A Validation Study on Voter Turnout Bias in Switzerland

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Outline

- Introduction
- Our study
- Results
- Conclusions
Introduction: Voter Turnout Bias in Switzerland

Source: Own calculations based on the most recent VOX dataset.
Introduction: Research Questions

- What are the mechanisms that lead to the observed turnout bias in Swiss voting and election studies?
- How much do the different mechanisms contribute to the total bias?
- Is it possible to reduce the bias by special questioning techniques or weighting schemes?
Introduction: Types of Biases

- **Undercoverage**
  - Sampling frames typically do not cover the whole population.
  - Political participation is likely to be lower among uncovered subpopulations (e.g. young people without landline) than among covered subpopulation, leading to a positive bias in survey estimates of voter turnout (Mokrzycki, Keeter und Kennedy 2009, Blumberg und Luke 2007)

- **Nonresponse**
  - Participation in surveys correlates with political interest and political participation (Voogt und Saris 2003, Jackman 1999, Brehm 1993).

- **Misreporting**
  - Due to social desirability (Tourangeau und Yan 2007) and recall errors (Belli et al. 1999), respondents tend to overreport their participation behavior.
Introduction: Types of Biases

Measurement

- Construct
- Measurement
- Response
- Edited response

Representation

- Target population
- Sampling frame
- Sample
- Respondents
- Postsurvey adjustments

Survey estimate

Validity

Measurement error

Processing error

Coverage error

Sampling error

Nonresponse error

Adjustment error

(Groves et al. 2009:48)
Our Study

- Voter turnout validation study comparing survey data to polling cards at a small municipality in Switzerland.

Polling cards
- Federal votes of September 22 and June 9, 2013.
- Citizens who took part in the votes can be identified from the collected polling cards.

Survey
- Gross sample of 2000 citizens from the municipality’s register.
- Net sample of 1696 (84.8%) citizens whose households could be found in the telephone register.
- CATI survey between September 23 and October 20 with 893 respondents (52.7% of net sample).
- Questions on: political interest, participation the votes, social desirability of voting, key indicators of political participation research, social demographics.
- Wording experiment voting question.
Main Results: September 22 Vote

Turnout (in percent)

Population 59.2% N=4559

Gross sample

No telephone

Net sample

No interview

Interviewed sample

Self-report
Main Results: September 22 Vote

Population:
- Gross sample: 59.2% (N=4559)
- Net sample: 59.3% (N=2000)

Graph shows the distribution of voter turnout across different samples with the turnout percentages indicated for each category.

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Main Results: September 22 Vote

- **Population**: 59.2\% (N=4559)
- **Gross sample**: 59.3\% (N=2000)
- **No telephone**: 35.5\% (N=304)
- **Net sample**: 63.4\% (N=1696)

The bar chart shows the turnout rates in different samples and subgroups, with the turnout rates ranging from 35.5\% to 63.4\%.
Main Results: September 22 Vote

- **Population**: 59.2% (N=4559)
- **Gross sample**: 59.3% (N=2000)
- **No telephone**: 35.5% (N=304)
- **Net sample**: 63.4% (N=1696)
- **No interview**: 53.1% (N=803)
- **Interviewed sample**: 72.6% (N=893)

Turnout (in percent) with intervals for refused, not reached, and unable.
Main Results: September 22 Vote

- Population: 59.2% (N=4559)
- Gross sample: 59.3% (N=2000)
- No telephone: 35.5% (N=304)
- Net sample: 63.4% (N=1696)
- No interview: 53.1% (N=803)
- Interviewed sample: 72.6% (N=893)
- Self-report: 80.6% (N=893)

Turnout (in percent):
- refused
- not reached
- unable

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Main Results: June 9 Vote

Population: 49.8% (N=4459)
Gross sample: 49.6% (N=1966)
No telephone: 27.5% (N=289)
Net sample: 53.3% (N=1677)
No interview: 43.8% (N=792)
Interviewed sample: 61.7% (N=885)
Self-report: 80.6% (N=871)

Turnout (in percent)
### Over- and Underreporting

<table>
<thead>
<tr>
<th>September 22</th>
<th>self-report</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>did not vote</td>
<td>voted</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>polling cards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– did not vote</td>
<td>69.6</td>
<td>30.4</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>– voted</td>
<td>0.4</td>
<td>99.6</td>
<td>100.0</td>
<td></td>
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<tr>
<td>(N = 893)</td>
<td></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>June 9</th>
<th>self-report</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>did not vote</td>
<td>voted</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>polling cards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– did not vote</td>
<td>45.8</td>
<td>54.2</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>– voted</td>
<td>3.2</td>
<td>96.8</td>
<td>100.0</td>
<td></td>
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<tr>
<td>(N = 864)</td>
<td></td>
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</tbody>
</table>
### Sociodemographic Profiles (September 22 Vote)

The table below shows the average marginal effects from logistic regressions for various sociodemographic factors.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Marginal Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undercoverage (N=1946, R²_MF=.262)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Age (ref = 18 – 34)</td>
<td></td>
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<tr>
<td>35 – 49</td>
<td></td>
</tr>
<tr>
<td>50 – 64</td>
<td></td>
</tr>
<tr>
<td>65 or older</td>
<td></td>
</tr>
<tr>
<td>Marital status (ref = married)</td>
<td></td>
</tr>
<tr>
<td>single</td>
<td></td>
</tr>
<tr>
<td>divorced</td>
<td></td>
</tr>
<tr>
<td>widowed</td>
<td></td>
</tr>
<tr>
<td>Household size (ref = 2)</td>
<td></td>
</tr>
<tr>
<td>1 member</td>
<td></td>
</tr>
<tr>
<td>3 members</td>
<td></td>
</tr>
<tr>
<td>4 or more</td>
<td></td>
</tr>
<tr>
<td>Single-family home</td>
<td></td>
</tr>
<tr>
<td>Wealth (log/10)</td>
<td></td>
</tr>
<tr>
<td>Income (log/10, equivalized)</td>
<td></td>
</tr>
</tbody>
</table>

The average marginal effects range from -0.5 to 0.5, indicating the impact of each factor on the outcome of interest.

**Average marginal effects from logistic regressions**

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Determinants of Overreporting (September 22 Vote)

- Political interest (1–5)
- Party member
- Left–right (0–10)
- Voting is civic duty
- Internal political efficacy (1–5)
- External political efficacy (1–5)
- Most people in own circle vote
- People in own circle would not like it if I don't vote
- Female
- Tertiary education
- Age (ref = 18 – 34): 35 – 49
  50 – 64
  65 or older

Average marginal effects (N=183, $R^2_{MF}=.139$)
Wording Experiment

- The sample was randomized into a control group and a treatment group.
- The control group received a standard voting question.
  - „How about you, did you vote or not?“
- The treatment group received a modified voting question intended to minimize social-desirability bias and recall errors.
  - „Please try to remember whether you read the voting documents and whether you voted in person or by mail. Which of the following statements does apply to you?“
    - I did not vote.
    - I thought about voting, but did not.
    - I usually vote, but did not this time.
    - I am sure I did vote.
Wording Experiment: Results

September 22 vote

- Control
  - Polling cards: 75%
  - Self-report: 80%
- Treatment
  - Polling cards: 80%
  - Self-report: 85%

June 9 vote

- Control
  - Polling cards: 65%
  - Self-report: 70%
- Treatment
  - Polling cards: 70%
  - Self-report: 75%
Wording Experiment: Results

September 22 vote

- Control
- Treatment

June 9 vote

- Control
- Treatment

Bias overreporting underreporting
Summary and Conclusions

- Undercoverage, nonresponse, and overreporting jointly contribute to the participation bias in survey data; contribution of overreporting increases over time.

- Undercoverage, nonresponse, and overreporting have differential sociodemographic profiles.

- The errors potentially affect associations and regression models estimated from survey data. Overreporting appears particularly problematic.

- Alternative wording to minimize social-desirability bias and recall errors did not lead to substantial improvement.

<table>
<thead>
<tr>
<th></th>
<th>Sept 22 PP</th>
<th>Sept 22 %</th>
<th>June 9 PP</th>
<th>June 9 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling error</td>
<td>0.1</td>
<td>0.4</td>
<td>-0.2</td>
<td>-0.5</td>
</tr>
<tr>
<td>Undercoverage</td>
<td>4.1</td>
<td>19.2</td>
<td>3.7</td>
<td>11.9</td>
</tr>
<tr>
<td>Nonresponse</td>
<td>9.2</td>
<td>43.0</td>
<td>8.4</td>
<td>27.3</td>
</tr>
<tr>
<td>Overreporting</td>
<td>8.0</td>
<td>37.4</td>
<td>18.9</td>
<td>61.3</td>
</tr>
<tr>
<td>Total bias</td>
<td>21.5</td>
<td>100.0</td>
<td>30.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>
References