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Opening the Black Box of Self-Employment: Identifying Alternative Work Arrangements in the United States

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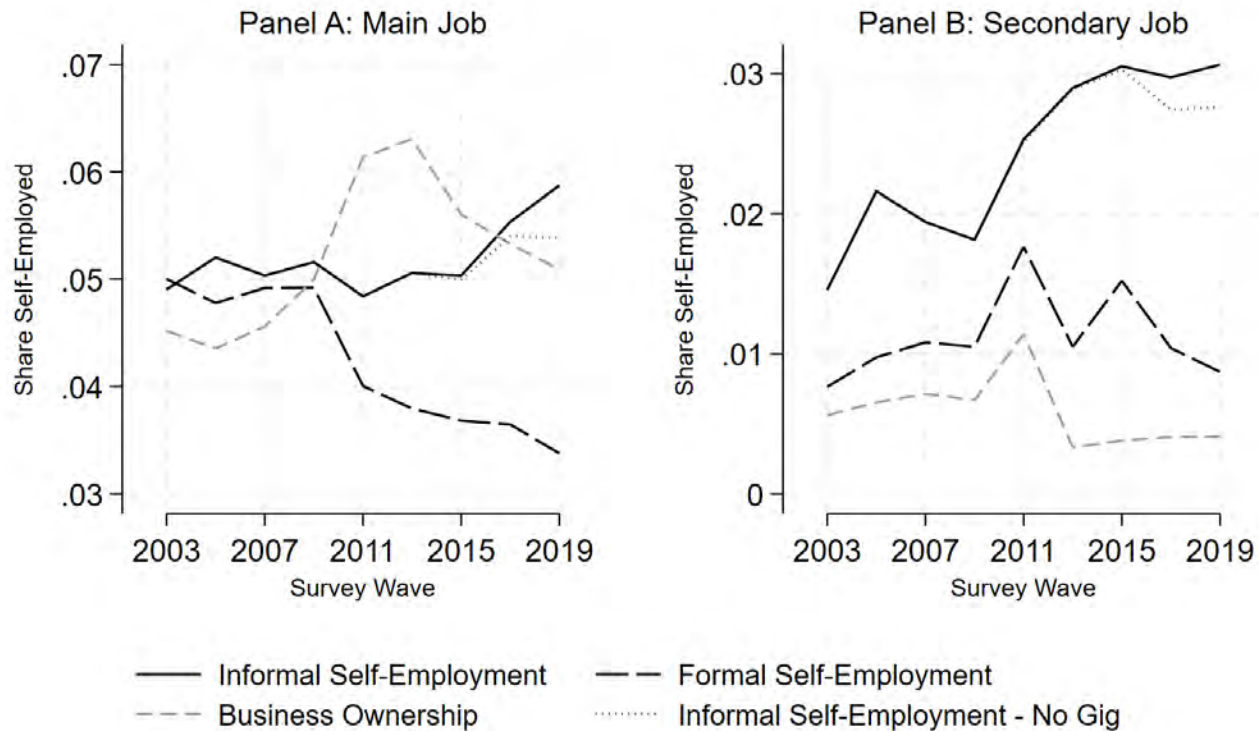
Motivation

- Self-employment is difficult to measure and includes a breadth of work arrangements with very different characteristics and effects on wellbeing
 - Ex. Employee for limousine company, owner-operator of taxi cabs, and Lyft driver
- **Administrative records** have gaps in coverage since they do not capture employment related to income that is not reported to tax authorities and often lack linkages to important demographics and measures of well-being
- Many **household surveys** are cross-sectional, do not probe about detailed employment characteristics, and generally focus on primary jobs only
 - Substantial amounts of work are not captured or are inaccurately captured (Allard and Polivka 2018; BLS 2018; Abraham and Amaya 2019; Bracha and Burke 2021; Abraham et al. 2023)
 - Discrepancies exist across surveys, and between surveys and administrative data in identifying trends in self-employment (Abraham et al. 2013, 2018, 2021; Katz and Krueger 2016, 2019; Abramowitz 2023; Imboden et al. 2023)

This project uses novel data to understand trends in the nature and prevalence of different types of work arrangements

- We use the 2003-2019 waves of the Panel Study of Income Dynamics (PSID)
- The PSID is a longitudinal dataset following families over time with over 10,000 families and 24,000 individuals
- In addition to standard questions about work, the PSID asks respondents open-ended questions about their job industry, occupation, and title along with employer names for **all work** for which they were paid **since the last interview two years prior**
- We classify respondents' jobs by type of work arrangements produced using machine learning of the open-ended questions (Abramowitz, Kim, and Kim 2023) in conjunction with public PSID data
 - **Categories:** Platform gig worker, informal self-employed, formal self-employed, business owner, and employees
- See our paper for benchmarking our ML algorithm + our SE rates to other data sources

Examining different types of self-employment shows divergent trends



Source: 2003-2019 PSID data including employer names and industry and occupation narratives. Estimates are weighted using cross-sectional weights. Restricted to respondents age 16+ and who report being employed.

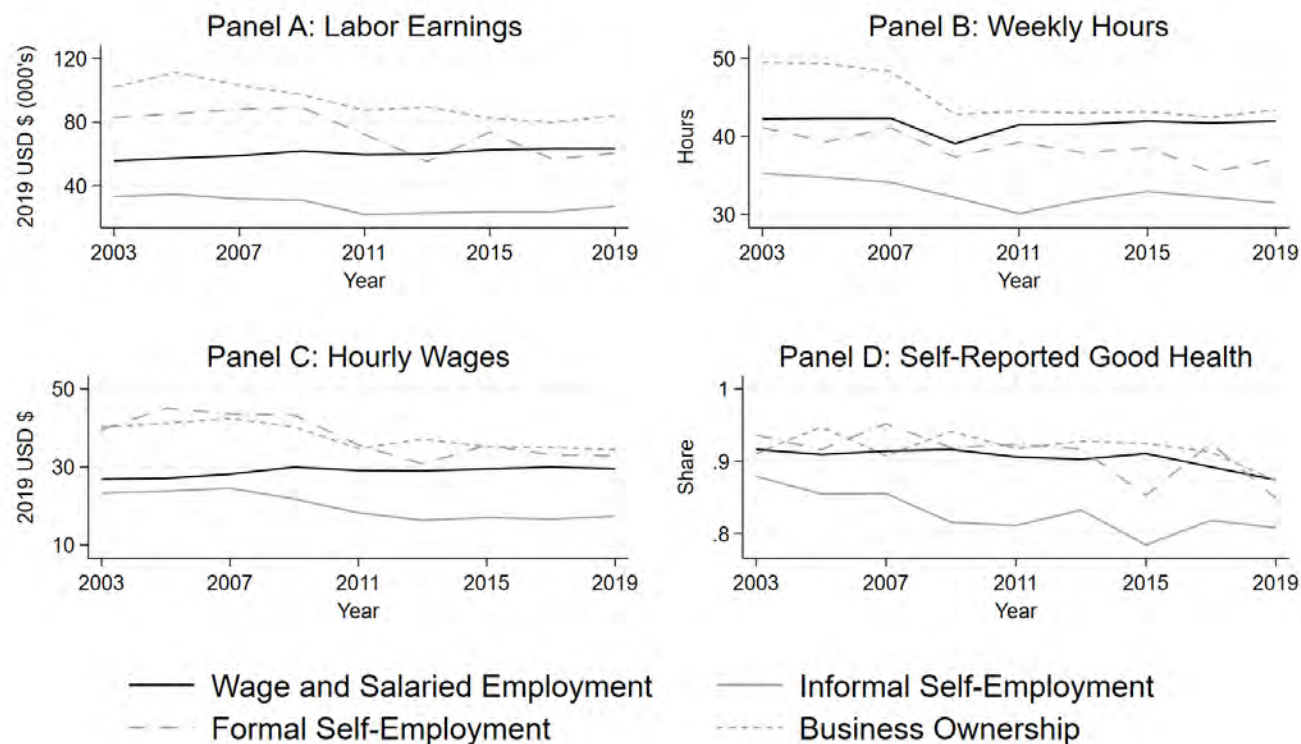
Transition patterns vary across work arrangements and persistence has risen over time

Panel A: Wave-to-Wave Transitions in Employment Status (2003 - 2009)						
		Current Wave				
		<i>Not Working</i>	<i>Employee</i>	<i>Informal SE</i>	<i>Formal SE</i>	<i>Business Owner</i>
Prior Wave	<i>Not Working</i>	74.0%	21.2%	2.9%	1.1%	0.8%
	<i>Employee</i>	10.5%	85.3%	1.6%	1.6%	1.0%
	<i>Informal SE</i>	20.2%	22.6%	36.9%	11.6%	8.7%
	<i>Formal SE</i>	7.9%	26.2%	11.9%	37.4%	16.6%
	<i>Business Owner</i>	7.1%	16.8%	9.4%	17.0%	49.8%

Panel B: Wave-to-Wave Transitions in Employment Status (2011 - 2019)						
		Current Wave				
		<i>Not Working</i>	<i>Employee</i>	<i>Informal SE</i>	<i>Formal SE</i>	<i>Business Owner</i>
Prior Wave	<i>Not Working</i>	82.2%	13.3%	2.7%	1.0%	0.8%
	<i>Employee</i>	10.5%	86.5%	1.0%	1.0%	0.9%
	<i>Informal SE</i>	22.3%	17.2%	47.1%	8.1%	5.3%
	<i>Formal SE</i>	10.7%	24.3%	9.3%	43.4%	12.3%
	<i>Business Owner</i>	8.5%	11.4%	4.0%	5.8%	70.2%

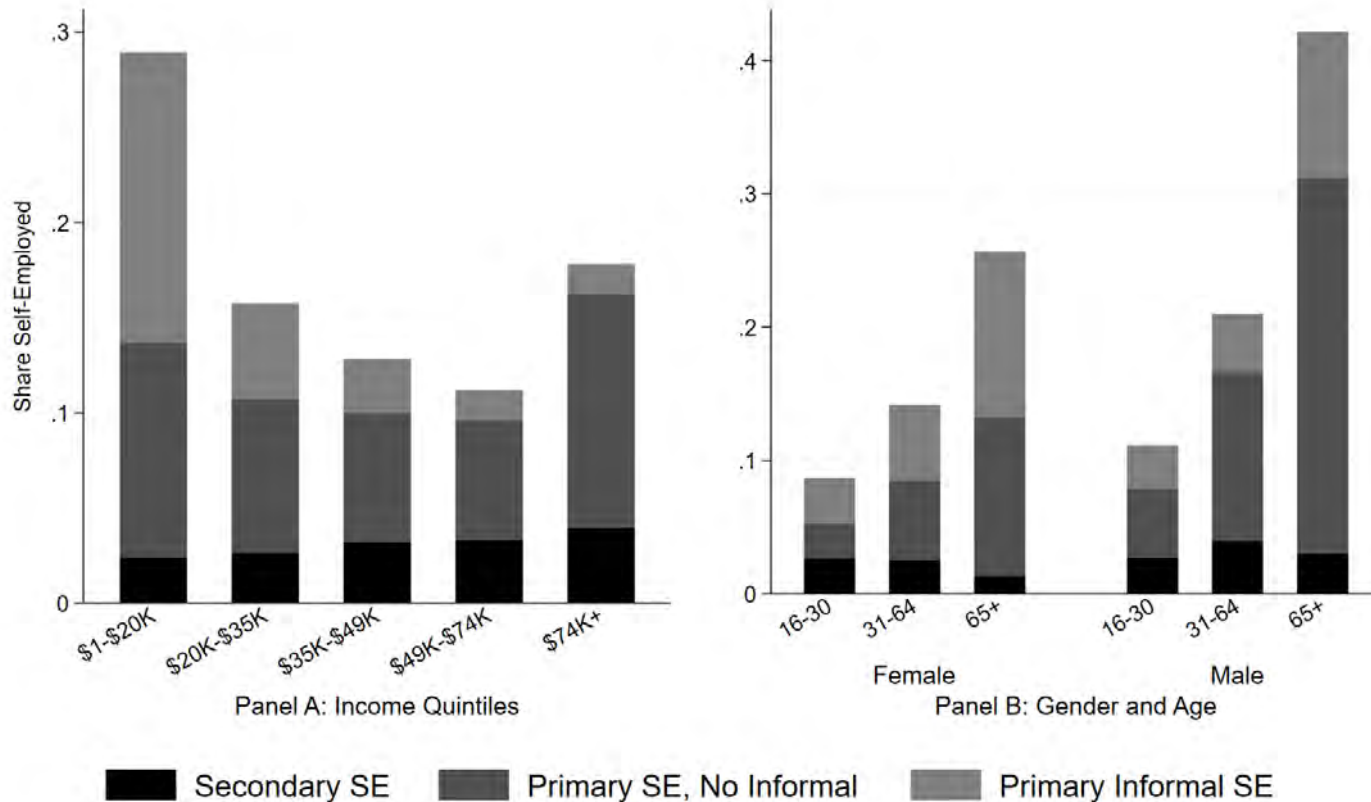
Source: 2003-2019 PSID data including employer names and industry and occupation narratives. Estimates are weighted using cross-sectional weights. Restricted to respondents age 16+.

We see declining average labor earnings among the self-employed and declining health among the informal self-employed in particular



Source: 2003-2019 PSID data including employer names and industry and occupation narratives. Estimates are weighted using cross-sectional weights. Restricted to respondents age 16+. Earnings, wages, and hours restricted to non-zero responses.

Composition of self-employment varies across income distribution and by age-gender



Source: 2003-2019 PSID data including employer names and industry and occupation narratives. Estimates are weighted using cross-sectional weights. Restricted to respondents age 16+, and who report being employed and non-zero labor income.

Discussion

- Our findings can inform discussions about the future of work and provide evidence for policy making – we find:
 - Rising informal self-employment and falling formal self-employment and business ownership
 - Differences in transitions and changing trends in labor earnings, wages, hours, and self-reported health across work arrangements
 - Differences across subgroups by type of self-employment
- Our results shed light on how informal self-employment differs from other types of self-employment and wage and salary employment
- In future work, we aim to better understand transitions and effects of different work trajectories over the life course
- Our classification approach can be used in a variety of other data settings