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# The effect of unemployment insurance on alcohol use and abuse following job loss $\approx$



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#### ABSTRACT

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#### 1. Introduction

Unemployment insurance (UI) policies affect individual behavior in a variety of ways from the intensity of job search to the mental health of the unemployed. In this paper, we explore the relationship between UI benefit replacement rates and alcohol use and abuse following job loss. During unemployment a decrease in income reduces an individual's alcohol consumption, while an increase in leisure time and a reduction in mental health increase alcohol use (Davalos et al., 2012). UI benefits can influence the drinking behavior of the unemployed through similar mechanisms. Specifically, benefits provide income to smooth consumption (Gruber, 1997), reduce anxiety and depression (Tefft, 2011), and reduce job search intensity which increases leisure time (Chetty, 2008). Previous studies have found alcohol abuse increases during unemployment (Dee, 2001; Dooley and Prause,

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We investigate whether unemployment insurance (UI) policy affects the drinking behavior of the unemployed. Using NLSY data supplemented with Geocode data, we estimate the effect of benefit replacement rates on changes in individual alcohol consumption following job loss. Identification relies on variation in replacement rates across states and over time. Results indicate that a 100% increase in benefit replacement rate, roughly equivalent to a state moving from the lowest to the highest replacement rate, would, on average, result in unemployed individuals consuming 19.1 additional drinks a month. Looking at the change in an individual's binge drinking upon job loss, individuals receiving the highest level of benefits are 14.7% more likely to increase their binge drinking than those receiving the least generous benefits. We find that individuals' responsiveness to changes in replacement rates vary based on drinking history, industry labor market conditions, education, and age.

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1998; Mossakowski, 2008). Due to theoretical ambiguity whether UI benefits accelerate or mitigate the alcohol use and abuse of unemployed individuals is an empirical question.

Related research has found evidence that job loss leads to changes in drinking behavior. Aggregate level analysis by Ettner (1997) uses state unemployment rates and finds evidence that involuntary unemployment increases alcohol consumption. Paling and Castello (2017) find that an increase in the unemployment rate increases the probability of teen drinking. Distinguishing between alcohol use and alcohol abuse, Dee (2001) finds that aggregate alcohol consumption decreases during economic downturns but binge drinking increases. Tefft (2011) further highlights the importance of micro level data; Stating aggregate unemployment effects may not translate into the same effects at the individual level because problem drinkers may respond differently. Additionally, Deb et al. (2011) find individuals with a history of alcohol abuse increased daily alcohol consumption following job loss. In general, this line of research underscores the need to look at both overall alcohol use and the incidence of alcohol abuse during unemployment spells and allow for heterogeneity in individual responses based on past alcohol abuse.

Sociology, psychology and economics studies have found a link between mental health, unemployment, and alcohol abuse. Ruhm (1995, 2003) find both non-psychotic mental disorders and suicide rates increase with the unemployment rate. Similarly, Charles and DeCicca (2008) find mental health decreases as local labor market

<sup>\*</sup> This study has approval from Ball State's Institutional Review Board to use sensitive data provided by the National Longitudinal Survey of Youth. Although the data is de-identified, subjects have a right to privacy that would potentially be compromised if any one subject's information was made public. Therefore, we present only summary statistics and regression output so that no data is provided that would allow for the identification of anyone involved in the study.

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**Fig. 1.** Change in interview week. Note: The distribution above is of the change in the week in which an individual was interviewed, from the current interview to the previous interview for the entire sample.

conditions deteriorate. Relating mental health to alcohol abuse, Harris and Edlund (2005) and Hill and Angel (2005) find evidence that individuals use alcohol as a means for self-medication in response to unmet mental health needs. Connecting these areas of research suggests that one potential cause of changes in drinking behavior during unemployment is a self-medicating response to anxiety and depression from job loss.

More generous unemployment benefits potentially increase alcohol use of the unemployed by providing unemployed individuals income to purchase normal goods, such as alcohol. Ruhm (1995) and Freeman (1999) have estimated positive income elasticities for alcohol at an aggregate level. While at the individual level, French and Zarkin (1995) and Manning et al. (1995) find alcohol consumption for moderate drinkers is more responsive to changes in income relative to heavy drinkers. This suggests that, while alcohol is a normal good, income elasticities vary across individuals. We utilize individual level data on employment status and alcohol consumption to test for heterogeneous responses to benefit generosity across subsets of alcohol users.

Alternatively, increased benefit amounts could decrease alcohol use and/or abuse of the unemployed by reducing the financial stress associated with job loss and improving the mental health of the unemployed. Related research has found mental health improves with benefit generosity. Tefft (2011) uses data from Google Insights for Search and finds searches related to anxiety and depression are positively related to the unemployment rate but negatively related to the number of initial unemployment insurance claims, and Cylus et al. (2014) find more generous UI benefits decrease suicide rates. We use individual occupation specific unemployment rates to test for differential responses to benefits across individuals based on reemployment probabilities.

Unemployment insurance policies are determined at the state level and specify requirements for recipiency eligibility, the maximum number of weeks an unemployed individual can collect benefits (benefit duration), the fraction of previous weekly earnings benefits replace (replacement rate), and the maximum weekly benefit amount. As such benefit generosity could be measured over many dimensions. For the purpose of our study we use the state average benefit replacement rate and the fraction of unemployed individuals in a state filing claims as measures of UI policy generosity.

This paper adds to the existing literature by using individual level data on alcohol use, abuse and employment status to examine the role of unemployment insurance on alcohol related responses to job loss. While others have used individual level survey data to investigate questions of alcohol use and unemployment to our



Fig. 2. Distribution of unemployment spell duration.

knowledge we are the first to look at the effect of UI benefits on alcohol use and abuse following job loss.

Broadly speaking, we find the income effect from higher benefits dominates and increases both alcohol use and abuse during unemployment. Individuals who currently use alcohol and have abused alcohol in the past, those facing relatively weak labor market conditions, and those with lower levels of education are most sensitive to changes in the replacement rate.

The remainder of the paper is organized as follows. The estimation strategy is presented in Section 2. Section 3 describes the data and key variables. Section 4 discusses the results and Section 5 concludes.

#### 2. Empirical strategy

The equation used to estimate the effect of the UI benefit replacement rate on the change in individual alcohol use and abuse following job loss is:

$$\begin{aligned} AlcVar_{i,t} - AlcVar_{i,t-x} &= & \beta RR_{s,t} + \phi CR_{s,t} + \alpha UnempDur_{i,t} \\ &+ \gamma X_{i,t} + \theta Survey 97_i \\ &+ \psi UnempRate_{s,t} + \lambda State_s + \delta_t + \varepsilon_{i,t} \end{aligned}$$
(1)

where  $AlcVar_{i,t}$  is a measure of alcohol consumption,  $RR_{s,t}$  is the natural log of the benefit replacement rate,  $CR_{s,t}$  is the natural log of the benefit claims rate,  $UnempDur_{i,t}$  is the duration of unemployment at time of interview,  $X_{i,t}$  is a vector of individual characteristics, and  $Survey97_i$  is an indicator for the 1997 survey cohort. State fixed effects,  $State_s$ , are used to control for unobserved differences in alcohol use and abuse across states that are fixed throughout the sample period and year fixed effects,  $\delta_t$ , are used to control for time trends in the dependent variable. The time period t refers to the year of the current interview, while t - x is the year of the last interview in which the alcohol question of interest was asked, such that x varies depending upon the year and alcohol variable. Robustness checks are provided in the analysis to explore how the estimated effects will vary across this x value.

The effect of unemployment benefits on several measures of alcohol consumption is estimated. To control for unobserved individual effects, the dependent variable is the change in alcohol consumption and the sample is restricted to individuals that were employed at the time of their previous interview and unemployed at the time of their current interview. To look at overall changes in alcohol use we use the change in number of days an individual consumed alcohol in the past month, the change in the average number of drinks an individual consumed on each occasion and the change in the total number of drinks consumed in the past Download English Version:

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