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Abstract

Information provided by experts is widely believed to play a key role in shaping attitudes towards policy responses to the COVID-19 pandemic. This paper uses a survey experiment to assess whether providing citizens with expert information about the health risk of COVID-19 and the economic costs of lockdown measures affects their attitudes towards these policies. Our findings show that providing respondents with information about COVID-19 fatalities among the elderly raises support for lockdown measures, while information about their economic costs decreases support. However, different population subgroups react very differently. Men and younger respondents react more sensitively to information about lockdown costs, while women and older respondents are more susceptible towards information regarding fatality rates. Strikingly, the impact of the information treatment is entirely driven by West German respondents, while East Germans do not react. Finally, our results are entirely driven by respondents who underestimate the fatality of COVID-19, who represent a clear majority.

JEL-Codes: H120, I100, I180.

Keywords: Corona, Covid-19, pandemic, lockdown, survey experiment, Germany.

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1 Introduction

To contain the spread of the coronavirus, governments worldwide took measures that severely curtail economic and social life. These include contact restrictions, curfews, as well as the closure of certain businesses. Arguably, the success of these policies critically depends on support from the public. A lack of support may not only reduce compliance with the containment measures, but also the governments' ability to uphold them. In the debate about policy responses to the crisis, information provided by experts, in particular scientists, is widely seen to play an important role in shaping attitudes of the population.

This paper investigates whether information provision really affects what citizens think about key aspects of the crisis management and how reactions differ across different groups. We study whether providing people with information about i) the fatality rates of COVID-19 (i.e., the share of persons with a positive Corona test who died) and ii) the economic costs associated with the containment measures, causally affect their attitudes towards these measures. To this end, we designed a survey including an information experiment.

The survey was conducted in Germany in June 2020 and it comprises roughly 30,000 representatively selected German citizens. For the information experiment, the interviewees were randomly assigned to eight different groups and each group was 'treated' with different information. The information we provided encompassed potential economic costs caused by the containment measures, as well as the fatality rates among all infected persons and among those younger or older than 70 years. After receiving the information, respondents were asked what they think about the containment measures implemented in March, as well as the relaxation of these measures in May.

Our findings suggest that respondents' attitudes towards the containment measures are significantly affected by information about the fatality of the coronavirus among the elderly. Respondents were informed that during the first months of the pandemic, an average of 210 out of 1,000 persons older than 70 years registered as being infected with the coronavirus died. Respondents receiving this information tend to show greater support for stricter lockdown measures and greater opposition against relaxing these measures. In contrast, we do not find significant average treatment effects for treatments involving information about the coronavirus' fatality in the entire population or among persons younger than 70 years.

Closer inspection suggests that this is linked to respondents' prior beliefs about the fatality of COVID-19. Most respondents underestimate the fatality rate among the elderly.

The median respondent believes that only seven persons older than 70 years die from COVID-19, while the actual number is 210. While the share of respondents underestimating the fatality rate in the entire population as well as among persons younger than 70 years is also large (88 per cent and 74 per cent, respectively), discrepancies between believed and actual fatality rates are smaller on average. If we restrict our analysis to respondents who underestimate the corresponding fatality rate and estimate treatment effects for the treated, we also find significant effects for the treatments involving information about the coronavirus' fatality in the entire population and among persons younger than 70 years, albeit of smaller magnitude. Arguably, this is because the corresponding fatality rates are notably smaller. In the entire population, 46 out of 1,000 persons registered as infected died, whereas the number of deaths per 1,000 infected persons among persons younger than 70 years was eight. What is more, providing respondents with information about the economic costs associated with containment measures weakens their support for them.

While the average reactions among the population to the information treatment are intuitive, different population subgroups respond very differently and sometimes quite surprisingly. Firstly, we find that respondents who economically suffered from the Corona crisis are less responsive to information about the fatality of the coronavirus, but more responsive to information about the economic costs. The same is true for respondents who are younger than 70 years as well as male respondents. In other words, respondents scarcely affected (economically) by the Corona crisis, older respondents, and female respondents are more susceptible to information about fatality rate among the elderly but react less sensitively to information about economic repercussions ensuing from the Corona pandemic. Finally, we find that East German citizens show no significant reaction to any of the information we provided.

Our findings contribute to a steadily growing literature on the Corona pandemic, containment policies, and the determinants of compliance behavior. Recent research highlights several factors influencing compliance with social distancing, and other policy measures implemented to contain the spread of the coronavirus. These include socio-demographic characteristics (Chiou and Tucker, 2020; Coven and Gupta, 2020; Knittel and Ozaltun, 2020; Papageorge et al., 2021); differences in risk perception (Allcott et al., 2020; Barrios and Hochberg, 2020; Fan et al., 2020); political affiliation and partisanship (Allcott et al., 2020; Baccini and Brodeur, 2020; Barrios and Hochberg, 2020; Engle et al., 2020; Painter and Qiu, 2020); social capital and trust (Bargain and Aminjonov, 2020; Barrios and Hochberg, 2020; Bartscher et al., 2020; Brodeur et al., 2020; Durante et al., 2021);

as well as trust in science (Brzezinski et al., 2020) and the media (Bursztyn et al., 2020; Simonov et al., 2020).[1]

Most relevant to our paper are studies exploring how information affects behavior and attitudes towards containment measures using survey experiments.[2] For instance, Abel et al. (2021) investigate how the perception of risk affects individual behavior during the crisis, and whether correcting biased perceptions could help from a public health perspective. Conducting a series of online experiments in the U.S., the authors document that people overestimate their own COVID-19 mortality risk as well as that of young people but underestimate the mortality risk of older people. Correcting people's risk perception by informing them about actual risk has no effect on donations for disease control and leads to a decrease in the amount of time invested in learning how to protect others from the virus. However, these negative effects could be counteracted by providing additional information on older people's risk of mortality.

Akesson et al. (2020) analyze how beliefs about the infectiousness of the coronavirus affects social distancing behavior. They conduct an online experiment in the U.S. and the U.K., where randomly selected treatment groups are shown either upper or lower bound expert estimates of the virus' infectiousness. They find that, on average, people overestimate the infectiousness and that providing people with expert information rectifies their beliefs to some extent. Moreover, Akesson et al. (2020) show that the more infectious people believe the virus to be, the less willing they are to adopt social distancing measures. The authors explain this finding with fatalism: If individuals believe they are highly likely to be infected by the virus irrespective of their own behavior, they may ignore social distancing and other containment policies.

Other survey experiments on compliance behavior show that the willingness to comply with self-isolation measures depends on how long citizens expect the measures to last in comparison to the official end date announced by the government (Briscese et al., 2020), and that providing information about the safety, effectiveness, and availability of COVID-19 vaccines reduces people's voluntary social distancing, adherence to hygiene guidelines, as well as their willingness to stay at home (Andersson et al., 2020). Moreover, Daniele et al. (2020) investigate whether the COVID-19 crisis affects attitudes towards policies, values, and (political) institutions. Conducting online survey experiments in Italy, Spain,

[1] In addition, Fetzer et al. (2020) provide a systematic assessment of the development and determinants of economic anxiety at the onset of the coronavirus pandemic and Haan et al. (2021) examine how the expectation management of the German government affects expectations about the duration of the pandemic.

[2] For a review of methodological questions relevant for the design of information provision see Haaland et al. (2020).

Germany, and the Netherlands, they find that the Corona crisis has given rise to a sharp decline in interpersonal and institutional trust and has decreased support for the EU as well as for social welfare spending financed by taxes.

The rest of the paper is organized as follows. The next section briefly describes in the situation in Germany at the time the survey was conducted. Section 3 introduces the survey. In section 4, we present some descriptive statistics. In section 5, we introduce our empirical model. The results for different specifications are presented and discussed in section 6. Section 7concludes.

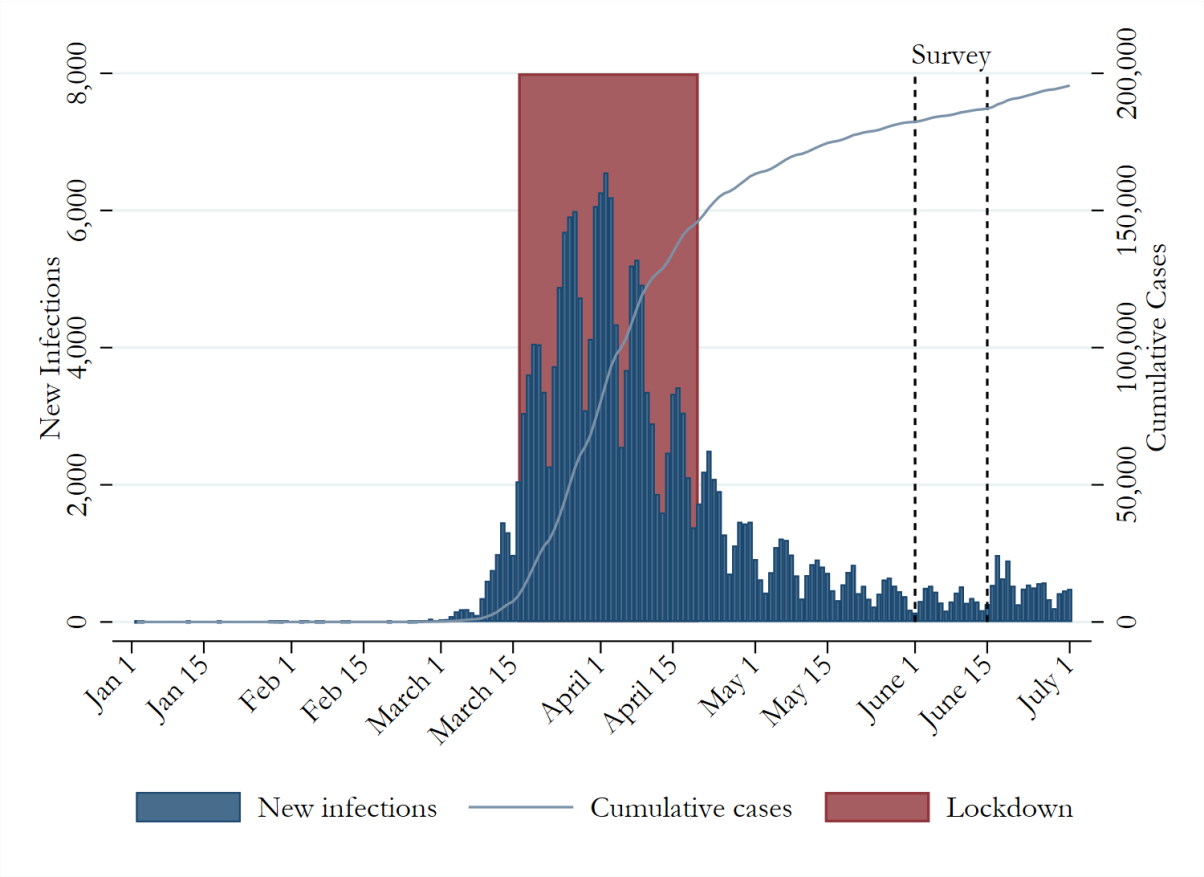
2 The Situation in Germany

The first coronavirus infections in Germany were detected in late January 2020. It was, however, initially possible to stop the spread of the virus. The number of infections began to increase again in late February, which roughly corresponded with when infection numbers in other European countries increased, too (see Figure 1). Since the infection numbers soon followed an exponential trend, the federal and state governments took measures to contain the spread of the virus. The period between mid-March and the end of June (when our survey was completed) can be divided into two phases: a phase characterized by far-reaching restrictions on public and private life (lockdown phase; see the red shaded area in Figure 1), and a phase in which these restrictions where gradually relaxed (relaxation phase).

The lockdown phase began with the closure of schools and day care centers on March 16. One week later, many businesses and venues where people gather were also shut down, including restaurants, bars, hotels and other lodging places, most retail stores (excluding supermarkets, drug stores, and pharmacies), cinemas, theaters, libraries, museums, and playgrounds. The same applied to personal service providers such as hairdressers, beauty salons, and the like, excluding those providing medically necessary services. Moreover, public events were prohibited, and it was no longer allowed to meet with more than one person living in another household. While it was not forbidden to leave home, people were asked to limit stays in public places to a minimum. As a result of these measures, public life in Germany essentially came to a standstill.

By late April, the infection curve had considerably flattened. The federal and state governments thus decided to gradually relax the lockdown measures. Schools opened again, first only for students of graduating classes, then for other classes as well. However, regular school attendance for all students was only possible again after the end of the summer holidays in August/September. In mid-May, restaurants, hotels, and retail stores

Figure 1: Number of new Corona infections per day and cumulative number of infections



Source: Robert Koch Institute (12/7/2020).
Notes: The figure shows the number of daily infections (dark blue columns, left axis) and the aggregate number of infections (light blue line, right axis) over the period from January 1st until July 1st. The red shaded area indicates the lockdown period characterized by comprehensive restrictions on public life.

were allowed to reopen as well, but employees and customers had to comply with strict hygiene (such as wearing a face mask) and distancing rules. Also, the number of customers allowed in a restaurant or store at the same time was restricted.

3 The Survey

We designed a survey that includes an information experiment in order to assess individual attitudes towards the containment measures and to study the impact of providing expert information about the measures' economic consequences as well as the fatality of the coronavirus on these attitudes.[3] The survey was conducted between June 8 and June 20 by forsa, one of the largest private survey companies in Germany. The sample comprises

[3] The questionnaire can be found in the Online Appendix.

roughly 30,000 representatively selected persons from the German population aged 18 or above. The survey participants were recruited offline by forsa, while the survey itself was conducted online. Methodologically, the survey is based on quota sampling. The questionnaire can be broadly divided into three parts. The first part contains several questions eliciting whether and in what regard the interviewees were affected by the Corona pandemic. More precisely, the interviewees were asked:

- Whether they or family members were tested positive for the coronavirus (binary variables).
- Whether they were temporarily or permanently dismissed from their job due to the consequences of the Corona crisis (binary variable).
- Whether the Corona pandemic affected their household income (binary variable).
- Whether their relationship with family members and friends has changed for the better or the worse since the onset of the Corona pandemic (ordinal variables measured on a five-point scale).
- To what extent they perceived restrictions on public life to be a burden (ordinal variable measured on a five-point scale).
- Whether they are worried that they may encounter financial difficulties due to the Corona pandemic (ordinal variable measured on a five-point scale).

In order to find out about the interviewees' priors on fatality rates, we also asked them how many people they believed to have died from the virus out of 1,000 positively tested people (under the age of 70/over the age of 70). The second part of the survey comprised the information experiment as well questions eliciting the interviewees' attitudes towards containment measures, and their relaxation. This part started with a brief introductory statement provided to all interviewees:

> *To contain the spread of the coronavirus, comprehensive measures were implemented in March, which included contact restrictions, a prohibition of public events, and the closure of businesses, schools, and day care centers.*

Subsequently, the interviewees were randomly assigned to eight different groups. The first group did not receive any additional information and thus serves as our reference group. Group 2 received information about the economic costs associated with contain-

ment measures while groups 3 to 5 received information about fatality rates of different population subgroups:[4]

- Group 1 (benchmark):
  No additional information was provided.

- Group 2 (economic costs):
  According to current estimates, the economic costs of the shutdown may amount to EUR 57 billion per week. Compared to April 2019, the number of unemployed increased by 400,000 persons in April 2020, and approximately ten million employees are currently on short-time work.

- Group 3 (fatality per 1,000):
  The current fatality rate of COVID-19 measured in Germany is 4.6 per cent. This means that out of 1,000 positively tested persons, 46 die. According to health experts, a too early lifting of the restrictions could overwhelm the health care system as was the case in Italy and thus increase the fatality rate.

- Group 4 (fatality per 1,000 under 70 years):
  The current fatality rate of COVID-19 among people under the age of 70 measured in Germany is 0.8 per cent. This means that out of 1,000 positively tested persons who are younger than 70, eight die. According to health experts, a too early lifting of the restrictions could overwhelm the health care system as was the case in Italy and thus increase the fatality rate.

- Group 5 (fatality per 1,000 over 70 years):
  The current mortality rate of COVID-19 among people over the age of 70 measured in Germany is 21 per cent. This means that out of 1,000 positively tested persons older than 70, 210 die. According to health experts, a too early lifting of the restrictions could overwhelm the health care system, as was the case in Italy and thus increase the fatality rate.

To study how interviewees evaluate the trade-off between the economic costs associated with containment measures and the lives they may save, we provided the three remaining groups with information about the economic costs plus the fatality rates:

- Group 6 (economic costs + fatality per 1,000):
  Information *economic costs* plus *fatality per 1,000*

[4] The estimate of economic costs associated with the lockdown measures was taken from a publication by the ifo Institute (Dorn et al., 2020), the number of unemployed and short-time workers from the Federal Employment Agency (*Bundesagentur für Arbeit*). Fatality rates were provided by the Robert Koch Institute, a federal government agency responsible for disease control and prevention.

- Group 7 (economic costs + fatality per 1,000 under 70 years):
  Information *economic costs* plus *fatality per 1,000 under 70 years*
- Group 8 (economic costs + fatality per 1,000 over 70 years):
  Information *economic costs* plus *fatality per 1,000 over 70 years*

We are interested in studying whether providing this information influences respondents' attitudes towards the German government's measures that were implemented to contain the spread of the coronavirus. To elicit these attitudes, we included two questions. The first question focused on the lockdown measures implemented in mid-March:

> *What is your opinion on measures implemented by the government in mid-March, that is, the measures in effect prior to the relaxations adopted at the beginning of May?*

The respondents could indicate that the measures were (i) far too strict, (ii) somewhat too strict, (iii) just right, or that the measures should have been (iv) somewhat stricter or (v) far stricter.

The second question concerns relaxing containment measures, a process that started at the beginning of May. Respondents were asked the following question:

> *As of the start of May, the measures have been relaxed. Inter alia, schools are gradually reopened and many stores may open again. What is your opinion on the relaxations?*

The answer options were: (i) the relaxations do not go far enough, (ii) the relaxations are adequate, (iii) the relaxations come too early, and (iv) the measures should have been relaxed only when a vaccine or a drug becomes available. In the third part of the survey, we collect additional socio-demographic information about the interviewees, including their sex, age, household income, employment status, employment type, education level, and the state they live in.

4 Descriptive Statistics

Before estimating the effects of the information treatments on respondents' attitudes, we start with a descriptive analysis of the survey answers. Table 1 elicits how the Corona pandemic affected people's lives by showing the distribution of answers to the corresponding questions.

Table 1: Influence of the Corona pandemic on people's lives

Were you ever tested positive for Corona?					
Yes		No/ don't know			
0.3%		99.7%			
Was a family member ever tested positive for Corona?					
Yes		No/ don't know			
3.4%		96.6%			
Have you been released from your job due to the Corona crisis (temporarily or permanently?					
Yes		No/ don't know			
11.6%		88.4%			
Did your household income decrease as a result of the Corona pandemic?					
Yes		No/ don't know			
16.7%		85.3%			
Are you concerned that the Corona crisis gets you into financial trouble?					
1: Not at all	2: A little	3: Moderately	4: Very	5: Extremely	Don't know
46.6%	28.0%	14.9%	7.2%	3.2%	0.1%
How much of a burden do you experience the restrictions on public life to be?					
1: Not at all	2: A little	3: Moderately	4: Very	5: Extremely	Don't know
17.5%	42.3%	30.1%	7.3%	2.0%	0.2%
Has the relationship between you and your family members changed since the beginning of the Corona pandemic?					
1: Worsened a lot	2: Worsened somewhat	3: Did not change	4: Improved somewhat	5: Improved a lot	Don't know
2.4%	12.1%	69.4%	11.7%	3.5%	0.9%
Has the relationship between you and your friends changed since the beginning of the Corona pandemic?					
1: Worsened a lot	2: Worsened somewhat	3: Did not change	4: Improved somewhat	5: Improved a lot	Don't know
4.8%	27.4%	62.3%	4.1%	0.8%	0.7%

Only 0.3 per cent of the interviewees stated that they were tested positive for the coronavirus. While this number is very small, it roughly corresponds to the total share of positive test results in the German population at the time the survey was conducted. A notable larger proportion, that is, 3.4 per cent of the interviewees, reported to have a family member who had COVID-19. Almost one-third of interviewees stated that their relationship with friends has worsened somewhat (27 per cent) or a lot (five per cent)

since the onset of the Corona pandemic; only 15 per cent said the same about their relationship with family members.

More than half of the interviewees (53.3 per cent) reported concerns that they may get into financial trouble because of the Corona pandemic. However, only ten per cent stated that they are very (seven per cent) or extremely (three per cent) concerned. Twelve per cent of the interviewees (20 per cent of those who were employed) have been temporarily or permanently dismissed from their job due to the consequences of the Corona pandemic. The share of interviewees who experienced a reduction in household income due to the Corona pandemic is 17 per cent. These figures highlight the severity of the recession caused by the Corona pandemic in Germany.

How well are people informed about the death toll of the coronavirus? The answer is: rather poorly. A large majority of interviewees underestimate the fatality rates of the coronavirus (cf. Table 2). Among the entire population, the true fatality rate is 46 per 1,000 registered cases. The median response given by our interviewees is five, and even the 75th percentile of answers does not reach half of the actual number. In total, 88 per cent of the respondents underestimate the number of deaths per 1,000 registered infections. Even more dramatic still is the misperception of the coronavirus' fatality among the elderly. For instance, 97 per cent of the interviewees underestimate the actual rate of 210.

Table 2: Believed fatality rates

	Mean	Median	Min.	P25	P75	Max.
Believed fatality (per 1,000)	19.9	5	0	2	20	1,000
Believed fatality under 70 years (per 1,000)	11.9	2	0	1	8	1,000
Believed fatality over 70 years (per 1,000)	35.5	7	0	2	27	1,000

Notes: The true number of deaths per 1,000 persons tested positive for the Corona virus is 46 in the entire population, eight among persons under 70 years, and 210 among persons over 70 years.

Tables 3 and 4 reveal the German population's attitude towards lockdown measures implemented in March, and their relaxation adopted in May. Two thirds of the interviewees voiced support for the lockdown, while only approximately 17 per cent considered it too stringent. About the same share (16 per cent) wished for even stricter measures to contain the spread of the coronavirus. Slightly less than half of the respondents were satisfied with the relaxation of measures as adopted by the government in May, while 36 per cent thought it was too early to start lifting the measures. Only 15 per cent called for a more extensive relaxation.

Table 3: Attitudes towards lockdown measures implemented in March

What is your opinion on the measures?				
1: Far too strict	2: Somewhat too strict	3: Just right	4: Somewhat too lenient	5: Far too lenient
5.8%	11.1%	66.2%	14.0%	1.8%

Notes: The number of responses is 29,778.

Table 4: Attitudes towards relaxations adopted in May

What is your opinion on the relaxation of the measures?			
1: Not far enough	2: Adequate	3: Too early	4: No relaxation until vaccine is available
15.3%	48.8%	34.2%	1.8%

Notes: The number of responses is 29,476.

5 Estimation Approach

We estimate the following empirical model to evaluate whether the information we provide exerts a causal influence on respondents' attitudes towards the containment measures as well as their relaxation:

$$Y_i = \alpha + \beta^{'} treat_i + \gamma^{'} x_i + \epsilon_i \tag{1}$$

We use two dependent variables, Y_i, in our analysis: (i) an ordinal variable indicating respondents' attitudes towards the lockdown measures in effect between mid-March and the beginning of May, and (ii) an ordinal variable indicating respondents' attitudes towards the relaxation of lockdown measures adopted at the beginning of May. Both variables are measured on a three-point scale and coded in a way so that higher (lower) values indicate preferences for stricter (more lenient) measures.[5] The vector $treat_i$ contains seven dummy variables indicating which information a respondent received. Respondents who did not receive any information serve as the reference group.

The vector x_i includes several control variables. In particular, we control for monthly net household income (dummies for income quartiles); educational attainment (dummies

[5] The variable indicating respondents' attitudes towards the lockdown measures implemented in March (relaxations adopted in May) were originally measured on a five-point (four-point) scale. We recoded them since extreme answer options were rarely selected.

for different educational degrees); sex; age (dummies for different age groups); residence in East Germany; past infection with the coronavirus; past infection with coronavirus in the family; job loss (temporarily or permanently) due to the Corona crisis; reduction in income due to the Corona crisis; dummies indicating whether the relationship to family members (friends) has improved, remained unchanged, or worsened due to the Corona crisis; concern that Corona crisis may cause financial troubles (dummies indicating degree of concern); believed fatality rates in the entire population as well as among persons younger (older) than 70 years (dummies for overestimation, correct assessment, underestimation, and don't know); as well as a set of dummy variables indicating which party the respondent would vote for at the next federal election.

The control variables should be orthogonal to the information treatment indicators, as the treatment was randomly assigned. However, we include these variables for three reasons. First, the inclusion of control variables should reduce the idiosyncratic error, ϵ_i, of our estimation, thus allowing us to estimate the treatment effects more precisely. Second, we investigate whether treatment effects vary across different population subgroups by interacting the treatment dummies with some of our control variables. Third, the inclusion of control variables may reveal some interesting correlations. A description of all variables as well as descriptive statistics are provided in Table A1 of Appendix A. Since the dependent variables are ordinal, we estimate the empirical model using maximum likelihood logit estimation. We use White-robust standard errors to account for heteroscedasticity.

In an extension, we use interaction terms to check whether treatment effects vary across different population subgroups. Moreover, we check whether the information treatment effects are related to respondents' prior beliefs about the fatality rate in the entire population/among persons younger than 70 years/among persons older than 70 years using kernel-weighted local polynomial regressions.

The causal interpretation of our treatment effect estimates depends on the random assignment of respondents to the different treatment groups. To test whether the randomization was indeed successful, we check the covariate balance across the treatment groups by regressing the control variables included in our baseline specification on the treatment indicators. This yields 315 coefficient estimates, of which 1.6 per cent have a p-value that is smaller than one per cent, while 6.3 per cent have a p-value smaller than five per cent. Thus, the share of significant coefficient estimates is close to the expected share of falsely significant ones. Also note that omitting the control variables from our regression leaves the point estimates of the treatment indicators virtually unchanged.[6]

[6] See Table B1 of Appendix C.

6 Results

This section presents and discusses the main results from our estimations. We start with the results from our baseline specification (section 6.1) and then commence with heterogeneous effects for different population subgroups (section 6.2). Finally, we explore whether the effects of the treatments involving information about fatality rates vary depending on respondents' prior beliefs (section 6.3).

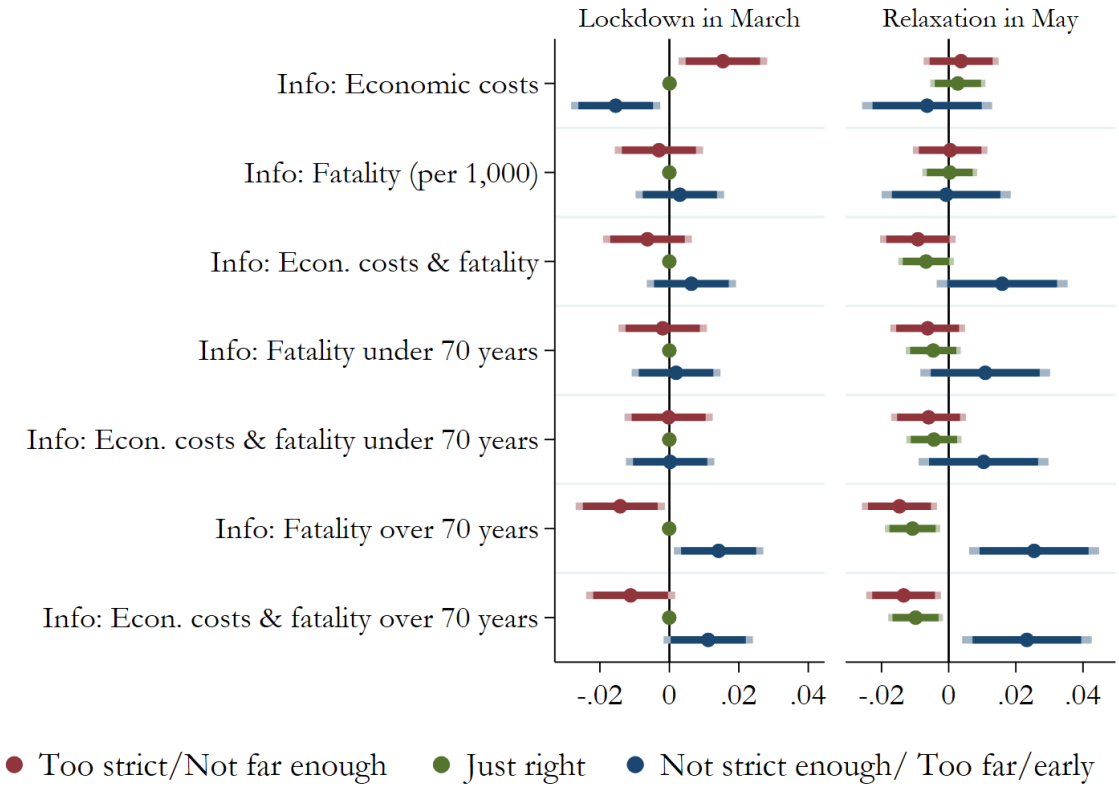
6.1 Baseline Estimation

Figure 2 shows the results of the baseline specification. The figure displays the estimated average marginal effects of the information treatments along with the 90 per cent (transparent lines) and 95 per cent (non-transparent lines) confidence intervals. The results for individual attitudes towards the lockdown measures implemented in March are in the left panel, and for the relaxations adopted in May in the right panel. A table showing the marginal effect estimates of the treatment indicators and all control variables is provided in Appendix B (cf. Table B2).

The only statistically significant treatment effects that we detect are those involving information about the economic costs associated with the March lockdown and those involving information about the fatality rate among the elderly. The estimated effects are of a relevant magnitude. Our results suggest that respondents 'treated' with information about the economic costs are 1.5 percentage points (pp) more likely to indicate that the lockdown measures are too strict and 1.5 pp less likely to state that the measures should have been stricter. Compared to the sample averages (16.9 per cent indicated that the lockdown measures were too strict, 15.8 per cent indicated that they were not strict enough), this implies an increase in the share of lockdown opponents of 8.9 per cent and a decrease in the share of supporters of even stricter measures of 9.5 per cent. However, we do not detect a significant relationship between the economic cost treatment, and individual attitudes towards the relaxations implemented in May.

Providing information about the fatality rate among persons over 70 years has the opposite effect. Respondents receiving this information are 1.4 pp less likely to consider the lockdown measures to be too strict, and 1.4 pp more likely to call for even tougher restrictions. Similarly, information about the fatality of COVID-19 among elderly also reduces support for the relaxation of the containment measures. I.e., the information treatment increases agreement with the notion that the relaxations come too early by

Figure 2: Information treatment effects—baseline specification



Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

2.5 pp. Compared to the sample average (36 per cent), the associated increase in the share of supporters of a more cautious policy stance is 6.9 per cent.

Interestingly, the effect that providing information about the fatality rate among elderly has on both attitudes towards the lockdown measures, and their relaxation, remains significant even when respondents are simultaneously informed about the economic costs of the lockdown (although the former effect is now significant only at the ten per cent level). Arguably, this finding indicates that people attach greater importance to saving lives than to minimizing (short-term) economic damage.

Although they do not necessarily have a causal interpretation, it is still interesting to look at the coefficient estimates of the control variables (cf. Table B2 of Appendix B).[7] The higher a respondent's household income, the lower her preferences for strict containment

[7] Here we only focus on effects that we deem particularly interesting.

measures tend to be. Respondents in the third income quartile have a 1.5 pp higher likelihood of voicing that lockdown measures were too strict, and a 3.2 pp lower likelihood of considering the relaxation of these measures to be too early. Preferences for stricter (more lenient) measures are also related to age. However, the pattern appears to be non-linear. For instance, respondents between 18 and 29 years of age (reference group), are more likely to call for even stricter containment measures and are more skeptical about the relaxation of these measures than respondents who are older than 29 years. However, beyond the age of 29 years, opposition to the containment measures (their relaxation) decreases (increases), the older a respondent becomes. East Germans as well as respondents whose income decreased due to the Corona crisis are more likely to consider the lockdown measures too strict, and their relaxation too slow. The corresponding marginal effects are 3.6 pp (lockdown measures too strict) and 4.4 pp (relaxation too slow) for East Germans, and 2.3 pp and 3.2 pp for respondents who experienced a decrease in income.

Respondents infected with the coronavirus do not differ from those who were not regarding their attitudes towards the lockdown measures effective in March and April. However, they do have quite different views about the relaxation of these measures. I.e., respondents who were infected with the coronavirus are 8.6 pp more likely to state that the lockdown measures are lifted too slowly and a 11.5 pp lower likelihood of indicating that the relaxation is premature. However, having a family member who was infected with the virus is not related to individual attitudes towards the lockdown measures and their relaxation.

Not surprisingly, respondents whose relationship to family members and friends has worsened since the beginning of the Corona crisis are more opposed to the containment measures. Respondents who state that their relationship with family members (friends) has worsened (reference group), are 3.9 pp (3.6 pp) more likely to state that the lockdown measures are too strict, and 6.4 pp (5.9 pp) less likely to indicate that the relaxations are too premature. Similar effects, albeit of lesser magnitude, are found among respondents concerned that the Corona crisis may cause them financial trouble. A particularly strong effect is found for respondents who experience the restrictions to be a great burden on their life. Those respondents have an 18.6 pp higher likelihood of calling the containment measures too strict and a 19.8 pp lower likelihood of stating that the relaxations are too premature (reference group: restrictions are not experienced to be a burden).

We also observe notable differences between the voters of different political parties. Voters of the Alternative for Germany *(Alternative für Deutschland*, AfD), a far-right populist party, demonstrate by far the strongest opposition to containment measures. Supporters of this party are 18.3 pp more likely to consider the lockdown measures to be too strict and

have an 18.3 pp lower likelihood of considering the relaxations too far-reaching than voters of chancellor Angela Merkel's Christian Democratic Party (*Christliche Demokratische Union*, CDU; reference group). In contrast, supporters of the Social Democratic Party (*Sozialdemokratische Partei Deutschlands*, SPD), which forms the governing coalition together with the CDU, as well as supporters of the Green Party (*Die Grünen*) and the Leftist Party (*Linkspartei*), are more likely to indicate that the relaxations came too early.

6.2 Treatment Effects for Different Population Subgroups

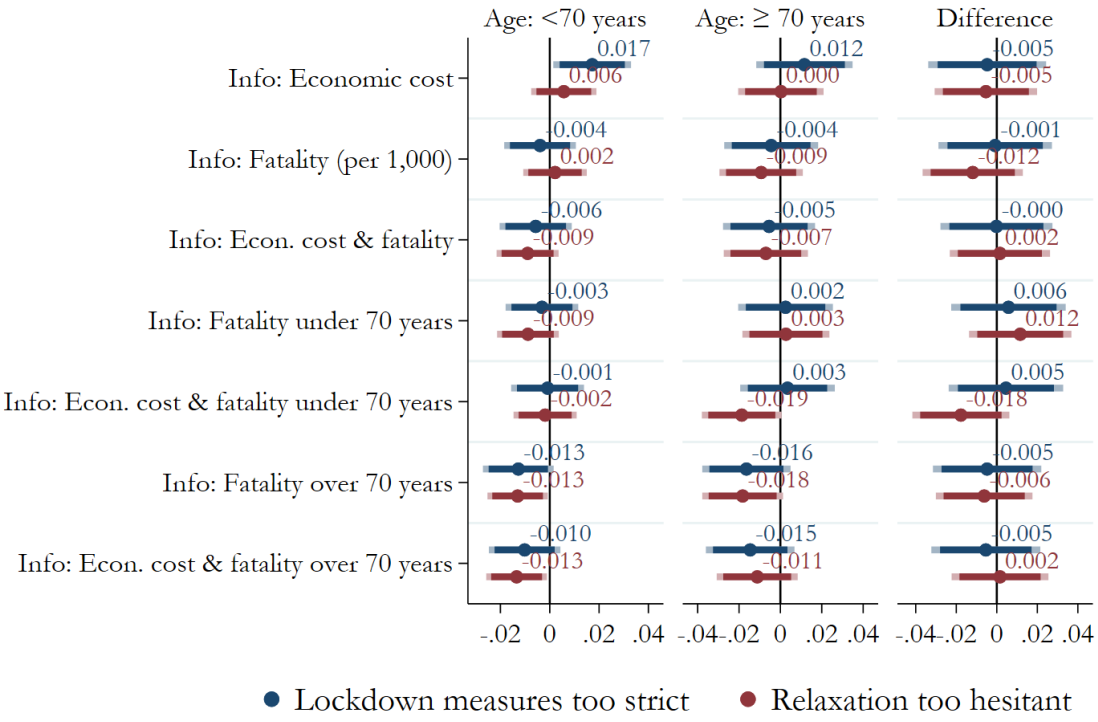
The Corona pandemic as well as measures implemented to contain the spread of the virus have had highly divergent effects on population subgroups. In this section, we analyze whether differences regarding vulnerability to the Corona pandemic affect respondents' sensitivity to the information we provide. To this end, we interact the information treatment indicators with several control variables to estimate separate treatment effects for different subgroups. Specifically, in this section, we present separate treatment effect estimates for (i) respondents younger and older than 70 years and (ii) respondents who lost their job due to the Corona crisis. Moreover, we check whether the information treatment effects vary (iii) across male and female respondents, as well as (iv) across respondents living in West Germany and East Germany.[8] To improve readability, we only display marginal effects of the information treatments on the likelihood that respondents oppose the lockdown measures and consider the relaxation to be too slow.

6.2.1 Treatment Effects by Age

A Corona infection is far more dangerous for older persons than for younger ones. Older persons are more likely to suffer from severe health consequences when infected and are a more likely to die of a Corona infection. As highlighted in our information treatments, the fatality rate in Germany is 26 times higher among persons older than 70 years compared to those who are younger than 70. To study whether this makes older persons more susceptible to the information we provide, we estimate separate treatment effects for respondents younger than 70 years versus respondents older than 70 years. The results are shown in Figure 3.

[8] In Figures C1 to C6 in Appendix C, we present separate estimates for additional subgroups. We divide respondents into groups depending on their net household income, level of education, degree of concern that the Corona crisis may get them into financial trouble, the effect the Corona crisis had on their relationship with family members, and whether they experienced a decrease in income due to the Corona crisis.

Figure 3: Information treatment effects by age groups



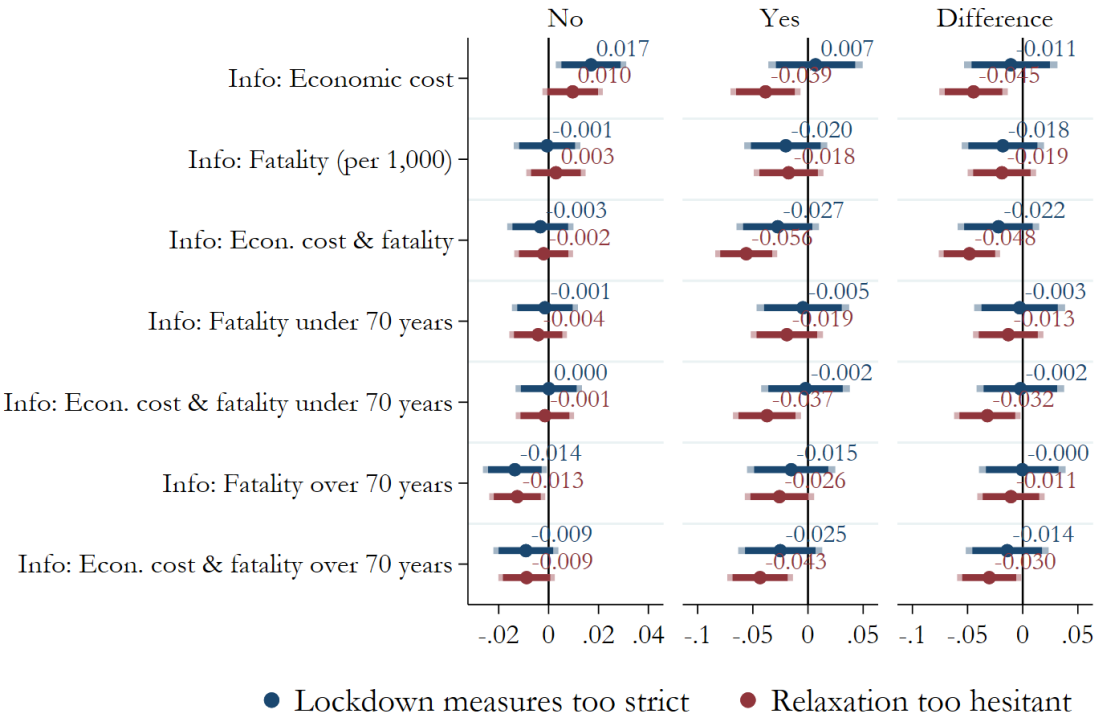
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Our results suggest that both groups of respondents significantly react to the information about the fatality rate among the elderly (although the latter effect is—most likely due to the smaller number of observations—only significant at the ten per cent level). Moreover, the treatment effect estimates across both groups are roughly of same size. I.e., the likelihood that an elderly respondent opposes lockdown measures (considers the relaxation too slow) decreases by 1.6 pp (1.8 pp) when informed about the fatality rate of the coronavirus among persons older than 70 years. For younger respondents, the estimated treatment effect is 1.3 pp (1.3 pp). Another interesting finding is that it is merely younger respondents who appear to react to the information treatment involving only the economic costs associated with the containment measures. Arguably, this finding reflects egotropic motives. People aged above 70 years are typically not part of the working population and their income is usually not directly affected by the crisis, whereas younger people may fear to lose their jobs and income.

6.2.2 Treatment Effects by Job Status

The Corona crisis has resulted in severe economic consequences. During the lockdown in March and April, many businesses had to close, threatening the economic existence of their owners and employees. Other businesses, even though not forced to close, experienced a dramatic decline in profits due to the global recession accompanying the Corona pandemic. Here, we are interested in testing whether those who were economically adversely affected by the Corona crisis react differently to the information we provided than those who were not. For this purpose, we estimate separate treatment effects for those who lost their job (either temporarily or permanently) due to the Corona crisis and those who did not. The results are illustrated in Figure 4.

Figure 4: Information treatment effects by Corona-related job loss



Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Our findings indicate that the two groups vary particularly regarding their reactions to information about the economic costs of the lockdown. Respondents who lost their jobs are significantly less likely to disagree with the notion that lockdown measures are lifted too slowly when informed about their costs (average marginal effect: -3.9 pp), while respondents who did not lose their jobs do not react to this information. Interestingly, for those who experienced a job loss, the effect of information about the lockdown costs

remains significantly negative even if this information is combined with information about COVID-19's fatality. Arguably, this finding indicates that those who were adversely affected by the lockdown are more concerned about the economic consequences of the measures than the risk of an increasing death toll due to removing constraints. Note that we find similar (though less significant) effects for respondents who experienced a decrease income due to the consequences of the Corona pandemic (see Figure C1 of Appendix C).

6.2.3 Treatment Effects for Men Versus Women

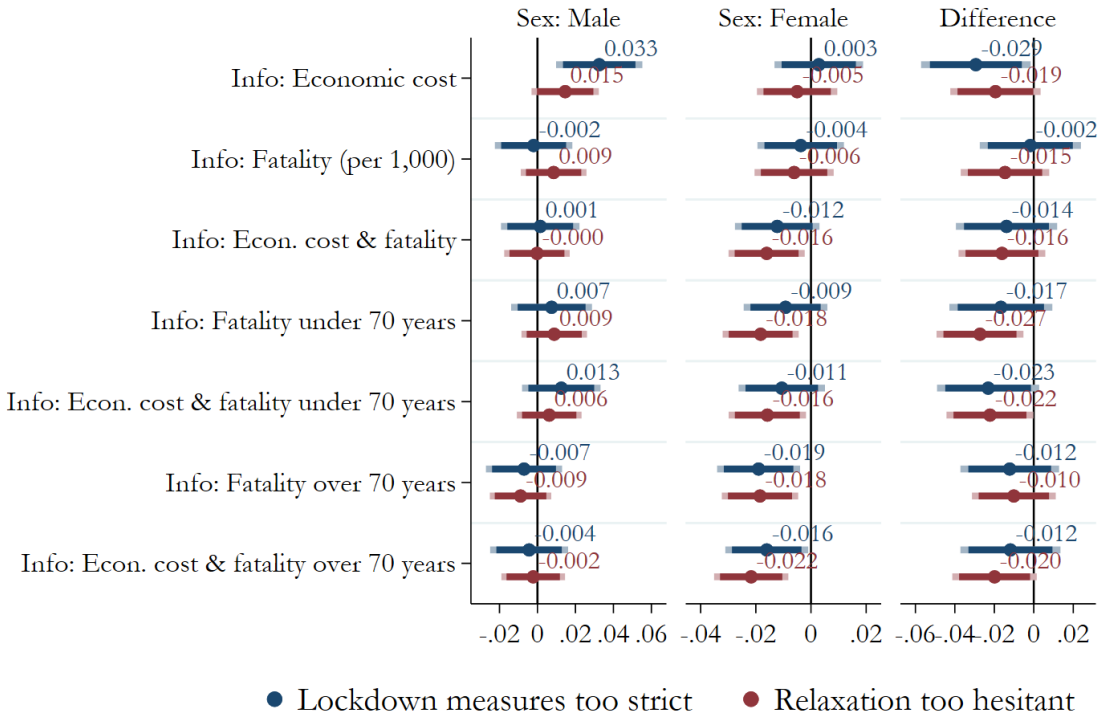
The economic literature provides ample evidence for gender differences in preferences, attitudes, and behavior. Two findings that are of importance for our analysis are that women tend to be more inclined than men to act in a prosocial manner and appear to have stronger other-regarding preferences (Croson and Gneezy, 2009; Eckel and Grossman, 2008).

Estimating separate treatment effects for male versus female respondents indeed reveals notable differences between the sexes. Only female respondents react to information about fatality rates. Revealing the coronavirus' fatality among persons younger than 70 years as well as among persons older than 70 years significantly decreases their support for the notion that containment measures are relaxed too slowly. This is irrespective of whether information about fatality rates is combined with information about the economic costs these measures impose. Male respondents, on the other hand, are only susceptible to information about the economic costs the containment measures cause. Providing male respondents with this information increases the likelihood that they voice agreement with the notion that the lockdown measures were too strict (their relaxation is too slow) by 3.3 pp (1.6 pp) (cf. Figure 5).

6.2.4 Treatment Effects for West and East German Respondents

Even 30 years after German reunification, there continue to be significant differences between West and East Germans in terms of attitudes and behavior, which may also have implications for the susceptibility to information we provide. Importantly, notable differences between West and East Germans occur regarding political attitudes, which also manifest in voting behavior and trust in public institutions. For example, far-left and far-right populist political parties enjoy much greater support in East Germany, arguably reflecting greater dissatisfaction with the mainstream political parties as well as the political system as such. Greater support for radical parties may also reflect that East Germans are often reported as feeling like second-class citizens compared to West

Figure 5: Information treatment effects by sex



Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

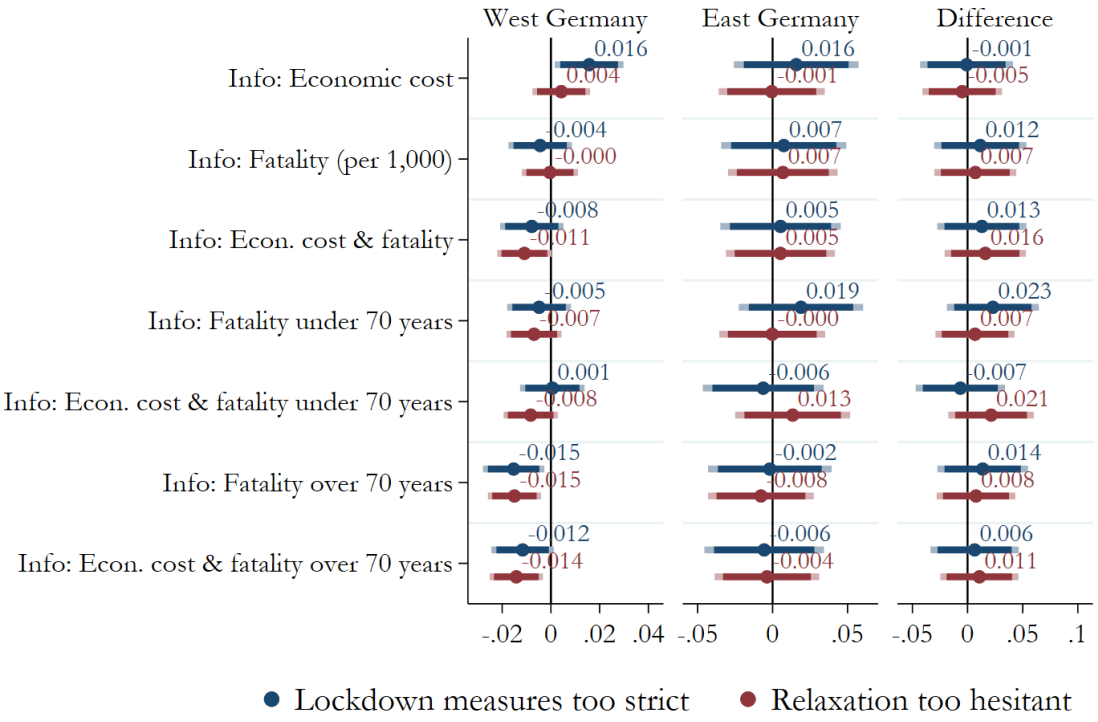
Germans who have higher incomes. Their trust in the federal government and satisfaction with democracy are lower than in Western Germany.[9]

In addition, the communist government of Eastern Germany systematically disseminated false information (Bursztyn and Cantoni, 2016; Friehe et al., 2020). This portends that East Germans may be less receptive to change their views based on information about economic or health aspect of the pandemic. To test whether these difference between West and East Germany affect the impact of information treatments, we estimate separate treatment effects for respondents residing in West and East Germany. Figure 6 shows the results.

Our estimates reveal that only West German citizens react significantly to the information we provide. West German respondents who are informed about the economic costs of the lockdown measures are 1.6 pp more likely to indicate that they oppose these measures. Whereas providing them with information about the coronavirus' fatality rate among the

[9] See Bundesregierung (2020).

Figure 6: Information treatment effects by region



Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

elderly decereases the likelihood that they indicate opposition by 1.5 pp. In contrast, for East German respondents the corresponding treatment effects are not significantly different from zero.

6.3 The Role of Prior Beliefs

Arguably, the effects of information treatments may depend on respondents' prior beliefs. Specifically, respondents whose beliefs about fatality rates are accurate, may not react to the information we provide. In contrast, respondents who underestimate (overestimate) these rates may be more (less) inclined to opt for more restrictive measures after receiving the corresponding information. In order to assess the importance of biases in respondents' beliefs, we proceed in three steps.

First, we estimate Equation (1) separately for each treatment group (omitting the treatment indicators, of course). Second, we compute the probability of opposing the lockdown measures (considering their relaxation too slow) for each respondent based on the esti-

mation results. Third, we estimate the association between these probabilities and the 'perception gap'—that is, the absolute difference between the believed fatality rates and the actual fatality rates—using kernel-weighted local polynomial regressions. The perception gap is negative if a respondent understates the true fatality rate and positive if she overstates the true fatality rate.

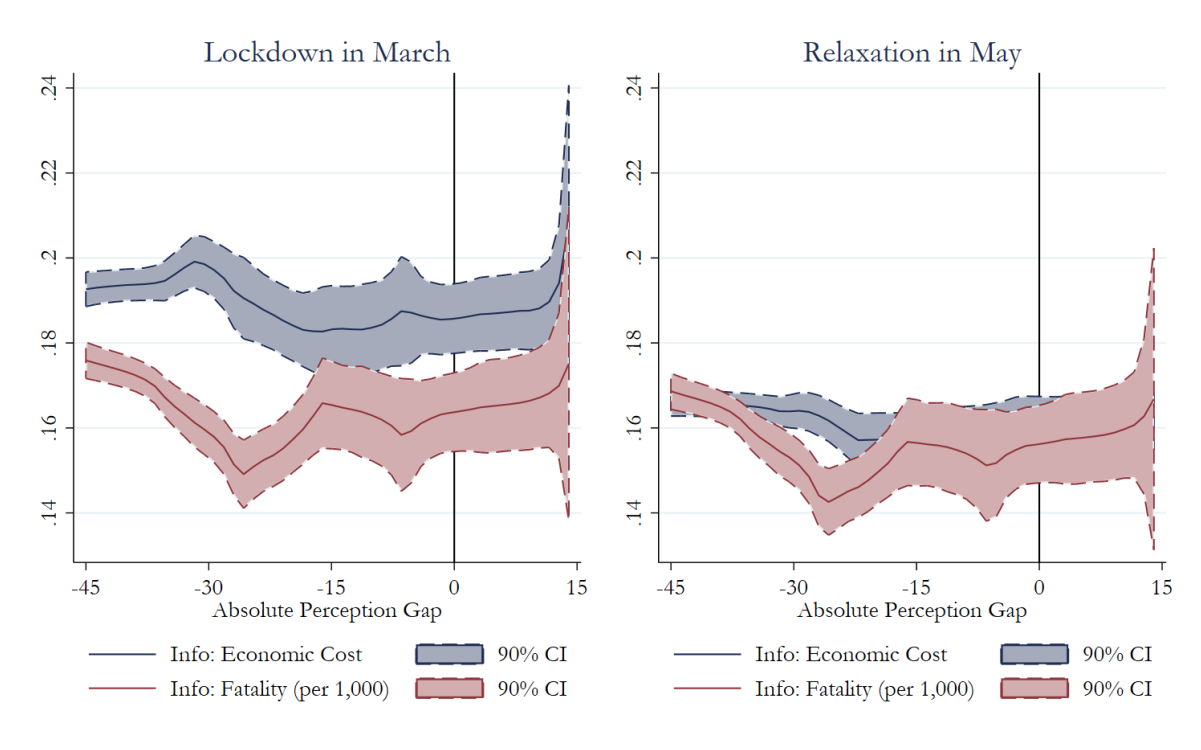
The results are shown in Figures 7, 8, and 9. In all three figures, the blue lines show the association between the estimated probability of opposing the lockdown (considering its relaxation too slow) and the perception gap for treatment group 2, i.e., the group that received information about the economic costs of the lockdown. The red lines in Figure 7 show the association between the two variables for treatment group 3 (fatality per 1,000 infected persons), in Figure 8 for treatment group 4 (fatality among persons younger than 70 years), and in Figure 9 for treatment group 5 (fatality among persons older than 70 years). The shaded areas represent 90 per cent confidence intervals. The figures' left panels show the results for lockdown measures implemented in March, the right panels for the gradual relaxation of measures starting in May. The range of the x-axes is determined by the 5th and 95th percentile of the perception gap measures.

The results indicate that respondents' reactions to the information treatments indeed depend on their prior beliefs. If the perception gap is negative (meaning that respondents underestimate the true fatality rate), providing information about the coronavirus's actual fatality decreases the probability of opposing the lockdown, and of considering its gradual relaxation too slow, relative to the 'economic costs' treatment.

Conditional on the perception gap being negative, the probability of opposing the lockdown measures (considering their relaxation too slow) is 2.3 pp lower if respondents are informed about the overall fatality rate, 2.2 pp lower if they are informed about the fatality rate among persons younger than 70 years, and 3.6 pp lower if they are informed about the fatality rate among the elderly. In a similar vein, the probability of indicating that the lockdown measures were lifted too slowly is 0.2 pp/1.2 pp/2.3 pp lower when informed about the fatality rate for the entire population/among persons younger than 70 years/among persons older than 70 years.

However, once the perception gap becomes positive (sometimes a little sooner, sometimes later), the effects of the 'economic costs' treatment and the treatments involving

Figure 7: Information treatment effects depending on prior beliefs about the overall fatality rate

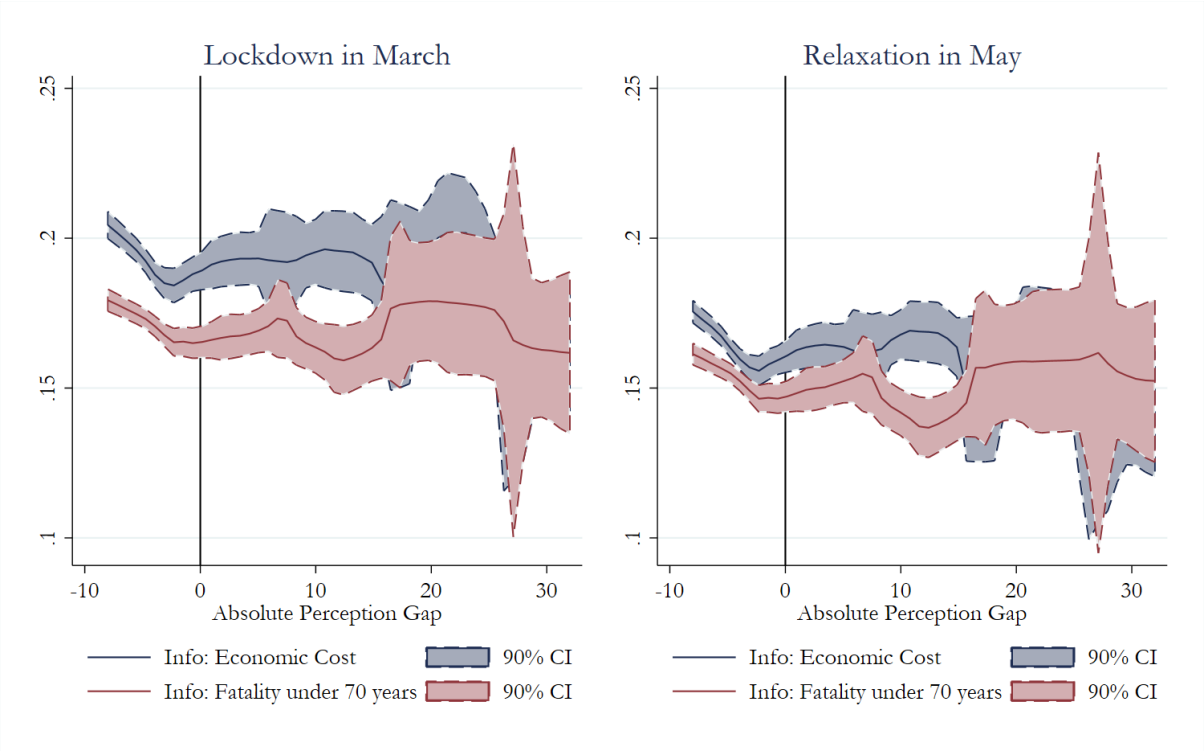


Notes: The figure shows the association between the probability of considering the lockdown measures too strict (left panel)/their relaxation too hesitant (right panel) and the perception gap (difference between believed and actual fatality rate) for treatment group 2 (info: economic costs of lockdown; blue lines) and treatment group 3 (info: fatality per 1,000 infected persons; red lines). The shaded areas show 90% confidence intervals. Results are based on kernel-weighted local polynomial regressions.

information about fatality rates converge.[10] Note that comparing those treatment groups that received information about the fatality of COVID-19 to our reference group that did not receive any information yields a similar pattern. However, the treatment effect estimates are somewhat smaller (see Figure C7 to C9 of the Appendix). Thus, while the average treatment effect estimates are only significant for the 'fatality over 70 years' treatment, we obtain significant estimates for the treatment effects on the treated. This also applies to treatments involving information about the overall fatality as well as the fatality among persons younger than 70 years.

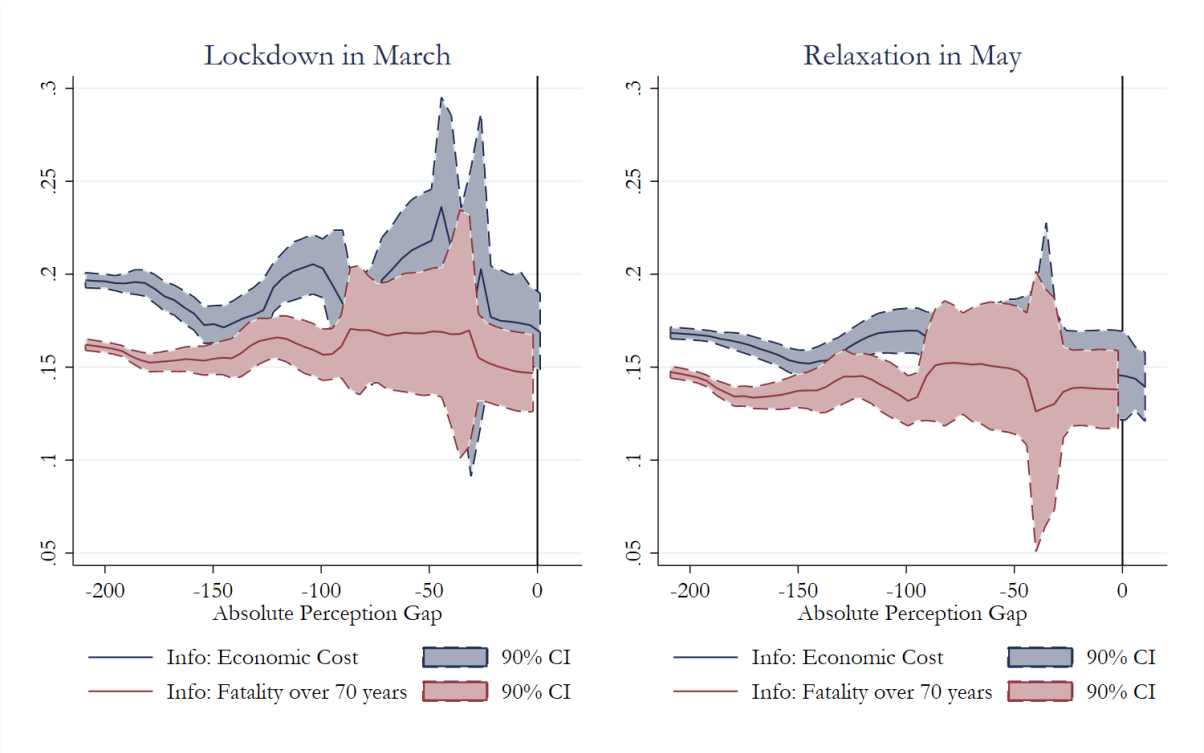
[10] In this context, it is important to remember that the large majority of respondents underestimate the true fatality rates: 88 per cent underestimate the overall fatality rate, 74 per cent underestimate the fatality rate among persons younger than 70 years, and 97 per cent underestimate the fatality rate among persons older than 70 years. Consequently, the fit of the local kernel-weighted estimates may become poorer for positive realizations of the perception gap measures.

Figure 8: Information treatment effects depending on prior beliefs about the fatality rate among persons younger than 70 years



Notes: The figure shows the association between the probability of considering the lockdown measures too strict (left panel)/their relaxation too hesitant (right panel) and the perception gap (difference between believed and actual fatality rate) for treatment group 2 (info: economic costs of lockdown; blue lines) and treatment group 4 (info: fatality among persons younger than 70 years; red lines). The shaded areas show 90% confidence intervals. Results are based on kernel-weighted local polynomial regressions.

Figure 9: Information treatment effects depending on prior beliefs about the fatality rate among persons older than 70 years



Notes: The figure shows the association between the probability of considering the lockdown measures too strict (left panel)/their relaxation too hesitant (right panel) and the perception gap (difference between believed and actual fatality rate) for treatment group 2 (info: economic costs of lockdown; blue lines) and treatment group 5 (info: fatality among persons older than 70 years; red lines). The shaded areas show 90% confidence intervals. Results are based on kernel-weighted local polynomial regressions.

7 Conclusions

This paper studies how providing information about health risks caused by the coronavirus and economic costs of lockdown measures affects views about these measures. Our key finding is that citizens respond to receiving information about health risks and lockdown costs; as one would expect, their support for lockdown restrictions increases when they learn about fatality rates among patients above the age of 70 years and decreases when they are informed about the economic consequences of the lockdown measures.

We also find that different population subgroups react very differently to the information treatments. While men seem to be more worried about the economic costs of shutdown measures and react more sensitively to new information about these costs, women focus more on health risks. The finding that people are more critical about lockdown measures if their incomes have declined during the crisis is intuitive. The most striking finding is perhaps that the impact of the information treatment is entirely driven by West German respondents, while East Germans do not react. This may reflect the experience of the systematic dissemination of false information by the communist government prior to reunification. It may also reflect a lack of trust in current political institutions, and greater support of radical and populist political parties across Eastern Germany.

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Appendix

A List of Variables and Descriptive Statistics

Table A1: Variable description and descriptive statistics

Variable	Description	Mean	Std.dev.	Min.	Max.
Info: No information	Dummy	0.125	0.331	0	1
Info: Economic costs	Dummy	0.126	0.331	0	1
Info: Fatality	Dummy	0.125	0.331	0	1
Info: Fatality under 70 years	Dummy	0.125	0.331	0	1
Info: Fatality over 70 years	Dummy	0.124	0.329	0	1
Info: Econ. costs & fatality	Dummy	0.125	0.331	0	1
Info: Econ. costs & fatality under 70 years	Dummy	0.124	0.330	0	1
Info: Econ. costs & fatality over 70 years	Dummy	0.125	0.331	0	1
Opinion on measures implemented in March	Far/somewhat too strict (coded 1); Just right (coded 2); Should have been somewhat/far stricter (coded 3)	2.001	0.581	1	3
Opinion on relaxation measures implemented in May	Not far enough (coded 1); Just right (coded 2); Too early/ Not before vaccine is available (coded 3)	2.207	0.685	1	3
Quartiles of household income	Based on net monthly equivalized household income (net monthly household income realizations correspond to the mid-points of a grouped income variable (10 groups)	2.661	1.284	1	5
Education	No school degree (coded 1); Lower secondary degree (coded 2); Middle secondary degree (coded 3); Higher secondary degree (coded 4); Tertiary degree (coded 5); Other degree/ No answer (coded 6)	3.898	1.081	1	6
Gender	Male (coded 0); Female (coded 1)	0.525	0.499	0	1
Age group	18 to 29 (coded 1); 30 to 49 (coded 2); 50 to 70 (coded 3), Above 70 (coded 4)	2.706	0.848	1	4
Region	West Germany (coded 0); East Germany (coded 1)	0.150	0.357	0	1
Positive COVID test	Dummy	0.003	0.052	0	1
COVID Infection in the family	Dummy	0.034	0.182	0	1
Jobloss due to COVID crisis	Dummy	0.127	0.333	0	1
Income reduction due to COVID crisis	Dummy	0.167	0.373	0	1
Relationship to family members	Worsened (coded 1); Unchanged (coded 2); Improved (coded 3)	2.007	0.545	1	3
Relationship to friends	Worsened (coded 1); Unchanged (coded 2); Improved (coded 3)	1.726	0.544	1	3
Financial concern	Not concerned (coded 1); Somewhat concerned (coded 2); Very concerned (coded 3)	1.637	0.662	1	3
Public restrictions	Not burdensome (coded 1); Somewhat burdensome (coded 2); Very burdensome (coded 3)	1.495	0.660	1	3
Believed fatality (per 1,000)	Below 35 (coded 1); 35 to 59 (coded 2); Above 59 (coded 3)	1.034	0.647	0	3
Believed fatality under 70 years (per 1,000)	Below 5 (coded 1); 6 to 10 (coded 2); Above 10 (coded 3)	1.175	0.863	0	3
Believed fatality over 70 years (per 1,000)	Below 150 (coded 1); 150 to 270 (coded 2); Above 270 (coded 3)	0.903	0.516	0	3
Party vote at last federal election	CDU/CSU (coded 1); SPD (coded 2); FDP (coded 3); Bündnis 90/Die Grünen (coded 4); Die Linke (coded 5); AfD (coded 6); Others (coded 7); Did not vote (coded 8); Was not eligible to vote (coded 9); Don't know/ No answer (coded 10)	3.605	2.630	1	10

B Additional Tables

Table B1: Estimation results for Equation (1) excluding control variables

	Lockdown in March			Relaxation in May		
	(1) Too strict	(2) Just right	(3) Not strict e h	(4) Not far enough	(5) Just right	(6) Too far/ early
Info: Economic costs	0.013*	0.000	-0.013*	0.002	0.002	-0.004
	[0.052]	[0.820]	[0.052]	[0.690]	[0.690]	[0.690]
Info: Fatality	-0.006	-0.000	0.006	-0.002	-0.001	0.003
	[0.349]	[0.823]	[0.349]	[0.769]	[0.769]	[0.769]
Info: Econ. costs & fatality	-0.008	-0.000	0.008	-0.010*	-0.008*	0.018*
	[0.266]	[0.822]	[0.266]	[0.089]	[0.089]	[0.089]
Info: Fatality under 70 years	-0.006	-0.000	0.006	-0.009	-0.007	0.017
	[0.391]	[0.824]	[0.391]	[0.105]	[0.105]	[0.105]
Info: Econ. costs & fatality under 70 years	-0.002	-0.000	0.002	-0.007	-0.006	0.013
	[0.732]	[0.848]	[0.732]	[0.203]	[0.203]	[0.203]
Info: Fatality over 70 years	-0.016**	-0.000	0.016**	-0.017***	-0.013***	0.030***
	[0.016]	[0.819]	[0.016]	[0.004]	[0.003]	[0.003]
Info: Econ. costs & fatality over 70 years	-0.016**	-0.000	0.016**	-0.016***	-0.013***	0.029***
	[0.020]	[0.819]	[0.019]	[0.004]	[0.004]	[0.004]
N	29778	29778	29778	29476	29476	29476

Notes: The table shows average marginal effects after maximum likelihood logit estimation of Equation (1) excluding control variables. */**/*** indicate significance at the 10%/5%/1% level. White (1980) robust standard errors are used.

Table B2: Estimation results for Equation (1) including the full set of control variables

	Lockdown in March			Relaxation in May		
	(1) Too strict	(2) Just right	(3) Not strict enough	(4) Not far enough	(5) Just right	(6) Too far/ early
Info: Economic costs	0.015**	0.000	-0.015**	0.004	0.003	-0.006
	[0.018]	[0.821]	[0.018]	[0.516]	[0.516]	[0.516]
Info: Fatality	-0.003	-0.000	0.003	0.000	0.000	-0.001
	[0.643]	[0.838]	[0.643]	[0.939]	[0.939]	[0.939]
Info: Econ. costs & fatality	-0.006	-0.000	0.006	-0.009	-0.007	0.016
	[0.333]	[0.825]	[0.333]	[0.110]	[0.110]	[0.110]
Info: Fatality under 70 years	-0.002	-0.000	0.002	-0.006	-0.005	0.011
	[0.768]	[0.857]	[0.768]	[0.270]	[0.270]	[0.270]
Info: Econ. costs & fatality under 70 years	-0.000	-0.000	0.000	-0.006	-0.004	0.010
	[0.973]	[0.973]	[0.973]	[0.293]	[0.292]	[0.292]
Info: Fatality over 70 years	-0.014**	-0.000	0.014**	-0.015**	-0.011***	0.025***
	[0.031]	[0.821]	[0.031]	[0.010]	[0.010]	[0.010]
Info: Econ. costs & fatality over 70 years	-0.011*	-0.000	0.011*	-0.013**	-0.010**	0.023**
	[0.088]	[0.822]	[0.088]	[0.018]	[0.018]	[0.018]
Household income						
1. quartile (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
2. quartile	0.010**	0.000	-0.010**	0.012***	0.010***	-0.022***
	[0.038]	[0.344]	[0.040]	[0.002]	[0.003]	[0.002]
3. quartile	0.015***	0.000	-0.015***	0.018***	0.014***	-0.032***
	[0.004]	[0.912]	[0.004]	[0.000]	[0.000]	[0.000]
4. quartile	0.007	0.000	-0.007	0.018***	0.014***	-0.031***

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	[0.204]	[0.308]	[0.204]	[0.000]	[0.000]	[0.000]
NA	0.002	0.000	-0.002	0.002	0.001	-0.003
	[0.790]	[0.781]	[0.789]	[0.762]	[0.761]	[0.762]
Education						
No degree (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Lower secondary degree	0.018	0.006	-0.024	-0.001	-0.001	0.003
	[0.451]	[0.585]	[0.491]	[0.955]	[0.954]	[0.955]
Middle secondary degree	0.036	0.008	-0.045	0.011	0.008	-0.018
	[0.128]	[0.465]	[0.204]	[0.688]	[0.712]	[0.699]
Higher secondary degree	0.033	0.008	-0.041	-0.001	-0.001	0.002
	[0.172]	[0.472]	[0.245]	[0.960]	[0.960]	[0.960]
Tertiary degree	0.049**	0.008	-0.056	0.004	0.003	-0.007
	[0.043]	[0.490]	[0.108]	[0.872]	[0.876]	[0.874]
Other degree/ NA	0.020	0.006	-0.027	-0.016	-0.014	0.030
	[0.494]	[0.578]	[0.512]	[0.589]	[0.565]	[0.577]
Gender						
Male (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Female	-0.008**	-0.000	0.008**	-0.004	-0.003	0.007
	[0.021]	[0.940]	[0.020]	[0.196]	[0.195]	[0.195]
Age group						
Below 30 years (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
30–49 years	0.034***	0.003*	-0.038***	0.037***	0.030***	-0.067***
	[0.000]	[0.078]	[0.000]	[0.000]	[0.000]	[0.000]
50–69 years	0.028***	0.004*	-0.032***	0.026***	0.023***	-0.049***
	[0.000]	[0.055]	[0.000]	[0.000]	[0.000]	[0.000]

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Above 70 years	0.018**	0.003*	-0.021**	0.012**	0.012*	-0.024*
	[0.015]	[0.086]	[0.021]	[0.048]	[0.060]	[0.053]
Region						
West Germany (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
East Germany	0.036***	-0.004***	-0.032***	0.044***	0.025***	-0.068***
	[0.000]	[0.002]	[0.000]	[0.000]	[0.000]	[0.000]
Positive COVID test						
No (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Yes	0.048	-0.009	-0.040	0.086**	0.028***	-0.115***
	[0.271]	[0.550]	[0.178]	[0.030]	[0.000]	[0.005]
COVID infection in the family						
No (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Yes	-0.013	-0.001	0.014	-0.006	-0.005	0.010
	[0.127]	[0.453]	[0.150]	[0.436]	[0.456]	[0.445]
Jobloss due to COVID crisis						
No (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Yes	0.008	-0.000	-0.008	-0.003	-0.002	0.005
	[0.153]	[0.528]	[0.141]	[0.575]	[0.581]	[0.578]
Income reduction due to COVID crisis						
No (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Yes	0.023***	-0.001*	-0.022***	0.032***	0.020***	-0.052***
	[0.000]	[0.064]	[0.000]	[0.000]	[0.000]	[0.000]
Relationship to family members						

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Decreased (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Unchanged	-0.006	0.000	0.006	-0.010**	-0.006**	0.017**
	[0.286]	[0.412]	[0.277]	[0.041]	[0.030]	[0.036]
Improved	-0.039***	-0.004***	0.043***	-0.035***	-0.029***	0.064***
	[0.000]	[0.002]	[0.000]	[0.000]	[0.000]	[0.000]
Relationship to friends						
Decreased (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Unchanged	-0.016***	0.001	0.016***	-0.007**	-0.005**	0.013**
	[0.000]	[0.109]	[0.000]	[0.025]	[0.023]	[0.024]
Improved	-0.036***	-0.002	0.038***	-0.032***	-0.028***	0.059***
	[0.000]	[0.184]	[0.000]	[0.000]	[0.000]	[0.000]
Financial concern						
Not concerned (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Somewhat concerned	-0.003	-0.000	0.003	-0.010***	-0.007***	0.017***
	[0.416]	[0.527]	[0.416]	[0.001]	[0.001]	[0.001]
Very concerned	0.014*	-0.001	-0.013*	0.014**	0.008**	-0.022**
	[0.074]	[0.329]	[0.061]	[0.044]	[0.029]	[0.038]
Public restrictions						
Not burdensome (ba)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
Somewhat burdensome	0.026***	0.002***	-0.027***	0.017***	0.014***	-0.031***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Very burdensome	0.187***	-0.073***	-0.113***	0.165***	0.032***	-0.198***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Believed fatality (per 1,000						

continued . . .

. . . continued

Don't know (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
0–34	0.003	0.000	-0.003	0.010	0.008	-0.018
	[0.746]	[0.896]	[0.748]	[0.170]	[0.195]	[0.181]
35–59	0.010	-0.000	-0.009	0.012	0.009	-0.021
	[0.349]	[0.572]	[0.352]	[0.181]	[0.190]	[0.184]
60–1,000	-0.027**	-0.004	0.031**	-0.034***	-0.037***	0.070***
	[0.018]	[0.106]	[0.022]	[0.000]	[0.001]	[0.001]
Believed fatality under 70 years (per 1,000						
Don't know (base)	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
0–5	0.020**	-0.002***	-0.018*	0.005	0.003	-0.008
	[0.045]	[0.001]	[0.058]	[0.604]	[0.614]	[0.608]
6–10	-0.033***	-0.006***	0.039***	-0.036***	-0.032***	0.068***
	[0.001]	[0.001]	[0.001]	[0.000]	[0.000]	[0.000]
11–1,000	-0.054***	-0.019***	0.073***	-0.056***	-0.059***	0.116***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Believed fatality over 70 years (per 1,000)						
Don't know	0.000	0.000	0.000	0.000	0.000	0.000
	[.]	[.]	[.]	[.]	[.]	[.]
0–149	0.003	0.000	-0.003	0.010	0.008	-0.018
	[0.720]	[0.898]	[0.723]	[0.219]	[0.245]	[0.231]
150–270	-0.015	-0.001	0.016	0.002	0.002	-0.004
	[0.307]	[0.481]	[0.319]	[0.873]	[0.872]	[0.873]
271–1,000	-0.018	-0.002	0.020	-0.005	-0.004	0.008
	[0.205]	[0.395]	[0.219]	[0.719]	[0.722]	[0.721]
Party vote at last federal election						
CDU/ CSU (base)	0.000	0.000	0.000	0.000	0.000	0.000

continued . . .

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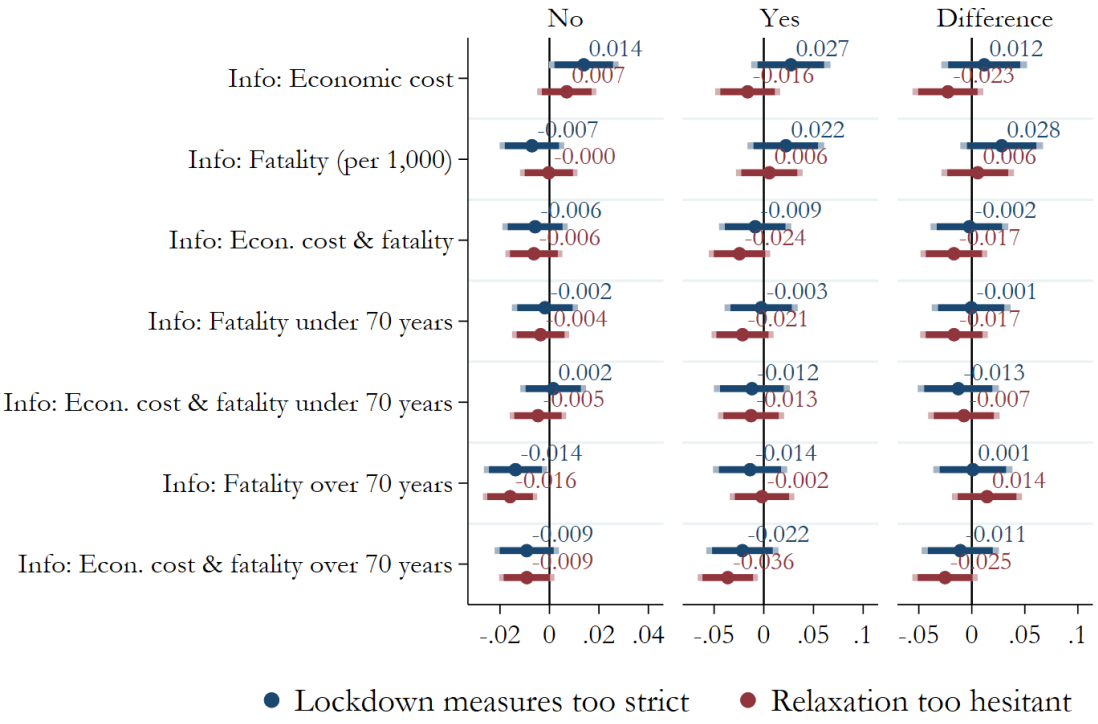
	[.]	[.]	[.]	[.]	[.]	[.]
SPD	-0.011**	-0.002**	0.012**	-0.024***	-0.021***	0.045***
	[0.010]	[0.027]	[0.011]	[0.000]	[0.000]	[0.000]
FDP	0.050***	-0.006***	-0.043***	0.037***	0.019***	-0.057***
	[0.000]	[0.009]	[0.000]	[0.000]	[0.000]	[0.000]
Die Grünen	-0.003	-0.000	0.003	-0.018***	-0.015***	0.033***
	[0.514]	[0.529]	[0.515]	[0.000]	[0.000]	[0.000]
Die Linke	-0.005	-0.001	0.005	-0.032***	-0.031***	0.063***
	[0.492]	[0.558]	[0.499]	[0.000]	[0.000]	[0.000]
AfD	0.183***	-0.079***	-0.104***	0.176***	0.007	-0.183***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.218]	[0.000]
Others	0.038***	-0.003	-0.035***	-0.001	-0.001	0.002
	[0.004]	[0.279]	[0.001]	[0.884]	[0.885]	[0.884]
Non-Voter	0.036**	-0.003	-0.033***	0.016	0.010	-0.025
	[0.019]	[0.399]	[0.006]	[0.205]	[0.146]	[0.182]
Not entitled to vote	-0.006	-0.001	0.006	-0.021*	-0.018	0.039*
	[0.688]	[0.749]	[0.696]	[0.068]	[0.118]	[0.090]
NA/ don't know	0.013	0.000	-0.013*	0.002	0.002	-0.004
	[0.103]	[0.492]	[0.088]	[0.745]	[0.742]	[0.744]
N	29338	29338	29338	29047	29047	29047

Notes: The table shows average marginal effects after maximum likelihood logit estimation of Equation (1) including control variables.

*/**/*** indicate significance at the 10%/5%/1% level. White (1980) robust standard errors are used.

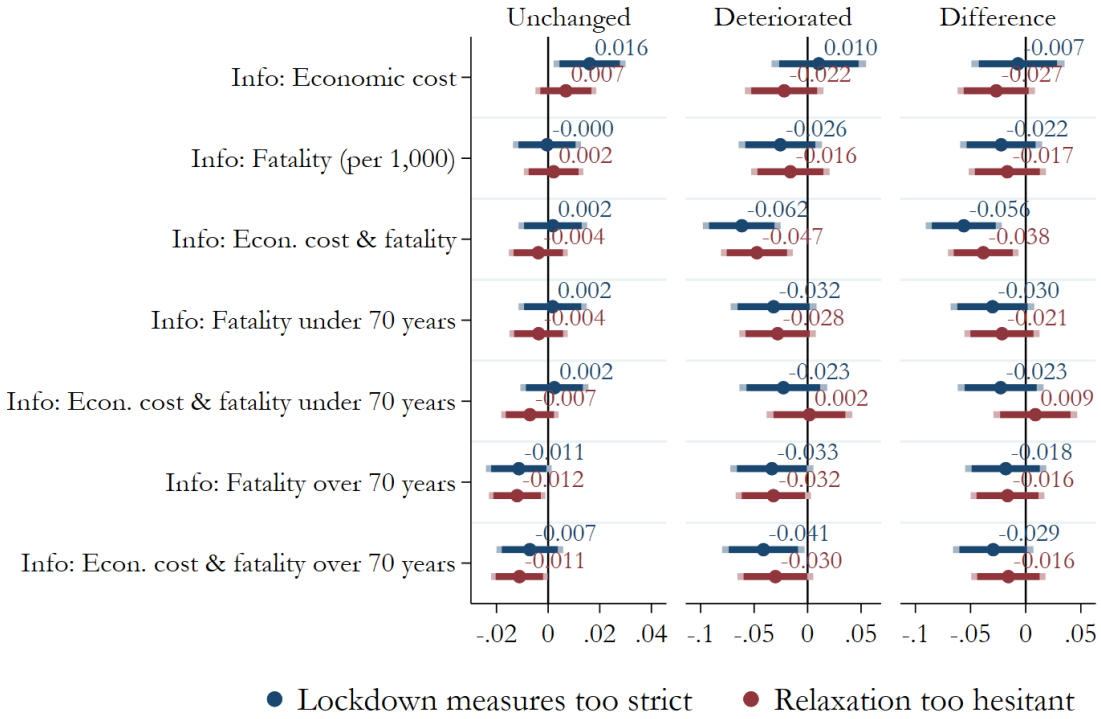
C Additional Figures

Figure C1: Information treatment effects by Corona-related income decrease



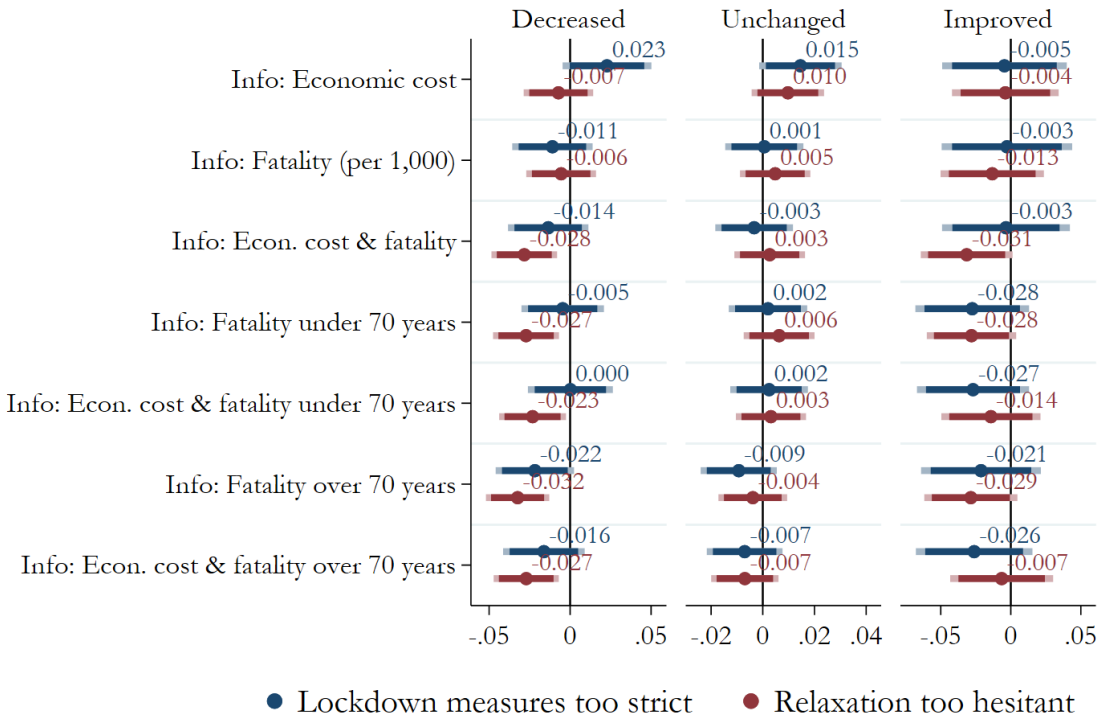
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Figure C2: Information treatment effects depending on relationship with family members



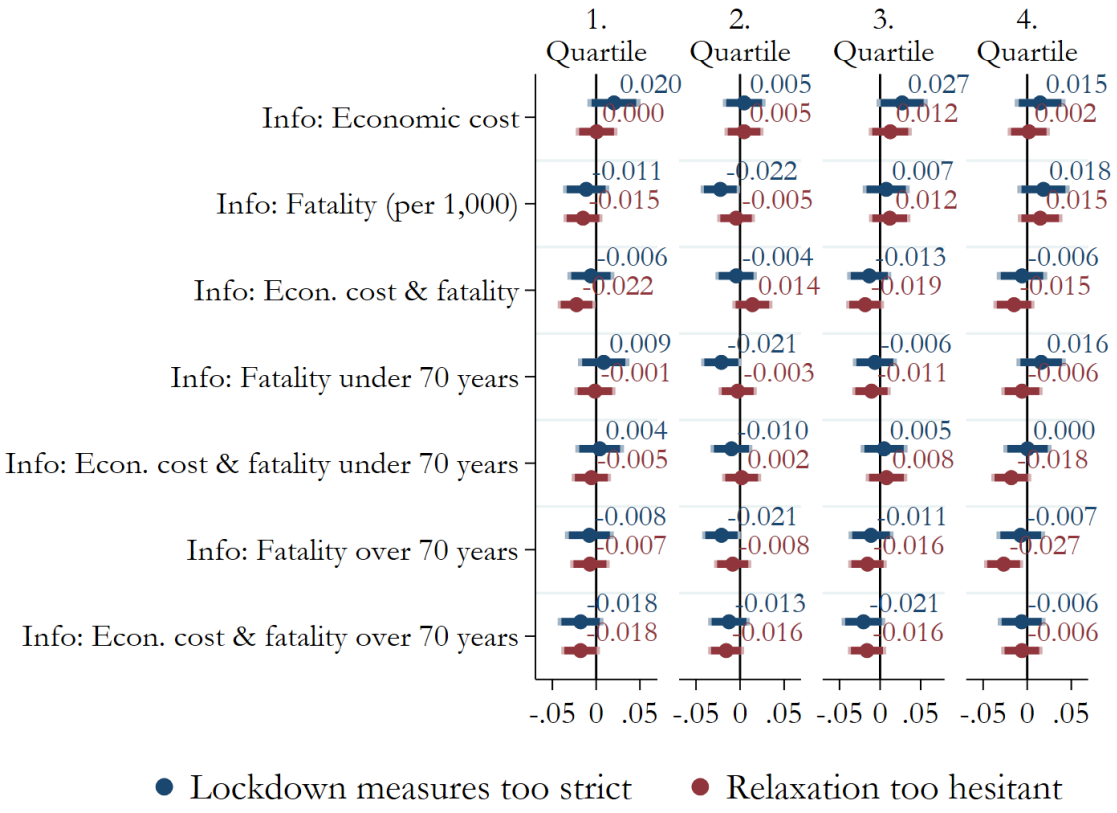
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Figure C3: Information treatment effects depending on relationship with friends



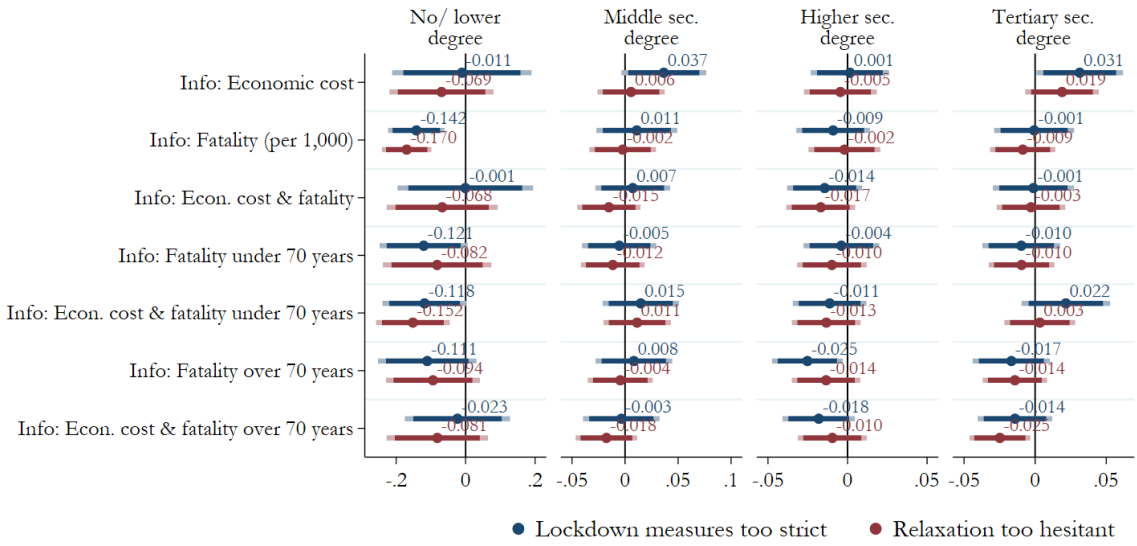
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Figure C4: Information treatment effects by net household income



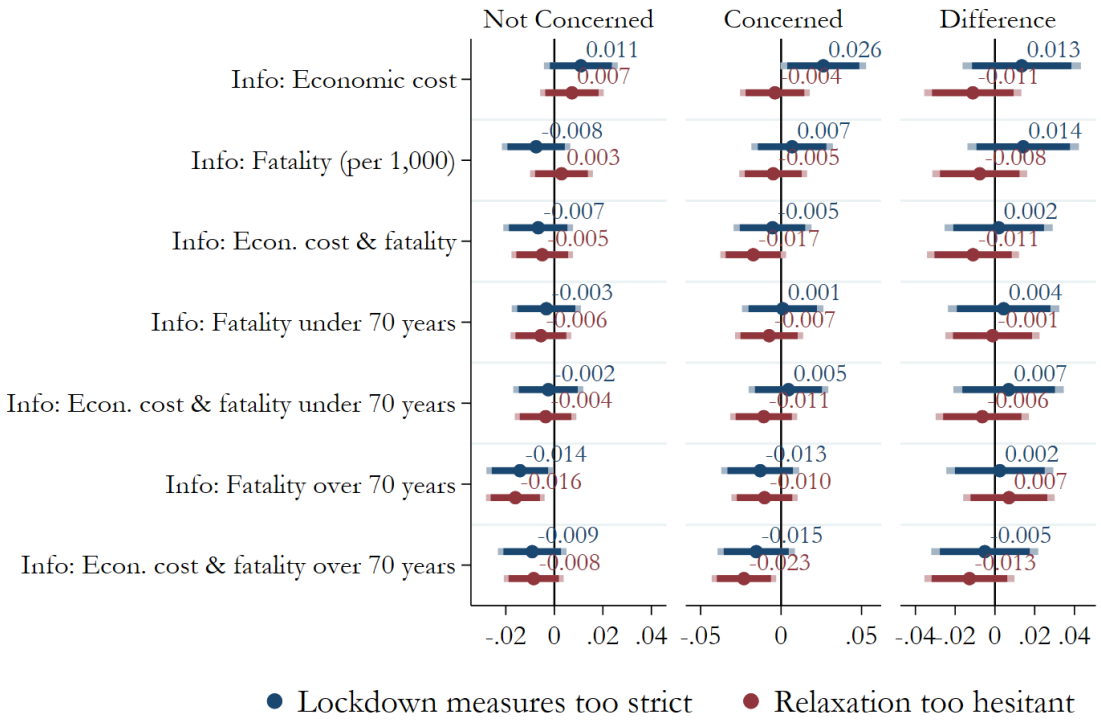
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Figure C5: Information treatment effects by education



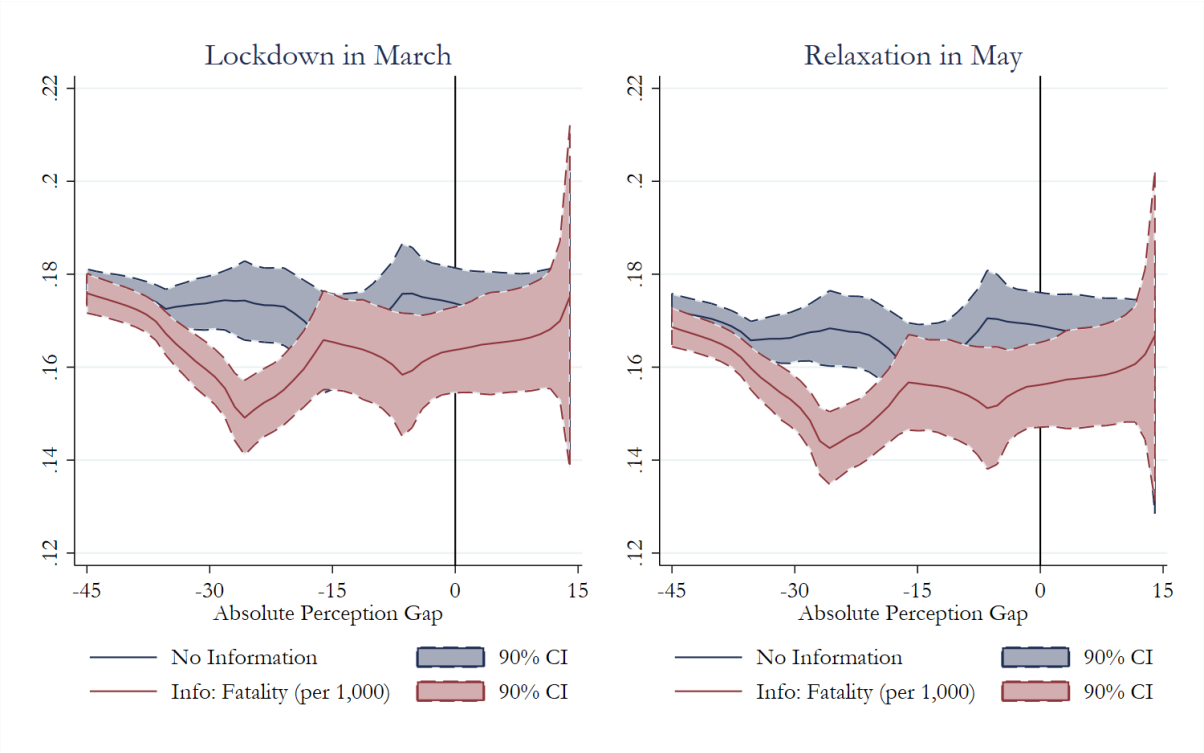
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Figure C6: Information treatment effects by degree of financial concern



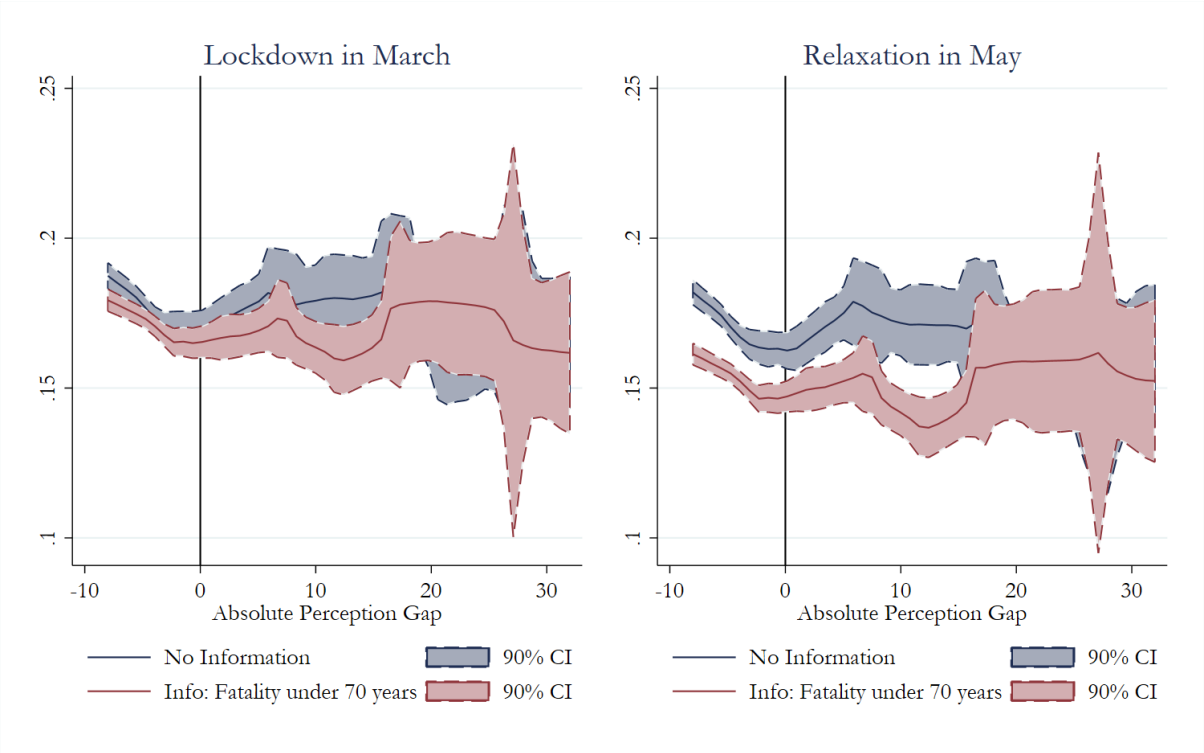
Notes: The figure shows the estimated average marginal effects of the information treatments along with the 90% (transparent horizontal lines) and 95% (non-transparent horizontal lines) confidence intervals. Results are based on ordered logit estimation. White (1980) robust standard errors are used.

Figure C7: Information treatment effects depending on prior beliefs about the overall fatality rate—comparison to reference group



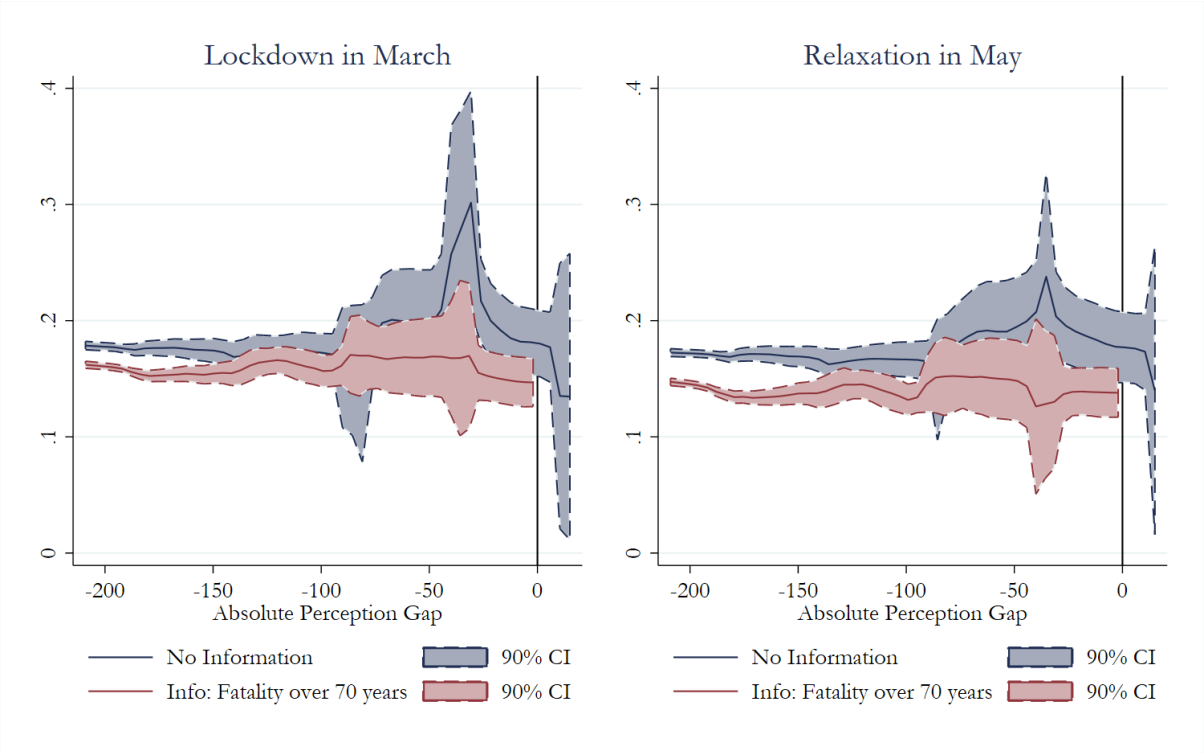
Notes: The figure shows the association between the probability of considering the lockdown measures too strict (left panel)/their relaxation too hesitant (right panel) and the perception gap (difference between believed and actual fatality rate) for treatment group 1 (no information; blue lines) and treatment group 3 (info: fatality per 1,000 infected persons; red lines). The shaded areas show 90% confidence intervals. Results are based on kernel-weighted local polynomial regressions.

Figure C8: Information treatment effects depending on prior beliefs about the fatality rate among persons younger than 70 years—comparison to reference group



Notes: The figure shows the association between the probability of considering the lockdown measures too strict (left panel)/their relaxation too hesitant (right panel) and the perception gap (difference between believed and actual fatality rate) for treatment group 1 (no information; blue lines) and treatment group 4 (info: fatality among persons younger than 70 years; red lines). The shaded areas show 90% confidence intervals. Results are based on kernel-weighted local polynomial regressions.

Figure C9: Information treatment effects depending on prior beliefs about the fatality rate among persons older than 70 years—comparison to reference group



Notes: The figure shows the association between the probability of considering the lockdown measures too strict (left panel)/their relaxation too hesitant (right panel) and the perception gap (difference between believed and actual fatality rate) for treatment group 1 (no information; blue lines) and treatment group 5 (info: fatality among persons older than 70 years; red lines). The shaded areas show 90% confidence intervals. Results are based on kernel-weighted local polynomial regressions.