Understanding the Biases of Wealth Surveys: Evidence from Housing Wealth of French Households

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The limitations of wealth surveys

Wealth surveys are one of the main statistical sources on wealth, but are unlikely to reflect accurately the distribution and the concentration of wealth due to multiple biases ([Kennickell, 2017], [Eckerstorfer et al., 2016], [Vermeulen, 2018]).

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- Underrepresentation of wealthy households;
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The true causes of biases in wealth surveys remain unclear, often because of a lack of a benchmark measure.

This paper

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In this paper, I combine the 2017 French wealth survey with this database to understand the causes of biases in wealth surveys.

What is exactly the problem?

Data source	Share in the population					
	P0-P50	P50-P75	P75-P90	P90-P95	P95-P99	P99-P100
Administrative database	50.0%	25.0%	15.0%	5.0%	4.0%	1.00%
Survey data	45.2%	29.1%	16.8%	4.9%	**3.5%**	**0.53%**

Source	Share in gross housing wealth					
	P0-P50	P50-P75	P75-P90	P90-P95	P95-P99	P99-P100
Administrative database	6.5%	24.5%	26.0%	14.1%	18.2%	10.8%
Survey data	6.3%	29.0%	28.9%	14.2%	**15.6%**	**6.0%**

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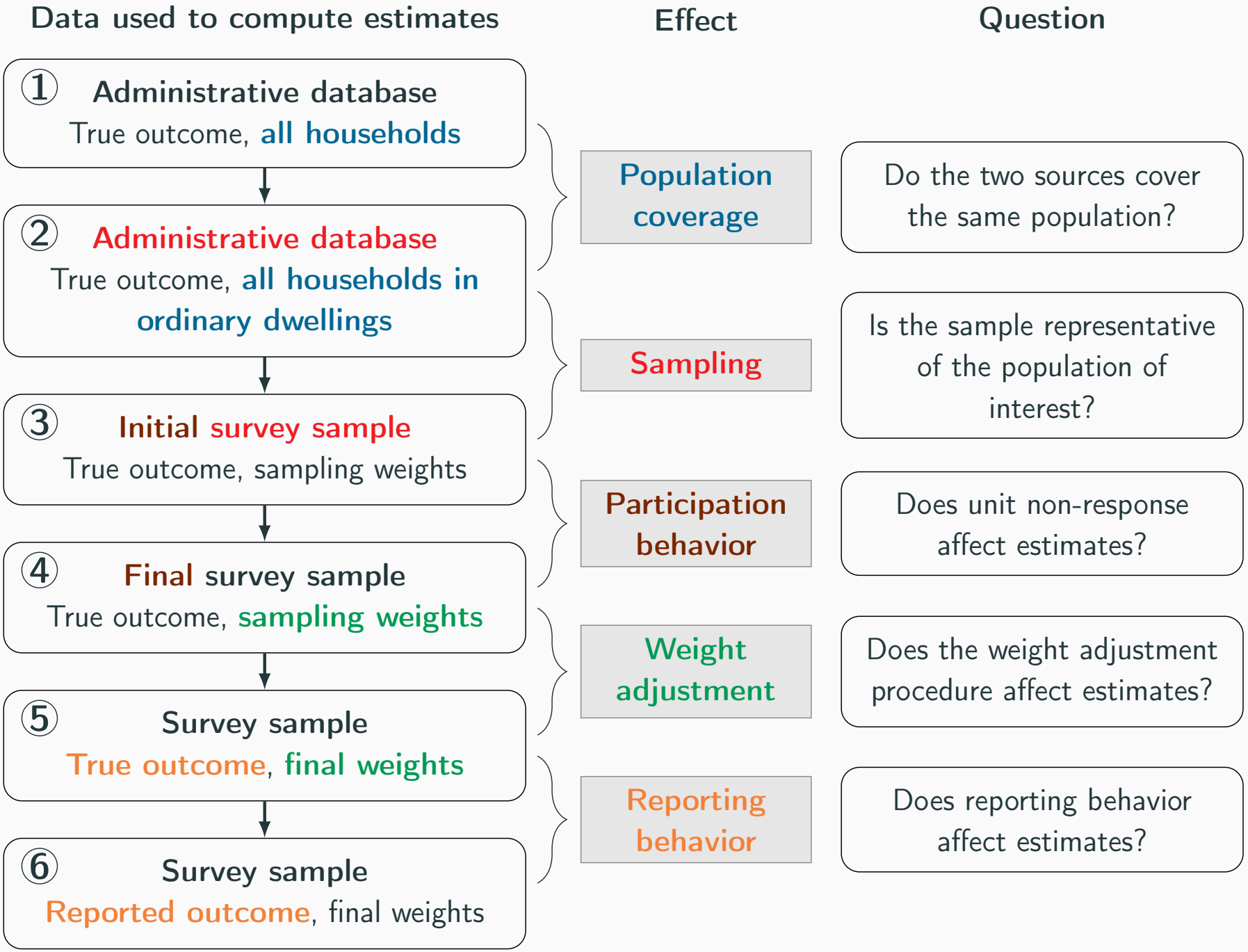
With comparable definitions, almost half of the top 1% is missing in the survey, both in population share and wealth share.

Three-step methodology

- Linking households sampled for the survey with their counterpart in the administrative database;
  $\Rightarrow$ **Dataset with reported assets and true assets**
- Systematic decomposition of discrepancies between survey-based estimates and estimates based on administrative data;
  $\Rightarrow$ **Precise measurement of each source of bias**
- Comparing the dwellings reported by respondents with the dwellings they actually own.
  $\Rightarrow$ **Understanding the determinants of reporting behavior**


Data used to compute estimates
Effect
Question
① Administrative database
True outcome, all households
② Administrative database
True outcome, all households in ordinary dwellings
③ Initial survey sample
True outcome, sampling weights
④ Final survey sample
True outcome, sampling weights
⑤ Survey sample
True outcome, final weights
⑥ Survey sample
Reported outcome, final weights
Population coverage
Sampling
Participation behavior
Weight adjustment
Reporting behavior
Do the two sources cover the same population?
Is the sample representative of the population of interest?
Does unit non-response affect estimates?
Does the weight adjustment procedure affect estimates?
Does reporting behavior affect estimates?

Decomposing discrepancies: wealth concentration

	Share in gross housing wealth					
	P0-P50	P50-P75	P75-P90	P90-P95	P95-P99	P99-100
Administrative data	**6.5%**	**24.5%**	**26.0%**	**14.1%**	**18.2%**	**10.8%**
Survey data	**6.3%**	**29.0%**	**28.9%**	**14.2%**	**15.6%**	**6.0%**
Total discrepancy	**-0.2**	**4.5**	**2.9**	**0.1**	**-2.5**	**-4.8**
Scope of survey	-0.1	0.0	0.0	0.0	0.0	0.0
Sampling	-0.1	0.1	0.0	0.9	-0.5	-0.4
Unit non-response	0.0	1.7	1.1	0.6	**-0.5**	**-2.9**
Weight adjustment	**0.2**	**-0.4**	**-0.8**	**0.0**	**-0.6**	**1.5**
Reporting behavior	-0.2	3.1	2.5	**-1.4**	**-1.0**	**-3.0**

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$\Rightarrow$ The downward bias in housing wealth concentration estimates comes in equal parts from underrepresentation of wealthy households and underreporting of assets.

Investigating unit non-response

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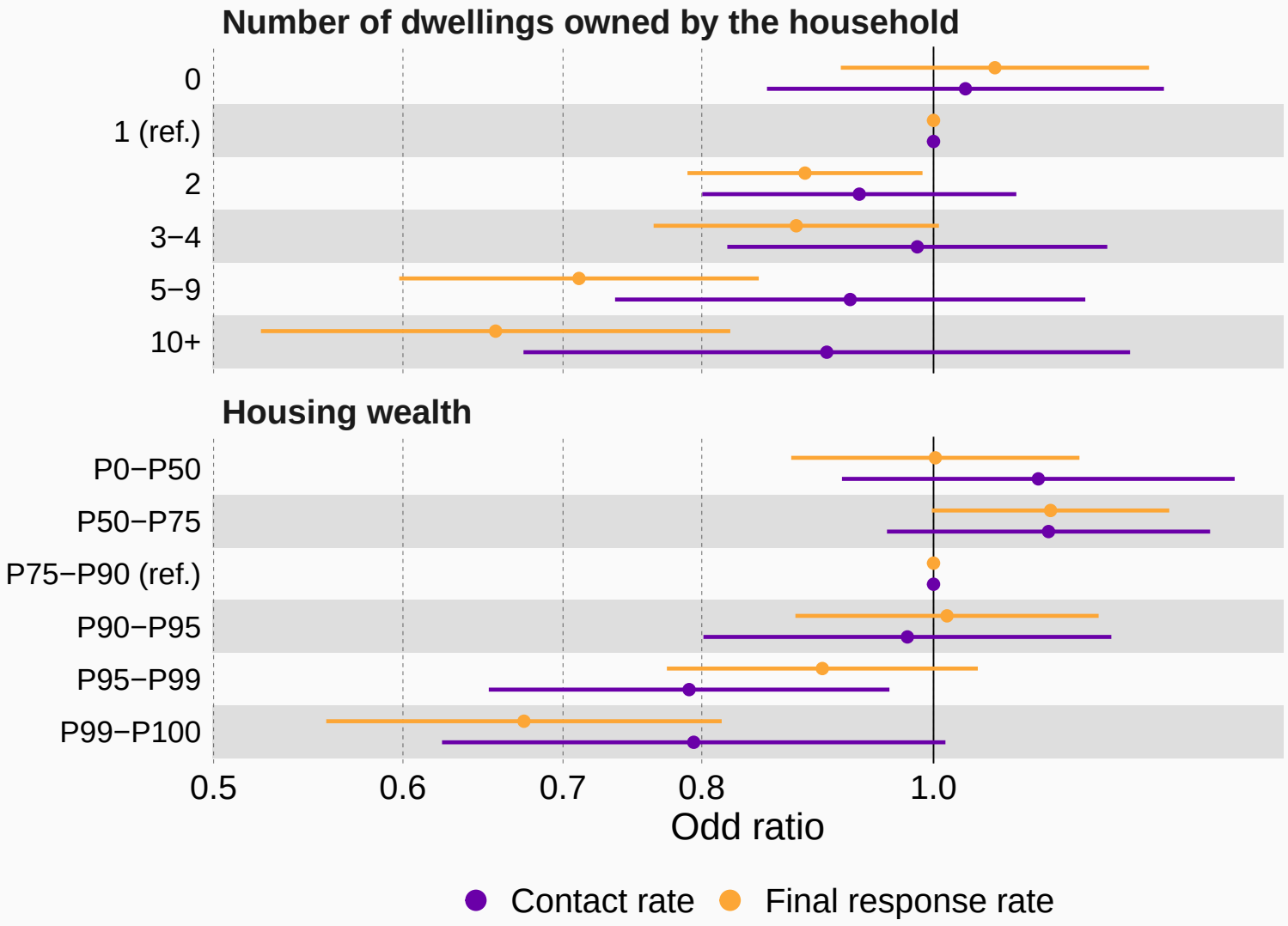

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1. **Asset misreporting is ubiquitous: underreporting and overreporting.**
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2. **Households are more likely to report dwellings they have actual economic control upon**:
    - the dwellings are owned in full ownership (or usufruct);
    - the dwellings are not owned jointly with other households;
    - the building is used as the household's main residence;
    - the household derives property income from them;
    - the property tax recipient belongs to the household.

What properties are reported, and why?

3. **Reporting is better among households with better information and higher educational level**:
    - the respondent is the owner of the dwelling/building;
    - the respondent uses documents and can easily answer questions;
    - the respondent is not older than 70 and has a higher educational level.

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   I finally compare housing wealth reported by households in the survey with the housing wealth they reported to the French tax administration (housing wealth tax).
4. **Clear signs of intentional underreporting at the top of the distribution.**

Conclusion

Comparing survey data with administrative data really helps identifying opportunities to improve survey quality:

- The weight adjustment procedure does not correct all of the selective nonresponse problem;
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Comparing survey data with administrative data really helps identifying opportunities to improve survey quality:

- The weight adjustment procedure does not correct all of the selective nonresponse problem;
  $\Rightarrow$ Opportunity to test improvements of the weight adjustment procedure.
- Asset misreporting is ubiquitous (underreporting and overreporting) because the question asked is not consistent with respondents' conceptual framework;
  $\Rightarrow$ Opportunity to improve the questionnaire.
- Clear signs of intentional underreporting at the top of the distribution.
  $\Rightarrow$ Opportunity to leverage administrative data to improve the measurement of the top tail of wealth distribution.

Reference

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