Proposed Title for the Module:  
Attitudes on voluntary and mandatory vaccinations against COVID-19 in Europe

| Single or repeat measurement within the panel: | Repeat (two questions in waves 1, 2, 4, 5) |
| Principal Applicant | Carsten Schröder |
| Position | Full Professor of Public Economics/Head of Applied Panel Data Research |
| Institution | Free University Berlin/DIW Berlin |
| Address for Correspondence | SOEP | German Institute for Economic Research (DIW Berlin) Mohrenstrasse 58 10117 Berlin Germany |
| Telephone: | +49 (0)30 89789 284 |
| Email: | cschroeder@diw.de |

Relevance and Rationale:

Great efforts are being made worldwide to develop a vaccine against COVID-19. Currently, 40 different potential vaccines are in clinical trials and more than 150 are still in the pre-clinical stage (WHO 2020). Of course, a vaccine is only an effective contribution to a return to normal life if a sufficiently high number of people will actually be vaccinated, yielding herd immunity. If so, vaccination secures a public good: protection from COVID-19 for everyone. If the vaccination is not obligatory but freely available, the individual citizens decide on the extent to which this public good is made available. They will weigh their own benefit and the costs of their own vaccination for themselves. The theory of public goods suggests that people will undervaccinate, trying to free-ride on other people’s vaccination choices. As a result, herd immunity might not be achievable.

It has therefore been argued that vaccination should be made compulsory (see Stiglitz 1988, p. 120). Similar arguments may be found in the philosophical literature (see Flanigan 2014, Pierik 2016, Brennan 2018). Such arguments may be challenged (see Brito et al. 1991): if the vaccination is perfect (that is, if everyone vaccinated is actually fully protected), and everybody may freely choose to get vaccinated, everybody should be free to decide whether to vaccinate or not according to his or her preferences. But in the current situation medical perfection is just as little a given as the assumption that everyone has the possibility (both financially and in terms of health) to be vaccinated. Yet we need enough people to be vaccinated to make sure everyone who should be is actually protected.

So, would a sufficient number of people voluntarily undergo vaccination to achieve herd immunity? Or would a mandatory vaccination against COVID-19 be necessary to achieve herd immunity? If the latter, could a mandatory policy ever be legitimate? In our module, we want to collect data on these questions and connect them to respondents’ characteristics (e.g., socio-economic, demographics and health status) as well as attitudes and beliefs (e.g. social norms and dangerousness of the virus). This is because outside the classical public good analysis, extensions emphasize the relevance of behavioral aspects typically not considered in classical models. For instance, Oraby et al. (2014) show that social norms matter for individuals’ willingness to get a vaccination and that such norms can suppress vaccine uptake even in the presence of frequent disease outbreaks. Further, Galeotti and Rogers (2013) show that if there are different groups of individuals, the design of public vaccination policies should account for the intergroup interactions. Also, other-regarding preferences can explain the voluntary vaccination uptake (Böhm et al. 2016). For example, Cucciniello et al. (2020) show that the presence of individuals, such as babies and older persons, who can not get vaccinated increase
the willingness to get vaccinated. In our module, we will analyse these theories on a European level to improve public policy design.

Vaccination against COVID-19 is clearly not an issue that sensibly could be solved on an individual or even national level. The European idea relies on free mobility across countries (for business and private reasons), and hence vaccination policies in one country may have a huge impact on the incidence of COVID-19 in other countries. Once the borders are fully opened, we additionally might witness a cross-border free-rider problem which would have to be tackled. To design adequate policy on a European level – or to develop an understanding for how such policy at least could or should be designed –, we need to understand how the attitudes differ from one country to the other to tailor policy accordingly.

Suitability for Cronos-2:

We have already successfully fielded the proposed questions in Germany in the SOEP-CoV project (which piggy-backs on the SOEP just like Cronos-2 does on the ESS): Item non response for our questions was very moderate (about five percent) and we have no indications from our interviewers that respondents did not understand or felt uncomfortable in answering the questions. Implementing the questions in Cronos-2 therefore allows comparative research including Germany even though it is not part of Cronos-2.

Another advantage is that while the data from our module offer many potential research applications, the module is short. Indeed, the rotating module „COVID-19 Conspiracy Beliefs and Government Rule Compliance“ in Round 10 of the ESS already includes the first question we asked in Germany (Q1: „If a vaccine against the coronavirus (COVID-19) is approved by [insert national regulatory authority here],* would you get vaccinated?“), so we won’t have to include it again. Our questions sensibly complement this rotating module. Our results (see Graeber et al. 2020a and 2020b) indicate that there is a massive discrepancy between how people perceive the dangerousness of SARS-CoV-2, and it would be interesting to connect this to the other questions in this rotating module. The proposed module may similarly be connected to questions in the American Life Panel („If a vaccine were now available, shown to be safe as other vaccines, and recommended for all people, what is the percent chance you would get vaccinated?“ in Well-Being 536 – COVID 19 Survey).

Furthermore, we have secured a cooperation with the Japanese KHPS survey where our questions and classifications will be included in the survey in October 2020. Compliance with state recommendations and issues of individual responsibility towards others are framed very differently in Japanese society than in most European countries, allowing exciting comparisons.

In sum, having the European data from Cronos-2 would allow us to pursue not only vital European research, but also to expand the scope of use of ESS data in the global context.

This project connects with many modules in ESS, especially the socioeconomic questions F1-F61 and the political profile B1-B43. Questions we would be looking at in greater detail are e.g. A5 and A6 (on free-riding), B32 (state of the health system), C2 and C4 (frequency of social meetings).

Research Team:

Carsten Schröder, Full Professor of Economics at Free University Berlin, Vice-Director of the Socio-Economic Panel at DIW Berlin, obtained his DSoCPol from the University of Kiel and held faculty or visiting positions at the Max Planck Institute for Demographic Research and the Kiel
Institute for the World Economy. His research is mainly in public economics and social policy, covering topics such as social inequalities and health and policy evaluations (i.e. labor market and social policies). He is elected head of the committee for social policy at the Verein für Socialpolitik.

Owen O’Donnell, Full Professor in the Erasmus School of Economics in Rotterdam, obtained his DPhil from the University of York and held faculty or visiting positions at the universities of Kent, Lausanne and Wisconsin-Madison. His research is mainly within the field of health economics, covering topics such as inequality in health and health care, the interactions between health, employment and income, and health care financing in low and middle income countries. He is co-organizer of the European Workshops on Econometrics and Health Economics, Editor of the Journal of Health Economics, and Associate Editor of Health Economics.

Christoph Schmidt-Petri, tenured Associate Professor for Philosophy at the Karlsruhe Institute of Technology. He has an undergraduate degree in Philosophy and Economics and a PhD in Philosophy from the London School of Economics and held temporary positions at Glasgow, Leipzig and Regensburg. He has published in many areas of philosophy, with an emphasis on political philosophy, bioethics and the history of moral philosophy.

Feasibility of Implementation:

As mentioned, we have already pre-tested these questions in German on the SOEP-CoV questionnaire. We don’t expect there to be complications using the questions in other countries. Carsten Schröder has many years of experience in survey design and methodology and his research also encompasses survey methods (i.e. sampling methods and survey design). He is responsible for the annual design of the SOEP questionnaire and for the aptitude testing of new modules for the SOEP-Innovation Sample. He is also responsible for large parts of the SOEP budget questionnaire. He has successfully placed new modules with the American Life Panel and PAIRFAM.

In our German questionnaire (see appendix for a snapshot of how the questions have been implemented), we started with a question for which an equivalent phrasing is already part of ESS Round 10, so we won’t have to include it here: “Let us assume that a vaccine against the novel coronavirus is found that has been shown to have no significant side effects. Would you get vaccinated?”

In Cronos-2, after a short introduction, we would start our module with:

Q1: “Would you be in favour of a policy of mandatory vaccination against the coronavirus?” (YES/NO)

We will then use a filter to adapt the arguments according to the respondents’ answers to understand the reasons for their choices. The question would be:

Q2: “Why would you be in favour of [opposed to] mandatory coronavirus vaccination?”

The arguments for the second question are as follows:

<table>
<thead>
<tr>
<th>Arguments</th>
<th>In favour of mandatory vaccination</th>
<th>Against mandatory vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others’ willingness to get vaccinated without mandatory vaccination</td>
<td>Because only with mandatory vaccination would enough people be vaccinated.</td>
<td>Because enough people would be get vaccinated voluntarily even without mandatory vaccination.</td>
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</tbody>
</table>
Because most people underestimate how dangerous the virus is.

Because most people overestimate how dangerous the virus is.

Because mandatory vaccination would also be useful in the case of less dangerous diseases.

Because mandatory vaccination would also be useful in the case of less dangerous diseases.

For other reasons

For other reasons

The replies to the question on voluntary and mandatory vaccinations allow a classification of respondents into four groups:

- **Anti-vaccination**: Respondents who would not get vaccinated voluntarily against the corona virus and who are also against a policy of mandatory vaccination.
- **Anti-duty**: Respondents who would get vaccinated voluntarily but are against a policy of mandatory vaccination.
- **Free Riders**: Respondents who would not get vaccinated voluntarily but are in favour of mandatory vaccination.
- **Pro-vaccination**: Respondents who would get vaccinated voluntarily and are also in favour of mandatory vaccination.

We are particularly interested in the attitudes towards mandatory vaccinations, as this is the fundamentally difficult issue. Plausibly, our three argument pairs cover the main reasons why people approve or disapprove of mandatory vaccinations: it (roughly) is either necessary (or not), because people underestimate (or not) the dangerousness of the virus, given that mandatory vaccination are generally acceptable (or not).

We hence would have two questions in total, which we would like to run in waves 1, 2, 4, 5, yielding an overall sum of eight questions. The more waves we have, the better we would be able to determine on an individual level if attitudes are stable or not, i.e., to assess whether respondents' attitudes will change in the course of the pandemic – say, as a response to new information on the dangers of COVID-19 or the risks of a vaccine (which might differ from one country to the other). This is important as the attitudes on vaccination are a crucial target policy variable – we need to understand how and why they change to determine whether it makes sense to take action to change them. In the future, a supplementary question would be to consider whether the respondents actually put what they say into practice, i.e. whether they actually (do not) get vaccinated as soon as a vaccine is available.

### Dissemination Plans:

We would expect a number of research papers as a direct result of this module. As previously mentioned, our questions allow comparisons going far beyond the Cronos-2 countries. We would design our research efforts to yield at least the following papers:

- Two general European-level comparisons (mostly based on Cronos-2), one focusing on socio-economic features, the second on issues of trust and free-riding.
- One paper on a combined data set USA/Cronos-2 (also using data from the American Life Panel)
- One paper on a combined data set Japan/Cronos-2 (also using data from the Japanese KHPS survey)
The research team routinely produces short summaries of research papers for the general public (for instance in the series 'DIW Weekly report' and 'DIW Aktuell') and of course it would be our pleasure to contribute to the ESS Topline Findings or the ESS blog.

We at SOEP are particularly keen to give the topics of COVID-19 and health more prominence in our research – also and especially with young researchers in the Berlin doctoral programmess – and in our fieldwork. Furthermore, the Robert Koch Institute (the government’s central scientific institution in the field of biomedicine), which is highly visible in research, media and politics, is a strong cooperation partner in SOEP’s effort to contribute to researching the socio-economic and health implications of the pandemic.

References:


Contact information
Carsten Schröder, Prof. Dr., Vice director and Head of Applied Panel Data Analyses in the Socio-economic Panel (SOEP); Full Professor for Public Economics and Social Policy (W3) at Freie Universität Berlin

Socio-economic Panel (SOEP) department at the German Institute for Economic Research (DIW), Berlin
Mohrenstraße 58, 10117 Berlin, Germany
Phone: +49 30 89789 284; fax + 49 30 89789-115; email: cschroeder@diw.de

Education
2010  Positive evaluation of Junior-Professorship
1999  Diploma in Economics, University of Kiel

Key activities / research fields
- Public economics and social policy
- Economic inequalities
- Applied micro-econometrics and policy evaluations

Selected publications


DFG Projects
Comparing Augmented Wealth in the US and Germany; Lifetime inequality Dynamics (LINDY; co-funded by Agence Nationale de la Recherche); Wealth at the Top (WATT)

Honors and awards
Chairman: Ausschuss für Sozialpolitik, Verein für Socialpolitik
Owen A. O’Donnell
Professor of Applied Economics

T: +30 2313 007340
M: +30 6942040041
odonnell@ese.eur.nl
https://www.eur.nl/en/ese/people/owen-
odonnell
https://orcid.org/0000-0002-6289-1924
https://ideas.repec.org/e/pod37.html

Erasmus School of Economics
Erasmus School of Health Policy & Management
Erasmus University Rotterdam

Postbus 1738
3000 DR Rotterdam
the Netherlands

Education
D.Phil. Economics University of York, 1994
M.Sc. Health Economics University of York, 1987
B.A. Economics University of York, 1986

Affiliations
Senior Researcher, Faculty of Business & Economics, University of Lausanne
Research Fellow, Tinbergen Institute
Research Fellow, NETSPAR (Network for the Study of Pensions, Aging and Retirement)
Research Fellow, CESR/Schaeffer Center for the Study of Health Inequality, USC
External Affiliate, Health Econometrics and Data Group, University of York

Previous employment
1987-93 Research Fellow, Centre for Health Economics, University of York
1993-94 Visiting Assistant Professor, La Follette Institute for Public Affairs, University of Wisconsin-
Madison, USA
1994-2001 Lecturer, Department of Economics, University of Kent at Canterbury
2000-02 Visiting Assistant Professor, University of Macedonia (Greece)
2002-09 Assistant Professor of Quantitative Methods, University of Macedonia
2009-15 Associate Professor of Applied Economics, University of Macedonia
2009-11 Associate Professor of Health Economics, Erasmus University Rotterdam
2011-2019 Endowed Professor of Applied Economics, Erasmus University Rotterdam
2015-2018 Professor of Applied Economics, University of Macedonia

Editorships
Econometrics and Health Economics issue (1994-2018)

Other scientific duties
1993- Co-organiser, Annual European Workshop on Econometrics and Health Economics
2008-13 Kenneth J. Arrow Award Committee, International Health Economics Association
2009-11 Scientific Resource Group on Health Equity Analysis and Research, WHO
2015- Scientific Advisory Committee iHOPE Project, INDEPTH Network

Selected funded research
2016-21 Swiss National Science Foundation and Swiss Agency for Cooperation & Development, Inclusive Social Protection for Chronic Health Problems, Senior Researcher
2010-15 National Institute of Aging, From understanding to reducing health disparities: a model-based evaluation, Senior Researcher
2009-13 European Commission Framework Programme 7, Health Equity and Financial Protection in Asia (HEFPA), Joint Project Leader (E. van Doorslaer & A. Wagstaff)
2006-12 NETSPAR, Income, health and work across the life-cycle, Senior Researcher
2001-04 European Commission INCO-DEV, Equity in the finance and delivery of health care and health inequalities in Asia-Pacific countries (EQUITAP), Joint Principal Investigator (with Eddy van Doorslaer)
Selected Publications

https://doi.org/10.1016/j.labeco.2020.101880

https://doi.org/10.1016/j.jhealeco.2020.102328

Universal health coverage: A (social insurance) job half done? (with S. Neelsen, S. Limwattananon and E. van Doorslaer) *World Development*, 2019, 113: 246-258
https://doi.org/10.1016/j.worlddev.2018.09.004

Who Can Predict their Own Demise? Heterogeneity in the Accuracy and Value of Longevity Expectations (with T. Bago d’Uva and E. van Doorslaer) *Journal of the Economics of Ageing*, forthcoming
https://doi.org/10.1016/j.jeoa.2017.10.003

Catastrophic Medical Expenditure Risk (with G. Flores), *Journal of Health Economics*, 2016, 46 (March):1-15
doi:10.1016/j.jhealeco.2016.01.004

doi:10.1016/j.jpubeco.2014.11.012

http://jhr.uwpress.org/content/48/4/873.full.pdf+html


Citations

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15.4.2020
Christoph Schmidt-Petri

Contact information
Department of Philosophy
Karlsruhe Institute of Technology

Postal address: Douglasstraße 24, 76133 Karlsruhe
Phone: +49 721 6084 7069
Email: christoph.schmidt-petri@kit.edu
Websites: https://www.philosophie.kit.edu/mitarbeiter_513.php
          www.schmidt-petri.org

Education

2005    PhD in Philosophy, London School of Economics and Political Science
        Dissertation on John Stuart Mill’s Utilitarianism
        Supervisor: Nancy Cartwright
        Examiners: John Skorupski and Jonathan Wolff

2002    University of California at San Diego, research stay (three months)

1998    BSc in Philosophy and Economics (First Class), London School of Economics and Political Science

Academic Employment History

• 2017    Temporary Professor of Philosophy, Karlsruhe Institute of Technology (one semester)
• 2015-now (Senior) Lecturer in Philosophy, Karlsruhe Institute of Technology (tenure 4/2017)
• 2009-2015 Lecturer in Philosophy, University of Regensburg
• 2008-2009 Lecturer in Philosophy, University of Leipzig
• 2008    Temporary Professor of Philosophy, Saarbrücken University (one semester)
• 2006    Temporary Lecturer in Philosophy, University of Glasgow (three months)
• 2005-2008 Lecturer in Philosophy and Economics, Witten/Herdecke University

Key research fields

• Utilitarianism: its history (especially John Stuart Mill) and present
• Transplantation ethics: self-ownership, organ acquisition, personal identity
• Digital Humanities: authorship attribution and digital conceptual history
Academic Activities

- Executive Vice-President, *German Society for Utilitarian Studies* 2016-2020, President 2020-
  now
- Managing Editor, *Moral Philosophy and Politics* 2016-now

Refereeing

- Journals: Archiv für Geschichte der Philosophie; British Journal for the Philosophy of Science; Economics and Philosophy; Ergo; Erkenntnis; Ethics and Economics; European Journal for Philosophy of Science; European Journal of Political Theory; History of Economic Ideas; Journal for the History of Philosophy; Journal of Social Philosophy; Moral Philosophy and Politics; Pacific Philosophical Quarterly; Philosophical Studies; Rationality, Markets and Morals; Synthese; Theory and Decision; Utilitas; Zeitschrift für Ethik und Moralphilosophie
- Publishers: Oxford University Press, Peter Lang, Palgrave MacMillan
- Institutions: Canadian Philosophical Association, Studienstiftung des Deutschen Volkes, Alexander-von-Humboldt-Stiftung, Wissenschaftsfonds Österreich

Selected publications

- (2009) Degrees of Belief, Synthese Library, edited with Franz Huber, Dordrecht: Springer
- (2005) Newcomb’s Problem and Repeated Prisoners Dilemmas, *Philosophy of Science* 72
Appendix

9a Assume that a vaccine against the novel coronavirus has been found that is proven to have no significant side-effects. Would you get vaccinated voluntarily?
Yes 1
No 2
No answer -1

9b Would you be in favor of mandatory coronavirus vaccination?
Yes 1
No 2
No answer -1

9c (If in favor of mandatory vaccination:) Why would you be in favor of mandatory coronavirus vaccination?
Please mark all answers that apply.
Because only with mandatory vaccination would enough people be vaccinated. 1
Because most people underestimate how dangerous the virus is. 1
Because mandatory vaccination would also be useful in the case of less dangerous diseases. 1
For other reason 1

9d (If opposed to mandatory vaccination:) Why would you be opposed to mandatory coronavirus vaccination?
Please mark all answers that apply.
Because enough people would be get vaccinated voluntarily even without mandatory vaccination. 1
Because most people overestimate how dangerous the virus is. 1
Because mandatory vaccination would also be useful in the case of less dangerous diseases. 1
For other reasons 1