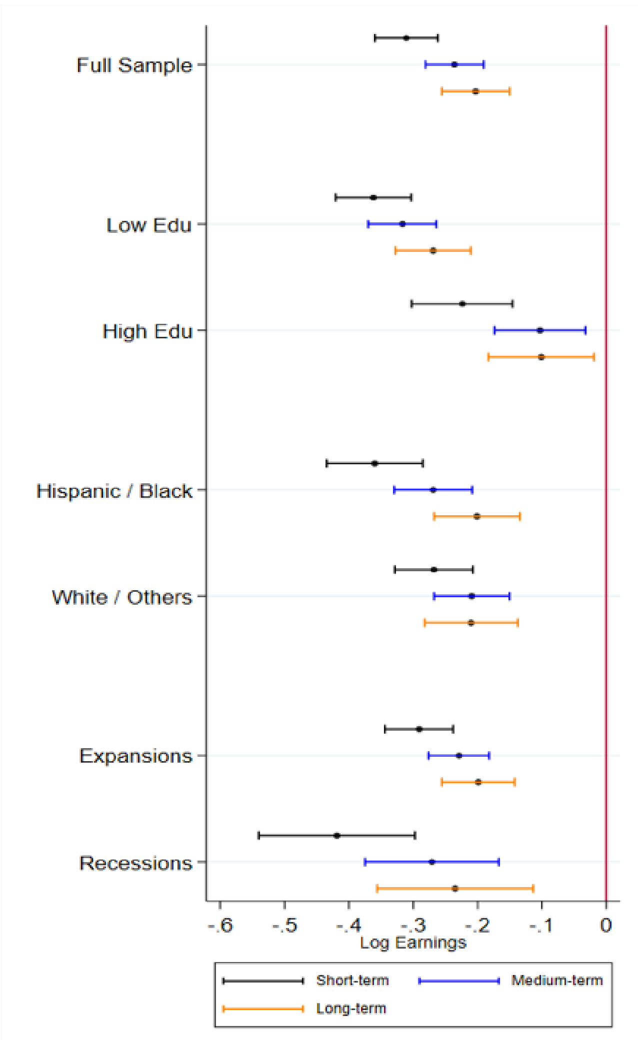
(d) Differences between Paths of 6 p.p Higher and Average Replacement Rates



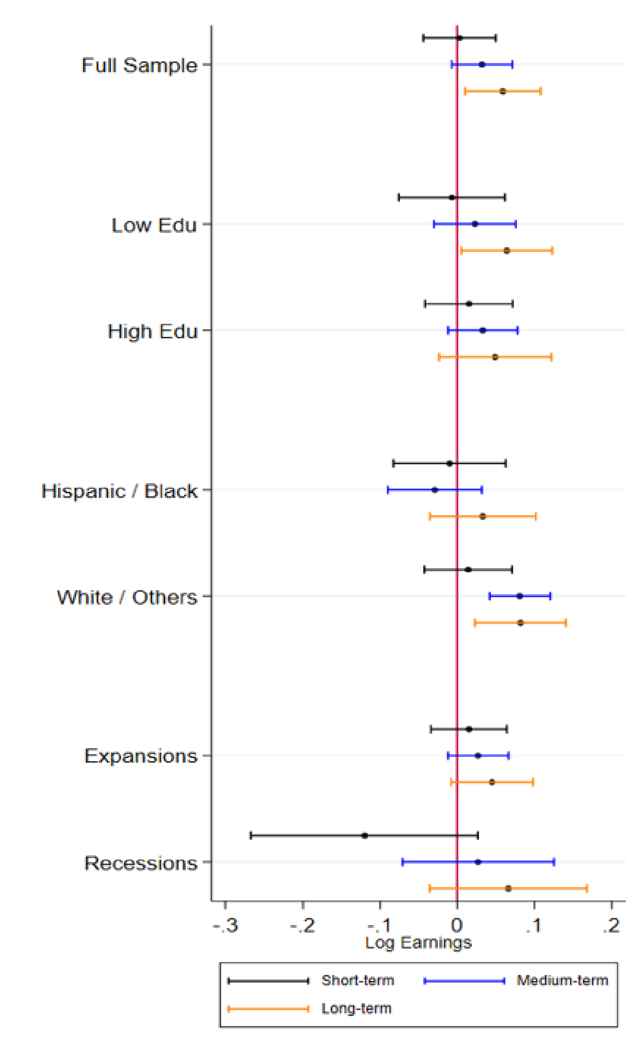
Notes: Panel (a) depicts the work hours paths of displaced workers with an average maximum duration and those with a 13-week longer duration. In Panel (b), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals. Likewise, Panel (c) depicts the work hours paths of displaced workers with an average replacement rates and those with a 6 percentage point higher rates. In Panel (d), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals.

Figure 7: Log Earnings Losses and the Maximum Duration Effect by Subgroups

(a) Estimated Earnings Losses

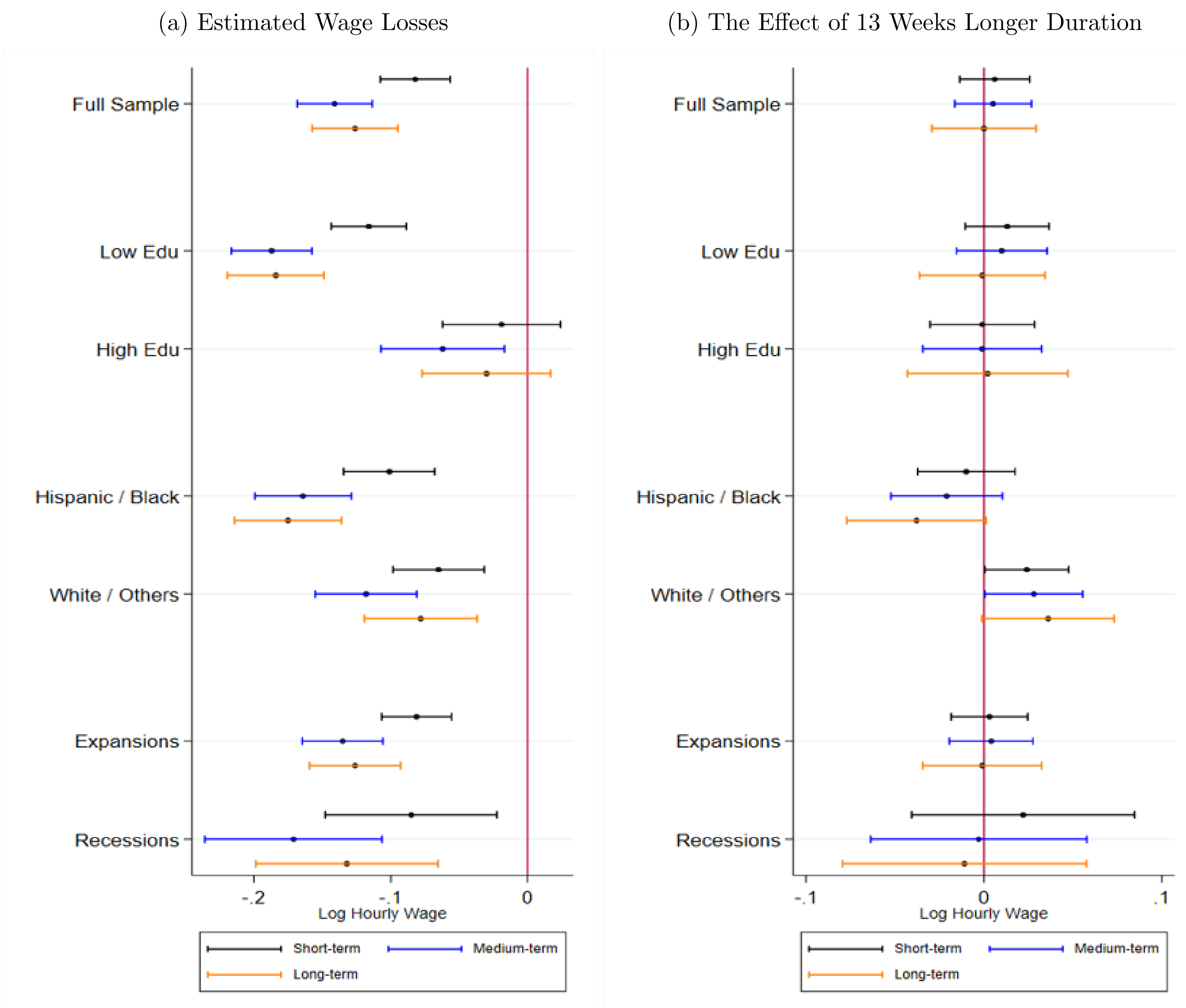


(b) The Effect of 13 Weeks Longer Duration



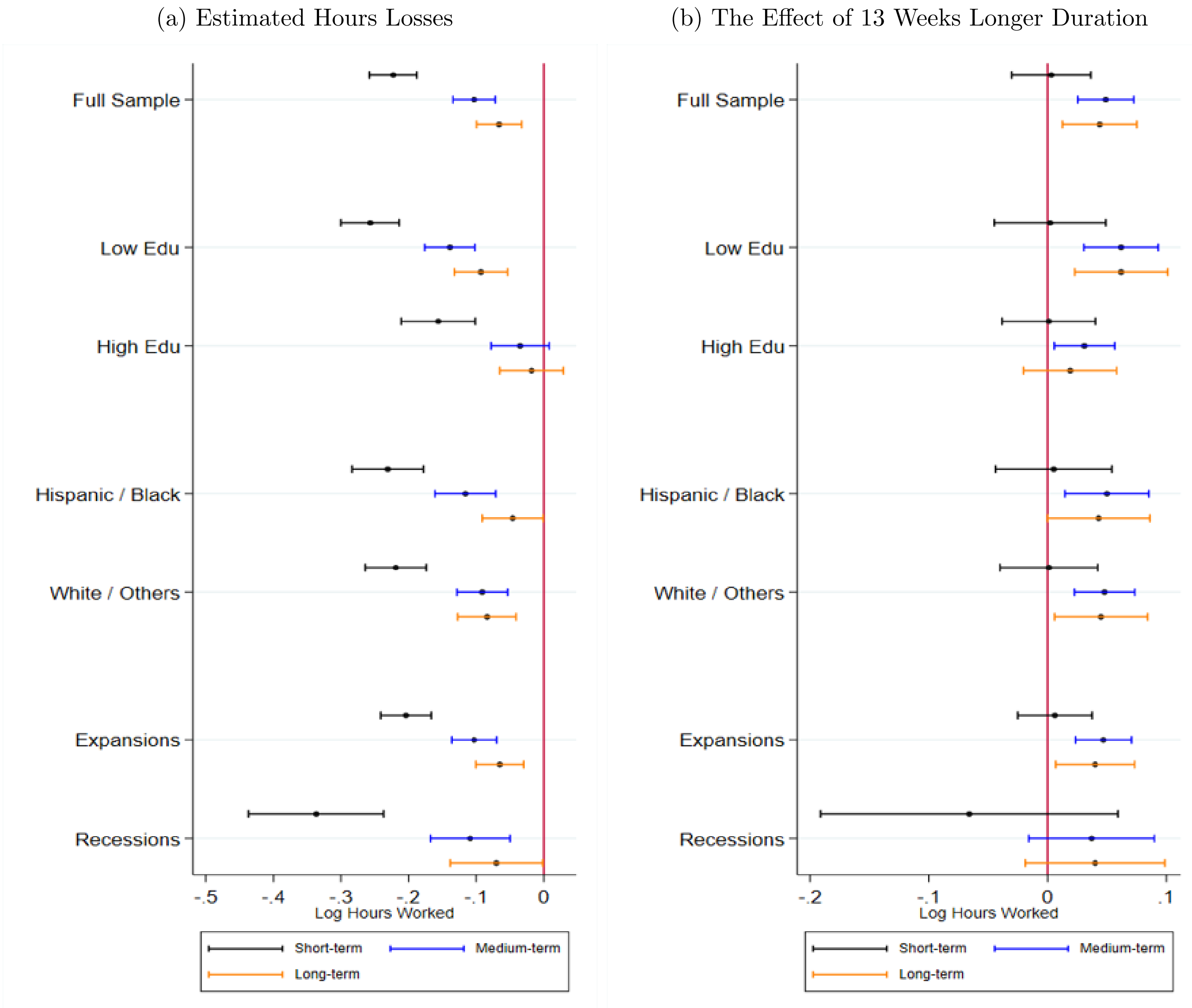
Notes: Panel (a) presents the estimated earnings losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 13-week longer maximum duration on earnings losses for these time periods by each subgroup.

Figure 8: Log Hourly Wage Losses and the Maximum Duration Effect by Subgroups



Notes: Panel (a) presents the estimated hourly wage losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 13-week longer maximum duration on hourly wage losses for these time periods by each subgroup.

Figure 9: Log Hours Losses and the Maximum Duration Effect by Subgroups



Notes: Panel (a) presents the estimated hours worked losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 13-week longer maximum duration on hours worked losses for these time periods by each subgroup.

Figure 10: Timing of the Model

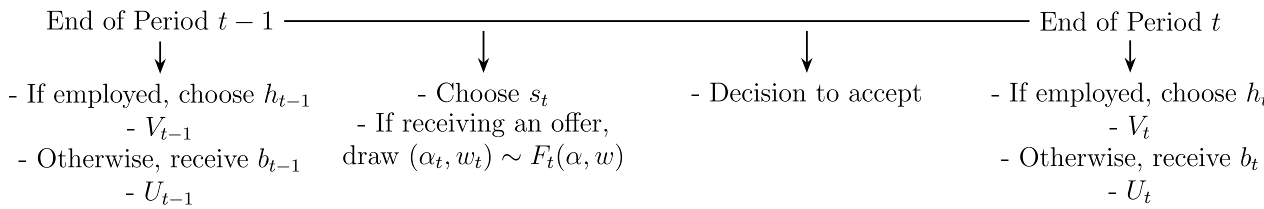
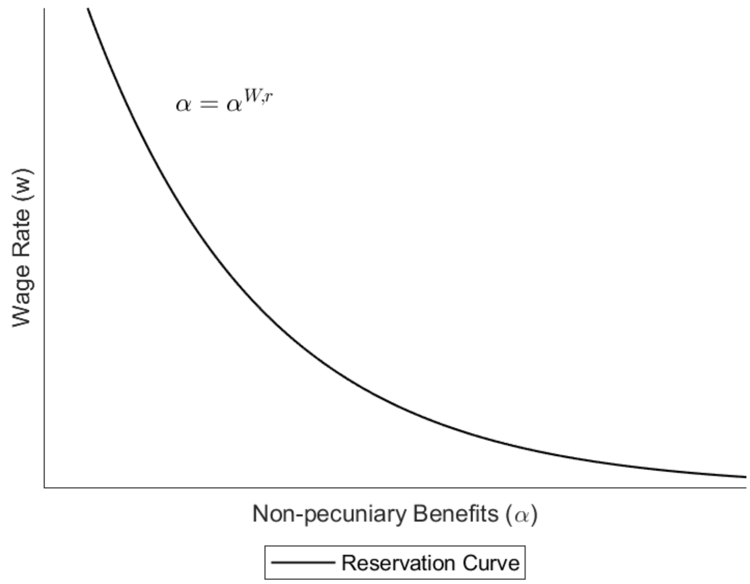
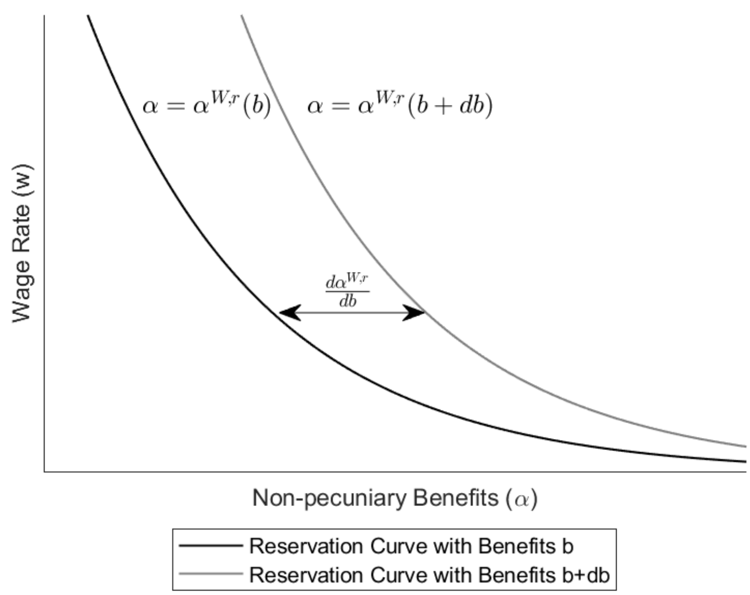


Figure 11: The Relationship between Reservation Non-pecuniary Benefits and Wage Rates

(a) Reservation Curve

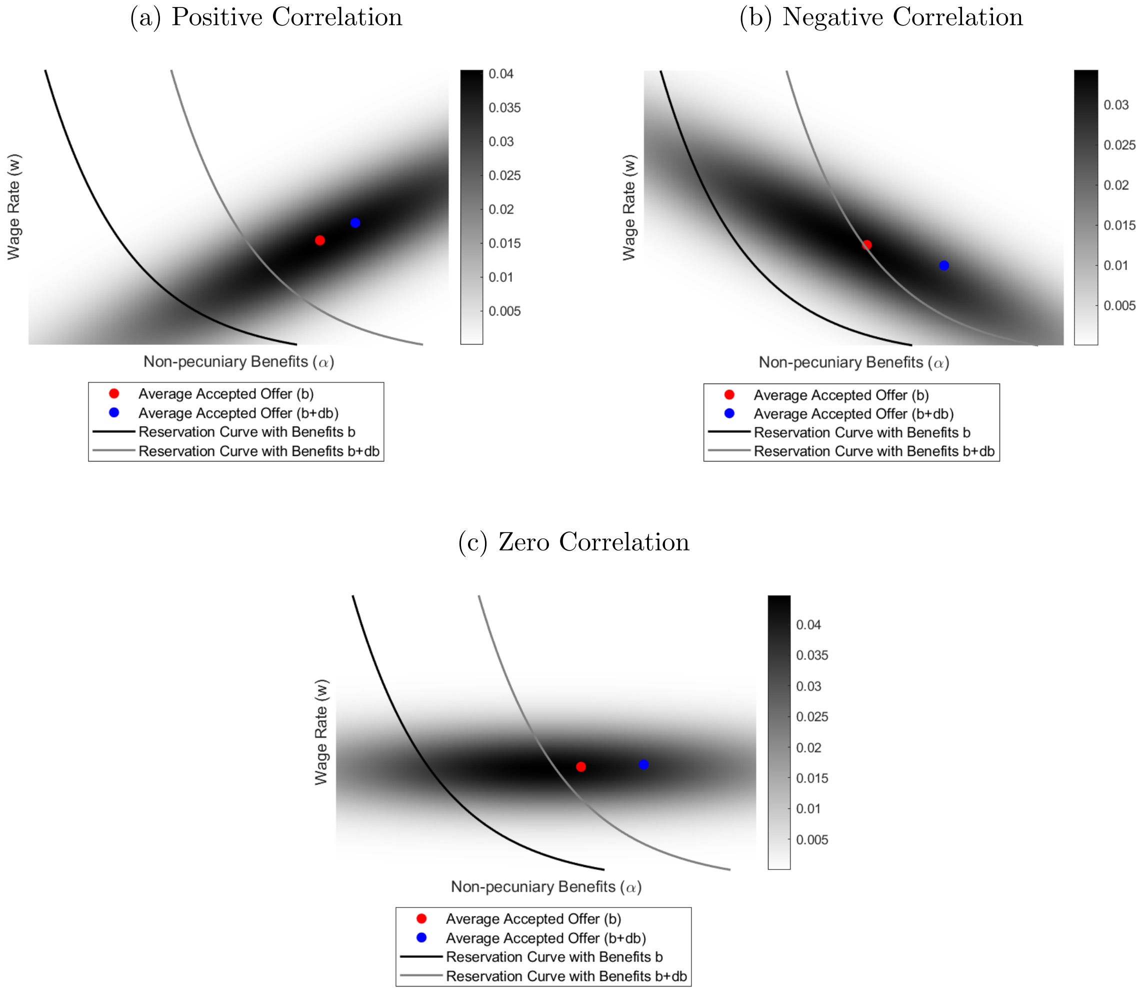


(b) Reservation Curve by UI Benefits



Notes: Panel (a) presents the reservation curve, representing the reservation utility level. Panel (b) illustrates a shift in the reservation curve resulting from a marginal change in UI benefits.

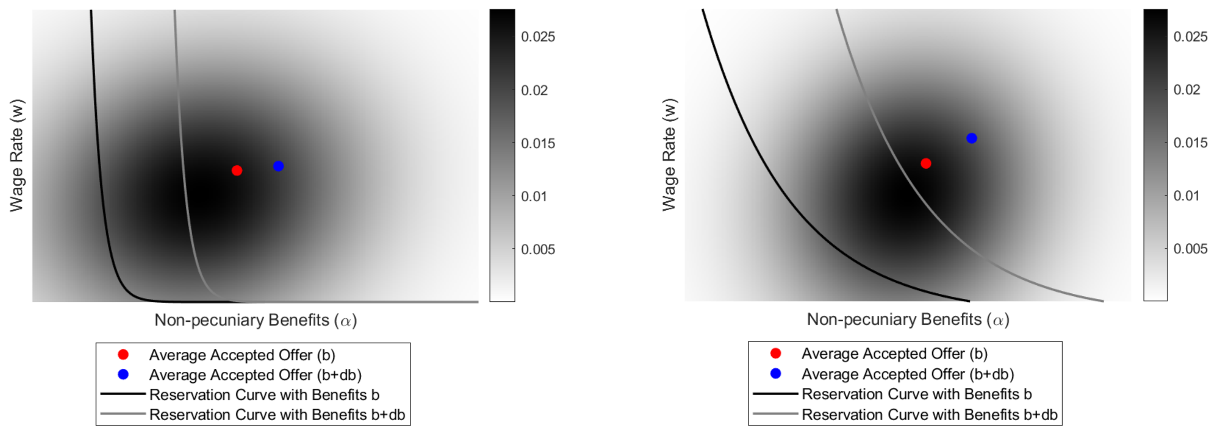
Figure 12: Hypothetical Job Offer Distribution and Reservation Curves



Notes: Panels (a), (b), and (c) illustrate the hypothetical distribution of job offers characterized by wage rates and non-pecuniary benefits parameters, along with the reservation curves shifted by UI benefits. In Panel (a), (b), and (c), the correlation between wage rates and non-pecuniary benefits parameters is 0.9, -0.9, and 0, respectively. Additionally, the variance of wage rates in Panel (c) is one-third that of Panels (a) and (b).

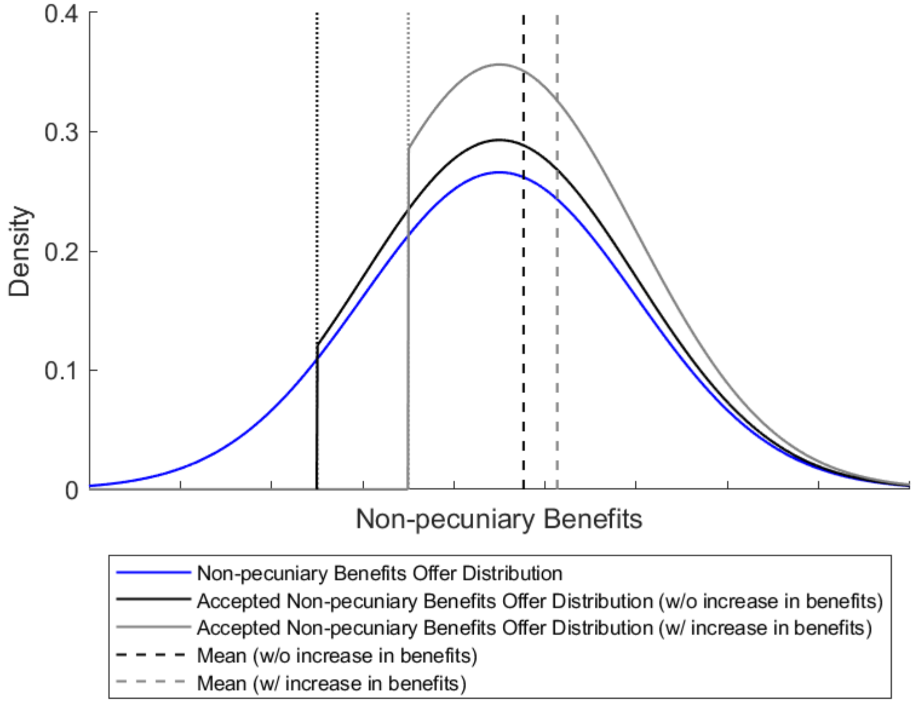
Figure 13: Hypothetical Job Offer Distribution and Reservation Curves

(a) Less Preferred Wage Rate | (b) More Preferred Wage Rate



Notes: Panels (a) and (b) illustrate the hypothetical distribution of job offers characterized by wage rates and non-pecuniary benefits parameters, along with the reservation curves shifted by UI benefits. Panel (a) depicts a worker who places less emphasis on wage rate compared to the worker's preference shown in Panel (b).

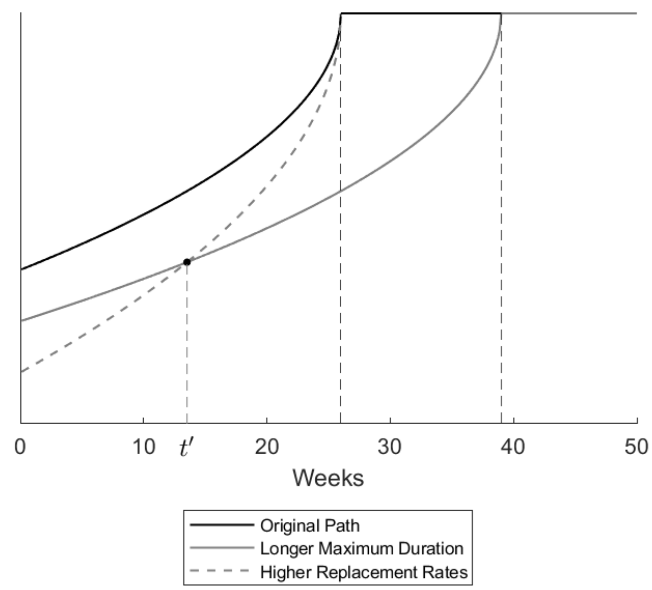
Figure 14: Non-pecuniary Benefits Offer Distributions Conditional on Wage Rates



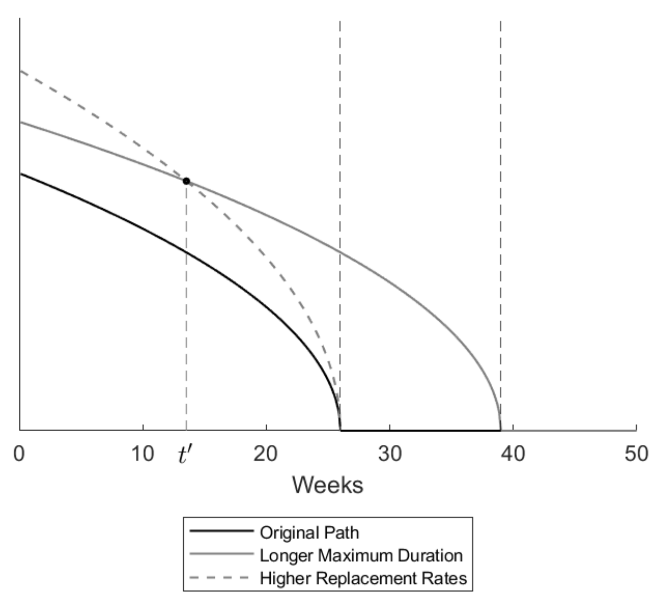
Notes: The distribution represented by the blue line shows the non-pecuniary offers available in the market. The black distribution illustrates the truncated distribution, based on the reservation non-pecuniary benefits level, without an increase in UI benefits. The gray distribution represents the same, but with an increase in UI benefits.

Figure 15: Hypothetical Search Intensity Paths and Reservation Curve Shifts

(a) Reductions in Search Intensity



(b) Shifts in Reservation Curve



Notes: Panels (a) and (b) illustrate the hypothetical paths of optimal search intensity and shifts in the reservation curve over a nonemployment spell. The black line represents the optimal paths without an increase in UI benefits. The gray solid line shows the paths with a longer maximum duration (39 weeks), while the gray dotted line represents the paths with higher replacement rates.

Appendix

A Theoretical Derivations

Given the wage rate w and non-pecuniary benefits α, the agent's optimal working hours h_t^w are determined by the condition $wu^{'}(wh_t^w) + \alpha = 0$. Since employment is an absorbing state, employed workers receive the same amount of utility discounted by β for the rest of the periods. Therefore, the utility can be expressed as $\sum_{k=t}^{\infty} \beta^{k-t}[u(wh_k^w) + \alpha h_k^w] = \frac{1}{1-\beta}[u(wh_t^w) + \alpha h_t^w]$, which is increasing in α. The optimal job acceptance decision is characterized by a reservation non-pecuniary benefits given the wage rate w, denoted as $\alpha_t^{w,r}$ and job offers with $\alpha_t \geq \alpha_t^{w,r}$ are accepted.[1]

Using the fact that acceptance and rejection decisions are indifferent at the reservation level, the Bellman equation for unemployed workers is written as follows:

$$
\begin{aligned}
U_{t-1} &= u(b_{t-1}) + \beta\Bigg[\max_{s_t}\big[-\psi(s_t) + (1-s_t)U_t \\
&+ s_t \int_w \Bigg[\int_\alpha \max_{Accept, Reject}\{\frac{1}{1-\beta}[u(wh_t^w) + \alpha h_t^w], U_t\} dF_t(\alpha|w)\Bigg] dF_t(w)\big]\Bigg] \\
&= u(b_{t-1}) + \beta\Bigg[\max_{s_t}\big[-\psi(s_t) + U_t \\
&+ s_t \int_w \Bigg[\int_{\alpha_t^{w,r}}^{\bar{\alpha}} \{\frac{1}{1-\beta}[u(wh_t^w) + \alpha h_t^w] - U_t\} dF_t(\alpha|w)\Bigg] dF_t(w)\big]\Bigg]
\end{aligned}
$$

A.1 Optimal Search Intensity

The optimal search intensity and its response to changes in benefits are determined by the following equation:

$$
\psi^{'}(s_t) = \int_w \Bigg[\int_{\alpha_t^{w,r}}^{\bar{\alpha}} \{\frac{1}{1-\beta}[u(wh_t^w) + \alpha h_t^w] - U_t\} dF_t(\alpha|w)\Bigg] dF_t(w)
$$

In the U.S. context, unemployment insurance (UI) benefits are provided for a fixed amount b and for a fixed period B. Optimal search intensity, therefore, is affected by increases in benefits when $t < B$. Note that

$$
\int_w \int_{\alpha_t^{w,r}}^{\bar{\alpha}} dF_t(\alpha, w) = P(\alpha_t \geq \alpha_t^{W,r}) = 1 - F_t(\alpha_t^{W,r})
$$

[1] Instead of considering the reservation non-pecuniary benefits given the wage rate w, it is equivalent to consider the reservation wage given the non-pecuniary benefits parameter α.

$$\begin{aligned}
\frac{\partial s_t}{\partial b_t} &= -(1-F_t(\alpha_t^{W,r}))u^{'}(b_t)\frac{1}{\psi''(s_t)} \\
\frac{\partial s_t}{\partial b_{t+1}} &= -\beta(1-F_t(\alpha_t^{W,r}))(1-s_{t+1}(1-F_{t+1}(\alpha_{t+1}^{W,r}))u^{'}(b_{t+1})\frac{1}{\psi''(s_t)} \\
&= -\beta(1-F_t(\alpha_t^{W,r}))(1-P_{t+1})u^{'}(b_{t+1})\frac{1}{\psi''(s_t)} \\
\frac{\partial s_t}{\partial b_{t+k}} &= -\beta^k(1-F_t(\alpha_t^{W,r}))(1-P_{t+1})\cdots(1-P_{t+k})u^{'}(b_{t+k})\frac{1}{\psi''(s_t)}
\end{aligned}$$

where $P_t = s_t(1-F_t(\alpha_t^{W,r}))$ is the exit hazard of nonemployment. The effect of more generous UI benefits on search intensity can be written as:

$$\begin{aligned}
\frac{\partial s_t}{\partial b} &= \sum_{k=0}^{B-1}\frac{\partial s_t}{\partial b_k} < 0 \\
\frac{\partial s_t}{\partial B} &\approx b\frac{\partial s_t}{\partial b_B} < 0
\end{aligned}$$

where $\frac{\partial s_t}{\partial b_k} = 0$ if $k < t$. Therefore, the more generous UI benefits lead to a decrease in search intensity (or the probability of receiving a job offer).

A.2 Reservation Non-pecuniary Benefits

Denote h_t^w as the optimal working hours given w_t, and let $h_t^{w,r}$ be the optimal working hours given w_t at the reservation non-pecuniary benefits level. At the reservation level $\alpha_t^{w,r}$ given w_t,

$$\int_w \frac{1}{1-\beta}[u(wh_t^w) + \alpha_t^{w,r}h_t^w]f_t(\alpha_t^{w,r})dF_t(w|\alpha_t^{w,r}) = \int_w U_t dF_t(w)$$

Since $w_t u^{'}(w_t h_t^{w,r}) + \alpha_t^{w,r} = 0$, differentiating both sides with respect to b_t leads to

$$\begin{aligned}
&\int_w \frac{1}{1-\beta}\frac{\partial \alpha_t^{w,r}}{\partial b_t}\left[\frac{\partial h_t^w}{\partial \alpha_t^{w,r}} w u^{'}(w_t h_t^r) + h_t^w + \alpha_t^{w,r}\frac{\partial h_t^w}{\partial \alpha_t^{w,r}}\right] f_t(\alpha_t^{w,r})dF_t(w|\alpha_t^{w,r}) = u^{'}(b_t) \\
&\int_w \frac{1}{1-\beta}\frac{\partial \alpha_t^{w,r}}{\partial b_t} h_t^w f_t(\alpha_t^{w,r})dF_t(w|\alpha_t^{w,r}) = u^{'}(b_t) \\
&E_w[\frac{\partial \alpha_t^{w,r}}{\partial b_t} h_t^w f_t(\alpha_t^{w,r})|\alpha_t = \alpha_t^{W,r}] = (1-\beta)u^{'}(b_t) \\
&\frac{\partial \alpha_t^{W,r}}{\partial b_t} = (1-\beta)\frac{u^{'}(b_t)}{f_t(\alpha_t^{W,r})E[h_t^w|\alpha_t = \alpha_t^{W,r}]}
\end{aligned}$$

Similarly,

$$\frac{\partial \alpha_t^{W,r}}{\partial b_{t+k}} = (1-\beta)(1-P_{t+1})\cdots(1-P_{t+k})\frac{\beta^k u^{'}(b_{t+k})}{f_t(\alpha_t^{W,r})E_w[h_t^w|\alpha_t = \alpha_t^{W,r}]}$$

The average effect of more generous UI benefits on reservation curve can be written as:

$$\frac{\partial \alpha_t^{W,r}}{\partial b} = \sum_{k=0}^{B-1} \frac{\partial \alpha_t^{W,r}}{\partial b_k} > 0$$
$$\frac{\partial \alpha_t^{W,r}}{\partial B} \approx b \frac{\partial \alpha_t^{W,r}}{\partial b_B} > 0$$

where $\frac{\partial \alpha_t^{w,r}}{\partial b_k} = 0$ if $k < t$. Therefore, the more generous UI benefits lead to an increase in reservation non-pecuniary benefits (or a job with higher utility) over the support of W.

A.3 Hazard Rate

The exit hazard of unemployment in period t is written as:

$$P_t = s_t(1 - F_t(\alpha_t^{W,r})) = s_t \int_w \int_{\alpha_t^{w,r}}^{\bar{\alpha}} dF_t(\alpha, w) \tag{A1}$$

The effect of UI generosity on the exit hazard at each period is

$$\begin{aligned} \frac{\partial P_t}{\partial b_{t+k}} &= \frac{\partial s_t}{\partial b_{t+k}}(1 - F_t(\alpha_t^{W,r})) - s_t \int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \\ &= \frac{\partial s_t}{\partial b_{t+k}}(1 - F_t(\alpha_t^{W,r})) - s_t E[\frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r}) | \alpha_t = \alpha_t^{W,r}] \end{aligned}$$

$$\therefore \frac{\partial P_t}{\partial b_{t+k}} = \underbrace{\frac{\partial s_t}{\partial b_{t+k}}}_{<0}(1 - F_t(\alpha_t^{W,r})) + s_t \underbrace{(-\frac{\partial \alpha_t^{W,r}}{\partial b_{t+k}})}_{<0} f_t(\alpha_t^{W,r}) \tag{A2}$$

Thus, an increase in unemployment insurance benefits leads to a decrease in the exit hazard of nonemployment. This occurs through two mechanisms: a reduction in job search intensity and a rightward shift in reservation curve, both of which lower the job finding rate. The effect of UI generosity on the exit hazard is written as follows:

$$\frac{\partial P_t}{\partial b} = \sum_{k=0}^{B-1} \frac{\partial P_t}{\partial b_k} < 0$$
$$\frac{\partial P_t}{\partial B} \approx b \frac{\partial P_t}{\partial b_B} < 0$$

where $\frac{\partial P_t}{\partial b_k} = 0$ if $k < t$.

A.4 Accepted Hours of Work

The accepted hours of work for the next job conditional on nonemployment duration t are

$$h_t^e = E_w[h_t^w|\alpha_t \geq \alpha_t^{W,r}] = \frac{\int_w \int_{\alpha_t^{w,r}}^{\bar{\alpha}} h_t^w dF_t(\alpha|w)dF_t(w)}{1 - F_t(\alpha_t^{W,r})} \tag{A3}$$

The effect of UI generosity at each period is

$$\begin{aligned}
\frac{\partial h_t^e}{\partial b_{t+k}} =& \Bigg[(1 - F_t(\alpha_t^{W,r})) \int_w -\frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} h_t^w f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \\
&+ (1 - F_t(\alpha_t^{W,r}))h_t^e \int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r})\Bigg] / (1 - F_t(\alpha_t^{W,r}))^2 \\
&= -\int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} h_t^w f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \frac{1}{1 - F_t(\alpha_t^{W,r})} + \int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \frac{h_t^e}{1 - F_t(\alpha_t^{W,r})} \\
&= \Bigg[-E_w[h_t^w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r})|\alpha_t = \alpha_t^{W,r}] + E_w[h_t^w|\alpha_t \geq \alpha_t^{W,r}] E_w[\frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r})|\alpha_t = \alpha_t^{W,r}]\Bigg] \frac{1}{1 - F_t(\alpha_t^{W,r})} \\
&= \frac{\partial \alpha_t^{W,r}}{\partial b_{t+k}} f_t(\alpha_t^{W,r}) \Bigg[E_w[h_t^w|\alpha_t \geq \alpha_t^{W,r}] - E_w[h_t^w|\alpha_t = \alpha_t^{W,r}]\Bigg] \frac{1}{1 - F_t(\alpha_t^{W,r})}
\end{aligned}$$

$$\therefore \frac{\partial h_t^e}{\partial b_{t+k}} = \underbrace{\frac{\partial \alpha_t^{W,r}}{\partial b_{t+k}}}_{>0} f_t(\alpha_t^{W,r}) \Bigg[E_w[h_t^w|\alpha_t \geq \alpha_t^{W,r}] - E_w[h_t^w|\alpha_t = \alpha_t^{W,r}]\Bigg] \frac{1}{1 - F_t(\alpha_t^{W,r})} \tag{A4}$$

The effect of UI generosity on the accepted hours of work conditional on nonemployment duration t is

$$\begin{aligned}
\frac{\partial h_t^e}{\partial b} &= \sum_{k=0}^{B-1} \frac{\partial h_t^e}{\partial b_k} \\
\frac{\partial h_t^e}{\partial B} &\approx b \frac{\partial h_t^e}{\partial b_B}
\end{aligned}$$

where $\frac{\partial h_t^e}{\partial b_k} = 0$ if $k < t$. Therefore, more generous UI benefits have an ambiguous effect on the accepted hours of work. The direction depends on the shape of the joint distribution of α and w as well as a worker's utility function.

A.5 Accepted Wage Rates

The accepted wage rates for the next job conditional on nonemployment duration t are

$$w_t^e = E_w[w_t^\alpha|\alpha_t \geq \alpha_t^{W,r}] = \frac{\int_w \int_{\alpha_t^{w,r}}^{\bar{\alpha}} w^\alpha dF_t(\alpha|w)dF_t(w)}{1 - F_t(\alpha_t^{W,r})} \tag{A5}$$

The effect of UI generosity at each period is

$$
\begin{aligned}
\frac{\partial w_t^e}{\partial b_{t+k}} =& \Bigg[(1-F_t(\alpha_t^{W,r}))\int_w -\frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} w_t^{\alpha} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \\
&+ (1-F_t(\alpha_t^{W,r}))w_t^e \int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r})\Bigg] / (1-F_t(\alpha_t^{W,r}))^2 \\
=& -\int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} w_t^{\alpha} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \frac{1}{1-F_t(\alpha_t^{W,r})} + \int_w \frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r}) dF_t(w|\alpha_t^{w,r}) \frac{w_t^e}{1-F_t(\alpha_t^{W,r})} \\
=& \Bigg[-E_w[w_t^{\alpha}\frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r})|\alpha_t = \alpha_t^{W,r}] + E_w[w_t^{\alpha}|\alpha_t \geq \alpha_t^{W,r}] E_w[\frac{\partial \alpha_t^{w,r}}{\partial b_{t+k}} f_t(\alpha_t^{w,r})|\alpha_t = \alpha_t^{W,r}]\Bigg] \frac{1}{1-F_t(\alpha_t^{W,r})} \\
=& \frac{\partial \alpha_t^{W,r}}{\partial b_{t+k}} f_t(\alpha_t^{W,r}) \Bigg[E_w[w_t^{\alpha}|\alpha_t \geq \alpha_t^{W,r}] - E_w[w_t^{\alpha}|\alpha_t = \alpha_t^{W,r}]\Bigg] \frac{1}{1-F_t(\alpha_t^{W,r})}
\end{aligned}
$$

$$
\therefore \frac{\partial w_t^e}{\partial b_{t+k}} = \underbrace{\frac{\partial \alpha_t^{W,r}}{\partial b_{t+k}}}_{>0} f_t(\alpha_t^{W,r}) \Bigg[E_w[w_t^{\alpha}|\alpha_t \geq \alpha_t^{W,r}] - E_w[w_t^{\alpha}|\alpha_t = \alpha_t^{W,r}]\Bigg] \frac{1}{1-F_t(\alpha_t^{W,r})} \tag{A6}
$$

The effect of UI generosity on the accepted wage rates conditional on nonemployment duration t is

$$
\begin{aligned}
\frac{\partial w_t^e}{\partial b} &= \sum_{k=0}^{B-1} \frac{\partial w_t^e}{\partial b_k} \\
\frac{\partial w_t^e}{\partial B} &\approx b \frac{\partial w_t^e}{\partial b_B}
\end{aligned}
$$

where $\frac{\partial w_t^e}{\partial b_k} = 0$ if $k < t$. Similar with accepted hours of work, more generous UI benefits have an ambiguous effect on the accepted wage rates and the direction depends on the shape of the joint distribution of α and w as well as a worker's utility function.

A.6 Decomposition Analysis

A.6.1 Theoretical Derivation

Following the method of Schmieder et al. (2016), I decompose the effect of UI and estimate each compononet. In empirical implementation, the effect of changes in UI benefit levels and maximum duration on $y_t \in \{h_t^e, w_t^e\}$ can be written as follows:

$$
\begin{aligned}
\frac{\partial y_t}{\partial b} &= \sum_{k=0}^{B-1} \frac{\partial y_t}{\partial b_k} \\
\frac{\partial y_t}{\partial B} &\approx b \frac{\partial y_t}{\partial b_B}
\end{aligned}
$$

Note that the replacement rate is defined as $R = \frac{b}{w_{pre}}$, with w_{pre} representing the pre-displacement wage level. Since $\partial R = \frac{\partial b}{w_{pre}}$, utilizing changes in replacement rates instead of changes in benefit levels does not alter any of the theoretical predictions. To maintain consistency throughout the empirical analysis, I will henceforth use replacement rates instead of benefit levels.

Suppose h_t^e and w_t^e are linear functions of nonemployment duration t, given by $h_t^e = E[h_t^w|\alpha_t \geq \alpha_t^{W,r}] = \xi^h + \frac{\partial h_t^e}{\partial t}t$ and $w_t^e = E[w_t^\alpha|\alpha_t \geq \alpha_t^{W,r}] = \xi^w + \frac{\partial h_t^e}{\partial t}t$. Note that h_t^e and w_t^e are functions of UI benefits, $h_t^e = h_t^e(b, B)$ and $w_t^e = w_t^e(b, B)$.

The expected post-displacement working hours and wage rates can be expressed as:

$$E[h_t^e(b, B)] = \sum_{t=0}^{\infty} h_t^e(b, B)p(t) \tag{A7}$$

$$E[w_t^e(b, B)] = \sum_{t=0}^{\infty} w_t^e(b, B)p(t) \tag{A8}$$

where $p(t)$ is a probability mass function of nonemployment duration. Define $S_k^t = \prod_{i=k}^{t}(1-P_i)$. Then $p(t) = S_0^t - S_0^{t+1}$. Note that the expected nonemployment duration is $N = \sum_{t=0}^{\infty} tp(t)$ and $\frac{\partial N}{\partial b} = \sum_{t=0}^{\infty}[t\frac{\partial p(t)}{\partial b}]$ and $\frac{\partial N}{\partial B} = \sum_{t=0}^{\infty}[t\frac{\partial p(t)}{\partial B}]$.

The effect of an extension in maximum duration on y_t^e $(x \in \{h, w\})$ is

$$\begin{aligned}
\frac{\partial E[y_t^e(b, B)]}{\partial B} &= \sum_{t=0}^{\infty}[\frac{\partial y_t^e(b, B)}{\partial B}p(t)] + \sum_{t=0}^{\infty}[y_t^e(b, B)\frac{\partial p(t)}{\partial B}] \\
&= \sum_{t=0}^{\infty}[\frac{\partial y_t^e(b, B)}{\partial B}p(t)] + \sum_{t=0}^{\infty}[(\xi + \frac{\partial y_t^e(b, B)}{\partial t}t)\frac{\partial p(t)}{\partial B}] \\
&= E[\frac{\partial y_t^e(b, B)}{\partial B}] + \frac{\partial y_t^e(b, B)}{\partial t}\frac{\partial N}{\partial B}
\end{aligned}$$

The effect of an increase in replacement rates on y_t^e can be similarly derived.

The effect of a marginal increase in UI generosity on wage rates and hours can be rewritten as follows.

$$\overbrace{\frac{\partial E[y_t^e(b, B)]}{\partial R}}^{\text{UI Effect}} = \overbrace{E[\frac{\partial y_t^e(b, B)}{\partial R}]}^{\text{Selectivity}} + \underbrace{\overbrace{\frac{\partial y_t^e(b, B)}{\partial t}}^{\substack{\text{Duration Dependence} \\ \text{Rate}}}}_{<0} \underbrace{\overbrace{\frac{\partial N}{\partial R}}^{\text{Effect on Duration}}}_{>0} \tag{A9}$$

$$\overbrace{\frac{\partial E[y_t^e(b, B)]}{\partial B}}^{\text{UI Effect}} = \overbrace{E[\frac{\partial y_t^e(b, B)}{\partial B}]}^{\text{Selectivity}} + \underbrace{\overbrace{\frac{\partial y_t^e(b, B)}{\partial t}}^{\substack{\text{Duration Dependence} \\ \text{Rate}}}}_{<0} \underbrace{\overbrace{\frac{\partial N}{\partial B}}^{\text{Effect on Duration}}}_{>0} \tag{A10}$$

The first terms on the left-hand side in Equation A9 and Equation A10 represent the effect of UI generosity on y_t^e (hours of work or wage rates). The first term on the right-hand side captures the impact of UI generosity, conditional on nonemployment duration. This effect arises from changes in the reservation curve influenced by variations in benefits, reflecting that workers become more selective in their next job choice. The second term on the right-hand side illustrates the effect of nonemployment duration on y_t^e, referred to as the duration dependence rate, which is multiplied by the impact of UI generosity on nonemployment duration. The duration dependence rate is mediated by changes in the reservation curve over time, as workers tend to lower their reservation level the longer they remain nonemployed, and by shifts in the job offer distribution caused by extended nonemployment duration (the longer the nonemployment duration, the worse the job offers tend to be).

Although the "UI Effect" and "Effects on Duration" in Equation A9 and Equation A10 can be directly estimated, identifying the "Selectivity" and "Duration Dependence Rate" is not straightforward. Schmieder et al. (2016) highlight that estimating the selectivity term is biased due to selective exit throughout nonemployment spells. Additionally, estimating the duration dependence rate requires accurately identifying the true effect of selectivity. For the identification of the decomposition, Schmieder et al. (2016) argue that the selectivity term is approximately zero, while Hernandez Martinez et al. (2023) take an indirect approach to approximate this term. In this paper, I directly estimate all of these terms by leveraging two different UI generosity measures.

A.6.2 Regression Equations

I adopt a new regression equation to estimate the "Effects on Duration" in Equation A9 and Equation A10, which identifies the short-term impact of UI generosity on nonemployment duration. The sample is restricted to the year of displacement for displaced workers and the year of non-displacement for never-displaced workers.[2] Except for the sample specification and the inclusion of UI variables for the control group (main effects along with interaction terms), all other specifications, including control variables, remain the same as in the event study.

$$\begin{aligned} N_i =& x_i^{'}\alpha_1 + \zeta_1 D_i + \gamma^{ND,R} R_{cst_d^{'}} + \gamma^{ND,B} B_{cst_d^{'}} + \gamma^{D,R} D_i \times R_{cst_d^{'}} + \gamma^{D,B} D_i \times B_{cst_d^{'}} \\ &+ \tilde{Z}_{st_d}\Gamma_1 + \gamma_{t_d} + \theta_s + \nu_c + \lambda_s t_d + \epsilon_{1i} \end{aligned} \tag{A11}$$

where N_i denotes nonemployment duration after job separation. D_i is a dummy variable indicating displacement, and $x_i^{'}$ is a vector of time-varying controls, including years of education, marital status, and a quartic polynomial of age. $R_{cst_d^{'}}$ and $B_{cst_d^{'}}$ represent the demeaned replacement rates and maximum duration, respectively. $\tilde{Z}_{st_d}$ is cubic polynomials of state unemployment rates and average personal income, and $\gamma_{t_d}, \theta_s, \nu_c$, and $\lambda_s t_d$ denote year, state, and

[2] The results in this section are robust to an alternative approach where I match pre-displacement characteristics of displaced workers with those of non-displaced workers using propensity scores.

number of children fixed effects and state-specific linear time trend, respectively. The estimated $\beta^{ND,R} + \beta^{D,R}$ and $\beta^{ND,B} + \beta^{D,B}$ represent "Effect on Duration" in Equation A9 and Equation A10, for displaced, thus UI-eligible, workers.

Although the "UI Effect" has already been estimated in previous sections, to maintain consistency with Equation A11, I reestimate it using the new specification.

$$\begin{aligned} y_i^e =& x_i^{'}\alpha_2 + \zeta_2 D_i + \beta^{ND,R} R_{cst_d'} + \beta^{ND,B} B_{cst_d'} + \beta^{D,R} D_i \times R_{cst_d'} + \beta^{D,B} D_i \times B_{cst_d'} \\ &+ \tilde{Z}_{st_d}\Gamma_2 + \gamma_{t_d} + \theta_s + \nu_c + \lambda_s t_d + \epsilon_{2i} \end{aligned} \tag{A12}$$

where y_i^e denotes post-displacement hours of work or wage rates, measured 1-10 years after displacement

To estimate the selectivity terms of Equation A9 and Equation A10, I further include dummies for the duration of nonemployment, denoted as κ_N, in Equation A12. $\kappa_N = \sum_{n=0}^{T} d_n$, where d_n is a dummy variable indicating each nonemployment duration.

$$\begin{aligned} y_i^e =& x_i^{'}\alpha_3 + \zeta_3 D_i + \eta^{ND,R} R_{cst_d'} + \eta^{ND,B} B_{cst_d'} + \eta^{D,R} D_i \times R_{cst_d'} + \eta^{D,B} D_i \times B_{cst_d'} \\ &+ \tilde{Z}_{st_d}\Gamma_3 + \kappa_N + \gamma_{t_d} + \theta_s + \nu_c + \lambda_s t_d + \epsilon_{3i} \end{aligned} \tag{A13}$$

If there is no dynamic selection into exit from nonemployment, the selectivity term can be directly estimated from Equation A13. However, since less productive workers tend to have longer nonemployment duration, this endogeneity is likely to cause the selectivity term (or $\eta^{ND}+\eta^{D}$) to be overestimated (Schmieder et al., 2016). Nonetheless, Proposition 1 demonstrates that this bias can be corrected by simultaneously employing two measures of UI generosity.

Proposition 1. *By exploiting variations in replacement rates and maximum duration simultaneously, all the components in Equation A9 and Equation A10 can be estimated.*

Proof. See Appendix B.

The intuition behind Proposition 1 is that the biased estimates of the η terms from Equation A13 can be expressed as a function of observables and the unobserved error term. By exploiting two measures of generosity, I can cancel out the error term and rewrite the true parameters as a linear function of biased estimates. Similarly, the duration dependence rate in Equation A9 and Equation A10 can also be cancelled out, allowing the true parameters of the selectivity, η, to be expressed as a linear function of the UI effect and its effect on duration. As a result, there are two unknowns (the true effects of replacement rates and maximum duration conditional on nonemployment duration) and two equations, which are solvable.

A.6.3 Estimates for Decomposition Analysis

For simplicity, rewrite Equation A9 and Equation A10 as:

$$\underbrace{\beta^R}_{\text{UI Effect}} = \underbrace{\eta^R}_{\text{Selectivity}} + \underbrace{\delta}_{\substack{\text{Duration Dependence}\\ \text{Rate}}} \times \underbrace{\gamma^R}_{\text{Effect on Duration}} \tag{A14}$$

$$\underbrace{\beta^B}_{\text{UI Effect}} = \underbrace{\eta^B}_{\text{Selectivity}} + \underbrace{\delta}_{\substack{\text{Duration Dependence}\\ \text{Rate}}} \times \underbrace{\gamma^B}_{\text{Effect on Duration}} \tag{A15}$$

The UI effect is estimated from Equation A12, the effect on duration from Equation A11, and the selectivity and duration dependence rates from Proposition 1. Additionally, note that $\gamma^R = \gamma^{U,R} + \gamma^{O,R}$ and $\gamma^B = \gamma^{U,B} + \gamma^{O,B}$ where $\gamma^{U,R}$, $\gamma^{U,B}$, $\gamma^{O,R}$, and $\gamma^{O,B}$ are the UI effect on unemployement duration and out-of-labor-force duration, repsectively.

Table C10 presents the estimated coefficients in Equation A14 and Equation A15. As highlighted in the main empirical analysis, Panel (a) shows that a longer maximum UI duration significantly increases post-displacement hours worked, with a slightly smaller but similar magnitude to previous findings. The estimated duration dependence rate indicates that a one-week increase in nonemployment duration results in approximately 4.5 fewer annual hours of work after displacement, though this effect is statistically insignificant.

While higher replacement rates significantly increase nonemployment duration by extending unemployment duration, a longer maximum duration primarily increases unemployment duration but decreases time spent out of the labor force, leading to only a mild increase in overall nonemployment duration. As a result, the overall impact of nonemployment duration on hours of work is limited, and the UI effect is primarily driven by the selectivity term, which represents the shift in the reservation curve.

Another noteworthy finding is that the estimated selectivity is small for higher replacement rates, while it is positive and much larger in magnitude for longer maximum duration. This may be due to the fact that higher replacement rates extend both the out-of-labor-force duration and unemployment duration, whereas maximum duration only extends the latter. If workers do not engage in job search activities during the out-of-labor-force duration, it suggests that the effect of replacement rates on reducing search intensity in each period (s_t) is much greater than the effect of maximum duration.

Panel (b) provides a similar decomposition analysis for post-displacement wage rates. Small and statistically insignificant estimates of selectivity and the duration dependence rate suggest that the negligible effect of UI on wage rates is not the result of the two components canceling each other out, but rather because each component independently exerts a minimal impact.

These findings offer an important implication. For both hours worked and hourly wages, the estimated UI effect is almost entirely driven by the selectivity terms. Since these terms reflect changes in accepted job offers due to a shift in the reservation curve, the direction and magnitude of the UI effect are determined by workers' utility functions and the distribution of job offers in the labor market.

A.7 Maximum Duration Versus Replacement Rates

Previous derivations show that a marginal increase in the benefits level (or replacement rates) in each period ($\frac{\partial s_k}{\partial b_t}, \frac{\partial \alpha_t^{W,k}}{\partial b_t}$) has a greater effect in earlier periods, as the impact diminishes over time, following the survival rate. However, the overall effect of changes in the benefits level is not necessarily stronger than the effect of extending the maximum duration, particularly in periods closer to benefit exhaustion. The overall effects are expressed as follows:

$$\frac{\partial y_t}{\partial b} = \sum_{k=0}^{B-1} \frac{\partial y_t}{\partial b_k} \tag{A16}$$

$$\frac{\partial y_t}{\partial B} \approx b \frac{\partial y_t}{\partial b_B} \tag{A17}$$

Note that $\frac{\partial y_t}{\partial b_k} > \frac{\partial y_t}{\partial b_B}$ for all $k < B$. However, in Equation A16 and Equation A17, due to the multiplied b term, the relative magnitudes of $\sum_{k=0}^{B-1} \frac{\partial y_t}{\partial b_k}$ and $b\frac{\partial y_t}{\partial b_B}$ depend on the parameter values.

It is important to note that these two terms represent different increments in benefits. In addition, the scales used in the empirical analysis (a 13-week extension and a 6 percentage point increase in replacement rates) do not represent equivalent increments in UI benefits. The relationship $b\partial B = B\partial b$ shows that the effect of changes in UI benefits can represent the effect of the same dollar increment with a slight modification (Landais, 2015).

$$\frac{1}{B}\frac{\partial y_t}{\partial b} = \frac{1}{B}\sum_{k=0}^{B-1} \frac{\partial y_t}{\partial b_k} \tag{A18}$$

$$\frac{1}{b}\frac{\partial y_t}{\partial B} \approx \frac{\partial y_t}{\partial b_B} \tag{A19}$$

The effect in period 1 is given by[3]:

$$\frac{1}{B}\frac{\partial y_1}{\partial b} = \frac{1}{B}\sum_{k=1}^{B-1} \frac{\partial y_1}{\partial b_k} > \frac{\partial y_1}{\partial b_{B-1}} > \frac{\partial y_1}{\partial b_B}$$

Thus, after adjusting for the same dollar increment, the effect of an increase in the benefits level is greater than that of an extension of maximum duration in the earlier periods. However, in the later periods, the effect of an increase in the benefits level could be smaller than the effect

[3]Note that, in this model setup, the first optimal choice is made in period 1, not in period 0.

of extending the maximum duration. For instance, the effects in period $B-1$ are expressed as $\frac{1}{B}\frac{\partial y_{B-1}}{\partial b_{B-1}}$ and $\frac{\partial y_{B-1}}{\partial b_B}$, respectively. Since the former is divided by the maximum duration B, the latter effect is much likely to be stronger. Additionally, note that the same logic can be applied to the effect of replacement rates rather than just the benefits level.

To directly compare the magnitude of the effects of the two generosity measures, I reestimate Table C10, adjusting each measure to reflect the same dollar increment, as shown in Table C11. The results indicate that the effect of higher replacement rates on nonemployment duration is much stronger than that of maximum duration. However, the effect on hours worked is more pronounced for maximum duration. Although the estimated magnitude of the effect of replacement rates is large, it is imprecisely estimated and offset by the estimates for UI-ineligible individuals, as estimates for UI-eligible are included through an interaction term. The effect of both generosity measures on wage rates is very small, with all estimates close to zero. In summary, Table C11 shows that maximum duration has a stronger impact on the selectivity effect. To assess whether this pattern aligns with the model, I explore how optimal search intensity and the reservation curve are affected by changes in UI and evolve over the course of nonemployment.

Figure 15 illustrates the hypothetical dynamics of search intensity and reservation curve. Since the model environment becomes stationary once UI benefits are exhausted, both the optimal search intensity and the reservation curve stabilize at a constant level thereafter. Initially, both variables are affected and gradually converge to a steady-state level until the exhaustion period, after which they remain constant. The black solid line represents the path without any changes to benefits. The gray solid line represents the path with an extension of the maximum duration from 26 to 39 weeks, and the gray dotted line shows the path with higher replacement rates.[4]

As discussed in Equation A18 and Equation A19, changes in replacement rates have a greater impact on search intensity and the reservation curve during the initial periods, with the path converging sooner due to the earlier exhaustion of benefits. In contrast, an extension of the maximum duration has a smaller initial impact, but from period t', its effect surpasses that of higher replacement rates.

The relative magnitudes of the estimated effects of higher replacement rates and longer maximum duration depend on t'. For periods $t < t'$, higher replacement rates cause workers to further reduce search intensity and become more selective in accepting jobs compared to the effect of extended maximum duration. Conversely, for $t > t'$, the effect of maximum duration becomes more prominent. Table C11 shows that the effect of maximum duration is slightly larger for the selectivity term but smaller for the effect on duration term compared to the effect of replacement rates. This can be explained by the following scenario:

[4]The effect of replacement rates is essentially the same as that of benefit levels, with the only distinction being the scale of the effect.

If higher replacement rates significantly lower search intensity and the reservation curve for workers in $t < t^{'}$, it leads to a longer average nonemployment spells and fewer accepted, relatively better job offers. On the other hand, if maximum duration does not substantially reduce search intensity and the reservation curve in $t > t^{'}$, workers with a longer maximum duration are more likely to receive relatively better offers, with only a mild increase in nonemployment duration. Thus, the overall impact of a longer maximum duration on nonemployment duration can be weaker, but its effect on selectivity can be stronger compared to that of replacement rates.

A.8 Derivation of Dynamic Baily-Chetty formula

Here, I explore the policy implications by extending the dynamic Baily-Chetty formula presented in Schmieder and Von Wachter (2016) with my model. To maintain consistency with the literature, I adopt a continuous time framework and introduce a tax in the utility function. Unlike previous approaches, the tax rate is proportional to earnings, enabling the capture of changes in earnings that result from more generous UI benefits. Let S_0^t denote the survival rate of unemployed workers at period t, starting from period 0. The welfare of unemployed workers, based on optimal decisions for search intensity and acceptance rules, can be expressed as follows:

$$\tilde{W}(\bar{b}, B, \tau) = \int_0^B S_0^t u(\bar{b})dt + \int_B^T S_0^t u(0)dt + \int_0^T (1 - S_0^t)u(w_t^e h_t^e(1-\tau))dt - \int_0^T S_0^t \psi(s_t)dt$$

Note also that the expected nonemployment duration is given by $N = \int_0^T S_0^t dt$, and the expected duration of receiving benefits is $\tilde{N} = \int_0^B S_0^t dt$. The social planner maximizes welfare subject to the budget constraint $\tilde{N}\bar{b} = (T-N)\tau E[w_t^e h_t^e]$. The social planner's problem is:

$$\max_{\bar{b}, B, \tau} \tilde{W}(\bar{b}, B, \tau)$$
$$\text{s.t.} \quad \tilde{N}\bar{b} = (T-N)\tau E[w_t^e h_t^e]$$

Assume log utility, $u(c) = \log c$, for algebraic simplicity. By the envelope theorem, endogenous changes in optimal behaviors do not affect marginal welfare. Thus, differentiating the objective function and the budget constraint yields:

$$\frac{\partial \tilde{W}}{\partial \bar{b}} = \tilde{N}\frac{1}{\bar{b}} - (T-N)\frac{1}{1-\tau}\frac{\partial \tau}{\partial \bar{b}}$$
$$\frac{\partial \tau}{\partial \bar{b}} = \frac{\tilde{N} + \frac{\partial \tilde{N}}{\partial \bar{b}}\bar{b} + \frac{\partial N}{\partial \bar{b}}\tau E[w_t^e h_t^e] - (T-N)\tau\frac{\partial E[w_t^e h_t^e]}{\partial \bar{b}}}{(T-N)E[w_t^e h_t^e]}$$
$$\frac{\partial \tilde{W}}{\partial B} = S_0^B u(\bar{b}) - S_0^B u(0) - (T-N)\frac{1}{1-\tau}\frac{\partial \tau}{\partial B}$$
$$\frac{\partial \tau}{\partial B} = \frac{\frac{\partial \tilde{N}}{\partial B}\bar{b} + \frac{\partial N}{\partial B}\tau E[w_t^e h_t^e] - (T-N)\tau\frac{\partial E[w_t^e h_t^e]}{\partial B}}{(T-N)E[w_t^e h_t^e]}$$

Using these formulas,

$$\frac{\partial \tilde{W}}{\partial \bar{b}} = \tilde{N}\frac{1}{\bar{b}} - \frac{1}{1-\tau}\frac{\tilde{N} + \frac{\partial \tilde{N}}{\partial \bar{b}}\bar{b} + \frac{\partial N}{\partial \bar{b}}\tau E[w_t^e h_t^e] - (T-N)\tau\frac{\partial E[w_t^e h_t^e]}{\partial \bar{b}}}{E[w_t^e h_t^e]}$$

$$\frac{\partial \tilde{W}}{\partial \bar{b}}(1-\tau)E[w_t^e h_t^e] = \frac{\tilde{N}(\frac{1}{\bar{b}} - \frac{1}{(1-\tau)E[w_t^e h_t^e]})}{\frac{1}{(1-\tau)E[w_t^e h_t^e]}} - \left[\frac{\partial \tilde{N}}{\partial \bar{b}}\bar{b} + \tau E[w_t^e h_t^e]\frac{\partial N}{\partial \bar{b}} - \tilde{N}\epsilon_{wh,\bar{b}}\right]$$

$$\frac{\partial \tilde{W}}{\partial B} = S_0^B(u(\bar{b}) - u(0)) - \frac{1}{1-\tau}\frac{\frac{\partial \tilde{N}}{\partial B}\bar{\bar{b}} + \frac{\partial N}{\partial B}\tau E[w_t^e h_t^e] - (T-N)\tau\frac{\partial E[w_t^e h_t^e]}{\partial B}}{E[w_t^e h_t^e]}$$

$$\frac{\partial \tilde{W}}{\partial B}\frac{(1-\tau)E[w_t^e h_t^e]}{\bar{b}} = (1-\tau)E[w_t^e h_t^e]S_0^B\frac{u(\bar{b}) - u(0)}{\bar{b}} - \left[\frac{\partial \tilde{N}}{\partial B} + \frac{\tau E[w_t^e h_t^e]}{\bar{b}}\frac{\partial N}{\partial B} - \frac{\tilde{N}}{B}\epsilon_{wh,B}\right]$$

where $\epsilon_{x,y}$ is the elasticity of x with respect to y. Note that $\frac{\partial \tilde{N}}{\partial B} = \frac{\partial \int_0^B S_0^t dt}{\partial B} = S_0^B + \int_0^B \frac{\partial S_0^t}{\partial B}dt$. Rearranging these formulas and substituting $\bar{b}$ with the replacement rate $R = \frac{\bar{b}}{w_{pre}}$ and $\tau E[w_t^e h_t^e]$ with $\tilde{\tau} = \tau E[w_t^e h_t^e]$,

$$\frac{\partial \tilde{W}}{\partial R}\frac{1}{w_{pre}\tilde{N}u'(c_t^e)} = \underbrace{\frac{u'(c_t^u) - u'(c_t^e)}{u'(c_t^e)}}_{\substack{\text{Mechanical transfer}\\ \text{to unemployed}}} + \underbrace{\epsilon_{wh,R}}_{\text{Behavioral benefit}} - \underbrace{\left[\epsilon_{\tilde{N},R} + \epsilon_{N,R}\frac{N}{\tilde{N}}\frac{\tilde{\tau}}{\bar{b}}\right]}_{\text{Behavioral cost}} \tag{A20}$$

$$\frac{\partial \tilde{W}}{\partial B}\frac{1}{\bar{b}S_0^B u'(c_t^e)} = \underbrace{\frac{\tilde{u}'(c_t^u) - u'(c_t^e)}{u'(c_t^e)}}_{\substack{\text{Mechanical transfer}\\ \text{to unemployed}}} + \underbrace{\frac{\tilde{N}}{S_0^B B}\epsilon_{wh,B}}_{\text{Behavioral benefit}} - \underbrace{\frac{1}{S_0^B}\left[\int_0^B \frac{\partial S_0^t}{\partial B}dt + \frac{\tilde{\tau}}{\bar{b}}\frac{\partial N}{\partial B}\right]}_{\text{Behavioral cost}} \tag{A21}$$

where c_t^u is consumption while unemployed, and c_t^e is the average after-tax consumption level, $(1-\tau)E[w_t^e h_t^e]$, when employed. $\tilde{u}'(c_t^u) = \frac{u(\bar{b})-u(0)}{\bar{b}}$ represents the average marginal utility between receiving benefits ($\bar{b}$) and receiving none (due to benefit exhaustion).

Unlike formulas that do not account for UI effects on wage rates and hours, Equation A20 and Equation A21 include "Behavioral benefit" terms, representing the positive effects of UI, incorporating the long-term impacts resulting from changes in job search behavior. Specifically, this effect arises from changes in long-term earnings due to adjustments in UI benefits. Since replacement rates do not affect earnings in the empirical analysis, the behavioral benefit term in Equation A20 is close to zero, indicating that the welfare analysis regarding replacement rates is consistent with what has been derived in the literature. In contrast, the effect of extending the maximum duration is positive, implying that the marginal welfare effects of a longer maximum duration are greater than previously reported in the literature.

B Proof of Proposition 1

Direct estimation of Equation A13 leads to biased estimates of η^{ND} and η^{D}. After some algebra, the estimated biased coefficients $\tilde{\eta}^{ND,R}$, $\tilde{\eta}^{ND,B}$, $\tilde{\eta}^{D,R}$, and $\tilde{\eta}^{D,B}$ can be written as:

$$
\begin{aligned}
\tilde{\eta}^{ND,R} &= (R^{'}M_R R)^{-1}(R^{'}M_R h^e) = \eta^{ND,R} - (R^{'}M_R R)^{-1}R^{'}P_R\epsilon \\
\tilde{\eta}^{ND,B} &= (B^{'}M_B B)^{-1}(B^{'}M_B h^e) = \eta^{ND,B} - (B^{'}M_B B)^{-1}B^{'}P_B\epsilon \\
\tilde{\eta}^{D,R} &= (R^{D'}M_R^D R^D)^{-1}(R^{D'}M_R^D h^e) = \eta^{D,R} - (R^{D'}M_R^D R^D)^{-1}R^{D'}P_R^D\epsilon \\
\tilde{\eta}^{D,B} &= (B^{D'}M_B^D B^D)^{-1}(B^{D'}M_B^D h^e) = \eta^{D,B} - (B^{D'}M_B^D B^D)^{-1}B^{D'}P_B^D\epsilon
\end{aligned}
$$

where P_x is orthogonal projector onto the space of all other variables except $x \in \{R, B\}$ where $R = R_{cst_d}$ and $B = B_{cst_d}$. $M_x = I - P_x$. P_x^D and M_x^D are similarly defined for $x \in \{R, B\}$ where $R = D_i \times R_{cst_d}$ and $B = D_i \times B_{cst_d}$. After some algebra,

$$\eta^{ND,R} - A\eta^{ND,B} = \tilde{\eta}^{ND,R} - A\tilde{\eta}^{ND,B} \tag{B1}$$

$$\eta^{D,R} - A^D\eta^{D,B} = \tilde{\eta}^{D,R} - A^D\tilde{\eta}^{D,B} \tag{B2}$$

where

$$
\begin{aligned}
A &= (R^{'}M_R R)^{-1}R^{'}P_R(P_B B B^{'}P_B^{'})^{-1}P_B B(B^{'}M_B B) \\
A^D &= (R^{D'}M_R^D R^D)^{-1}R^{D'}P_R^D(P_B^D B^D B^{D'}P_B^{D'})^{-1}P_B^D B^D(B^{D'}M_B^D B^D)
\end{aligned}
$$

Thus, the true effect $\eta^{ND,R} + \eta^{R,D}$ and $\eta^{ND,B} + \eta^{D,B}$ are written as:

$$(\eta^{ND,R} + \eta^{D,R}) - (A + A^D)(\eta^{ND,B} + \eta^{D,B}) = (\tilde{\eta}^{ND,R} + \tilde{\eta}^{R,D}) - (A + A^D)(\tilde{\eta}^{ND,B} + \tilde{\eta}^{D,B}) \tag{B3}$$

Note that Equation A9 and Equation A10 for displaced and non-displaced workers can be rewritten as

$$
\begin{aligned}
\frac{\partial E[y_t^{e,D}(b,B)]}{\partial R} &= \eta^{ND,R} + \eta^{D,R} + \frac{\partial y_t^{e,D}(b,B)}{\partial t}\frac{\partial N^D}{\partial R} \\
\frac{\partial E[y_t^{e,D}(b,B)]}{\partial B} &= \eta^{ND,B} + \eta^{D,B} + \frac{\partial y_t^{e,D}(b,B)}{\partial t}\frac{\partial N^D}{\partial B}
\end{aligned}
$$

$$
\begin{aligned}
\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial R} &= \eta^{ND,R} + \frac{\partial y_t^{e,ND}(b,B)}{\partial t}\frac{\partial N^{ND}}{\partial R} \\
\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial B} &= \eta^{ND,B} + \frac{\partial y_t^{e,ND}(b,B)}{\partial t}\frac{\partial N^{ND}}{\partial B}
\end{aligned}
$$

where $y_t^{e,D}$, N^D, $y_t^{e,ND}$, and N^{ND} represent the hours of work or wage rates and nonemployment duration in Equation A9 and Equation A10 for displaced and non-displaced workers, respectively. The following equations can be derived from the above formulas:

$$(\eta^{ND,R}+\eta^{D,R})-\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}(\eta^{ND,B}+\eta^{D,B})=\frac{\partial E[y_t^e(b,B)]}{\partial R}-\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}\frac{\partial E[y_t^e(b,B)]}{\partial B} \tag{B4}$$

$$\eta^{ND,R}-\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}\eta^{ND,B}=\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial R}-\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial B} \tag{B5}$$

Using Equation B3 and Equation B4, we can estimate the true effect $\eta^{ND,R}+\eta^{D,R}$ and $\eta^{ND,B}+\eta^{D,B}$. Similarly, we can utilize Equation B1 and Equation B5 to estimate $\eta^{ND,R}$ and $\eta^{ND,B}$. Given these estimates, we can also estimate $\frac{\partial y_t^e(b,B)}{\partial t}$, which represents a causal impact of nonemployment duration on hours of work and wage rates. These are written as follows:

$$\eta^{ND,R}+\eta^{D,R}=\frac{\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}(\tilde{\eta}^{ND,R}+\tilde{\eta}^{D,R}-\tilde{A}(\tilde{\eta}^{ND,B}+\tilde{\eta}^{D,B}))-\tilde{A}(\frac{\partial E[y_t^{e,D}(b,B)]}{\partial R}-\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}\frac{\partial E[y_t^{e,D}(b,B)]}{\partial B})}{\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}-\tilde{A}} \tag{B6}$$

$$\eta^{ND,B}+\eta^{D,B}=\frac{\tilde{\eta}^{ND,R}+\tilde{\eta}^{D,R}-\tilde{A}(\tilde{\eta}^{ND,B}+\tilde{\eta}^{D,B})-\frac{\partial E[y_t^{e,D}(b,B)]}{\partial R}+\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}\frac{\partial E[y_t^{e,D}(b,B)]}{\partial B}}{\frac{\frac{\partial N^D}{\partial R}}{\frac{\partial N^D}{\partial B}}-\tilde{A}} \tag{B7}$$

$$\frac{\partial y_t^{e,D}(b,B)}{\partial t}=\frac{\frac{\partial E[y_t^{e,D}(b,B)]}{\partial R}-(\eta^{ND,R}+\eta_3^{D,R})}{\frac{\partial N^D}{\partial R}}=\frac{\frac{\partial E[y_t^{e,D}(b,B)]}{\partial B}-(\eta^{ND,B}+\eta^{D,B})}{\frac{\partial N^D}{\partial B}} \tag{B8}$$

$$\eta^{ND,R}=\frac{\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}(\tilde{\eta}^{ND,R}-A\tilde{\eta}^{ND,B})-A(\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial R}-\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial B})}{\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}-A} \tag{B9}$$

$$\eta^{ND,B}=\frac{\tilde{\eta}^{ND,R}-A\tilde{\eta}^{ND,B}-\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial R}+\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial B}}{\frac{\frac{\partial N^{ND}}{\partial R}}{\frac{\partial N^{ND}}{\partial B}}-A} \tag{B10}$$

$$\frac{\partial y_t^{e,ND}(b,B)}{\partial t}=\frac{\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial R}-\eta^{ND,R}}{\frac{\partial N^{ND}}{\partial R}}=\frac{\frac{\partial E[y_t^{e,ND}(b,B)]}{\partial B}-\eta^{ND,B}}{\frac{\partial N^{ND}}{\partial B}} \tag{B11}$$

where $\tilde{A}=A+A^D$.

C Additional Tables and Figures

Table C1: History of Special Federal Extension and Supplemental Benefit Programs

Program Name	Effective Dates	Effects of Legislation
Temporary Unemployment Compensation	06/58 - 06/59	Up to 13 weeks
Temporary Extended Unemployment Compensation	04/61 - 06/62	Up to 13 weeks
Temporary Compensation	01/72 - 03/73	Up to 13 weeks
Federal Supplemental Benefits	01/75 - 01/78	Up to 13 or 26 weeks
Federal Supplemental Compensation	09/82 - 06/85	Up to 6, 8, 10, 12, 14, or 16 weeks
Emergency Unemployment Compensation	11/91 - 04/94	Up to 7, 10, 13, 15, 20, 26, or 33 weeks
Temporary Extended Unemployment Compensation	03/02 - 03/04	Up to 13 or 26 weeks
Federal Additional Compensation	02/09 - 12/10	$25 per week
Emergency Unemployment Compensation 08	07/08 - 01/14	Up to 13, 14, 20, 28, 33, 34, 47, 53, or 63 weeks
Pandemic Unemployment Assistance	03/20 - 09/21	Up to 39, 50, or 79 weeks
Pandemic Emergency Unemployment Compensation	03/20 - 09/21	13, 24, or 53 times regular weekly benefit amount
Federal Pandemic Unemployment Compensation	03/20 - 09/21	$600 per week
Mixed Earners Unemployment Compensation	12/20 - 09/21	$100 per week

Sources: Employment and Traning Administration, Department of Labor.

Table C2: The Relationship between Self-reported and Constructed UI Variables

	Year at Job Separation					
	Self-reported Annual Replacement Rates			Self-reported UI Benefits Duration		
	(1)	(2)	(3)	(4)	(5)	(6)
Replacement Rates	-0.205		-0.212	-0.053		-0.044
	(0.205)		(0.204)	(0.073)		(0.072)
Replacement Rates × Displacement	0.548***		0.559***	0.171***		0.144**
	(0.198)		(0.199)	(0.060)		(0.062)
Maximum Duration		0.125	0.177		0.048	0.061
		(0.308)	(0.305)		(0.097)	(0.096)
Maximum Duration × Displacement		0.045	-0.071		0.195**	0.165**
		(0.161)	(0.159)		(0.077)	(0.080)
Displacement	2.864***	2.865***	2.862***	0.900***	0.913***	0.912***
	(0.193)	(0.194)	(0.193)	(0.054)	(0.055)	(0.055)
Basic Controls	O	O	O	O	O	O
State Characteristics	O	O	O	O	O	O
Number of Obs	2,647			2,660		

Notes: The sample consists of displaced and non-displaced workers in the year of their first job separation. "Basic Controls" include year dummies, education years, marital status, and quartic polynomial of age. "State Characteristics" include cubic polynomial of state unemployment rates, personal income level, state fixed effects, and state-specific linear time trend. The estimated coefficients for maximum duration and replacement rates represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table C3: The Relationship between Other Self-reported and Constructed UI Variables

	Year at Job Separation					
	Self-reported Benefits Receipt (=1)			Self-reported Benefits Amount		
	(1)	(2)	(3)	(4)	(5)	(6)
Replacement Rates	-0.022		-0.022	-90.092		-72.019
	(0.020)		(0.020)	(192.081)		(190.100)
Replacement Rates × Displacement	0.047**		0.048**	702.418***		652.415***
	(0.018)		(0.019)	(162.517)		(167.363)
Maximum Duration		0.009	0.014		38.480	93.695
		(0.031)	(0.031)		(250.004)	(246.793)
Maximum Duration × Displacement		0.004	-0.006		438.887**	300.942
		(0.020)	(0.020)		(180.220)	(187.612)
Displacement	0.361***	0.361***	0.361***	2,138.308***	2,162.324***	2,159.719***
	(0.018)	(0.018)	(0.018)	(135.450)	(137.226)	(137.030)
Basic Controls	O	O	O	O	O	O
State Characteristics	O	O	O	O	O	O
Number of Obs		2,660			2,660	

Notes: The sample consists of displaced and non-displaced workers in the year of their first job separation. "Basic Controls" include year dummies, education years, marital status, and quartic polynomial of age. "State Characteristics" include cubic polynomial of state unemployment rates, personal income level, state fixed effects, and state-specific linear time trend. The estimated coefficients for maximum duration and replacement rates represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table C4: The Effect of UI Generosity on Unemployment and Nonemployment Spell

	Unemployment Weeks	Nonemployment Weeks
	(1)	(2)
Replacement Rates	-0.885	1.788
	(0.911)	(1.606)
Replacement Rates × Displacement	2.036***	2.774***
	(0.563)	(0.857)
Maximum Duration	-0.267	-0.304
	(1.465)	(2.168)
Maximum Duration × Displacement	2.177**	0.487
	(0.995)	(1.887)
Displacement	7.221***	3.179***
	(0.660)	(1.145)
Basic Controls	O	O
State Characteristics	O	O
Observations	3,332	3,332

Notes: The sample consists of displaced and non-displaced workers in the year of their first job separation. "Basic Controls" include year dummies, education years, marital status, and quartic polynomial of age. "State Characteristics" include cubic polynomial of state unemployment rates, personal income level, state fixed effects, and state-specific linear time trend. The estimated coefficients for maximum duration and replacement rates represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table C5: The Effect of UI Generosity on Other Fringe Benefits

	(1)	(2)	(3)
	Losses from Displacement	Interaction Maximum Duration	Interaction Replacement Rates
Panel (a): Dental Insurance (Mean: 0.62)			
Past-term ($-3 \leq k \leq -1$)	-0.009	-0.001	0.007
	(0.017)	(0.011)	(0.013)
Short-term ($0 \leq k \leq 1$)	-0.034*	-0.006	0.012
	(0.019)	(0.014)	(0.016)
Medium-term ($2 \leq k \leq 5$)	-0.038*	0.015	0.032*
	(0.020)	(0.013)	(0.017)
Long-term ($6 \leq k \leq 10$)	-0.026	0.008	-0.002
	(0.022)	(0.018)	(0.019)
11+ Years ($k \geq 11$)	0.009	-0.007	-0.018
	(0.024)	(0.025)	(0.020)
Observations		41,198	
Panel (b): Parental Leave (Mean: 0.58)			
Past-term ($-3 \leq k \leq -1$)	-0.017	0.009	-0.016
	(0.018)	(0.011)	(0.015)
Short-term ($0 \leq k \leq 1$)	-0.078***	0.002	-0.029*
	(0.020)	(0.014)	(0.016)
Medium-term ($2 \leq k \leq 5$)	-0.078***	0.010	-0.019
	(0.019)	(0.012)	(0.016)
Long-term ($6 \leq k \leq 10$)	-0.050**	0.023	-0.039**
	(0.021)	(0.017)	(0.017)
11+ Years ($k \geq 11$)	-0.052**	-0.016	-0.030
	(0.023)	(0.023)	(0.019)
Observations		37,443	

Notes: The estimated coefficients in column (2) and (3) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table C6: Spousal Income Channel on Hours Worked

	(1)	(2)	(3)	(4)
	Hours Worked		Log Hours Worked	
Panel (a): Losses from Displacement				
Past-term ($-3 \leq k \leq -1$)	-40.300**	-44.201**	-0.023*	-0.026*
	(17.651)	(17.610)	(0.013)	(0.013)
Short-term ($0 \leq k \leq 1$)	-385.728***	-382.691***	-0.223***	-0.218***
	(24.277)	(24.505)	(0.018)	(0.018)
Medium-term ($2 \leq k \leq 5$)	-175.323***	-174.511***	-0.103***	-0.102***
	(23.148)	(23.095)	(0.016)	(0.016)
Long-term ($6 \leq k \leq 10$)	-131.394***	-132.680***	-0.066***	-0.066***
	(26.484)	(26.631)	(0.017)	(0.017)
11+ Years ($k \geq 11$)	-145.439***	-150.096***	-0.057***	-0.057***
	(30.434)	(30.676)	(0.019)	(0.019)
Panel (b): Interaction with Maximum Duration				
Past-term ($-3 \leq k \leq -1$)	19.789	22.298	-0.001	0.001
	(18.381)	(18.496)	(0.015)	(0.015)
Short-term ($0 \leq k \leq 1$)	-14.453	-15.043	0.003	0.001
	(23.761)	(23.804)	(0.017)	(0.017)
Medium-term ($2 \leq k \leq 5$)	67.629***	64.404***	0.049***	0.047***
	(18.849)	(19.009)	(0.012)	(0.012)
Long-term ($6 \leq k \leq 10$)	78.875***	79.270***	0.044***	0.044***
	(26.774)	(26.781)	(0.016)	(0.016)
11+ Years ($k \geq 11$)	51.452	50.963	0.024	0.023
	(37.223)	(37.233)	(0.022)	(0.022)
Panel (c): Interaction with Replacement Rates				
Past-term ($-3 \leq k \leq -1$)	-26.436	-26.006	-0.014	-0.013
	(18.926)	(18.907)	(0.014)	(0.014)
Short-term ($0 \leq k \leq 1$)	-15.590	-14.686	-0.005	-0.004
	(24.741)	(24.671)	(0.018)	(0.018)
Medium-term ($2 \leq k \leq 5$)	-22.292	-22.380	-0.002	-0.002
	(22.423)	(22.349)	(0.014)	(0.014)
Long-term ($6 \leq k \leq 10$)	-13.892	-13.862	0.007	0.008
	(25.401)	(25.420)	(0.015)	(0.015)
11+ Years ($k \geq 11$)	3.044	1.567	0.009	0.009
	(28.557)	(28.655)	(0.017)	(0.017)
Control Spousal Income	x	o	x	o
Observations	55,434		53,719	

Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates. The spousal income variable is interacted with event dummies and controlled for.

Table C7: Spousal Income Channel on Other Labor-related Outcomes

	(1) Weeks Worked	(2) Weeks Worked	(3) Employed (=1)	(4) Employed (=1)	(5) Log Hourly Wage	(6) Log Hourly Wage
Panel (a): Losses from Displacement						
Past-term ($-3 \leq k \leq -1$)	-0.165	-0.224	0.034***	0.033***	-0.027**	-0.026**
	(0.291)	(0.288)	(0.009)	(0.009)	(0.010)	(0.010)
Short-term ($0 \leq k \leq 1$)	-7.504***	-7.452***	-0.457***	-0.457***	-0.082***	-0.083***
	(0.416)	(0.418)	(0.010)	(0.011)	(0.013)	(0.013)
Medium-term ($2 \leq k \leq 5$)	-2.933***	-2.927***	-0.091***	-0.091***	-0.141***	-0.141***
	(0.372)	(0.371)	(0.011)	(0.011)	(0.014)	(0.014)
Long-term ($6 \leq k \leq 10$)	-1.716***	-1.756***	-0.048***	-0.051***	-0.126***	-0.129***
	(0.405)	(0.409)	(0.011)	(0.011)	(0.016)	(0.016)
11+ Years ($k \geq 11$)	-1.866***	-1.937***	-0.041***	-0.045***	-0.141***	-0.145***
	(0.456)	(0.463)	(0.011)	(0.011)	(0.019)	(0.019)
Panel (b): Interaction with Maximum Duration						
Past-term ($-3 \leq k \leq -1$)	0.422	0.459	0.014*	0.015*	0.004	0.003
	(0.313)	(0.314)	(0.008)	(0.008)	(0.010)	(0.010)
Short-term ($0 \leq k \leq 1$)	-0.342	-0.354	-0.000	-0.000	0.006	0.007
	(0.463)	(0.465)	(0.011)	(0.011)	(0.010)	(0.010)
Medium-term ($2 \leq k \leq 5$)	1.189***	1.147***	0.027***	0.024**	0.005	0.006
	(0.325)	(0.326)	(0.010)	(0.010)	(0.011)	(0.011)
Long-term ($6 \leq k \leq 10$)	1.485***	1.484***	0.024*	0.024*	0.000	-0.000
	(0.437)	(0.439)	(0.013)	(0.013)	(0.015)	(0.015)
11+ Years ($k \geq 11$)	0.928*	0.917*	0.017	0.017	-0.004	-0.004
	(0.535)	(0.536)	(0.014)	(0.014)	(0.021)	(0.021)
Panel (c): Interaction with Replacement Rates						
Past-term ($-3 \leq k \leq -1$)	-0.446	-0.439	0.000	0.001	0.002	0.002
	(0.320)	(0.320)	(0.009)	(0.009)	(0.011)	(0.011)
Short-term ($0 \leq k \leq 1$)	-0.042	-0.027	0.011	0.011	0.017	0.017
	(0.437)	(0.436)	(0.011)	(0.011)	(0.012)	(0.012)
Medium-term ($2 \leq k \leq 5$)	-0.384	-0.384	0.003	0.003	-0.010	-0.010
	(0.363)	(0.362)	(0.010)	(0.010)	(0.014)	(0.014)
Long-term ($6 \leq k \leq 10$)	-0.013	-0.018	0.017*	0.017	-0.011	-0.012
	(0.394)	(0.394)	(0.010)	(0.010)	(0.015)	(0.015)
11+ Years ($k \geq 11$)	0.346	0.323	0.009	0.008	0.001	0.000
	(0.419)	(0.419)	(0.010)	(0.010)	(0.018)	(0.017)
Control Spousal Income	x	o	x	o	x	o
Observations	55,434		55,434		55,141	

Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates. The spousal income variable is interacted with event dummies and controlled for.

Table C8: Household Assets Channel on Hours Worked

	(1)	(2)	(3)	(4)
	Hours Worked		Log Hours Worked	
Panel (a): Losses from Displacement				
Past-term ($-3 \leq k \leq -1$)	-17.986	-18.025	-0.002	-0.003
	(25.179)	(25.191)	(0.019)	(0.019)
Short-term ($0 \leq k \leq 1$)	-355.542***	-354.505***	-0.185***	-0.181***
	(32.035)	(32.381)	(0.024)	(0.024)
Medium-term ($2 \leq k \leq 5$)	-152.083***	-149.483***	-0.072***	-0.070***
	(29.821)	(29.849)	(0.021)	(0.021)
Long-term ($6 \leq k \leq 10$)	-114.119***	-114.808***	-0.031	-0.031
	(33.884)	(34.015)	(0.022)	(0.023)
11+ Years ($k \geq 11$)	-134.650***	-140.267***	-0.030	-0.031
	(37.267)	(37.776)	(0.024)	(0.025)
Panel (b): Interaction with Maximum Duration				
Past-term ($-3 \leq k \leq -1$)	11.545	11.493	0.002	0.003
	(24.729)	(24.896)	(0.020)	(0.020)
Short-term ($0 \leq k \leq 1$)	-13.175	-14.646	0.020	0.015
	(30.458)	(30.835)	(0.020)	(0.020)
Medium-term ($2 \leq k \leq 5$)	80.822***	76.748***	0.053***	0.051***
	(24.117)	(24.540)	(0.016)	(0.016)
Long-term ($6 \leq k \leq 10$)	97.820***	98.127***	0.041**	0.041**
	(32.278)	(31.958)	(0.019)	(0.019)
11+ Years ($k \geq 11$)	39.402	38.082	0.026	0.025
	(43.025)	(43.053)	(0.026)	(0.026)
Panel (c): Interaction with Replacement Rates				
Past-term ($-3 \leq k \leq -1$)	-6.212	-5.293	-0.006	-0.006
	(23.019)	(23.050)	(0.017)	(0.017)
Short-term ($0 \leq k \leq 1$)	-19.100	-18.431	-0.011	-0.011
	(31.804)	(31.807)	(0.022)	(0.022)
Medium-term ($2 \leq k \leq 5$)	-26.143	-24.646	-0.011	-0.011
	(27.140)	(27.251)	(0.017)	(0.017)
Long-term ($6 \leq k \leq 10$)	-18.426	-17.304	0.009	0.009
	(31.247)	(31.262)	(0.018)	(0.018)
11+ Years ($k \geq 11$)	-7.451	-6.182	-0.001	-0.001
	(33.971)	(34.086)	(0.020)	(0.020)
Control Household Assets	x	o	x	o
Observations	33,282		32,333	

Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates. The household assets variable is interacted with event dummies and controlled for.

Table C9: Household Assets Channel on Other Labor-related Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
	Weeks Worked	Weeks Worked	Employed (=1)	Employed (=1)	Log Hourly Wage	Log Hourly Wage
Panel (a): Losses from Displacement						
Past-term ($-3 \leq k \leq -1$)	0.070	-0.010	0.028*	0.026*	-0.016	-0.015
	(0.409)	(0.407)	(0.014)	(0.014)	(0.015)	(0.015)
Short-term ($0 \leq k \leq 1$)	-7.087***	-7.072***	-0.446***	-0.450***	-0.059***	-0.059***
	(0.542)	(0.550)	(0.016)	(0.016)	(0.017)	(0.017)
Medium-term ($2 \leq k \leq 5$)	-2.735***	-2.659***	-0.092***	-0.091***	-0.111***	-0.110***
	(0.463)	(0.461)	(0.015)	(0.015)	(0.017)	(0.017)
Long-term ($6 \leq k \leq 10$)	-1.521***	-1.550***	-0.055***	-0.055***	-0.100***	-0.106***
	(0.513)	(0.516)	(0.016)	(0.016)	(0.019)	(0.019)
11+ Years ($k \geq 11$)	-1.914***	-1.979***	-0.043***	-0.044***	-0.105***	-0.122***
	(0.569)	(0.582)	(0.016)	(0.016)	(0.023)	(0.023)
Panel (b): Interaction with Maximum Duration						
Past-term ($-3 \leq k \leq -1$)	0.422	0.487	0.013	0.014	0.002	0.001
	(0.416)	(0.416)	(0.012)	(0.012)	(0.013)	(0.013)
Short-term ($0 \leq k \leq 1$)	-0.337	-0.357	0.009	0.014	-0.010	-0.014
	(0.634)	(0.653)	(0.016)	(0.016)	(0.014)	(0.014)
Medium-term ($2 \leq k \leq 5$)	1.598***	1.473***	0.040***	0.037***	-0.005	-0.011
	(0.424)	(0.431)	(0.014)	(0.014)	(0.014)	(0.014)
Long-term ($6 \leq k \leq 10$)	2.045***	2.032***	0.021	0.020	-0.001	-0.002
	(0.542)	(0.537)	(0.017)	(0.017)	(0.018)	(0.017)
11+ Years ($k \geq 11$)	0.744	0.715	0.031*	0.032*	-0.028	-0.030
	(0.658)	(0.659)	(0.018)	(0.018)	(0.024)	(0.023)
Panel (c): Interaction with Replacement Rates						
Past-term ($-3 \leq k \leq -1$)	-0.244	-0.220	0.006	0.006	0.001	0.003
	(0.384)	(0.383)	(0.012)	(0.012)	(0.013)	(0.013)
Short-term ($0 \leq k \leq 1$)	0.164	0.170	0.022	0.022	0.026*	0.028**
	(0.552)	(0.552)	(0.015)	(0.015)	(0.014)	(0.014)
Medium-term ($2 \leq k \leq 5$)	-0.273	-0.245	0.013	0.013	0.010	0.014
	(0.413)	(0.411)	(0.013)	(0.013)	(0.016)	(0.015)
Long-term ($6 \leq k \leq 10$)	-0.081	-0.073	0.032**	0.032**	0.003	0.005
	(0.467)	(0.466)	(0.014)	(0.014)	(0.017)	(0.017)
11+ Years ($k \geq 11$)	0.204	0.208	0.019	0.018	0.010	0.013
	(0.496)	(0.496)	(0.013)	(0.013)	(0.020)	(0.020)
Control Non-pecuniary Proxies	x	o	x	o	x	o
Observations	33,282		33,282		33,116	

Notes: The estimated coefficients in Panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates. The household assets variable is interacted with event dummies and controlled for.

Table C10: Decomposition Analysis

Panel A: The Effect on Hours of Work (1-10 Years Post-displacement)						
Theoretical Predictions						
Formula				$\beta = \eta + \delta\gamma = \eta + \delta(\gamma^U + \gamma^O)$		
Panel A.1: Replacement Rates						
	UI Effect	Selectivity	Duration Dependence Rate	Effect on Nonemployment Duration	Effect on Unemployment Duration	Effect on Out of Labor Force Duration
	β	η	δ	γ	γ^U	γ^O
UI-ineligible (UI)	33.882	38.083	-2.836	1.481	-0.661	2.141
	(34.112)	(345.225)	(584.945)	(1.660)	(1.101)	(1.355)
UI-eligible (UI × D)	-35.973	-22.033	-1.813	2.421***	1.885***	0.535
	(28.000)	(341.859)	(585.878)	(0.906)	(0.684)	(0.995)
Panel A.2: Maximum Duration						
UI-ineligible (UI)	47.587	46.389	-2.836	-0.422	-0.356	-0.062
	(34.336)	(1,276.978)	(584.945)	(2.101)	(1.488)	(1.860)
UI-eligible (UI × D)	55.426***	60.017	-1.813	1.152	2.863**	-1.712*
	(19.445)	(1,276.558)	(585.878)	(1.609)	(1.128)	(0.890)
Observations				2,997		

Panel B: The Effect on Log Hourly Wage Rates (1-10 Years Post-displacement)						
Theoretical Predictions						
Formula				$\beta = \eta + \delta\gamma = \eta + \delta(\gamma^U + \gamma^O)$		
Panel B.1: Replacement Rates						
	β	η	δ	γ	γ^U	γ^O
UI-ineligible (UI)	0.004	0.001	0.002	1.622	-0.802	2.422*
	(0.019)	(0.353)	(0.694)	(1.357)	(1.063)	(1.259)
UI-eligible (UI × D)	-0.006	0.012	-0.005	2.603***	2.126***	0.478
	(0.015)	(0.354)	(0.695)	(0.991)	(0.512)	(1.124)
Panel B.2: Maximum Duration						
UI-ineligible (UI)	-0.009	-0.010	0.002	0.214	-0.095	0.316
	(0.034)	(2.023)	(0.694)	(2.003)	(1.465)	(1.807)
UI-eligible (UI × D)	0.010	0.013	-0.005	0.474	2.210**	-1.736*
	(0.024)	(2.026)	(0.695)	(1.430)	(0.997)	(0.983)
Observations				3,216		

Notes: Bootstrapped standard errors are reported in parentheses. The estimated coefficients represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates.

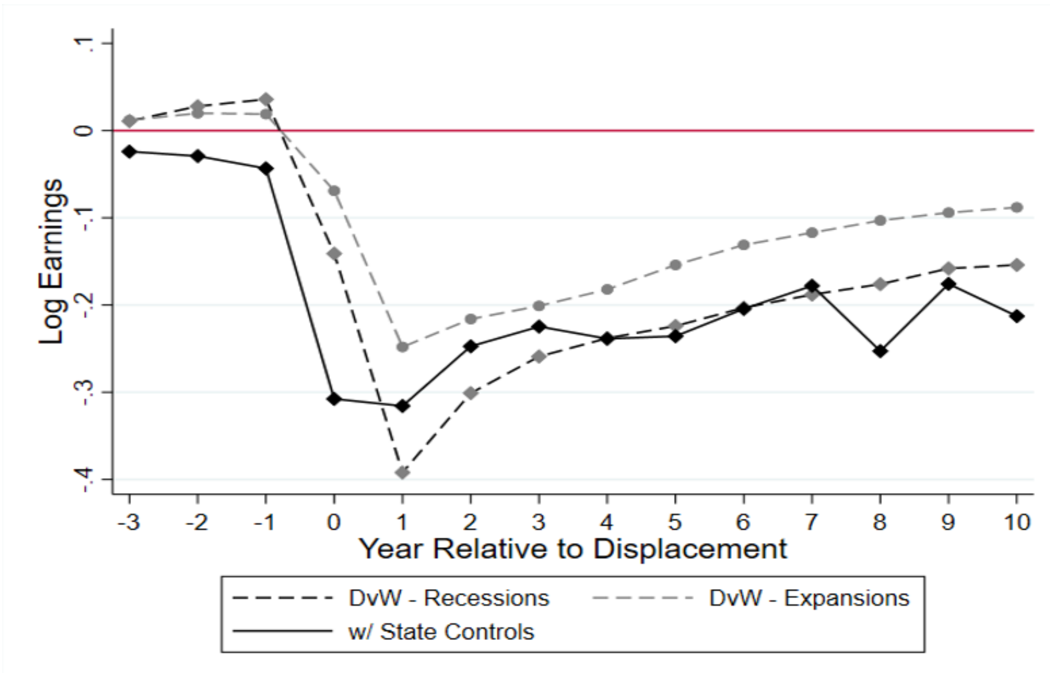
Table C11: Decomposition Analysis Adjusted for One Dollar Increments

Panel A: The Effect on Hours of Work (1-10 Years Post-displacement)						
Theoretical Predictions						
Formula				$\beta = \eta + \delta\gamma = \eta + \delta(\gamma^U + \gamma^O)$		
Panel A.1: Replacement Rates						
	UI Effect	Selectivity	Duration Dependence Rate	Effect on Nonemployment Duration	Effect on Unemployment Duration	Effect on Out of Labor Force Duration
	β	η	δ	γ	γ^U	γ^O
UI-ineligible (UI)	1.054	1.185	-2.836	0.046	-0.021	0.067
	(1.065)	(10.761)	(584.945)	(0.052)	(0.034)	(0.042)
UI-eligible (UI × D)	-1.119	-0.685	-1.813	0.075***	0.059***	0.017
	(0.874)	(10.656)	(585.878)	(0.028)	(0.021)	(0.031)
Panel A.2: Maximum Duration						
UI-ineligible (UI)	0.245	0.239	-2.836	-0.002	-0.002	-0.000
	(0.178)	(6.755)	(584.945)	(0.011)	(0.008)	(0.010)
UI-eligible (UI × D)	0.285***	0.309	-1.813	0.006	0.015***	-0.009*
	(0.100)	(6.756)	(585.878)	(0.008)	(0.006)	(0.005)
Observations				2,997		

Panel B: The Effect on Log Hourly Wage Rates (1-10 Years Post-displacement)						
Theoretical Predictions						
Formula				$\beta = \eta + \delta\gamma = \eta + \delta(\gamma^U + \gamma^O)$		
Panel B.1: Replacement Rates						
	β	η	δ	γ	γ^U	γ^O
UI-ineligible (UI)	0.000	0.000	0.002	0.050	-0.025	0.075*
	(0.001)	(0.011)	(0.694)	(0.042)	(0.033)	(0.039)
UI-eligible (UI × D)	-0.000	0.000	-0.005	0.081***	0.066***	0.015
	(0.000)	(0.011)	(0.695)	(0.031)	(0.016)	(0.035)
Panel B.2: Maximum Duration						
UI-ineligible (UI)	-0.000	-0.000	0.002	0.001	-0.000	0.002
	(0.000)	(0.011)	(0.694)	(0.010)	(0.008)	(0.009)
UI-eligible (UI × D)	0.000	0.000	-0.005	0.002	0.011**	-0.009*
	(0.000)	(0.011)	(0.695)	(0.007)	(0.005)	(0.005)
Observations				3,216		

Notes: Bootstrapped standard errors are reported in parentheses. The estimated coefficients represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates.

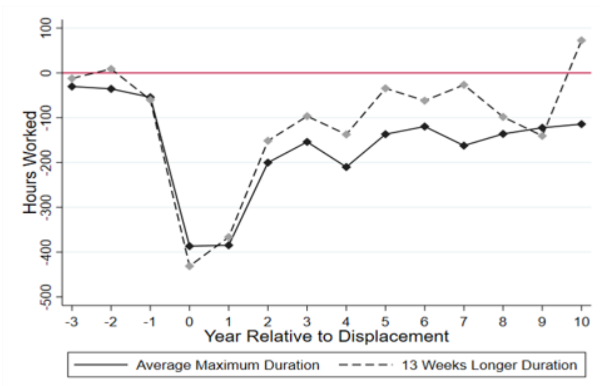
Figure C1: Comparing Estimated Earnings Paths Between This Paper and Davis and von Wachter (2011)



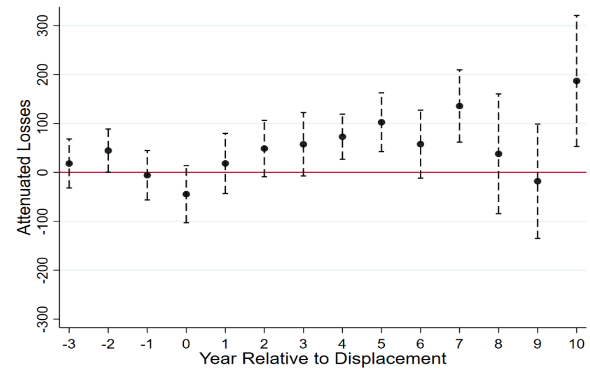
Notes: The figure illustrates the earnings trajectory of displaced workers in comparison to that of the control group. The black solid line represents δ^k in Equation 1. The black and gray dashed lines show the estimates from Davis and von Wachter (2011).

Figure C2: The Effect of UI Generosity on Hours Worked Path of Displaced Workers

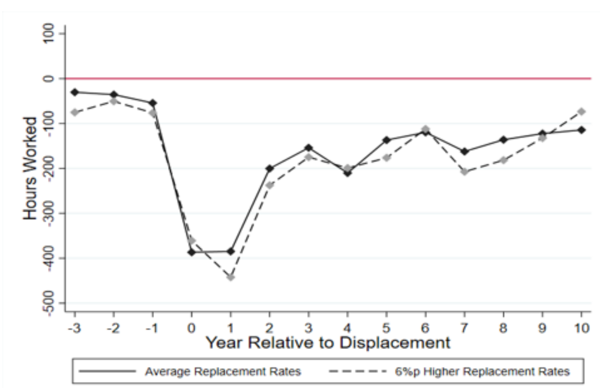
(a) Hours Worked Paths of Average and 13 Weeks Longer Maximum Duration



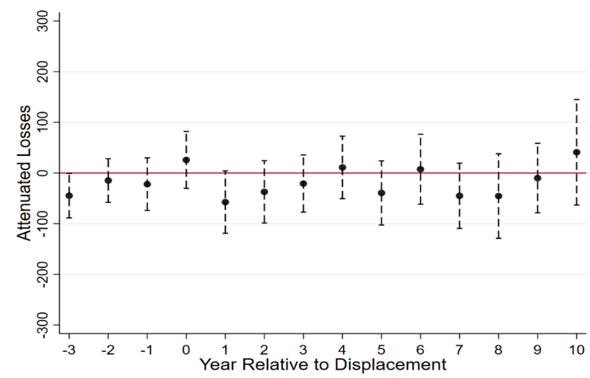
(b) Differences between Paths of 13 Weeks Longer and Average Maximum Duration



(c) Hours Worked Paths of Average and 6 p.p Higher Replacement Rates



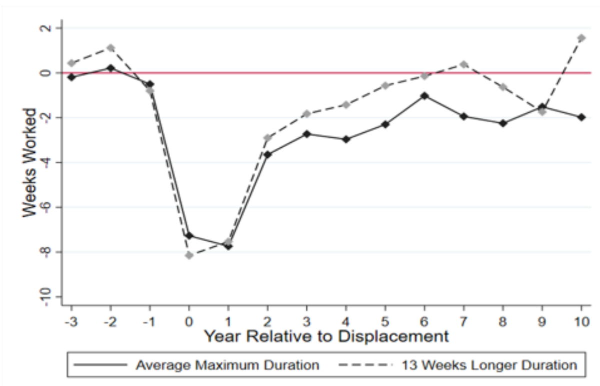
(d) Differences between Paths of 6 p.p Higher and Average Replacement Rates



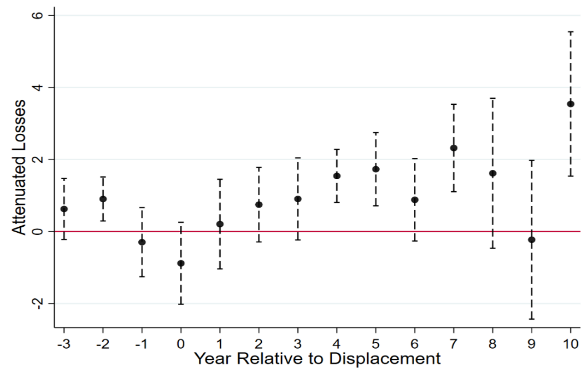
Notes: Panel (a) depicts the work hours paths of displaced workers with an average maximum duration and those with a 13-week longer duration. In Panel (b), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals. Likewise, Panel (c) depicts the work hours paths of displaced workers with an average replacement rates and those with a 6 percentage point higher rates. In Panel (d), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals.

Figure C3: The Effect of UI Generosity on Weeks Worked Path of Displaced Workers

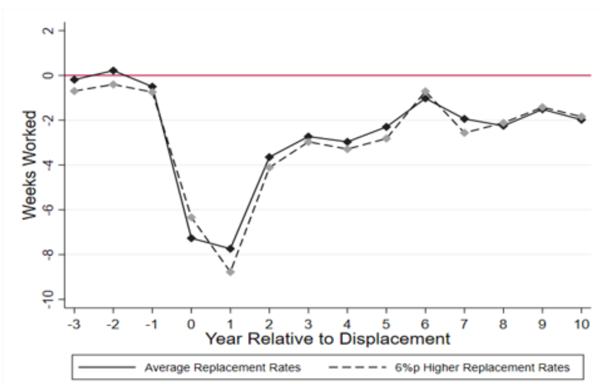
(a) Weeks Worked Paths of Average and 13 Weeks Longer Maximum Duration



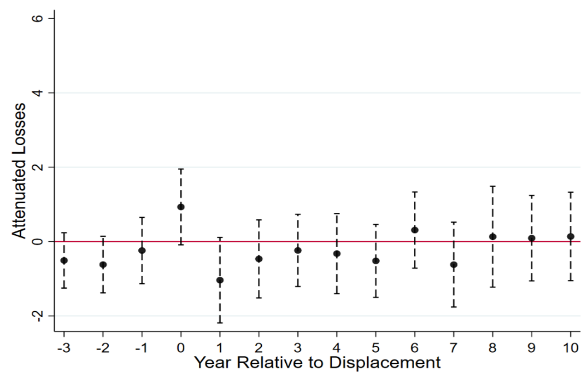
(b) Differences between Paths of 13 Weeks Longer and Average Maximum Duration



(c) Weeks Worked Paths of Average and 6 p.p Higher Replacement Rates



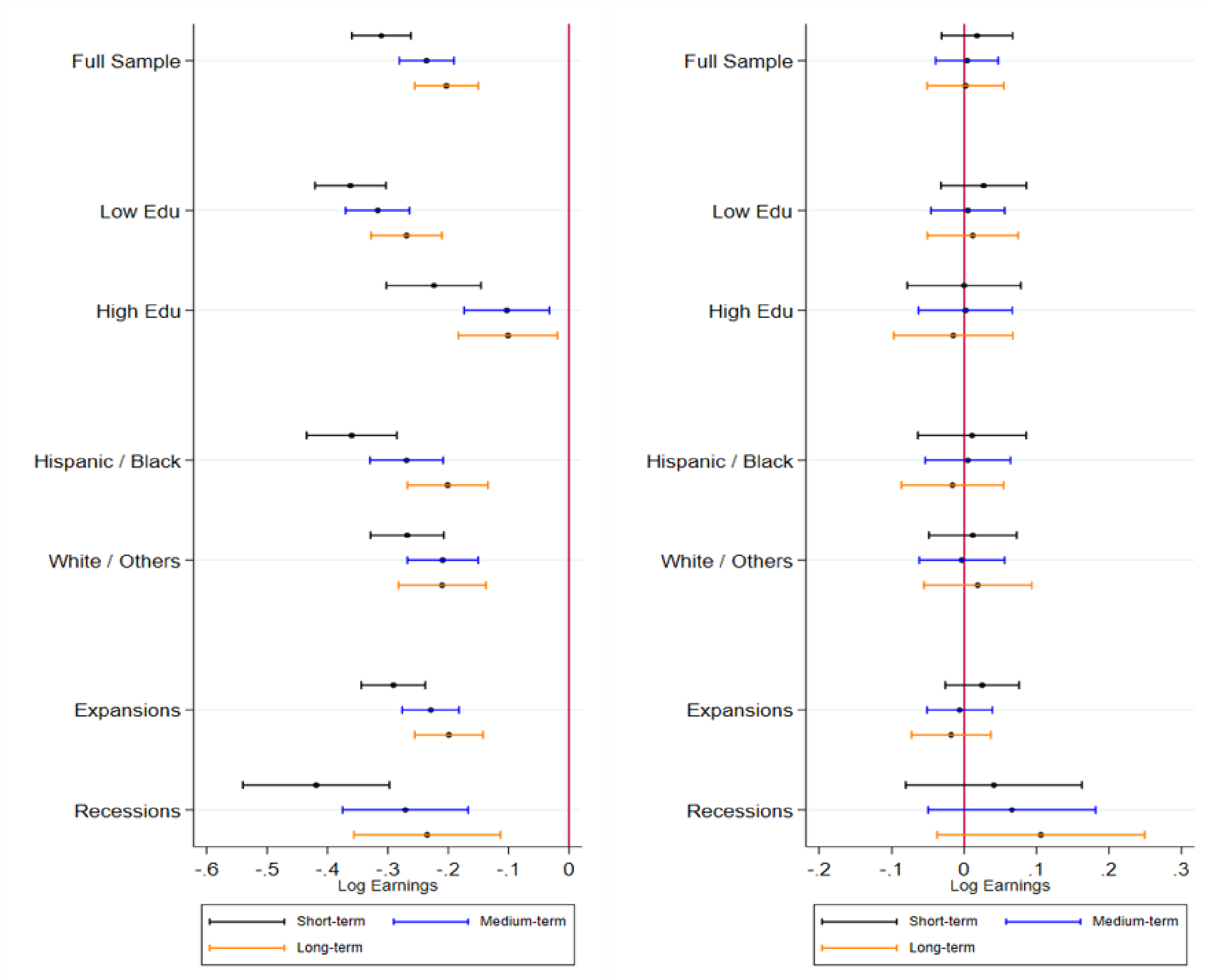
(d) Differences between Paths of 6 p.p Higher and Average Replacement Rates



Notes: Panel (a) depicts the work hours paths of displaced workers with an average maximum duration and those with a 13-week longer duration. In Panel (b), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals. Likewise, Panel (c) depicts the work hours paths of displaced workers with an average replacement rates and those with a 6 percentage point higher rates. In Panel (d), the figure displays the differences between these two paths for each year relative to displacement, along with 95% confidence intervals.

Figure C4: Log Earnings Losses and the Replacement Rates Effect by Subgroups

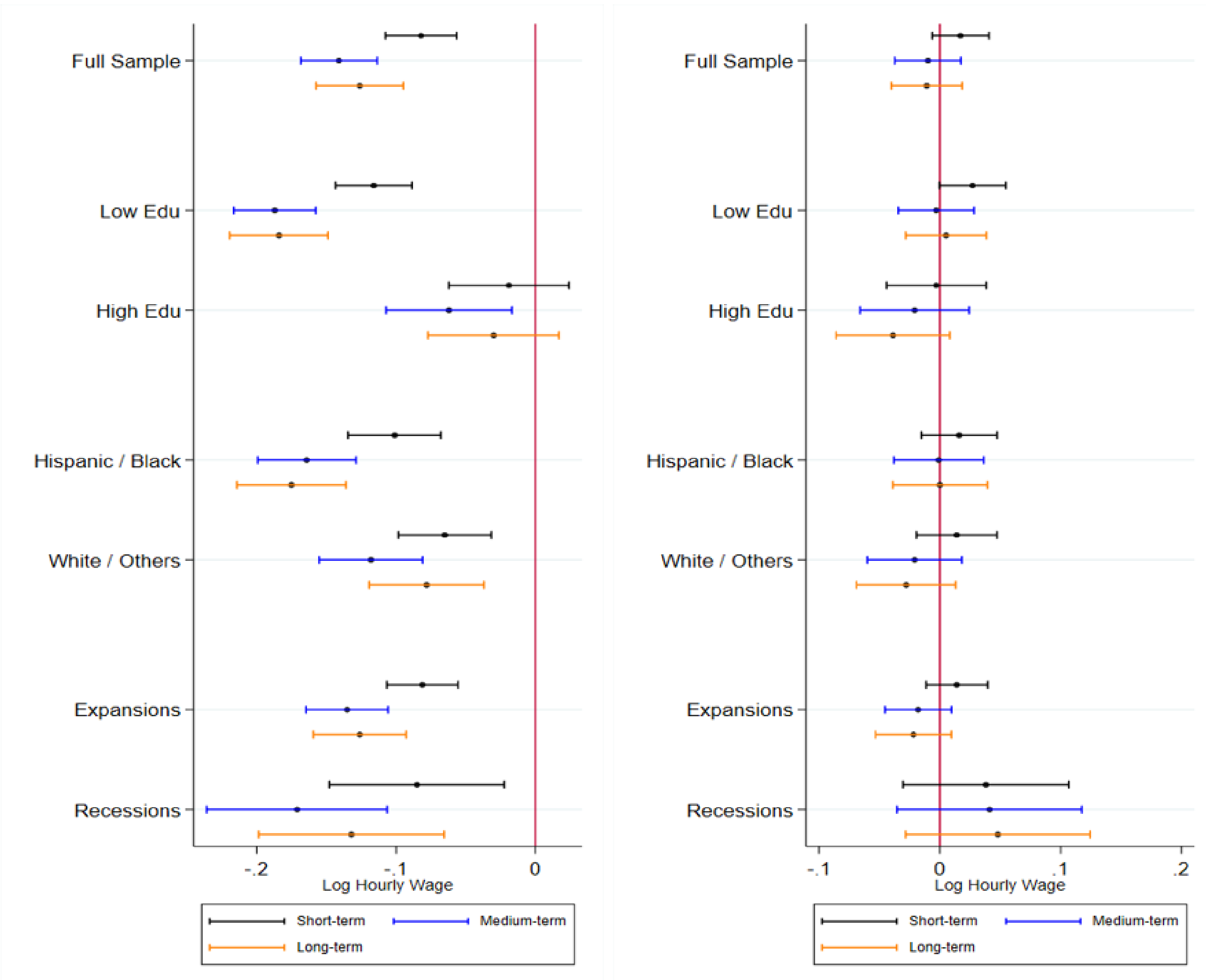
(a) Estimated Earnings Losses (b) The Effect of 6 p.p Higher Replacement Rates



Notes: Panel (a) presents the estimated earnings losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 6 percentage point higher replacement rates on earnings losses for these time periods by each subgroup.

Figure C5: Log Hourly Wage Losses and the Replacement Rates Effect by Subgroups

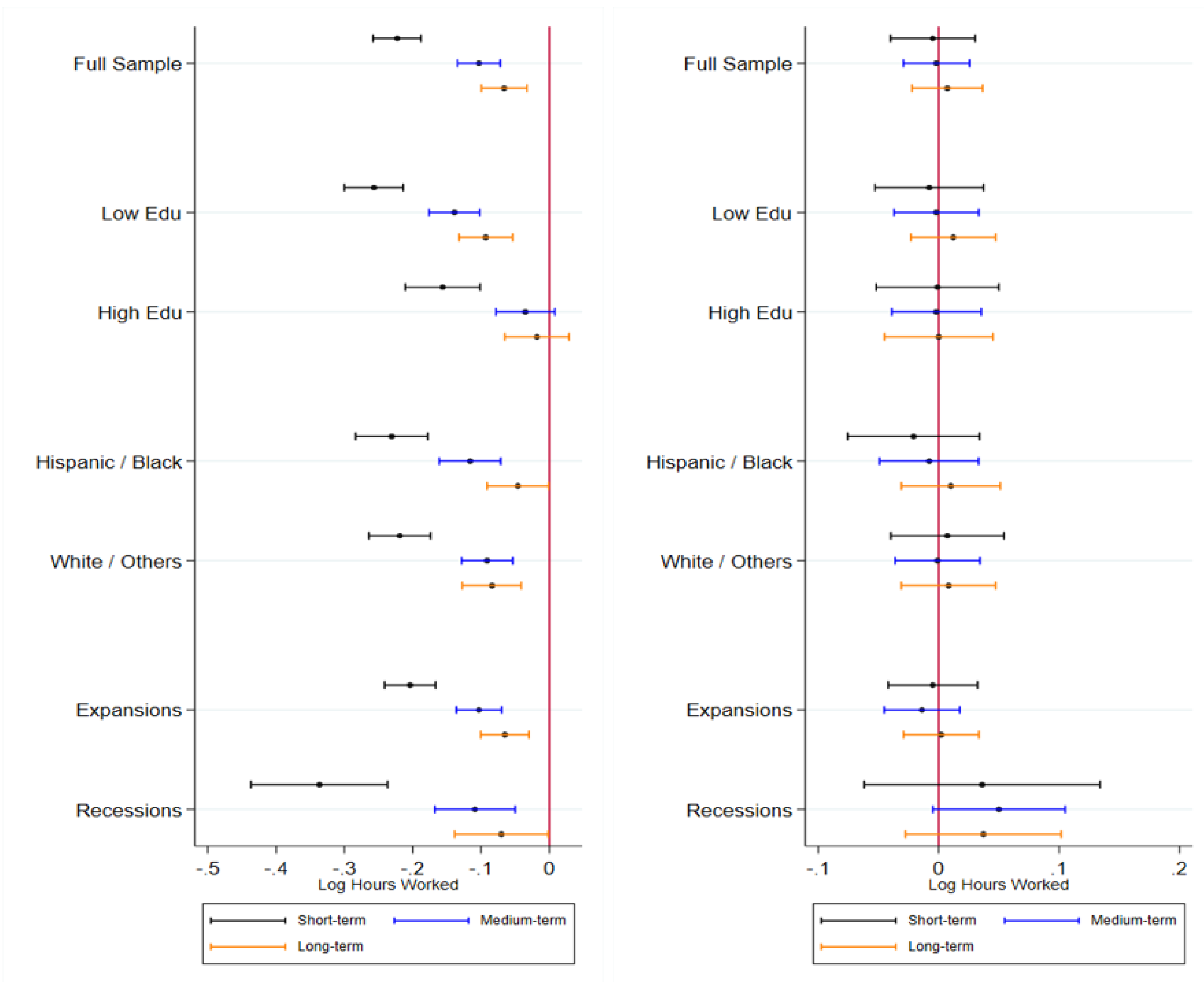
(a) Estimated Wage Losses (b) The Effect of 6 p.p Higher Replacement Rates



Notes: Panel (a) presents the estimated hourly wage losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 6 percentage point higher replacement rates on hourly wage losses for these time periods by each subgroup.

Figure C6: Log Hours Losses and the Replacement Rates Effect by Subgroups

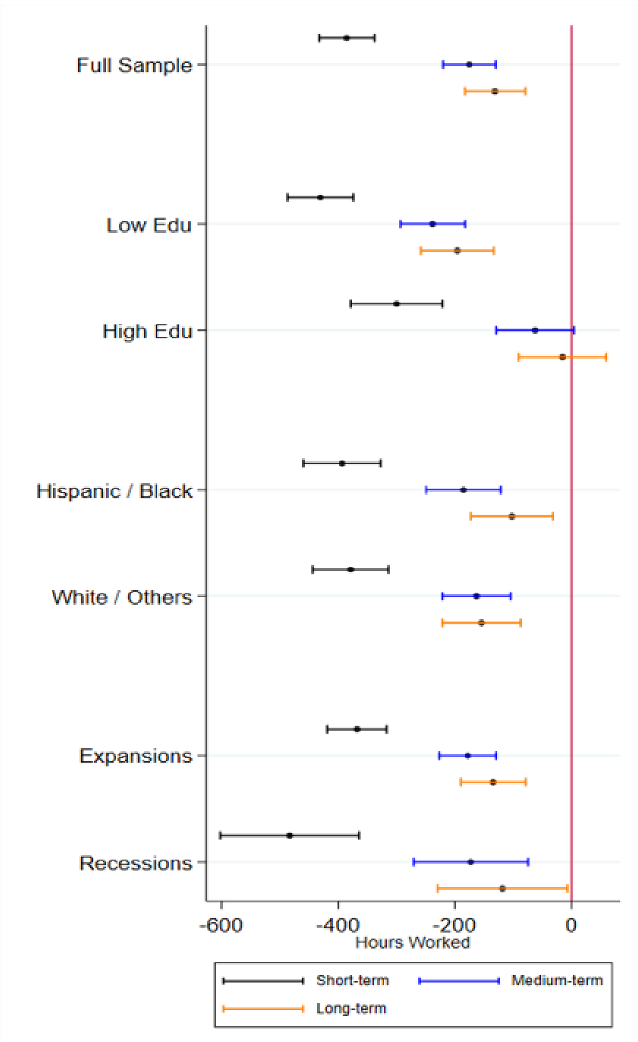
(a) Estimated Hours Losses (b) The Effect of 6 p.p Higher Replacement Rates



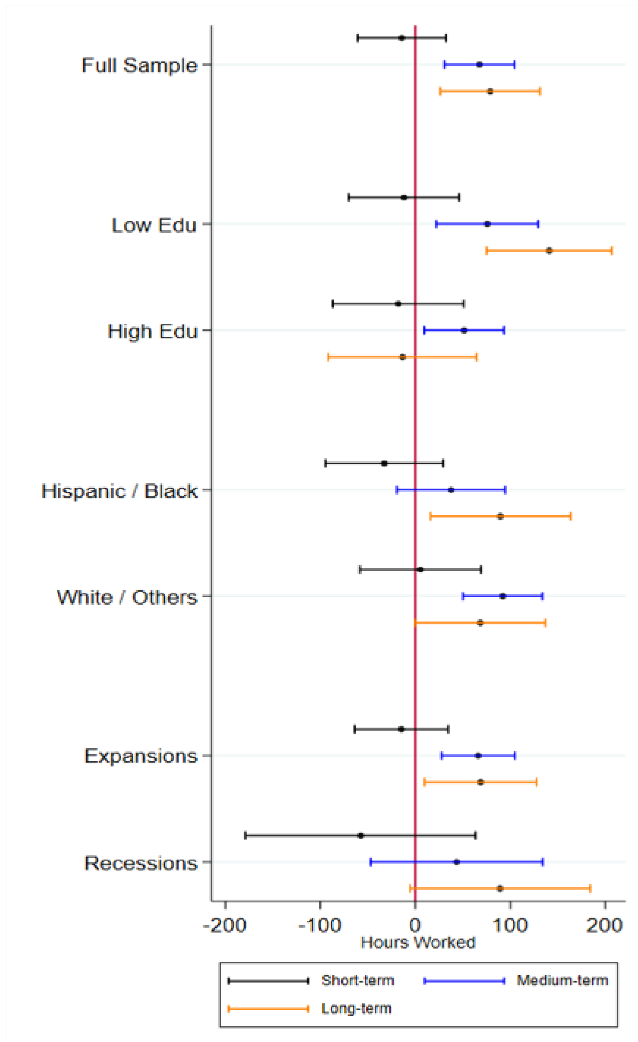
Notes: Panel (a) presents the estimated hours worked losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 6 percentage point higher replacement rates on hours worked losses for these time periods by each subgroup.

Figure C7: Hours Losses and the Maximum Duration Effect by Subgroups

(a) Estimated Hours Losses



(b) The Effect of 13 Weeks Longer Duration

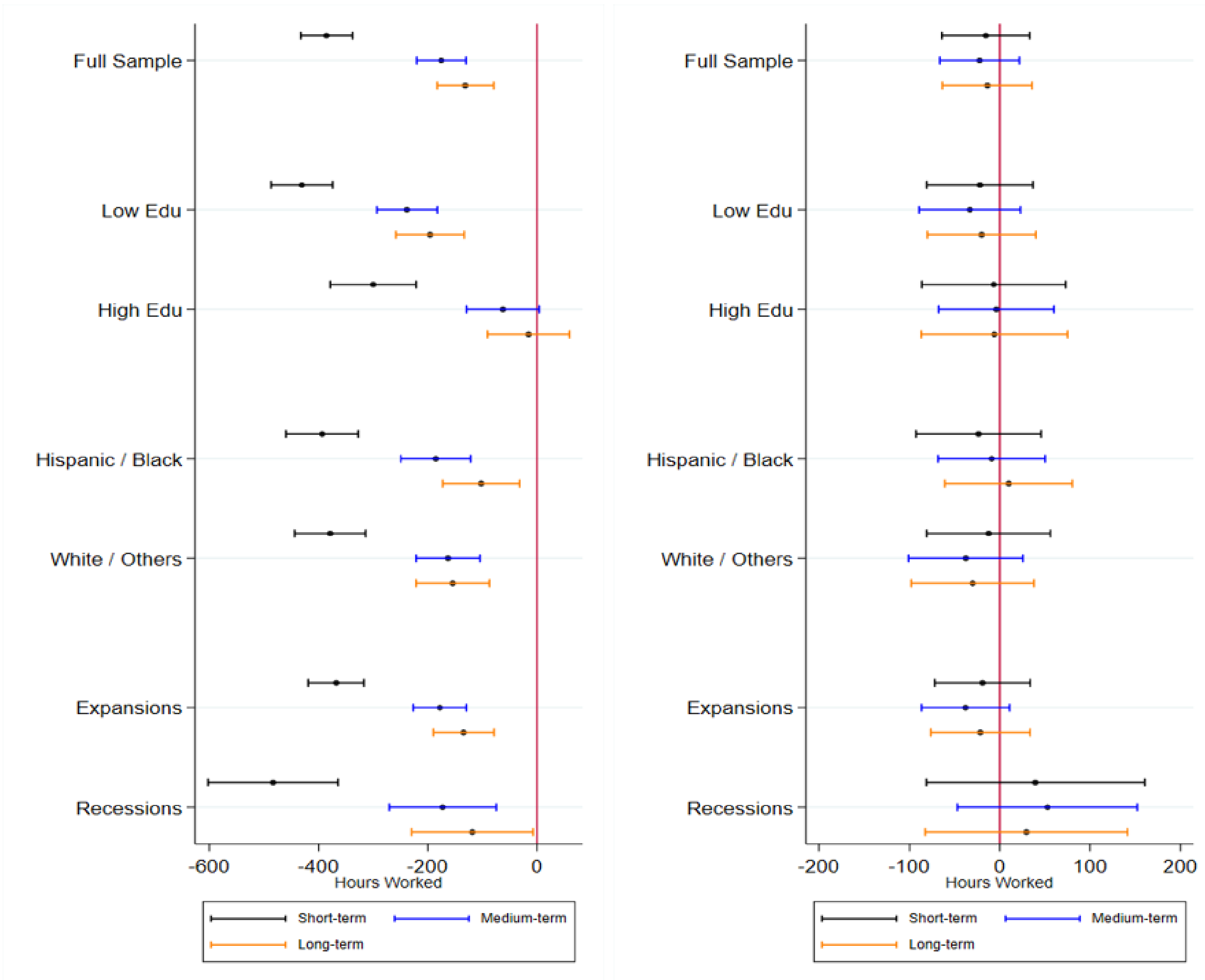


Notes: Panel (a) presents the estimated hours worked losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 13-week longer maximum duration on hours worked losses for these time periods by each subgroup.

Figure C8: Hours Losses and the Replacement Rates Effect by Subgroups

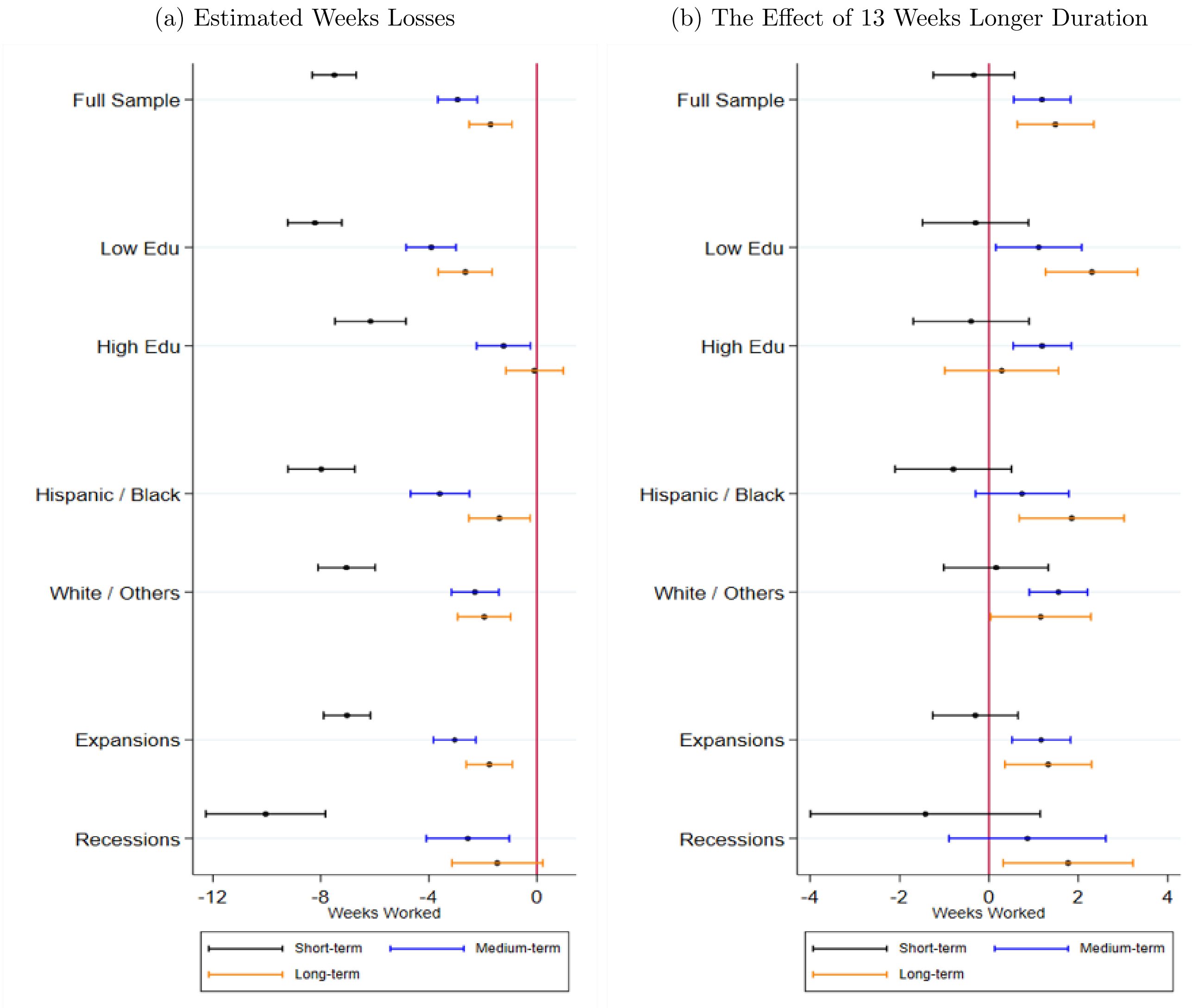
(a) Estimated Hours Losses

(b) The Effect of 6 p.p Higher Replacement Rates



Notes: Panel (a) presents the estimated hours worked losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 6 percentage point higher replacement rates on hours worked losses for these time periods by each subgroup.

Figure C9: Weeks Losses and the Maximum Duration Effect by Subgroups

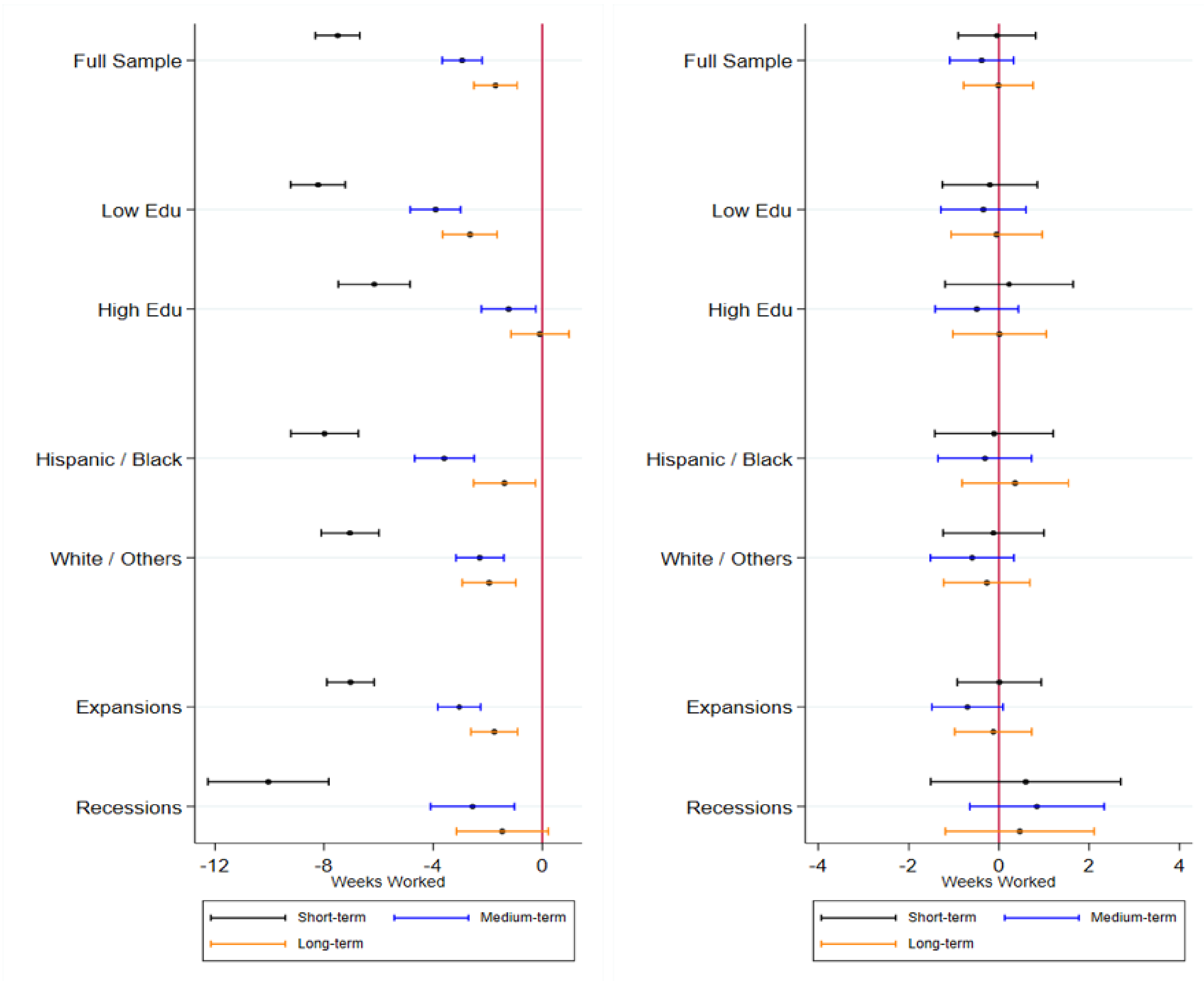


Notes: Panel (a) presents the estimated weeks worked losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 13-week longer maximum duration on weeks worked losses for these time periods by each subgroup.

Figure C10: Weeks Losses and the Replacement Rates Effect by Subgroups

(a) Estimated Weeks Losses

(b) The Effect of 6 p.p Higher Replacement Rates



Notes: Panel (a) presents the estimated weeks worked losses for the short-term (displacement year and the next year), medium-term (2-5 years after), and long-term (6-10 years after) by each subgroup. Panel (b) shows the effect of a 6 percentage point higher replacement rates on weeks worked losses for these time periods by each subgroup.

D Robustness

Table D1: The Effect of UI Generosity on Outcomes of Non-displaced Workers

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	-0.002	-0.026	-0.011	17.912	-0.024
	(0.030)	(0.016)	(0.021)	(29.267)	(0.475)
Short-term ($0 \leq k \leq 1$)	-0.041	-0.041**	-0.024	-66.984	-1.922***
	(0.036)	(0.019)	(0.027)	(40.885)	(0.729)
Medium-term ($2 \leq k \leq 5$)	-0.015	-0.044*	-0.013	-17.875	-0.373
	(0.037)	(0.023)	(0.024)	(39.048)	(0.567)
Long-term ($6 \leq k \leq 10$)	-0.040	-0.035	-0.010	16.091	-0.202
	(0.042)	(0.026)	(0.027)	(41.198)	(0.567)
11+ Years ($k \geq 11$)	0.041	-0.026	0.010	55.923	0.058
	(0.042)	(0.030)	(0.027)	(44.465)	(0.619)
Panel (b): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	-0.009	-0.019	0.012	1.443	0.161
	(0.024)	(0.014)	(0.017)	(24.633)	(0.360)
Short-term ($0 \leq k \leq 1$)	0.007	0.001	0.028	31.365	0.530
	(0.027)	(0.016)	(0.019)	(27.999)	(0.454)
Medium-term ($2 \leq k \leq 5$)	-0.003	-0.014	0.024	20.869	0.150
	(0.028)	(0.017)	(0.019)	(28.345)	(0.419)
Long-term ($6 \leq k \leq 10$)	0.019	-0.001	0.021	20.699	0.601
	(0.031)	(0.020)	(0.020)	(31.893)	(0.451)
11+ Years ($k \geq 11$)	0.039	-0.007	-0.032	29.752	1.062**
	(0.034)	(0.023)	(0.022)	(33.336)	(0.478)
Observations	27,875	29,072	28,656	29,215	29,215

Notes: The estimated coefficients in panel (a) and (b) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D2: The Effect of UI Generosity with Age at First Displacement ≥ 25

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.045**	-0.030***	-0.026**	-37.104**	-0.101
	(0.018)	(0.010)	(0.013)	(17.375)	(0.286)
Short-term ($0 \leq k \leq 1$)	-0.291***	-0.085***	-0.210***	-378.222***	-7.323***
	(0.024)	(0.012)	(0.018)	(24.429)	(0.421)
Medium-term ($2 \leq k \leq 5$)	-0.236***	-0.145***	-0.096***	-171.111***	-2.807***
	(0.022)	(0.013)	(0.015)	(23.044)	(0.368)
Long-term ($6 \leq k \leq 10$)	-0.201***	-0.130***	-0.057***	-109.611***	-1.497***
	(0.026)	(0.015)	(0.017)	(26.440)	(0.406)
11+ Years ($k \geq 11$)	-0.209***	-0.157***	-0.054***	-140.874***	-1.746***
	(0.029)	(0.019)	(0.019)	(30.132)	(0.460)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.006	0.007	0.000	23.099	0.509*
	(0.019)	(0.010)	(0.015)	(17.812)	(0.304)
Short-term ($0 \leq k \leq 1$)	-0.005	0.006	0.003	-14.569	-0.447
	(0.024)	(0.011)	(0.016)	(23.635)	(0.460)
Medium-term ($2 \leq k \leq 5$)	0.028	0.009	0.049***	73.455***	1.268***
	(0.019)	(0.011)	(0.011)	(18.611)	(0.320)
Long-term ($6 \leq k \leq 10$)	0.053**	-0.003	0.047***	91.494***	1.537***
	(0.025)	(0.015)	(0.016)	(27.214)	(0.442)
11+ Years ($k \geq 11$)	0.024	-0.018	0.028	65.305*	1.058*
	(0.033)	(0.021)	(0.021)	(36.639)	(0.541)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.001	-0.004	-0.015	-24.904	-0.490
	(0.020)	(0.011)	(0.014)	(18.852)	(0.319)
Short-term ($0 \leq k \leq 1$)	0.020	0.013	-0.006	-11.796	0.121
	(0.024)	(0.012)	(0.018)	(25.299)	(0.450)
Medium-term ($2 \leq k \leq 5$)	0.007	-0.006	0.001	-15.494	-0.217
	(0.022)	(0.014)	(0.014)	(22.543)	(0.362)
Long-term ($6 \leq k \leq 10$)	-0.002	-0.012	0.005	-9.841	0.078
	(0.027)	(0.015)	(0.015)	(25.549)	(0.396)
11+ Years ($k \geq 11$)	-0.012	-0.001	0.013	12.499	0.540
	(0.028)	(0.018)	(0.017)	(28.689)	(0.422)
Observations	52,227	55,088	53,632	55,383	55,383

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates.

Table D3: The Effect of UI Generosity with Age at First Displacement ≥ 23

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.030	-0.023*	-0.009	-28.862	-0.012
	(0.021)	(0.012)	(0.015)	(19.493)	(0.326)
Short-term ($0 \leq k \leq 1$)	-0.311***	-0.067***	-0.229***	-381.419***	-7.630***
	(0.026)	(0.014)	(0.020)	(25.915)	(0.434)
Medium-term ($2 \leq k \leq 5$)	-0.235***	-0.139***	-0.094***	-167.782***	-2.811***
	(0.024)	(0.015)	(0.017)	(24.352)	(0.394)
Long-term ($6 \leq k \leq 10$)	-0.225***	-0.133***	-0.064***	-128.146***	-1.801***
	(0.028)	(0.017)	(0.018)	(27.455)	(0.424)
11+ Years ($k \geq 11$)	-0.219***	-0.158***	-0.062***	-154.294***	-2.203***
	(0.030)	(0.020)	(0.020)	(31.472)	(0.469)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.004	0.001	-0.004	18.545	0.401
	(0.020)	(0.010)	(0.016)	(18.954)	(0.324)
Short-term ($0 \leq k \leq 1$)	0.000	0.009	-0.002	-22.247	-0.594
	(0.025)	(0.011)	(0.017)	(24.351)	(0.472)
Medium-term ($2 \leq k \leq 5$)	0.019	0.002	0.042***	62.006***	0.975***
	(0.021)	(0.012)	(0.012)	(19.394)	(0.334)
Long-term ($6 \leq k \leq 10$)	0.022	-0.019	0.033**	71.468***	1.284***
	(0.026)	(0.016)	(0.016)	(26.898)	(0.442)
11+ Years ($k \geq 11$)	0.028	-0.032	0.029	56.763	0.748
	(0.033)	(0.020)	(0.021)	(36.281)	(0.531)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.013	0.008	-0.008	-20.179	-0.241
	(0.021)	(0.011)	(0.015)	(19.769)	(0.335)
Short-term ($0 \leq k \leq 1$)	0.017	0.012	-0.007	-19.360	-0.186
	(0.024)	(0.013)	(0.018)	(24.799)	(0.431)
Medium-term ($2 \leq k \leq 5$)	0.004	-0.011	-0.001	-22.532	-0.345
	(0.023)	(0.014)	(0.014)	(22.410)	(0.364)
Long-term ($6 \leq k \leq 10$)	-0.002	-0.005	0.001	-31.542	-0.347
	(0.027)	(0.015)	(0.015)	(25.306)	(0.398)
11+ Years ($k \geq 11$)	-0.020	0.000	0.000	-16.470	0.044
	(0.028)	(0.018)	(0.017)	(28.296)	(0.418)
Observations	52,394	55,207	53,826	55,511	55,511

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D4: The Effect of UI Generosity with Age $\geq$ 18

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.017	-0.021**	-0.008	-24.252	0.182
	(0.018)	(0.010)	(0.013)	(17.222)	(0.292)
Short-term ($0 \leq k \leq 1$)	-0.294***	-0.074***	-0.206***	-367.577***	-7.123***
	(0.025)	(0.012)	(0.018)	(23.535)	(0.412)
Medium-term ($2 \leq k \leq 5$)	-0.220***	-0.133***	-0.085***	-157.678***	-2.564***
	(0.023)	(0.013)	(0.015)	(22.243)	(0.363)
Long-term ($6 \leq k \leq 10$)	-0.186***	-0.120***	-0.048***	-116.588***	-1.391***
	(0.027)	(0.015)	(0.017)	(25.562)	(0.399)
11+ Years ($k \geq 11$)	-0.173***	-0.133***	-0.037*	-126.667***	-1.457***
	(0.029)	(0.019)	(0.019)	(29.432)	(0.450)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.004	0.001	-0.006	16.098	0.302
	(0.020)	(0.010)	(0.016)	(18.303)	(0.314)
Short-term ($0 \leq k \leq 1$)	-0.001	0.004	-0.001	-17.782	-0.461
	(0.025)	(0.011)	(0.017)	(23.673)	(0.465)
Medium-term ($2 \leq k \leq 5$)	0.028	0.004	0.046***	65.492***	1.112***
	(0.020)	(0.011)	(0.011)	(18.431)	(0.321)
Long-term ($6 \leq k \leq 10$)	0.053**	-0.003	0.040**	75.039***	1.365***
	(0.025)	(0.015)	(0.016)	(26.582)	(0.437)
11+ Years ($k \geq 11$)	0.033	-0.011	0.022	48.806	0.842
	(0.034)	(0.021)	(0.022)	(36.638)	(0.535)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.000	0.001	-0.019	-29.560	-0.455
	(0.020)	(0.011)	(0.014)	(18.708)	(0.319)
Short-term ($0 \leq k \leq 1$)	0.016	0.017	-0.010	-17.903	-0.050
	(0.024)	(0.012)	(0.018)	(24.130)	(0.434)
Medium-term ($2 \leq k \leq 5$)	-0.002	-0.010	-0.009	-27.132	-0.422
	(0.022)	(0.014)	(0.014)	(21.657)	(0.358)
Long-term ($6 \leq k \leq 10$)	-0.002	-0.011	0.000	-19.828	-0.064
	(0.027)	(0.015)	(0.015)	(24.851)	(0.390)
11+ Years ($k \geq 11$)	-0.019	0.001	0.001	-3.459	0.297
	(0.028)	(0.017)	(0.017)	(27.907)	(0.416)
Observations	55,450	58,431	56,896	58,742	58,742

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D5: The Effect of UI Generosity with Age $\geq$ 24

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.038*	-0.024*	-0.019	-25.805	-0.319
	(0.022)	(0.014)	(0.017)	(23.622)	(0.359)
Short-term ($0 \leq k \leq 1$)	-0.287***	-0.071***	-0.204***	-359.853***	-7.544***
	(0.029)	(0.016)	(0.022)	(29.453)	(0.472)
Medium-term ($2 \leq k \leq 5$)	-0.209***	-0.129***	-0.078***	-144.797***	-2.866***
	(0.027)	(0.017)	(0.019)	(28.652)	(0.430)
Long-term ($6 \leq k \leq 10$)	-0.182***	-0.115***	-0.045**	-105.684***	-1.678***
	(0.030)	(0.019)	(0.020)	(31.619)	(0.460)
11+ Years ($k \geq 11$)	-0.171***	-0.130***	-0.039*	-124.469***	-1.903***
	(0.032)	(0.022)	(0.021)	(34.616)	(0.504)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	-0.003	0.006	-0.011	4.820	0.362
	(0.021)	(0.011)	(0.016)	(19.707)	(0.335)
Short-term ($0 \leq k \leq 1$)	-0.020	0.001	-0.012	-29.988	-0.451
	(0.025)	(0.011)	(0.017)	(24.729)	(0.485)
Medium-term ($2 \leq k \leq 5$)	0.007	-0.002	0.037***	50.017**	1.064***
	(0.021)	(0.012)	(0.012)	(19.759)	(0.339)
Long-term ($6 \leq k \leq 10$)	0.024	-0.012	0.025	53.270*	1.256***
	(0.026)	(0.016)	(0.016)	(27.945)	(0.456)
11+ Years ($k \geq 11$)	-0.003	-0.016	0.002	22.521	0.608
	(0.035)	(0.021)	(0.021)	(37.861)	(0.553)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.002	0.003	-0.006	-11.626	-0.292
	(0.023)	(0.013)	(0.016)	(22.397)	(0.360)
Short-term ($0 \leq k \leq 1$)	0.026	0.028**	0.001	-10.479	0.049
	(0.027)	(0.014)	(0.019)	(27.987)	(0.481)
Medium-term ($2 \leq k \leq 5$)	0.011	0.001	0.006	-9.177	-0.235
	(0.024)	(0.016)	(0.015)	(25.235)	(0.394)
Long-term ($6 \leq k \leq 10$)	0.005	0.001	0.016	0.120	0.135
	(0.030)	(0.017)	(0.015)	(27.691)	(0.424)
11+ Years ($k \geq 11$)	-0.011	0.014	0.019	17.585	0.433
	(0.030)	(0.020)	(0.017)	(30.070)	(0.433)
Observations	42,794	45,228	44,030	45,483	45,483

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D6: The Effect of UI Generosity with Tenure before Displacement at least ≥ 2 Years

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.002	-0.007	0.006	0.733	0.761**
	(0.021)	(0.012)	(0.015)	(20.062)	(0.323)
Short-term ($0 \leq k \leq 1$)	-0.308***	-0.079***	-0.223***	-403.066***	-8.044***
	(0.028)	(0.014)	(0.022)	(29.954)	(0.512)
Medium-term ($2 \leq k \leq 5$)	-0.239***	-0.151***	-0.085***	-146.214***	-2.609***
	(0.027)	(0.015)	(0.018)	(27.669)	(0.440)
Long-term ($6 \leq k \leq 10$)	-0.221***	-0.141***	-0.052***	-103.259***	-1.411***
	(0.031)	(0.018)	(0.019)	(30.495)	(0.463)
11+ Years ($k \geq 11$)	-0.213***	-0.157***	-0.042**	-107.554***	-1.568***
	(0.033)	(0.021)	(0.021)	(34.537)	(0.512)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.006	0.008	0.006	29.083	0.519
	(0.021)	(0.010)	(0.015)	(19.781)	(0.326)
Short-term ($0 \leq k \leq 1$)	-0.001	0.011	0.006	-12.121	-0.201
	(0.027)	(0.011)	(0.018)	(26.372)	(0.515)
Medium-term ($2 \leq k \leq 5$)	0.035	0.013	0.045***	60.726***	1.095***
	(0.022)	(0.012)	(0.013)	(20.747)	(0.361)
Long-term ($6 \leq k \leq 10$)	0.061**	0.010	0.045***	73.824**	1.365***
	(0.028)	(0.017)	(0.017)	(29.633)	(0.492)
11+ Years ($k \geq 11$)	0.031	-0.010	0.039*	61.974	1.142*
	(0.040)	(0.024)	(0.023)	(43.402)	(0.603)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.017	0.006	0.011	-4.332	0.121
	(0.022)	(0.011)	(0.015)	(21.198)	(0.338)
Short-term ($0 \leq k \leq 1$)	0.008	0.028**	0.009	-12.993	0.129
	(0.028)	(0.013)	(0.020)	(29.679)	(0.524)
Medium-term ($2 \leq k \leq 5$)	0.003	-0.005	0.007	-18.481	-0.055
	(0.025)	(0.016)	(0.016)	(25.675)	(0.420)
Long-term ($6 \leq k \leq 10$)	-0.000	-0.003	0.017	-8.847	0.322
	(0.030)	(0.016)	(0.016)	(27.901)	(0.444)
11+ Years ($k \geq 11$)	0.008	0.011	0.026	24.222	0.509
	(0.031)	(0.020)	(0.018)	(32.812)	(0.470)
Observations	45,123	47,423	46,304	47,679	47,679

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D7: The Effect of UI Generosity with Tenure before Displacement at least ≥ 0.5 Years

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.052***	-0.025***	-0.039***	-54.710***	-0.548*
	(0.017)	(0.010)	(0.013)	(16.915)	(0.282)
Short-term ($0 \leq k \leq 1$)	-0.311***	-0.082***	-0.217***	-371.160***	-7.187***
	(0.023)	(0.012)	(0.017)	(22.362)	(0.386)
Medium-term ($2 \leq k \leq 5$)	-0.215***	-0.132***	-0.092***	-149.896***	-2.471***
	(0.022)	(0.013)	(0.015)	(21.666)	(0.352)
Long-term ($6 \leq k \leq 10$)	-0.184***	-0.124***	-0.053***	-118.874***	-1.511***
	(0.025)	(0.015)	(0.016)	(24.940)	(0.393)
11+ Years ($k \geq 11$)	-0.168***	-0.135***	-0.035*	-112.264***	-1.498***
	(0.028)	(0.018)	(0.019)	(28.970)	(0.439)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.008	0.006	-0.003	12.867	0.171
	(0.019)	(0.009)	(0.015)	(18.246)	(0.321)
Short-term ($0 \leq k \leq 1$)	-0.005	0.003	0.002	-19.399	-0.551
	(0.023)	(0.010)	(0.016)	(22.610)	(0.441)
Medium-term ($2 \leq k \leq 5$)	0.019	-0.000	0.045***	56.569***	0.885***
	(0.020)	(0.011)	(0.012)	(18.627)	(0.323)
Long-term ($6 \leq k \leq 10$)	0.038	0.000	0.043***	58.289**	1.044**
	(0.027)	(0.015)	(0.016)	(26.045)	(0.440)
11+ Years ($k \geq 11$)	0.053	0.011	0.039*	58.067*	0.798
	(0.034)	(0.020)	(0.021)	(34.341)	(0.509)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.009	-0.005	-0.007	-17.320	-0.220
	(0.019)	(0.010)	(0.013)	(17.839)	(0.307)
Short-term ($0 \leq k \leq 1$)	0.038*	0.013	0.003	-11.332	0.109
	(0.022)	(0.011)	(0.016)	(22.609)	(0.401)
Medium-term ($2 \leq k \leq 5$)	0.013	-0.014	0.003	-3.908	0.055
	(0.021)	(0.013)	(0.013)	(21.181)	(0.345)
Long-term ($6 \leq k \leq 10$)	0.014	-0.016	0.014	4.806	0.289
	(0.025)	(0.014)	(0.014)	(23.421)	(0.379)
11+ Years ($k \geq 11$)	-0.000	-0.011	0.021	19.682	0.762*
	(0.026)	(0.016)	(0.016)	(26.222)	(0.402)
Observations	56,975	60,284	58,577	60,614	60,614

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D8: The Effect of UI Generosity without Tenure Restriction

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.071***	-0.029***	-0.053***	-75.199***	-0.984***
	(0.017)	(0.009)	(0.013)	(16.208)	(0.275)
Short-term ($0 \leq k \leq 1$)	-0.305***	-0.093***	-0.232***	-377.188***	-7.293***
	(0.022)	(0.011)	(0.017)	(20.956)	(0.368)
Medium-term ($2 \leq k \leq 5$)	-0.209***	-0.132***	-0.095***	-158.961***	-2.457***
	(0.021)	(0.012)	(0.015)	(20.557)	(0.340)
Long-term ($6 \leq k \leq 10$)	-0.180***	-0.126***	-0.059***	-127.273***	-1.452***
	(0.025)	(0.014)	(0.016)	(23.606)	(0.380)
11+ Years ($k \geq 11$)	-0.156***	-0.138***	-0.037**	-129.528***	-1.538***
	(0.027)	(0.017)	(0.018)	(27.637)	(0.424)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.001	0.005	-0.002	14.432	0.125
	(0.018)	(0.009)	(0.014)	(17.380)	(0.305)
Short-term ($0 \leq k \leq 1$)	-0.008	0.002	0.011	-12.344	-0.437
	(0.022)	(0.010)	(0.015)	(21.842)	(0.424)
Medium-term ($2 \leq k \leq 5$)	0.016	0.001	0.039***	51.007***	0.713**
	(0.019)	(0.011)	(0.011)	(17.813)	(0.311)
Long-term ($6 \leq k \leq 10$)	0.033	0.006	0.040**	56.272**	0.952**
	(0.026)	(0.014)	(0.016)	(24.377)	(0.425)
11+ Years ($k \geq 11$)	0.054*	0.027	0.040**	58.544*	0.700
	(0.032)	(0.018)	(0.020)	(32.062)	(0.498)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.010	-0.000	-0.006	-19.755	-0.198
	(0.018)	(0.010)	(0.013)	(16.891)	(0.298)
Short-term ($0 \leq k \leq 1$)	0.039*	0.017	0.011	-8.639	0.082
	(0.022)	(0.011)	(0.016)	(20.963)	(0.377)
Medium-term ($2 \leq k \leq 5$)	0.015	-0.010	0.002	-10.258	-0.012
	(0.019)	(0.012)	(0.013)	(19.768)	(0.330)
Long-term ($6 \leq k \leq 10$)	0.016	-0.010	0.013	-19.945	-0.025
	(0.023)	(0.013)	(0.014)	(22.236)	(0.364)
11+ Years ($k \geq 11$)	0.011	0.002	0.031**	22.572	0.892**
	(0.024)	(0.015)	(0.015)	(24.765)	(0.384)
Observations	61,671	65,475	63,423	65,851	65,851

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D9: The Effect of UI Generosity Only Using Ever-displaced Workers

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.006	-0.003	-0.017	-36.782*	-0.267
	(0.019)	(0.011)	(0.014)	(18.786)	(0.306)
Short-term ($0 \leq k \leq 1$)	-0.274***	-0.047***	-0.214***	-376.112***	-7.578***
	(0.027)	(0.014)	(0.019)	(26.348)	(0.439)
Medium-term ($2 \leq k \leq 5$)	-0.191***	-0.092***	-0.095***	-171.318***	-3.147***
	(0.027)	(0.016)	(0.018)	(27.185)	(0.430)
Long-term ($6 \leq k \leq 10$)	-0.145***	-0.064***	-0.061***	-134.939***	-2.005***
	(0.033)	(0.019)	(0.021)	(33.284)	(0.498)
11+ Years ($k \geq 11$)	-0.120***	-0.064**	-0.062**	-176.303***	-2.429***
	(0.041)	(0.026)	(0.026)	(41.613)	(0.629)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.012	0.004	-0.001	19.115	0.480
	(0.020)	(0.010)	(0.016)	(18.873)	(0.324)
Short-term ($0 \leq k \leq 1$)	0.001	0.007	-0.003	-21.164	-0.424
	(0.025)	(0.011)	(0.017)	(24.077)	(0.468)
Medium-term ($2 \leq k \leq 5$)	0.027	0.005	0.040***	50.681***	0.985***
	(0.020)	(0.012)	(0.012)	(19.443)	(0.337)
Long-term ($6 \leq k \leq 10$)	0.049*	-0.006	0.037**	70.051***	1.456***
	(0.026)	(0.016)	(0.016)	(27.131)	(0.451)
11+ Years ($k \geq 11$)	0.041	-0.005	0.020	46.653	0.896
	(0.034)	(0.021)	(0.021)	(37.437)	(0.546)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.002	-0.003	-0.013	-23.333	-0.530
	(0.020)	(0.011)	(0.014)	(19.112)	(0.326)
Short-term ($0 \leq k \leq 1$)	0.018	0.012	-0.003	-9.678	-0.124
	(0.025)	(0.013)	(0.018)	(25.041)	(0.442)
Medium-term ($2 \leq k \leq 5$)	0.002	-0.015	-0.001	-17.993	-0.537
	(0.023)	(0.015)	(0.015)	(23.456)	(0.380)
Long-term ($6 \leq k \leq 10$)	0.000	-0.015	0.009	-8.198	-0.226
	(0.028)	(0.016)	(0.016)	(26.896)	(0.419)
11+ Years ($k \geq 11$)	-0.016	-0.001	0.011	4.858	-0.037
	(0.032)	(0.020)	(0.019)	(32.629)	(0.470)
Observations	26,360	27,848	27,016	27,962	27,962

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D10: The Effect of UI Generosity Including Never-separated Workers

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.036**	-0.031***	-0.023*	-43.068**	-0.222
	(0.018)	(0.010)	(0.013)	(17.564)	(0.290)
Short-term ($0 \leq k \leq 1$)	-0.315***	-0.088***	-0.222***	-389.229***	-7.583***
	(0.025)	(0.013)	(0.018)	(24.069)	(0.413)
Medium-term ($2 \leq k \leq 5$)	-0.239***	-0.146***	-0.101***	-178.091***	-3.018***
	(0.023)	(0.014)	(0.015)	(22.758)	(0.367)
Long-term ($6 \leq k \leq 10$)	-0.203***	-0.131***	-0.063***	-135.459***	-1.850***
	(0.026)	(0.015)	(0.017)	(25.914)	(0.397)
11+ Years ($k \geq 11$)	-0.191***	-0.147***	-0.055***	-157.054***	-2.127***
	(0.028)	(0.018)	(0.019)	(29.486)	(0.439)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.010	0.005	-0.002	17.405	0.369
	(0.020)	(0.010)	(0.015)	(18.300)	(0.311)
Short-term ($0 \leq k \leq 1$)	0.002	0.006	0.001	-17.760	-0.403
	(0.024)	(0.010)	(0.017)	(23.754)	(0.463)
Medium-term ($2 \leq k \leq 5$)	0.031	0.006	0.047***	65.064***	1.145***
	(0.020)	(0.011)	(0.012)	(18.749)	(0.323)
Long-term ($6 \leq k \leq 10$)	0.060**	0.002	0.043***	77.349***	1.463***
	(0.025)	(0.015)	(0.016)	(26.718)	(0.435)
11+ Years ($k \geq 11$)	0.042	-0.004	0.023	48.938	0.900*
	(0.034)	(0.021)	(0.022)	(37.233)	(0.534)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.004	0.002	-0.014	-25.960	-0.435
	(0.020)	(0.011)	(0.014)	(18.945)	(0.320)
Short-term ($0 \leq k \leq 1$)	0.018	0.017	-0.005	-16.020	-0.039
	(0.024)	(0.012)	(0.018)	(24.753)	(0.437)
Medium-term ($2 \leq k \leq 5$)	0.003	-0.010	-0.003	-23.624	-0.379
	(0.022)	(0.014)	(0.014)	(22.349)	(0.361)
Long-term ($6 \leq k \leq 10$)	0.001	-0.011	0.006	-16.141	-0.002
	(0.027)	(0.015)	(0.015)	(25.249)	(0.391)
11+ Years ($k \geq 11$)	-0.014	0.002	0.006	-1.767	0.347
	(0.028)	(0.017)	(0.017)	(28.264)	(0.413)
Observations	59,152	62,268	60,785	62,591	62,591

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D11: The Effect of UI Generosity Controlling Linear State Characteristics

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.029	-0.022**	-0.020	-38.878**	-0.090
	(0.018)	(0.011)	(0.013)	(17.632)	(0.293)
Short-term ($0 \leq k \leq 1$)	-0.308***	-0.077***	-0.220***	-383.825***	-7.417***
	(0.025)	(0.013)	(0.018)	(24.203)	(0.415)
Medium-term ($2 \leq k \leq 5$)	-0.234***	-0.136***	-0.100***	-173.595***	-2.841***
	(0.023)	(0.014)	(0.016)	(23.230)	(0.372)
Long-term ($6 \leq k \leq 10$)	-0.201***	-0.122***	-0.062***	-129.930***	-1.623***
	(0.027)	(0.016)	(0.017)	(26.500)	(0.407)
11+ Years ($k \geq 11$)	-0.187***	-0.136***	-0.053***	-142.297***	-1.758***
	(0.029)	(0.019)	(0.019)	(30.362)	(0.456)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.010	0.008	-0.003	13.161	0.356
	(0.019)	(0.010)	(0.015)	(17.847)	(0.300)
Short-term ($0 \leq k \leq 1$)	0.003	0.010	-0.000	-22.232	-0.430
	(0.024)	(0.010)	(0.016)	(23.614)	(0.460)
Medium-term ($2 \leq k \leq 5$)	0.032*	0.010	0.046***	60.557***	1.115***
	(0.020)	(0.011)	(0.011)	(18.694)	(0.320)
Long-term ($6 \leq k \leq 10$)	0.063**	0.006	0.041***	70.029***	1.380***
	(0.025)	(0.015)	(0.015)	(26.455)	(0.430)
11+ Years ($k \geq 11$)	0.043	0.001	0.022	44.210	0.846
	(0.034)	(0.021)	(0.021)	(37.004)	(0.529)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.003	0.000	-0.013	-24.726	-0.432
	(0.020)	(0.011)	(0.014)	(18.882)	(0.320)
Short-term ($0 \leq k \leq 1$)	0.016	0.015	-0.006	-16.442	-0.074
	(0.024)	(0.012)	(0.018)	(24.728)	(0.438)
Medium-term ($2 \leq k \leq 5$)	0.001	-0.011	-0.004	-22.850	-0.406
	(0.022)	(0.014)	(0.014)	(22.474)	(0.362)
Long-term ($6 \leq k \leq 10$)	-0.002	-0.015	0.006	-14.806	-0.037
	(0.027)	(0.015)	(0.015)	(25.506)	(0.394)
11+ Years ($k \geq 11$)	-0.017	-0.001	0.009	3.332	0.353
	(0.028)	(0.018)	(0.017)	(28.576)	(0.419)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D12: The Effect of UI Generosity Controlling Quadratic State Characteristics

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.031*	-0.027***	-0.022*	-40.471**	-0.166
	(0.018)	(0.011)	(0.013)	(17.685)	(0.293)
Short-term ($0 \leq k \leq 1$)	-0.310***	-0.083***	-0.222***	-385.903***	-7.505***
	(0.025)	(0.013)	(0.018)	(24.315)	(0.417)
Medium-term ($2 \leq k \leq 5$)	-0.235***	-0.141***	-0.102***	-175.731***	-2.938***
	(0.023)	(0.014)	(0.016)	(23.272)	(0.374)
Long-term ($6 \leq k \leq 10$)	-0.201***	-0.127***	-0.065***	-131.853***	-1.721***
	(0.027)	(0.016)	(0.017)	(26.622)	(0.408)
11+ Years ($k \geq 11$)	-0.189***	-0.142***	-0.056***	-145.521***	-1.864***
	(0.029)	(0.019)	(0.019)	(30.566)	(0.459)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.012	0.004	-0.001	19.144	0.414
	(0.019)	(0.010)	(0.015)	(18.106)	(0.308)
Short-term ($0 \leq k \leq 1$)	0.006	0.007	0.003	-14.793	-0.345
	(0.024)	(0.010)	(0.016)	(23.669)	(0.462)
Medium-term ($2 \leq k \leq 5$)	0.034*	0.006	0.049***	66.887***	1.179***
	(0.020)	(0.011)	(0.011)	(18.724)	(0.322)
Long-term ($6 \leq k \leq 10$)	0.063**	0.000	0.044***	77.042***	1.460***
	(0.025)	(0.015)	(0.016)	(26.725)	(0.436)
11+ Years ($k \geq 11$)	0.044	-0.004	0.024	49.915	0.907*
	(0.034)	(0.021)	(0.022)	(37.085)	(0.533)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.003	0.002	-0.014	-26.226	-0.445
	(0.020)	(0.011)	(0.014)	(18.927)	(0.321)
Short-term ($0 \leq k \leq 1$)	0.016	0.018	-0.007	-16.506	-0.061
	(0.024)	(0.012)	(0.018)	(24.722)	(0.438)
Medium-term ($2 \leq k \leq 5$)	0.002	-0.009	-0.004	-23.773	-0.413
	(0.022)	(0.014)	(0.014)	(22.405)	(0.363)
Long-term ($6 \leq k \leq 10$)	0.001	-0.011	0.006	-14.514	-0.028
	(0.027)	(0.015)	(0.015)	(25.430)	(0.395)
11+ Years ($k \geq 11$)	-0.014	0.001	0.009	4.472	0.368
	(0.028)	(0.018)	(0.017)	(28.536)	(0.420)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D13: The Effect of UI Generosity Controlling Quartic State Characteristics

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.031*	-0.026**	-0.024*	-40.989**	-0.156
	(0.018)	(0.010)	(0.013)	(17.768)	(0.292)
Short-term ($0 \leq k \leq 1$)	-0.310***	-0.081***	-0.224***	-386.170***	-7.493***
	(0.025)	(0.013)	(0.018)	(24.380)	(0.417)
Medium-term ($2 \leq k \leq 5$)	-0.234***	-0.140***	-0.104***	-175.481***	-2.920***
	(0.023)	(0.014)	(0.016)	(23.272)	(0.374)
Long-term ($6 \leq k \leq 10$)	-0.202***	-0.125***	-0.066***	-131.161***	-1.700***
	(0.027)	(0.016)	(0.017)	(26.618)	(0.407)
11+ Years ($k \geq 11$)	-0.190***	-0.140***	-0.058***	-145.275***	-1.855***
	(0.029)	(0.019)	(0.019)	(30.529)	(0.457)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.010	0.004	-0.004	17.863	0.427
	(0.020)	(0.010)	(0.015)	(18.507)	(0.314)
Short-term ($0 \leq k \leq 1$)	0.003	0.006	0.001	-16.381	-0.339
	(0.024)	(0.010)	(0.017)	(23.808)	(0.464)
Medium-term ($2 \leq k \leq 5$)	0.032	0.006	0.047***	66.106***	1.196***
	(0.020)	(0.011)	(0.012)	(18.826)	(0.326)
Long-term ($6 \leq k \leq 10$)	0.059**	0.001	0.042***	77.614***	1.492***
	(0.025)	(0.015)	(0.016)	(26.727)	(0.438)
11+ Years ($k \geq 11$)	0.041	-0.003	0.022	50.544	0.933*
	(0.034)	(0.021)	(0.022)	(37.221)	(0.536)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.003	0.001	-0.015	-27.327	-0.451
	(0.020)	(0.011)	(0.014)	(18.971)	(0.322)
Short-term ($0 \leq k \leq 1$)	0.017	0.016	-0.006	-16.772	-0.048
	(0.024)	(0.012)	(0.018)	(24.731)	(0.439)
Medium-term ($2 \leq k \leq 5$)	0.003	-0.010	-0.004	-23.613	-0.391
	(0.022)	(0.014)	(0.014)	(22.422)	(0.364)
Long-term ($6 \leq k \leq 10$)	0.002	-0.011	0.006	-14.802	-0.016
	(0.027)	(0.015)	(0.015)	(25.363)	(0.396)
11+ Years ($k \geq 11$)	-0.014	0.001	0.008	2.237	0.344
	(0.028)	(0.018)	(0.017)	(28.621)	(0.421)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D14: The Effect of UI Generosity Using Years before 1994

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.012	-0.045***	-0.008	-52.232*	-0.408
	(0.032)	(0.017)	(0.022)	(27.693)	(0.460)
Short-term ($0 \leq k \leq 1$)	-0.309***	-0.101***	-0.247***	-397.538***	-7.657***
	(0.036)	(0.019)	(0.027)	(33.708)	(0.575)
Medium-term ($2 \leq k \leq 5$)	-0.235***	-0.168***	-0.106***	-205.771***	-3.458***
	(0.040)	(0.022)	(0.027)	(37.282)	(0.613)
Long-term ($6 \leq k \leq 10$)	-0.191***	-0.153***	-0.089***	-198.063***	-2.613***
	(0.048)	(0.028)	(0.033)	(46.537)	(0.725)
11+ Years ($k \geq 11$)	-0.100	-0.166**	-0.060	-212.579**	-1.709
	(0.081)	(0.065)	(0.061)	(104.307)	(1.650)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.116***	-0.017	0.073**	79.910**	0.918
	(0.040)	(0.020)	(0.030)	(36.256)	(0.632)
Short-term ($0 \leq k \leq 1$)	0.114**	0.002	0.038	27.529	-0.023
	(0.047)	(0.023)	(0.036)	(46.060)	(0.849)
Medium-term ($2 \leq k \leq 5$)	0.174***	0.007	0.157***	189.206***	2.788***
	(0.053)	(0.031)	(0.039)	(57.228)	(0.972)
Long-term ($6 \leq k \leq 10$)	0.202***	0.039	0.095*	127.470*	2.113*
	(0.076)	(0.044)	(0.049)	(66.765)	(1.126)
11+ Years ($k \geq 11$)	0.080	-0.101	0.061	134.509	3.118
	(0.143)	(0.093)	(0.084)	(152.687)	(2.133)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.012	0.001	-0.022	-32.984	-0.554
	(0.027)	(0.014)	(0.017)	(22.898)	(0.410)
Short-term ($0 \leq k \leq 1$)	0.047	0.024	-0.013	-28.938	-0.128
	(0.031)	(0.015)	(0.024)	(30.275)	(0.530)
Medium-term ($2 \leq k \leq 5$)	0.026	-0.013	-0.028	-44.969	-0.451
	(0.034)	(0.019)	(0.023)	(33.898)	(0.553)
Long-term ($6 \leq k \leq 10$)	0.040	-0.025	0.017	-4.318	0.039
	(0.045)	(0.026)	(0.029)	(44.236)	(0.677)
11+ Years ($k \geq 11$)	0.056	0.005	-0.004	-36.682	0.387
	(0.067)	(0.041)	(0.036)	(56.892)	(0.857)
Observations	33,340	34,705	34,223	34,800	34,800

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D15: The Effect of UI Generosity Controlling State Welfare Expenditure

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.034*	-0.027**	-0.024*	-39.201**	-0.071
	(0.019)	(0.011)	(0.014)	(18.294)	(0.304)
Short-term ($0 \leq k \leq 1$)	-0.314***	-0.084***	-0.224***	-382.880***	-7.421***
	(0.025)	(0.013)	(0.019)	(24.837)	(0.424)
Medium-term ($2 \leq k \leq 5$)	-0.240***	-0.142***	-0.105***	-174.106***	-2.842***
	(0.024)	(0.014)	(0.016)	(23.834)	(0.385)
Long-term ($6 \leq k \leq 10$)	-0.208***	-0.128***	-0.067***	-130.218***	-1.648***
	(0.027)	(0.016)	(0.018)	(27.253)	(0.414)
11+ Years ($k \geq 11$)	-0.196***	-0.144***	-0.057***	-144.360***	-1.837***
	(0.030)	(0.019)	(0.020)	(31.237)	(0.468)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.010	0.007	-0.003	21.762	0.579*
	(0.021)	(0.011)	(0.016)	(19.681)	(0.334)
Short-term ($0 \leq k \leq 1$)	0.003	0.010	0.003	-13.857	-0.191
	(0.025)	(0.011)	(0.017)	(24.722)	(0.481)
Medium-term ($2 \leq k \leq 5$)	0.031	0.009	0.049***	69.325***	1.340***
	(0.020)	(0.012)	(0.013)	(20.183)	(0.355)
Long-term ($6 \leq k \leq 10$)	0.057**	0.002	0.044***	79.910***	1.570***
	(0.026)	(0.016)	(0.017)	(27.445)	(0.449)
11+ Years ($k \geq 11$)	0.038	-0.003	0.025	54.981	1.049*
	(0.034)	(0.021)	(0.022)	(37.742)	(0.544)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	-0.011	-0.000	-0.011	-24.322	-0.456
	(0.024)	(0.013)	(0.017)	(22.709)	(0.387)
Short-term ($0 \leq k \leq 1$)	0.004	0.015	-0.002	-12.731	-0.018
	(0.028)	(0.014)	(0.020)	(27.597)	(0.485)
Medium-term ($2 \leq k \leq 5$)	-0.009	-0.012	0.001	-19.684	-0.372
	(0.025)	(0.016)	(0.016)	(25.008)	(0.411)
Long-term ($6 \leq k \leq 10$)	-0.010	-0.013	0.011	-11.475	0.010
	(0.029)	(0.017)	(0.017)	(27.450)	(0.438)
11+ Years ($k \geq 11$)	-0.025	-0.001	0.013	6.180	0.404
	(0.030)	(0.019)	(0.019)	(31.062)	(0.468)
Observations	51,304	54,095	52,685	54,387	54,387

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D16: The Paths of Labor Outcomes for High ($\geq$ 39 Weeks) Maximum Duration Compared to Low (< 39 Weeks) Maximum Duration

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): TWFE					
Past-term ($-3 \leq k \leq -1$)	0.107**	0.023	0.030	52.004	1.332*
	(0.047)	(0.026)	(0.036)	(45.102)	(0.747)
Short-term ($0 \leq k \leq 1$)	0.087	0.034	-0.019	-35.138	-0.551
	(0.060)	(0.029)	(0.045)	(58.028)	(1.071)
Medium-term ($2 \leq k \leq 5$)	0.155***	0.018	0.148***	190.522***	3.930***
	(0.051)	(0.030)	(0.035)	(52.683)	(0.840)
Long-term ($6 \leq k \leq 10$)	0.162***	0.031	0.087**	146.322**	3.247***
	(0.057)	(0.033)	(0.037)	(58.335)	(0.892)
11+ Years ($k \geq 11$)	0.149**	0.032	0.078**	88.937	2.180**
	(0.059)	(0.037)	(0.038)	(60.264)	(0.935)
Panel (b): Interaction-weighted Estimator					
Past-term ($-3 \leq k \leq -1$)	0.103**	0.023	0.021	31.768	0.505
	(0.050)	(0.030)	(0.038)	(49.241)	(0.813)
Short-term ($0 \leq k \leq 1$)	0.079	0.034	-0.021	-41.183	-1.271
	(0.064)	(0.034)	(0.048)	(60.801)	(1.114)
Medium-term ($2 \leq k \leq 5$)	0.141**	0.026	0.150***	185.604***	3.198***
	(0.055)	(0.035)	(0.036)	(54.513)	(0.928)
Long-term ($6 \leq k \leq 10$)	0.146**	0.034	0.080**	141.032**	2.537**
	(0.057)	(0.037)	(0.040)	(62.160)	(0.998)
11+ Years ($k \geq 11$)	0.158***	0.030	0.087**	105.898*	1.844*
	(0.054)	(0.035)	(0.041)	(61.902)	(0.948)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (a) are obtained by calculating the differences in coefficients for higher and lower maximum duration using two-way fixed effects model. The estimated coefficients in panel (b) are derived from the differences in coefficients for higher and lower maximum duration using the interaction-weighted estimator proposed by Sun and Abraham (2021).

Table D17: The Paths of Labor Outcomes for High ($\geq 50\%$) Replacement Rates Compared to Low ($< 50\%$) Replacement Rates

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): TWFE					
Past-term ($-3 \leq k \leq -1$)	0.014	-0.021	-0.033	-35.032	-0.630
	(0.036)	(0.020)	(0.026)	(34.938)	(0.590)
Short-term ($0 \leq k \leq 1$)	0.057	0.029	-0.048	-50.966	-0.625
	(0.049)	(0.023)	(0.035)	(46.691)	(0.841)
Medium-term ($2 \leq k \leq 5$)	0.038	-0.022	-0.015	-12.193	-0.201
	(0.043)	(0.025)	(0.029)	(43.285)	(0.714)
Long-term ($6 \leq k \leq 10$)	0.002	-0.055**	-0.013	-36.038	-0.591
	(0.049)	(0.028)	(0.030)	(49.046)	(0.784)
11+ Years ($k \geq 11$)	-0.005	-0.017	-0.010	-4.380	0.593
	(0.051)	(0.031)	(0.033)	(52.754)	(0.824)
Panel (b): Interaction-weighted Estimator					
Past-term ($-3 \leq k \leq -1$)	0.036	-0.028	-0.051*	-67.670*	-1.393**
	(0.038)	(0.021)	(0.027)	(35.699)	(0.626)
Short-term ($0 \leq k \leq 1$)	0.079	0.024	-0.067*	-79.674*	-1.393
	(0.052)	(0.025)	(0.038)	(47.684)	(0.877)
Medium-term ($2 \leq k \leq 5$)	0.074	-0.027	-0.023	-31.899	-0.847
	(0.049)	(0.026)	(0.032)	(46.233)	(0.798)
Long-term ($6 \leq k \leq 10$)	0.020	-0.069**	-0.036	-70.269	-1.390
	(0.052)	(0.028)	(0.033)	(51.672)	(0.848)
11+ Years ($k \geq 11$)	0.024	-0.026	-0.031	-36.212	-0.189
	(0.054)	(0.031)	(0.034)	(52.880)	(0.884)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (a) are obtained by calculating the differences in coefficients for higher and lower replacement rates using two-way fixed effects model. The estimated coefficients in panel (b) are derived from the differences in coefficients for higher and lower replacement rates using the interaction-weighted estimator proposed by Sun and Abraham (2021).

Table D18: The Paths of Labor Outcomes for High (> 26 Weeks) Maximum Duration Compared to Low (≤ 26 Weeks) Maximum Duration

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): TWFE					
Past-term ($-3 \leq k \leq -1$)	0.102**	0.037	0.023	30.518	0.713
	(0.042)	(0.024)	(0.031)	(40.723)	(0.684)
Short-term ($0 \leq k \leq 1$)	0.123**	0.055**	0.008	6.632	0.137
	(0.053)	(0.027)	(0.039)	(51.731)	(0.927)
Medium-term ($2 \leq k \leq 5$)	0.158***	0.038	0.113***	150.850***	3.095***
	(0.047)	(0.028)	(0.031)	(46.599)	(0.753)
Long-term ($6 \leq k \leq 10$)	0.168***	0.036	0.072**	98.756*	2.764***
	(0.051)	(0.030)	(0.033)	(51.017)	(0.802)
11+ Years ($k \geq 11$)	0.141***	0.038	0.036	60.844	1.504*
	(0.053)	(0.033)	(0.034)	(52.802)	(0.834)
Panel (b): Interaction-weighted Estimator					
Past-term ($-3 \leq k \leq -1$)	0.072	0.025	-0.009	-20.716	-0.458
	(0.048)	(0.026)	(0.034)	(43.516)	(0.768)
Short-term ($0 \leq k \leq 1$)	0.091	0.041	-0.022	-37.155	-1.022
	(0.060)	(0.030)	(0.043)	(53.400)	(0.989)
Medium-term ($2 \leq k \leq 5$)	0.117**	0.024	0.080**	103.428**	1.876**
	(0.055)	(0.030)	(0.036)	(50.049)	(0.902)
Long-term ($6 \leq k \leq 10$)	0.122**	0.018	0.021	34.589	1.411
	(0.060)	(0.033)	(0.039)	(56.348)	(0.981)
11+ Years ($k \geq 11$)	0.104*	0.018	0.003	18.670	0.308
	(0.058)	(0.033)	(0.038)	(56.356)	(0.942)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (a) are obtained by calculating the differences in coefficients for higher and lower maximum duration using two-way fixed effects model. The estimated coefficients in panel (b) are derived from the differences in coefficients for higher and lower maximum duration using the interaction-weighted estimator proposed by Sun and Abraham (2021).

Table D19: The Paths of Labor Outcomes for High ($\geq$ 49%) Replacement Rates Compared to Low ($<$ 49%) Replacement Rates

	(1) Log Earnings	(2) Log Hourly Wage	(3) Log Hours Worked	(4) Hours Worked	(5) Weeks Worked
Panel (a): TWFE					
Past-term ($-3 \leq k \leq -1$)	0.027	-0.013	-0.017	-8.513	-0.210
	(0.036)	(0.020)	(0.025)	(34.303)	(0.574)
Short-term ($0 \leq k \leq 1$)	0.056	0.014	-0.050	-55.162	-0.793
	(0.048)	(0.023)	(0.034)	(46.549)	(0.834)
Medium-term ($2 \leq k \leq 5$)	0.007	-0.022	-0.009	-10.329	-0.383
	(0.043)	(0.025)	(0.028)	(42.799)	(0.699)
Long-term ($6 \leq k \leq 10$)	-0.027	-0.081***	-0.008	-39.791	-0.410
	(0.049)	(0.027)	(0.030)	(48.626)	(0.765)
11+ Years ($k \geq 11$)	-0.073	-0.054*	-0.012	-41.302	0.421
	(0.050)	(0.031)	(0.032)	(51.178)	(0.805)
Panel (b): Interaction-weighted Estimator					
Past-term ($-3 \leq k \leq -1$)	0.063*	-0.002	-0.033	-39.249	-0.743
	(0.038)	(0.021)	(0.026)	(34.967)	(0.613)
Short-term ($0 \leq k \leq 1$)	0.095*	0.029	-0.068*	-83.708*	-1.356
	(0.050)	(0.025)	(0.037)	(47.473)	(0.869)
Medium-term ($2 \leq k \leq 5$)	0.055	-0.007	-0.018	-28.370	-0.841
	(0.047)	(0.027)	(0.032)	(45.486)	(0.792)
Long-term ($6 \leq k \leq 10$)	0.008	-0.073***	-0.028	-68.138	-0.947
	(0.052)	(0.028)	(0.032)	(51.296)	(0.842)
11+ Years ($k \geq 11$)	-0.024	-0.039	-0.029	-66.653	-0.079
	(0.054)	(0.032)	(0.034)	(52.457)	(0.881)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (a) are obtained by calculating the differences in coefficients for higher and lower replacement rates using two-way fixed effects model. The estimated coefficients in panel (b) are derived from the differences in coefficients for higher and lower replacement rates using the interaction-weighted estimator proposed by Sun and Abraham (2021).

Table D20: The Relationship between AFDC/TANF Receipt and Constructed UI Variables

	Year at Job Separation					
	Self-reported Benefits Receipt (=1)			Self-reported Benefits Amount		
Replacement Rates	0.021**		0.021**	102.612		105.011
	(0.010)		(0.010)	(68.065)		(68.271)
Replacement Rates × Displacement	-0.010		-0.010	-25.001		-31.152
	(0.006)		(0.007)	(43.882)		(44.664)
Maximum Duration		0.003	0.002		2.028	-4.052
		(0.010)	(0.010)		(65.591)	(65.319)
Maximum Duration × Displacement		0.001	0.003		31.044	37.504
		(0.005)	(0.005)		(28.891)	(29.624)
Displacement	0.004	0.004	0.004	-6.502	-5.395	-4.038
	(0.006)	(0.006)	(0.006)	(34.237)	(34.386)	(34.472)
Basic Controls	O	O	O	O	O	O
State Characteristics	O	O	O	O	O	O
Number of Obs	2,650			2,650		

Notes: The sample consists of displaced and non-displaced workers in the year of their first job separation. "Basic Controls" include year dummies, education years, marital status, and quartic polynomial of age. "State Characteristics" include cubic polynomial of state unemployment rates, personal income level, state fixed effects, and state-specific linear time trend. The estimated coefficients for maximum duration and replacement rates represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D21: The Relationship between Food Stamp Receipt and Constructed UI Variables

	Year at Job Separation					
	Self-reported Benefits Receipt (=1)			Self-reported Benefits Amount		
Replacement Rates	-0.002		-0.001	-20.928		-20.360
	(0.014)		(0.014)	(44.162)		(44.106)
Replacement Rates × Displacement	0.002		0.001	1.064		-1.070
	(0.010)		(0.010)	(28.281)		(27.665)
Maximum Duration		0.010	0.010		16.874	17.478
		(0.018)	(0.019)		(41.757)	(41.676)
Maximum Duration × Displacement		0.010	0.010		12.504	12.723
		(0.010)	(0.010)		(24.958)	(23.727)
Displacement	-0.006	-0.006	-0.006	-11.625	-10.245	-10.504
	(0.010)	(0.010)	(0.010)	(28.232)	(28.260)	(28.256)
Basic Controls	O	O	O	O	O	O
State Characteristics	O	O	O	O	O	O
Number of Obs	2,646			2,646		

Notes: The sample consists of displaced and non-displaced workers in the year of their first job separation. "Basic Controls" include year dummies, education years, marital status, and quartic polynomial of age. "State Characteristics" include cubic polynomial of state unemployment rates, personal income level, state fixed effects, and state-specific linear time trend. The estimated coefficients for maximum duration and replacement rates represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D22: The Relationship between SSI or Other Receipt and Constructed UI Variables

	Year at Job Separation					
	Self-reported Benefits Receipt (=1)			Self-reported Benefits Amount		
Replacement Rates	-0.005		-0.005	-38.948		-37.399
	(0.009)		(0.009)	(36.228)		(36.266)
Replacement Rates × Displacement	-0.001		-0.002	4.153		-0.030
	(0.007)		(0.007)	(29.300)		(29.325)
Maximum Duration		0.003	0.003		0.553	1.914
		(0.010)	(0.010)		(35.004)	(34.636)
Maximum Duration × Displacement		0.006	0.006		25.190	25.208
		(0.006)	(0.005)		(21.349)	(20.869)
Displacement	-0.010	-0.009	-0.009	-69.236***	-67.019**	-67.521**
	(0.007)	(0.006)	(0.006)	(26.778)	(26.100)	(26.230)
Basic Controls	O	O	O	O	O	O
State Characteristics	O	O	O	O	O	O
Number of Obs		2,658			2,658	

Notes: The sample consists of displaced and non-displaced workers in the year of their first job separation. "Basic Controls" include year dummies, education years, marital status, and quartic polynomial of age. "State Characteristics" include cubic polynomial of state unemployment rates, personal income level, state fixed effects, and state-specific linear time trend. The estimated coefficients for maximum duration and replacement rates represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D23: The Effect of UI Generosity with Different Event Dummy Specification-1

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.034*	-0.026**	-0.025*	-41.178**	-0.201
	(0.018)	(0.010)	(0.013)	(17.653)	(0.291)
Short-term ($0 \leq k \leq 1$)	-0.313***	-0.082***	-0.225***	-386.685***	-7.543***
	(0.025)	(0.013)	(0.018)	(24.314)	(0.416)
After Short-term ($k \geq 2$)	-0.215***	-0.137***	-0.080***	-154.909***	-2.312***
	(0.023)	(0.014)	(0.015)	(22.296)	(0.349)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.008	0.004	-0.001	19.236	0.395
	(0.020)	(0.010)	(0.015)	(18.360)	(0.310)
Short-term ($0 \leq k \leq 1$)	0.001	0.007	0.002	-14.969	-0.367
	(0.025)	(0.011)	(0.017)	(23.835)	(0.463)
After Short-term ($k \geq 2$)	0.036*	0.002	0.040***	63.475***	1.089***
	(0.019)	(0.011)	(0.011)	(17.654)	(0.299)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.006	0.001	-0.014	-27.146	-0.461
	(0.020)	(0.011)	(0.014)	(18.917)	(0.321)
Short-term ($0 \leq k \leq 1$)	0.020	0.016	-0.005	-16.452	-0.062
	(0.025)	(0.012)	(0.018)	(24.858)	(0.438)
After Short-term ($k \geq 2$)	-0.000	-0.007	0.005	-10.871	-0.016
	(0.022)	(0.014)	(0.013)	(21.188)	(0.335)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D24: The Effect of UI Generosity with Different Event Dummy Specification-2

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Short-term ($0 \leq k \leq 1$)	-0.296***	-0.069***	-0.212***	-366.131***	-7.429***
	(0.021)	(0.010)	(0.016)	(21.012)	(0.379)
After Short-term ($k \geq 2$)	-0.198***	-0.123***	-0.067***	-133.731***	-2.202***
	(0.019)	(0.012)	(0.012)	(19.156)	(0.299)
Panel (b): Interaction with Maximum Duration					
Short-term ($0 \leq k \leq 1$)	-0.003	0.004	0.002	-22.543	-0.506
	(0.022)	(0.009)	(0.015)	(22.033)	(0.436)
After Short-term ($k \geq 2$)	0.032*	-0.000	0.040***	55.202***	0.938***
	(0.017)	(0.010)	(0.009)	(16.285)	(0.269)
Panel (c): Interaction with Replacement Rates					
Short-term ($0 \leq k \leq 1$)	0.019	0.017*	0.002	-4.904	0.114
	(0.021)	(0.010)	(0.016)	(21.999)	(0.403)
After Short-term ($k \geq 2$)	-0.002	-0.006	0.012	1.528	0.170
	(0.019)	(0.012)	(0.011)	(18.714)	(0.286)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D25: The Effect of UI Generosity with Different Event Dummy Specification-3

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Past-term ($-3 \leq k \leq -1$)	-0.033*	-0.027**	-0.023*	-40.540**	-0.172
	(0.018)	(0.010)	(0.013)	(17.651)	(0.291)
Short-term ($0 \leq k \leq 1$)	-0.312***	-0.082***	-0.223***	-386.053***	-7.514***
	(0.025)	(0.013)	(0.018)	(24.285)	(0.416)
After Short-term ($2 \leq k \leq 10$)	-0.223***	-0.134***	-0.087***	-156.867***	-2.422***
	(0.023)	(0.014)	(0.015)	(22.332)	(0.351)
11+ Years ($k \geq 11$)	-0.195***	-0.142***	-0.060***	-149.240***	-1.972***
	(0.029)	(0.019)	(0.019)	(30.186)	(0.453)
Panel (b): Interaction with Maximum Duration					
Past-term ($-3 \leq k \leq -1$)	0.009	0.004	-0.002	18.745	0.393
	(0.020)	(0.010)	(0.015)	(18.334)	(0.311)
Short-term ($0 \leq k \leq 1$)	0.002	0.006	0.002	-15.412	-0.368
	(0.025)	(0.010)	(0.017)	(23.806)	(0.464)
After Short-term ($2 \leq k \leq 10$)	0.038*	0.004	0.046***	68.536***	1.207***
	(0.019)	(0.011)	(0.011)	(17.723)	(0.303)
11+ Years ($k \geq 11$)	0.037	-0.004	0.023	48.247	0.840
	(0.033)	(0.020)	(0.021)	(36.759)	(0.529)
Panel (c): Interaction with Replacement Rates					
Past-term ($-3 \leq k \leq -1$)	0.005	0.002	-0.014	-26.382	-0.445
	(0.020)	(0.011)	(0.014)	(18.924)	(0.320)
Short-term ($0 \leq k \leq 1$)	0.019	0.017	-0.005	-15.518	-0.041
	(0.025)	(0.012)	(0.018)	(24.746)	(0.437)
After Short-term ($2 \leq k \leq 10$)	0.004	-0.010	0.002	-17.747	-0.196
	(0.023)	(0.013)	(0.013)	(21.243)	(0.338)
11+ Years ($k \geq 11$)	-0.012	0.001	0.009	2.744	0.331
	(0.028)	(0.018)	(0.017)	(28.461)	(0.417)
Observations	52,314	55,141	53,719	55,434	55,434

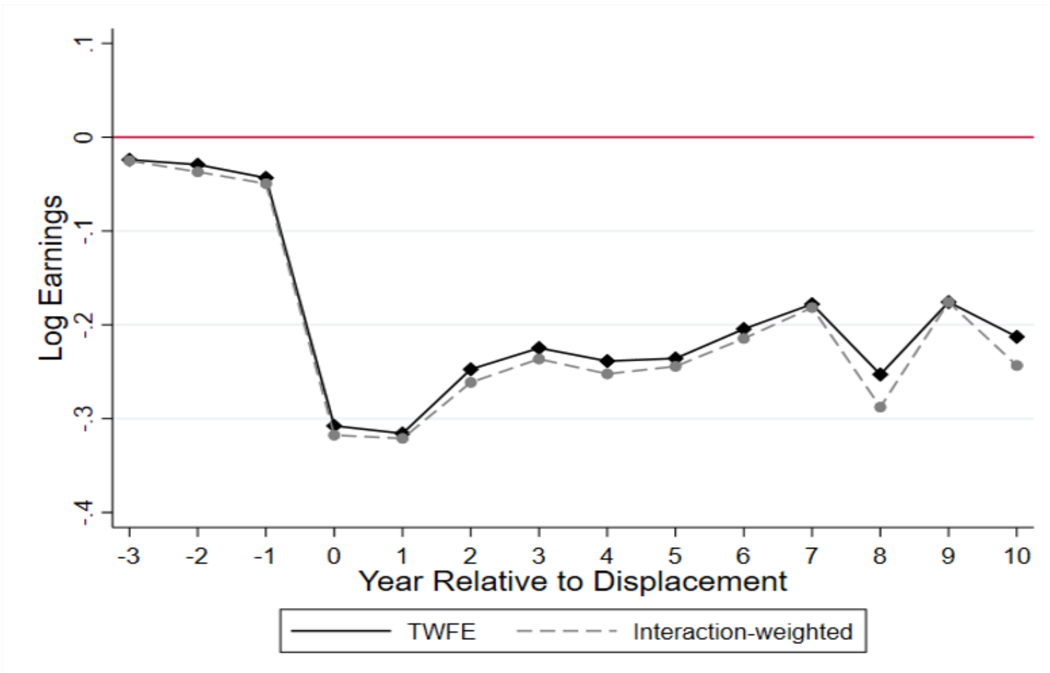
Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Table D26: The Effect of UI Generosity with Different Event Dummy Specification-4

	(1)	(2)	(3)	(4)	(5)
	Log Earnings	Log Hourly Wage	Log Hours Worked	Hours Worked	Weeks Worked
Panel (a): Losses from Displacement					
Short-term ($0 \leq k \leq 1$)	-0.296***	-0.069***	-0.212***	-365.799***	-7.414***
	(0.021)	(0.010)	(0.016)	(20.989)	(0.379)
After Short-term ($2 \leq k \leq 10$)	-0.207***	-0.121***	-0.075***	-136.250***	-2.324***
	(0.019)	(0.012)	(0.012)	(19.178)	(0.300)
11+ Years ($k \geq 11$)	-0.177***	-0.128***	-0.047***	-127.787***	-1.886***
	(0.026)	(0.017)	(0.017)	(27.667)	(0.412)
Panel (b): Interaction with Maximum Duration					
Short-term ($0 \leq k \leq 1$)	-0.002	0.004	0.002	-22.809	-0.507
	(0.022)	(0.008)	(0.015)	(22.014)	(0.436)
After Short-term ($2 \leq k \leq 10$)	0.033**	0.001	0.046***	60.734***	1.062***
	(0.017)	(0.010)	(0.010)	(16.312)	(0.275)
11+ Years ($k \geq 11$)	0.032	-0.006	0.023	39.582	0.668
	(0.032)	(0.020)	(0.020)	(35.960)	(0.503)
Panel (c): Interaction with Replacement Rates					
Short-term ($0 \leq k \leq 1$)	0.018	0.017*	0.001	-4.238	0.128
	(0.021)	(0.010)	(0.016)	(21.906)	(0.402)
After Short-term ($2 \leq k \leq 10$)	0.003	-0.010	0.009	-6.157	-0.024
	(0.019)	(0.012)	(0.011)	(18.812)	(0.290)
11+ Years ($k \geq 11$)	-0.013	0.001	0.016	15.701	0.522
	(0.025)	(0.016)	(0.015)	(26.390)	(0.377)
Observations	52,314	55,141	53,719	55,434	55,434

Notes: The estimated coefficients in panel (b) and (c) represent the effect of 13 weeks of longer maximum duration and 6 percentage points higher replacement rates respectively.

Figure D1: Earnings Path of Displaced Workers Relative to Control Group with Different Estimation Methods



Notes: The figure illustrates the earnings trajectory of displaced workers in comparison to that of the control group. The black solid line and gray dashed line present δ^k in Equation 3, estimated using a two-way fixed effects model and the interaction-weighted estimator proposed by Sun and Abraham (2021), respectively.