Unemployment Insurance in Survey and Administrative Data

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Abstract

Unemployment Insurance (UI) benefits were a central part of the social safety net during the Covid-19 recession. UI benefits, however, are severely understated in surveys. Using administrative tax data, we find that over half of UI benefits were missed in major survey data, with a greater understatement among low-income workers. As a result, 2020 official poverty rates were overstated by about 2 percentage points, and corrected poverty reached a six-decade low. We provide data to correct underreporting in surveys and show that, compared to UI benefits, the UI exclusion tax expenditure was less targeted at low incomes.

Keywords: unemployment insurance, income underreporting, Covid-19, countercyclical policy, administrative data, survey data

JEL codes: D31, E24, H53, J65

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1. Introduction

Unemployment insurance (UI) was a centerpiece of the economic policy response to the Covid-19 recession. Measuring the degree to which poverty was mitigated is necessary for evaluating the policy’s success. However, the Census Bureau’s Current Population Survey (CPS), fails to accurately capture these benefits. Researchers rely on the CPS to evaluate UI benefits and the Census Bureau uses it to estimate official poverty rates. Therefore, underreporting of benefits has major implications for public policy research.

In this paper, we compare UI benefit receipt in the CPS to that observed in IRS tax data. This research builds on and complements existing research using data from administrative sources to supplement surveys and understand how measurement error affects research on financial outcomes (Meyer and Mittag, 2019). In doing so, we consider a critical component of the safety net that Census Bureau researchers have been unable to explore in the linked Census-IRS data (Bee and Rothbaum, 2019). We also extend previous research comparing national aggregates for UI receipt in the CPS to administrative totals (Gabe and Whittaker, 2012; Meyer et al., 2015; Rothbaum, 2015) by providing detailed information on the distribution of UI benefits. We then consider the implications of UI benefits underreporting on income statistics during the Covid-19 recession and show that after correcting for underreporting, poverty reached a record low in 2020.

2. Data

This paper uses two data sources. The first is a 5 percent random sample of all individuals aged 16 years and older in IRS tax data between 1999 and 2020 as of March 2022. It includes annual tax returns (Form 1040) and information returns (Form 1099-G) that report UI benefits.\(^1\) State governments provide information returns to assist recipients with tax return preparation. In some cases, not all UI payments are on the available 1099-G forms (Larrimore et al., 2022a). To address these cases, when a taxpayer self-reports UI benefits on their tax return, we treat this reporting as accurate if it exceeds the amount on the Form 1099-G. Total estimated payments in IRS data are between BEA and Treasury department estimates and within 5 percent of both.\(^2\) We compare UI benefits from administrative IRS tax data with survey-reported benefits in the next-year March CPS (i.e., CPS-ASEC) from Flood et al. (2022), using weights from Rothbaum and Bee (2021) that account for non-random nonresponse during the pandemic.

When comparing CPS and IRS results, we cannot directly link observations between the datasets. However, unlike the Census Bureau’s linked IRS-Census dataset that identifies 1099-G recipients but not the amount of income on the form or whether it was from UI (Bee and Rothbaum, 2019), our data has full information about UI benefit amounts. We then use statistical matching techniques similar to those used by the CBO for their distributional analysis (Habib, 2018) to incorporate information from IRS data into the public-use CPS files. We provide data to allow other researchers to follow our approach.

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\(^1\) IRS forms refer to this income as unemployment compensation, although we use the term UI to be consistent with other researchers. In both the IRS and CPS data, this includes supplemental unemployment benefits. The IRS amounts may include other payments made through UI offices, such as for family leave.

\(^2\) See NIPA table 3.12 and Daily Treasury Statements at https://fsapps.fiscal.treasury.gov/dts/issues/collapsed
3. Prevalence and distribution of UI benefits

Relative to administrative data, the CPS dramatically understates the number of UI recipients and the level of UI benefits. In 2020, IRS data showed that 45.4 million people received UI benefits. The CPS has approximately half as many recipients: 23.6 million. The understatement in aggregate UI benefits was even larger. In 2020, IRS data include $565 billion of UI benefits and the CPS only $218 billion, undercounting by 60 percent.

The understatement of UI benefits is a recurring problem in the CPS, though 2020 is particularly severe. Figure 1 displays the number of UI recipients (Panel A) and total UI benefits (Panel B) in the two datasets since 2000. Over this period, the CPS captured an average of 62 percent of UI benefits and 54 percent of recipients, relative to IRS data (Panel C). In addition, the share of benefits captured in the CPS has been trending downward.

Figure 1. Unemployment Insurance: Recipients and Benefits

Panel A. UI Recipients (millions)

Panel B. UI Benefits ($ billions)

Panel C. Ratios of CPS to IRS

Source: Authors' calculations using CPS and IRS data.
Figure 2. Cumulative Share of UI Benefits, among recipients (by year)

There are two channels through which the CPS can misstate benefits, and the error source can guide correction techniques. The first is on the extensive margin—misstating the number of recipients. The second is on the intensive margin—misstating the benefit distribution among recipients. Figure 1 demonstrated that the CPS understates extensive margin recipiency rates. We now consider the distribution of benefits among recipients.

Figure 2 compares the cumulative share of UI benefits in the IRS and CPS data for two recent years. If undercounting in the CPS was only from extensive margin issues—recipients failing to report UI benefits in a manner uncorrelated with benefit amount—the two distributions will closely resemble one another. This was the case in 2019.

The distributions in 2020, however, were different. In the CPS, the median UI payment was $7,000—well below the approximately $11,400 median payment in IRS data. The IRS distribution lies to right of the analogous CPS distribution, implying that the CPS understated 2020 benefits among recipients.

4. Distribution of UI by income

A major implication of UI benefit underreporting in the CPS is an overstatement of poverty rates—especially in 2020 when UI benefits were more prevalent and more generous. Poverty rates, however, are only affected when the missing benefits are among low-income populations.

Figure 3 shows the distribution of UI benefits by income decile in two recessionary years, 2020 (Panel A) and 2009 (Panel B), and one expansionary year, 2019 (Panel C). In both the CPS and IRS data, income deciles are based on modified market income—market income, alimony, and Social Security benefits—reflecting income that appears in both datasets but excluding UI. Incomes are aggregated at the tax-unit level for ages 16 and older and then split equally between spouses, following Larrimore et al. (2022b).
Figure 3. Distribution of UI Benefits by recipient income (by year)

Panel A. 2020

Panel B. 2009

Panel C. 2019

Notes: Income is market income, alimony, and Social Security benefits of tax units, split equally for married couples. Source: Authors’ calculations using CPS and IRS data.

In 2020, the CPS underreported UI benefits in the bottom two deciles by $168 billion. For context, this exceeds the $118 billion of total modified market income in the bottom two deciles in the CPS. Near the top of the income distribution, the CPS and IRS results were closer.

During the 2009 recession year, a similar pattern of underestimating benefits for low-income groups occurred—although UI benefit levels were smaller (note the vertical axis change). In contrast, during the 2019 expansion UI benefits were proportionally underreported over nearly the entire income distribution.

To facilitate correcting for UI underreporting in CPS data, in the online data we provide detailed estimates using tax data. For 1999 to 2020, we estimate the share of individuals receiving any UI, average UI benefits, and the standard deviation of benefits for 100 income percentiles. Using these data, we estimate 2020 poverty rates in the CPS with corrected UI benefits. We assign UI benefits to CPS respondents who do not report receiving them, such that recipiency rates and average benefits match the IRS data for each income percentile.3

3 Imputed values are also assumed to have a standard deviation matching IRS data. Since incomes are similar within each percentile, estimates of aggregate poverty rates (as opposed to subgroup analyses) are not sensitive to which
Because UI underreporting is most severe among low-income populations during recessions, poverty rates were overestimated in 2020. In 2020, the bottom decile had $82 billion of underreported UI benefits, more than $4,000 per adult. Using the imputation approach above to fully incorporate UI benefits in the CPS, the poverty rate in 2020 would have fallen to 9.6 percent, rather than the increase to 11.4 percent reported by the Census Bureau. This would have been the first time that the official poverty rate fell below 10 percent over the more than six decades for which Census computes the measure.

5. UI exclusion tax expenditure

Tax data are well-suited to evaluate a policy that provided additional relief to most UI recipients: the 2020 exclusion of UI benefits from income taxes. We estimate this $21 billion tax expenditure by multiplying the maximum allowed exclusion (i.e., assuming full take up) by recipients’ marginal tax rates, adjusted for bracket changes.

Because the exclusion of UI benefits from taxation was more valuable for those with higher marginal tax rates, this benefit is less targeted at low-income individuals than are UI benefits. The bottom decile received 21 percent of UI benefits but only 3 percent of UI exclusion tax expenditures (Figure 4). The top half of the income distribution received only one-quarter of UI benefits but half of exclusion tax expenditures.5

Figure 4. Distribution of UI benefits vs. UI exclusion tax expenditure, 2020

Notes: See Figure 3 for details. Source: Authors’ calculations using IRS data.

individuals are randomly assigned to receive UI benefits. Incomes in the CPS and tax data are similar (Larrimore et al., 2021), suggesting little re-ranking bias.

4 The 2019 official poverty rate of 10.5 percent (10.9 percent using Rothbaum and Bee’s correction) was largely unaffected from the UI correction, declining by less than 0.1 percentage point. The 9.6 percent poverty rate in 2020 after correcting UI incorporates revised weights from Rothbaum and Bee. Using original CPS weights, poverty in 2020 would have been 9.5 percent after our UI imputation.

5 The tax exclusion declines for the top decile because the benefit is limited to taxpayers with a modified AGI of less than $150,000.
6. Conclusion

Unemployment insurance benefits made up a large share of fiscal relief during the Covid-19 recession. Yet, over half of UI benefits were missed in the CPS with severe understatement among low-income workers. UI was therefore more important during the Covid-19 recession than is apparent in survey data and official poverty statistics. However, the exclusion of UI benefits from taxation was less targeted at low incomes. Finally, we provide data to ameliorate UI underreporting in surveys.

References


