

# Who Are the Self-Employed?

## A Comparative Analysis of Survey and Administrative Data

### INTRODUCTION

Across U.S. household surveys, about 6 to 11 percent of the population is self-employed (Gregory et al., 2022). This wide range highlights the challenges of measuring self-employment. Additionally, there are discrepancies in self-employment status and income reporting between survey and administrative data (Bollinger et al., 2018; Imboden et al., 2024).

### AIMS

- Examine selected demographic, economic, and employment characteristics associated with self-employment across datasets.
- Identify sources of inconsistencies in self-employment between the Survey of Income and Program Participation (SIPP) and administrative records.
  - Focus on employer vs. un-employment status.

### DATA AND METHODS

- SIPP, 2018-2020
    - Main sample: 1<sup>st</sup> wave respondents who were age 15+ with Protected Identification Keys (PIKs) (N=75,500).
  - Detailed Earnings Records (DER), 2017-2019
    - All earnings - positive wage and self-employment (SE) earnings.
  - Integrated Longitudinal Business Database (ILBD), 2017-2019
    - Information on non-employer and all sole proprietorship SE.
- Link SIPP persons to DER self-employment using PIKs.
  - Link persons with missing SE data in the SIPP or DER to the ILBD.

Table 1: Summary Statistics and Proportions by Sample

Variables	No SIPP SE, Has DER SE	Has SIPP SE, No DER SE	Has both SIPP & DER SE	Summary
Age				
<25	0.08	0.04	0.02	
25-34	0.22	0.13	0.15	
35-44	0.23	0.20	0.21	Those with SIPP SE and DER SE jobs are older than those with no SIPP SE jobs reported.
45-54	0.18	0.23	0.24	
55-64	0.15	0.24	0.23	
>65	0.13	0.16	0.16	
Education				
HS or Below	0.33	0.30	0.26	
Some College/Assoc	0.25	0.29	0.25	Persons with SIPP and DER SE jobs are the most educated.
BA/BS	0.25	0.25	0.28	
Grad/Prof Degree	0.18	0.16	0.21	
Own Rental Property	0.07	0.15	0.12	Those with SIPP SE job and no DER SE records have the greatest rental ownership rates.
Own Business as Investment	0.02	0.05	0.04	Persons who have a SIPP SE job and no DER SE records have the highest rate of owning a business as an investment.
<b>Observations</b>	<b>3,000</b>	<b>3,000</b>	<b>2,500</b>	

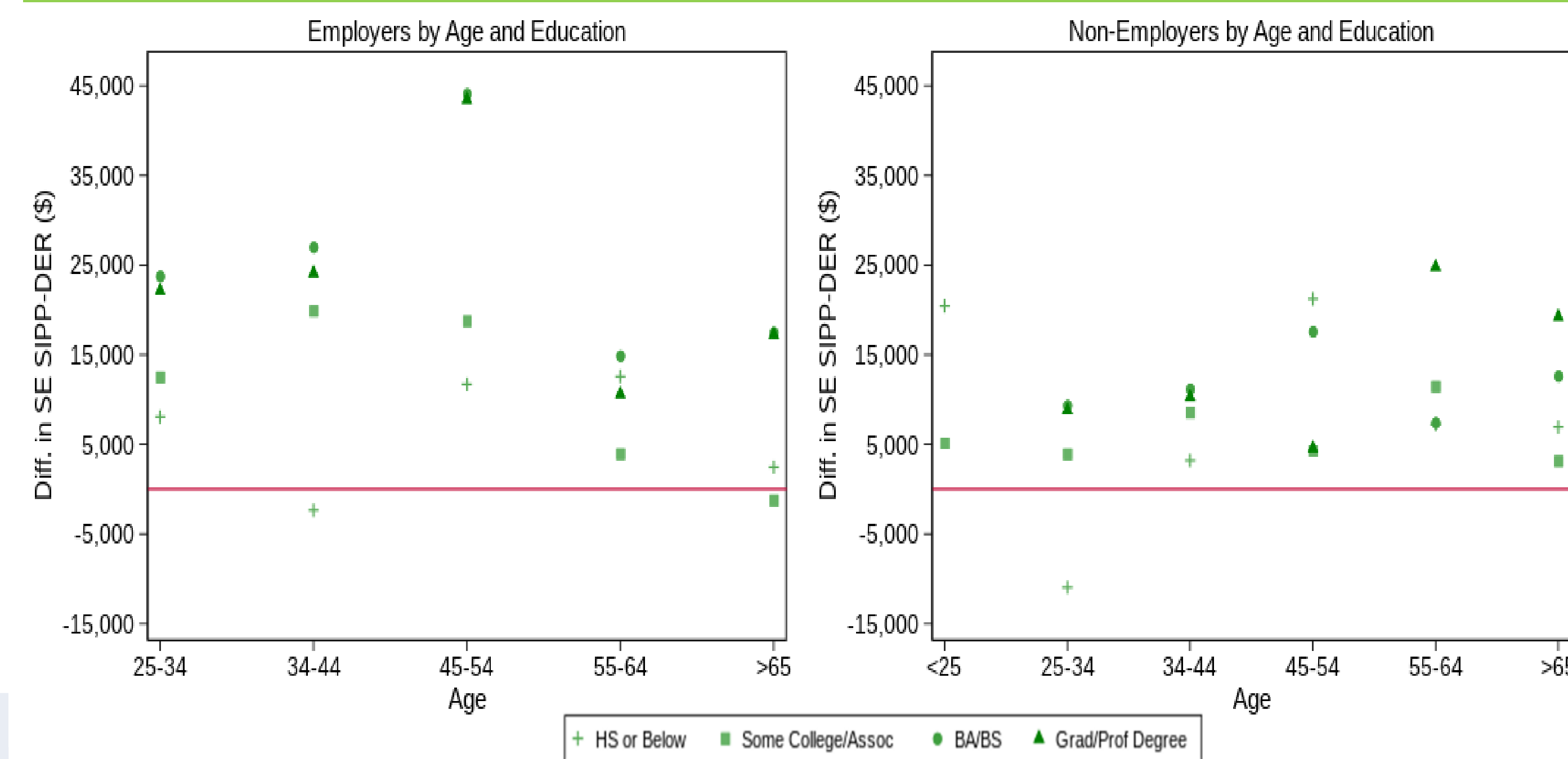
Source: SIPP 2018-2020, DER 2017-2019

Table 2: Descriptives Among Those Reporting any SIPP SE Job

Variables	Has SIPP SE, No DER SE	Has both SIPP and DER SE
	Mean (Std. err)	Mean (Std. err)
Non-employer	0.54 (0.01)	0.66 (0.01)
Not incorporated	0.56 (0.01)	0.74 (0.01)
Reported SE earnings losses	0.13 (0.01)	0.03 (0.01)
Mean SE earnings	69,040 (11,510)	51,300 (3,615)

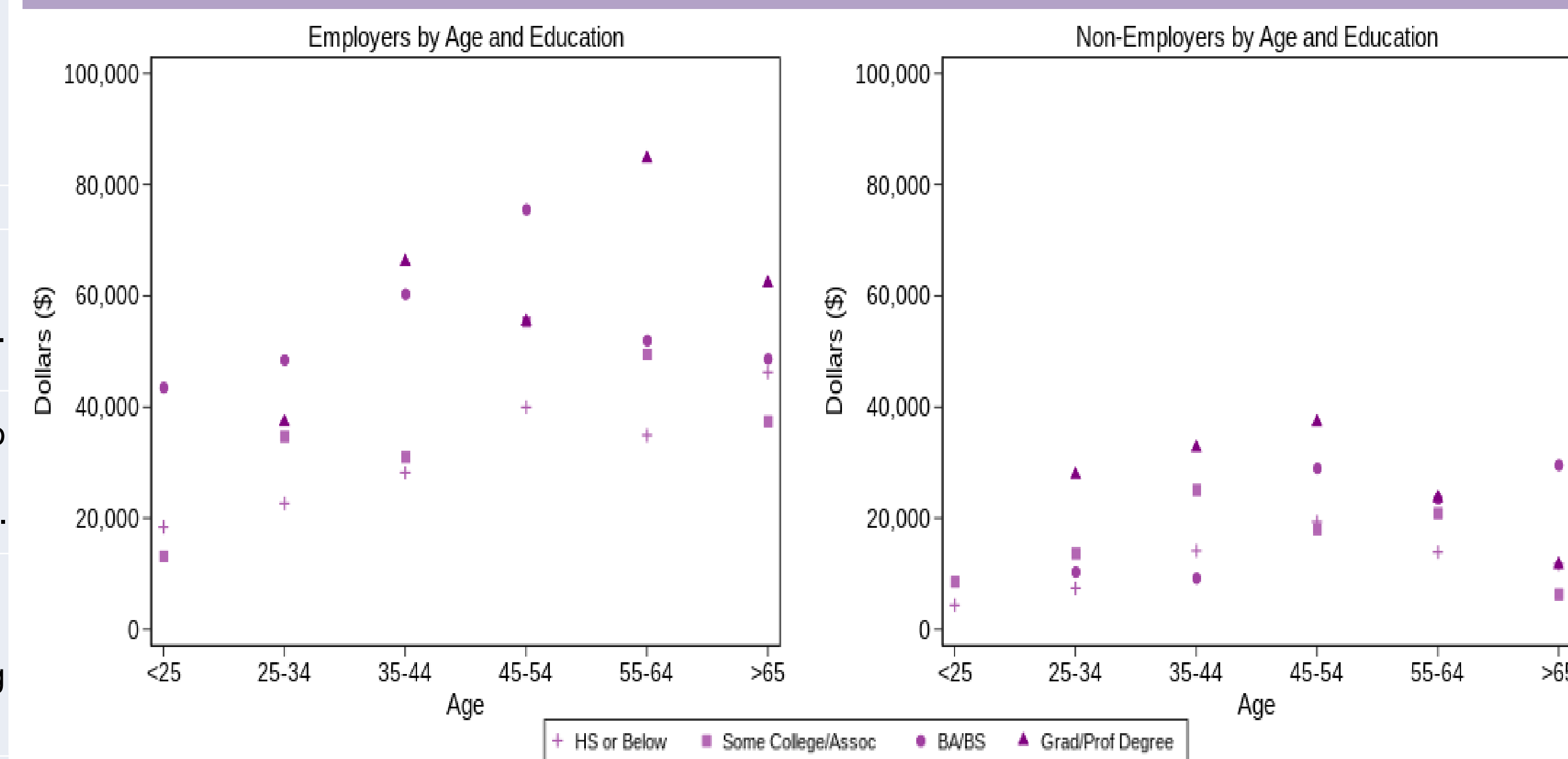
Source: SIPP 2018-2020, DER 2017-2019

FIGURE 1: MEAN DIFFERENCES IN SE EARNINGS FOR RESPONDENTS WHO REPORT SE IN BOTH SIPP AND DER.



Sources: SIPP 2018-2020, DER 2017-2019.  
 Most estimates have a coefficient of variation (CV) greater than 30.

FIGURE 2: SIPP SE EARNINGS AMONG EMPLOYERS AND NON-EMPLOYERS WHO ONLY HAVE SIPP SE.



Sources: SIPP 2018-2020, DER 2017-2019.  
 Most estimates have a coefficient of variation (CV) greater than 30.

**FINDING 1:** Relative to those **without DER SE** records, those **with DER SE** records have...

- Greater rates being non-employers and non-incorporated status.
- Lower rates in reporting losses.

**FINDING 2:** Among those who report **SE in both SIPP and DER**, the gap in total SE earnings is greater among employers than non-employers (statistically significant for the 45-54 age group). This is because those who are self-employed and employers are categorized under wage work in the DER. Sole proprietors are more likely to report as non-employers in the SIPP and have greater DER earnings.

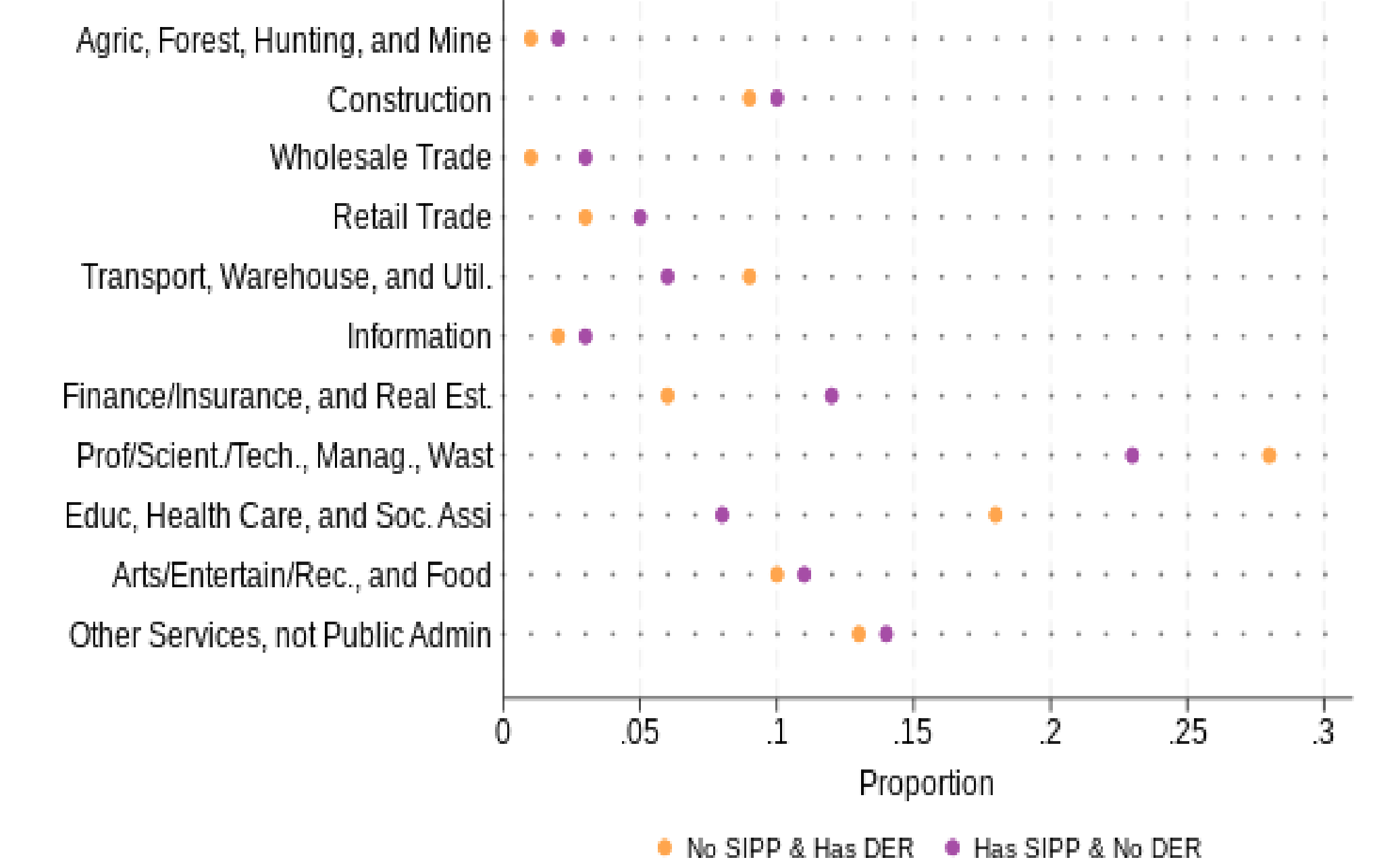
**FINDING 3:** SIPP SE earnings, among those **with no DER**, are greater in value and variation for employers relative to non-employers. Compared to persons with **both SIPP and DER SE**, individuals who report **SIPP SE only** are more likely to report SE losses (Table 2). Therefore, they are less likely to have DER SE, which only records positive earnings.

Table 3: Links to the ILBD

Variables	No SIPP SE, Has DER SE	Has SIPP SE, No DER SE
Starting Sample	3,000	3,000
In ILBD	2,600	800
<b>Proportion in ILBD</b>	<b>0.87</b>	<b>0.27</b>

Sources: SIPP 2018-2020, DER 2017-2019, ILBD 2017-2019

FIGURE 3: ACROSS THE TWO SAMPLES, WE COMPARE HOW INDUSTRIES (2-DIGIT NAICS) ACCORDING TO THE ILBD.



Sources: SIPP 2018-2020, DER 2017-2019, ILBD 2017-2019

**FINDING 4:** Relative to those who have **SIPP SE, but no DER SE**, persons with **no SIPP SE but DER SE** are more likely to be linked to ILBD for certain industries:

- Professional, Scientific, Technical, Management, and Waste Management Services (28% vs. 22%).
- Education, Health Care, and Social Assistance (18% vs. 7%).
- Transportation, Warehousing, and Utilities (9% vs. 6%).

Relative to persons who report **no SIPP SE and with DER SE**, those with **SIPP SE but no DER SE** are more likely to be linked for:

- Finance, Insurance, and Real Estate (12% vs 6%).

### FUTURE WORK

Conduct job-level linking between the SIPP, DER, and ILBD:

- Using names of businesses/individuals.

Examine how linked information can improve data imputation on SIPP jobs and employment, especially among the self-employed:

- Use data unique to the ILBD that can supplement missing information in SIPP.

### CITATIONS

Bollinger, C. R., Hirsch, B. T., Hokayem, C. M., and Ziliak, J. P. (2018). "The Good, the Bad and the Ugly: Measurement Error, Non-response and Administrative Mismatch in the CPS." Working Paper, Gatton College of Business, University of Kentucky.  
 Gregory, V., Harding, E., and Steinberg, J. (2022, July 5). "Self-Employment Grows During the COVID-19 Pandemic." *On the Economy Blog*. <https://www.sitouisfed.org/on-the-economy/2022/jul/self-employment-returns-growth-path-pandemic>  
 Imboden, C., Voorheis, J., and Weber, C. (2023). "Self-Employment Income Reporting on Surveys." *US Census Bureau CES*, 23-19.