The Reporting of Unemployment Insurance and Unemployment in Survey and Administrative Sources

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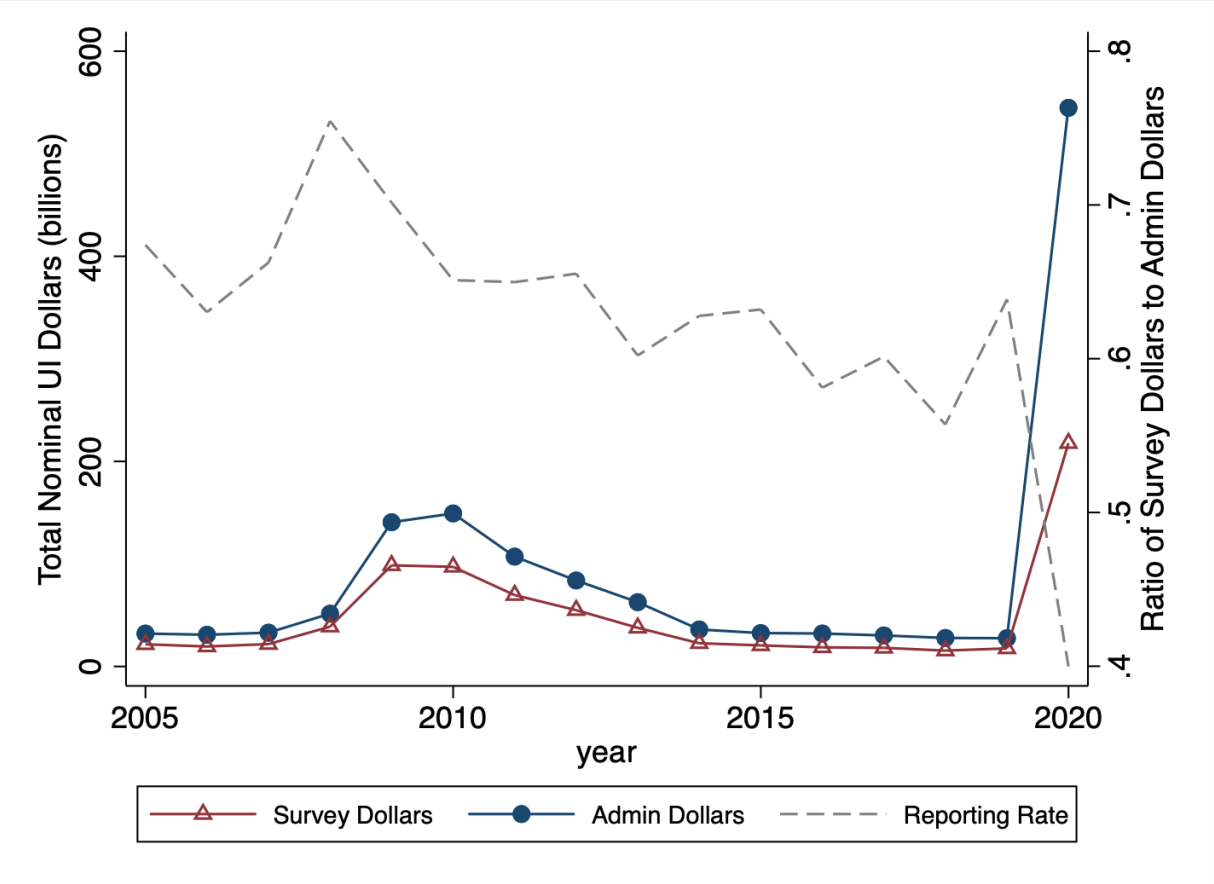
Background on Unemployment Insurance

- Unemployment Insurance (UI) is a key component of the safety net in many countries, including the U.S.
  - Countercyclical nature of the program makes it particularly important during economic downturns
  - During 2020, a record $581 billion of UI was paid out under pandemic-induced program expansions
- Numerous studies have measured UI take-up and receipt
  - Blank & Card (1991), McCall (1995), Anderson & Meyer (1997), Krueger & Meyer (2002), Vroman (2009), GAO (2022)
- More recent studies have sought to document disparities in UI receipt across subgroups
  - Gould-Werth & Shaefer (2012), Nichols & Simms (2012), Bitler, Hoynes, & Schanzenbach (2021), Forsythe & Yang (2021), Kuka & Stuart (2021), Skandalis, Marinescu, & Massenkoff (2022)

Motivation: Survey Misreporting of UI

- Yet, many studies of UI rely on survey data that are prone to measurement error
  - While no work to date has analyzed the extent of UI misreporting at the individual level, comparisons of survey and administrative totals point to UI being severely underreported in survey data (Meyer, Mok and Sullivan 2015; Larrimore, Mortenson, & Splinter 2023)
- Misreporting patterns for other benefits suggest that survey and admin data sources may paint very different pictures of the magnitude of UI take-up and the degree to which they reach different subgroups of the population
  - See, e.g., Meyer, Mittag, & Goerge (2022), Celhay, Meas yer, & Mittag (2022)

Trends in Aggregate UI Amounts from Survey & Admin Sources, 2005-2019



Source: 2006-2021 CPS ASEC, U.S. Department of Labor Unemployment Insurance Chartbook

Motivation: Errors in Administrative Data

- While the shortcomings with respect to survey data have been well-documented, administrative records are not without errors
- For example, administrative measures of earnings from IRS tax records are often incomplete and miss informal sources of wage/salary earnings as well as self-employment income
  - See, e.g., Abowd and Stinson (2013), Abraham et al. (2013, 2021), Collins et al. (2019), Bee et al. (2023), Meyer and Wu (2023)
  - Admin records may also be incomplete because some firms may not file W-2s at all or on a timely basis; survey non-PIKing also implies that some admin records cannot be linked
  - There are also discrepancies between multiple admin sources; For self-employment: 1040 Schedule C vs 1040 Schedule SE vs 1099-MISC vs 1099-K

Motivation: Misreporting of Unemployment

- Long literature emphasizes misreporting of unemployment
- Rotation group bias and differences in reporting of unemployment by time in sample
  - Bailar (1975), Krueger, Mas, and Niu (2017)
- Misreporting of length of unemployment
  - Poterba and Summers (1984)
- Misreporting of unemployment status
  - Abowd and Zellner (1985), Poterba and Summers (1986)
- Conflict between contemporaneous and retrospective measures
  - Levine (1993)
- Fundamental problem that don't have administrative data on unemployment

In This Paper

- We provide the first national estimates of misreporting of UI receipt in Census surveys, leveraging IRS tax records linked to CPS ASEC and SIPP
  - Decomposes bias in dollars reported into sources of error
  - Estimate misreporting by demographic group and examine the determinants of misreporting
- Re-examine determinants of UI take-up using better measures of both UI receipt and eligibility
- Also look at errors in administrative measures of UI receipt
- Finally, we examine conflicts between survey reports of unemployment and administrative reports of unemployment insurance receipt

Key Findings

- Aggregate UI dollars in both CPS and SIPP are understated by 36-38%, compared to linked values from 1099-Gs
  - Vast majority of the understatement comes from 39% and 35% of UI recipients not reporting any receipt in the CPS and SIPP
  - Implies understatement of income and poverty reduction of UI, and overstatement of after-transfer income loss and poverty
- Survey-reported UI dollars are most understated among those who have lower levels of education or income, are black or Hispanic, and are elderly
  - Driven primarily by differences in false negative rates
  - Suggests that survey evidence will overstate disparities along these dimensions
- Being black or Hispanic is more positively associated with UI take-up when using an admin measure of UI receipt (rather than a survey measure)
  - Patterns are consistent across multiple ways of defining UI eligibility
- UI dollars reported on a person's 1040 are almost always on their 1099-G; but not vice versa, 24% of true UI recipients according to a 1099-G do not report UI receipt on a1040
  - Most due to not filing a 1040, but almost as much due to leaving UI off a filed 1040
- Strikingly, 49% of UI recipients never report being unemployed in CPS
  - Suggests major problems with this key variable

Data Sources

- We obtain administrative UI receipt information from Form 1099-G
  - Also examine UI reports on Form 1040, allowing us to compare admin sources
  - Use IRS Form W-2 to help calculate UI eligibility
- Link admin records to 2010 data from two Census surveys (2011 CPS ASEC and 2008 SIPP Panel)
  - Both surveys ask respondents about UI receipt and amounts
  - Default reference period for CPS is calendar year; we combine information across multiple waves of the SIPP to construct calendar year receipt
  - Both surveys ask about unemployment, allowing comparison to admin data
- Link records using Protected Identification Keys (PIKs)
  - CPS sample consists of individuals who have PIKs and are not whole imputed; SIPP sample consist of individuals who have PIKs
  - Re-weight to account for non-random missing PIKs (& whole imputes in CPS); Just under 90 percent of individuals PIKed
- Focus on reference year 2010, during the height of the Great Recession
  - Year with highest amount of benefits paid prior to pandemic
  - Time when UI benefits were particularly important

Misreporting of Survey UI

Aggregate UI Benefits ($) and Recipients Recorded in CPS and SIPP

	Full Survey Sample	Linked Survey Sample			
	Survey UI	Survey UI	Admin UI	Bias (vs. Linked Totals)	Bias (vs. Universe Totals)
	(1)	(2)	(3)	(4)	(5)
CPS					
Dollars (millions)	97,360	96,970	140,900	-31.19%	-36.20%
Recipients (millions)	12.45	12.45	18.93	-34.23%	-38.21%
Sample Size	205,000			165,000	
Weighted Pop. (millions)	306.1			306.0	
SIPP (All Individuals)					
Dollars (millions)	93,780	96,010	153,500	-37.44%	-36.84%
Recipients (millions)	14.49	14.93	20.45	-26.99%	-25.91%
Sample Size	88,000			85,000	
Weighted Pop. (millions)	303.9			303.6	
SIPP (Non-Attriters)					
Dollars (millions)	93,780	94,000	153,800	-38.88%	-38.16%
Recipients (millions)	14.49	15.33	20.28	-24.41%	-23.92%
Sample Size	88,000			62,500	
Weighted Pop. (millions)	303.9			303.5	

Source: 2011 CPS ASEC, 2008 SIPP Panel (Waves 5-8), IRS Form 1099-G (Tax Year 2010)
All results were approved for release by the IRS SOI Disclosure Review Board and the U.S. Census Bureau, authorization number CBDRB-FY21-CES014-038

Error Rates and Decomposition of Dollars Misreported in CPS and SIPP

	CPS (1)	SIPP (All Individuals) (2)	SIPP (Non-Attriters) (3)
False Positives			
Percent (of True Non-Recipients)	0.33%	0.80%	0.77%
Percent Bias in Total Dollars	3.96%	6.35%	4.99%
False Negatives			
Percent (of True Recipients)	39.19%	38.03%	35.13%
Percent Bias in Total Dollars	-26.24%	-25.21%	-22.83%
Average 1099-G Amount ($)	5,374	4,928	4,870
True Reporting Recipients			
Percent Bias in Total Dollars	-6.63%	-18.95%	-21.50%
Mean Absolute Error ($)	3,030	3,732	3,590
Mean Net Error ($)	-875	-2,272	-2,485
Average 1099-G Amount ($)	8,776	9,085	9,055
Residual Coverage Error			
Percent Bias in Total Dollars	-7.30%	0.99%	1.18%
Overall Percent Bias in Dollars	-36.20%	-36.84%	-38.16%

Source: 2011 CPS ASEC, 2008 SIPP Panel (Waves 5-8), IRS Form 1099-G (Tax Year 2010)
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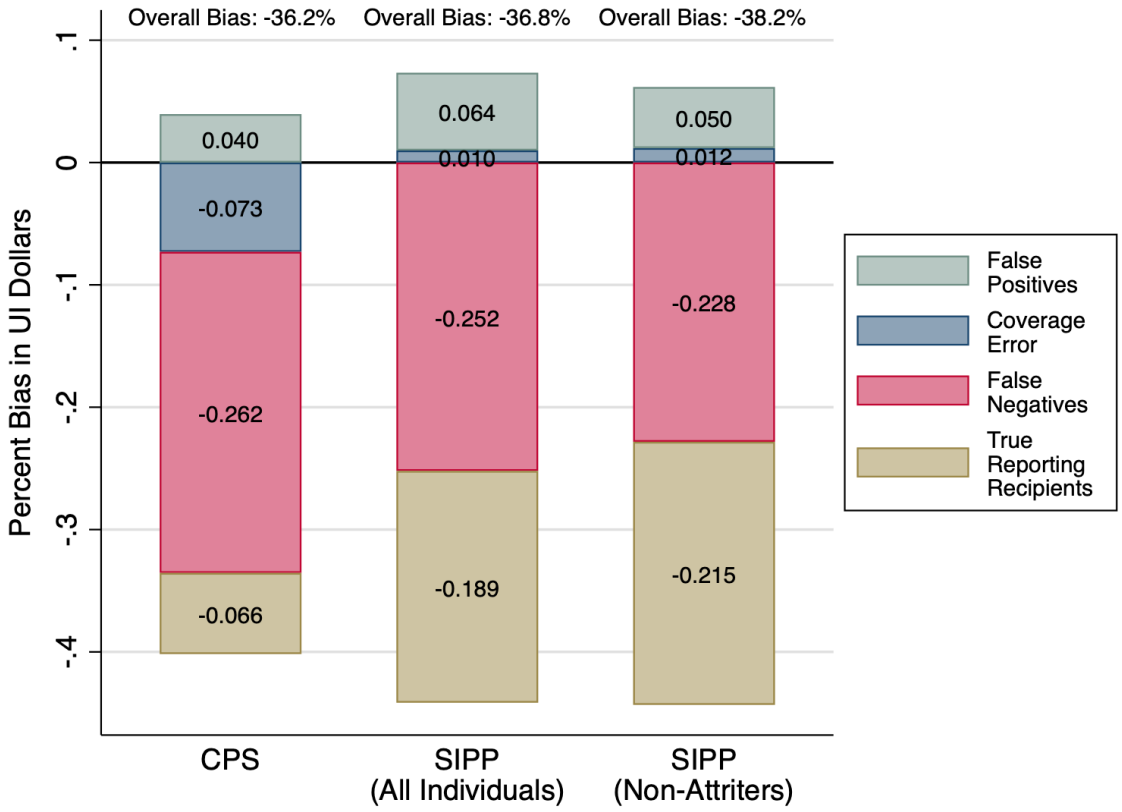
Decomposition of Bias in Reported Survey UI Benefits ($)



Source: 2011 CPS ASEC, 2008 SIPP Panel (Waves 5-8), IRS Forms 1040 (Tax Year 2010 and Calendar Year 2011 Filings), and 1099-G (Tax Year 2010)
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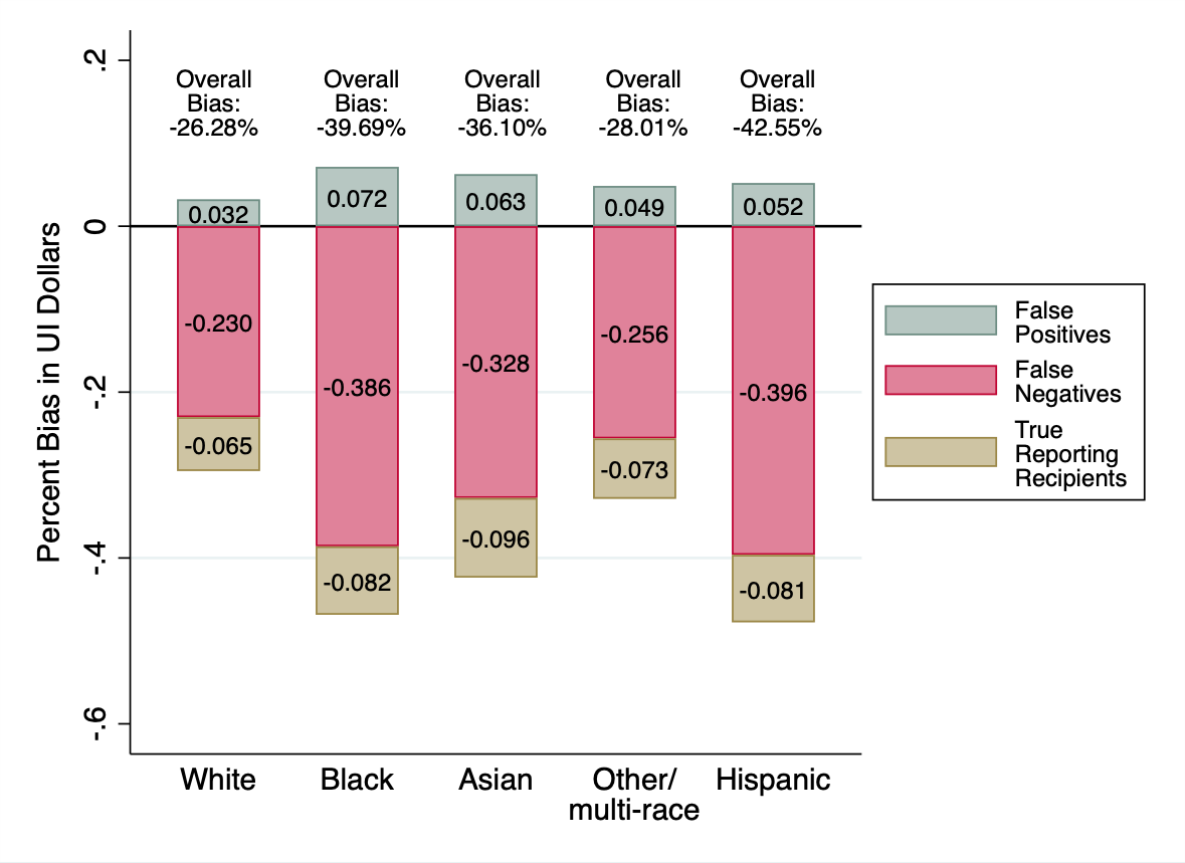
False Positive and False Negative Misreporting Rates (%) by Demographic Group, CPS and SIPP

	CPS		SIPP	
Demographic Characteristics	**False Positives**	**False Negatives**	**False Positives**	**False Negatives**
Race/Ethnicity				
White, non-Hispanic	0.32	33.16	0.93	33.28
Black, non-Hispanic	0.82	49.02	1.63	49.97
Asian, non-Hispanic	0.51	43.27	1.12	45.73
Other/multi-race, non-Hispanic	0.71	37.28	1.39	35.79
Hispanic	0.65	51.53	1.34	42.24
Family Income Relative to Poverty Line				
0-1x Poverty Line	0.51	52.15	1.21	39.65
1-2x Poverty Line	0.74	36.99	1.26	32.12
2-3x Poverty Line	0.46	35.90	1.22	37.83
3-4x Poverty Line	0.37	38.56	1.02	40.99
> 4x Poverty Line	0.30	36.45	0.92	42.32
Education Level				
Less than High School	0.49	46.76	1.11	36.78
High School Graduate	0.68	40.28	0.97	42.39
Some College	0.37	38.50	1.20	36.29
Bachelor's Degree or Higher	0.24	32.73	1.03	35.12

Data: 2011 CPS ASEC, 2008 SIPP Panel (Waves 5-8), IRS Form 1099-G (2010)
Notes: The Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this information product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number 2597 (CBDRB-FY23-041).

Decomposition of Bias in Reported Survey UI Benefits ($): By Race/Ethnicity in CPS



Source: 2011 CPS ASEC, IRS Forms 1040 (Tax Year 2010 and Calendar Year 2011 Filings), and 1099-G (Tax Year 2010)
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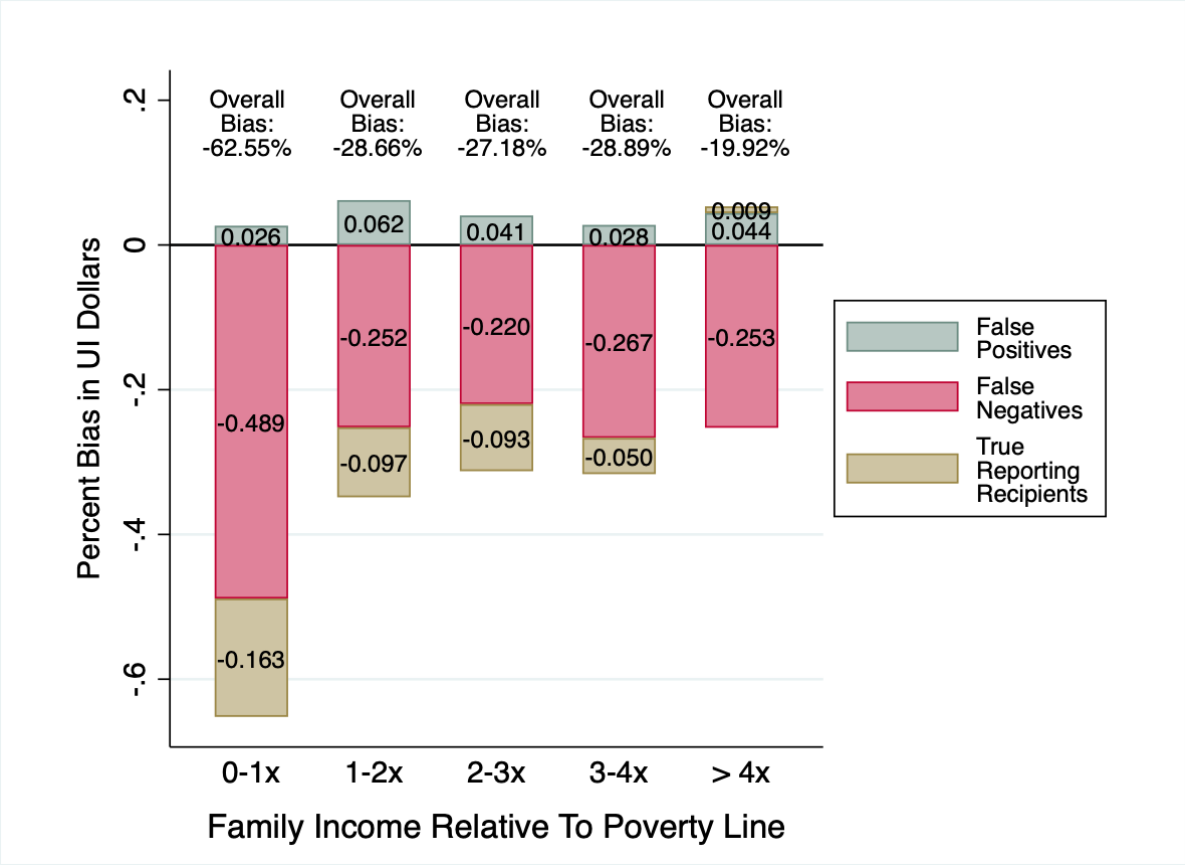
Decomposition of Bias in Reported Survey UI Benefits ($): By Income-to-Poverty Ratio in CPS



Source: 2011 CPS ASEC, IRS Forms 1040 (Tax Year 2010 and Calendar Year 2011 Filings), and 1099-G (Tax Year 2010)
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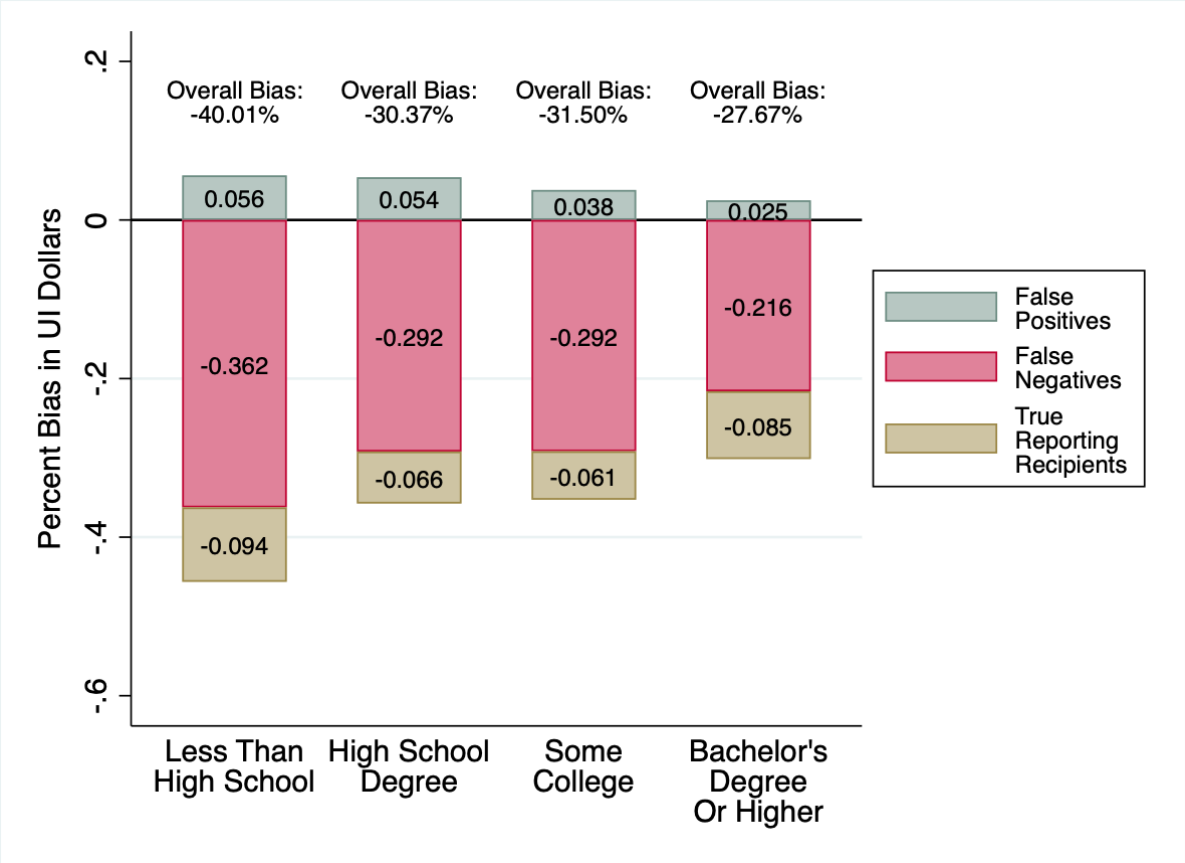
Decomposition of Bias in Reported Survey UI Benefits ($): By Education in CPS



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Misreporting of Survey UI by Demographic Groups

- Survey-reported UI dollars are most understated among those who have low education, have low income, are black or Hispanic, and are elderly
  - Differences across subgroups in overall misreporting are driven primarily by differences in false negative rates (i.e., under-reporting at the extensive margin)
  - Gaps in false negative rates between subgroups (particularly by income and race/ethnicity) largely remain statistically significant after controlling for other individual characteristics

Analyzing Determinants of UI Take-Up

- We also estimate regressions of UI take-up on a number of potential determinants (including race/ethnicity, family type, geographic region, income, education, occupation, etc.), conditional on being likely eligible for UI
- Next two slides present coefficients on two of the indicators from these regressions: those for black (non-Hispanic) and for Hispanic
  - Should be interpreted as relative to white (non-Hispanic), which is the omitted group, holding constant other determinants
- We show estimates from both CPS and SIPP; estimates are for all adults as well as only those eligible defined three alternative ways:
  - Using survey data alone (current-year wages below state thresholds and report being unemployed)
  - Using admin data alone (previous-year W-2 wages below state thresholds and at least 10% year-over-year drop in W-2 wages)
  - Using combination of survey and admin data (previous-year W-2 wages below state thresholds and report being unemployed in survey)

Selected Coefficients in Probit Models of UI Receipt (CPS)

	Full Sample			Monetarily eligible using 2010 survey wages and unemployed in survey		
	Survey UI	**Admin UI**	**Difference**	**Survey UI**	**Admin UI**	**Difference**
Black, non-Hispanic	0.006	0.028***	0.020***	0.006	0.032	0.024*
	(0.002)	(0.004)	(0.002)	(0.002)	(0.020)	(0.012)
Hispanic	-0.002	0.014***	0.016***	-0.038**	-0.024	0.014
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)

	Monetarily eligible on 2009 W-2s and at least 10% drop in 2009 W-2 Wages			Monetarily eligible on 2009 W-2s and unemployed in survey		
	Survey UI	**Admin UI**	**Difference**	**Survey UI**	**Admin UI**	**Difference**
Black, non-Hispanic	0.022**	0.076***	0.052***	-0.008	0.004	0.012
	(0.010)	(0.012)	(0.010)	(0.012)	(0.012)	(0.014)
Hispanic	-0.022***	0.034***	0.056***	-0.056***	-0.024	0.032**
	(0.008)	(0.010)	(0.010)	(0.020)	(0.020)	(0.014)

Data: 2011 CPS ASEC, IRS Forms 1099-G (Tax Year 2010), W-2 (Calendar Years 2009, 2010)
Notes: Delta-method standard errors are in parentheses.Stars indicate the significance of regression coefficients: *** p<0.01, ** p<0.05, * p<0.1. The Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this information product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number 2597 (CBDRB-FY23-041).

Selected Coefficients in Probit Models of UI Receipt (SIPP)

	Full Sample			Monetarily eligible using 2010 survey wages and unemployed in survey		
	Survey UI	**Admin UI**	**Difference**	**Survey UI**	**Admin UI**	**Difference**
Black, non-Hispanic	-0.004	0.018***	0.020***	0.026	0.022	-0.002
	(0.004)	(0.004)	(0.004)	(0.022)	(0.022)	(0.020)
Hispanic	0.008*	0.024***	0.018***	0.032	0.078***	0.046**
	(0.004)	(0.006)	(0.004)	(0.022)	(0.024)	(0.020)

	Monetarily eligible on 2009 W-2s and at least 10% drop in 2009 W-2 Wages			Monetarily eligible on 2009 W-2s and unemployed in survey		
	Survey UI	**Admin UI**	**Difference**	**Survey UI**	**Admin UI**	**Difference**
Black, non-Hispanic	-0.007	0.058***	0.064***	0.014	0.038*	0.024
	(0.013)	(0.016)	(0.014)	(0.022)	(0.022)	(0.020)
Hispanic	0.034**	0.088***	0.054***	0.028	0.074***	0.048**
	(0.014)	(0.018)	(0.014)	(0.022)	(0.024)	(0.020)

Data: 2008 SIPP Panel, Waves 5-8, IRS Forms 1099-G (Tax Year 2010), W-2 (Calendar Years 2009, 2010)
Notes: Delta-method standard errors are in parentheses.Stars indicate the significance of regression coefficients: *** p<0.01, ** p<0.05, * p<0.1. The Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this information product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number 2597 (CBDRB-FY23-041).

Implications of Misreporting for Analyzing Determinants of UI Take-Up

- If we rely only on survey reports of UI, we find that the differences in take-up rates between black and white individuals tend to be statistically insignificant, holding other factors constant
- In contrast, using admin reports of UI leads to statistically significantly higher take-up rates for blacks relative to whites, ceteris paribus
  - This pattern holds in samples of UI eligible defined in several different ways using survey and/or admin data
  - Similar patterns for Hispanics

Errors in Administrative Measures of UI

Comparisons of Aggregate UI Benefits Between 1040s and 1099-Gs

	Dollars (billions)		Recipients (millions)*		
	Amount ($)	As % of Total	Count	As % of Total	Dollars per Recipient
	(1)	(2)	(3)	(4)	(5)
		A. Subgroups of 1099-G UI Recipients			
	1099-G Dollars		*1099-G Recipients*		
Link to 1040 with UI Income	119.30	78.49%	15.24	75.63%	7,828
Link to 1040 without UI Income	9.45	6.22%	2.14	10.60%	4,423
Does Not Link to 1040	23.21	15.27%	2.77	13.74%	8,385
Total	152.00	100.00%	20.15	100.00%	7,543
		B. Subgroups of 1040 UI Recipients			
	1040 Dollars		*1040 Recipients*		
Link to 1099-G	118.50	99.58%	14.64	99.19%	8,094
Does Not Link to 1099-G	0.46	0.39%	0.12	0.81%	3,880
Total	119.00	100.00%	14.76	100.00%	8,062

* UI recipients are individuals in 1099-Gs and tax units in 1040s.

Source: IRS Forms 1040 (Tax Year 2010 and Calendar Year 2011 Filings) and 1099-G (Tax Year 2010)
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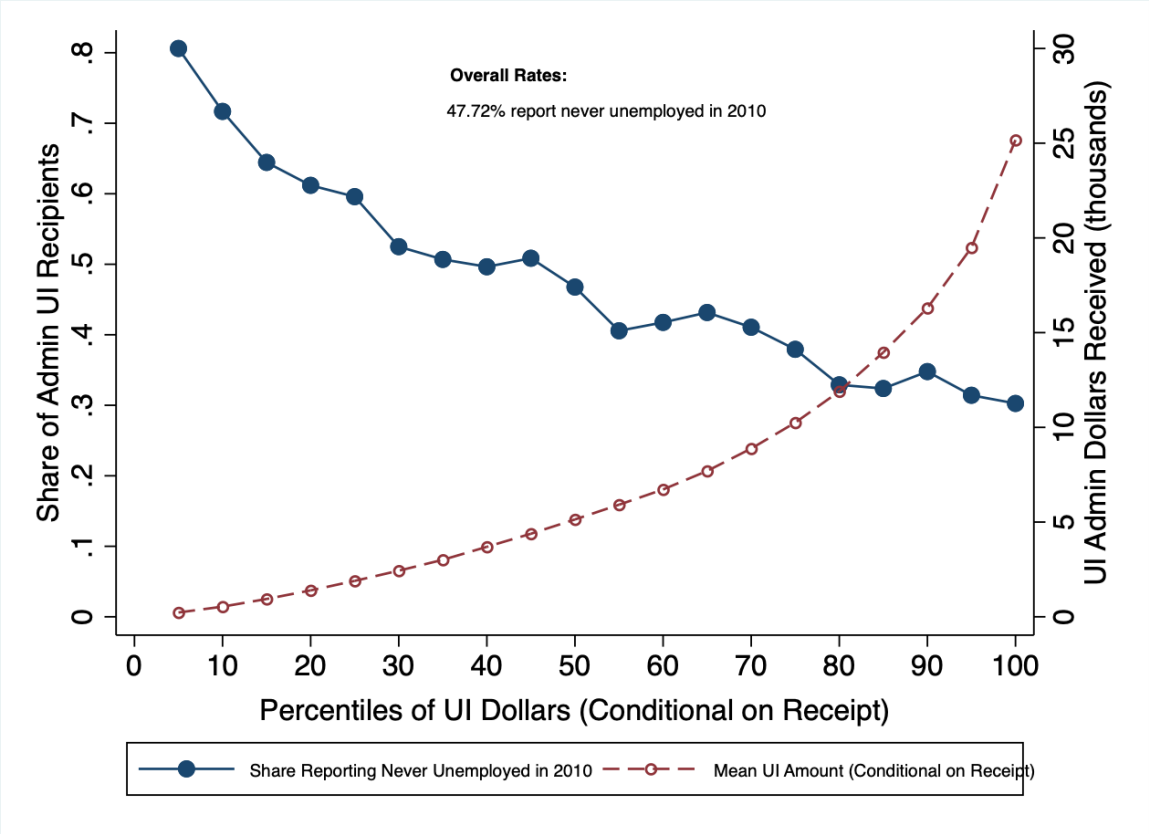
Discrepancies Between Administrative UI and Survey-Reported Unemployment

To What Extent Do UI Recipients Never Report Being Unemployed in Survey?

- 48% of true UI recipients (according to 1099-Gs) report being never unemployed in CPS; 43% in the SIPP
  - 45% of this group in the CPS reports working on a full-time basis for entire year
- Among UI recipients in the lowest ventile of benefit amounts, 81% in the CPS and 66% in the SIPP report never being unemployed in the reference year
  - Speaks to lack of salience as important factor behind inconsistencies

Share of Admin UI Recipients Reporting Never Being Unemployed (CPS)



Source: 2011 CPS ASEC and 1099-G (Tax Year 2010)
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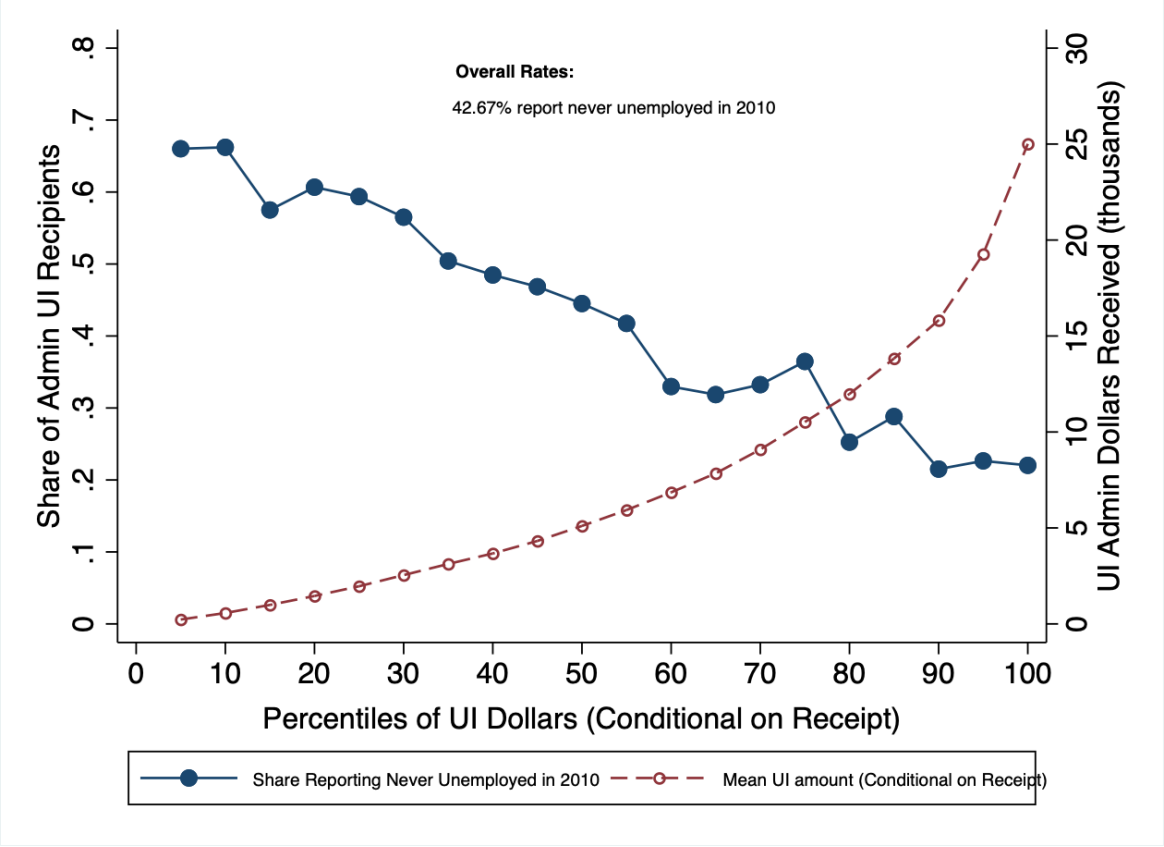
Share of Admin UI Recipients Reporting Never Being Unemployed (SIPP)



Source: 2008 SIPP Panel (Waves 5-8) and 1099-G (Tax Year 2010)
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Discussion and Conclusions

Robustness Checks

- Incorporating 1040s from processing year 2012 reveals that late filers have a very small effect on the agreement between UI on 1040s and 1099-Gs
- Main results on misreporting of UI in surveys hold after excluding California and New Jersey from sample (which had paid family leave programs in 2010 that were included with UI on Box 1 of 1099-Gs)

Conclusions

- This paper provides the first estimates of misreporting of survey UI at the individual level
  - Total UI dollars in CPS and SIPP understated by 36-38%, with majority of understatement driven by false negatives
  - Under-reporting most pronounced for groups that have traditionally been thought to have the lowest receipt rates (Black and Hispanic persons, those with low income/education)
- Also makes contributions on several other margins:
  - Shows extent to which certain admin measures of UI (from 1040s) are incomplete
  - Presents the first evidence we know of on stark discrepancies between admin UI receipt and survey reports of unemployment 49% of UI recipients report never being unemployed in CPS
- More broadly, offers new evidence on the pronounced and complicated errors in survey and admin unemployment data sources

Implications

- Under-reporting in surveys indicates that income is under-reported, poverty overstated, poverty reduction of unemployment insurance understated, share of income replaced by unemployment insurance understated
  - Unemployment itself is misreported, making imputation of UI difficult
  - The differential reporting of survey UI by education, race, ethnicity and income means that the disparities along these dimensions are likely overstated or even reversed
- Under-reporting in administrative data means that simple replacement of survey responses with 1040 based UI income will understate income with some of the same (but likely less pronounced) problems as above
- The results on survey reports of unemployment are potentially the most problematic but are necessarily less certain given the lack of administrative reports of unemployment that parallel survey reports; the results suggest sharp understatement of the incidence of unemployment
  - Many papers condition on a person not having been unemployed recently when examining many different questions
  - Calculation of hourly wages often divides earnings by weeks worked
  - Labor supply estimation uses weeks worked in last year
  - Studies of the incidence of unemployment by demographic group

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