



EUROPEAN CONFERENCE ON
QUALITY IN OFFICIAL STATISTICS
2024 ESTORIL - PORTUGAL

Comparing the Accuracy of Official Statistics and Survey Data: The Case of Covid-19 Vaccination Rates in Germany

Karolina von Glasenapp

GESIS – Leibniz Institute for the Social Sciences, Mannheim Germany

Survey Data Collection and the Covid-19 Pandemic project (SDCCP)

SPONSORED BY THE



Federal Ministry
of Education
and Research



INSTITUTO NACIONAL DE ESTATÍSTICA
STATISTICS PORTUGAL

eurostat 

The conference is partly
financed by the European Union



Background

- Official statistics and surveys as complementary data sources on the Covid-19 vaccination rate



Background

- Official statistics and surveys as complementary data sources on the Covid-19 vaccination rate
- Unique opportunity for the assessment of survey data accuracy



Background

- Official statistics and surveys as complementary data sources on the Covid-19 vaccination rate
- Unique opportunity for the assessment of survey data accuracy
- **RQs:**
 - **How accurate were survey estimates of the Covid-19 vaccination rate in Germany?**
 - **Did accuracy differ by survey design (sampling and mode)?**



Measure and data

Data sources:

Survey data

- academic surveys conducted in Germany covering vaccination status
- 34 surveys (from 16 survey programs) with fieldwork between March 2021 and April 2022

Official statistics

- number of administered vaccine doses - Robert Koch Institute
- population figures - Federal Statistical Office of Germany



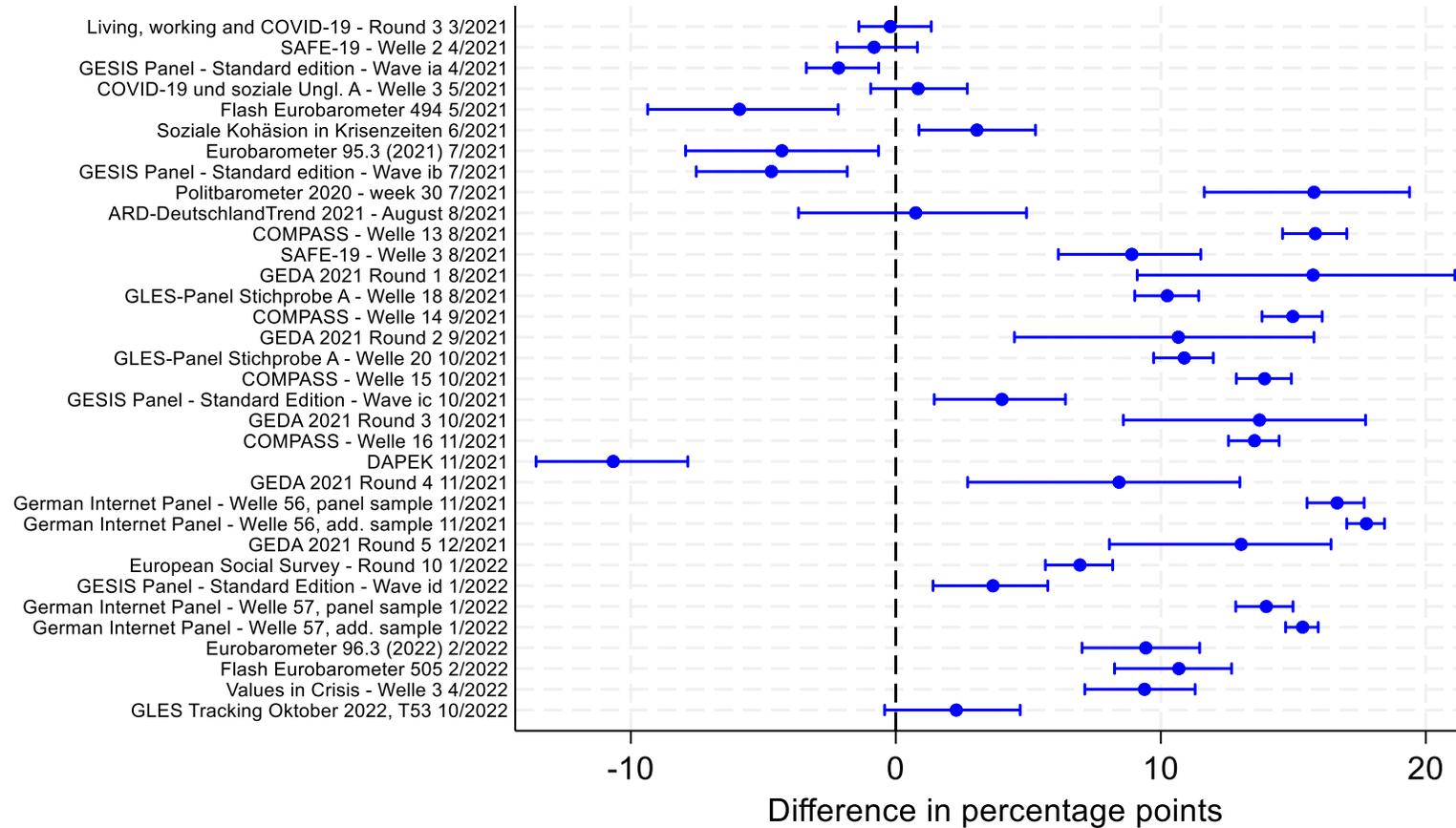
Measure:

proportion of those who have received at least one dose of the vaccine (in the age group 18-59)



(In)accuracy of survey estimates

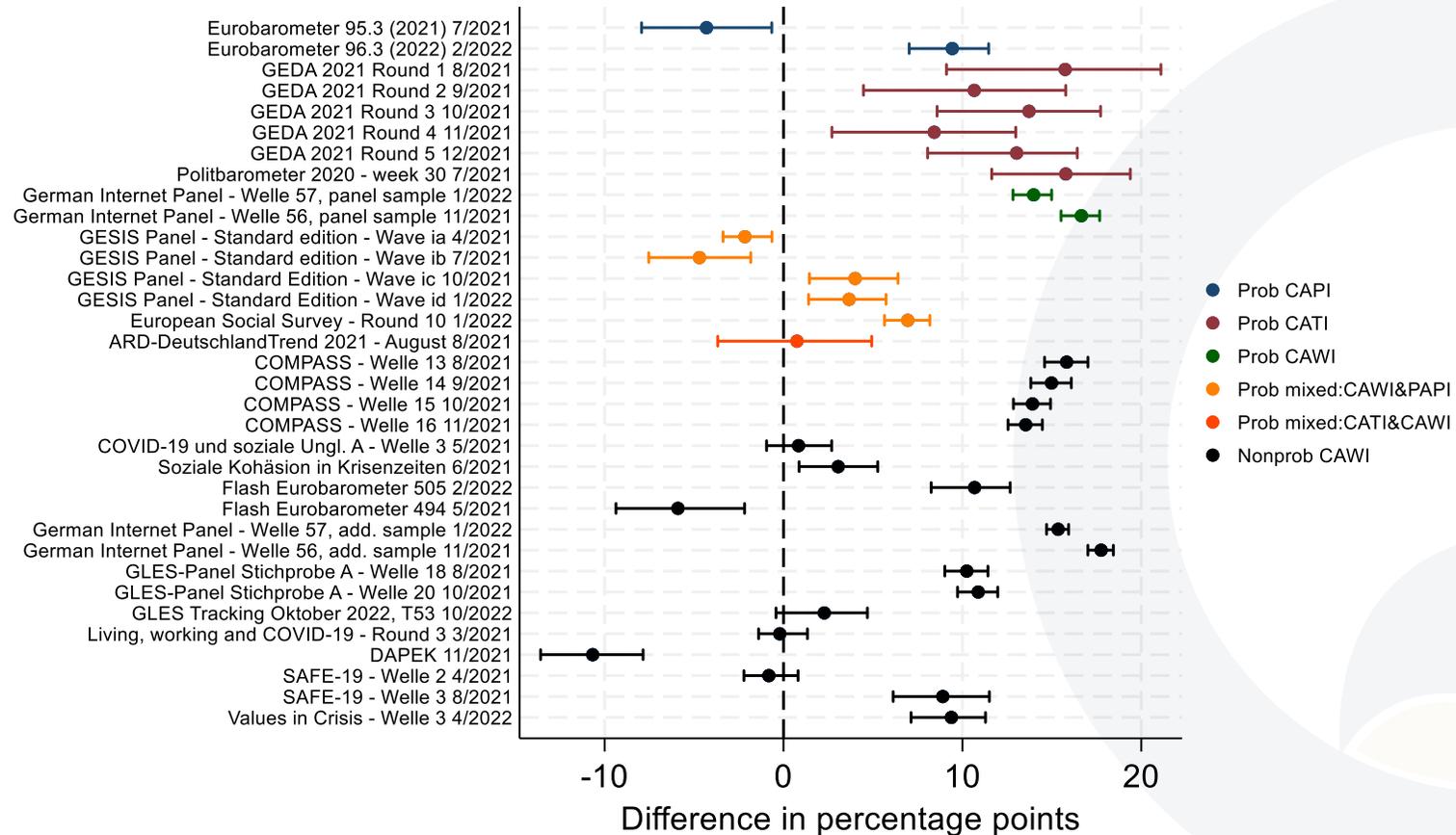
Accuracy of survey estimates - age group 18-59





Differences in accuracy by survey design

Accuracy of survey estimates - by survey design, age group 18-59





Conclusion & further research

- Early surveys were more accurate than later surveys
 - First underestimation, later overestimation of the vaccination rate
 - Probability-based mixed-mode surveys as the most accurate group
-
- Measurement-related error: Shift in social desirability bias over time?
 - Representation-related error: Undercoverage of individuals with prioritized vaccination? Correlation between survey participation and vaccine uptake?



EUROPEAN CONFERENCE ON
QUALITY IN OFFICIAL STATISTICS
2024 ESTORIL - PORTUGAL

Thank you for your attention

Karolina von Glasenapp

GESIS – Leibniz Institute for the Social Sciences

Karolina.Glasenapp@gesis.org



eurostat 

The conference is partly
financed by the European Union



Differences in accuracy by survey design and fieldwork date

Accuracy of survey estimates - by survey design, ordered by date, age group 18-59

