Lives or Livelihoods? Perceived Trade-offs and Policy Views

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Abstract: We study the role of perceived trade-offs between human lives and economic benefits in shaping policy views. In an online experiment with a representative sample from the US conducted during the early Covid-19 pandemic, we provide randomized information on the medium-run costs of restricting economic activity to mitigate infections. A one standard deviation lower perceived economic cost of lockdowns increases support by about twice as much as having a Covid at-risk condition, and by half as much as being a Democrat. Varying projected health benefits has a similar effect. Personal exposure to health risks reduces people’s responsiveness to cost-benefit considerations.

Keywords: beliefs, trade-offs, policy views, public health, Covid-19

Classification: C90, D71, D83, D90, H12

1 Introduction

Societies frequently trade off citizens’ health against economic concerns. For instance, governments decide on a health budget, on the construction of hospitals, on the number and qualification of medical staff and on the scope of publicly financed life-saving health check-ups and treatments. Funds dedicated to public health expenditures cannot be used to finance other activities, such as public investments into education,
defense or infrastructure, or private consumption by taxpayers. Potential trade-offs between public health and economic concerns play a particularly important role in the discussion of policy responses to major public health crises, such as the Covid-19 pandemic. But to what extent do perceptions of such trade-offs matter for the policy views of citizens? And does clear communication of the costs and benefits of public health measures have the potential to change people’s acceptance of such measures? Answering these questions is crucial for understanding the formation of political attitudes, for designing optimal responses to public health crises, for gauging the public acceptance of health policies, and for the communication of such policies to the public.

In this paper, we address these questions in the context of an online survey experiment conducted during the early stage of the Covid-19 pandemic with a sample of 8,861 respondents that is representative of the adult US population. The global Covid-19 pandemic affects large parts of the population across many countries in the world. To mitigate the spread of the virus, governments have implemented public health measures such as business closures, mandatory social distancing and stay-at-home orders. While the ultimate effects of such measures on (long-run) economic outcomes are still debated among economists, a widespread view in the public debate is that, to some extent and at some duration of shutdown measures, the benefits of these measures to safeguard public health come at an economic cost. Moreover, public acceptance seems to be a key driver or restricting factor of pandemic response measures put in place by policymakers. The Covid-19 crisis therefore provides a unique setting to study people’s perceptions of trade-offs between public health and economic outcomes, and how these perceptions shape attitudes towards “real-world” public health policies.

Ex-ante, it is unclear to what extent individuals are willing to trade off human health, and ultimately human lives, against economic concerns. On the one hand, evidence from psychology suggests that, when asked directly, most people would refuse to trade off lives against economic concerns based on ethical principles that prohibit putting a price on human life (Tetlock et al., 2000; Berns et al., 2012). The morally charged policy discussion around Covid-19 suggests that non-utilitarian principles may indeed play an important role in limiting the elasticity of people’s policy demand to perceived trade-offs. On the
other hand, it is obvious that governments need to make decisions under such trade-offs on a day-to-day basis (Viscusi, 2018).

In our survey, we study the causal role of cost-benefit considerations in shaping support for lockdown interventions. We generate exogenous variation in the perceived economic costs of shutdowns by randomly providing half of the sample with recent research evidence by Correia et al. (2020), pointing to positive medium-run economic effects of longer shutdowns for US cities during the 1918 Influenza. We then elicit beliefs about the economic impact of lockdown orders during the 2020 pandemic on the US economy. In a second, orthogonal treatment condition, we generate exogenous variation in the projected health benefits of shutdowns. Based on an established S.E.I.R.5 model, we present survey respondents with a table that maps projections of Covid-19 fatalities to shutdown lengths between zero and six months. Depending on the treatment condition, we vary the assumed infection fatality rate within a reasonable range, thereby generating a differential number of projected deaths for each length of shutdown. Respondents then choose their individually preferred length of shutdown based on the scenarios mapping shutdown lengths to numbers of fatalities. Subsequently, we also elicit preferences over the strictness of real-world social distancing measures and views on how severely violations of rules should be punished, without holding fixed the number of lives that could be saved through these measures.

We find that cost-benefit considerations play a substantial causal role in shaping policy views, along both the economic cost and the health benefits dimension. Respondents exposed to the economic cost treatment hold significantly more optimistic views about the economic impact of the April 2020 shutdown, prefer longer lockdown lengths in the projected scenarios and favor stricter interventions. Moreover, individuals prefer scenarios with longer shutdown lengths if the scenarios assume a higher infection fatality rate.

Using an IV-framework to interpret estimated magnitudes, we find that a one standard deviation decrease in perceived economic costs increases the preferred shutdown length by 24 percent of a standard deviation, or 13 days. Similarly, a one standard deviation higher perceived magnitude of projected fatalities increases the preferred shutdown length by 21 percent of a standard deviation, or 11 days. In addition, a one standard deviation lower perceived economic cost of lockdown interventions increases respondents’ support for making existing rules stricter by 20 percent of a standard deviation. These

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5“Susceptible-Exposed-Infected-Recovered” models predict disease spread and mortality based on assumptions regarding the share of the population that is susceptible to getting infected, contact rates, infection probabilities per contact and infection fatality rates.
magnitudes are substantial, and correspond to 1.5-2.5 times the effect of having a pre-existing health condition that increases the risk of a severe Covid-19 illness and to half of the effect of being a Democrat.

Exploring heterogeneous treatment effects, we find that individuals with a high personal exposure to the health risks of Covid-19, proxied by the presence of Covid at-risk conditions in the family or a high anticipated need for hospital care, are unresponsive to cost-benefit considerations but prefer high levels of policy intervention regardless of the economic costs. Importantly, our estimated treatment effects are large and significant for individuals across the political spectrum. Thus, despite substantial partisan differences in the perceived costs and benefits of lockdowns as well as in policy demand, targeted information had the potential to generate a convergence in policy views during the early stages of the pandemic.

This paper contributes to a literature studying individual decision-making under trade-offs between economic domains and “sacred” non-economic values, such as life or love (Tetlock et al., 2017; Falk and Szych, 2013; McGraw et al., 2012). Elias et al. (2015) use information treatments to show that individuals weigh costs and benefits when forming their opinions about organ transactions, but not about slavery or prostitution markets, suggesting that cost-benefit considerations are often not taken into account in highly morally charged domains. We add to this research by showing that cost-benefit considerations play an important role in determining people’s acceptance of government measures aimed at saving lives but restricting economic and civic freedom.

We also contribute to a literature that uses information experiments to study the role of beliefs about potentially relevant facts in shaping policy views. Previous research often found relatively low elasticities of policy views to information, either because these elasticities are moderated by political orientation (Alesina et al., 2020; Haaland and Roth, 2019; Alesina et al., 2018; Settele, 2021) or because differences in policy views across the political spectrum are altogether unrelated to differences in beliefs (Cappelen et al., 2019; Kuziemko et al., 2015). In contrast to these studies, which focus on inequality and fairness concerns, we show that individuals’ demand for public health measures is highly elastic to cost-benefit concerns – despite large partisan differences at baseline.

Moreover, this study relates to a literature studying the role of information and beliefs in shaping individual social distancing behavior during the Covid-19 pandemic (Bursztyn et al., 2020; Bailey et al.,
Complementary to our study, Alsan et al. (2020) document determinants of individuals’ willingness to give up civil liberties in the context of pandemic response measures. Allcott et al. (2020b) and Barrios and Hochberg (2020) report substantial differences in beliefs about Covid-19 and in compliance with social distancing measures between Democrats and Republicans. We contribute to this literature in two ways: First, our paper is among the few that focus on policy views rather than individual social distancing behavior. Policy views are particularly interesting in the setting of the pandemic given the large externalities of individual behavior, which suggest a powerful coordinating role for government intervention. Second, our experimental approach provides clean causal evidence on how cost-benefit concerns determine attitudes towards policies that potentially save lives at an economic cost.

Finally, we build on a literature studying the effects of policy interventions aimed at mitigating the spread of Covid-19 on economic (Sheridan et al., 2020; Allcott et al., 2020) as well as health outcomes (Fang et al., 2020; Fetzer, forthcoming; Fetzer and Graeber, forthcoming). For instance, Fetzer (forthcoming) shows that the UK’s “Eat-Out-To-Help-Out” subsidy for restaurant visits causally contributed to the spread of the virus, suggesting that social distancing mitigates the virus spread.

Section 2 Experimental Design and Data section.2 of the paper presents our experimental design and data. Section 3 Descriptive Evidence section.3 provides descriptive evidence on individual demand for government-mandated social distancing measures. Section 4 Causal Evidence section.4 presents causal evidence on how cost-benefit concerns across the health and the economic domain affect people’s demand for policy intervention. Section 5 Discussion section.5 discusses our findings against the background of related literature and Section 6 Conclusion section.6 concludes.

2 Experimental Design and Data

This section describes the survey administration, the experimental design, and the data. The interactive survey is available at https://cebi.eu.qualtrics.com/jfe/form/SV_bNiQ9zcns8kb

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6 More generally, there is evidence of a role for news exposure and for political leaders’ speech in driving social distancing behavior (Simonov et al., 2020; Ajzenman et al., 2020). See Brodeur et al. (2020) for an early literature review on determinants of social distancing during the Covid-19 pandemic.

7 Fetzer et al. (2020) document policy views in a large multinational survey early during the pandemic.

8 At a more general level, this paper relates to a literature studying the (heterogeneous) impact of the Covid-19 crisis on household economic outcomes (Guerrieri et al., 2020; Barrot et al., 2020; Kahn et al., 2020; Adams-Prassl et al., 2020; Alon et al., 2020; Hanspal et al., 2020; Andersen et al., 2020; Baker et al., 2020) and fairness views (Cappelen et al., 2020). Finally, our study builds on a theoretical literature studying optimal shutdown lengths from a social planner’s perspective (Alvarez et al., forthcoming; Glover et al., 2020; Hall et al., 2020; Rampini, 2020).
2.1 Timeline and Overview

Data collection took place between April 9th and April 15th, 2020 in cooperation with the online data provider Lucid. Our survey, whose structure is outlined in Figure 1 Outline of survey experiment figure.caption.23, contains two randomized, orthogonal treatment conditions. First, an “economic cost treatment” provides a random half of the respondents with research evidence pointing to low economic costs of NPIs (non-pharmaceutical interventions). Second, we elicit respondents’ policy views, among others using scenarios that systematically vary the projected health benefits of a shutdown.

2.2 Survey Design

Prior belief elicitation We first elicit respondents’ beliefs about the economic costs of lockdown measures implemented in US cities during the 1918 Influenza. For this purpose, we describe the difference-in-difference approach used in Correia et al. (2020) in simple words. Namely, we explain that the authors compare US cities that were similar in their initial exposure to the virus and their pre-pandemic labor market situation, but differed in the length of their lockdown. We then elicit prior beliefs asking respondents to think of the following scenario:

(…) **City A** was shut down for 1 month during 1918, and its unemployment rate was 7% by the end of the pandemic in 1919.

**City B** was shut down for 3 months, 60 days longer than **City A**. What do you think was the unemployment rate in **City B** by the end of the pandemic in 1919?

“Economic cost treatment” Subsequently, we provide a random half of the respondents with information on the “actual” post-pandemic unemployment rate in City B, corresponding to 6 percent based on Correia et al. (2020). In Appendix B, we explain the derivation of the treatment value and briefly discuss the robustness of the findings in Correia et al. (2020). The remaining respondents are not provided with this information.

Correia et al. (2020) provide consistent evidence using various different measures for the health of the city-level economy, such as digitized information on business conditions from Bradstreet’s weekly “Trade at a Glance” tables, city-level annual bank assets, and manufacturing output. We focus on the unemployment rate because it is commonly referred to in the media, easy to interpret, and strongly correlated with overall GDP growth and income growth.
After the information treatment, we elicit all respondents’ beliefs on how lockdown extensions of different lengths would affect the US economy, using several survey items. One item broadly asks about the effect on the US economy of an extension of the shutdown until the end of June 2020 instead of the end of April 2020, without specifying a concrete time horizon for the economic impact. The following item elicits beliefs about how the US economy one year after the survey would be affected by lockdown extensions of two more weeks, one more month, three more months and six more months beyond mid-April 2020. Thus, similar to the information treatment itself, this item refers to the medium-run impact of lockdown extensions. Later in the survey, we also elicit respondents’ beliefs about how a lockdown extension of six weeks beyond mid-April would affect their own household income, labor market earnings, and wealth.

“Mortality Treatment” and preferred length of shutdown  Our first outcome of interest is respondents’ preferred shutdown length based on scenarios that systematically vary the shutdown duration and the hypothetical number of lives saved. Note that for ethical reasons we purposefully abstain from moving respondents’ fundamental real-world beliefs about the seriousness of Covid-19, as these beliefs may arguably affect people’s social distancing behavior in the real world (Bursztyn et al., 2020).

Instead, we introduce variation in projected (hypothetical) Covid-19 fatalities using the following approach: We present survey respondents with a table that maps projections of Covid-19 fatalities in 2020 to different shutdown lengths ranging from zero to six months in one-month increments. The hypothetical numbers of lives saved are based on an established S.E.I.R. (Susceptible, Exposed, Infected and Resistant) model. Respondents in a “high mortality condition” are presented with projections based on an assumed infection fatality rate of 2.4 percent, while respondents in a “low mortality condition” are presented with projections assuming a rate of 0.4 percent. Both rates are within a plausible range according to the state of the research as of April 2020 (see Appendix B for details). We inform respondents that the fatality projections are the result of model assumptions, which we make available. Moreover, we emphasize that the actual number of future Covid-19 fatalities is unknown. Holding all other parameters fixed, the model projects that, in the complete absence of a lockdown, 3,253,000 (542,000) American citizens would die of Covid-19, and with a six months lockdown 100,000 (17,000) would die until the end of 2020 in the high (low) mortality condition. Based on the projected numbers, we ask respondents to choose their

\textsuperscript{10}In Table A.3 we demonstrate that, as intended, respondents did not change their beliefs about the actual fatality or infectiousness of Covid-19 in response to the mortality treatment.
preferred shutdown length between zero and six months, considering all aspects that are important to
them.  

On the following survey page, we elicit how the order of magnitude of the projected mortality numbers
in the scenarios compares to each respondent’s personal expectation of future Covid-19 fatalities before
taking the survey. For this purpose, we remind respondents of the projected number of Covid-19 fatal-
ities in the scenario without shutdown intervention, which corresponds to 542,000 in the low mortality
condition and to 3,253,000 in the high mortality condition. They are then asked to rate this number,
relative to their own prior expectations, on a qualitative 7-point scale ranging from “much lower than I
expected” to “much higher than I expected”. By asking respondents to use their personal prior belief as
a benchmark for comparison we aim i) to enable respondents to meaningfully express their perceptions
and ii) to generate sufficient variation in the response patterns and thus sufficient statistical power to
estimate first-stage effects. In contrast, respondents might have found a question asking them to simply
rate the projections as “very low”, “low”, “high” or “very high” as less meaningful given the high orders
of magnitude of numbers of projected deaths in both conditions.

Note that the survey item we employ is not a measure of respondents’ belief updating, as our mortality
treatment does not shift real-world beliefs, but rather presents assumption-based projections. Thus, the
purpose of the survey item is to capture the extent to which respondents are i) attentive to the survey
and ii) able to interpret very high orders of magnitude. One potential concern is that respondents in the
two mortality treatment arms might interpret the qualitative outcome scale differently, i.e. those in the
low mortality scenario might answer that a projection that, e.g., exceeds their personal belief by 500,000
is “much higher than expected” whereas someone in the high mortality condition might choose “slightly
higher than expected” for a similar update. In Appendix H we discuss this concern and demonstrate that
it likely plays a limited role in our data.

Other main outcomes Respondents then answer questions about their real-world preferences re-
arding the strictness of NPIs and the financial punishment of risky behaviors that might spread the
coronavirus. In contrast to the shutdown length question, these questions do not hold fixed the effect of
the policy measures on the number of lives saved.

In Appendix D we discuss the possibility that a fraction of respondents did not interpret the question as a choice between
the six projected scenarios, but as a question on their shutdown preferences regardless of the hypothetical number of lives
saved. We show that this would not affect our conclusions from the economic cost treatment, but would imply that the
estimated effects from the mortality treatment should be interpreted as a lower bound.
Characteristics and beliefs Next, we collect demographic information and various measures of personal exposure to the coronavirus and to shutdown measures, such as health status and recent job loss. We also elicit beliefs and attitudes, such as beliefs about the infectiousness and mortality of Covid-19 in comparison to a regular flu, the perceived resurgence risk if mitigating measures were lifted and the perceived effectiveness of NPIs.

Debriefing Finally, we provide a debriefing that clarifies that the Influenza of 1918 differed in important aspects from the Covid-19 pandemic. Second, we again emphasize that, even though the infection fatality rate we used to calculate the assumed number of Covid-19 deaths in the shutdown scenarios was reasonable, the true rate is unknown. For both points we provide links to online background information.

2.3 Discussion of the Experimental Design

Perceived and actual trade-offs Our experimental design exogenously varies the perceived economic costs and the projected health benefits in terms of number of lives saved through shutdown interventions. This allows us to study the causal effect of perceived trade-offs on policy views. We do not take a stance on the actual existence and magnitude of such a trade-off, which is still an open issue in the literature.12

In the economic cost treatment we provide respondents with a piece of evidence suggesting that lockdown interventions during pandemics may not have a negative economic impact. For our economic cost treatment to generate a shift in beliefs we rely on respondents believing that shutdown measures impose economic costs prior to our intervention. Our evidence on prior beliefs presented in Section 4Causal Evidencesection.4 strongly supports this idea. Similarly, the fact that support for lockdown interventions is high based on our data (see Section 3Descriptive Evidencesection.3) and based on other

12Overall, the literature to date provides mixed evidence for the economic costs of shutdowns (Acemoglu et al., 2020; Allcott et al., 2020; Arin et al., 2021; Alvarez et al., forthcoming; Coibion et al., 2020; Correia et al., 2020; Cross et al., 2020; Eichenbaum et al., 2020; Friedson et al., 2021; Pan et al., 2020; Ueda et al., 2021). For instance, Sheridan et al. (2020) document at most small net economic costs of lockdown interventions during the early Covid-19 pandemic based on a comparison of Sweden and Denmark, while Kong and Prinz (2020) find substantial short-run unemployment effects of restaurant and bar limitations and non-essential business closures based on variation in shutdown orders across US states. Evidence on the medium- to long-run effects of shutdowns during the Covid-19 pandemic is not yet available. Regarding health effects of shutdown interventions, Barro (2020), Di Domenico et al. (2020), Friedson et al. (2021), Amuedo-Dorantes et al. (2020), Fang et al. (2020) and Pan et al. (2020) provide evidence that lockdown interventions in 2020 decreased the number of Covid-related deaths. Lin and Meissner (2020) find insignificant effects of stay-at-home orders in 2020 on mortality rates based on a comparison of US counties in adjacent states with differential policies, but emphasize a potentially important role for spillover effects across county borders. These papers are silent about cumulative mortality effects, as it is too early to make definite statements about the ongoing Covid-19 pandemic. Hatchett et al. (2007) and Markel et al. (2007) focus on the 1918 Influenza pandemic and find that shutdown interventions reduced cumulative (i.e. total) mortality.
data from our sampling period (Fetzer et al., 2020) strongly suggests that respondents do believe in significant health benefits of lockdown interventions.\textsuperscript{13}

**Time horizon of the information on economic costs** The economic cost treatment refers to a one-year time horizon, i.e. it informs respondents about the economic impact of 1918 city-level lockdowns on 1919 city-level unemployment rates. This time horizon should be relevant to our average respondent, as most US households arguably have a planning horizon beyond one year. Moreover, the medium-run impact should also be informative about the more general impact of lockdowns, as Correia et al. (2020) provide similar short-run evidence. Namely, cities with longer lockdowns early in 1918 experienced equally pronounced economic disruptions during 1918 than cities with shorter initial lockdowns.\textsuperscript{14}

**Social desirability bias** Social desirability bias could be a concern when eliciting preferences regarding the duration and intensity of NPIs to save lives. While our design is not immune to such bias, it is arguably mitigated. First, on the welcome page we ensure the anonymity of participants. Second, when eliciting respondents’ preferred shutdown length, we emphasize that “there are no right or wrong answers”. Third, and most importantly, compared to an alternative within-subject design, respondents in our between-subject design do not explicitly report whether they are willing to trade off lives against economic benefits.

### 2.4 Data

Our sample is limited to respondents residing in a state with government-mandated social distancing measures as of April 9th, 2020.\textsuperscript{15} We drop respondents in the bottom percentile of the response time (5 minutes), which was 15 minutes at the median. Our final sample consists of 8,861 respondents and is close to representative of the adult US population in terms of gender, age, Census region and household income (Table A.1).\textsuperscript{16} In Appendix C, we discuss the representativeness of our sample along additional

\textsuperscript{13}This perception is in line with the public discussion at the time of our data collection. Apart from the widely discussed prospect of a vaccine, several other mechanisms through which a reduction in infections would translate into a reduction in cumulative mortality were discussed: i) buying time to better understand the virus and effective treatment of infected individuals, lowering overall mortality among the infected, ii) buying time to produce more equipment, such as face masks, and ventilators, iii) spacing out infections to avoid excess (Covid and non-Covid) deaths caused by overwhelming the healthcare system and iv) possible containment, which was still discussed in the early weeks of the pandemic.

\textsuperscript{14}Early evidence from the Covid-19 pandemic suggests very similar short-run patterns: Sheridan et al. (2020) document that economic lockdowns do not have pronounced negative effects on economic activity, in addition to the direct effect of the pandemic.

\textsuperscript{15}Residents of Arkansas, Iowa, North Dakota, Nebraska and South Dakota were screened out.
dimensions and address the fact that it features a higher share of highly educated individuals than the population – a typical feature of online samples (Grewenig et al., 2018).

The sample is globally balanced according to observables i) between respondents who receive the economic cost treatment and those who do not, and ii) between those assigned to the “high mortality” versus the “low mortality” condition (Table A.2). We standardize qualitative outcome measures based on the mean and standard deviation in the economic cost control group, pooling both mortality conditions.

3 Descriptive Evidence

In this section we provide descriptive evidence on i) respondents’ preferred shutdown length, ii) their demand for stricter mandatory social distancing measures, and iii) their demand for a stricter enforcement of existing measures. Given that these views are elicited after the treatment stage, we restrict the sample to those who have not received the economic cost treatment, pooling respondents in both mortality conditions. One remaining caveat in the interpretation of findings related to outcome i) is that the survey question asks for the respondent’s preferred shutdown length conditional on lives saved, which differ across the two mortality conditions. In the real world, however, differences in beliefs about the mortality of Covid-19 and about the effectiveness of shutdown measures in saving lives will likely translate into differences in preferred shutdown length, whereas in our scenarios this channel is switched off. By contrast, the survey items ii) and iii) do not hold fixed the effect of shutdown measures on the number of deaths, and should therefore not be affected by this concern.16

Demographics and political orientation How does support for social distancing measures vary with personal characteristics? Political orientation is the strongest determinant of policy preferences: Democrats prefer a 24 days longer shutdown than Republicans and are 0.5 and 0.2 standard deviations more in favor of stricter measures and stricter rule enforcement, respectively, conditional on an extensive set of demographic characteristics (Table 1Predictors of Demand for Policy Intervention.table.caption.25, Columns 1, 4 and 7).17 These patterns are in line with similar partisan differences in individual compliance

16A remaining concern could be that both items ii) and iii) are measured after exposure to either the high or the low mortality projections under survey item i). However, as we discuss in detail in Section 4Causal Evidencesection.4 below, there are no spillover effects of the mortality treatment, neither on respondents’ fundamental beliefs about the real-world mortality of Covid-19 or the effectiveness of shutdown measures in saving lives, nor on items ii) and iii) themselves (Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26, Panel B).

17Democrats believe in a significantly higher mortality of Covid-19 and in a higher effectiveness of NPIs (Table A.3). Thus, real-world partisan differences in preferred shutdown length are likely higher than our estimate of 24 days, which conditions on projected fatalities, and the exact magnitude of our estimate should be interpreted cautiously.
with social distancing documented by Allcott et al. (2020b). Similarly, females favor longer and stricter interventions. In contrast, individuals aged 65 or older – perhaps surprisingly – favor a six days (0.2 months) shorter shutdown length than the youngest age group of 18-34-year-olds (column 1, p<0.05). At the same time, they are 0.09 standard deviations more in favor of stricter rule enforcement (column 7, p<0.1), consistent with a preference for sharper, but shorter lockdowns compared to younger individuals.

Personal exposure  Next, we explore the role of personal exposure to the health or financial risks of the crisis (Table 1 Predictors of Demand for Policy Intervention, columns 2, 5 and 8). Not surprisingly, having at least one risk factor for a severe Covid-19 illness in the family or having a high anticipated need for hospital care is associated with a longer preferred lockdown duration in the projected scenarios, and a demand for stricter measures and stricter rule enforcement. The estimated coefficients, however, are considerably smaller than the Democrat-Republican difference. The patterns according to economic exposure to the crisis are somewhat less pronounced: While those with a high exposure through stock holdings or a recent drop in household income prefer shorter shutdowns, there are no strong patterns according to job loss. It is important to note that all evidence presented in this section is purely correlational. Individuals who differ along measures of e.g. financial exposure likely differ along a range of unobservable characteristics. For instance, individuals who lost their jobs may be more exposed to the health risks of the pandemic than stockholders. Health risks, in turn, may only be imperfectly captured by the included controls for health exposure. That said, the relatively pronounced patterns by health exposure and the more mixed patterns by personal economic exposure are in line with concurrent evidence by Alsan et al. (2020) on individuals’ willingness to give up civil liberties in the context of the current pandemic.

Perceived costs and benefits of lockdown interventions  In addition to one’s personal exposure to the crisis, beliefs about the overall costs and benefits of shutdown measures may determine policy views. In the economic cost control group, a majority of 62 percent of respondents agree that a shutdown extension of six weeks would have negative net effects on the US economy. Agreement differs substantially across

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Additional survey items reveal that longer lockdown extensions are perceived as more negative for the US economy: While 52 percent perceive a two-weeks lockdown extension as strictly negative for the US economy, this number increases to 81 percent for a six-months extension. These patterns are in line with Coibion et al. (2020a), who document that households in early lockdown counties held more pessimistic expectations about unemployment up to 5 years after the onset of the pandemic compared to residents of late lockdown counties during the early stages of the pandemic, even conditional on infection numbers.
the political spectrum, ranging from 54 percent among Democrats to 73 percent among Republicans.\textsuperscript{19} These patterns are broadly in line with differences in support for NPIs across groups (Figure A.2). Also beliefs about the infectiousness and mortality of Covid-19, about the effectiveness of shutdown measures and about the risk of resurgence if measures were to be lifted, exhibit strong partisan gaps, in line with differences in support for NPIs (Figure A.3).

In a multivariate regression, a one standard deviation lower perceived economic cost of lockdown interventions is associated with a 13 days longer preferred shutdown length (Table 1\textit{Predictors of Demand for Policy Intervention.table.caption.25}, column 3), a 0.29 standard deviation higher demand for stricter regulations (column 6) and a 0.13 standard deviation stronger support of strict rule enforcement (column 9).\textsuperscript{20} Moreover, the $R^2$ increases considerably and the Democrat-Republican difference in support for NPIs shrinks by one fourth when we control for the perceived economic impact of lockdown interventions. This strong association between beliefs about the economic impact of NPIs and support for these interventions could be driven by a causal effect of beliefs. Alternatively, beliefs might be an outcome of policy views or correlated with those views due to other, unobserved factors. In the following, we rely on experimental evidence, which isolates the causal effect of beliefs on policy views.

\section{Causal Evidence}

\subsection{First-Stage and Reduced-Form Evidence}

In this section, we exploit the random treatment assignment to examine how perceived tradeoffs causally shape individuals’ demand for shutdown interventions. First, we employ the following specification to estimate the effect of the randomized treatment conditions on respondents’ perceptions of the costs and benefits of lockdown interventions:

\begin{align}
\text{Perceived econ. cost}_i &= \pi_0 + \pi_1 T_{\text{Cost}} + \pi_2 T_{\text{HighMort}} + \Theta' X_i + u_i \\
\text{Perc. magnitude mort. projections}_i &= \gamma_0 + \gamma_1 T_{\text{Cost}} + \gamma_2 T_{\text{HighMort}} + \Gamma' X_i + \eta_i
\end{align}

\textsuperscript{19} The difference in average agreement corresponds to 0.42 standard deviations. The Democrat-Republican difference in prior beliefs about the effect of city-level lockdowns during 1918 on unemployment rates in 1919 corresponds to only 0.07 standard deviations (p<0.01), but points in the same direction.

\textsuperscript{20} We do not include perceptions related to health benefits of shutdown measures in the correlational analysis since we only elicit such measures post-treatment and with respect to respondents’ assessment how the projections (that were provided to all participants) compared to their priors.
where the outcome variables of interest capture i) respondent i’s belief about the economic costs of lockdown measures during the coronavirus pandemic, and ii) the perceived order of magnitude of the projected mortality scenarios, respectively. $T_{i}^{Cost}$ is a dummy that takes the value one if respondent $i$ is randomly assigned to the economic cost treatment group. $T_{i}^{HighMort.}$ takes the value one if respondent $i$ is randomly assigned to the high mortality condition when choosing her individually preferred length of shutdown, and zero for the low mortality condition. We include a set of control variables $X_{i}$, which increases our effective power and controls for minor imbalances across treatment arms.\(^{21}\)

We apply the same specification to estimate reduced-form effects of the two treatment conditions on respondents’ policy views:

$$Policy\ Support_{i} = \alpha_{0} + \alpha_{1}T_{i}^{Cost} + \alpha_{2}T_{i}^{HighMort.} + \Pi'X_{i} + \nu_{i}\quad(2)$$

where $Policy\ Support_{i}$ stands for respondent $i$’s preferred level of government intervention. We run separate regressions using i) the respondent’s preferred shutdown length based on the scenarios, ii) her preferred strictness of lockdown interventions, and iii) her demand for a stricter enforcement of existing rules as the outcome of interest.

**First-stage effect of the economic cost treatment.** Before the treatment, more than 93 percent of the respondents over-estimate the negative effect of 1918 shutdown measures found in Correia et al. (2020) on the US economy in 1919, while 6 percent under-estimate it (Figure 2Prior Beliefs about the Economic Impact of Shutdowns in 1918. Distribution of beliefs about unemployment rate of “City B” in 1918, based on the prior belief elicitation of economic costs, shown in detail in part 2.1 of the instructions. The survey question informs respondents that during the 1918 influenza City A was under lockdown for 1 month and had an unemployment rate in the manufacturing sector of 7 percent by the end of the pandemic in 1919. They are then asked for their beliefs about the unemployment rate of City B, which was under lockdown in 1918 for 3 months. For the histogram, we top-coded prior beliefs at 30. (6 percent of respondents had a prior belief between 31 and 100.) The mean prior of 18 is based on the full distribution of prior beliefs. The treatment value, i.e. the information about the true unemployment

\(^{21}\) $X_{i}$ includes gender, prior beliefs about the economic costs of an extended lockdown in 1918, census region of residence, ten age groups, log household income, educational attainment (less than a High School degree, High School degree, some college, Associate degree, Bachelor degree, Postgraduate degree), employment status in January 2020 (employed, self-employed, unemployed, out of labor force) and political orientation (Democrat, Republican, Independent or “other”). All experimental results are robust to excluding $X_{i}$ (see Table A.4).
rate of City B in 1919 corresponds to 6 percent and implies a negative signal for more than 94 percent of our sample. Thus, the economic cost treatment represents an information shock in the direction of lower perceived costs of shutdown measures in 1918 for nearly the entire sample. In order to ensure monotonicity, we restrict our working sample for the causal analysis to those 94 percent of respondents for whom the information is not a negative update about the economic impact of a lockdown. All results are qualitatively and quantitatively similar using the full sample (Table A.5).

Panel A of Table 2Experimental Results: First-Stage, Reduced-Form and IV. confirms a strong first-stage effect of the economic cost treatment: Treated respondents, on average, hold 40 percent of a standard deviation more optimistic beliefs about the effect of a lockdown extension until the end of June (compared to the end of April) on the US economy, according to the survey item that does not specify a concrete time horizon. We also explore first-stage effects of the cost treatment on respondents’ beliefs about how the US economy one year from the survey time would be affected by shutdown extensions of different lengths. The treatment has the strongest impact on beliefs about the economic cost of a three-months shutdown extension, while perceived economic costs of a two-week extension are affected by only half as much (see Table A.6). Moreover, those exposed to the economic cost treatment expect an extension of the shutdown beyond mid-April by six more weeks to have a 0.08-0.1 standard deviation less negative effect on their own labor income, their total household income and their wealth (see Table A.7). These effects highlight that our respondents do not perceive economic effects of shutdowns to be perfectly compensated through fiscal stimulus payments. Overall, these results confirm that i) respondents update their beliefs about the effect of economic lockdowns in 1918, ii) they extrapolate to the costs of a lockdown in 2020 for the US economy, and iii) they also extrapolate to the economic outlook of their own household along various dimensions. There are no spillover effects of the economic cost treatment on respondents’ beliefs about the mortality and infectiousness of Covid-19, about the risk of resurgence if restrictions were to be lifted, or about the effectiveness of shutdown interventions (Table A.3).

**First-stage effect of the mortality treatment** Next, we test whether participants who are exposed to the high mortality condition perceive the projected number of deaths as higher than participants

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22 The fact that respondents see a significant correlation between the general economic situation and their personal economic outlook is in line with recent evidence by Roth and Wohlfart (2020). The pass-through from beliefs about the aggregate economy to beliefs about one’s own household is naturally smaller than one (one fifth in our context), as idiosyncratic risks tend to play an important role for households’ (beliefs about their) incomes.
exposed to the low mortality condition. We find a 0.4 standard deviations differential effect of the “high mortality” compared to the “low mortality” condition on these perceptions (Table 2 Experimental Results: First-Stage, Reduced-Form and IV. table caption.26, Panel A, column 2), confirming that respondents, on average, are able to interpret high orders of magnitude of projected fatalities. One potential caveat concerning the survey item we employ is that respondents might interpret the qualitative answer scale differently depending on the treatment arm they are assigned to, i.e. a similar absolute deviation between the projected number of deaths and the respondent’s own belief about the number of future fatalities might be perceived as larger in the “low mortality” condition than in the “high mortality” condition. In Appendix H, we demonstrate that this concern seems to be of minor empirical importance. Nevertheless, the exact order of magnitude of the estimated first-stage effect should be interpreted cautiously.

**Treatment effects on policy views** If individuals weigh economic costs of lockdown interventions against the potential number of lives saved when forming their policy views, we would expect the economic cost treatment to increase support for longer lockdown durations, more stringent social distancing rules and possibly also stricter rule enforcement. Similarly, we would expect respondents to choose a longer preferred lockdown period in the projected scenarios when those scenarios assume a higher number of deaths (respectively lives saved through lockdowns) in the high mortality condition. Note that we do not expect the mortality treatment to impact preferences for strengthening measures or enhancing enforcement because the differential model-based fatality projections only refer to the shutdown length item and, in fact, do not shift beliefs about the actual mortality or infectiousness of Covid-19 (see Table A.3), i.e. respondents understood the differential scenarios as hypothetical.

In line with utilitarian concerns, respondents previously exposed to the economic cost treatment (the high mortality condition) on average prefer shutdown measures to last six (four) days longer, based on the fatality projections they are exposed to (Table 2 Experimental Results: First-Stage, Reduced-Form and IV. table caption.26, Panel B, column 1). The economic cost treatment also increases support for strengthening current shutdown measures by 0.15 of a standard deviation. However, views on how severely violations of rules should be punished seem to be unrelated to cost-benefit considerations (column 3). As expected, the mortality treatment has no effect on the latter two outcome measures, in line with respondents understanding the assumption-based nature of the differential projections of lives saved across the two conditions in the previous shutdown length item.
4.2 Two-Stage-Least-Squares Regressions

To gain a better understanding of the extent to which cost-benefit considerations affect the preferred duration and intensity of lockdown interventions, we scale the reduced-form effects of our two treatments by the first-stage effects on respondents’ perceptions in a 2SLS framework. We estimate the following equations:

1st Stage: Perceived econ. cost $i$ = $\pi_0 + \pi_1 T_{i}^{\text{Cost}} + \pi_2 T_{i}^{\text{HighMort.}} + \Theta' X_i + u_i$

Perc. magnitude mort. projections $i$ = $\gamma_0 + \gamma_1 T_{i}^{\text{Cost}} + \gamma_2 T_{i}^{\text{HighMort.}} + \Gamma' X_i + \eta_i$

2nd Stage: Policy Support $i$ = $\beta_0 + \beta_1 \widehat{\text{Perc. econ. cost}}_i + \beta_2 \widehat{\text{Perc. magnitude mort. projection}}_i + \delta' X_i + \epsilon_i$ (3)

In the case of the economic cost treatment, the 2SLS framework adjusts for the fact that respondents i) may only partially update about the effect of lockdown interventions on the economic situation in 1919, and ii) may only partly extrapolate from the situation in 1919 to today’s economic costs of a lockdown. For the mortality treatment, it adjusts for the fact i) that respondents may not be fully attentive to the survey, and ii) that they may have difficulties in interpreting very high orders of magnitude of projected fatalities. Thus, our IV estimates identify the local average treatment effect (LATE) of perceived economic costs and health benefits of shutdowns interventions on demand for such interventions among the compliant subpopulation of individuals who change their perceptions in response to the randomized treatments. Our estimates cannot speak to the effects of beliefs on policy views among those whose perceptions are not changed through the respective intervention.

Given potential side-effects of receiving information, our IV approach should be carefully interpreted as a scaling exercise to put our reduced-form treatment effects in relation to first-stage changes in beliefs (Haaland et al., 2020). According to our IV estimates, a one standard deviation more optimistic

23 One factor that could potentially influence the size of the first-stage treatment effects are respondents’ beliefs about how well changes in unemployment rates in 1918 reflect changes in the broader economic situation of cities with differential lockdown length. For instance, the survey did not fix beliefs about labor force exits in City A and City B, which have been shown to be an important factor in the labor market impact during the current pandemic (Coibion et al., 2020b). The survey item used for our first stage unambiguously refers to the broader situation of the economy, so our 2SLS specifications adjust for such factors that might lead to less belief updating in the first stage.

24 Appendix E provides a more detailed discussion of the IV assumptions. In addition, the concern that respondents in the two mortality arms may have interpreted the response scale for the corresponding first-stage survey item differently indicates that the exact magnitude of the corresponding 2SLS estimates should be interpreted cautiously. In Appendix H, we show that this concern is likely of minor importance.
belief about the economic impact of a lockdown increases the preferred lockdown length by 13 days (0.44 months) and the demand for stricter regulation by 0.2 standard deviations (Panel C of Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26, columns 1 and 2). Similarly, a one standard deviation higher perception of the number of deaths projected in the model-based fatality scenarios increases the preferred lockdown length based on these scenarios by approximately 11 days (0.38 months). Based on the IV scaling exercise, the effects of a one standard deviation lower belief about the economic costs or a one standard deviation higher perceived health benefit of a shutdown correspond to between 140 percent and 260 percent of the effect of having at least one pre-existing health condition that increases the risk of a severe Covid-19 illness on policy demand.

The estimated causal effects of perceived economic costs on policy demand are similar in size to the correlational estimates presented in Table 1Predictors of Demand for Policy Intervention.table.caption.25 for respondents’ preferred shutdown length and preferred strictness of policy interventions. In contrast, the correlation between perceived economic costs of shutdown interventions and respondents’ demand for stricter punishment of rule violations is significantly negative (Table 1Predictors of Demand for Policy Intervention.table.caption.25, column 9), while the causal effect is smaller and insignificant (Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26, Panel C, column 3). The larger OLS estimate could be due to reverse causality, i.e. individuals who are in favor of stricter punishment of rule violations might “justify” these preferences by reporting lower perceived economic costs of shutdown rules. Alternatively, omitted variables could drive the significant OLS estimate. For instance, a general aversion towards government intervention could be negatively correlated with preferences over the strictness of rule enforcement and positively with the perceived economic costs of policy intervention. A third potential explanation could be that the elasticity of policy demand of the compliant subpopulation in the IV estimations differs from that of the average respondent. While we cannot test this possibility directly, it seems unlikely: As we demonstrate in the next Section 4.3The Role of Cost-Benefit Tradeoffs across Subgroupssubsection.4.3, our compliant subpopulation represents broad subsets of the population in terms of personal exposure to the pandemic, age as well as political orientation.

Finally, we examine how perceived economic costs and projected health benefits interact in shaping the demand for shutdown interventions. In Table A.8, we add an interaction term for the two treatment conditions to our baseline specification. While the first-stage effects are independent of each other (Panel
A), we find a marginally significant negative interaction effect on the preferred shutdown length in the reduced-form regression. One interpretation is that individuals place less weight on economic costs when more lives are (assumed to be) at stake. Alternatively, the negative interaction effect could be driven by the fact that in the high mortality condition a higher share of respondents prefer the longest possible shutdown length, which could reduce the scope for a change in policy views.

Taken together, our findings imply that people are highly responsive to perceived trade-offs between economic costs and health benefits when forming their policy views in the context of a major public health crisis. This holds true even when they perceive policy interventions as costly for their personal economic situation. While our experiment cannot speak to the relative importance of beliefs about economic costs for the individual’s household vs. for society as a whole in driving policy demand, a purely correlational exercise suggests an important role for beliefs about costs to society (Table A.9).

### 4.3 The Role of Cost-Benefit Tradeoffs across Subgroups

Are cost-benefit considerations equally important across groups? In this section, we examine whether elasticities of demand for shutdown measures differ across the political spectrum and across groups with different exposure to the crisis.

**Personal exposure to health risks** On average, individuals show a high willingness to trade off perceived public health benefits against perceived economic benefits. But does this willingness extend to one’s personal health, or are individuals more reluctant to implicitly put a price on health benefits when their own health is at stake? To shed light on this question, we split our sample by two measures of exposure to the health risks of the pandemic: the presence of chronic at-risk conditions in the respondent’s close family and the respondent’s anticipated likelihood that someone in the family (including the respondent) will need hospital care unrelated to Covid-19 in the coming months. Panels A of Tables 3Heterogeneity by Anticipated Need for Hospital Care and 4Heterogeneity by the Number of Covid At-Risk Conditions present first-stage effects of the two treatments on the perceived costs and benefits of lockdown interventions across groups with differential health exposure. There is no significant heterogeneity in the first-stage effects of the economic cost treatment or the mortality treatment between respondents with or without a Covid-at-risk condition in the family (Table 4Heterogeneity by the Number of Covid At-Risk Condition, Panel A). Those
with the highest anticipated need for hospital care update less from the economic cost treatment than those with the lowest anticipated need \((p<0.1\text{, Table 3Heterogeneity by Anticipated Need for Hospital Care}\)\). They also perceive a somewhat smaller difference in the magnitude of the projected numbers of lives saved between the two mortality arms, although the difference is more noisily measured \((p=0.18\)).

Panels B and C present heterogeneity in reduced-form and 2SLS estimates of effects on policy demand. The effect of the perceived number of lives saved on preferred shutdown length in the projected scenarios is strong for individuals in the bottom two terciles in terms of anticipated demand for hospital care, and zero for those in the highest tercile \((p\text{-value of the difference between highest and lowest tercile: } p < 0.1\text{)}\) (Table 3Heterogeneity by Anticipated Need for Hospital Care\). There is no strong pattern according to the presence of a chronic at-risk condition in the family (Table 4Heterogeneity by the Number of Covid At-Risk Conditions\), while the effects are small and mostly statistically insignificant among those with the highest health exposure.\(^{25}\) The difference in effect sizes is statistically significant for the demand for stricter measures when using Covid at-risk conditions in the family as proxy for health exposure \((p<0.05\text{, Table 4Heterogeneity by the Number of Covid At-Risk Conditions}\)\), and more noisily measured otherwise.

Taken together, although the differences are sometimes insignificant, the high average estimated elasticity of demand for NPIs to cost-benefit considerations seems to be driven by individuals without a high personal exposure to the health risks of the pandemic. These patterns are in line with the idea that those who take cost-benefit considerations into account are those who do not have high personal stakes in terms of their own or their family’s health. Individuals who are constrained by health-related needs have rather inelastic attitudes towards government intervention and favor intensities and durations of lockdown measures that are in line with their immediate personal constraints (see also Figures A.4 and A.5).

\(^{25}\text{Table A.11 in the Appendix demonstrates robustness to splitting the sample into quartiles instead of terciles of anticipated need for hospital care.}\)
Another commonly used proxy for individuals’ vulnerability to Covid-19 or to health problems more generally is age. Perhaps surprisingly, we find that the effects of both treatments are driven by those aged 35 and older, whereas the policy demand of 18-34 year-olds is high at baseline and inelastic to cost-benefit concerns (see Table A.10). These findings suggest that age does not primarily capture health exposure to the pandemic (which seems to reduce the importance of perceived trade-offs). Rather, it seems that older individuals are more “pragmatic” and take cost-benefit considerations into account whereas the young are possibly more “idealistic” and accept longer shutdown lengths and stricter interventions even when the price is perceived as high (Figure A.6).

Similar to personal health exposure to the pandemic, a high personal economic exposure could mitigate individuals’ responsiveness to cost-benefit concerns. However, as discussed in Appendix F, personal exposure to the economic repercussions of the crisis seems to play a less systematic role in shaping responsiveness to cost-benefit considerations.

Political orientation Studies in the context of redistribution and equality of opportunity policies have established that Republicans’ policy preferences are often inelastic to beliefs about relevant facts, such as the perceived extent of inequality (Alesina et al., 2018; Haaland and Roth, 2019; Settele, 2021). Partisan gaps in beliefs related to the pandemic (Allcott et al., 2020b) suggest that similar patterns might apply to the elasticity of policy demand to cost-benefit concerns in the context of the Covid-19 pandemic. However, both treatments have quantitatively similar effects across the political spectrum (Table 5Cost-benefit considerations by political affiliation table.caption.29 and Figure A.7). In the first stage, Democrats and Republicans update their beliefs about the economic costs of a lockdown in 2020 to a similar extent in response to the cost treatment (Panel A, columns 1-3).26 Similarly, respondents across the political spectrum report higher perceived orders of magnitude of projected fatalities when exposed to the high as compared to the low mortality condition (columns 4-6).

Based on reduced-form regressions, the economic cost treatment increases both preferred shutdown length and the preferred strictness of measures more generally among respondents across the political

26In Appendix Table A.12, we show that individuals across the political spectrum also extrapolate to a similar degree from the impact of lockdowns on the US economy to the impact on their personal labor income, total household income and wealth.
spectrum (Panel B). Being exposed to the high mortality condition significantly increases preferred shutdown length among Democrats by 0.22 months (column 1). The effect on Republican respondents is statistically similar, although smaller in magnitude and noisily measured (column 3).

In Panel C we again use a 2SLS framework to scale the reduced-form by the first-stage effects. A one standard deviation increase in beliefs about the economic costs of a lockdown leads to a 0.33 months reduction in preferred shutdown length among Democrats and to a 0.52 months reduction among Republicans, corresponding to 0.19 and 0.3 standard deviations, respectively (p-value of the difference: 0.33). A one standard deviation higher belief also increases the demand for stricter interventions by 0.17 and by 0.25 standard deviations among Democrats and among Republicans, respectively (p-value of the difference: 0.46). Finally, a one standard deviation larger perceived magnitude of projected Covid-19 fatalities increases the preferred shutdown duration by 0.52 months and by 0.34 months among Democrats and Republicans, respectively (p-value of the difference: 0.42). These results highlight that, in the context of the early Covid-19 pandemic, Democrats and Republicans are similarly responsive to cost-benefit concerns about shutdown measures when forming their demand for such interventions.  

In Section 3Descriptive Evidencesection.3 we report strong baseline partisan differences in support for shutdown interventions and beliefs about the economic impact of lockdowns. But can differences in beliefs causally account for partisan differences in policy views? Having established a uniform effect of beliefs on policy demand across the political spectrum, we conduct a back-of-the envelope calculation to study the extent to which differences in beliefs can causally account for the partisan difference in policy views. This exercise suggests that, if Democrats and Republicans fully agreed on the economic impact of lockdown interventions, the partisan gap in policy demand would shrink by a considerable 20 percent compared to the status quo (see Appendix G for details). Thus, our results suggest that Democrats and Republicans hold different policy views at least partially because of disparate beliefs about relevant facts. Partisan differences in beliefs, in turn, may be the result of exposure to different sources of information (Allcott et al., 2020b; Bursztyn et al., 2020).
4.4 Robustness and Additional Evidence

In this section we discuss a number of concerns related to our experimental evidence and present additional results to highlight the robustness of our findings.

**Role of prior beliefs** To better understand the mechanisms through which information on shutdowns in 1918 affects outcomes, we explore heterogeneity in the effect of the economic cost treatment according to respondents’ prior beliefs about the unemployment rate in City B after the 1918 pandemic. If treatment effects at least partially operate through genuine changes in beliefs rather than e.g. priming effects, we would expect those respondents whose prior beliefs about the unemployment rate in City B after the 1918 pandemic deviate more from the treatment information of 6 percent to respond more strongly to the information (Haaland et al., 2020).

To explore this hypothesis, we group our respondents into i) those who receive a very large information shock towards a lower unemployment rate in City B (defined as those with prior beliefs of 15 percent or more), ii) those who receive a directionally similar but smaller information shock (with prior beliefs between 7 and 14 percent), and iii) those who receive an information shock towards a higher unemployment rate in City B (prior beliefs of 5 percent or less) or whose prior beliefs are confirmed (prior beliefs of exactly 6 percent). As expected, those in group i) update most strongly towards a lower economic cost of lockdown interventions today, followed by those in group ii) (Table 6Heterogeneity by Prior Beliefs about the Economic Impact of a Lockdown table.caption.30, Panel A, columns 1 and 2). The estimated first-stage effect is smallest for those in group iii) (column 3), even though the difference to the other two groups is noisily measured, possibly because of the small size of group iii). These first-stage patterns translate into similar (more noisily measured) heterogeneity in reduced-form effects on policy preferences (Panel B). Once we adjust for differential first-stage updating across groups with different prior beliefs, we find no evidence of a differential elasticity of policy views to a given change in beliefs (Panel C). Taken together, the fact that updating of beliefs in the first stage is strongest for those whose prior beliefs are the furthest away from the information suggests an important role for genuine changes in beliefs in driving our estimated treatment effects (Haaland et al., 2020).

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28 The fact that we also find some updating towards smaller economic costs of lockdowns among those in group iii) may seem surprising. However, this type of pattern is not uncommon in experimental designs that compare a treatment group to a pure control group and may, for instance, be driven by the fact that the treatment makes potential economic benefits of lockdowns salient or the fact that prior beliefs are measured with error, making the sample splits less meaningful (Haaland et al., 2020). Moreover, note that the first-stage F-stat indicates weak instrument problems, warranting an overall careful interpretation of results for subgroup iii).
In additional, unreported regressions we found that prior beliefs about the unemployment rate of City B in 1919 are significantly correlated with posterior beliefs about the economic impact of lockdowns during the Covid-19 pandemic. The correlation is smaller in size in the treatment group, although the difference to the effect in the control group is noisily measured. This suggests that respondents partially update their beliefs towards the treatment information while putting positive weight on their prior beliefs.

**Temporally vs. permanently saved lives**  A fraction of our respondents could believe that the lives saved until December 2020 in the survey item eliciting preferred shutdown length are only temporarily saved, and that overall mortality does not differ between the high and the low mortality arm, which would lower the difference in average perceived benefits of shutdown interventions across the two arms. This would imply that our estimated elasticity of policy demand reported in Panel C of Table 2 Experimental Results: First-Stage, Reduced-Form and IV. constitutes a lower bound for the elasticity of policy demand to the perceived number of permanently saved lives.

**Economic vs. welfare costs of shutdown interventions**  There may be a less than one-to-one mapping from respondents’ perceived economic costs as captured by our first-stage survey item to respondents’ perceived ultimate economic welfare costs of shutdown interventions. For instance, respondents could believe in a compensating role of fiscal stimulus payments, which may not be fully captured by our measured first-stage updating. In this case, our estimates of the elasticity of policy views to economic costs of lockdowns would have to be interpreted as a lower bound on the elasticity of policy views to economic welfare costs of lockdowns.

**Other robustness exercises and additional evidence**  In Appendix H, we provide an additional discussion of the robustness of our findings. Specifically, we i) discuss why experimenter demand effects are likely of limited importance and provide related empirical evidence, ii) address the concern that respondents in the different mortality arms may have interpreted the scale of the corresponding first-stage survey item differently, and iii) discuss issues related to the lack of pre-registration of our study. Finally, Appendix I provides additional evidence suggesting that differences in policy views related to the pandemic across states are associated with differences in voting during the 2020 presidential election.

Note that with the term economic welfare costs we exclusively refer to economic welfare, as opposed to the full welfare effects which also account for e.g. health benefits.
5 Discussion

Our results highlight that perceived trade-offs between (economic) costs and (health) benefits of lockdown interventions play an important causal role in shaping people’s demand for such interventions. This role is substantial in magnitude and similar across the political spectrum, which is striking against the backdrop of related literature: Previous studies have found policy preferences to be difficult to move, even when beliefs about the underlying state of the world are elastic (Kuziemko et al., 2015; Haaland and Roth, 2019; Settele, 2021); and in some contexts policy views are altogether unrelated to beliefs about relevant facts (Cappelen et al., 2019). Moreover, Republicans’ policy views appear less elastic to factual information in a number of contexts, such as social mobility, racial discrimination and gender differences in wages (Alesina et al., 2018; Haaland and Roth, 2019; Settele, 2021). Democrats demand higher levels of government intervention at baseline and are more responsive to concerns related to inequality — i.e. estimated effects often resemble patterns of “Preaching to the choir versus preaching to the deaf” (Alesina et al., 2018).  

Our finding that public demand for shutdown interventions during the early pandemic appears highly responsive to information — irrespective of political affiliation — contrasts with this literature. Several factors may be driving this notable pattern: First, Covid-19 has emerged as a new topic that is associated with a high degree of uncertainty, especially during the early stage of the pandemic. We believe that this factor is unlikely to explain our large homogeneous treatment effects. In our 2SLS specifications we adjust for respondents’ strong first-stage updating in response to information, i.e. we account for uncertainty about the trade-off between costs and benefits of lockdown interventions, and still find substantial effects of perceived trade-offs on policy demand.  

Second, political narratives with respect to the pandemic were only starting to emerge at the time of data collection, which might have mitigated the role of ideology and partisan thinking in shaping policy views during the early stages of the pandemic, leaving more scope for information to change minds.  

Third, and relatedly, our context is one of perceived trade-offs between human lives and economic costs. In contrast, many previous studies focus on contexts related to fairness concerns and policies aimed at promoting equality of opportunity or reducing income disparities — domains which are only relevant

\[^{30}\text{A series of related papers document motivated information processing (Thaler, 2020; Fryer et al., 2019; Taber and Lodge, 2006) in a broad range of domains, i.e. individuals tend to place more weight on information that supports their prior (political) convictions and are more willing to adjust their policy views to information that supports their underlying preferences (Alesina et al., 2018; Haaland and Roth, 2019).}\]
for individuals who think of inequality as a problem. It seems likely that trade-offs between human lives and economic costs are perceived as important by a broader share of individuals, and across the political spectrum.

Taken together, both a minor role for ideological concerns and a high perceived importance of the topic seem plausible explanations for the large role of cost-benefit concerns across the political spectrum. More research from different contexts is needed to gain a better understanding of the roles of these factors in determining the elasticity of people’s policy demand to beliefs about relevant facts.

6 Conclusion

When asked directly, many people would consider it a-moral to put a price on human lives. Yet, governments consider the economic costs and health benefits of policy measures on a day-to-day basis, for instance when deciding on the amount of resources dedicated to public health. We study the role of cost-benefit considerations in shaping individual views on public health measures in the context of a major public health crisis – the early Covid-19 pandemic. Using a survey experiment with a representative sample from the US, we show that individual support for shutdown policies is highly elastic to the perceived economic costs and health benefits of such measures, despite the morally and emotionally charged context.

Our results suggest that transparent communication of costs and benefits can substantially shape the acceptance of policy interventions during a public health crisis. This insight has major implications for policymakers trying to manage future public health crises. At a more general level, our results suggest that voters are prepared to take a pragmatic view in the context of policies that are perceived to involve trade-offs between economic and health benefits.

The results documented in this paper are subject to a number of limitations. Specifically, our experiment allows us to study the effect of cost-benefit concerns on policy views in a controlled environment. In the real world, individuals will encounter information in various forms, such as information communicated through politicians, the media or peers. Evidence from other setups is needed to understand the role of the source of belief changes for the ultimate effect of perceived trade-offs on policy views. Moreover, it is an open question to what extent perceived trade-offs between economic and non-economic concerns ultimately affect voting decisions, which arguably result from multidimensional considerations.
Finally, our results from the context of a major public health crisis speak to the broader question to what extent individuals’ views on health policies are elastic to cost-benefit concerns. Future research should examine the role of perceived trade-offs in individual demand for health policies in other contexts, such as the public funding of cancer screenings or costly life-prolonging measures.
Main Figures and Tables

Figure 1: Outline of survey experiment
Figure 2: Prior Beliefs about the Economic Impact of Shutdowns in 1918. Distribution of beliefs about unemployment rate of "City B" in 1918, based on the prior belief elicitation of economic costs, shown in detail in part 2.1 of the instructions. The survey question informs respondents that during the 1918 influenza City A was under lockdown for 1 month and had an unemployment rate in the manufacturing sector of 7 percent by the end of the pandemic in 1919. They are then asked for their beliefs about the unemployment rate of City B, which was under lockdown in 1918 for 3 months. For the histogram, we top-coded prior beliefs at 30. (6 percent of respondents had a prior belief between 31 and 100.) The mean prior of 18 is based on the full distribution of prior beliefs. The treatment value, i.e. the information about the true unemployment rate of City B in 1919 corresponds to 6 percent and implies a negative signal for more than 94 percent of our sample.
Table 1: Predictors of Demand for Policy Intervention.

|                      | Preferred shutdown length in scenarios (months) | Preference for stricter measures (z-scored) | Preference for stricter rule enforcement (z-scored) |
|----------------------|-----------------------------------------------|--------------------------------------------|--------------------------------------------------|
|                      | (1)                                           | (2)                                        | (3)                                              |
| Democrat             | 0.828***                                      | 0.811***                                   | 0.616***                                         |
|                      | (0.062)                                       | (0.062)                                    | (0.062)                                          |
| Female               | 0.256***                                      | 0.248***                                   | 0.239***                                         |
|                      | (0.053)                                       | (0.053)                                    | (0.052)                                          |
| Age 35-64            | -0.076                                        | -0.091                                     | -0.049                                           |
|                      | (0.062)                                       | (0.062)                                    | (0.060)                                          |
| Age 65+              | -0.210***                                     | -0.226***                                  | -0.203***                                        |
|                      | (0.083)                                       | (0.084)                                    | (0.082)                                          |
| Covid at-risk conditions in the family (1+) | 0.204***                                     | 0.171***                                   | 0.157***                                         |
|                      | (0.055)                                       | (0.053)                                    | (0.053)                                          |
| Other anticipated need for hospital care (highest tercile) | 0.117*                                       | 0.135**                                    | 0.064**                                          |
|                      | (0.064)                                       | (0.062)                                    | (0.035)                                          |
| Stocks               | -0.144**                                      | -0.133**                                   | -0.041                                           |
|                      | (0.057)                                       | (0.055)                                    | (0.032)                                          |
| Income loss          | -0.188***                                     | -0.157***                                  | -0.008                                           |
|                      | (0.058)                                       | (0.056)                                    | (0.033)                                          |
| Job loss             | 0.021                                         | 0.043                                      | 0.024                                            |
|                      | (0.080)                                       | (0.077)                                    | (0.032)                                          |
| Perceived econ. costs (z-scored) | -0.437***                                     | -0.285***                                  | -0.128***                                        |
|                      | (0.026)                                       | (0.015)                                    | (0.016)                                          |
| R²                   | .06                                           | .07                                        | .12                                              |
| Observations         | 4475                                          | 4475                                       | 4475                                             |

Notes: Sample based on the economic cost control group. The outcome in columns 1-3 is based on the respondent’s preferred shutdown length based on projections of shutdown lengths in months to Covid-19 fatalities within 2020. The outcome in columns 4-6 (7-9) is based on self-reported preferences for stricter social distancing measures (a stricter financial punishment of rule violations) on qualitative scales. Outcomes in columns 4 to 9 are standardized using the mean and standard deviation in the economic cost control group. Covid at-risk conditions in the family is a dummy taking the value one if the respondent reports at least one chronic health condition that increases the risk of a severe course of Covid-19 in the family, such as asthma, severe obesity, or diabetes (61 percent of the sample). Other anticipated need for hospital care is based on a survey question asking respondents for the likelihood, on a scale from 0 to 10, that someone in their close family will need hospital care unrelated to Covid-19 in the coming six months. The variable is a dummy which takes the value one for respondents who chose a value between 6 and 10 on the original scale (23 percent of the sample), and zero otherwise. Stocks is a dummy that takes the value one if the respondent holds any stocks or stock mutual funds (50 percent of the sample). Income loss is based on a survey question asking respondents if their current total net income from all members of the household was higher or lower than what they had expected at the beginning of the year on a five-point scale. The variable is a dummy taking the value one for those with a (much) lower than expected income (38 percent of the sample). Job loss is a dummy that takes on the value one for those respondents who have been laid off, at the survey time, on account of the coronavirus outbreak (18 percent). In addition to the reported coefficients, all regressions include regional dummies, labor market status as of January 2020, a dummy for rural zip code, log household income in 2019, educational attainment (less than high school degree, high school or equivalent, some college, Associate’s degree, Bachelor’s degree, post-graduate degree), Independent and “other” political orientation, i.e. the omitted group is Republican. The omitted age group is 18-34. Columns 2, 3, 5, 6, 8 and 9 also control for two dummies that take the value one whenever “Other anticipated need for hospital care” or “job loss” is missing. Robust standard errors are in parenthesis. *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent level, respectively.
7 Supplementary data

The data and codes for this paper are available on the Journal repository. They were checked for their ability to reproduce the results presented in the paper. The replication package for this paper is available at the following address: https://doi.org/10.5281/zenodo.5458940

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| Panel A: First Stage | Panel B: Reduced Form | Panel C: 2SLS |
|---------------------|----------------------|--------------|
| **Cost Treatment**  | **Cost Treatment**   | **Perceived econ. cost** |
| -0.440*** (0.021)   | 0.201*** (0.038)     | -0.440*** (0.084) |
| **Mortality Treatment** | 0.145*** (0.038)     | **Perceived magnitude of mortality projections** |
| -0.015 (0.021)      | 0.095*** (0.021)     | 0.377*** (0.091) |
| **First-stage F-stat** | 212.26 (0.021)       | 0.095*** (0.046) |
|                     | 181.03 (0.021)       | -0.218*** (0.046) |

| Preferred shutdown length in scenarios (months) | Preference for stricter measures (z-scored) | Preference for stricter rule enforcement (z-scored) |
|-----------------------------------------------|---------------------------------------------|--------------------------------------------------|
| (1)                                           | (2)                                         | (3)                                              |

**Notes:** Results are based on the full sample less individuals with prior beliefs about the impact of 1918 shutdown measures corresponding to an unemployment rate of City B of 5 percent or lower (6 percent of observations). Panel A presents first-stage effects of the economic cost treatment and the high mortality condition following specification 1First-Stage and Reduced-Form Evidence equation.4.1. The outcome in column 1 is based on a survey item eliciting respondents’ beliefs about the economic impact of extending the April lockdown in the US until the end of June on a qualitative five-point scale. It is z-scored based on the economic cost control group. In column 2 the outcome is based on an item asking respondents whether the projected order of magnitude of fatalities in the absence of a lockdown is higher or lower than what the respondent expected prior to taking the survey, based on a qualitative 7-point scale. It is z-scored based on the economic cost control group. Cost Treatment is a dummy that takes the value one for those exposed to the economic cost treatment and zero otherwise. Mortality Treatment is a dummy that takes the value one (zero) for those exposed to relatively high (low) Covid-19 fatality projections. Panel B follows specification 2First-Stage and Reduced-Form Evidence equation.4.2 and Panel C presents results from the 2SLS specification in equation 3Two-Stage-Least-Squares Regression equation.4.3. The outcomes in both panels correspond to the respondents’ choice between model-based projections mapping shutdown lengths in months to projected Covid-19 fatalities within 2020 (column 1), self-reported preferences for stricter social distancing measures (column 2) and for a stricter financial punishment of rule violations (column 3). In Panel C, the estimated IV coefficient Perceived econ. cost can be interpreted as the effect of a one s.d. higher belief about the economic cost of a lockdown. The estimated coefficient Perceived magnitude of mortality projections can be interpreted as the effect of a one s.d. higher perceived order of magnitude of the fatality projections. In addition to the reported coefficients, all regressions include controls for Census region, age group, log household income in 2019, educational attainment, political orientation, labor market status in January 2020 and prior beliefs about the economic impact of shutdown measures in 1918. Robust standard errors are in parenthesis. *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent level, respectively.
Table 3: Heterogeneity by Anticipated Need for Hospital Care

| Panel A: First Stage | Perceived economic costs (z-scored) | Perceived magnitude of mortality projections (z-scored) | P-values |
|----------------------|------------------------------------|--------------------------------------------------------|----------|
|                      | Low (1) | Medium (2) | High (3) | Low (4) | Medium (5) | High (6) | (1=3) (4=6) |
| Cost Treatment       | -0.486*** (0.038) | -0.436*** (0.032) | -0.385*** (0.045) | 0.026 (0.037) | -0.011 (0.032) | 0.052 (0.045) | 0.087 |
| Mortality Treatment  | -0.018 (0.032) | 0.006 (0.046) | 0.062 (0.037) | 0.424*** (0.032) | 0.408*** (0.045) | 0.344*** (0.045) | 0.174 |
| First-stage F-Stat.  | 83.54 | 90.59 | 36.47 | 64.041 | 81.46 | 29.69 |

| Panel B: Reduced Form | Preferred shutdown length in scenarios (months) | Preference for stricter measures (z-scored) | P-values |
|----------------------|-------------------------------------------------|------------------------------------------|----------|
|                      | Low (1) | Medium (2) | High (3) | Low (4) | Medium (5) | High (6) | (1=3) (4=6) |
| Cost Treatment       | 0.272*** (0.069) | 0.213*** (0.057) | 0.135* (0.078) | 0.133*** (0.038) | 0.105*** (0.032) | 0.039 (0.044) | 0.187 | 0.106 |
| Mortality Treatment  | 0.238*** (0.069) | 0.216*** (0.057) | 0.002 (0.079) | 0.066* (0.038) | 0.026 (0.034) | -0.034 (0.045) | 0.024 |

| Panel C: 2SLS | Perceived econ. cost | Perceived magnitude of mortality projections | P-values |
|---------------|----------------------|---------------------------------------------|----------|
|               | Low (1) | Medium (2) | High (3) | Low (1) | Medium (2) | High (3) | Low (1) | Medium (2) | High (3) | (1=3) (4=6) |
| Cost Treatment | -0.531*** (0.136) | -0.502*** (0.130) | -0.341* (0.194) | -0.206*** (0.073) | -0.244*** (0.069) | -0.111 (0.112) | 0.421 | 0.246 |
| Mortality Treatment | 0.539*** (0.155) | 0.536*** (0.138) | 0.006 (0.218) | 0.144* (0.084) | 0.068 (0.074) | -0.077 (0.127) | 0.078 |
| Observations   | 2738 | 3427 | 1914 | 2738 | 3427 | 1914 |

Notes: This table shows heterogeneous treatment effects by the respondent’s anticipated need for hospital care that is not related to Covid-19. Results are based on the full sample less individuals with prior beliefs about the impact of 1918 shutdown measures corresponding to an unemployment rate of City B of 5 percent or lower (6 percent of observations). Anticipated need for hospital care is based on the following survey item: “On a scale from 0 (very unlikely) to 10 (very likely), how likely is it that you or somebody in your close family will need hospital services NOT related to Covid-19 in the coming six months?” Columns 1 and 4 are based on respondents who chose 0 or 1 as their response (34 percent), columns 2 and 5 on respondents who chose a number between 2 and 5 (42 percent), and columns 3 and 6 on respondents who chose 6 or higher as their response (24 percent). Due to a bug in the survey, the variable was not recorded for less than three percent of the sample. Panel A presents first-stage effects of the economic cost treatment and the high mortality condition following specification 1First-Stage and Reduced-Form Evidence equation.4.1. (For a description of the dependent variables, see the notes to Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26.) Panel B follows specification 2First-Stage and Reduced-Form Evidence equation.4.2. The outcomes correspond to the respondents’ choice between model-based projections mapping shutdown lengths in months to projected Covid-19 fatalities within 2020 (columns 1-3) and (z-scored) self-reported preferences for stricter social distancing measures (columns 4-6). Panel C presents results from the 2SLS specification in equation 3Two-Stage-Least-Squares Regression equation.4.3 applied to split samples. The estimated coefficient $\hat{Perceived}$ economic cost can be interpreted as the effect of a one s.d. higher belief about the economic cost of a lockdown on the outcome. In addition to the reported coefficients, all regressions include controls for Census region, age group, log household income in 2019, educational attainment, political orientation, labor market status in January 2020 and prior beliefs about the economic impact of shutdown measures in 1918. Robust standard errors are in parenthesis. *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent level, respectively.
Table 4: Heterogeneity by the Number of Covid At-Risk Conditions

|                    | Perceived economic costs (z-scored) | Perceived magnitude of mortality projections (z-scored) | P-values |
|--------------------|-------------------------------------|--------------------------------------------------------|----------|
|                    | Low (1) | Medium (2) | High (3) | Low (4) | Medium (5) | High (6) | (1=3) | (4=6) |
| Cost Treatment     |         |            |          |         |            |          |        |       |
|                    | -0.448*** | -0.396*** | -0.482*** | 0.018 | 0.025 | 0.010 | 0.538 |
|                    | (0.034) | (0.036) | (0.043) | (0.034) | (0.035) | (0.044) |        |       |
| Mortality Treatment| 0.049 | -0.045 | 0.064 | 0.424*** | 0.337*** | 0.460*** | 0.509 |
|                    | (0.034) | (0.036) | (0.043) | (0.034) | (0.035) | (0.044) |        |       |
| First-stage F-Stat.| 86.45 | 62.83 | 63.89 | 78.33 | 47.16 | 55.77 |        |       |

|                    | Preferred shutdown length in scenarios (months) | Preference for stricter measures (z-scored) | P-values |
|--------------------|-------------------------------------------------|---------------------------------------------|----------|
|                    | Low (1) | Medium (2) | High (3) | Low (4) | Medium (5) | High (6) | (1=3) | (4=6) |
| Cost Treatment     |         |            |          |         |            |          |        |       |
|                    | 0.205*** | 0.217*** | 0.140* | 0.118*** | 0.110*** | 0.023 | 0.496 | 0.077 |
|                    | (0.062) | (0.064) | (0.073) | (0.034) | (0.035) | (0.044) |        |       |
| Mortality Treatment| 0.126** | 0.176*** | 0.120 | -0.020 | 0.035 | 0.003 | 0.947 |
|                    | (0.062) | (0.064) | (0.074) | (0.034) | (0.035) | (0.042) |        |       |

Panel C: 2SLS

| Perceived econ. cost | -0.444*** | -0.520*** | -0.285* | 0.425*** | 0.270*** | -0.048 | 0.418 | 0.049 |
|----------------------| (0.131) | (0.159) | (0.147) | (0.032) | (0.086) | (0.084) |        |       |
| Perceived magnitude of mortality projections | 0.350** | 0.453** | 0.309** | -0.017 | 0.126 | 0.014 | 0.814 |
|                      | (0.139) | (0.187) | (0.158) | (0.076) | (0.101) | (0.090) |        |       |

Observations 3249 3010 2050 3249 3010 2050

Notes: This table shows heterogeneous treatment effects by the number of Covid at-risk conditions in the respondent’s close family. Results are based on the full sample less individuals with prior beliefs about the impact of 1918 shutdown measures corresponding to an unemployment rate of City B of 5 percent or lower (6 percent of observations). Exposure to Covid at-risk conditions is based on the following survey item: “Do you or does someone in your close family have any of the following underlying medical conditions that imply a higher risk for severe Covid-19 illness (Check all that apply): Chronic lung disease or moderate to severe asthma, Serious heart condition, Immuno compromised (cancer treatment, smoking, bone marrow or organ transplantation, immune deficiencies, HIV/AIDS), prolonged use of immune weakening medications), Severe obesity (body mass index of 40 or higher), Diabetes, Chronic kidney disease, Liver disease.” Columns 1 and 4 are based on respondents who report no condition (39 percent), columns 2 and 5 on respondents who report one condition (36 percent), and columns 3 and 6 on respondents who report two or more conditions (25 percent). Panel A presents first-stage effects of the economic cost treatment and the high mortality condition following specification 1First-Stage and Reduced-Form Evidenceequation.4.1. (For a description of the dependent variables, see the notes to Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26.) Panel B follows specification 2First-Stage and Reduced-Form Evidenceequation.4.2. The outcomes correspond to the respondents’ choice between model-based projections mapping shutdown lengths in months to projected Covid-19 fatalities within 2020 (columns 1-3) and (z-scored) self-reported preferences for stricter social distancing measures (columns 4-6). Panel C presents results from the 2SLS specification in equation 3Two-Stage-Least-Squares Regressionsequation.4.3 applied to split samples. The estimated coefficient Perceived econ cost can be interpreted as the effect of a one s.d. higher belief about the economic cost of a lockdown on the outcome. In addition to the reported coefficients, all regressions include controls for Census region, age group, log household income in 2019, educational attainment, political orientation, labor market status in January 2020 and prior beliefs about the economic impact of shutdown measures in 1918. Robust standard errors are in parentheses. *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent level, respectively.
Table 5: Cost-benefit considerations by political affiliation

| Perceived economic cost (z-scored) | Perceived magnitude of mortality projections (z-scored) | P-values (Dem.=Rep.) |
|------------------------------------|--------------------------------------------------------|----------------------|
| Democrat (1)                       | Democrat (4)                                           | (1=3) (4=6)          |
| Independent (2)                    | Independent (5)                                        |                      |
| Republican (3)                     | Republican (6)                                         |                      |

**Panel A: First Stage**

| Cost Treatment | Mortality Treatment | First-stage F-Stat. |
|----------------|---------------------|---------------------|
| -0.409***      | -0.002              | 61.02               |
| (0.037)        | (0.037)             | (0.036)             |
| -0.465***      | -0.013              |                     |
| (0.041)        | (0.036)             |                     |
| -0.466***      | 0.033               |                     |
| (0.036)        | (0.036)             |                     |
| 0.008          | 0.427***            |                     |
| (0.035)        | (0.035)             |                     |
| 0.022          | 0.420***            |                     |
| (0.042)        | (0.042)             |                     |
| 0.023          | 0.361***            |                     |
| (0.037)        | (0.037)             |                     |
| 0.275          | 0.503               |                     |

**Panel B: Reduced Form**

| Cost Treatment | Mortality Treatment | Perceived shutdown length in scenarios (months) | Preference for stricter measures (z-scored) | P-values (Dem.=Rep.) |
|----------------|---------------------|-------------------------------------------------|------------------------------------------|----------------------|
|                |                     | Democrat (1) | Democrat (4) | Independent (2) | Independent (5) | Republican (3) | Republican (6) | (1=3) (4=6) |
| 0.138**        | 0.222**             | 0.139*      | 0.069**      | 0.139*          | 0.069**         | 0.104        | 0.040         | 0.214 0.369 |
| (0.059)        | (0.059)             | (0.077)     | (0.033)      | (0.077)         | (0.033)         | (0.068)      | (0.041)       |            |
| 0.195**        | 0.195**             | 0.250***    | 0.097**      | 0.195**         | 0.097**         | 0.104        | 0.040         | 0.191    |
| (0.077)        | (0.077)             | (0.068)     | (0.041)      | (0.068)         | (0.041)         | (0.081)      | (0.041)       |            |
| 0.250***       | 0.250***            | 0.250***    | 0.122        | 0.250***        | 0.122          | 0.250***    | 0.040         |            |
| (0.068)        | (0.068)             | (0.081)     | (0.091)      | (0.081)         | (0.091)         | (0.081)      | (0.091)       |            |
| 0.115***       | 0.115***            | 0.115***    | 0.040        | 0.115***        | 0.040          | 0.115***    | 0.040         |            |
| (0.039)        | (0.039)             | (0.039)     | (0.041)      | (0.039)         | (0.041)         | (0.039)      | (0.041)       |            |
| 0.214          | 0.191               | 0.214       | 0.040        | 0.191           | 0.040          | 0.214       | 0.040         |            |

**Panel C: 2SLS**

| Perceived econ. cost | Perceived magnitude of mortality projections | Observations |
|----------------------|---------------------------------------------|--------------|
| -0.327***            | 0.518***                                    | 2971 2301 2782 |
| (0.142)              | (0.136)                                    |              |
| -0.405***            | 0.318*                                      |              |
| (0.157)              | (0.174)                                    |              |
| -0.519***            | 0.337*                                      |              |
| (0.157)              | (0.150)                                    |              |
| -0.166**             | 0.122                                       |              |
| (0.078)              | (0.075)                                    |              |
| -0.200**             | 0.089                                       |              |
| (0.083)              | (0.091)                                    |              |
| -0.248***            | -0.019                                      |              |
| (0.079)              | (0.102)                                    |              |
| 0.333                | 0.420                                       |              |
| 0.463                | 0.420                                       |              |

**Notes:** Results are based on the full sample less individuals with prior beliefs about the impact of 1918 shutdown measures corresponding to an unemployment rate of City B of 5 percent or lower (6 percent of observations) and less individuals with “other” political orientation. Columns 1 and 4 are based on Democrats, columns 2 and 5 on Independents and columns 3 and 6 on Republican respondents. Panel A presents first-stage effects of the economic cost treatment and the high mortality condition following specification 1First-Stage and Reduced-Form Evidenceequation.4.1. (For a description of the dependent variables, see the notes to Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26.) Panel B follows specification 2First-Stage and Reduced-Form Evidenceequation.4.2. The outcomes correspond to the respondents’ choice between model-based projections mapping shutdown lengths in months to projected Covid-19 fatalities within 2020 (columns 1-3) and (z-scored) self-reported preferences for stricter social distancing measures (columns 4-6). Panel C presents results from the 2SLS specification in equation 3Two-Stage-Least-Squares Regressionsequation.4.3 applied to split samples. The estimated coefficient Perceived econ cost can be interpreted as the effect of a one s.d. higher belief about the economic cost of a lockdown on the outcome. The estimated coefficient Perceived magnitude of mortality projections can be interpreted as the effect of a one s.d. higher perceived order of magnitude of the fatality projections. In addition to the reported coefficients, all regressions include controls for Census region, age group, log household income in 2019, educational attainment, labor market status in January 2020 and prior beliefs about the economic impact of shutdown measures in 1918. Robust standard errors are in parenthesis. *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent level, respectively.
Table 6: Heterogeneity by Prior Beliefs about the Economic Impact of a Lockdown

| Perceived economic costs (z-scored) | (Prior≥15) | (6<Prior<15) | (Prior≤6) |
|-------------------------------------|------------|--------------|-----------|
| **Cost Treatment**                  |            |              |           |
| (1)                                 | -0.469***  | -0.386***    | -0.341*** |
| (0.026)                             | (0.037)    | (0.083)      |           |
| **Diff. btw. coefficients**         | (1)=(2)    | (2)=(3)      | (1)=(3)   |
| **P-value**                         | 0.071      | 0.617        | 0.139     |
| **First-stage F-Stat.**             | 159.21     | 53.97        | 9.01      |

| Preferred shutdown length in scenarios (months) | (Prior≥15) | (6<Prior<15) | (Prior≤6) |
|-------------------------------------------------|------------|--------------|-----------|
| **Preference for stricter measures (z-scored)** |            |              |           |
| (1)                                              |            |              |           |
| (2)                                              |            |              |           |
| (3)                                              |            |              |           |
| (4)                                              |            |              |           |
| (5)                                              |            |              |           |
| (6)                                              |            |              |           |
| **Cost Treatment**                              | 0.209***   | 0.190***     | 0.092     |
| (0.048)                                          | (0.064)    | (0.140)      |           |
| **Diff. btw. coefficients**                     | (1)=(2)    | (2)=(3)      | (1)=(3)   |
| **P-value**                                      | 0.815      | 0.518        | 0.422     |
| **First-stage F-Stat.**                          | 159.21     | 53.97        | 9.01      |

**Panel C: 2SLS**

| Perceived econ. cost                           | (Prior≥15) | (6<Prior<15) | (Prior≤6) |
|------------------------------------------------|------------|--------------|-----------|
| **Cost Treatment**                             | -0.427***  | -0.473***    | 0.012     |
| (0.098)                                         | (0.158)    | (0.471)      |           |
| **Diff. btw. coefficients**                    | (1)=(2)    | (2)=(3)      | (1)=(3)   |
| **P-value**                                     | 0.805      | 0.387        | 0.423     |
| **First-stage F-Stat.**                         | 159.21     | 53.97        | 9.01      |

Notes: This table shows heterogeneous treatment effects of the economic cost treatment by prior beliefs about the unemployment rate of City B in 1919. It is based on the full sample, split into three subgroups by respondents' prior beliefs. Columns 1 and 4 are based on individuals with a prior belief about the unemployment rate of City B of 15 percent or more. Columns 2 and 5 are based on those with prior beliefs larger than 6 and smaller than 15 percent. Columns 3 and 6 are based on respondents with prior beliefs of 6 percent or lower. Panel A presents first-stage effects of the economic cost treatment following specification 1First-Stage and Reduced-Form Evidenceequation.4.1. (For a description of the dependent variables, see the notes to Table 2Experimental Results: First-Stage, Reduced-Form and IV.table.caption.26.) Panel B follows specification 2First-Stage and Reduced-Form Evidenceequation.4.2. The outcomes correspond to the respondents' choice between model-based projections mapping shutdown lengths in months to projected Covid-19 fatalities within 2020 (columns 1-3) and (z-scored) self-reported preferences for stricter social distancing measures (columns 4-6). In addition to the economic cost treatment, Panels A and B also control for the randomized mortality condition the respondent was exposed to. Panel C presents results from the 2SLS specification in equation 3Two-Stage-Least-Squares Regressionequation.4.3 applied to split samples. The estimated coefficient Perceived econ cost can be interpreted as the effect of a one s.d. higher belief about the economic cost of a lockdown on the outcome. In addition to the reported coefficients, all regressions include controls for Census region, age group, log household income in 2019, educational attainment, political orientation and labor market status in January 2020. Robust standard errors are in parenthesis. *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent level, respectively.
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