Paul Fisher

Does repeated measurement improve data quality?

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Discussion by Brian Bucks

Consumer Financial Protection Bureau

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cfpb Consumer Financial Protection Bureau

Overview

- Prior studies find income is under-reported in surveys (especially government transfers)

- Paper makes use of UKHLS design to gauge:
  1. Changes in income mis-reporting across waves
  2. Explanations for under-reporting & changes in it

- Key findings: Under-reporting. . .
  1. is driven by "false negatives" for unearned income
  2. is greatest in the earliest waves
  3. improves mainly due to panel conditioning, particularly increased respondent trust over time

Under-reporting of income sources

Refusal + don't know rates by income source

Notes: Sample of indiviudals responding at each of wave 1-5
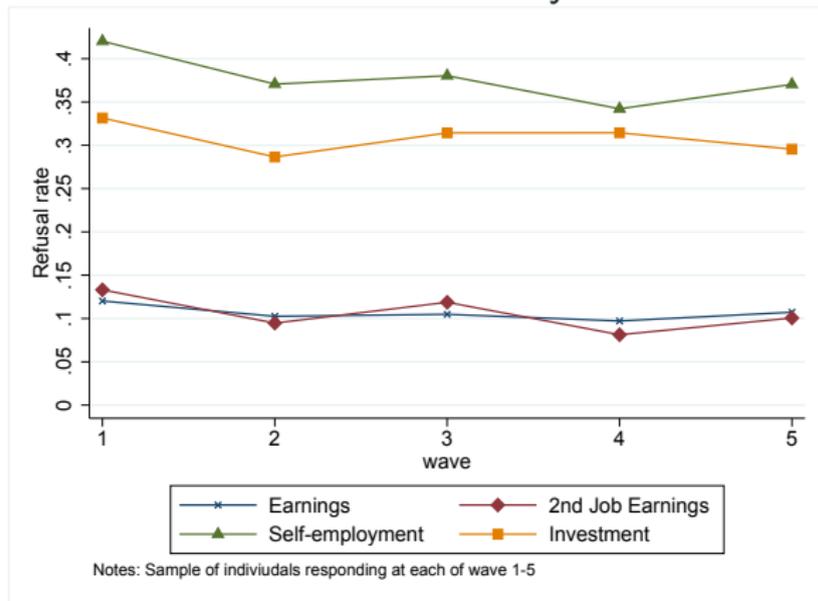
- ▶ Also, diffs in income quantiles vs benchmark generally largest below median & in 1st wave

UKHLS design offers a quasi-experiment

- ▶ Waves are fielded for 24 months

- ▶ Households were randomly assigned a survey month and are interviewed annually

Year	HH in mos 1-12	HH in mos 13-24
2009	Wave 1	
2010	Wave 2	Wave 1
2011	. . .	Wave 2

Identifying the effect of an add'l interview

- ▸ Idea: Compare 2010 income for waves 1 & 2

- ▸ Control for diffs in demographic charac.

- ▸ Assume attrition (cond'l on observables & model) the same across svy years

Year	HH in mos 1–12	HH in mos 13–24
2009	Wave 1	
2010	Wave 2	Wave 1
2011	. . .	Wave 2

Wave 2 HH's report $\approx$ 8% more income
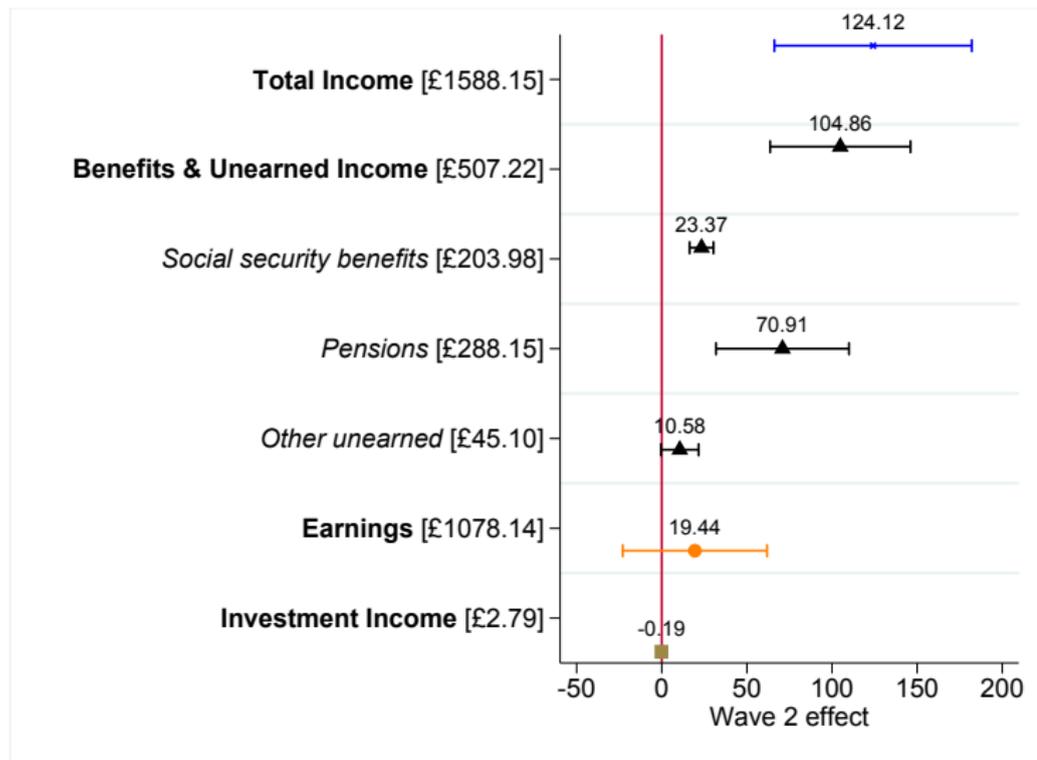
A possible reason for better (more) data: Dependent interviewing

- Saying "No" to income source reported in prior wave prompts follow-up: *"Can I just check..."*

- UKHLS flags instances where DI was triggered; Setting these to 0, shows effect of DI

- DI accounts for only $\approx \frac{1}{3}$ of measured effect $\Rightarrow \approx \frac{2}{3}$ attributed to panel conditioning

Digging deeper

1. Greater wave 2 income is driven almost entirely by reported receipt, not larger amounts
   - Notable exception: Employer pensions

2. Same analytical approach for, e.g., waves 3 and 4 shows no significant differences after wave 2

3. Some evidence of similar patterns in BHPS based on refreshment samples

What's behind the panel conditioning?

- ▶ It's not iwers or Rs getting better at the survey
  - ▶ Findings unchanged if control for iwer traits
  - ▶ Iwer ratings of Rs' understanding no different at Wave 2

- ▶ Instead, Rs seem more willing to answer due to greater trust:
  - ▶ Confidentiality concerns less common in wave 2
  - ▶ Iwers rated wave 2 Rs as less suspicious of svy
  - ▶ Confidentiality queries predict nonresponse to income questions

A twist on what I "know"?

- My initial sense: most income misreporting stems from stigma or ambiguity

- Largest effects here are for pensions

- Might split benefits based on degree of stigma
- Larger question: Distinguishing between
    1. stigma (some benefits; drug use)
    2. complexity or variability (self-emp income)
    3. over-precision (day or month started job)
    4. sensitivity (high incomes)

To my mind, attrition is the toughest knot

- I trust the sample design (and size) gets comparable HH in wave 1 in each year

- We can't similarly ensure attrition is ignorable

- Model attrition in year 1 and 2 separately, compare out-of-sample predictions or reweight

- Note: Emp statuses among the few signif diffs in W1 traits across years in analysis sample
  - Is this true if don't drop wave-2 dropouts?

Filling in the story with indivual-level data

Two types of tables I'd be curious to see

	Wave 2	
Wave 1	Reported	Not reported
Reported	...	...
Not reported	...	...

	Change: Wave 2-Wave 1 (real £)		
Source	a	b	c
Soc sec benefits	...	...	...
Pensions	...	...	...
Wage/salary	...	...	...
Self-employment	...	...	...