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Abstract

The ifo Education Survey is a representative opinion survey of the German voting-age population on education topics that has been conducted annually since 2014. It covers public preferences on a wide range of education policy issues ranging from early childhood education, schools, and apprenticeships to university education and life-long learning. The dataset comprises several survey experiments which facilitate investigating the causal effects of information provision, framing, and question design on answering behavior. This paper gives an overview of the survey content and methodology, describes the data, and explains how researchers can access the dataset of over 4,000 participants per wave.

JEL code: I28, D72, H52

Keywords: Education, policy, survey, experiment, public opinion, political economy, Germany

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1. Introduction

Over the past decades, empirical research has produced many insights on how education policies may affect student performance and equality of educational opportunity, in Germany and beyond. Despite an increasingly rich evidence base, there has been limited headway on many political reforms. One possible reason for the discrepancy between insight and action could lie in the interactions between political considerations and opinions of the public – the “political economy” of education policy (see West and Woessmann 2021). To investigate the electorate’s opinions on education policy, the ifo Institute has set up an annual representative survey to elicit the German public’s opinion on education issues – the ifo Education Survey (*ifo Bildungsbarometer*).

The ifo Education Survey has been surveying the education policy preferences of large representative samples of the German voting-age population annually since 2014. The survey covers a broad range of generic education topics in all relevant educational stages – from early childhood education, schools, and vocational education to university education and life-long learning. In addition, most survey waves included a number of questions on current topics at the time of the survey, such as education policies to integrate refugees in the 2016 survey wave or education policies during the Covid-19 pandemic in the 2020 wave.

By implementing numerous randomized information experiments in the surveys, the ifo Education Survey facilitates studying how correcting people’s biased beliefs about underlying facts affects their support for education policies. Beyond information experiments, the survey includes experiments on the effects of framing and question design on answering behavior. In addition to representative cross-sectional samples of the German population, specific survey waves of the ifo Education Survey also cover special interest groups such as parents, teachers, and adolescents. The findings of the ifo Education Survey have been presented in annual descriptive reports, studied in several academic publications, and taken up in the public debate on education policy in Germany.¹

¹ The development and analysis of the first four waves of the ifo Education Survey was performed as part of the project “The Political Economy of Education Policy: Insights from a Public Opinion Survey” which was generously funded by the Leibniz Association under its competitive funding procedure (SAW-2014-ifo-2). Since then, the project is operated as an internal project of the ifo Institute. Since 2017, the survey is co-financed by the project “Educational Choices, Market Design, and Student Outcomes” as part of the Collaborative Research Center Transregio “Rationality and Competition: The Economic Performance of Individuals and Firms” funded by the German Science Foundation (CRC TRR 190).

Data from the ifo Education Survey waves 2014 to 2021 are published for scientific use. The purpose of this paper is to introduce the survey to interested researchers and provide a guide on how to access the data. Section 2 describes the content and implementation of the survey. Section 3 provides information on data access. Section 4 summarizes the existing research based on the ifo Education Survey and outlines the potential for future research.

2. General Information about the ifo Education Survey

This section provides an overview of the topics covered by the different waves of the ifo Education Survey (section 2.1) and describes the survey design (section 2.2), sampling and survey implementation (section 2.3), and weighting and representativeness (section 2.4).

2.1 Topics of the ifo Education Survey

The ifo Education Survey elicits opinions on all levels of the education system, with a particular emphasis on the school system. Most waves contain around 25-35 substantive questionnaire items on preferences for various education policy topics, often with several randomized splits. Detailed information on the questionnaires is provided in the codebooks available for each wave (see section 3.1).

Apart from general coverage of topics of education policy, each wave has a particular focus topic that is covered in depth (Table 1). The first survey in 2014 covered a wide range of topics to give a broad picture of public opinion on education topics in the German population. The 2015 wave oversampled parents of school-aged children and focused on attitudes towards education reforms. In 2016, the focus was on teachers, as reflected in the oversample of teachers and in a high number of questions asked about teacher topics (e.g., civil-servant status or required qualification of teachers). In light of the unprecedented arrival of refugees in Germany, an additional focus of the 2016 wave was on education policies to foster the integration of refugees. The 2017 wave focused on topics in digitalization of the education system. Furthermore, it included a follow-up survey conducted with the same respondents about two weeks after the main survey to study the persistence of information-treatment effects. In the wake of the #MeToo debate, the 2018 wave focused on gender equality and other gender topics in education. Furthermore, it elicited preferences of over 1,000 adolescents aged 14-17 years in addition to the representative adult sample. In 2019, the survey focused on measures to mitigate educational inequality and foster equality of opportunities and again included a follow-up survey. The 2020 survey had two priority topics: one was education policy in light

of Covid-19-induced school closures, the other was educational federalism and measures to standardize the education system across the German states. The 2021 wave focused on education policies to address grand societal challenges during and after Covid-19.

Table 1: Annual Focus Topics of the ifo Education Survey

Wave	Focus Topic	Descriptive Report
2014	Overall picture of education topics	Woessmann et al. (2014)
2015	Reforms	Woessmann et al. (2015)
2016	Teachers; refugees	Woessmann et al. (2016a, 2016b)
2017	Digitalization; trends	Woessmann et al. (2017)
2018	Gender	Woessmann et al. (2018a, 2018b)
2019	Inequality	Woessmann et al. (2019)
2020	Federalism; Covid-19	Woessmann et al. (2020a, 2020b)
2021	Societal challenges	Woessmann et al. (2021)

In addition to the substantive questions on education policy, the ifo Education Survey elicits a broad range of background information about the respondents (usually around 20-25 questionnaire items). In addition to standard demographic information such as gender, age, education, occupation, and monthly net income (mostly elicited in the same way across waves), it also elicits respondents' economic preferences such as risk and patience, as well as information that is particularly important from a political-economy perspective such as party preferences, voting behavior, and media usage.

2.2 Survey Design

Most substantive questions in the ifo Education survey are asked as closed-ended questions with specified answer categories on a five-point Likert scale, such as “strongly agree”, “somewhat agree”, “neither agree nor disagree”, “somewhat disagree, and “strongly disagree”. Often, the neutral category, e.g., “neither agree nor disagree”, is presented at the end of the Likert scale to avoid a central tendency towards a neutral middle answer category. Deviations from this general format are indicated in the codebooks of the respective waves.

The ifo Education Survey not only surveys the descriptive opinion of the German population on educational measures and education policy. Using randomized survey experiments, it also shows how public opinion is affected by information provision, framing, or alterations in the question design.

Information experiments investigate the extent to which correcting people's misperceptions about underlying facts affects their policy support. For example, the survey investigated how information about levels of public education spending affects support for spending increases or how information about the extent of educational inequality affects concerns about inequality and preferences for equity-oriented policies (see section 4.1).

Methodological experiments focusing on framing and question design investigate, for instance, how the wording of questions affects survey responses or whether altering the number of answer categories or the position of the neutral answer category affect answering behavior (see, e.g., Woessmann et al. 2014, p. 32, box 2; Woessmann et al. 2015, p. 50, box 2; Woessmann et al. 2016a, p. 31, box 2). The survey also elicited respondents' beliefs about important facts regarding education policy. In some of these questions, respondents were provided monetary incentives to give a correct answer (see Grewenig et al. 2022). This practice is borrowed from laboratory experiments to ensure that respondents exert enough effort when providing their answers.

2.3 Sampling and Survey Implementation

In each survey wave, the sample size was about 4,000 respondents. This number ensures that the margins of error (in each of up to four random splits) are small enough to draw meaningful conclusions from the samples' answers for education preferences in the population of voting-age persons in Germany.² A sufficiently large sample size is particularly important for the informative value of survey experiments in which the sample is randomly split into several subgroups. In the 2020 wave, the sample size was much larger than usual, at 10,000 respondents, which allowed experiments to be conducted in a larger number of treatment arms.

The samples of the ifo Education Survey were drawn from online access panels so that they match the German population with respect to age, gender, state, school degree, and

² The degree of certainty with which one can infer the population's opinion from the results of a representative survey can be expressed with statistical probabilities. For example, with 4,000 respondents, the margin of error for questions with an approval rate of 50 percent is 1.5 percentage points. This means that with a probability of 95 percent, the true value of the approval rate in the overall population lies between 48.5 percent and 51.5 percent.

employment status. Between 2014 and 2017, the online survey was complemented with an offline survey to also reach people who do not use the internet. “Onliners” answered the survey online on their personal digital device. “Offliners” were sampled by interviewers at their homes using standard random sampling techniques. They were provided a digital device by the interviewer to complete the survey. However, many of these respondents needed assistance from the interviewer, who then effectively conducted computer-assisted personal interviews (CAPI). As the proportion of people who do not use the internet became smaller over time, the ifo Education Survey has moved to an online-only survey since 2018. This change in survey mode was done after extensive testing which revealed that online-only surveys produce the same results as mixed online-offline surveys when online observations are re-weighted to match the characteristics of the entire population (onliners and offliners; see Grewenig et al. 2020a for a detailed analysis).

Table 2 gives an overview of the number of observations for each survey wave.

Table 2: Survey Population and Oversamples 2014-2021

Wave	Online Participants	Offline Participants	Total	Of which: Oversamples
2014	3,152	1,106	4,258	
2015	3,699	565	4,264	1,042 parents
2016	3,654	441	4,095	713 teachers
2017	3,699	382	4,081	
2018	5,131	–	5,131	1,085 adolescents
2019	4,009	–	4,009	
2020	10,338	–	10,338	
2021	4,032	–	4,032	

The survey questions were developed by a project team at the ifo Center for the Economics of Education. The survey was implemented by the survey providers Kantar Public (formerly known as TNS Infratest Sozialforschung) from 2014 to 2019, Respondi in 2020, and Talk Online Panel in 2021.

2.4 Weighting and Representativeness

In order to assure the representativeness of the sample, the dataset includes survey weights. The weights are constructed so that the characteristics of the sample match those of the German population regarding observable characteristics such as age, gender, educational attainment, region of residence, municipality size, and interview mode where applicable (i.e., whether the interview was conducted online or offline). The weighting scheme follows Deming and Stephan (1940) and Cochran (1968). In general, using weights in the analysis does not substantively affect results. This is because the structure of the sample already ensures a good representativeness of the German population.

3. Data Access

This section informs about data access (section 3.1) and terms of use (section 3.2).

3.1 Access to the Scientific Use Files

The data of the ifo Education Survey can be requested via the LMU-ifo Economic & Business Data Center (EBDC).³ The research project must serve exclusively scientific purposes and must not pursue commercial goals. To ensure data security and protect the privacy of the respondents, anonymized scientific use files are provided. The scientific use files do not contain in-depth local information of the respondents (only information on federal state), nor do they include any other personal information that might serve to identify respondents. Answers to open-ended questions are not provided due to data protection. To avoid information loss, some open-ended questions have been coded into new variables.

The datasets are available in .dta (STATA) format. Each wave is provided as a separate data file. For each wave, a corresponding codebook is provided, containing the names of the variables, the original text of the survey questions and answer categories in German, an English translation thereof, and question types (e.g., scale or open ended). The codebooks also inform about whether the respective question was asked in previous survey waves. A separate “ReadMe” file provides further guidance for the data usage.

³ See <https://www.ifo.de/en/ebdc>.

Detailed information on the data requesting process and the relevant documents can be obtained from the EBDC and the websites below. The DOIs for the respective survey waves are as follows:

ifo Education Survey 2014	https://www.ifo.de/node/69582	10.7805/ies-suf-2014-v1
ifo Education Survey 2015	https://www.ifo.de/node/69591	10.7805/ies-suf-2015-v1
ifo Education Survey 2016	https://www.ifo.de/node/69596	10.7805/ies-suf-2016-v1
ifo Education Survey 2017	https://www.ifo.de/node/69597	10.7805/ies-suf-2017-v1
ifo Education Survey 2018	https://www.ifo.de/node/69599	10.7805/ies-suf-2018-v1
ifo Education Survey 2019	https://www.ifo.de/node/69600	10.7805/ies-suf-2019-v1
ifo Education Survey 2020	https://www.ifo.de/node/69603	10.7805/ies-suf-2020-v1
ifo Education Survey 2021	https://www.ifo.de/node/69605	10.7805/ies-suf-2021-v1

3.2 Terms of Use

The aim of making the data of the ifo Education Survey available and documenting them is to provide researchers with easy access to the data. It is the responsibility of the researchers to check whether the data of the ifo Education Survey are suitable for their research projects. Researchers using data from the ifo Education Survey are kindly requested to cite this paper as a source. Please also send an electronic copy of any work that uses data from the ifo Education Survey to ebdc@ifo.de.

4. Research using the ifo Education Survey

This section summarizes existing research based on the ifo Education Survey (section 4.1) and outlines the potential for future research (section 4.2).

4.1 Previous Studies and Publications

Over the past years, data from the ifo Education Survey have been used in various scientific publications. Two overview articles summarizing the findings of the first survey waves are presented in Busemeyer, Lergetporer, and Woessmann (2018) and Lergetporer, Werner, and Woessmann (2021b).

Once a year, the results of the ifo Education Survey are published as non-technical summaries in German in the *ifo Schnelldienst* (Woessmann et al. 2014-2021, see Table 1). These articles give a comprehensive descriptive overview of the public opinion on the educational topics surveyed in each wave. They are released each year at press conferences which have the aim to contribute insights from the ifo Education Survey to the public debate about education policy in Germany.⁴

Exploiting the experimental design of the survey, several academic papers show that providing information can affect public opinion on various education topics. For instance, Lergetporer, Werner, and Woessmann (2020) show experimentally that information about educational inequality affects concerns about inequality and preferences for equity-oriented reforms. Lergetporer, Werner, and Woessmann (2021a) show that information on the university-earnings premium has only limited effects on the educational-aspiration gap by parental education. By contrast, Lergetporer and Woessmann (2021) show that information on the university-earnings premium does affect preferences for introducing university tuition. In addition, Lergetporer and Woessmann (2022) show that citizens' preferences for charging university tuition increase sharply when they are designed as income-contingent, deferred payments.

Grewenig et al. (2020b) show that information about the policy positions of political parties affects preferences towards family policies. Grewenig, Lergetporer, and Werner (2020) document the effect of social-norms information on adolescents' labor-market expectations. Werner (2018) shows how information affects preferences for the distribution of education spending across different education levels from preschool to university. Lergetporer, Piopiunik, and Simon (2021) show that information about refugees' education level improves natives' attitudes towards them. Grewenig et al. (2021) study a parental time-use survey of students' activities during the first Covid-19 school closures that was fielded as part of the ifo Education Survey.⁵

The ifo Education Survey has also been used to study international differences in education policy preferences. Combining data of the ifo Education Survey with the U.S. survey conducted by the Program on Education Policy and Governance (PEPG) at Harvard University,

⁴ See <https://www.ifo.de/en/survey/ifo-education-survey> for further information and selected findings on each wave.

⁵ Werner and Woessmann (2021) analyze a second survey fielded during the second Covid-19 school closures that was operated and funded independently of the ifo Education Survey.

Henderson et al. (2021) contrast policy preferences between Germany and the United States. Lergtporer et al. (2018) study experimentally how information about education spending levels affects support for education-spending increases in the two countries. Cattaneo et al. (2020) extend this comparative experimental analysis to include Switzerland. The Ifo Education Survey is also featured in the book *Public Opinion and the Political Economy of Education Policy around the World* (West and Woessmann 2021) which provides a comprehensive overview of the political economy of education policies across countries.

Additionally, methodological contributions based on the Ifo Education Survey study the role of incentives in belief elicitation (Grewenig et al. 2022) and the extent to which internet surveys can represent the entire population (Grewenig et al. 2020a, see section 2.3).

4.2 Potential for Future Research

Although the data from the Ifo Education Survey have already been used in several scientific publications, they still offer much potential for future research projects. The data contain several randomized experiments that have not yet been analyzed, which may be particularly interesting for junior researchers who do not have the opportunity to run their own survey experiments.

Furthermore, it may be interesting to conduct detailed subgroup analyses to understand how education-policy preferences vary by respondents' characteristics. Besides descriptive analyses, the survey data may also be used to conduct more complex econometric analyses, for instance by exploiting variation across cohorts of respondents and states or by matching the data with other datasets at the state level. Finally, as future waves of the Ifo Education Survey will be published in the coming years, new research opportunities may be opened in the years to come.

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