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CIVIL LIBERTIES IN TIMES OF CRISIS

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ABSTRACT

Civil liberties are sometimes considered non-tradable and "sacred," and their protection a hallmark of democracies. Using representative surveys of 480,000 respondents from 15 countries, we find that citizens demonstrate a clear willingness to trade off civil liberties for improved public health conditions during the COVID-19 pandemic. Exposure to health risks is associated with greater willingness to trade off civil liberties, though to a lesser degree among disadvantaged groups. This trade-off is sensitive to information and evolves over the course of the pandemic. Yet the elasticity of the willingness to forego civil liberties to perceived health risk remains relatively constant over time.

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An online appendix is available at
http://www.nber.org/data-appendix/w27972

"Emergencies" have always been the pretext on which the safeguards of individual liberty have been eroded.

— Friedrich August von Hayek

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1 Introduction

The notion that humans have natural, inalienable rights is the foundation of liberal democracies (Locke, 1698; Mill, 1859; Rawls, 1971). A defining feature of liberal democracies is their respect for and protection of civil liberties — such as due process, freedom of speech, and the right to privacy.[1] Indeed, in liberal democracies, civil liberties are so fundamental that political philosophers sometimes consider them as "sacred values," i.e., "goods" or rights that should not be subject to comparisons or trade-offs (e.g., Aberle et al. (1950); Radcliffe-Brown (1952); Fiske and Tetlock (1997); Tetlock et al. (2000); Tetlock (2003)).

Yet, when societies confront major crises — from terrorist attacks or devastating natural disasters to global pandemics, trade-offs between individual civil liberties and societal well-being become acute. Crises provide a sharp view of the otherwise subtle trade-offs involved in civil liberties. Temporarily curtailing civil liberties is often a crucial part of effective policy responses. But emergency policies during a crisis sometimes become a pretext for eroding rights in the long run.[2]

In this paper, we study, in real time, how citizens trade off civil liberties and public health conditions during COVID-19 pandemic, one of the largest crises in recent history. The COVID-19 health crisis is a momentous event in modern history as the virus has reached virtually every country and, for the first seven months since its discovery, governments lacked an effective technological fix such as a vaccine or therapeutic. Therefore, countries were fighting a common enemy with a similar set of tools which required citizens to curtail their usual leisure and labor-related activities, restrict movement and alter their hygiene. As the world confronts this global crisis, what are citizens willing to sacrifice and what are they steadfast in supporting no matter what the circumstance? How does this vary across countries, across individuals within countries, and over time? What factors shape views on such trade-offs?

A detailed understanding of such views is important for at least four reasons. First, the policy measures adopted by governments, particularly democratic ones, should be responsive to the preferences of their citizens. Second, the extent to which the latter comply with policies enacted in times of crises likely depends on whether they agree with the restrictions imposed by the policies, which could ultimately determine the efficacy of these policies. Third, a weakening of the support

[1] Civil liberties, as defined by the International Covenant on Civil and Political Rights, respect individuals' right to self-determination, the right to privacy, free movement, free speech, worship, and procedural fairness.

[2] The erosion of civil liberties has been a noticeable trend in recent decades even in more mature democracies, according to Freedom House's Freedom of the World Report (Repucci, 2020). Leveraging the World Values Survey data combined with our own surveys, we observe increases in support for a strong national leader and decreases in support for democracy during the COVID-19 pandemic compared to the period immediately beforehand as well as the prior decade (see Section 4.2 for details).

for the broad protection of civil liberties during times of crises may be temporary or instead durably shift attitudes. This distinction is important, as temporary crises could be exploited by the state to seize additional power and by interest groups to further political agendas.[3] Finally, attitudes such as whether one would be willing to withstand public health risks in order to fulfill civic duties (e.g., voting) could shape the composition of voters, and as a result government's policy-making far beyond that in the public health domain.[4]

To answer these questions, we conducted very large-scale, representative, and long-running surveys covering more than 480,000 individuals between March and November of 2020, at various phases of the COVID-19 pandemic. Respondents are sampled from 15 countries: Australia, Canada, China, France, Germany, India, Italy, Japan, the Netherlands, Singapore, Spain, South Korea, Sweden, the United Kingdom, and the United States. A key challenge in studying citizens' views on trade-offs between civil liberties and public health conditions is that such views are not readily observable as there is rarely a referendum regarding public health policies or civil liberties — thus, one cannot simply take a revealed preference approach. To overcome this challenge, our large-scale surveys aim to explicitly measure citizens' attitudes over both, allowing us to describe how people navigate the trade-offs between public health conditions and civil liberties, to trace the evolution over time, and to leverage both quasi-experimental and experimental variation to understand factors that shape citizens' preferences.

We present four core findings. First, many people around the world reveal a clear willingness to trade off civil liberties over public health conditions, though countries differ substantially in the extent of such willingness. Overall, about 80% of the survey respondents are willing to sacrifice at least some of their own rights in times of crisis. Moreover, respondents across a wide range of countries agree about the relative importance of different core civil liberties — respect for privacy being more important to respondents than a free press, for instance. There exist, however, substantial differences across countries regarding individuals' views about these trade-offs, and willingness to give up rights during crises such as COVID-19. For example, while only 5% of the respondents in China are *unwilling* to sacrifice any rights even during times of major crisis, nearly four times as many respondents in the United States are unwilling to do so.

Second, consistent across countries, we find a strong and robust pattern that individual exposure to health risks is associated with citizens' greater willingness to trade-offs civil liberties for public health conditions. Descriptively, respondents who are more concerned about health risks are substantially more willing to give up their rights and freedoms during crises, and those who are more worried about the long-term erosion of civil liberties are much more likely to hold onto their rights and freedoms even at times of crises. We then use two empirical strategies to

[3] Indeed, in an open letter entitled "A Call to Defend Democracy," signed by many organizations, former politicians, and scholars, the COVID-19 pandemic is described as: "threaten[ing] more than the lives and the livelihoods of people throughout the world. It is also a political crisis that threatens the future of liberal democracy." Source: The International Institute for Democracy and Electoral Assistance (June 25, 2020)

[4] For instance, during pandemics, citizens would need to decide on whether to participate in civil activities amid health risks. This was the case during COVID-19, e.g., for citizens voting in elections in France or the U.S. and for people across the U.S. during protests demanding racial equality.

examine to what extent people's views about the trade-offs between public health conditions and civil liberties stem from their differential COVID-19 risk exposure and differential disease severity of illness conditional on exposure: (*i*) we adopt a health risk score developed by *Mathematica 19 & Me*, and exploit the fact that an individual's risk of experiencing severe health consequences from COVID-19 is a non-linear function of specific medical, socio-demographic and epidemiological characteristics; and (*ii*) we compare individuals with higher COVID-19 health risk with those with lower risk, across sub-national regions that have different levels of spread of COVID-19 at the time of the survey, which allows us to separately identify the differential impact of exposure to COVID-19 related health risks due to the combination of individuals' own health backgrounds and their location of residence. These two approaches yield consistent findings: individuals who are more prone to COVID-19 related health risks are *differentially* more willing to sacrifice rights and freedom, relax privacy protections, suspend democratic procedures, delegate decisions to experts, and accept strong public health measures that curtail economic activities and mobility. In other words, how individuals trade off public health conditions and civil liberties is affected by their direct exposure to health risks during the crisis. The findings are robust, e.g., to different measures of geographic COVID exposure. Permutations (placebo tests) where respondents' pre-existing conditions or locations are reshuffled fail to replicate the main findings. In addition, the results display heterogeneity: those with less education, weaker attachment to the labor force, and racial and ethnic minorities (in the United States) are *less* willing to trade-off rights than other groups, even when exposed to higher health risk. Perhaps being able to accept restrictions on civil liberties is a "luxury" after all: members of these groups, who may have a long history of exclusion and abuse, cannot afford to do so, so they view any such restrictions as a threat to their lives and livelihoods.[5]

Third, individuals' views about the trade-offs between public health conditions and civil liberties are elastic to information. Using two embedded survey experiments, we find that upon seeing information that describes the dangers of restrictions to civil liberties, i.e., the aggressive public health measures taken by China and South Korea, and the potential of such policies to continue after the COVID-19 crisis ends, treated subjects become significantly less willing to give up their rights and freedom. On the contrary, upon seeing a treatment that highlights the public health risks and the rationale for strong measures to flatten the curve, the treated subjects become more willing to delegate decisions to experts, and to download a contact tracing app, and become more supportive of strong national leaders.

Fourth, our on-going surveys give us a unique opportunity to track views and attitudes over time. Respondents' overall willingness to sacrifice civil liberties evolves. For example, willingness to sacrifice own rights declined by approximately one-third of a standard deviation from March to mid-June and a similar evolution is observed across all other domains. It tracks reduced health concerns and the timing of lockdowns (or, for those countries that did not lock down, increased policy

[5]It also is possible that those who are more economically advantaged already have their interests well represented by policymakers, and don't necessarily have to rely on free speech and assembly, much less worry about state surveillance.

stringency). From mid-June to mid-October, the willingness to sacrifice civil liberties plateaued across all countries and is now slowly rising. The dynamic analysis reveals a close to constant, positive relationship between individuals' concerns about the health risk and their willingness to sacrifice rights and freedoms throughout the entire period of analysis (March 30th to November 22nd, 2020).

Taken together, these results suggest that individuals are willing to give up civil liberties for public health conditions. Many, even in the stronghold of liberal democracies, do not view civil liberties as "sacred values." Rather, they pick interior solutions to the trade-off problem. Individuals' willingness to accept fewer civil liberties is strongly associated with their expected personal health gain from such restrictions, suggesting that personal cost-benefit analyses play a significant role in the formation of attitudes towards democratic rights and freedoms in times of crisis. The pattern that citizens' willingness to give up rights becomes tempered over time paints a rather complicated picture: on one hand, such attitudes affect the degree of compliance over long-lasting public health policies; on the other hand, this could serves as a check over threats to civil liberties that an incumbent government may use to their advantage during a crisis.

Conceptually, at least two channels could contribute to a heightened willingness to trade-off civil liberties during the COVID-19 crisis. First, citizens may respond to an increase in either the objective (e.g., actual epidemic burden) or perceived (e.g., salience of the pandemic) health risks due to COVID-19, moving *along* the indifference curve between health conditions and civil liberties due to changes in "prices."[6] Second, the *shape* of citizens' indifference curves may be altered due to the crisis experience, resulting in a more long-lasting change in the underlying willingness to sacrifice rights and freedoms for a given level of health risks. This might be due to new information brought to light by the viral threat such as the potential health risk itself or the value of protecting civil liberties. It is worthwhile to note that even transient moves along the indifference curve could results in long-term societal consequences, as they may generate changes in institutions and norms that outlast the crisis. While we cannot conclusively distinguish between these two channels, our dynamic evidence suggests that the COVID-19 initially generated a temporary increase in the willingness to relax civil liberties, though the data also support a fairly constant elasticity between public health measures and civil liberties overall.

It is important to note that the exposure to the pandemic is inherently multifaceted — the full impact of the COVID-19 crisis would induce stress not only about health, but also directly (e.g., through inability to work if sick) or indirectly (e.g., due to general economic climate) about economic well-being. In fact, many of those who are worried about health risks are economically disadvantaged (such as poor or unemployed). We find a slight negative or null relationship between economic worries and willingness to trade-off civil liberties for public health conditions. This might reflect the contrasting views of those who view prioritizing public health conditions as harmful to the economy (in the short-run at least) and those who view them as necessary for

[6] They may also be responding to changes in the perceived efficacy of restrictive public health measures (i.e., the benefits of giving up civil liberties). For a generic theoretical treatment of how security threats affect democracies, see Gratton and Lee (2020).

economic recovery (in the medium-run).[7]

Our work contributes to understanding how crises and collective experience could shape such perceptions and underlying preferences. A series of important papers study the effects on preferences of growing up in a recession (Giuliano and Spilimbergo, 2014); experiencing macroeconomic shocks (Malmendier and Nagel, 2011) or inequality (Roth and Wohlfart, 2018); or Communism (Alesina and Fuchs-Schündeln, 2007). In the specific context of the COVID-19 pandemic, Rees-Jones et al. (2020) find that exposure to the pandemic makes individuals in the U.S. more favorable of government-provided healthcare and unemployment insurance programs; Amat et al. (2020) show that such exposure (in Spain) is associated with lower support for the incumbent; Arceneaux et al. (2020) demonstrate that partisan endorsements can shift citizens' support of liberty-restricting public health policies in the U.S. and U.K.; and Bol et al. (2020) document that experiences of strict lockdowns in March and April in Europe are associated with higher trust in the incumbent.[8] Our paper highlights how exposure to crises, such as the COVID-19 pandemic, could change citizens' attitudes over the fundamental trade-offs between civil liberties and public health conditions.[9] In doing so, we present results that suggest, contrary to the conventional wisdom that crises typically make autocratic regimes tumble (e.g., Huntington (2009); Acemoglu and Robinson (2006)), crises may in fact strengthen such regimes as they make citizens more willing to tolerate limits on their rights and freedom.

This paper also relates to several recent findings in political economy which examine how citizens trade off various aspects of political rights and institutions. For example, Acquisti et al. (2016) study citizens' views about the trade-off between privacy protection and economic activities and convenience; Graham and Svolik (2020) and Svolik (2020) examine how voters trade off partisan loyalty with protection over democratic institutions and their integrity. More broadly, our study relates to the historical debate between civil liberties on the one hand and economic and social rights (i.e., the right to a standard of living) popularized during the Cold War. Sen (1981), noting that famine (a failure of material goods) could not occur in a liberal democracy, advanced the view that civil and political rights were complementary to guaranteeing material standards.[10] On the other hand, many have noted the difficulty democracies may have in reaching consensus, promoting collective action and responding to a health threat.[11]

[7] This could also echo the divergent attitudes towards private health and public health conditions: at the aggregate level, public health regulations could generate substantial job losses; but at the private level, being sick could directly induce income loss.

[8] The voters' responses to strict public health measures during COVID-19 are also reflected in differential policy choices when incumbents face re-election during the pandemic, as documented by Pulejo and Querubín (2020).

[9] Since citizens' attitudes over trade-offs between civil liberties and public health conditions matter for their inclination to comply with social distancing and other public health related restrictions, our work also relates to the papers that aim to understand what factors shape social distancing compliance (see, among others, Allcott et al. (2020), Bargain and Aminjonov (2020), Barrios et al. (2020), Bazzi et al. (2020), Besley and Dray (2020), Bursztyn et al. (2020), Gitmez et al. (2020), Simonov et al. (2020)).

[10] More recently, Acemoglu et al. (2019), among others, demonstrate that democratic institutions facilitate spending that improves public health outcomes; Acemoglu and Robinson (2019) show that civil societies and protection of civil rights are critical to not only the well-functioning of democratic institutions, but perhaps more importantly, the kind of political institutions that would evolve in equilibrium.

[11] A recent *Lancet* editorial, "COVID-19 and China: Lessons and the Way Forward" noted China's success in con-

Finally, our paper is related to the growing literature using large-scale online surveys and experiments to elicit people's attitudes and views on a range of policy and fairness issues (Charité et al., 2015; Kuziemko et al., 2015; Fisman et al., 2018; Weinzierl, 2014, 2017). We are able to study a very large sample over a long period of time and to combine our survey data with quasi-experimental variation in the exposure to health risk.

The paper proceeds as follows. In Section 2, we describe the two cross-country surveys that we have conducted. In Section 3, we present descriptive evidence from the survey. We then present results from the two quasi experimental strategies in Section 4; and we present the survey experimental results in Section 5. In Section 6, we discuss the dynamic patterns of citizens' views about the trade-offs over civil liberties and public health conditions. Finally, we conclude with a discussion on the potential normative implications in Section 7.

2 Large-scale cross-country surveys

In order to examine how people trade off public health conditions and civil liberties during a time of major crisis such as the COVID-19 pandemic, we administered two cross-country surveys — a long survey that we design (the "COVID-19 and Civil Liberties Survey") and a short module included in a weekly commercial survey (the "COVID-19 Global Consumer Trends Report"). These two surveys collectively cover more than 480,000 respondents from 15 countries over the course of six months during COVID-19 (ongoing since March 2020). The countries covered in total are Australia, Canada, China, France, Germany, India, Italy, Japan, the Netherlands, Singapore, Spain, South Korea, Sweden, the United Kingdom, and the United States.

These two surveys complemented each other: the weekly COVID-19 Global Consumer Trends Report had wider geographic and temporal reach, allowing us to describe citizens' views about the trade-offs over public health conditions and civil liberties across a large set of countries and over a relatively long span of time during the pandemic. The COVID-19 and Civil Liberties Survey that we designed featured more comprehensive questions, allowing us to carry out quasi-experimental and experimental analyses. It targeted a smaller set of countries.

Both the COVID-19 and Civil Liberties Survey and COVID-19 Global Consumer Trends Report began simultaneously on March 30th, 2020. The timing of the surveys coincided with different stages of the COVID-19 pandemic across countries, which provides us with both cross-sectional and temporal variation in individuals' exposure to the COVID-19 pandemic (Section 6).[12]

trolling the virus, stating: *"measures that could sacrifice individual freedom, like mandatory mask-wearing in public areas, were accepted readily by the public [...] there are tensions between freedom and security that each country has to reckon with, and some of China's approaches to surveillance, for example, would not be acceptable elsewhere. But China's experiences show the importance of community solidarity and what it can achieve."* (Lancet, 2020).

[12] Appendix Figure A.1 shows the epidemic curves of the 15 countries covered in our surveys. Our data collection began after the peak for China and South Korea, well before the peak for India, and right before or around the peak for the rest of the countries of the curve.

2.1 COVID-19 Global Consumer Trends Report

We collaborated with Dynata, a global data and insights firm, to administer a module of seven questions on trade-offs between public health conditions and civil liberties in its weekly cross-country online survey.[13]

2.1.1 Survey overview

Starting on March 30th, 2020, approximately 1,000 participants were sampled every week from each of the following 12 countries: Australia, Canada, France, Germany, India, Italy, Japan, the Netherlands, Singapore, Spain, the United Kingdom, and the United States. Sweden was added to the set of countries sampled on a weekly basis starting on May 18th 2020. In addition to our module, respondents are asked questions about: (i) their general outlook for the future; (ii) worries related to the COVID-19 pandemic; (iii) changes in behavior and consumption patterns induced by the pandemic; (iv) beliefs and attitudes *vis-à-vis* the pandemic; and (v) information sources about the pandemic.

Recruitment and sampling: The sample is representative on first moments of age, gender and geographic location of residence. The sampling frame is built based on Dynata's weekly consumer trend survey infrastructure. Appendix Table B.1 presents the summary statistics of the sample's gender, age, and labor market conditions.[14]

2.2 COVID-19 and Civil Liberties Survey

Our detailed cross-country online survey was fielded in seven countries that cover a spectrum of liberal democracies and autocracies: Germany, France, Italy, the United Kingdom, the United States, South Korea, and China between March 30th and April 18th, 2020.

2.2.1 Survey overview

Figure 1 summarizes the design of the COVID-19 and Civil Liberties Survey. It consists of five modules covering demographic, health, experimental treatment, first stage, and main outcomes modules. The survey was translated into five different languages by native speakers.[15]

Potential participants were first shown a consent form that did not mention the topic of the study so as to avoid attrition based on the survey topic. Respondents who reported being younger than 18 and respondents who reported not living in the country where the survey was administered were screened out.

[13] See Section 2.3.1 for the list of questions about civil liberties included in this survey.

[14] The COVID-19 Global Consumer Trends Report is a repeated cross-section, though only a small number of respondents have participated in more than one wave of the survey.

[15] The English version of the COVID-19 and Civil Liberties Survey instrument can be viewed in its entirety in Supplemental Section G.1.

The first module ("demographics") queried respondents on their demographic characteristics including gender, citizenship status, ZIP or postal code, education, income, employment status, occupation, and household composition.[16]

At the end of the demographics module, participants were asked about their political affiliation, information sources they use to keep up-to-date with the pandemic and their trust of the media. Time and risk preferences were elicited using questions similar to the ones from the Global Preference Survey (Falk et al., 2018).

The second module ("health") queried respondents on their medical history including a detailed list of medical conditions and whether anyone in the household required regular inpatient hospital care.[17] Questions on pre-existing health conditions are necessary for our construction of the COVID-19 risk score, discussed in greater detail in Section 4. The health module also asked questions directly about COVID-19, including whether the participant had already been infected with COVID-19, the participant's perceived likelihood of becoming ill from COVID-19 in the subsequent month, the number (out of 100 of individuals in the participant's community) who would become ill from COVID-19 in the subsequent month, and the number of the respondent's acquaintances who had been infected with COVID-19. We use these questions to adjust for the heterogeneous priors regarding COVID-19 severity in the community.

After the health module, respondents from all countries except China were split evenly into a control group, a public health treatment group and a civil liberties treatment group.[18] The full treatment scripts are in Appendix Section C.[19]

In brief, the public health treatment provided information about the rationale behind policies aimed at flattening the epidemic curve. It consisted of: (*i*) a simple graphical explanation of exponential disease spread (see Appendix Figures A.2 and A.3); (*ii*) a description of the threat posed by an exponentially-growing disease to a system with limited hospital capacity (see Appendix Figures A.4 and A.5); (*iii*) a description of how public health measures such as social distancing can flatten the epidemic curve and reduce the burden on the healthcare system; and (*iv*) a description that many COVID-19 patients died alone, away from their families due to the quarantine requirements.[20]

[16] Some additional, country-specific questions were also asked, such as the state in which they were born (for Germany) whether they or their relative moved from North Korea during or after the Korean war (for South Korea), and their race/ethnicity and whether they have health insurance (for the U.S.).

[17] We also included a 2-question Generalized Anxiety Disorder screener (Plummer et al., 2016) and elicited changes in health-related behavior (hand-washing and social-distancing).

[18] Respondents from China were assigned to the control group as it was deemed too politically sensitive to administer the treatment in China. One of the information treatments discusses the Chinese government's policies to combat the COVID-19 pandemic. Similarly, we excluded a small number of rights questions from the survey in China again due to political sensitivity.

[19] Assignment to the treatment and control conditions is balanced across demographic characteristics. Appendix Table B.2 presents the balance tests among respondents in the two experimental groups and the control group, controlling for survey countries' fixed effects, first including all countries together, and then country by country. There is slight imbalance in completion rates between the information treatment arms and the placebo group, likely due to the fact the control group had less time to spend in the survey on average. Although it is statistically significant, the magnitude is small <3% (see Appendix Table B.3).

[20] Note that the public health treatment does not explicitly inform subjects about their *personal* health risks, because at

The civil liberties treatment provided information about some of the most drastic measures adopted by China and South Korea in order to contain the pandemic.[21] It consisted of: (*i*) a graphical depiction of the epidemic curves in China and South Korea, highlighting the fact that the two countries seemed to have effectively contained the epidemic as per the date of our COVID-19 and Civil Liberties Survey (see Appendix Figure A.6); (*ii*) a description of some of the most drastic measures adopted by China and South Korea to curtail the pandemic (see Appendix Figure A.7); and (*iii*) a description of a set of concerns raised by a variety of parties (e.g., Human Rights Watch) about the possible long-term erosion of civil liberties resulting from policies adopted during the pandemic (see Appendix Figure A.8). The control group skipped the treatment section all together, and moved straight to the subsequent module.

In the "first stage module," participants were asked a series of questions directly related to the content of either the public health or civil liberties treatments. For instance, they were asked whether they thought that delaying the spread of the virus could help save lives, a topic directly addressed in the public health treatment when describing the rationale for policies aimed at flattening the epidemic curve.

Finally, participants were asked a set of questions about how they perceive the trade-offs between public health conditions and civil liberties in a time of crises such as the one caused by COVID-19. This module contains the main outcome variables and is discussed in detail next. At the end of the survey, respondents received a payment from the survey platform for their participation.

Recruitment and sampling For each country, we aimed to recruit a sample representative on first moments of age, gender, and household income distribution. We allocated 80% of our sample to be geographically representative with a 20% over-sample of regions within each country where the COVID-19 pandemic was particularly severe at the time (i.e., "hotspots"). In most countries, one singular location clearly stood out as the area of major concern. In China, we selected the city of Wuhan as the hotspot; in Germany, the city of Munich; in France, the city of Paris; in the U.K., the city of London; in South Korea, the city of Daegu. At the time of our survey, no single location in Italy and the United States could easily be pinpointed as the hotspot; as a consequence, we selected multiple locations in each country. For Italy, we selected the cities of Milan and Bergamo; for the United States, we selected the cities of New York City, Seattle, New Orleans, and Detroit.[22] These definitions of COVID-19 hotspots are pre-registered before the survey was administrated.

We aimed to recruit 1,200 individuals from each country other than the United States, and 3,600 individuals from the United States. Since some of the demographic quotas proved hard to fill, the

the time of the survey, such risk measures was still highly uncertain and we did not wish to deliver uncertain information to subjects that could substantially alter their behaviors and decisions or face liability associated with such.

[21] China and South Korea were two countries that, as per March 30th, 2020, had successfully contained the first wave of the COVID-19 pandemic.

[22] Our choices of COVID-19 hotspots in the U.S. also coincide with various reports. For example, Kaiser News reports that "the first surge of cases was concentrated in a handful of 'hot spot' cities such as New York, Detroit, Seattle and New Orleans." Source: https://www.medscape.com/viewarticle/941865.

total number of participants recruited was larger than originally planned. Appendix Table B.4 shows our targeted and realized quotas. Overall, the recruitment effort managed to fill in most of the desired demographic quotas, with a few exceptions, primarily with respect to macro-region representation within the country. Throughout our baseline analyses, we re-weight the sample to match our targets and hence population representativeness along the targeted margins. The survey weights were constructed by implementing an iterative proportional fitting procedure (raking) based on the marginal distributions of gender, age, gross household income, and region. Our results are robust to alternative re-weighting methods (and to excluding them) which we discuss in greater detail in Section 4.2.[23]

We present the summary statistics of the respondents in Appendix Table B.7, first for all countries pooled together in columns 1 and 2, and separately for each individual country in the sample in columns 3 to 16.[24] In particular, we present respondents' characteristics and survey answers in six main categories: demographic traits (e.g., gender, age, education); employment status and income; political leaning and media consumption; health related issues (e.g., frequently require hospital use); contracted or having acquaintances contracted with COVID-19; and whether residing in COVID-19 hotspots or urban areas.

2.3 Outcome variables

2.3.1 Outcome variables in the COVID-19 Global Consumer Trends Report

We aimed to develop trade-off questions that were as intuitive as possible — thus the benefits are based on the right that is being foregone. We framed the question around "during a crisis like the current one" for two reasons. First, highlighting the word "crisis" makes the trade-offs more tangible — during typical times, citizens may not be actively articulating preferences and attitudes across these domains, especially since public health, when functioning well, is the absence of disease and often overlooked (Garrett, 2000). Second, we refrain from explicitly mentioning the COVID-19 pandemic to make the attitudes and trade-offs more generically applicable beyond the specific context we study.

Respondents were asked the extent to which they agree with a certain statement on a scale from 0 to 10, where 0 stands for completely disagree and 10 stands for completely agree. Henceforth, we will refer to the format described above as the agree-disagree format.

All respondents in the COVID-19 Global Consumer Trends Report were asked the following question:

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[23] See Appendix Tables B.5 and B.6 for the quasi-experimental and experimental results which are robust without survey weights.

[24] To ensure data quality, we exclude from the analysis all individuals who are in the bottom 5% in terms of survey duration within country, as measured by time taken to respond to the pre-treatment modules (thus treatment would not mechanically affect the survey duration). Our baseline results are robust to not using this quality control criteria, or using an alternative criterion.

To what extent do you agree with the following statements:
I am willing to sacrifice my own rights and freedoms during a crisis like the current one, in order to maintain the health and well-being of the whole society.

0 = completely disagree
10 = completely agree

Next, respondents were randomly shown one of the following statements on different types of civil liberties:

I am willing to relax privacy protections and let the government access my personal data during a crisis like the current one, in order to allow the government to make timely and accurate decisions.

I am willing to suspend democratic procedures and give the President [or Prime Minister] more power during a crisis like the current one, in order to ensure swift government actions.

I am willing to support the government controlling the media during a crisis like the current one, in order to ensure effective and uniform communication between the government and citizens.

I am willing to tolerate public health risks in order to participate in elections and other civic duties, even during a crisis like the current one.[25]

All participants were shown a question asking whether they were worried that the rights forgone during the COVID-19 crisis will not be recovered once the crisis is over.

Lastly, we included a question on willingness to endure economic losses in the randomized set as a potential benchmark for civil liberties concerns.

2.3.2 Outcome variables in the COVID-19 and Civil Liberties Survey

For our quasi-experimental and experimental analysis, we considered the outcome variables in the seven families highlighted in bold below. We also construct inverse-covariance-weighted indices that combine the outcome variables within each family, as described in Anderson (2008).

[25] An important caveat of this particular question is that the direction of responses was opposite to the rest of the questions. As the order of all willingness statements was randomized in the COVID-19 and Civil Liberties Survey, we observe an order effect with this question (see Supplemental Table F.1) but not with respect to giving up privacy protection (see Supplemental Table F.2) nor with suspend democratic procedures (see Supplemental Table F.3). Hence, we exclude this question on civic duties from our baseline results; we show the results on this question in Supplemental Tables F.4 and F.5 and our baseline categorical indices on democratic related preferences are not affected by the inclusion of this variable.

In constructing these indices, we orient the variables so that more positive values have the same meaning: for instance, when constructing the index for questions related to privacy, we orient the components of the index in such a way that more positive values always mean "more willing to forego privacy protections."

Overall rights and freedoms This family comprises two questions in the agree-disagree format. The first statement is "*I am willing to sacrifice my own rights and freedoms during a crisis like the current one, in order to maintain the health and well-being of the whole society.*" The second statement is "*I am willing to impose strict limits to the rights and freedoms of other people during a crisis like the current one, in order to maintain the health and well-being of the whole society.*"

Protection of privacy This family comprises four questions. The first question has an agree-disagree format. The statement is "*I am willing to relax privacy protections and let the government access my personal data during a crisis like the current one, in order to allow the government to make timely and accurate decisions.*"

The second and third questions have a different format, which we refer to henceforth as the *minimum-lives-saved* format. These questions describe a specific policy designed to curtail the COVID-19 pandemic and asks respondents to report the minimum number of lives (out of every 100 people in your country that would have otherwise died) that the policy would need to save in order for the respondent to support it. Detailed instructions and a comprehension question checked respondents' understanding, and subjects could not proceed until they correctly answer the comprehension question. After adjustment for perceived COVID-19 disease severity, higher numbers refer to policies that respondents perceive as exacting a severe toll on their civil liberties. The two policies that relate to privacy are "*During the epidemic, the government can track smartphone locations and social contact data of the citizens who tested positive for COVID-19,*" and "*During the epidemic, the government can track smartphone location and social contact data of all citizens.*"

An advantage of the *minimum-lives-saved* format design is that such questions allow us to quantify respondents' trade-offs on key civil liberties dimensions without imposing an actual benchmark for the effectiveness of the policies of interest, which was and arguably still is unknown. However, respondents' prior beliefs on the severity of COVID-19 in their countries could affect answers to these questions irrespective of direct civil liberties trade-offs, since such beliefs dictate the magnitude of the problem at stake. In order to take these prior beliefs into account, we construct a binary indicator for individuals who are unwilling to impose the policies (namely, expressing a very high number of lives the policies need to save in order to justify its implementation) *despite* holding the beliefs that many people would have died from COVID-19.[26] We discuss how

[26]Specifically, we take the median value of subjective community risk of COVID-19 by each country and marked as 1 if the respondent's response of subjective community risk of COVID-19 is greater than the median value within each country. We then take the median value of each policy variable across the entire sample and marked as 1 if the respondent's response to the policy variables is greater than the median value. Recall the policy variable already referenced the country in the question stem, the indicator equals 1 if the respondent's subjective risk of COVID-19 is less than the median value but the policy variable is greater than the median value. Although this is our preferred coding given the importance of priors, our results are robust to alternative normalizations (see Appendix Tables B.8 and B.9 for relevant

respondents answer such *minimum-lives-saved* questions in greater detail in Section 4.2.

The last question in this family asked participants whether they wanted to receive a link to an app developed at MIT to facilitate contact tracing. The app logs a user's location every five minutes so that, if the user tests positive for COVID-19, the authorities can reconstruct the user's location history and social interactions with fidelity.[27]

Democratic rights and duties This family comprises six questions. Three of the questions are taken from the World Values Survey. They ask respondents to report whether they think a certain way of governing a country is very bad, fairly bad, fairly good, or very good. The topics are: "*Having a strong national leader who does not have to bother with Congress and elections*," "*Having experts, not the government, make decisions according to what they think is best for the country*," and "*Having a democratic political system.*" The other three questions have the agree-disagree format. The statements are: "*I am willing to suspend democratic procedures and give the President more power during a crisis like the current one, in order to ensure swift government actions*," "*I am willing to tolerate public health risks in order to participate in elections and other civic duties, even during a crisis like the current one*," and "*I am willing to support the government controlling the media during a crisis like the current one, in order to ensure effective and uniform communication between the government and citizens.*"[28]

Right to free movement This family comprises three questions. All three questions have the minimum-lives-saved format. The first policy is "*During the epidemic, the government closes the national border to prevent foreigners from entering*." The second policy is "*During the epidemic, the government recommends citizens do not leave their homes except for limited, permitted reasons.*" The third policy is "*During the epidemic, the government arrests citizens who are outside their home if they do not have government permission.*"

Our survey also includes a variety of auxiliary questions that help inform the interpretation of our core questions. There are two major categories. First, to the extent that the COVID-19 pandemic is a crisis not only on public health, but also directly and indirectly on economic conditions, we elicit respondents' attitudes related to economic well-being and closures.[29] Second, to the extent that the COVID-19 pandemic could last for months if not years, the expected duration and future conditions could affect respondents' attitudes over what they are willing to tolerate. Thus, we elicit various components of respondents' beliefs about the future COVID-19 severity.[30] Finally, one of

results).

[27] We list the link to the app here: https://privatekit.mit.edu/.

[28] Where necessary, the text of the statement was adapted to better fit the political system of each country. For instance, in Germany the word "President" was replaced with the word "Chancellor."

[29] The economic well-being module comprises five questions. For example, we asked whether participants agree with the statement "*I am willing to endure substantial economic losses during a crisis like the current one, in order to maintain the health and well-being of society as a whole.*" See Questions H1 to H15 in Section G of Supplemental Material for the exact question wording.

[30] For example, we asked participants to forecast the total official number of COVID-19-related deaths in the participant's own country, to report the extent to which they worried about (1) the possible long-term erosion of the rights, freedoms, and procedures that are forgone, and (2) economic prosperity that is lost during a crisis like the current one. See Questions J1, J2, L1, L2, and N1 in Section G of Supplemental Material for the exact question wording.

the questions elicited the participants' willingness-to-pay for a 100 USD voucher redeemable at any dine-in restaurant of their choosing in the month of June 2020. We interpret this choice as a measure of the participants' confidence that the pandemic would be under control by June 2020.

3 Describing trade-offs over civil liberties

We begin by providing descriptive evidence on how people navigate the trade-offs between health, economic prosperity, and civil liberties, primarily based on the repeated COVID-19 Global Consumer Trends Report. Moving from the macro to the micro, we first describe overall patterns across countries and cross-country differences; and we then illustrate differences across demographic groups and individual characteristics.

3.1 Are people willing to trade-off civil liberties?

Figure 2 pools respondents from countries in the COVID-19 Global Consumer Trends Report and shows the fraction of respondents who are *unwilling* to give up civil liberties in times of crises such as the one caused by COVID-19. We harmonize the time period of the sample with the COVID-19 Civil Liberties Survey sample (i.e., week of March 30 to the week of April 13, 2020), exploiting the richness of the time series in the Dynamics section below. Across domains such as sacrificing one's own rights, relaxing privacy protections, suspending democratic procedures, restricting freedom of the press, and enduring economic losses, about 19% of respondents declare themselves unwilling to give up civil liberties during a time of crisis.[31] Thus, the median person in the countries we survey places some emphasis on swift and effective crisis response, even at the expense of some civil liberties.

Comparing across different dimensions of civil liberties, respondents are more readily willing to give up some of their individual rights than to relax privacy protections, sacrifice a free press or suspend democratic procedures. The ranking from Figure 2 demonstrates a higher proportion of respondents are willing to endure substantial economic losses than to sacrifice these core civil liberties.

Moving to the COVID-19 and Civil Liberties Survey, which includes a more extensive module of civil liberties trade-off questions, we compare the extent to which respondents support different policies aimed at containing the COVID-19 pandemic in terms of minimum number of lives saved. Appendix Figure A.9 shows, for each policy, the average number of lives out of every 100 that respondents reported requiring the policy to save in order for them to support it. In most countries, respondents perceive policies related to the closure of schools, businesses and national borders as among the more tolerable ones (i.e., requiring a small minimum number of lives saved). Consistent with the trade-off questions listed above, policies that require tracking (i.e., an invasion of privacy)

[31] "Unwilling" is defined as answering a 4 or less on a given 10-point Likert scale question about the willingness to give up different rights and freedoms.

require a large minimum number of lives saved, as do those that drastically worsen economic outcomes (3x unemployment), especially for low-wage workers.

3.2 Which country's respondents are more willing to trade off civil liberties?

We observe substantial differences across countries regarding citizens' views about the trade-offs between public health and civil liberties. Figure 3, top left panel, presents the share of respondents who are *unwilling* to sacrifice their own rights and freedom during the crisis, across the 15 countries in both surveys.[32] The U.S. mean is shown in the dotted vertical line and is taken as the benchmark. Approximately 23% of respondents in the U.S. are *unwilling* to sacrifice their own (general) rights even during a time of major crisis. This share is four times higher than among respondents from China, where only about 5% of the respondents are unwilling to give up their own rights and freedom. Relative to the U.S., a smaller share of respondents in the Netherlands, Germany, France, the U.K., Spain, Singapore, Italy, India, Canada, and Australia are unwilling to sacrifice their own rights.[33] We observe similar cross-country differences across other civil liberties dimensions that we elicit. In fact, many of the countries in the COVID-19 Global Consumer Trends Report rank the various civil liberties in a similar way.

Overall, citizens in countries with strong existing civil liberties protections are more likely to hold onto their rights. Take the respondents' willingness to relax privacy protection during the time of crisis as an example: respondents in countries that have *high* level of *ex-ante* political and civil freedom ratings, according to the Freedom House, are significantly *more* likely to hold onto privacy protection (Appendix Figure A.11).[34] This suggests that a component of the cross-country differences in such attitudes indeed captures countries' differences in institutions — those living in countries that have existing low protection over personal privacy are less favorable of holding onto those protection at the time of crisis, presumably because the political cost of not doing so is high, or that there is not much privacy protection to forgo in the first place.

However, *within* countries with strong existing civil liberties protections, the tendency to hold onto rights such as privacy protection is *stronger* among those individuals who have been exposed to regimes where citizens had limited freedom and rights. Among German respondents

[32] The figure is based on pooled data from the COVID-19 Global Consumer Trends Report and COVID-19 and Civil Liberties Survey, focusing on the period between March 30 and April 13, 2020, because in this time period, we cover the most countries due to the overlap of the two surveys. The figure plots the coefficient estimates of country fixed effects, based on a regression that includes controls for overall week and survey fixed effects, hence exploiting only cross-sectional differences across countries. We present the average answers to these questions on a more continuous scale, in Appendix Figure A.10, where we standardize the answers (from 0-10 scale) and benchmark against the average in the U.S. (set as 0). The average attitudes across these countries fall between 0.5 unit of a standard deviation below and 1 unit of a standard deviation above the average in the U.S.

[33] Within our sample, Japan is the only country than exhibits lower share of respondents willing to sacrifice their own rights, compared to the U.S. See Beer (1983) for a discussion of the century of national emergency broken by "interludes of martial law" and the reaction of the post-WWII citizenry to the Potsdam declaration and attendant policies: "the vast majority of citizens responded with overwhelming support for the new regime of freedom."

[34] Despite the fact that European countries tend to be more concerned about privacy protection, as reflected in the enactment of the General Data Protection Regulation (GDPR), one of the strictest privacy regulations in the world, respondents in Europe are considerably more likely to give up their privacy rights during periods of crisis such as COVID-19, than their American counterparts.

old enough to have experienced a divided Germany, those who reside in states that belonged to the former East German regime are significantly *less* willing to give up civil liberties even during time of crisis, and they worry significantly *more* that rights will not be restored once they are taken away, compared to their West German counterparts (see Appendix Figure A.12, Panel A). Similarly, among respondents from South Korea, those with exposure to the North Korean regime, as measured by having migrated from North Korea during the Korean War (1950-1953), or having a close family member who did, are substantially less willing to give up their rights during the crisis and demonstrate a much stronger worry about the rights given up during crisis becoming permanently lost (see Panel B). These results suggest that individuals who have previously experienced regimes without respect for civil liberties are more salient of the costs associated with lack of civil liberties, and less likely to take civil liberties for granted.[35]

Such within and across country differences in willingness to trade-off civil liberties reflect, at least partially, the pre-existing characteristics and institutional features of these polities, irrespective of the COVID-19 crisis. It is important to note that such institutional features and citizens' attitudes over civil liberties are likely co-evolving and outcomes of a political equilibrium — institutions shape and are shaped by citizens' attitudes and preferences. It is also important to note that during the time of our survey, countries in the sample were at different stages of the COVID-19 pandemic, which could shape citizens' attitudes over trading off civil liberties.[36]

Beyond reflecting institutional characteristics, the differences could reflect diverse populations and their attitudes or respondents' differential response to the COVID-19 crisis. In fact, we find that, on average across all the dimensions of trading off civil liberties that we elicit, only around 10% of the overall variance in attitudes over trade-offs of civil liberties and public health conditions can be attributed to cross-country differences.[37]

3.3 Who is more willing to trade off civil liberties?

As noted above, majority of the variation in citizens' views about the trade-offs between public health and civil liberties reflects within country differences. We now turn our attention to who, in terms of demographic groups and individual characteristics, is more willing to trade off civil liberties.

Demographic characteristics We first examine which demographic characteristics are systematically associated with one's willingness to give up rights during the time of a crisis. Appendix Figure A.13 shows the association between willingness to give up rights and various demographic

[35]These findings corroborate existing evidence that shows that more general preferences for democracy are influenced by the length of time spent under democracy, such as Fuchs-Schündeln and Schündeln (2015). However, contrary to this existing work, which finds that within country, the longer an individual has lived under a democratic system, the *stronger* the support for democracy, our findings suggest that within a democratic system, in case of a major crisis, those individuals who have lived in regimes with fewer civil liberties before tend to be *more reluctant* to curtail civil liberties.

[36]See Appendix Figure A.1. We examine the dynamics of citizens' trade-offs over civil liberties in Section 6.

[37]See Supplemental Table F.6. Willingness to sacrifice freedom of the press has the highest fraction of variation attributable to cross-country differences (14%), while willingness to endure economic losses has the lowest (5%).

characteristics, across respondents in the seven countries in our COVID-19 and Civil Liberties Survey. We control for a full set of survey country interacted with survey week fixed effects as well as dummies for treatment assignment and individual hotspots, hence zooming in on within-country patterns. We find that, conditional on country, survey date and residence in a COVID-19 hotspot area, older individuals (65+) and females are more (by 4% and 6% of a standard deviation, respectively) willing to give up their own rights during crisis. On the contrary, the youngest individuals (age 18-25) and those who are unemployed are among the least willing to give up their rights during a crisis (by 6% and 9% of a standard deviation, respectively).

Patterns with respect to income are fairly consistent across countries, such as the U.S., France, and Italy.[38] The gender gradient in COVID-19 related beliefs and behaviors has been documented among residents of OECD countries (Galasso et al., 2020). One interesting exception is that men in South Korea and China do not appear to be as different from women with respect to sacrificing civil liberties for public health as men in Western countries.

Perceived risks and worries associated with COVID-19 We next turn to factors more directly related to the COVID-19 pandemic. In particular, we investigate the extent to which individuals' perceptions of the impact of the COVID-19 pandemic are associated with their willingness to trade-off civil liberties.

We focus on three dimensions of such perceived impact: health, economic well-being, and the potential for long-term erosion of civil liberties.[39] Figure 4 presents the regression coefficients, obtained from separate regressions of our five main measures of attitudes about trade-offs between public health and civil liberties on an index for health-related concerns, an index for economic-related concerns (e.g., worry about household financial situation), and a measure of concern for the long-term erosion of civil liberties.[40]

We observe a clear pattern: greater concern about health is strongly associated with *more* willingness to civil liberties. On average, a one standard deviation increase in one's health-related concerns is associated with about half of a standard deviation unit increase in the respondents' inclinations such as willingness to sacrifice own rights and suspend democratic procedures. The positive association holds virtually across all countries in the sample (see Appendix Figure A.15), despite the aforementioned differences in overall levels that we observe across countries.

[38] See Supplemental Figure E.1. Supplemental Tables F.7-F.13 present the corresponding results in regression format.

[39] These worries are strongly associated with disease avoidance and social distancing behaviors. As shown in Appendix Figure A.14, respondents who exhibit stronger health-related concerns are substantially more likely to wash hands frequently, avoid going to restaurants, and stay at home for work.

[40] The indices of health and economic-related worries are constructed from answers to the question *"When thinking about COVID-19, how worried, if at all, are you personally about...,"* which are elicited on a 5-point Likert scale. The index of health-related worries is a simple average of four items: worries about personal health, the health of the elderly, being around strangers, and the health care system being unable to cope. Similarly, the index of economic-related worries is a simple average of four items: worries about own household's financial position, about availability of food, about one's own country's economy, and about the world economy. The measure of concern about long-term erosion of civil liberties is given by the answer to the survey question *"On a scale of 0 to 10, how worried are you that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over?"* This analysis is conducted using the COVID-19 Global Consumer Trends Report sample.

On the contrary, greater concern about long-term erosion of civil liberties are strongly associated with *less* willingness to sacrifice rights and freedoms during times of crises. A one standard deviation increase in one's worries about civil liberties is associated with approximately one third of a standard deviation unit decrease in such inclinations.

The association between concern about economic well-being and willingness to trade-off civil liberties is more muted and nuanced. While economic considerations are certainly very salient, the magnitude of the association is much smaller as compared to that between concern about health conditions and willingness to trade-off civil liberties, and the signs of the association are mixed. Conceptually, the trade-offs between economic well-being and public health conditions are ambiguous: *a priori* some individuals might view public health measures as obstacles to economic recovery while others may view such measures as necessary steps to safeguard economic opportunity now and in the future.

4 Individual COVID-19 health risks and civil liberties trade-offs: quasi-experimental approach and results

In this section, we exploit quasi-experimental variation in the health risk associated with the pandemic to examine the extent to which the correlations between health worries and views on civil liberties presented in Section 3.3 represent a causal relationship.

4.1 Estimation

We combine natural variation in underlying individual medical conditions, age, income and sex with geographical COVID-19 spread to construct health risk scores using the *Mathematica 19 & Me* COVID-19 risk calculator (Hu et al., 2020).[41]

The main specification for the quasi-experimental approach is:

$$Y_{ihjd} = \alpha + \beta HR_{ihj} + \pi X_{ij} + \mu_j + \gamma_h + \delta_d + \epsilon_{ihjd}, \tag{1}$$

for respondent i in (or outside of) hotspot h in country j at survey date d. Y is one of the outcomes of interest described above. Country and survey date fixed effects (μ and δ) are included in each specification as are indicators for each hotspot location (γ).

We control for a large set of individual and regional characteristics that may affect the willingness to trade-off civil liberties. The vector X includes indicators for age group, sex, income, education attainment, employment status (retired, student, unemployed full/part-time employed), political affiliation (right, left, neutral/independent), measures of risk and time preferences, population density and distance to the nearest COVID-19 hotspot.[42] We also include a set of indicators

[41] See https://www.mathematica.org/commentary/19-and-me-a-covid-19-risk-calculator. Our health risk scores are based on the initial version of the *Mathematica 19 & Me* COVID-19 risk calculator, which was released in May 2020.

[42] These variables are harmonized so that their interpretation across locations is comparable. For instance, income categories are relative to the distribution within country.

for the experimental intervention — though results are similar when dropping all except those in the control group.[43] X also contains each covariate used in the construction of the Mathematica COVID-19 health risk index (described in detail below).

The main coefficient of interest is β, which reflects the effect of a one-unit standard deviation increase in COVID-19 health risk (HR_{ihj}) on a given outcome of interest.

4.1.1 Individual COVID-19 health risk score

We use the *Mathematica 19 & Me* risk score to construct health risk.[44] We adapt the original formula so that it reflects more recent and robust medical estimates, and that it relies more on factors independent of individuals' (endogenous) behaviors. The index is the product of the probability of COVID-19 infection and the probability of a severe COVID-19 outcome (e.g., death) conditional on infection (Hu et al., 2020):

$$HR(k)_i = Pr(COVID\text{-}19\, Infection_i) * Pr(COVID\text{-}19\, Death_i) \tag{2}$$

where the k refers to different versions of the index, described below.

The first component — the probability of COVID-19 infection is given by:

$$Pr(COVID\text{-}19\, Infection_i) = \frac{Exposure\, Odds\, Ratio_i}{1 + Exposure\, Odds\, Ratio_i}, \tag{3}$$

where the $Exposure\, Odds\, Ratio_i$ is:

$$Exposure\, Odds\, Ratio_i = \frac{Pr(Exposure_i)}{1 - Pr(Exposure_i)} * Risk\, Mitigating\, Behaviors_{-i} \tag{4}$$

and the probability of exposure for respondent i is:

$$Pr(Exposure_i) = 1 - (1 - T(\tau, \rho))^{Num.\, of\, Contacts_{-i}}. \tag{5}$$

In summary, exposure to COVID-19 is an absorbing state: the probability of exposure is 1 minus the chance of not contracting the virus from any of the close contacts. To reduce endogeneity of one's own behavior, we substitute *own* contact rates with a *leave-one-out* mean among respondent i's age group-sex-country cell. Thus, each individual i is assigned $Num.\, of\, Contacts_{-i}$ other contacts. For each contact, one faces a transmission probability ($T(\tau, \rho)$) which is the product of τ, a constant conditional transmission rate, and ρ, a proxy for local prevalence. The exposure odds can be reduced by preventive behaviors (i.e., $Risk\, Mitigating\, Behaviors_{-i}$ in Equation 4), which include a (leave-one-out) measure of hand hygiene.[45]

[43] See Supplemental Table F.14.

[44] See Appendix Section D for further details about $HR(k)$ and the Mathematica Score. See Appendix Section D.1.1 for details of infection rates.

[45] Specifically, $Risk\, Mitigating\, Behaviors_{-i}$ is 1 minus a leave-one-out number of times having washed hands dur-

The second component — death conditional on infection, is constructed based on the empirical odds of dying from COVID-19 given certain medical conditions, and sociodemographic factors (age, sex and income). We update the original Mathematica risk score to incorporate more recent and robust medical estimates.[46] The updated odds ratios herein are from an analysis of the United Kingdom's National Health System electronic medical records which covered approximately 17 million primary care visits and over 10,000 COVID-19 related deaths (Williamson et al., 2020). The odds ratios combined in $Pr(COVID\text{-}19\ Death_i)$ include higher odds for older age, lower income, male sex, obesity, smoking, chronic obstructive pulmonary disease (COPD), cardiovascular disease (CVD), diabetes and miscellaneous chronic medical conditions.

We construct two variations of the health risk indices concerning how local COVID-19 prevalence is incorporated in the infection probability. These two variants rely on different identifying assumptions and proxy for COVID-19 spread in different ways; hence, they complement each other in our identification strategy.

The first index, $HR(1)_{ihj}$, directly incorporates the local prevalence of COVID-19 infection into the transmission rate. Specifically, ρ is the leave-one-out mean of respondents with an acquaintance infected with COVID-19 in i's broad geographic region (i.e., administrative level 1).[47]

The second index, $HR(2)_{ij}$, follows $HR(1)_{ihj}$ but sets ρ as 1 so that geographic variation in COVID-19 prevalence is *not* directly incorporated into the health risk index itself. Instead, we interact $HR(2)_{ij}$ in Equation 2 with an indicator for residence in a COVID-19 hotspot. Specifically, the alternative specification is:

$$Y_{ihjd} = \alpha + \beta(HR(2)_{ij} * \mathbb{1}^{hotspot}) + \psi HR(2)_{ij} + \pi X_{ij} + \mu_j + \gamma_h + \delta_d + \epsilon_{ihjd}. \quad (6)$$

Thus, β in this specification is identified not solely on the non-linearity of the health risk index, but on the interaction between health risk index and local COVID-19 prevalence.

Importantly, both of the baseline COVID-19 health risk indices that we constructed based on the epidemiological and medical literature are strongly correlated with our own survey data on respondents' perceived risk of contracting with COVID-19. Appendix Figure A.16 shows that respondents with high health risk scores have indeed a much higher subjective likelihood of getting sick from COVID-19 (p-value < 0.01). To the extent that subjective health risks are directly affecting individuals' attitudes and behaviors, we show in Appendix Table B.10 that subjective health risks regarding COVID-19 are strongly associated with individuals' willingness to trade-off civil liberties over public health conditions. While respondents' perceived COVID-19 risks could directly drive their behaviors and preferences on civil liberties trade-offs, such perceptions are highly en-

ing the past 24 hours by sex, age, divided by the maximum number of hand washing across all countries. Mask wearing was not universally recommended at the time of our survey.

[46] The original Mathematica risk score relies on a medical study conducted in early March 2020, which included only a sparse number of COVID-19 deaths in China (Verity et al., 2020).

[47] Since the acquaintances with COVID-19 may not be located in the region as the respondent, to properly measure the local exposure risks, we adjust the acquaintance-based proxy for ρ so that it exponentially decays in distance from the nearest COVID-19 hotspot.

dogenous and the health risk indices aim to capture the more objective components that shape risk perceptions.[48] In Section 4.2, we discuss the robustness of our baseline health risk scores to various alternative specifications.

4.1.2 COVID-19 hotspots designation

Both $HR(1)_{ihj}$ and $HR(2)_{ij}$ rely on the designation of COVID-19 hotspots (at the time of April 2020). These are cities we pre-specified (and over-sampled) before survey implementation (see Section 2.2 for details).

Although COVID-19 hotspots were pre-registered, there are, of course, many different ways to measure regional COVID-19. The baseline results that we will present are robust to many alternative measurements of regional COVID-19 prevalence: (i) the cumulative number of reported COVID-19 cases in the respondent's region of residence during the week prior to when the survey was taken[49]; (ii) the standardized count for cumulative COVID-19 cases in the corresponding region; (iii) the cumulative number of COVID-19 related deaths in the respondent's region of residence during the week prior to when the survey was taken; and (iv) whether the regions are in the top 5% percentile in terms of cumulative number of reported COVID-19 deaths as of March 30th, 2020.[50] We discuss the robustness with respect to these alternative measures in greater detail in Section 4.1.3.

4.1.3 Identification assumptions and threats to identification

While each of the two empirical strategies must contend with specific threats to identification, these two strategies complement each other and strengthen overall identification.

The two variants of health risk indices require different identification assumptions and are subject to different threats. Identification with $HR(1)_{ihj}$ relies on the non-linear functional form of the virus contraction and disease risks with respect to individuals' characteristics. The critical identification assumption to interpret β in specification (1) as causal is that the specification for the epidemiological health risks is correct, in particular that it includes non-linear components. Our baseline measure follows a reputable measure and is developed based on a large medical literature.

[48] The objective health risks imperfectly capture individuals' subjective health risks, potentially because: (i)there are (objective) factors that are not accounted for such as the number of elderly in the family; (ii) people may be over- or under-reacting to objective risk factors; and (iii) people may be affected by (mis)information on what is actually a risk factor.

[49] Data on number of infections by region comes from the following sources: China Data Lab (2020) for China; Santé publique France (2020) for France; Robert Koch Institute (2020) for Germany; Dipartimento della Protezione Civile (2020) for Italy; Korea Centers for Disease Control and Prevention (KCDC) (2020) for South Korea, GOV.UK website (2020); National Health Service (2020); Office for National Statistics (2020); Department of Health of Northern Ireland (2020); Public Health Wales (2020); Scottish Government (2020) for the UK, and The New York Times (2020) for the U.S. Region is defined as harmonized administrative level 1 region — the most detailed geographic level at which infection data is available for all countries in our sample. Germany: States; USA: States; China: Provinces; South Korea: Metropolitan cities, special city, special autonomous city, and provinces; Italy: Regions; Great Britain: Regions; France: Regions.

[50] Regions selected are: Germany: Bayern; USA: New York State and Washington State; China: Henan and Hubei; South Korea: Daegu; Italy: Lombardia; Great Britain: London; France: Île de France.

We conduct two sets of robustness exercises to assess the underlying functional form specification of the epidemiological health risks. First, we perturb aspects of the specification such as the exact formulation of the COVID-19 contraction risks and disease severity conditional on contraction; we discuss in a subsequent sub-section that our results are not affected by such perturbations. Second, we replace the key disease and health conditions with ailments that not medically directly related to COVID-19, while maintaining other aspects of the epidemiological health risks formulation; we discuss in a subsequent sub-section that our baseline results crucially depend on the specification tailored to COVID-19.

Identification with $HR(2)_{ij}$ relies on the *interaction* between regional characteristics (hotspot indicator) and individual characteristics. The latter dimension of our difference-in-differences aims to capture individual characteristics and pre-existing conditions that lead certain individuals to be at higher health risk in the COVID-19 pandemic than others: for example, being affected by chronic lung disease. Of course, individuals with different degrees of pre-existing risk propensities to COVID-19 are different across many observables and in particular, unobservable dimensions. Thus, we incorporate a second dimension of variation that aims to capture geographic variation in pandemic intensity. As such, the difference-in-differences approach compares the attitudes of individuals with different COVID-19 related health risks across regions that have different prevalence of COVID-19 infection, conditional on specific hotspot fixed effects and the nonlinear risk score. In other words, we difference out the baseline differences in attitudes that would exist among individuals with different health risks within a region, or differences in attitudes among individuals with similar risk propensity across regions.

In order to interpret β in specification (6) as the causal effect of high intensity COVID-19 exposure on the attitudes of individuals at high-health risk, the following assumption has to be satisfied: had COVID-19 intensity been the same in all regions within a country, then, conditional on controls, the difference in the outcomes between people at high and low health risk would, on average, have been the same in regions with different actual exposure (*parallel trends*). As the COVID-19 hotspots tend to be more urban and metropolitan, we condition on residence in a given hotspot in all specifications as well as population density and political affiliation.[51]

To probe our identifying assumptions concerning $HR(2)_{ij}$, we perform three types of robustness checks. First, we demonstrate consistent results across different definitions of who is considered at high health risk and different geographical definitions of pandemic intensity. Second, we include a rich set of controls in order to absorb variation that may lead to the violation of the identifying assumptions, such as regional fixed effects. Third, we probe the "parallel trends" assumption by exploring a survey question that asks whether a respondent's views on the civil liberties v.s. public health trade-offs has *changed* in the two weeks prior to the survey. Parallel trends implies that: (a) in low intensity COVID-19 areas (i.e., areas that have not had high COVID-19 prevalence yet at the time of the survey), individuals of different health risks do *not* report differential amounts of changes in their views; and (b) among respondents with low (personal) health risks, individ-

[51] See Supplemental Table F.15.

uals in- and outside of COVID-19 hotspots do *not* report differential amounts of changes in their views. Reassuringly, we indeed find both to be true in our data (Appendix Table B.15).

We interpret these estimates as capturing a range of COVID-19 exposure effects from direct health effects to community health impacts, as well as various socioeconomic disruptions arising from the pandemic. Hence our focus on the reduced form estimates. This emphasis reflects the reality that major crises by definition reverberate across multiple aspects of people's lives. It is important to carefully examine views about trade-offs over various aspects of society under such circumstances, of which we focus on two (civil liberties and public health conditions). We leverage survey experiments to isolate specific channels through which the holistic effects due to COVID-19 pandemic exposure operates, and we discuss these in detail in Section 5.

4.2 Results

We present results from our baseline specifications in Table 1, estimated on one outcome at a time. Column (3) shows the estimated β coefficients from the first empirical strategy and column (4) its standard error, following specification (1); column (5) shows the estimated β coefficients from the second empirical strategy, following specification (6) and column (6) the corresponding standard errors. Each panel corresponds to a category of outcomes grouped by theme. In addition to individual outcomes, we also report the effect on a z-score index that summarizes all the individual outcome variables in the category.

A consistent pattern emerges from both empirical strategies. We find that exposure to COVID-19 risks significantly and substantially increases individuals' willingness to give up some rights and freedoms for improvement of public health conditions. Individuals who are subject to greater epidemiological COVID-19 health risks are more likely to express willingness to give up not only their own rights, but also the rights and freedoms of others in the society, even controlling linearly for all the components that shape the health risks. Those who are residing in regions that are more severely hit are also more willing to give up rights and freedom. Individuals in these regions who are more prone to health risks related to COVID-19 themselves are differentially and substantially more willing to give up their rights and freedom, compared to those who are either less prone to health risks and living in the same region, or those with similar risk propensity but living in less severe COVID-19 hit regions.

The magnitude of the differences in attitudes that we identify is large. As a benchmark, we can use gap between the average responses in China and the U.S. (column 7), which is one of the largest cross-country gaps that we observe in terms of citizens' willingness to trade-off civil liberties. The increase in willingness to give up rights due to a one standard deviation increase in an individual's exposure to COVID-19 risks as measured by $HR(1)_{ihj}$ is approximately 10% of the baseline US-China gap.

Such differences in willingness to give up rights due to exposure to COVID-19 are reflected across a range of specific civil liberties domains. We find that individuals more exposed to COVID-19 risks (according to either measure) are more willing to trade off the protection of privacy for

public health conditions and more supportive of policies that track and trace individuals in society (Panel B). Exposure to COVID-19 risks is also correlated with more support for strong leaders, and even for suspending democratic procedures and key institutions such as freedom of the press in order to improve public health conditions (Panel C). The latter results are statistically weaker using the second empirical strategy. Moreover, exposure to COVID-19 risks leads to greater tolerance of an array of public health policies that restrict individuals' mobility and right of movement (Panel D); of policies that limit business activities and school operations (Panel E); and of public health measures that may induce economic hardship (Panel F).

In fact, the very individuals who are willing to trade-off civil liberties due to their more severe exposure to COVID-19 risks are also more pessimistic about the prospect that the rights and freedoms they are willing to give up may be restored in the future.[52] This makes their willingness to sacrifice rights and freedoms even starker, considering the long-term risks on civil liberties erosion that they are willing to tolerate.

Moreover, we use those questions in the COVID-19 and Civil Liberties Survey that are also asked in the WVS to examine the country-level patterns going back much further in time. We find that prior to the Covid-19 pandemic, citizens' preference for strong leaders and a democratic political system remains relatively stable over time, as evident from a comparison of attitudes reported in the WVS in the years 2005-2007 to attitudes reported in the WVS in the years 2017-2018, the two most recent waves of the WVS (Appendix Figure A.17, plots in left column). However, there is a significant increase in the preference for strong leadership and a decrease in preferences for a democratic political system between the period 2017-2018 (based on WVS) and 2020 (based on COVID-19 and Civil Liberties Survey), after the COVID-19 pandemic started (Appendix Figure A.17, plots in right column), suggesting that the COVID-19 crisis may have upended a set of stable and fundamental preferences and attitudes among the citizens around the world.

While we may have intuitively expected at least some citizens to become more willing to give up some personal freedoms for public health, it is more surprising that they are willing to also give up freedom of mobility, privacy protections, electoral procedures, and freedom of speech, which are backbones of liberal democratic institutions. Freedom of speech and the press are considered as especially critical during time of crisis to ensure that the governments' actions are best reflecting their citizens' interests (Sen, 1981). The short and longer-run social welfare implications of this willingness to give up fundamental rights are unclear.

Robustness

The baseline results presented above are robust to a variety of alternative specifications. In Appendix Tables B.11 and B.12, we shows that, for both empirical strategies, the baseline results are robust to: (*i*) controlling for sub-nation regional fixed effects (Panel A); and (*ii*) dropping the New York City sample, the largest COVID-19 hotspot at the time of the survey (Panel E). Specific to the first empirical strategy, the baseline results are also robust to: (*iii*) replacing the geographic expo-

[52] See Supplemental Tables F.16.

sure component in the epidemiological health risks with cumulative COVID-19 cases in the region by the time of the survey (Panel B, Appendix Table B.11); (*iv*) replacing the geographic exposure component in the epidemiological health risks with cumulative COVID-19 related deaths in the region by the time of the survey (Panel C, Appendix Table B.11); and (*v*) replacing the geographic exposure component in the epidemiological health risks with standardized cumulative COVID-19 cases in the region by the time of the survey (Panel D, Appendix Table B.11).

Specific to the second empirical strategy, the baseline results are also robust to: (*vi*) using cumulative COVID-19 related cases as an alternative measure of regional COVID-19 exposure (Panel B, Appendix Table B.12); (*vii*) re-defining COVID-19 hotspots as regions where residents' perceived community risks of COVID-19 infection is in the top 10th percentile in the corresponding country (Panel C, Appendix Table B.12); and (*viii*) using an alternative, non-Mathematica based personal health score as an alternative measure of individual risk propensity (Panel D, Appendix Table B.12).[53]

We also perform a number of placebo exercises. First, when constructing COVID-19 health risks, we replace the pre-existing health conditions (e.g. chronic lung diseases), key risks associated with severe COVID-19 symptoms conditional on contracting the virus, with conditions shown in the medical literature to be unrelated to COVID-19 severity, such as back pain. The estimated effects of this placebo health risk on attitudes towards trading-off civil liberties become muted and statistically indistinguishable from zero (see Appendix Table B.13). Second, when constructing regional COVID-19 exposure, we replace COVID-19 hotspots in the baseline specification with an indicator for highest historic (2018) regional population death rate,[54] which are unrelated to COVID-19 severity by definition. Again, we observe that the estimated effects on civil liberties trade-offs attitudes are muted and statistically indistinguishable from zero (see Appendix Table B.14). We can also replace COVID-19 regional hotspots with a set of randomly drawn zipcodes, while maintaining the overall share of regions that are designated as pseudo-hotspots. We re-estimate the baseline specification for each randomly drawn pseudo-hotspots, and we repeat this 5,000 times. We plot the distribution of estimated t-statistics on each of the categorical z-scores on key outcomes.[55] One observes that the t-statistics of the estimated effects on all the dimensions of attitudes trading-off civil liberties tend to be substantially larger than those from the pseudo-hotspots, indicating that the relationship between COVID-19 exposure and respondents' attitudes are unlikely to be driven by random distribution of certain regional patterns.

[53] One may be worried about the complexity of the baseline personal health risk score. For robustness, we develop an alternative, simpler measure of individual's health risk. It consists of an index that assigns risk points to health conditions (cardiovascular disease, diabetes, chronic lung disease, obesity, pregnancy, tobacco use, or being someone who (or living with someone who) requires frequent hospital use) and demographic characteristics (age and gender), based on the medical literature describing factors associated with the severity of COVID-19 health risk. See, among others, Guan et al. (2020), Huang et al. (2020), Zhou et al. (2020), Wu and McGoogan (2020)), and factors associated with exposure to the virus (Alsan et al., 2020). See Appendix Section D for more details of the index construction procedure.

[54] Defined as a binary indicator that equals one if a respondent's region had a death rate in 2018 that put the region at or above the 75th percentile within the country.

[55] See Supplemental Figure E.2, where the red vertical lines mark the corresponding t-statistics estimated from the true COVID-19 hotspots.

Finally, while we have kept most of the survey outcomes as they are elicited, as we discussed in Section 2, we construct binary indicators based on the "minimum lives needed to save" questions. The re-constructed outcomes allow us to take into account of the differences in respondents' prior beliefs on the total fatality scale due to COVID-19, which may affect how respondents think about the magnitudes of the trade-offs involved. In Appendix Table B.8, we show that the baseline results (shown in Panel A) are robust to alternative reconstruction such as normalizing the policy tolerance attitudes by the perceived number of (future) COVID-19 related deaths (shown in Panel B). Note, however, without taking into account such beliefs, we find that exposure to COVID-19 risks' effects mixed across the attitudes regarding the minimum number of lives (out of 100) a particular policy needs to save in order to justify its implementation (shown in Panel C).

Heterogeneity

We explore two aspects of heterogeneity in the baseline results that we presented. First, we examine whether the patterns of COVID-19 risk exposure and trading-off civil liberties are consistent across the seven countries in our sample.[56] One observes broadly consistent and quantitatively similar effects of COVID-19 risk exposure and willingness to trade off civil liberties across the U.S. and five European countries, although statistical significance decreases due to the reduced sample size.[57]

Second, we turn to heterogeneity across individuals within country. We re-estimate COVID-19 exposure effects on the z-score index of the category of outcomes on respondents' overall willingness to give up rights and freedom, splitting the sample into various sub-groups. We do so with both empirical strategies, and consistent patterns emerge. We present the results following the first reduced form specification in Table 2.[58] We split the sample across three types of sub-groups: (*i*) based on income, education, labor market status, economic vulnerability, and household characteristics (Panel A); (*ii*) based on political leaning, political attitudes such as trust in government and trust in media (Panel B); and (*iii*) demographic characteristics such as gender, age and race (Panel C). While there are many interesting patterns on heterogeneity, one theme that emerges consistently is that the increase in willingness to trade-off civil liberties due to COVID-19 risk exposures is particularly stronger among the young, educated, non-Black/Hispanic white (in the U.S.), employed, and those who are economically secure.

These findings suggest that the ability to trade-off rights and freedoms may be considered not so much as "sacred goods" but rather as "luxury goods." Those who have a socioeconomic cushion to weather the crisis are more willing to let go (at least temporarily and to some degree) civil liberties and political rights. Those who are less cushioned hold onto their rights, potentially out of conviction that civil liberties and political rights protect their well-being during the crisis, or out

[56] Supplemental Tables F.17 to F.23 present the baseline estimation for respondents from each of the seven individual countries.

[57] It is, however, interesting to note that there exists some differences in the specific dimensions of civil liberties that individuals are willing to give up amid of COVID-19 health risks. For example, people in Italy and Germany are not willing to relax privacy protections, while the U.S. and U.K. are willing to do so.

[58] We present the heterogeneity analyses following the second reduced form specification in Appendix Table B.16.

of concern that liberties and rights, once sacrificed, will not be restored in the future.

The evidence presented above reveals that individuals trade off fundamental liberties during times of crisis in a manner responsive to individual costs and benefits, particularly when health-related risks are concerned. This stands in contrast with the notion that such trade-offs are taboo and views on core, fundamental rights and freedoms are inelastic.

5 Concerns over public health and civil liberties erosion: experimental results

In this section, we describe two interventions we devised to enrich our understanding of the relationship between exposure to the COVID-19 crisis and the ways in which people navigate the trade-offs between public health and civil liberties.

While we cannot directly shift respondents' objective health risks, the experimental interventions were designed to highlight either the benefits or costs of public health policies that restrict certain liberties and rights.

5.1 First stage results

We first present the treatment effects on a set of questions directly related to the information contained in the two treatment arms.[59] Table 3 presents the treatment effects on these outcomes. We find that the civil liberties treatment makes the respondents, relative to those in the control group, significantly more likely to state that China ranks among the most effective countries in terms of handling the COVID-19 pandemic, and more likely to express worry that (personal) information collected during the COVID-19 crisis in order to fight the pandemic may be misused in the future (Panel A). These two elements — China as an exemplifying case and the potential danger of privacy violation — are core to the civil liberty treatment material. We find that the public health treatment makes the treated respondents substantially more likely to agree that flattening the curve is important to fight the pandemic, and a key constraint to surges in deaths is due to insufficient supply of personal protective equipment (PPE). Similarly, these two elements are centrally featured in the public health treatment.

These results suggest that subjects paid attention to and understood the information in the treatments. Moreover, it is important to note that the civil liberties and public health treatments successfully affected treated respondents only in their specific, respective domains of interests. In other words, respondents assigned to the public health treatment exhibit treatment effects on

[59] Throughout the experimental treatment effect estimation, we include a set of demographic and geographic controls that mirror those in the quasi-experimental estimation in Section 4, which include: country and survey date fixed effects, geographic controls (11 individual hotspots), respondent demographic controls (male, income, age, employment status, having a college degree, political affiliation, political neutral dummy, risk preference, time preference, the "leave-one-out" mean of past COVID-19 related behaviors, disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and the "leave-one-out" mean of knowing someone contracted with COVID-19 at administrative level 1 geographical region.

questions related to public health and not on other questions; conversely, respondents assigned to the civil liberties treatment exhibit treatment effects on the questions related to civil liberties and not on others. The question on worry about information misuse is one exception, where both treatment arms make the respondents increase their perceived worry relative to the control group, although the civil liberties treatment generates a much stronger effect than the population health treatment.

Finally, we examine whether either the civil liberties or the public health treatment changes respondent knowledge regarding the COVID-19 pandemic that is not specifically mentioned in the treatment. In two such dimensions — knowledge on how COVID-19 spreads, and what the common symptoms of COVID-19 are, treatment respondents are *not* more likely to answer these questions correctly than those in the control group. This suggests that while our experimental treatments successfully shifted the respondents attitudes on the pandemic, the changes pertain to the specific aspects mentioned in the treatment, rather than generic and broad changes in knowledge, attention, and awareness of the pandemic *per se*.

While the treatment effects are the average treatment effects among all treated subjects, it is useful to examine which sub-group of the treated subjects is more responsive to the treatment and "comply" to the treated materials. We present results on heterogeneous treatment effects on the first stage outcomes across key demographics characteristics and pre-treatment attitudes and behaviors. We find that among the treated subjects, those who distrust the media more and are more patient (e.g., care more about the future) are more responsive to the civil liberties treatment, and those who are more risk-loving and have engaged in fewer social distancing practices are more responsive to the public health treatment. Moreover, respondents who have *not* yet contracted COVID-19 constitute a larger share of compliers.[60]

5.2 Treatment effect on views about trade-offs between public health conditions and civil liberties

We now examine whether the experimental treatments induce changes in respondents' attitudes regarding the trade-offs between civil liberties and public health. We present the experimental results on outcomes one category at a time – first on individual survey questions, and then on the category as a whole where we summarize the questions using an z-score index.

First, we look at respondents' overall willingness to give up rights and freedoms during the crisis. In Table 4, Panel A, we present the treatment effect estimates first on the civil liberties treatment (Columns 3 and 4) and then on the public health treatment (Columns 5 and 6). Column 7 reports the p-value comparing the two interventions. One observes that upon receiving information about the potential erosion of civil liberties during the COVID-19 crisis, the treated respondents are not only significantly less willing to give up their own rights and freedom, but also less willing to give up the rights of others in the society.

[60] See Supplemental Table F.24.

The public health treatment, on the other hand, has minimal impact on the respondents attitudes in these dimensions. The effect of the civil liberties treatment on respondents' willingness to give up rights is substantial in magnitude: the treatment induces 0.083 of one standard deviation unit reduction in willingness to give up rights, which corresponds to around one tenth of the pre-existing differences among control group respondents from the U.S. and China.[61]

Second, we examine treatment effects on respondents' views about the trade-off between privacy protection and public health conditions. The results are presented in Table 4, Panel B. We find that respondents who are presented with the civil liberties treatment are less willing to let go of privacy protection during the pandemic. The public health treatment induces changes in the opposite direction: including a 2.3 percentage point increase in interest in downloading a MIT tracking app (approximately 10% of the U.S.-China gap).

Third, we examine how the interventions affect respondents' views about the trade-off between democratic procedure and public health conditions. The results are presented in Table 4, Panel C. Upon receiving the public health treatment, respondents become significantly more likely to prefer having strong political leaders, as well as to delegate decisions to experts. Importantly, while the treatment emphasizes the need for strong, swift, and coordinated actions during the pandemic in order to protect public health conditions, the treated respondents increase support for strong leaders regardless of whether the pandemic is still in place, and for delegation to experts regardless of whether decisions concern public health. We also find that the public health treatment makes the respondents slightly more unwilling to forgo media freedom, more unfavorable of democratic systems, and more unwilling to suspend democratic procedures in exchange for swift decision-making, although the treatment effects are *not* statistically distinguishable from zero. Perhaps surprisingly, we do not find the civil liberties treatment inducing a strong effect along these dimensions.

Fourth, we examine both views about the trade-offs between the right to free movement and public health conditions, as well as between business operations and public health conditions (Table 4, Panels D and E). Though the directions are as hypothesized, we do not observe strong and statistically significant treatment effects on either margin.

Finally, we investigate the extent to which the interventions affect respondents' willingness to accept public health measures that would disrupt economic well-being (Table 4, Panel F). We find that while the public health treatment does not affect respondents' attitudes, the civil liberties treatment makes the respondents substantially less willing to accept and tolerate strong public health measures that significantly disrupt the economy. Recall that the gap between the U.S. and China was smaller when it came to economic trade-offs, and we cover over 50% of the gap with the civil liberties intervention.

Overall, the experimental treatment effects presented above indicate that views about the trade-offs between public health conditions and civil liberties are elastic to information. The two treat-

[61] While we don't find strong evidence that either experimental treatment increases perceived severity of the COVID-19 pandemic (in terms of total deaths), the civil liberties treatment makes subjects substantially more likely to worry that the forgone rights during the pandemic might not be restored in the future (see Supplemental Table F.25).

ments shift respondents' views in opposite direction and these differences are generally statistically significant (see Column 7).[62]

5.3 Heterogeneous treatment effects

We estimate treatment effects on sub-samples split according to respondents' age, income, political leaning (only among the U.S. respondents), COVID-19-related health risks, and residence in a highly affected area. The results are presented in Appendix Table B.17.

Overall, we find that the civil liberties treatment induces stronger effects among respondents who are less educated, male, mistrust the media and who who are not employed. These respondents are more sensitive to the suggestion that rights once taken away may not be restored and move farther away from supporting public health measures. The civil liberties treatment also resonates more with those who have are farther out in time since the first case (Panel C). This coincides with results on fatigue for curtailing civil liberties over time that we turn to next.

6 How do attitudes evolve over time?

In this final section, we make use of the many months of continuous data we have collected to examine the dynamics of attitudes over such trade-offs throughout the COVID-19 pandemic.

Citizens around the world became less willing to sacrifice rights and freedoms over time from the inception of our survey in end of March until mid-June, 2020. Figure 5 presents the trade-off between public health conditions and various civil liberties, conditional on country and week fixed effects (the 1st week is normalized to zero).[63] By mid-June 2020, respondents' willingness to give up rights and freedoms to trade off public health conditions diminished by as much as 30% of one unit of standard deviation relative to end March.[64]

From mid-June until recently, individuals' willingness to trade-off civil liberties plateaued. The plateau turning point at mid-June is observed across the vast majority of the countries that we survey. For countries that underwent a lockdown, the plateau corresponds to the lifting of lockdowns and, more generally, public health policy stringency. The pattern of trade-offs also tracks health concerns (see Figure 6 and Appendix Figures A.18 and A.19). A potential explanation for these patterns is that respondents became both less concerned with health risk as they stayed indoors and more intolerant of the restrictions.[65]

In contrast, the concern that civil liberties will not be restored slowly rises over time. Figure 7

[62] See supplemental Table F.26 for a direct comparison of the Civil Liberties and the Public Health treatments.

[63] We present the corresponding plots for each individual country in Supplemental Figures E.3 to E.7.

[64] The change in respondents' willingness to give up rights is remarkably similar across all age groups. That is, young and old respondents experience a similarly-sized decrease followed by a plateauing of their willingness to give up rights over time.

[65] In some instances, health concerns are relatively flat (i.e., India) and in others, they appear to wax and wane (i.e., Australia and Japan). Appendix Figure A.20 presents the over time trend of respondents' expressed worries on their health, economic conditions, and potential erosion of civil liberties across all countries. See Supplemental Figure E.8 for economic worries by country.

presents these country by country trends. The magnitude is small relative to the changes in worries regarding health risks and societal economic well-being. One exception, however, is a sharp rise noted in India during the country-wide lockdown which lasted for approximately 2 months.

Moreover, the forecast for the length of the epidemic starkly increased over time. At the end of March 2020, individuals forecast the pandemic would last approximately 8 months; by mid-June, this had increased to 13 months on average, and by the beginning of October, it had further increased to 15 months on average (see Appendix Figure A.21).

Despite these shifts, the relationship between willingness to trade off civil liberties with respect to health concerns remains relatively constant over time. This can be seen in Figure 8, which presents regression coefficients conditional on country and week fixed effects. The economic concerns generally have a null relationship with civil liberty trade-offs as documented before. One take-away is thus that, although the level of concern with respect to COVID-19 health concerns may fluctuate, the underlying elasticity between such concerns and the trade-off with civil liberties remains relatively constant. When interpreting these results, one needs to bear in mind that the composition of individuals who remain concerned may be shifting over time. However, when we examine specific demographic subsets based on immutable characteristics such as age group or sex, we find similar results.[66]

In sum, we observe a clear pattern of a declining, plateauing, and in some instances rebounding willingness to sacrifice rights and freedom, which correlates strongly with concerns about health. In turn, some of these health concerns might reflect public policies (e.g., declining during lockdowns). Taken together, these findings suggest a trade-off between health and economic and civil liberties concerns that remains mostly stable.

7 Conclusion

Civil liberties, including the protection of privacy, freedom of speech, and freedom of mobility, are the basis of well-functioning liberal democracies. Major crises confront societies and their citizens with a set of fundamental trade-offs between social well-being during times of crisis and the protection of liberties.

In this paper, we study how citizens around the world trade off public health conditions and civil liberties throughout one of the most challenging crises in recent history, the COVID-19 pandemic. We find that exposure to health risks during the pandemic leads to greater willingness to give up rights and freedoms. Such willingness can be reduced when the potential long-run erosion of civil liberties is made salient.

While citizens do not consider civil liberties as "sacred" and unwilling to trade them off for

[66] To test this on the subsets of age groups, we regress the willingness to sacrifice own rights on an index of health worries based on the sample of respondents ages of less than 35, controlling for male, employment status, country fixed effects and week fixed effects. We run the same regression but based on the sample of respondents of age 35 or more separately. Similarly, we run the same regression with the same sets of controls, but by employment status and by gender.

enhanced public health conditions, we document a decrease in the willingness to do so as the pandemic evolves, especially before mid-June of 2020. This decline is mirrored by a reduction in worries about health, so that the trade-off between health and civil liberties appears quite constant over time. The decrease in willingness over time to sacrifice rights and freedoms poses a complex, dynamic dilemma regarding the effective implementation of durable public health-related restrictions and the protection of civil liberties. The increasing concern among citizens that their rights and freedoms will not be restored post-crisis should raise flags and impose a check on threats to civil liberties that incumbent governments and other actors could pose during the crisis.

Our results are purely positive and do not consider the normative implications of crisis responses. This is a thorny issue, but our findings point to two possible lessons for policy.

First, the effects of our public health treatment that explains the rationale between various measures increases support for individual and public action to curb the pandemic, even if these involve giving up some individual rights. This points to giving citizens tools to understand the need for policy intervention. Improved understanding can increase compliance with otherwise hard-to-tolerate policy measures. Special attention and care may be needed when messaging to groups that have are socially disadvantaged, as members of these groups were found to be less willing to tolerate restrictions in response to heightened health risk, and more unwilling to do so following information about the long-run erosion of civil liberties.

Second, for the sake of public health and safety in a crisis such as pandemic, immediate policy responses that often involve curtailing individual liberties are needed. Yet, our dynamic results — in particular the fact that willingness to give up rights declines as health worries decrease and the increased worries that rights will not restore — also point to the need for safeguards that ensure these restrictions are lifted once the crisis subsides.

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Figures

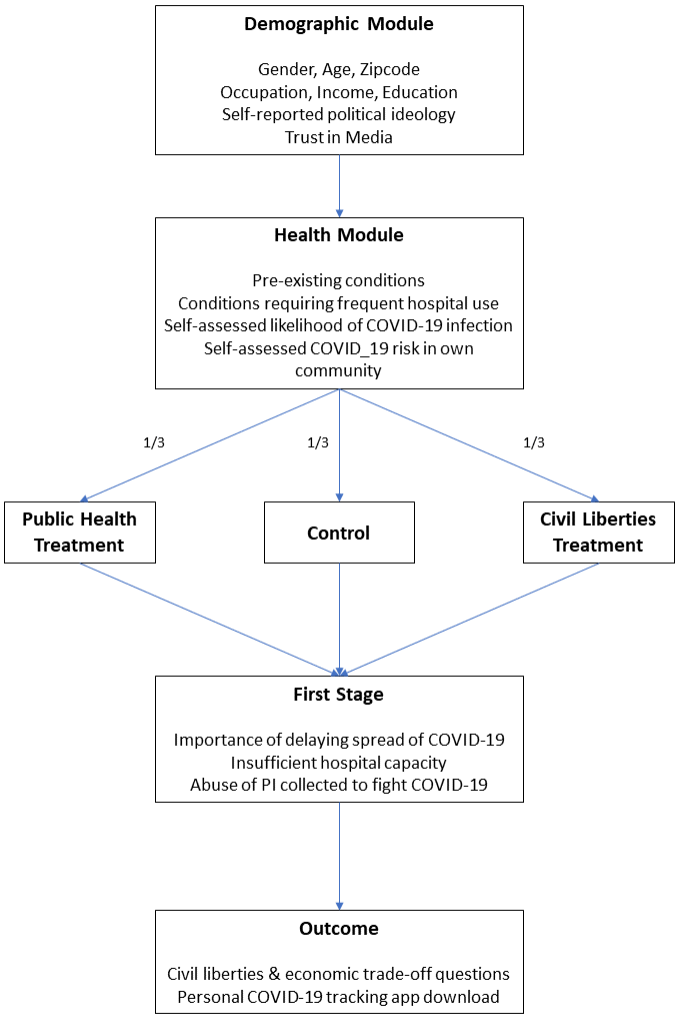
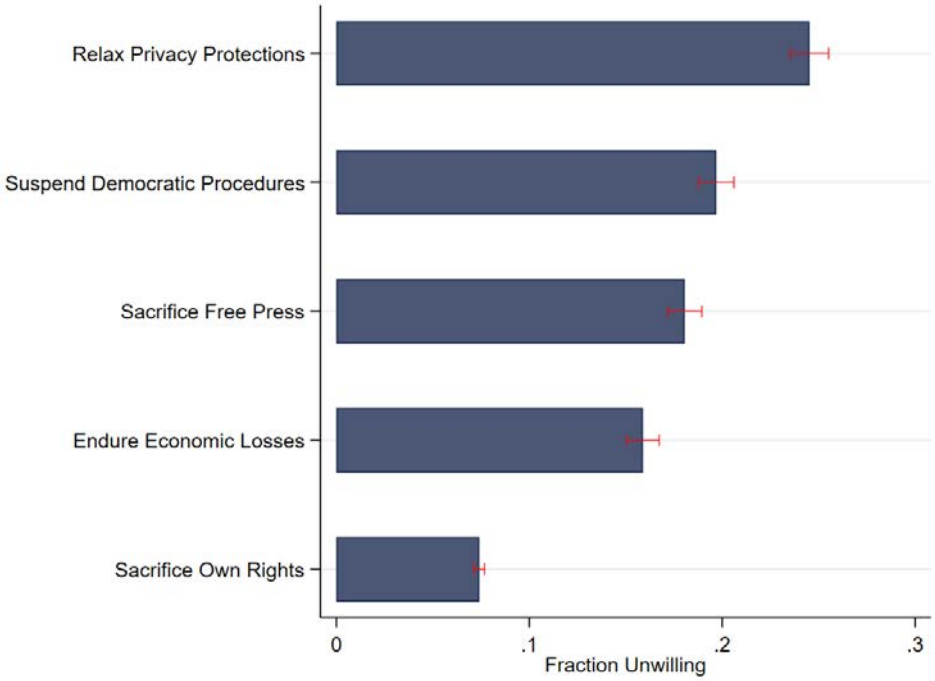
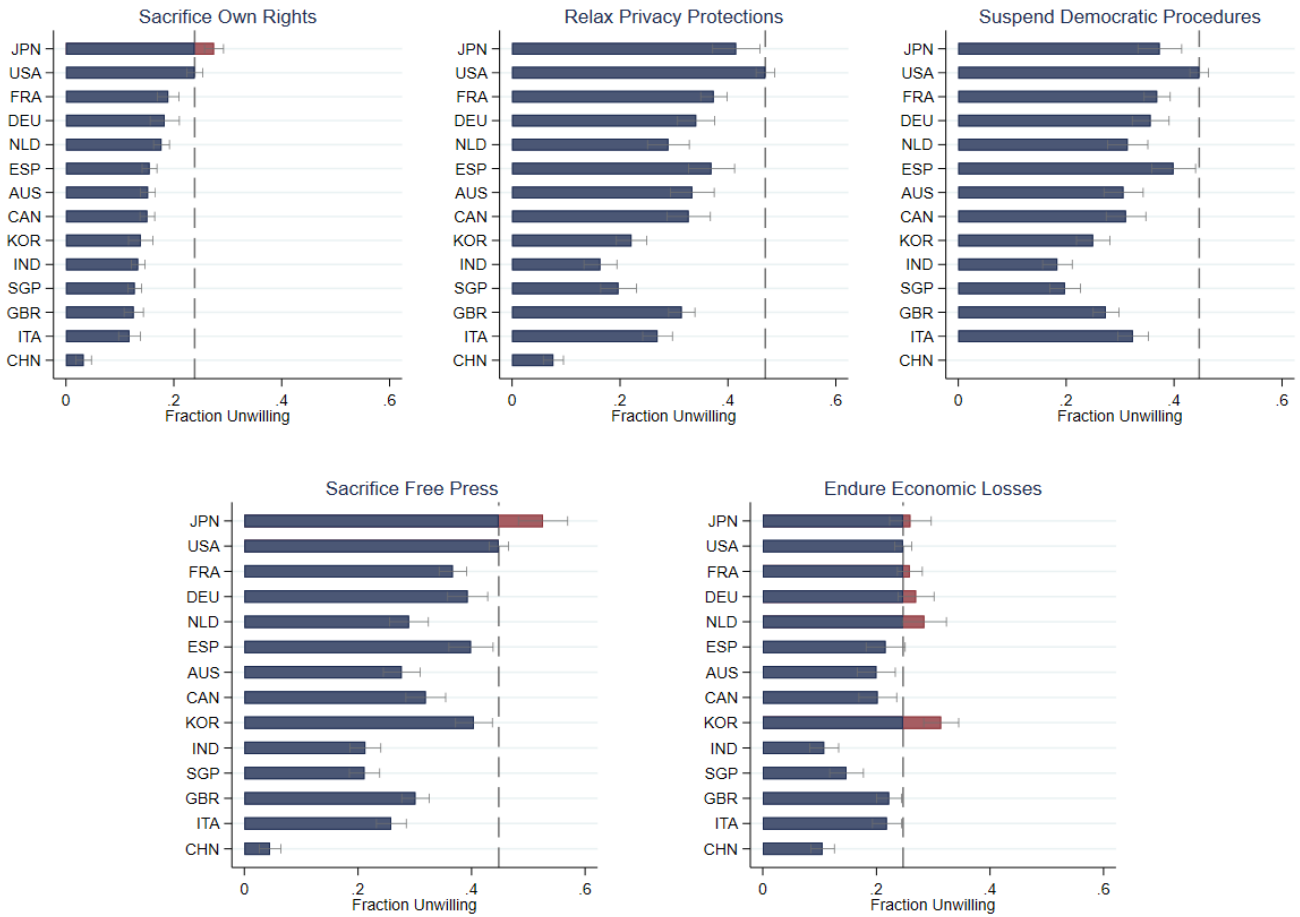


Figure 1: Survey Flow



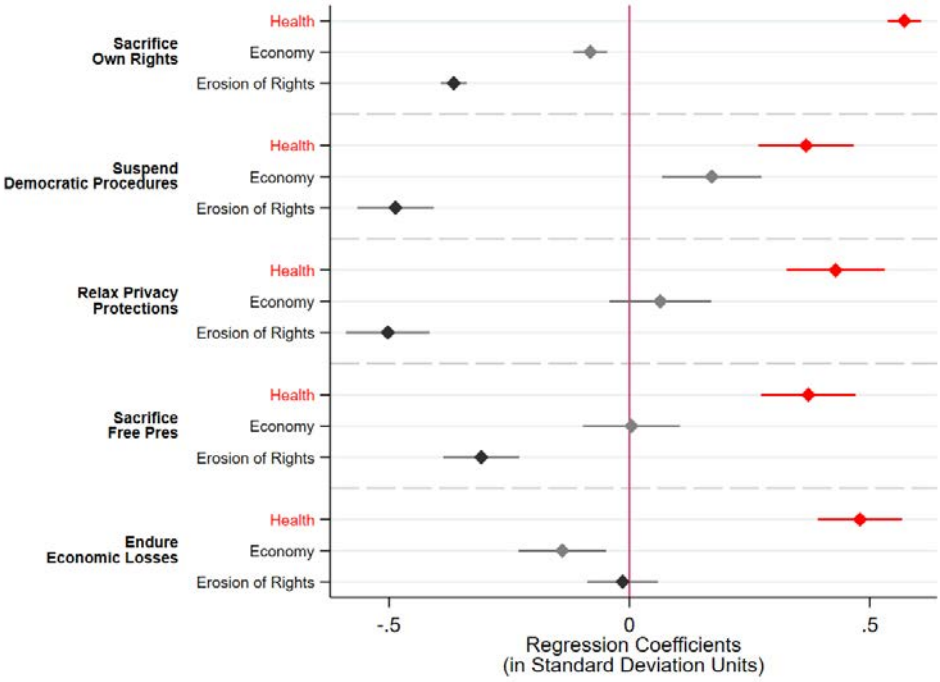
Notes: Figure is based on the sample from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, the Netherlands, the United Kingdom, the United States. Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. Bars represent the fraction of respondents who are unwilling to give up the right denoted on the y-axis. Unwillingness to give up a given right is defined as answering "4" or less to questions of the form "On a scale of 1 (extremely unwilling) to 10 (extremely willing), to what extent do you agree with the following statements: I am willing to [name of each variable on the y-axis]" as described in Section 2.3. 95% confidence intervals are depicted in red on each bar.

Figure 2: Unwillingness to Forego Civil Liberties and Rights



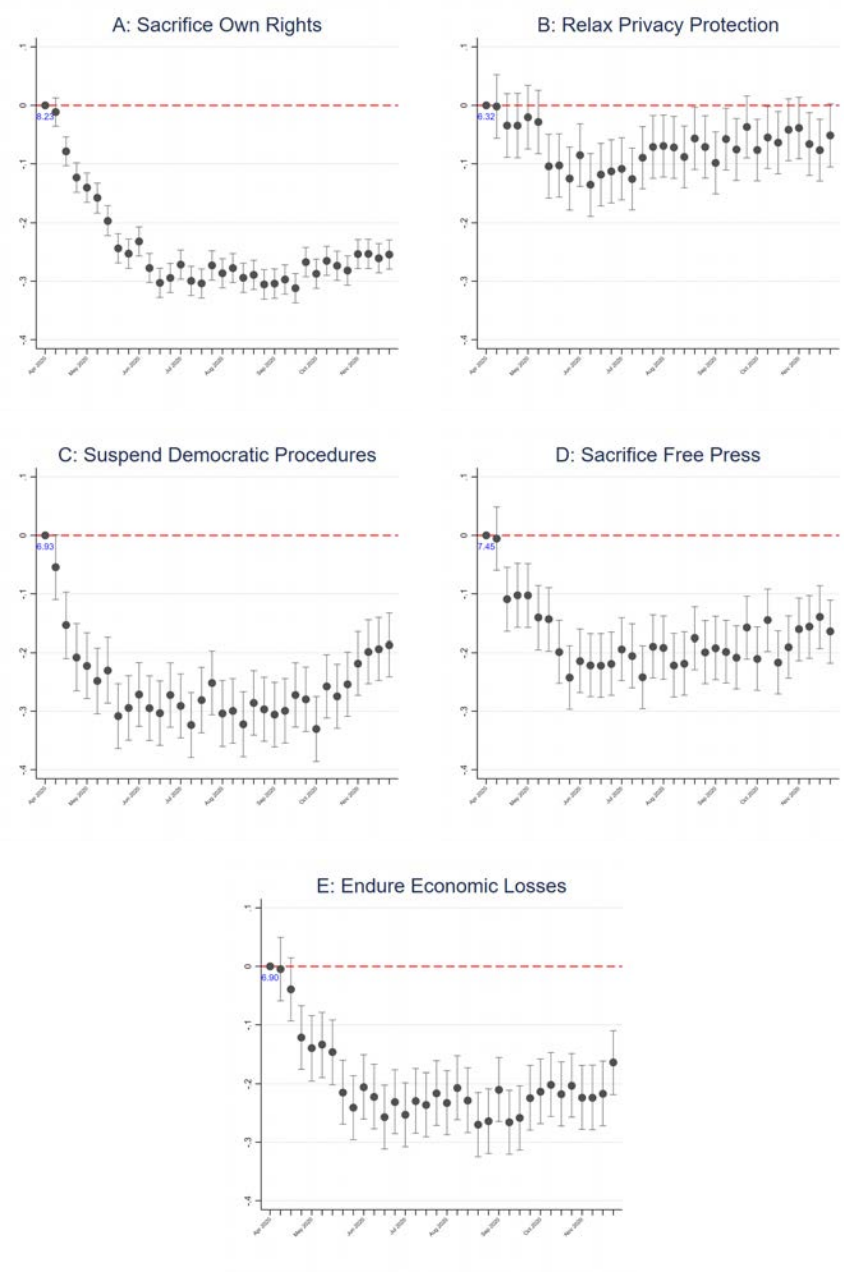
Notes: Figure is based on the sample from COVID-19 Civil Liberties Survey and from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia, Canada, China, France, Germany, India, Italy, Japan, Singapore, South Korea, Spain, the Netherlands, the United Kingdom, the United States. Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. Bars show coefficient estimates of country fixed effect plus constant obtained from a regression of the outcome of interest on country dummies, week fixed effects, and a dummy for COVID-19 Global Consumer Trends Report Survey sample. Outcome of interest is unwillingness to give up the relevant right denoted in the header of each bar plot. Unwillingness to give up a given right is defined as answering "4" or less to questions of the form "On a scale of 1 (extremely unwilling) to 10 (extremely willing), to what extent do you agree with the following statements: I am willing to [subtitle of each sub figure]" as described in Section 2.3. Dashed lines represent the mean of the outcome variable of U.S. respondents. 95% confidence intervals are depicted in gray.

Figure 3: Unwillingness to Forego Civil Liberties and Rights Across Countries



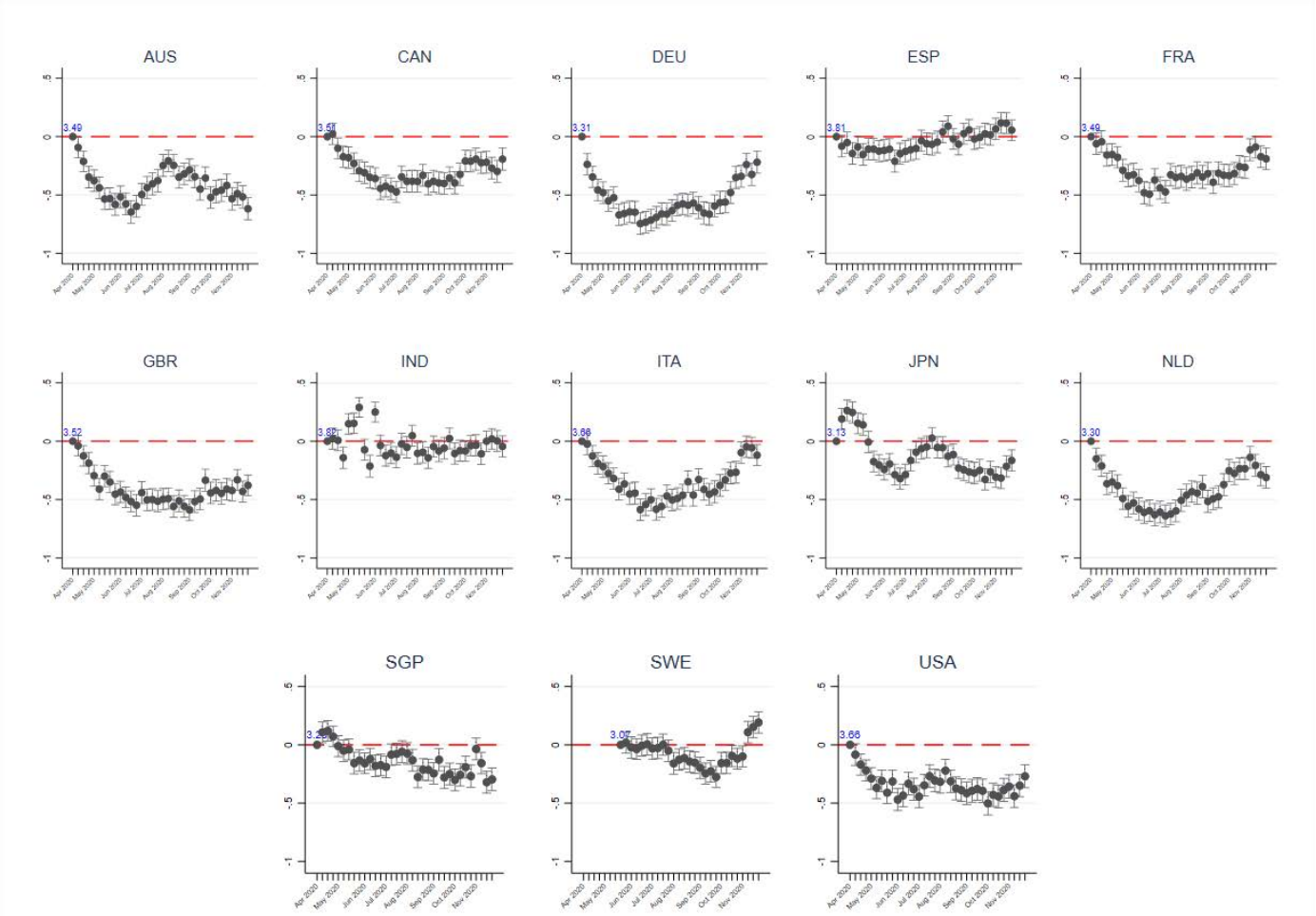
Notes: Figure is based on the sample from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, the Netherlands, the United Kingdom, the United States. Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. Diamonds denote coefficient estimates from separate OLS regressions of our six main outcome variables (as described in Section 2.3) on an index for health worries, an index for economic worries, and worries about long-term erosion of rights. The index for health worries refers to an average value of level of worries about personal health, the health of the elderly in the community, being around strangers, and healthcare systems being able to cope on a 1 (not worried at all) to 5 (extremely worried) scale. The index of economic worries refers to an average value of level of worries about one's household financial position, the availability of foodstuffs, the national economy, and the world economy on a 1 (not worried at all) to 5 (extremely worried) scale. Worries about long-term erosion of rights refers to worries that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over; it is on a scale of 0 (not at all worried) to 10 (extremely worried). All outcomes and indices are standardized so as to have mean 0 and standard deviation 1. Country-week fixed effects are included in the regressions but not reported. 95% confidence intervals based on robust standard errors are also shown.

Figure 4: Association between Willingness to Forego Civil Liberties and Worries about Health, the Economy and Long-term Erosion of Rights



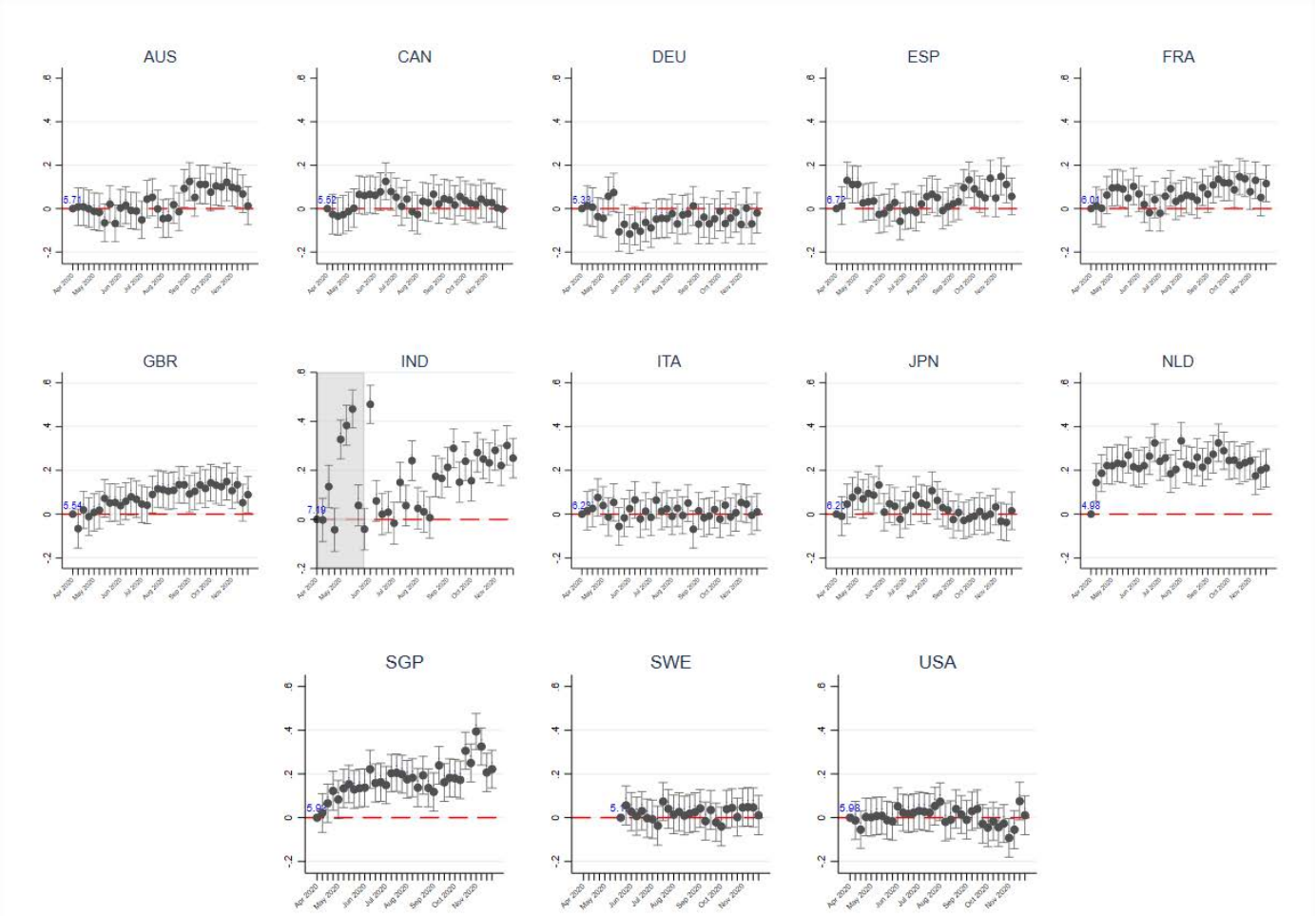
Notes: Figure is based on the sample from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, Sweden, the Netherlands, the United Kingdom, the United States; weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots represent coefficient estimates obtained from OLS regressions of each outcome of interest (as described in Section 2.3) on week fixed effects. Outcomes are standardized based on mean and standard deviation as of the week of March 30, 2020 except Swedish data; outcomes of Swedish data are standardized based on the week of March 30, 2020 data from European countries (i.e., France, Germany, Italy, Spain, the Netherlands, and the United Kingdom) due to the absence of weekly data from the week of March 30 to the week of May 11, 2020. Numbers in blue under the first dot in each subfigure indicate the constant term obtained from the same regression specification but with unstandardized outcome on a scale from 0 (extremely unwilling) to 10 (extremely willing): 8.23 for Panel A; 6.33 for Panel B; 6.93 for Panel C; 7.47 for Panel D; 6.90 for Panel E. Country fixed effects are included in the regressions but not reported. 95% confidence intervals based on robust standard errors are also shown.

Figure 5: Willingness to Forego Civil Liberties Over Time



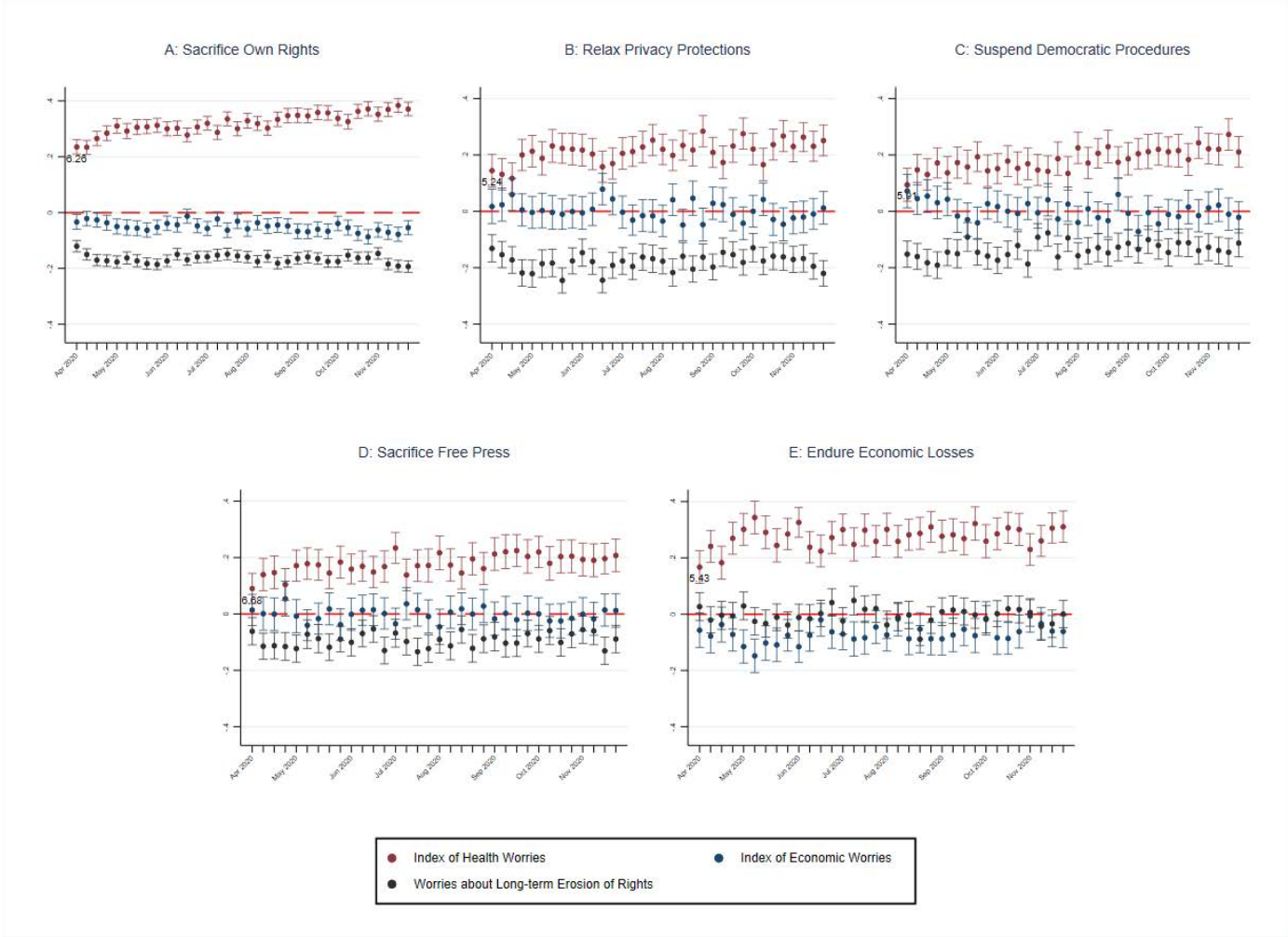
Notes: Figure is based on the sample from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia (AUS), Canada (CAN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), Singapore (SGP), Spain (ESP), the Netherlands (NLD), the United Kingdom (GBR), the United States (USA); weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden (SWE) due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots represent coefficient estimates obtained from OLS regressions of the outcome of interest on week fixed effects, separately for each country. The outcome of interest is the index for health worries which refers to an average value of level of worries about personal health, the health of the elderly in the community, being around strangers, and healthcare systems being able to cope on a 1 (not worried at all) to 5 (extremely worried) scale. Outcome variable is standardized based on mean and standard deviation in a given country as of the week of March 30, 2020 (or the week of May 18, 2020 for Sweden). Numbers in blue under the first dot in each subfigure indicate the constant term obtained from the same regression specification but with unstandardized outcome on a scale of 1-5: 3.49 for Figure AUS; 3.51 for Figure CAN; 3.31 for Figure DEU; 3.81 for Figure ESP; 3.49 for Figure FRA; 3.52 for Figure GBR; 3.82 for Figure IND; 3.66 for Figure ITA; 3.13 for Figure JPN; 3.30 for Figure NLD; 3.26 for Figure SGP; 3.07 for Figure SWE; 3.66 for Figure USA. 95% confidence intervals based on robust standard errors are shown.

Figure 6: Evolution of Index about Health Worries: Country-by-Country



Notes: Figure is based on the sample from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia (AUS), Canada (CAN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), Singapore (SGP), Spain (ESP), the Netherlands (NLD), the United Kingdom (GBR), the United States (USA); weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden (SWE) due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots represent coefficient estimates obtained from OLS regressions of each outcome of interest on week fixed effects, separately for each country. The outcome of interest is a measure of worries about long-term erosion of rights, which refers to worries that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over; it is on a scale of 0 (not at all worried) to 10 (extremely worried). The outcome variable is standardized based on mean and standard deviation in a given country as of the week of March 30, 2020 (or the week of May 18, 2020 for Sweden). Numbers in blue under the first dot in each subfigure indicate the constant term obtained from the same regression specification but with unstandardized outcome on a scale of 1-5: 5.71 for Figure AUS; 5.52 for Figure CAN; 5.33 for Figure DEU; 6.72 for Figure ESP; 6.01 for Figure FRA; 5.54 for Figure GBR; 7.19 for Figure IND; 6.23 for Figure ITA; 6.20 for Figure JPN; 4.98 for Figure NLD; 5.93 for Figure SGP; 5.12 for Figure SWE; 5.98 for Figure USA. Approximate 2 month lockdown period in India is highlighted in gray in Figure IND. 95% confidence intervals based on robust standard errors are shown.

Figure 7: Evolution of Worries about Long-term Erosion of Rights: Country-by-Country



Notes: Figure is based on the sample from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, Sweden, the Netherlands, the United Kingdom, the United States; weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots denote coefficient estimates obtained from separate OLS regressions of each outcome of interest (denoted in the title of each subfigure) on the index of health worries (red), the index of economic worries (blue), and worries about long-term erosion of rights (black). The index for health worries refers to an average value of the level of worries about personal health, the health of the elderly in the community, being around strangers, and the healthcare systems being able to cope on a 1 (not worried at all) to 5 (extremely worried) scale. The index of economic worries refers to an average value of the level of worries about one's household financial position, the availability of foodstuffs, the national economy, and the world economy on a 1 (not worried at all) to 5 (extremely worried) scale. Outcomes are standardized to mean 0 and standard deviation 1. Worries about long-term erosion of rights refers to worries that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over; it is on a scale of 0 (not at all worried) to 10 (extremely worried). The constant terms obtained from the same regression specification but with unstandardized outcome on a scale of 0-10 are reported in black: 6.26 in Figure A; 5.24 in Figure B; 5.91 in Figure C; 6.68 in Figure D; and 5.43 in Figure E. The following controls are included in each regression but not reported: demographic controls (age, employment status, female), week fixed effects, and country fixed effects. 95% confidence intervals based on robust standard errors are shown.

Figure 8: Relationship Between Civil Liberties, Health and Economic Worries Over Time

Tables

Table 1: Quasi-experimental Results

Outcome Variables	Scale	Specification 1		Specification 2		Gap b/w China and US	Mean of dept. var
		Health Risk ($HR(1)_{ihj}$)		Health Risk ($HR(2)_{ij}$) X Hotspot			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Overall rights and freedom							
Willing to sacrifice own rights	Agree (0-10)	0.182	(-0.045)	0.266	(-0.071)	1.865	6.851
Willing to sacrifice others' rights	Agree (0-10)	0.157	(-0.040)	0.219	(-0.069)	1.636	6.778
z-score: willing to sacrifice rights	Std. (0-1)	0.067	(-0.016)	0.096	(-0.026)	0.694	0.001
Panel B: Protection of privacy							
Willing to relax privacy protections	Agree (0-10)	0.137	(-0.049)	0.195	(-0.080)	3.136	5.628
Unwilling to accept: track sick people	Binary	-0.009	(-0.006)	-0.023	(-0.010)	0.058	0.248
Unwilling to accept: track everyone	Binary	-0.013	(-0.006)	-0.026	(-0.011)	0.034	0.271
Click MIT app	Yes/No (binary)	-0.014	(-0.008)	-0.013	(-0.013)	0.246	0.414
z-score: willing to sacrifice privacy	Std. (0-1)	0.021	(-0.015)	0.050	(-0.025)	0.646	-0.002
Panel C: Democratic rights and duties							
Prefer strong leader	Agree (1-4)	0.059	(-0.016)	0.043	(-0.028)	0.554	2.615
Prefer delegating to experts	Agree (1-4)	0.005	(-0.016)	-0.004	(-0.025)	-0.000	2.943
Willing to sacrifice free press	Agree (0-10)	0.138	(-0.052)	0.145	(-0.083)	3.211	5.579
Prefer democratic system	Agree (1-4)	0.009	(-0.012)	0.013	(-0.019)	n.a.	3.317
Willing to suspend democr. procedures	Agree (0-10)	0.229	(-0.053)	0.293	(-0.095)	n.a.	5.024
z-score: willing to curtail democracy	Std. (0-1)	0.029	(-0.016)	0.021	(-0.026)	n.a.	-0.002
Panel D: Rights to movement							
Unwilling to accept: close national border	Binary	-0.006	(-0.006)	-0.012	(-0.011)	0.16	0.258
Unwilling to accept: recommend stay home	Binary	-0.013	(-0.006)	-0.023	(-0.011)	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	-0.016	(-0.006)	-0.025	(-0.011)	0.068	0.276
z-score: willing to give up mobility	Std. (0-1)	0.030	(-0.014)	0.052	(-0.025)	-0.31	-0.003
Panel E: Business and school operation							
Unwilling to accept: close schools	Binary	-0.006	(-0.006)	-0.016	(-0.011)	0.149	0.263
Unwilling to accept: close restaurants etc.	Binary	-0.011	(-0.006)	-0.029	(-0.011)	0.129	0.266
Unwilling to accept: close all businesses	Binary	-0.009	(-0.006)	-0.022	(-0.011)	0.128	0.269
z-score: willing to limit operations	Std. (0-1)	0.020	(-0.015)	0.053	(-0.025)	-0.327	-0.003
Panel F: Economic well-being							
Unwilling to accept: measures cut income	Binary	-0.018	(-0.006)	-0.034	(-0.011)	0.027	0.277
Unwilling to accept: measures 2x unemp. rate	Binary	-0.017	(-0.006)	-0.039	(-0.011)	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	-0.022	(-0.006)	-0.042	(-0.011)	0.094	0.268
Willing to endure economic losses	Agree (0-10)	0.136	(-0.038)	0.201	(-0.064)	1.002	5.957
z-score: willing to harm economy	Std. (0-1)	0.065	(-0.015)	0.116	(-0.025)	0.086	-0.003

Notes: Table reports coefficient estimates for β from Equation 1 and Equation 6 estimated via OLS. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Column (1) reports the outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in the panel. Column (2) reports the scale of each outcome variable. Health Risk indices, $HR(1)_{ihj}$ and $HR(2)_{ij}$, follow the main definitions as described in Section 4.1.1 respectively, while Hotspot follows the definition as described in Section 4.1.2. Columns (3) and (5) report estimates of β in Equations 1 and 6, respectively. Column (7) reports the difference in the unconditional control group mean of each outcome variable between China and US respondents. Column (8) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country fixed effects, date fixed effects, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket fixed effects, age bracket fixed effects, employment status fixed effects, college degree dummy, political right dummy, political neutral dummy, a measure of risk preferences, a measure of time preferences, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations is: 16,055 for all variables in Panel A; 16,055, 15,973, 15,973, 16,047, 15,965 in Panel B; 16,055 for first three variables, 12,506 for the rest in Panel C; 15,973 for all variables in Panel D and E; and 15,973, 15,973, 15,973, 16,055, 15,973 for Panel F. Robust standard errors are in parentheses.

Table 2: Heterogeneity: Quasi-experimental Results Using Specification 1

	Dependent Variable: *z-score: Willingness to Sacrifice Rights*											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PANEL A: SOCIOECONOMIC AND HOUSEHOLD CHARACTERISTICS												
	Income ≤50th pct		**Received College Educ**		**Employed**		**USA Only: Econ. Vulnerable**		**Having Partner/Spouse**		**Living Alone in a Household**	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
$HR(1)_{ihj}$	0.083	0.047	0.037	0.076	0.032	0.074	0.104	0.055	0.074	0.050	0.058	0.109
	(0.020)	(0.023)	(0.029)	(0.018)	(0.034)	(0.018)	(0.024)	(0.041)	(0.026)	(0.021)	(0.017)	(0.046)
No. Obs	7451	8604	6164	9891	6003	10052	3895	1276	6634	9421	13814	2241
PANEL B: POLITICAL AND INSTITUTIONAL CHARACTERISTICS												
	Pol. Aff: Right		**West Only: Populist**		**Media Distrust**		**Satisfied with National Govt**		**DEU Only: Born in East Germany**		**KOR Only: Migrated from N. Korea**	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
$HR(1)_{ihj}$	0.066	0.036	0.074	0.073	0.056	0.093	0.045	0.065	0.039	0.207	0.073	-0.072
	(0.018)	(0.030)	(0.026)	(0.032)	(0.017)	(0.037)	(0.023)	(0.022)	(0.150)	(0.367)	(0.078)	(0.116)
No. Obs	12390	3665	6077	3521	12055	4000	7305	8750	1053	215	728	225
PANEL C: DEMOGRAPHIC AND GEOGRAPHICAL CHARACTERISTICS												
	Male		**Age Over 45**		**In Hotspot**		**USA Only: White vs. Black**		**In First Month Since First Case**		**West only: Cases: Post-Peak**	
	No	Yes	No	Yes	No	Yes	–	–	No	Yes	No	Yes
$HR(1)_{ihj}$	-0.025	0.069	0.078	0.055	-0.069	0.089	0.081	0.023	0.056	0.052	0.096	0.040
	(0.044)	(0.022)	(0.020)	(0.031)	(0.054)	(0.034)	(0.026)	(0.064)	(0.017)	(0.069)	(0.022)	(0.034)
No. Obs	8281	7774	8906	7149	13411	2644	3424	718	12056	3933	6101	5033

Notes: Table reports OLS estimates of β from Equation 1, estimated separately for different demographic subgroups. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Health Risk Index, $HR(1)_{ihj}$, follows the main definitions as described in Section 4.1.1. The dependent variable is an inverse-covariance-weighted index as described in Anderson (2008), which combines the following outcome variables: willing to sacrifice own rights, and willing to sacrifice others' rights. Each binary covariate is defined as follows: Income $\leq$ 50th pct: 1 if R's household income is less than the 50th percentile, or 0 otherwise; Received College Educ: 1 if the respondent received any college education, or 0 otherwise; Employed: 1 if the respondent is currently employed, or 0 otherwise; USA Only: Econ. Vulnerability: 1 if R's score of economic vulnerability coded based on occupation is greater than the 75th percentile (only applies to respondents in USA); Having Partner/Spouse: 1 if the respondent has a partner/spouse; Living Alone in a Household: 1 if the respondent lives alone in the household, or 0 otherwise; Pol. Aff: Right: 1 if R's political affiliation is right-wing or conservative (this variable does not apply to Chinese respondents); West only (i.e., France, Germany, Italy, UK, and US) Populist: 1 if the respondent voted for populist parties or candidates (Donald Trump in USA, Boris Johnson in GBR, AfD in DEU, Lega or Movimento 5 Stelle in ITA, Marine Le Pen, François Asselineau, or Nicolas Dupont-Aignan in FRA; only applies to western countries); Media Distrust: 1 if R's level of trust in media in general is less than 3 on a scale of 1 to 5; Satisfied with Federal Govt: 1 if R's level of satisfaction with the federal government is greater than 3 on a scale of 1 to 5; DEU only: Born in East Germany: 1 if the respondent was born in East Germany; KOR only: Migrated from N. Korea: 1 if the respondent or any of R's family members had migrated from North Korea to South Korea during the Korean War; Male: 1 if the respondent is male; Age over 45: 1 if R's age is over 45; In Hotspot: 1 if the respondent lives in one of the hotspot areas described in Section 4.1.2; USA only Race: White vs. Black: 1 if R's race is African American/Black, or 0 if White/Caucasian (note other race/ethnicity groups are excluded in this regression); In First Month Since First case: 1 if the respondent was in the first month since the first COVID-19 case was detected in R's region/area at admin level 1 (or at county level for USA); West only (i.e., France, Germany, Italy, UK, and US): Cases: Post-peak: 1 if the respondent was surveyed after the peak of COVID-19 case at admin level 1 for ITA, GBR, FRA and at county level for USA and DEU. Regression includes the following controls: country fixed effects, date fixed effects, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket fixed effects, age bracket fixed effects, employment status fixed effects, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Robust standard errors are in parentheses.

Table 3: Experimental First Stage Results

Outcome Variables	Scale	Civil Liberties Treatment		Public Health Treatment		Civil Liberties= Public Health	Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Civil Liberties Treatment Content								
China Covid-19 response ranked high	Score (0-3)	0.338	(0.031)	0.030	(0.027)	0.000	1.865	1.429
Worried info misused later	Agree (1-5)	0.324	(0.031)	0.060	(0.029)	0.000	-0.838	2.770
z-score: civil lib treat direction	Std. (0-1)	0.378	(0.025)	0.051	(0.023)	0.000	0.629	-0.003
Panel B: Public Health Treatment Content								
Flatten curve important	Agree (1-5)	-0.056	(0.027)	0.252	(0.026)	0.000	-0.184	4.014
Insufficient PPE	Agree (1-5)	0.046	(0.029)	0.215	(0.028)	0.000	-1.828	3.265
z-score: public health treat direction	Std. (0-1)	-0.007	(0.023)	0.242	(0.022)	0.000	-1.005	0.006
Panel C: Covid-19 Knowledge (Placebo)								
Covid spread knowledge	Score (-2 to 3)	-0.005	(0.023)	0.041	(0.021)	0.042	-0.087	2.252
Covid symptom knowledge	Score (-3 to 3)	0.007	(0.022)	-0.004	(0.020)	0.647	0.130	2.739
z-score: knowledge about Covid-19	Std. (0-1)	0.001	(0.025)	0.026	(0.023)	0.314	0.023	0.009

Notes: Table reports results from an OLS estimation of "First-stage" outcomes on treatment group dummies. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Column (1) reports the "First-stage" outcomes described in Section 5.1. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in the panel. Column (2) reports the scale of each outcome variable. Column (3) reports the effect of the civil liberties treatment and Column (5) reports the effect of the public health treatment. Column (7) reports the p-value from a Wald test for differential treatment effects of the civil liberties treatment and public health treatment. Column (8) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (9) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country fixed effects, date fixed effects, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket fixed effects, age bracket fixed effects, employment status fixed effects, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations is: 15,658 in Panel A; 16,055 for Panels B and C. Robust standard errors are in parentheses.

Table 4: Experimental Treatment Effects

Outcome Variables	Scale	Civil Liberties Treatment		Public Health Treatment		Civil Liberties= Public Health	Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Overall rights and freedom								
Willing to sacrifice own rights	Agree (0-10)	-0.177	(0.072)	-0.001	(0.065)	0.014	1.865	6.851
Willing to sacrifice others' rights	Agree (0-10)	-0.244	(0.071)	-0.005	(0.063)	0.001	1.636	6.778
z-score: willing to sacrifice rights	Std. (0-1)	-0.083	(0.027)	-0.001	(0.024)	0.002	0.694	0.001
Panel B: Protection of privacy								
Willing to relax privacy protections	Agree (0-10)	-0.092	(0.080)	0.083	(0.073)	0.029	3.136	5.628
Unwilling to accept: track sick people	Binary	0.027	(0.011)	-0.000	(0.010)	0.013	0.058	0.248
Unwilling to accept: track everyone	Binary	0.029	(0.012)	-0.005	(0.011)	0.003	0.034	0.271
Click MIT app	Yes/No (binary)	0.005	(0.012)	0.023	(0.012)	0.146	0.246	0.414
z-score: willing to sacrifice privacy	Std. (0-1)	-0.048	(0.026)	0.040	(0.024)	0.001	0.646	-0.002
Panel C: Democratic rights and duties								
Prefer strong leader	Agree (1-4)	-0.040	(0.026)	0.070	(0.024)	0.000	0.554	2.615
Prefer delegating to experts	Agree (1-4)	0.017	(0.022)	0.089	(0.020)	0.001	-0.000	2.943
Willing to sacrifice free press	Agree (0-10)	0.000	(0.084)	-0.004	(0.080)	0.961	3.211	5.579
Prefer democratic system	Agree (1-4)	0.011	(0.019)	-0.005	(0.018)	0.427	n.a.	3.317
Willing to suspend democr. procedures	Agree (0-10)	-0.158	(0.082)	-0.001	(0.077)	0.058	n.a.	5.024
z-score: willing to curtail democracy	Std. (0-1)	-0.015	(0.025)	0.072	(0.023)	0.001	n.a.	-0.002
Panel D: Rights to movement								
Unwilling to accept: close national border	Binary	0.008	(0.011)	0.000	(0.010)	0.488	0.160	0.258
Unwilling to accept: recommend stay home	Binary	0.008	(0.011)	-0.000	(0.010)	0.465	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	0.017	(0.011)	0.007	(0.011)	0.359	0.068	0.276
z-score: willing to give up mobility	Std. (0-1)	-0.030	(0.024)	-0.007	(0.023)	0.351	-0.310	-0.003
Panel E: Business and school operation								
Unwilling to accept: close schools	Binary	0.014	(0.011)	-0.000	(0.010)	0.179	0.149	0.263
Unwilling to accept: close restaurants etc.	Binary	0.013	(0.011)	-0.004	(0.011)	0.133	0.129	0.266
Unwilling to accept: close all businesses	Binary	0.006	(0.011)	-0.007	(0.011)	0.258	0.128	0.269
z-score: willing to limit operations	Std. (0-1)	-0.027	(0.025)	0.008	(0.024)	0.156	-0.327	-0.003
Panel F: Economic well-being								
Unwilling to accept: measures cut income	Binary	0.026	(0.012)	0.004	(0.011)	0.056	0.027	0.277
Unwilling to accept: measures 2x unemp. rate	Binary	0.022	(0.011)	-0.000	(0.010)	0.043	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	0.030	(0.011)	0.012	(0.011)	0.102	0.094	0.268
Willing to endure economic losses	Agree (0-10)	-0.004	(0.070)	0.089	(0.065)	0.172	1.002	5.957
z-score: willing to harm economy	Std. (0-1)	-0.045	(0.026)	0.016	(0.025)	0.017	0.086	-0.003

Notes: Table reports results from an OLS estimation of outcomes on treatment group dummies. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Column (1) reports outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in the panel. Column (2) reports the scale of each outcome variable. Column (3) reports the effect of the civil liberties treatment and Column (5) reports the effect of the public health treatment. Column (7) reports the p-value from a Wald test for differential treatment effects of the civil liberties treatment and public health treatment. Column (8) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (9) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country fixed effects, date fixed effects, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket fixed effects, age bracket fixed effects, employment status fixed effects, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations is: 16,055 for all variables in Panel A; 16,055, 15,973, 15,973, 16,047, 15,965 in Panel B; 16,055 for first three variables, 12,506 for the rest in Panel C; 15,973 for Panels D, E, and F. Robust standard errors are in parentheses.

Appendix

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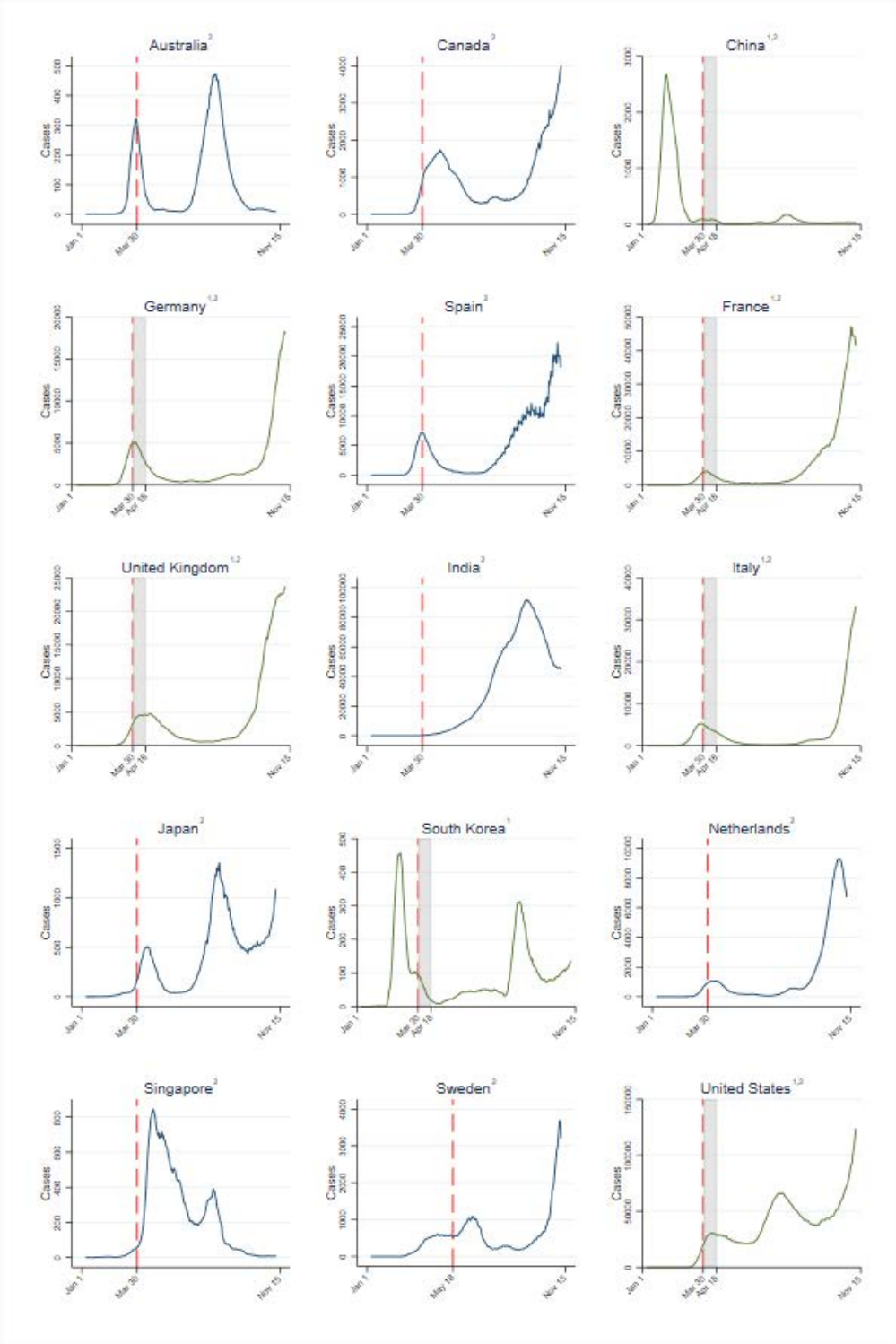
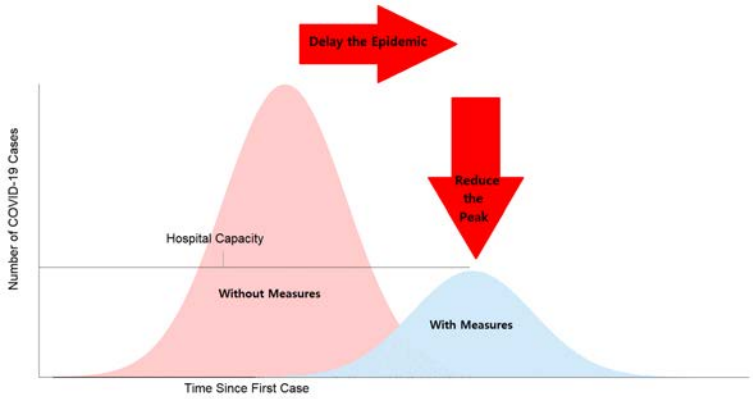
Please see Supplemental Materials for additional details on survey and sampling.

A Appendix Figures



Notes: Figure shows moving averages (7-day lead and 7-day lag) of the number of COVID-19 cases over time in each of the 15 countries collectively covered by our surveys. The data is from the European Center for Disease Prevention and Control (European Centre for Disease Prevention and Control, 2020). Superscript 1 denotes countries included in the COVID-19 and Civil Liberties Survey. Superscript 2 denotes countries included in the COVID-19 Global Consumer Trends Report. Red dashed lines indicate when data collection for the COVID-19 Global Consumer Trends Report started, while gray shaded regions indicate the data collection period of the COVID-19 and Civil Liberties Survey.

Appendix Figure A.1: Epidemic Progression and Survey Timing



Notes: Figure shows flattening-the-curve exhibit presented in the public health treatment.

Appendix Figure A.2: Public Health Treatment: Flattening the Curve

There are a **few key public health measures governments** can do **to slow down the epidemic**:

(1) **Testing** widely for COVID-19; and **tracking the location** and social contacts of anyone who tests positive for COVID-19.

(2) **Isolating individuals** who are positive for COVID-19 for a long period of time and ensuring they do not spread the disease to others.

(3) Requiring individuals to **stay at home** and **not go to work** to **reduce community spread** of the virus.

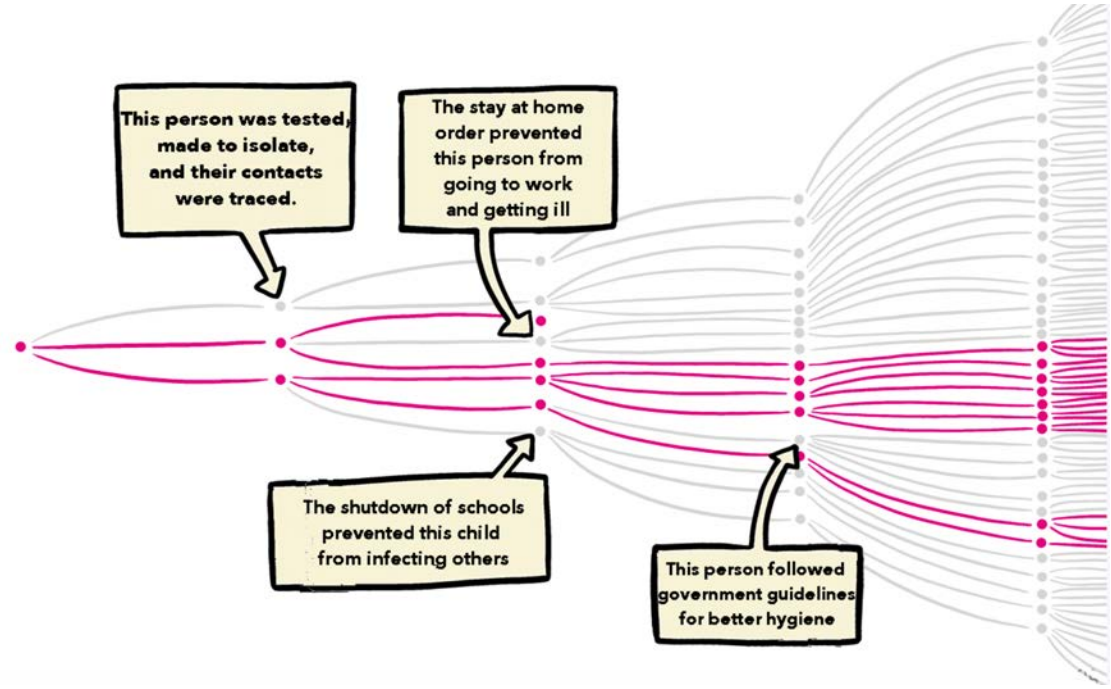
(4) Promoting **good hygiene** at home, at work and in public spaces.

Notes: Figure shows key-health-measures exhibit presented in the public health treatment.

Appendix Figure A.3: Public Health Treatment: Key Health Measures

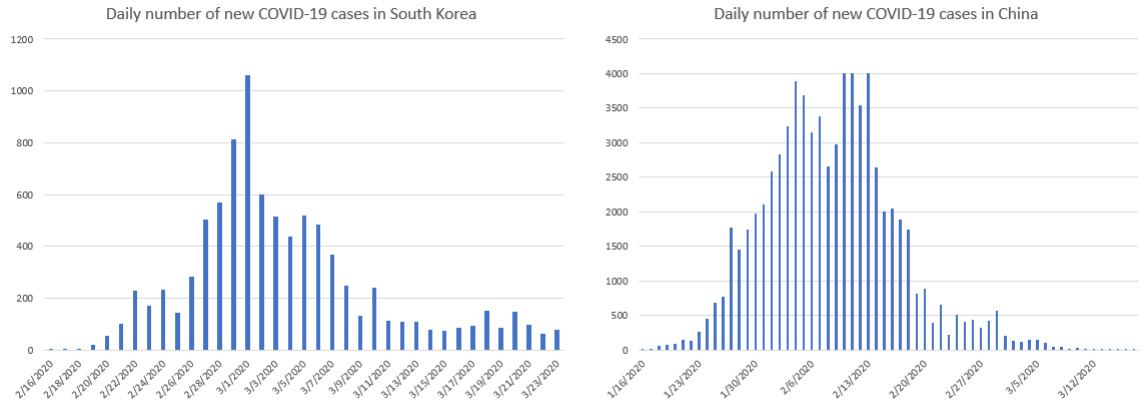
Notes: Figure shows health-care-strain exhibit presented in the public health treatment.

Appendix Figure A.4: Public Health Treatment: Health Care Strain



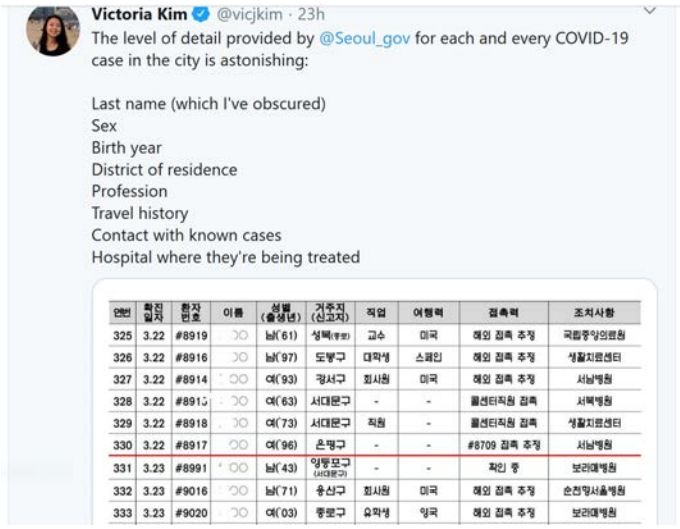
Notes: Figure shows importance-of-containment-measures exhibit presented in the public health treatment.

Appendix Figure A.5: Public Health Treatment: Importance of Containment Measures



Notes: Figure shows epidemic-curve exhibit presented in the civil liberties treatment.

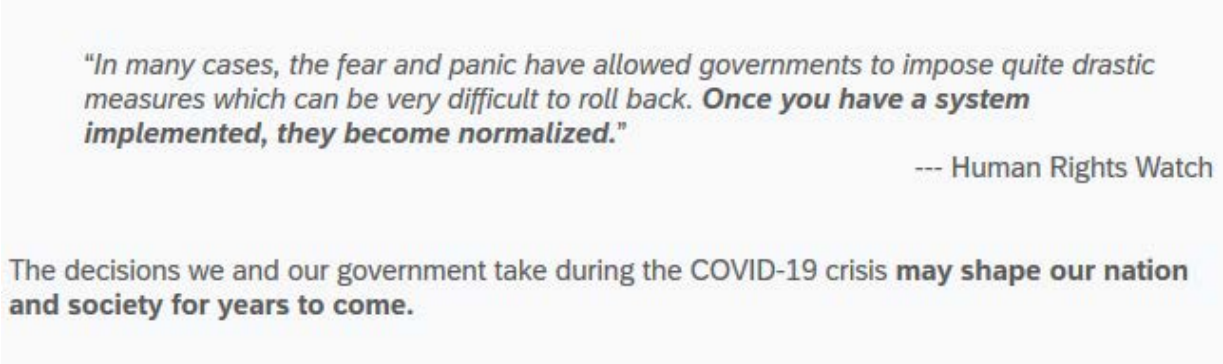
Appendix Figure A.6: Civil Liberties Treatment: Epidemic Curves for China and South Korea



연번	확진일자	환자번호	이름	성별 (출생년)	거주지 (신고지)	직업	여행력	접촉력	조치사항
325	3.22	#8919	○○	남(61)	성북(무증)	교수	미국	해외 접촉 추정	국립중앙의료원
326	3.22	#8916	○○	남(97)	도봉구	대학생	스페인	해외 접촉 추정	생활치료센터
327	3.22	#8914	○○	여(93)	강서구	회사원	미국	해외 접촉 추정	서남병원
328	3.22	#8913	○○	여(63)	서대문구	-	-	콜센터직원 접촉	서북병원
329	3.22	#8918	○○	여(73)	서대문구	직원	-	콜센터직원 접촉	생활치료센터
330	3.22	#8917	○○	여(96)	은평구	-	-	#8709 접촉 추정	서남병원
331	3.23	#8991	○○	남(43)	양평모구 (서대문구)	-	-	확인 중	보라매병원
332	3.23	#9016	○○	남(71)	송산구	회사원	미국	해외 접촉 추정	순천향서울병원
333	3.23	#9020	○○	여(03)	종로구	요학생	영국	해외 접촉 추정	보라매병원

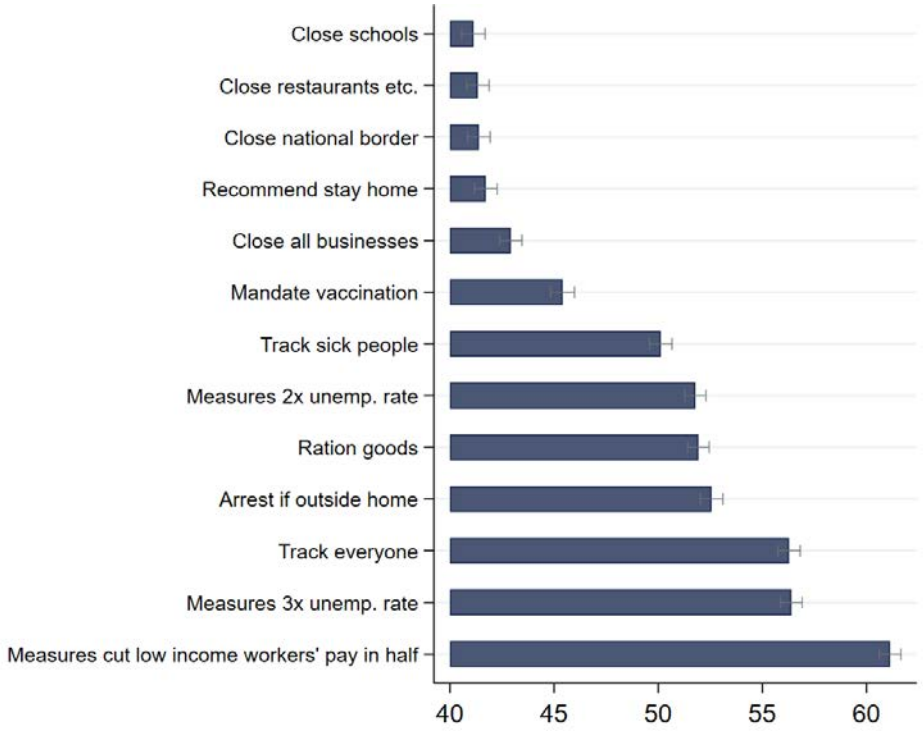
Notes: Figure shows strict-measures exhibit presented in the civil liberties treatment.

Appendix Figure A.7: Civil Liberties Treatment: Example of Strict Measure Taken by South Korean Government



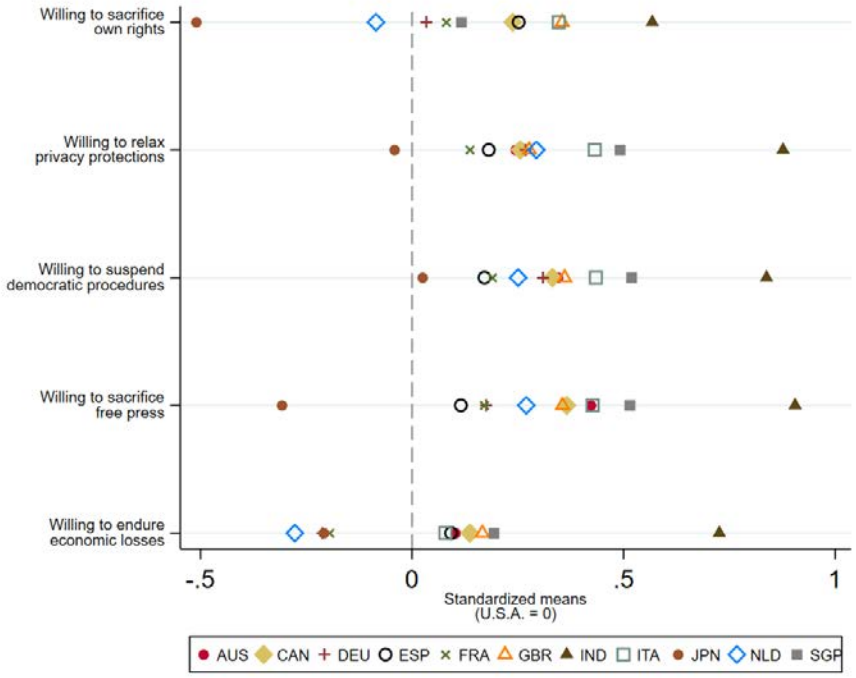
Notes: Figure shows restrictions-to-privacy-and-movement exhibit presented in the civil liberties treatment.

Appendix Figure A.8: Civil Liberties Treatment: Restrictions to Privacy and Movement



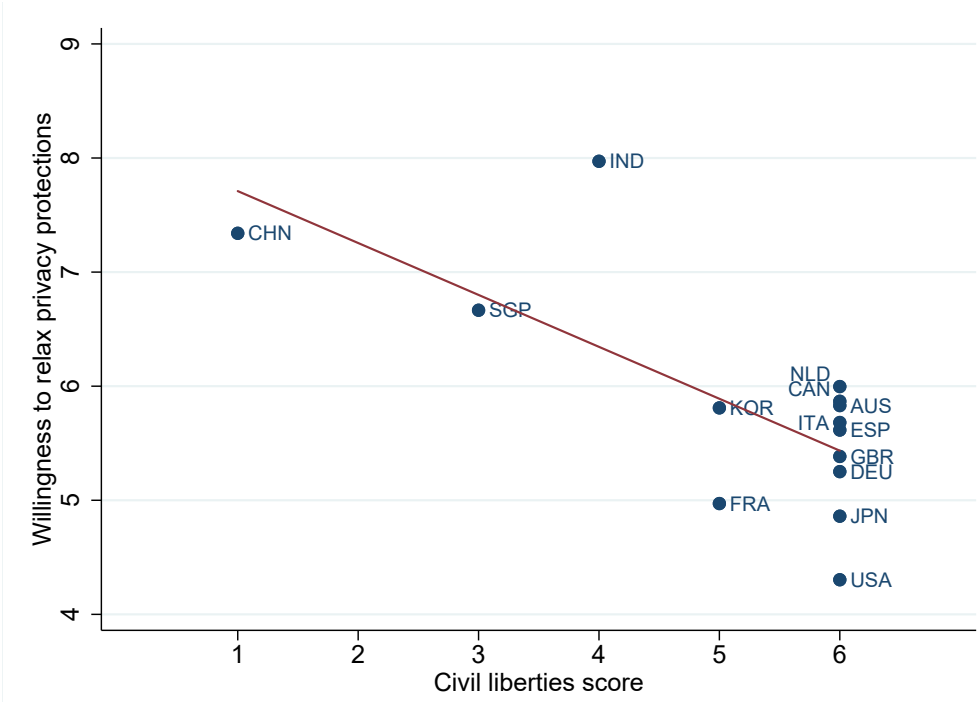
Notes: The figure is based on the COVID-19 and Civil Liberties Survey. It shows the average answers to the questions that have the minimum-lives-saved format. Specifically, those questions describe a policy and ask respondents to report the minimum number of lives (out of every 100 people in the respondent's country that would have otherwise died due to COVID-19) that the policy would need to save in order for the respondent to support it. The policies are listed in order from top to bottom on the chart: "During the epidemic, the government closes all schools," "During the epidemic, the government closes restaurants, bars, and entertainment businesses," "During the epidemic, the government closes the national border to prevent foreigners from entering," "During the epidemic, the government recommends citizens do not leave their homes except for limited, permitted reasons," "During the epidemic, the government closes all non-essential businesses," "The government requires everyone to become vaccinated against the coronavirus as soon as an effective vaccine becomes available," "During the epidemic, the government can track smartphone locations and social contact data of the citizens who tested positive for COVID-19," "During the epidemic, the government implements a set of public health measures that doubles the unemployment rate," "During the epidemic, the government rations certain items designated by the government (e.g. masks, food, etc.) so one cannot buy them from the market," "During the epidemic, the government arrests citizens who are outside their home if they do not have government permission," "During the epidemic, the government can track smartphone location and social contact data of all citizens," "During the epidemic, the government implements a set of public health measures that triples the unemployment rate," and "During the epidemic, the government implements a set of public health measures that cuts the pay of low income workers in half." 95% confidence intervals are depicted in gray on each bar.

Appendix Figure A.9: Average of Number of Lives Need To Be Saved



Notes: The figure is based on COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia (AUS), Canada (CAN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), Singapore (SGP), Spain (ESP), the Netherlands (NLD), the United Kingdom (GBR), the United States (USA). Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. The figure shows a standardized cross-country comparison of the average level of agreement on a scale from 0 (strongly disagree) to 10 (strongly agree) with each of the following statements: "I am willing to sacrifice my own rights and freedom during a crisis like the current one, in order to maintain the health and well-being of the whole society," "I am willing to relax privacy protections and let the government access my personal data during a crisis like the current one, in order to allow the government to make timely and accurate decisions," "I am willing to suspend democratic procedures and give the President more power during a crisis like the current one, in order to ensure swift government actions," "I am willing to support the government controlling the media during a crisis like the current one, in order to ensure effective and uniform communication between the government and citizens," and "I am willing to endure substantial economic losses during a crisis like the current one, in order to maintain the health and well-being of society as a whole." The participants' answers are standardized by subtracting from them the U.S. mean and by dividing the result by the U.S. standard deviation. The U.S. mean is represented by the dashed gray line in the figure. On each line, each marker represents the standardized mean for a country.

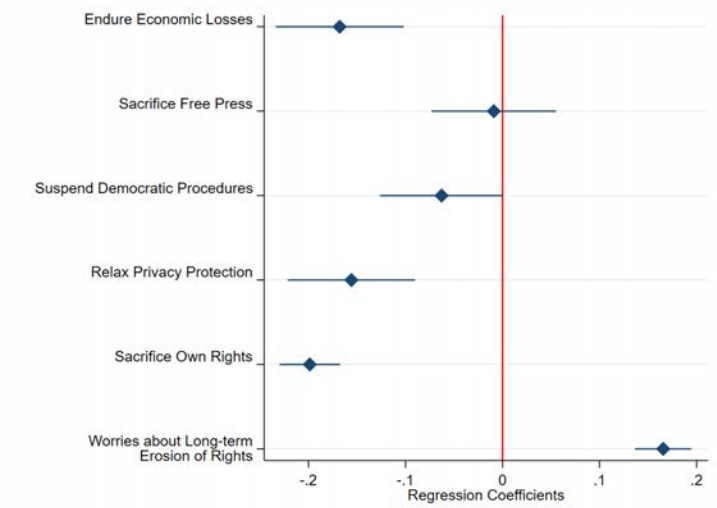
Appendix Figure A.10: Attitudes Across Countries, Standardized Means



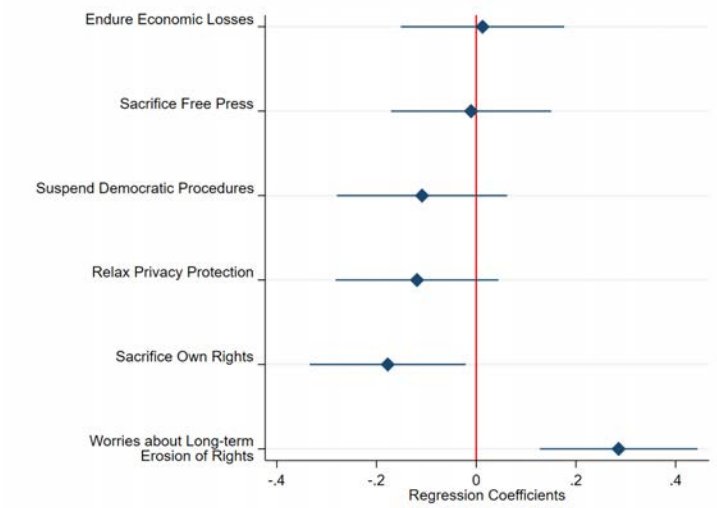
Notes: The figure is based on COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia (AUS), Canada (CAN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), Singapore (SGP), Spain (ESP), the Netherlands (NLD), the United Kingdom (GBR), the United States (USA). Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. The figure is a scatter plot which shows the country-level average willingness to relax privacy protections on a scale of 0 (strongly disagree) to 10 (strongly agree) (i.e. the variable on the y-axis) for each level of civil liberties score (on the x-axis) obtained from Freedom House (2020). A red line shows a linear prediction of the relationship between the two outcomes.

Appendix Figure A.11: Relationship Between Willingness to Relax Privacy Protections and Country-Level Civil Liberties Score

Panel (A): Residing in a state that belonged to the former German Democratic Republic (GDR) regime

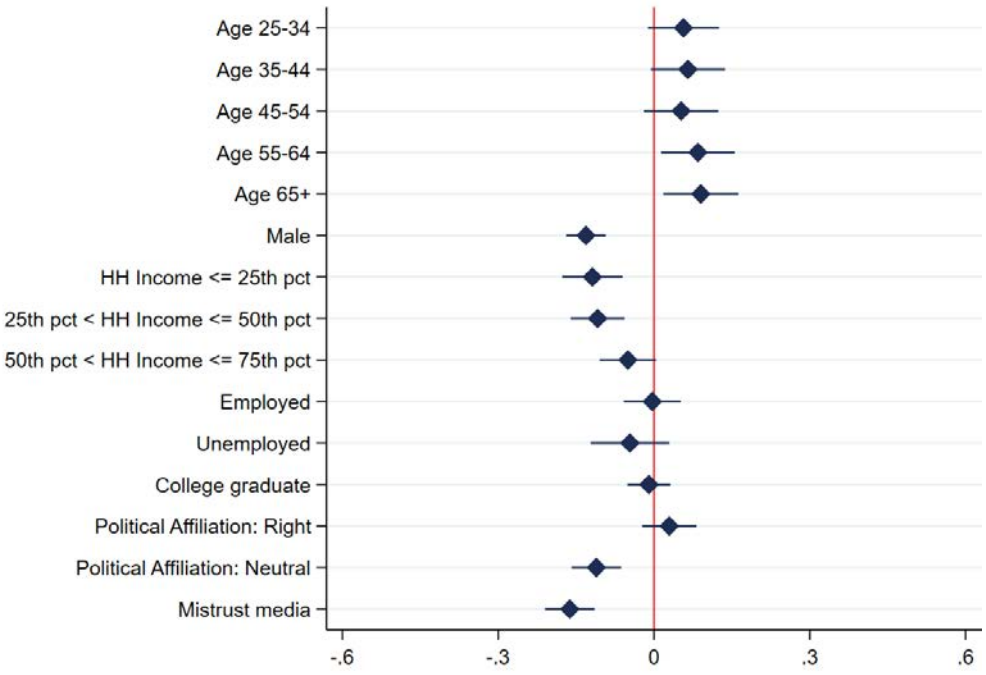


Panel (B): Having Migrated from North Korea



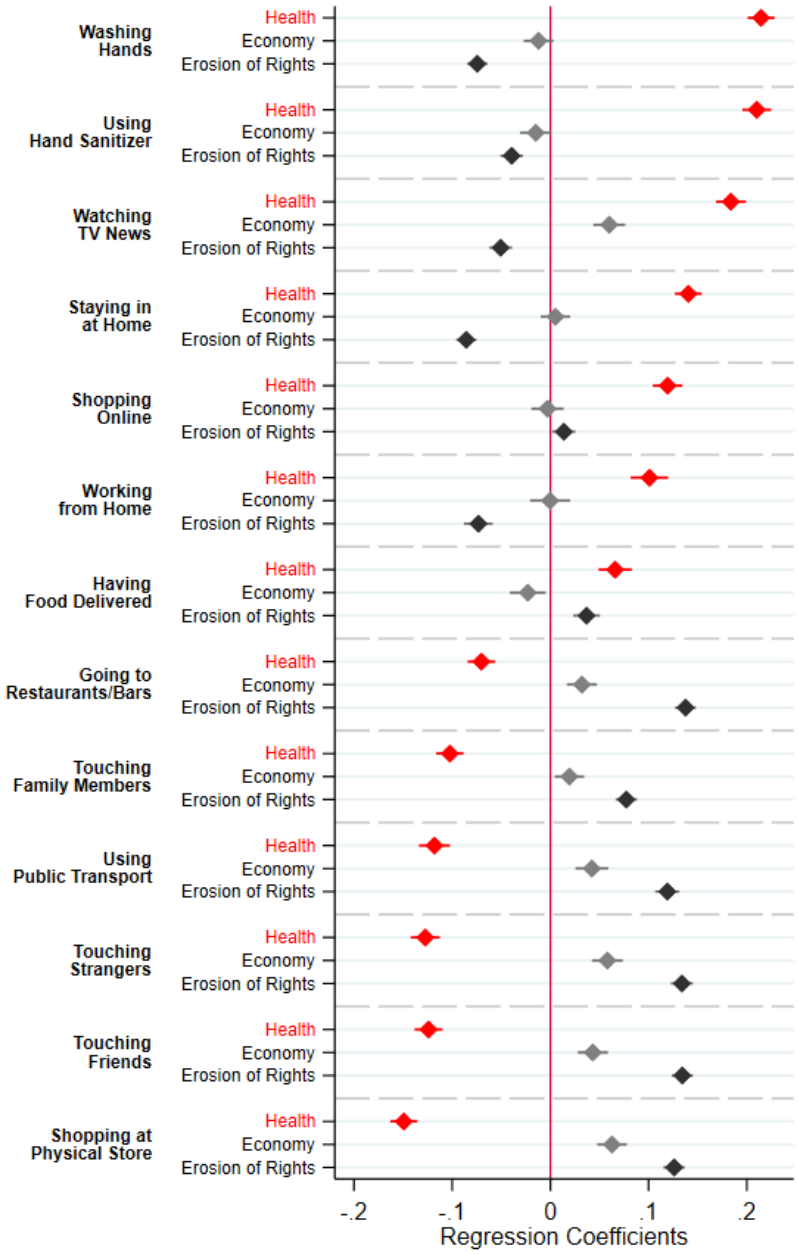
Notes: Panel (A) shows the relationship between residing in a state that belonged to the former German Democratic Republic (GDR) regime and willingness to give up civil liberties based on the sample of German respondents from both surveys: COVID-19 and Civil Liberties survey, and COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020. Unlike other descriptive statistics, which only used the sample of the week of March 30 to the week of April 13, 2020 of COVID-19 Global Consumer Trends Report, we use the full sample in this analysis in order to have more statistical power, examining within a single country. Panel (B) shows the relationship between having migrated from North Korea and willingness to give up civil liberties rights based on the sample of COVID-19 and Civil Liberties survey including respondents from South Korea only. In Panel A, residing in a state that belonged to the former German Democratic Republic (GDR) regime is equal to 1 if the respondent lives in East German states, or 0 otherwise. The sample is restricted to the respondents who were born in 1985 or earlier, and who do not reside in Berlin (because we cannot distinguish East and West Berlin residence). The sample size is: $N = 26,962$ for Sacrifice Own Rights and $N = 6,053$ or less for the rest of the outcome variables; 18% reside in East Germany. In Panel B, Having Migrated from North Korea is a binary variable, which is equal to 1 if the respondent or any household members migrated from North to South Korea during the Korean War. Dots denote standardized regression coefficients obtained from regressing each outcome on residing in a state that belonged to the former German Democratic Republic (GDR) regime (Panel A) or exposure to North Korea (Panel B). The regression for Panel A includes but does not report the following controls: male, employment, age groups, week FEs, and survey FEs. The regression for Panel B includes all controls listed in Table 1. 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.12: Exposure to East Germany and North Korea



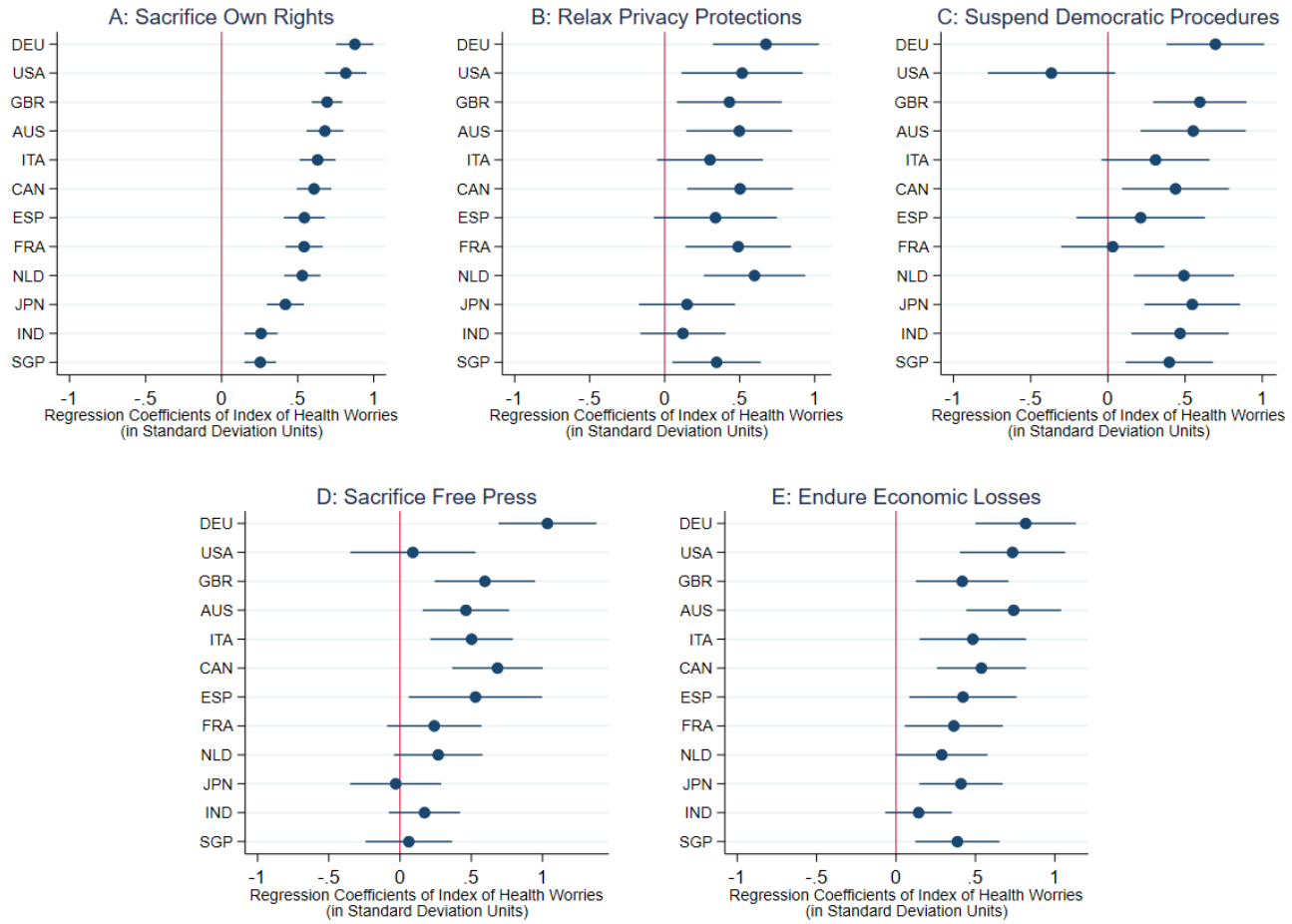
Notes: Figure is based on the sample from COVID-19 and Civil Liberties survey. Diamonds represent coefficient estimates obtained from separate OLS regressions of "Willingness to sacrifice own rights" on dummies for various demographic characteristics (denoted on the y-axis). The outcome variable, "Willingness to sacrifice own rights," is standardized to have mean 0, and standard deviation 1. Political affiliation variables were not asked from respondents in China. Country and survey date fixed effects, controls for treatment dummies, and individual hotspot city dummies (New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea) are included in the regression but not reported. 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.13: Willingness to Sacrifice Own Rights and Socio-demographic Characteristics



Notes: Figure is based on the sample from COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, the Netherlands, the United Kingdom, the United States. Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. Diamonds represent coefficient estimates obtained from separate OLS regressions of each behavior on an index for health worries, an index for economic worries, and a measure of worries about long-term erosion of rights. The index for health worries refers to the average value of the level of worries about personal health, the health of the elderly in the community, being around strangers, and the healthcare systems being able to cope on a 1 (not worried at all) to 5 (extremely worried) scale. The index of economic worries refers to an average value of the level of worries about one's household financial position, the availability of foodstuffs, the national economy, and the world economy on a 1 (not worried at all) to 5 (extremely worried) scale. Worries about long-term erosion of rights refers to worries that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over; it is on a scale of 0 (not at all worried) to 10 (extremely worried). All outcomes and indexes are standardized to have mean 0 and standard deviation 1. Regressions include country-week fixed effects. 95% confidence intervals based on robust standard errors are also shown.

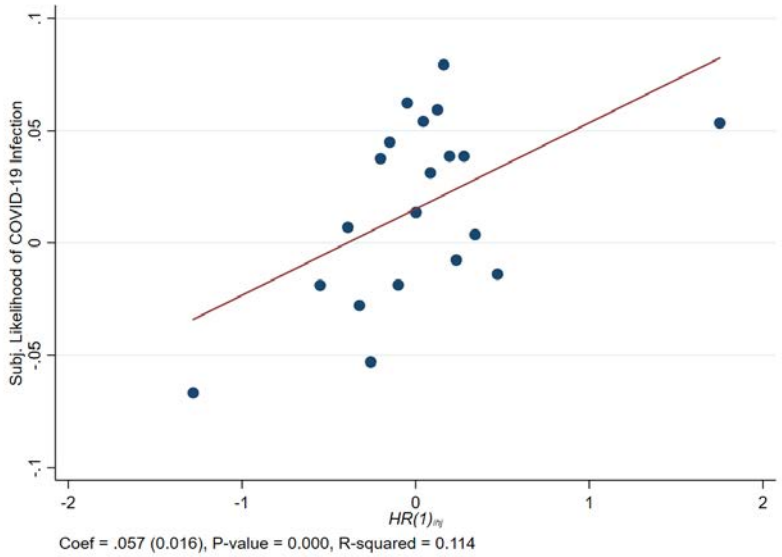
Appendix Figure A.14: Association Between Worries about Health, Economic, and Long-term Erosion of Rights and Behaviors



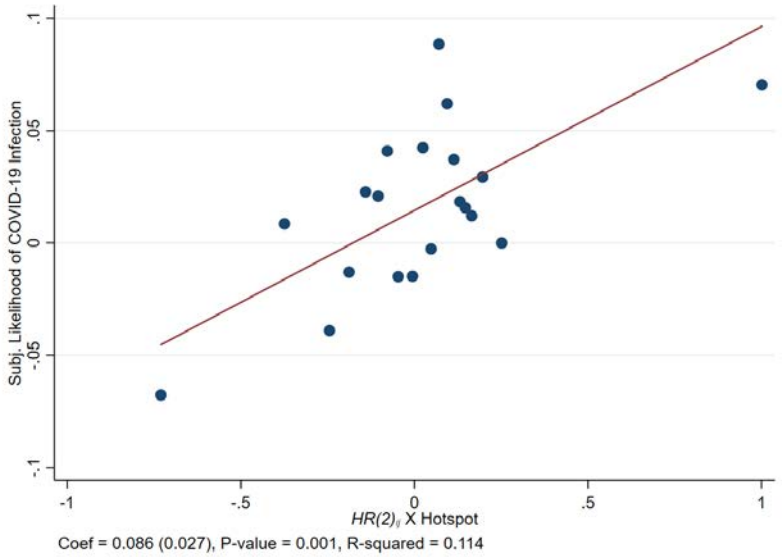
Notes: Figure is based on the sample from COVID-19 Civil Liberties Survey and from the COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of April 13, 2020 and including the following countries: Australia, Canada, China, France, Germany, India, Italy, Japan, Singapore, South Korea, Spain, the Netherlands, the United Kingdom, the United States. Sweden is omitted in this figure due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots denote coefficient estimates from separate OLS regressions of our six main outcome variables (as described in Section 2.3) on an index for health worries by country. The index for health worries refers to an average value of level of worries about personal health, the health of the elderly in the community, being around strangers, and healthcare systems being able to cope on a 1 (not worried at all) to 5 (extremely worried) scale. Regressions include but do not report the index of economic worries (i.e. an average value of level of worries about one's household financial position, the availability of foodstuffs, the national economy, and the world economy on a 1 (not worried at all) to 5 (extremely worried) scale) and worries about long-term erosion of rights (i.e. worries that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over; it is on a scale of 0 (not at all worried) to 10 (extremely worried)). All outcomes and indices are standardized so as to have mean 0 and standard deviation 1. Week fixed effects are also included in the regressions but not reported. 95% confidence intervals based on robust standard errors are also shown.

Appendix Figure A.15: Association between Willingness to Forego Civil Liberties and Worries about Health Across Countries

Panel (A): Using Specification 1

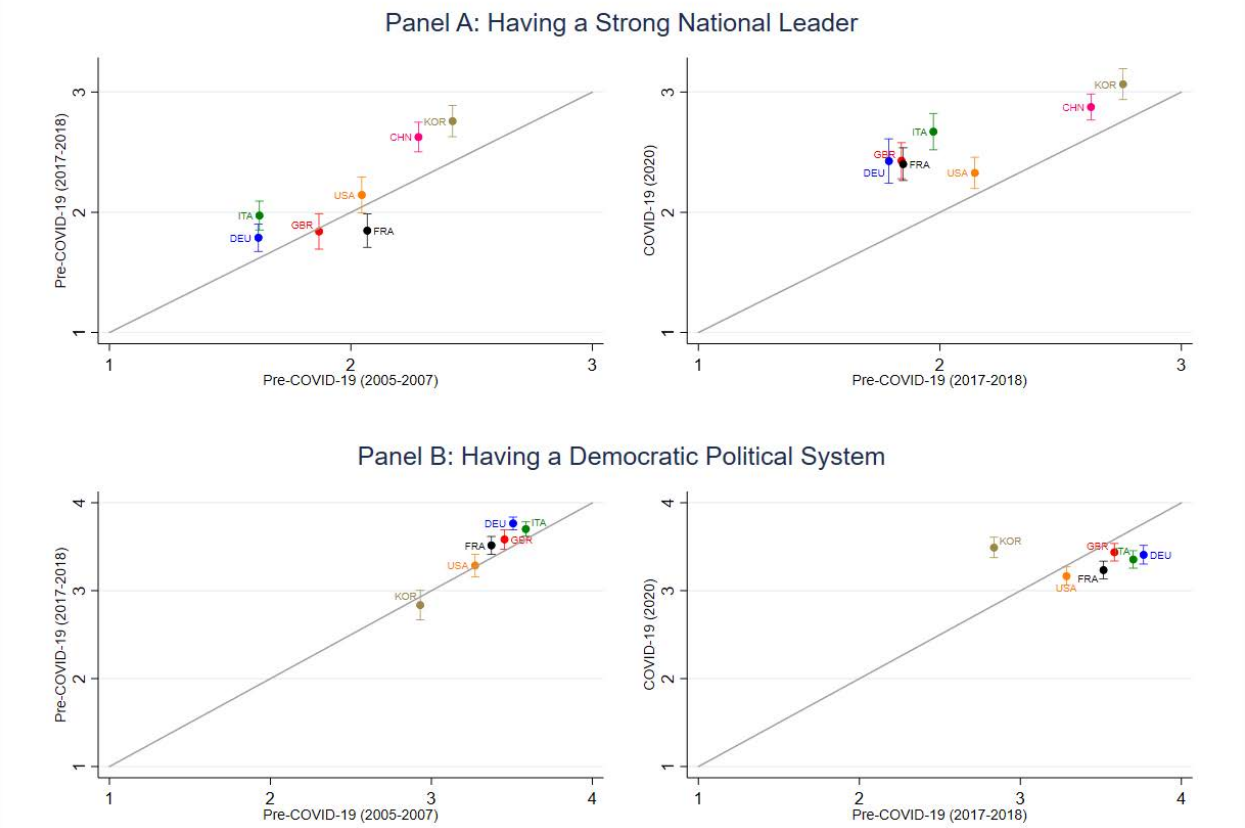


Panel (B): Using Specification 2



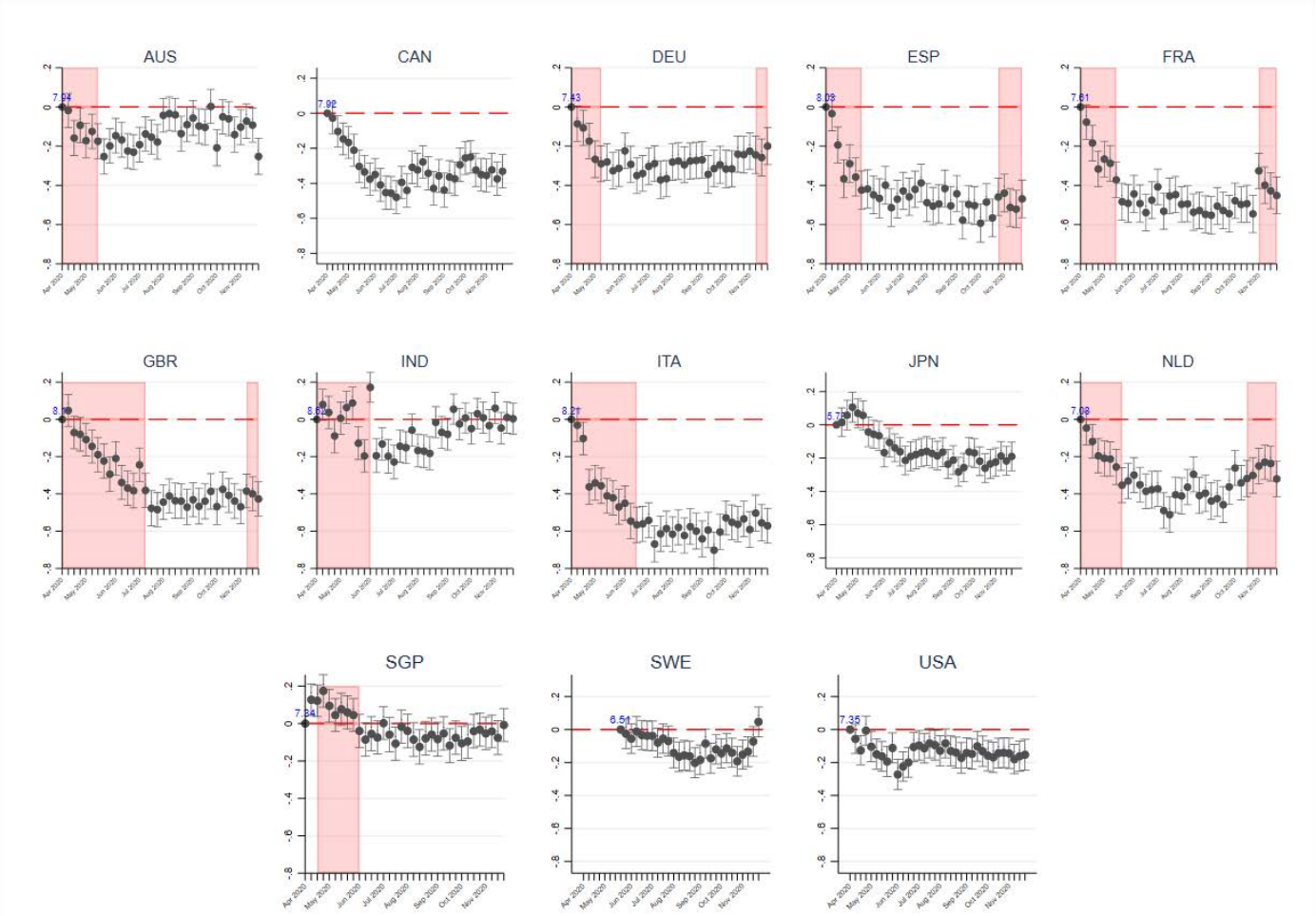
Notes: Figure shows OLS estimates of the relationship between between Subjective COVID-19 Risk and Health Risk Score based on the COVID-19 and Civil Liberties Survey. Health Risk indices, $HR(1)_{ihj}$ and $HR(2)_{ihj}$, follow the main definitions as described in Section 4.1.1, while Hotspot follows the definition as described in Section 4.1.2. "Subj. Likelihood of COVID-19 Infection" refers to the respondent's subjective likelihood of contracting COVID-19 on a scale of 0 (Not at all likely) to 10 (Extremely likely); it is standardized to mean 0 and s.d. 1. The following covariates are included in each specification: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. "Coef" refers to the coefficient estimates obtained from each OLS regression, and robust standard errors are in parentheses. "P-value" refers to the estimated p-value related to the coefficient, and "R-squared" refers to the R-squared of the relevant regression estimate.

Appendix Figure A.16: Relationship between Subjective COVID-19 Risk and Health Risk Score



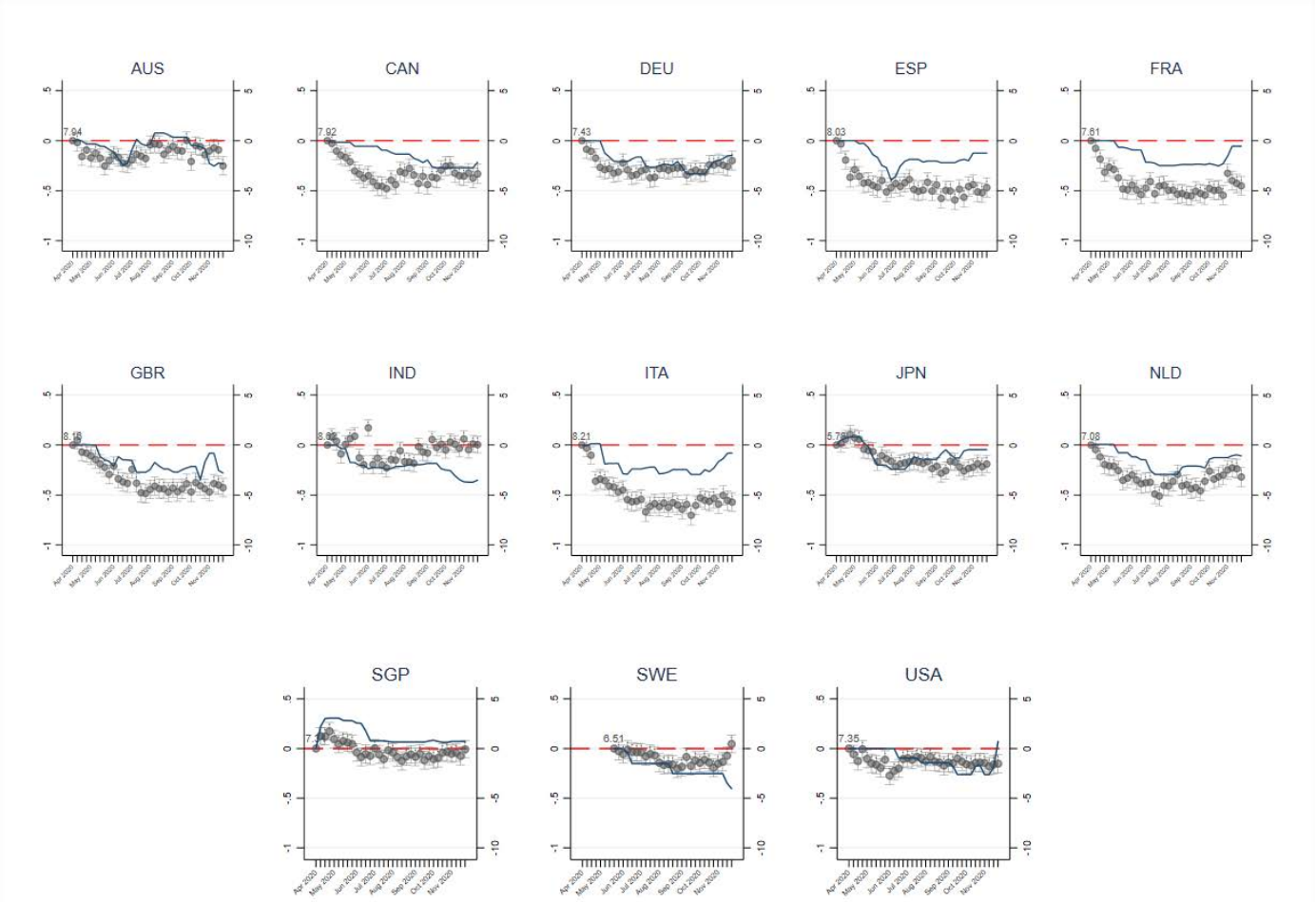
Notes: The figure is based on data obtained from three different surveys. Wave 5 data of World Value Survey (Inglehart et al., 2014) is used for Pre-COVID-19 (2005-2007) for all countries. Wave 7 data of World Value Survey (Inglehart et al., 2017) is used for Pre-COVID-19 (2017-2018) for China (CHN), Germany (DEU), South Korea (KOR), and the United States (USA). European Value Survey 2017 (EVS, 2020) is used for Pre-COVID-19 (2017-2018) for France (FRA), the United Kingdom (GBR), and Italy (ITA). COVID-19 and Civil Liberties Survey is used for COVID-19 (2020) period for all countries - restricted to individuals from the control group. The figure shows the average outcomes by country in the two pre-COVID-19 periods (i.e. 2017-2018 and 2005-2007) and amid the COVID-19 period. Outcome variables are survey responses to the questions adapted from World Value Survey: "For each one, would you say it is a very good, fairly good, fairly bad or very bad way of governing this country? - Having a strong national leader who does not have to bother with parliament and elections (Panel A); Having a democratic political system (respondents from China were not asked this questions. Therefore, China is omitted in panel B.) (Panel B)." The responses are on a scale of 1 (very bad) to 4 (very good). Each dot represent regression coefficients added to the constant terms obtained from regressing each outcome on the indicator for each period. 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.17: World-Value Survey Questions before and amid the COVID-19 crisis



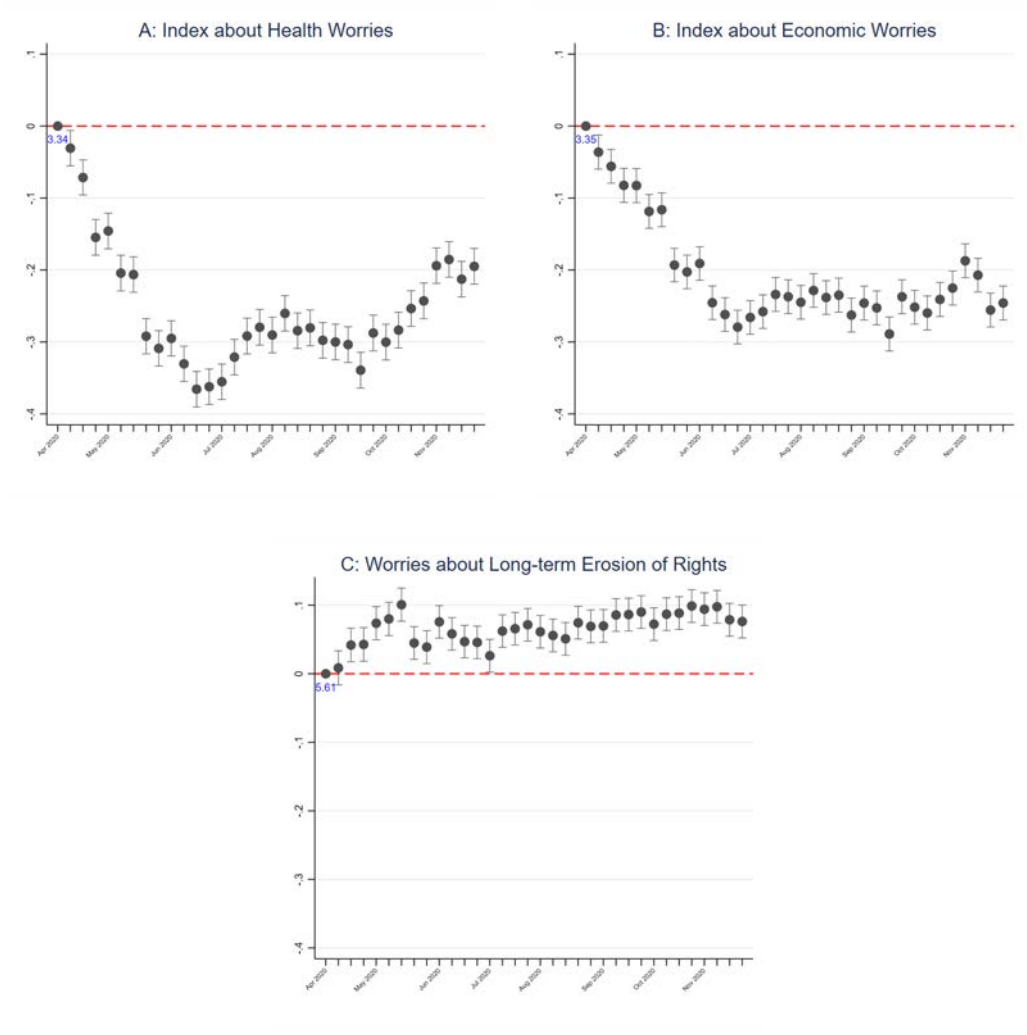
Notes: Figure is based on the sample from COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia (AUS), Canada (CAN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), Singapore (SGP), Spain (ESP), the Netherlands (NLD), the United Kingdom (GBR), the United States (USA); weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden (SWE) due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots represent coefficient estimates obtained from OLS regressions of outcome of interest on week fixed effects, estimated separately for each country. Outcome of interest is the respondent's willingness to sacrifice own rights measured on a scale of 1 (not at all willing) to 10 (extremely willing). Outcome variable is standardized based on mean and standard deviation in a given country as of the week of March 30, 2020 (or the week of May 18, 2020 for Sweden). Numbers in blue under the first dot in each subfigure indicate the constant term obtained from the same regression specification but with unstandardized outcome on a scale of 0-10, which are: 7.94 for Figure AUS; 7.92 for Figure CAN; 7.43 for Figure DEU; 8.03 for Figure ESP; 7.61 for Figure FRA; 8.16 for Figure GBR; 8.62 for Figure IND; 8.21 for Figure ITA; 5.78 for Figure JPN; 7.08 for Figure NLD; 7.34 for Figure SGP; 6.51 for Figure SWE; 7.35 for Figure USA. The period of nationwide lockdown in each country is highlighted in red. The end date for the lockdown in Italy is set to the date in which the Italian Government eased all remaining restrictions at the national level. 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.18: Time Trends of Willingness to Sacrifice Own Rights and Lockdown Periods: Country-by-Country



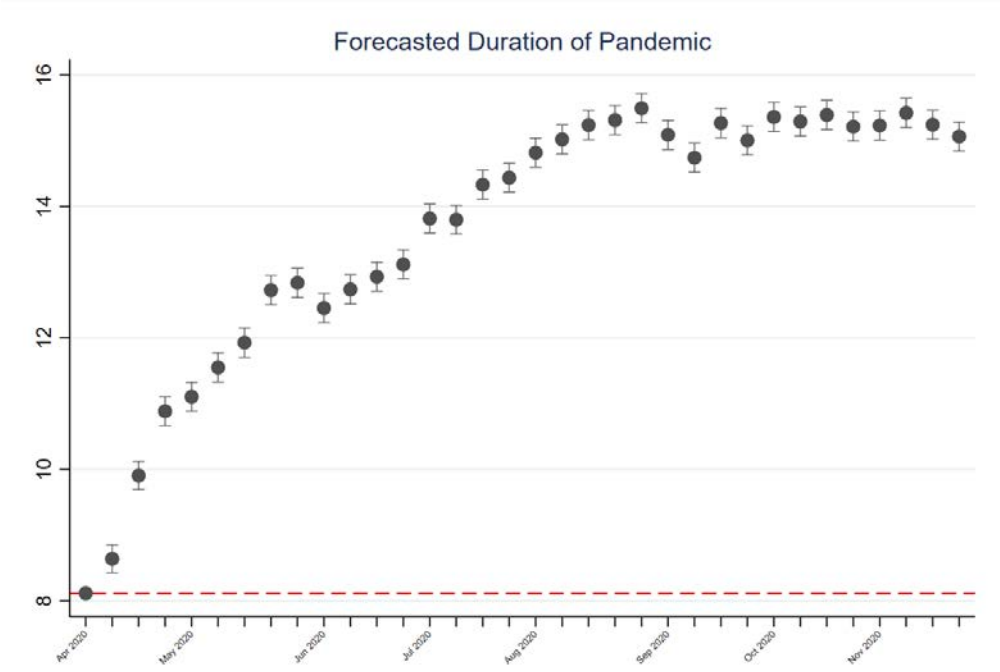
Notes: Figure is based on the sample from COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia (AUS), Canada (CAN), France (FRA), Germany (DEU), India (IND), Italy (ITA), Japan (JPN), Singapore (SGP), Spain (ESP), the Netherlands (NLD), the United Kingdom (GBR), the United States (USA); weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden (SWE) due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots represent coefficient estimates obtained from OLS regressions of outcome of interest on week fixed effects, estimated separately for each country. Outcome of interest is the respondent's willingness to sacrifice own rights measured on a scale of 1 (not at all willing) to 10 (extremely willing). Outcome variable is standardized based on mean and standard deviation in a given country as of the week of March 30, 2020 (or the week of May 18, 2020 for Sweden). Numbers in blue under the first dot in each subfigure indicate the constant term obtained from the same regression specification but with unstandardized outcome on a scale of 0-10, which are: 7.94 for Figure AUS; 7.92 for Figure CAN; 7.43 for Figure DEU; 8.03 for Figure ESP; 7.61 for Figure FRA; 8.16 for Figure GBR; 8.62 for Figure IND; 8.21 for Figure ITA; 5.78 for Figure JPN; 7.08 for Figure NLD; 7.34 for Figure SGP; 6.51 for Figure SWE; 7.35 for Figure USA. Blue lines show the trend of a policy stringency index at the national level, using data obtained from Hale et al. (2020). 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.19: Time Trends of Willingness to Sacrifice Own Rights and Level of Policy Stringency: Country-by-Country



Notes: Figure is based on the sample from COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, the Netherlands, the United Kingdom, the United States; weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden due to the absence of data from the week of March 30 to the week of May 11, 2020. Dots represent coefficient estimates obtained from OLS regression of outcome of interest on week fixed effects. The index for health worries refers to an average value of the level of worries about personal health, the health of the elderly in the community, being around strangers, and the healthcare systems being able to cope on a 1 (not worried at all) to 5 (extremely worried) scale. The index of economic worries refers to an average value of the level of worries about one's household financial position, the availability of foodstuffs, the national economy, and the world economy on a 1 (not worried at all) to 5 (extremely worried) scale. Worries about long-term erosion of rights refers to worries that the rights, freedoms, and procedures that are forgone during a crisis like the current one won't be recovered after the crisis is over; it is on a scale of 0 (not at all worried) to 10 (extremely worried). Outcomes are standardized based on mean and standard deviation as of the week of March 30, 2020 except Swedish data; outcomes of Swedish data are standardized based on the week of March 30, 2020 data from European countries (i.e. France, Germany, Italy, Spain, the Netherlands, and the United Kingdom) due to the absence of weekly data from the week of March 30 to the week of May 11, 2020. Numbers in blue under the first dot in each subfigure indicate the constant term obtained from the same regression specification but with unstandardized outcomes, which are 3.34 on a scale of 1-5 for Figure A; 3.36 on a scale of 1-5 for Figure B; 5.61 on a scale of 0-10 for Figure C. 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.20: Time Trends in Worries About Health, Economic Outcomes, and Long-term Erosion of Rights



Notes: Figure is based on the sample from COVID-19 Global Consumer Trends Report. Dots represent coefficient estimates on week fixed effects obtained from OLS regression of outcome of interest on week fixed effects and country fixed effects, including all weeks from the week of March 30 to the week of November 16, 2020 and including the following countries: Australia, Canada, France, Germany, India, Italy, Japan, Singapore, Spain, the Netherlands, the United Kingdom, the United States; weekly data from the week of May 18 to the week of November 16, 2020 are used for Sweden due to the absence of weekly data from the week of March 30 to the week of May 11, 2020. Outcome of interest is belief over months to end of pandemic; y-axis denotes the number of months. The week of March 30, 2020 is omitted category; mean of the week of March 30, 2020 is added to coefficients. 95% confidence intervals based on robust standard errors are shown.

Appendix Figure A.21: Time Trends: Beliefs Over Pandemic Duration

B Appendix Tables

Appendix Table B.1: Summary Statistics for COVID-19 Global Consumer Trends Report

	All N=465,724		Australia N=33,713		Canada N=33,606		China N=33,853		France N=33,912		Germany N=33,776		India N=33,764		Italy N=33,889		Japan N=33,769		Netherlands N=33,734		Singapore N=33,819		Spain N=33,918		Sweden N=26,611		U.K. N=34,358		U.S. N=33,002	
	Mean (1)	SD (2)	Mean (3)	SD (4)	Mean (5)	SD (6)	Mean (7)	SD (8)	Mean (9)	SD (10)	Mean (11)	SD (12)	Mean (13)	SD (14)	Mean (15)	SD (16)	Mean (17)	SD (18)	Mean (19)	SD (20)	Mean (21)	SD (22)	Mean (23)	SD (24)	Mean (25)	SD (26)	Mean (27)	SD (28)	Mean (29)	SD (30)
PANEL A: DEMOGRAPHIC CHARACTERISTICS																														
Male	0.502	0.500	0.502	0.500	0.502	0.500	0.500	0.500	0.500	0.500	0.501	0.500	0.509	0.500	0.500	0.500	0.501	0.500	0.500	0.500	0.501	0.500	0.500	0.500	0.501	0.500	0.502	0.500	0.506	0.500
Age	45.472	16.518	46.149	16.788	47.300	16.633	41.414	14.300	47.297	16.804	49.349	16.322	38.200	14.550	40.719	15.280	50.723	16.795	47.810	16.640	39.876	14.374	46.805	15.948	47.390	17.593	47.197	16.717	46.815	16.555
PANEL B: EMPLOYMENT STATUS																														
Employed	0.637	0.481	0.600	0.490	0.585	0.493	0.794	0.404	0.560	0.496	0.583	0.493	0.834	0.372	0.612	0.487	0.594	0.491	0.575	0.494	0.807	0.394	0.611	0.488	0.536	0.499	0.612	0.487	0.589	0.492
Unemployed	0.069	0.254	0.087	0.281	0.066	0.248	0.008	0.088	0.071	0.258	0.044	0.205	0.032	0.175	0.097	0.296	0.137	0.344	0.058	0.234	0.046	0.209	0.090	0.287	0.086	0.281	0.066	0.249	0.087	0.281
Out of Labor Force/Other	0.294	0.455	0.313	0.464	0.349	0.477	0.198	0.398	0.369	0.482	0.373	0.484	0.134	0.341	0.291	0.454	0.269	0.443	0.367	0.482	0.147	0.354	0.299	0.458	0.378	0.485	0.321	0.467	0.324	0.468

Notes: Tables reports summary statistics of the sample from COVID-19 Global Consumer Trends Report, including all weeks from the week of March 30 to the week of November 16, 2020 (or from the week of May 18 to the week of November 16, 2020 for Sweden). Male, Employed, Unemployed, Out of Labor Force/Other are binary variables, while Age is a continuous variable.

Appendix Table B.2: Balance

	All N=11,621				U.S. N=5,243				U.K. N=1,579				France N=1,890				Italy N=1,619				Germany N=1,290				South Korea N=1,034		
	(1) Mean [SD]	(2) CL-Control	(3) PH-Control	(4) P-value	(5) Mean [SD]	(6) CL-Control	(7) PH-Control	(8) P-value	(9) Mean [SD]	(10) CL-Control	(11) PH-Control	(12) P-value	(13) Mean [SD]	(14) CL-Control	(15) PH-Control	(16) P-value	(17) Mean [SD]	(18) CL-Control	(19) PH-Control	(20) P-value	(21) Mean [SD]	(22) CL-Control	(23) PH-Control	(24) P-value	(25) Mean [SD]	(26) PH-Control	(27) P-value
PANEL A: DEMOGRAPHIC CHARACTERISTICS																											
Male	0.492	-0.016	0.001	0.262	0.465	-0.018	-0.013	0.557	0.501	-0.040	0.020	0.144	0.516	-0.016	-0.028	0.601	0.514	0.032	0.067	0.082	0.526	-0.038	-0.004	0.474	0.513	-0.002	0.946
	[0.500]	(0.011)	(0.011)		[0.499]	(0.017)	(0.017)		[0.500]	(0.031)	(0.031)		[0.500]	(0.028)	(0.028)		[0.500]	(0.030)	(0.030)		[0.500]	(0.034)	(0.034)		[0.500]	(0.031)	
Age	47.591	-0.199	0.459	0.222	47.965	0.305	0.404	0.780	47.049	-0.279	1.333	0.277	46.075	0.755	1.584	0.182	49.381	0.160	0.013	0.985	46.700	-3.976	-1.458	0.001	43.591	-1.216	0.199
	[16.835]	(0.385)	(0.384)		[17.719]	(0.605)	(0.597)		[16.952]	(1.052)	(1.053)		[14.758]	(0.857)	(0.858)		[17.008]	(1.019)	(1.039)		[15.387]	(1.059)	(1.064)		[15.631]	(0.947)	
Citizenship	0.974	-0.003	0.003	0.194	0.976	0.004	0.003	0.704	0.949	0.011	0.008	0.686	0.984	-0.017	0.005	0.032	0.989	-0.000	-0.002	0.933	0.963	-0.034	-0.001	0.055	0.992	0.004	0.403
	[0.159]	(0.004)	(0.003)		[0.152]	(0.005)	(0.005)		[0.221]	(0.013)	(0.013)		[0.124]	(0.009)	(0.006)		[0.104]	(0.006)	(0.007)		[0.188]	(0.015)	(0.013)		[0.088]	(0.005)	
Num. of Household Members	1.822	-0.002	-0.041	0.382	1.776	-0.034	-0.035	0.740	1.779	0.021	-0.116	0.241	1.861	-0.050	-0.109	0.377	2.107	-0.011	-0.010	0.986	1.643	0.178	0.089	0.233	2.392	-0.062	0.558
	[1.454]	(0.033)	(0.033)		[1.520]	(0.052)	(0.052)		[1.387]	(0.088)	(0.085)		[1.456]	(0.081)	(0.078)		[1.243]	(0.076)	(0.076)		[1.469]	(0.104)	(0.103)		[1.732]	(0.105)	
Risk Preference	5.445	-0.016	0.017	0.859	5.684	-0.007	0.065	0.653	5.335	-0.051	0.010	0.913	5.448	-0.090	-0.192	0.397	5.310	0.156	0.211	0.357	4.783	-0.115	-0.109	0.757	5.172	0.091	0.473
	[2.534]	(0.058)	(0.057)		[2.548]	(0.087)	(0.085)		[2.468]	(0.153)	(0.153)		[2.488]	(0.142)	(0.141)		[2.557]	(0.156)	(0.152)		[2.466]	(0.179)	(0.175)		[2.050]	(0.127)	
Time Preference	6.809	-0.007	0.010	0.932	6.971	0.054	-0.038	0.400	6.740	-0.176	-0.089	0.266	6.417	-0.178	0.008	0.171	7.381	-0.004	0.101	0.582	6.085	0.205	0.218	0.188	5.827	0.160	0.151
	[1.978]	(0.044)	(0.044)		[1.924]	(0.066)	(0.067)		[1.767]	(0.108)	(0.108)		[2.089]	(0.114)	(0.115)		[1.961]	(0.118)	(0.115)		[1.983]	(0.134)	(0.134)		[1.811]	(0.111)	
Employed	0.591	-0.005	-0.012	0.549	0.550	-0.013	-0.014	0.648	0.627	0.007	-0.027	0.489	0.657	-0.016	-0.034	0.439	0.574	-0.007	-0.013	0.914	0.634	0.031	0.047	0.338	0.696	0.030	0.294
	[0.492]	(0.011)	(0.011)		[0.498]	(0.017)	(0.017)		[0.484]	(0.030)	(0.030)		[0.475]	(0.027)	(0.027)		[0.495]	(0.030)	(0.030)		[0.482]	(0.033)	(0.032)		[0.460]	(0.028)	
Unemployed	0.119	0.003	0.002	0.934	0.136	0.010	0.021	0.221	0.112	-0.006	-0.018	0.619	0.105	-0.010	-0.014	0.686	0.123	0.003	-0.004	0.943	0.076	-0.000	-0.017	0.493	0.138	-0.008	0.711
	[0.324]	(0.007)	(0.007)		[0.343]	(0.012)	(0.012)		[0.315]	(0.019)	(0.019)		[0.307]	(0.017)	(0.017)		[0.328]	(0.020)	(0.020)		[0.265]	(0.018)	(0.017)		[0.346]	(0.021)	
PANEL B: INCOME AND EDUCATION																											
Income < 25th Pct	0.252	-0.012	-0.010	0.428	0.210	0.000	0.006	0.894	0.444	-0.018	0.016	0.542	0.235	-0.021	-0.018	0.630	0.264	-0.063	-0.073	0.009	0.190	0.027	-0.010	0.373	0.257	0.027	0.333
	[0.434]	(0.010)	(0.010)		[0.407]	(0.014)	(0.014)		[0.497]	(0.030)	(0.031)		[0.424]	(0.024)	(0.023)		[0.441]	(0.026)	(0.025)		[0.393]	(0.027)	(0.026)		[0.438]	(0.028)	
25th Pct ≤ HH Income < 50th Pct	0.331	-0.003	0.001	0.906	0.383	0.007	-0.012	0.528	0.154	0.001	0.014	0.786	0.345	0.002	0.029	0.492	0.347	-0.006	0.011	0.840	0.300	-0.052	-0.013	0.199	0.283	-0.039	0.156
	[0.471]	(0.011)	(0.011)		[0.486]	(0.017)	(0.016)		[0.361]	(0.022)	(0.023)		[0.476]	(0.027)	(0.027)		[0.476]	(0.029)	(0.029)		[0.459]	(0.030)	(0.031)		[0.451]	(0.027)	
50th Pct ≤ HH Income < 75th Pct	0.183	0.024	0.015	0.024	0.130	0.017	0.024	0.112	0.185	0.033	-0.005	0.252	0.219	0.017	-0.033	0.076	0.199	0.039	0.065	0.035	0.320	0.031	0.011	0.621	0.246	0.021	0.436
	[0.386]	(0.009)	(0.009)		[0.336]	(0.012)	(0.012)		[0.388]	(0.025)	(0.024)		[0.414]	(0.024)	(0.022)		[0.399]	(0.025)	(0.026)		[0.467]	(0.032)	(0.032)		[0.431]	(0.027)	
75th Pct ≤ HH Income	0.235	-0.009	-0.007	0.625	0.277	-0.024	-0.018	0.258	0.218	-0.015	-0.025	0.608	0.201	0.002	0.023	0.549	0.191	0.030	-0.003	0.350	0.190	-0.006	0.013	0.778	0.214	-0.009	0.721
	[0.424]	(0.010)	(0.010)		[0.448]	(0.015)	(0.015)		[0.413]	(0.025)	(0.025)		[0.401]	(0.023)	(0.023)		[0.394]	(0.025)	(0.024)		[0.393]	(0.027)	(0.027)		[0.411]	(0.025)	
Received College Education	0.557	-0.003	-0.002	0.969	0.649	0.004	0.007	0.910	0.490	0.023	0.009	0.761	0.574	-0.023	-0.021	0.663	0.475	-0.014	-0.036	0.489	0.352	-0.017	0.016	0.594	0.747	-0.002	0.945
	[0.497]	(0.011)	(0.011)		[0.477]	(0.016)	(0.016)		[0.500]	(0.031)	(0.031)		[0.495]	(0.028)	(0.028)		[0.500]	(0.030)	(0.030)		[0.478]	(0.032)	(0.033)		[0.435]	(0.027)	
Have College Diploma	0.471	-0.011	-0.008	0.610	0.531	-0.001	-0.006	0.940	0.422	-0.004	0.003	0.975	0.547	-0.027	-0.025	0.555	0.366	-0.035	-0.026	0.458	0.309	-0.002	0.015	0.839	0.710	0.004	0.874
	[0.499]	(0.011)	(0.011)		[0.499]	(0.017)	(0.017)		[0.494]	(0.030)	(0.030)		[0.498]	(0.028)	(0.028)		[0.482]	(0.029)	(0.029)		[0.463]	(0.032)	(0.032)		[0.454]	(0.028)	
PANEL C: POLITICS AND MEDIA																											
Political Aff.: Right	0.294	0.023	0.008	0.075	0.268	0.039	0.010	0.035	0.310	-0.003	-0.019	0.779	0.331	0.011	-0.012	0.678	0.393	0.012	-0.007	0.810	0.198	0.025	0.076	0.029	0.177	-0.008	0.719
	[0.456]	(0.010)	(0.010)		[0.443]	(0.015)	(0.015)		[0.463]	(0.028)	(0.028)		[0.471]	(0.027)	(0.026)		[0.489]	(0.030)	(0.030)		[0.399]	(0.028)	(0.029)		[0.382]	(0.024)	
Political Aff.: Left	0.359	-0.014	-0.010	0.431	0.390	-0.019	0.001	0.395	0.288	-0.025	-0.006	0.638	0.298	0.007	-0.026	0.392	0.426	-0.021	-0.010	0.790	0.329	0.001	-0.036	0.412	0.318	0.039	0.182
	[0.480]	(0.011)	(0.011)		[0.488]	(0.016)	(0.016)		[0.453]	(0.027)	(0.028)		[0.458]	(0.026)	(0.025)		[0.495]	(0.030)	(0.030)		[0.470]	(0.032)	(0.032)		[0.466]	(0.029)	
Level of Media Trust	3.150	-0.025	0.003	0.495	3.157	-0.015	-0.018	0.900	3.385	-0.103	0.046	0.075	3.229	-0.015	-0.012	0.965	3.443	0.015	-0.012	0.906	2.343	-0.032	0.074	0.254	2.982	0.021	0.737
	[1.161]	(0.025)	(0.025)		[1.233]	(0.042)	(0.042)		[1.085]	(0.068)	(0.065)		[1.066]	(0.060)	(0.060)		[0.956]	(0.058)	(0.059)		[0.949]	(0.065)	(0.065)		[1.009]	(0.064)	
PANEL D: HEALTH																											
Have Any Medical Condition	0.542	-0.005	0.011	0.354	0.546	0.004	0.017	0.569	0.486	-0.020	0.011	0.603	0.527	-0.033	0.014	0.232	0.599	0.017	-0.010	0.667	0.542	-0.009	0.008	0.882	0.558	-0.005	0.879
	[0.498]	(0.011)	(0.011)		[0.498]	(0.017)	(0.017)		[0.500]	(0.031)	(0.031)		[0.500]	(0.028)	(0.028)		[0.490]	(0.030)	(0.030)		[0.499]	(0.034)	(0.034)		[0.497]	(0.031)	
Frequent Hospital Use	0.134	0.007	0.013	0.248	0.119	0.000	0.011	0.524	0.135	0.005	-0.011	0.744	0.122	-0.016	0.007	0.414	0.218	0.034	0.030	0.338	0.101	0.038	0.035	0.146	0.376	-0.015	0.609
	[0.340]	(0.008)	(0.008)		[0.324]	(0.011)	(0.011)		[0.342]	(0.021)	(0.021)		[0.328]	(0.018)	(0.019)		[0.414]	(0.026)	(0.026)		[0.301]	(0.022)	(0.022)		[0.485]	(0.030)	
Times Washed Hands in Last 24 Hours	13.906	0.584	0.827	0.580	15.232	-0.494	1.707	0.312	12.642	5.809	0.013	0.121	13.458	0.208	1.081	0.861	12.372	0.171	0.670	0.771	12.728	-0.468	-2.096	0.148	8.690	0.385	0.560
	[34.084]	(0.786)	(0.835)		[40.251]	(1.229)	(1.554)		[11.234]	(2.840)	(0.731)		[28.188]	(1.484)	(2.006)		[15.350]	(1.256)	(0.943)		[48.077]	(2.413)	(2.355)		[10.378]	(0.660)	
Times Left Home in Last 3 Days	2.988	0.564	0.027	0.310	3.208	1.393	0.100	0.189	2.921	0.624	0.307	0.589	2.906	-0.553	0.067	0.615	2.143	-0.208	-0.307	0.746	3.378	-0.251	-0.232	0.671	3.037	1.485	0.443
	[9.922]	(0.374)	(0.271)		[10.722]	(0.766)	(0.358)		[7.443]	(0.631)	(0.541)		[13.739]	(0.629)	(1.182)		[6.871]	(0.370)	(0.411)		[4.257]	(0.351)	(0.299)		[5.440]	(1.936)	
PANEL E: COVID-19																											
Contracted COVID-19	0.037	-0.008	-0.004	0.128	0.043	-0.008	-0.010	0.286	0.046	-0.021	0.003	0.064	0.044	-0.016	-0.005	0.272	0.016	-0.003	-0.011	0.173	0.021	0.010	0.019	0.246	0.010	0.004	0.580
	[0.190]	(0.004)	(0.004)		[0.203]	(0.007)	(0.006)		[0.209]	(0.011)	(0.013)		[0.205]	(0.010)	(0.011)		[0.127]	(0.007)	(0.006)		[0.142]	(0.011)	(0.012)		[0.098]	(0.007)	
Num. of Acquaintances with Covid-19+	26.270	4.854	16.124	0.132	35.586	17.341	22.173	0.218	32.082	-15.789	-6.830	0.646	21.805	-21.101	20.093	0.007	1.101	19.243	7.899	0.158	19.931	-0.257	23.952	0.496	79.392	-57.035	0.036
	[311.872]	(7.414)	(8.044)		[357.315]	(13.820)	(13.882)		[359.024]	(17.922)	(20.156)		[285.909]	(11.329)	(19.690)		[5.031]	(11.717)	(7.927)		[284.144]	(18.844)	(22.598)		[554.727]	(27.237)	
Subj. Community Risk	33.615	-0.600	-0.857	0.373	37.972	-1.947	-1.295	0.148	35.916	2.478	-0.414	0.211	32.058	-1.285	-2.355	0.267	24.619	0.036	-0.176	0.988	26.795	1.205	1.658	0.611	21.250	0.381	0.817
	[28.178]	(0.629)	(0.626)		[30.214]	(1.011)	(1.011)		[26.985]	(1.729)	(1.663)		[26.393]	(1.465)	(1.450)		[23.555]	(1.438)	(1.423)		[24.728]	(1.713)	(1.749)		[25.707]	(1.643)	
Subj. Easiness of Testing	3.781	0.035	0.054	0.701	4.146	0.064	0.058	0.773	2.117	0.069	0.315	0.115	3.977	-0.004	-0.142	0.637	3.109	-0.028	0.016	0.970	5.022	0.006	0.050	0.965	5.659	0.068	0.670
	[2.937]	(0.065)	(0.065)		[2.914]	(0.098)	(0.098)		[2.410]	(0.151)	(0.156)		[2.979]	(0.171)	(0.169)		[2.778]	(0.173)	(0.174)		[2.717]	(0.199)	(0.198)		[2.512]	(0.160)	
PANEL F: GEOGRAPHIC CHARACTERISTICS																											
Hotspot Residency	0.195	0.001	-0.002	0.938	0.212	0.001	0.004	0.957	0.144	-0.002	-0.014	0.778	0.194	-0.005	-0.002	0.977	0.231	0.007	-0.003	0.926	0.142	0.002	-0.014	0.764	0.177	0.001	0.963
	[0.396]	(0.009)	(0.009)		[0.409]	(0.014)	(0.014)		[0.352]	(0.022)	(0.021)		[0.396]	(0.022)	(0.022)		[0.422]	(0.026)	(0.026)		[0.349]	(0.024)	(0.023)		[0.382]	(0.024)	
Urban Residency	0.538	-0.012	-0.008	0.518	0.583	-0.012	-0.016	0.611	0.740	-0.006	0.006	0.901	0.353	-0.039	-0.017	0.342	0.617	-0.007	-0.009	0.950	0.272	0.011	0.019	0.822	0.807	0.018	0.448
	[0.499]	(0.011)	(0.011)		[0.493]	(0.017)	(0.017)		[0.439]	(0.027)	(0.027)		[0.478]	(0.027)	(0.027)		[0.486]	(0.030)	(0.030)		[0.446]	(0.031)	(0.031)		[0.395]	(0.024)	

Notes: Table is based on the sample from COVID-19 and Civil Liberties survey. Respondents from China are not included in the table since they were not assigned to any treatment groups. Columns (1) to (4) show the results for all countries, excluding respondents from China and South Korea. Columns (1), (5), (9), (13), (17), (21) and (25) reports the mean and standard deviations (in brackets) of the control group. Columns (2), (3), (6), (7), (10), (11), (14), (15), (18), (19), (22), (23), and (26) report regression coefficients and standard errors (in parentheses) for each randomization group relative to the omitted group (even-numbered columns are civil liberties treatment group relative to the control group, while odd-numbered columns are public health treatment group relative to the control group). Columns (4), (8), (12), (16), (20), (24), and (27) show the p-value associated with the F-statistic testing whether the treatment arms are jointly equal to zero. Following variables are binary variables: Male, Citizenship, Received College Education, Have College Diploma, all variables in Panel B, Political Aff.: Right, Political Aff.: Left, Have Any Medical Conditions, Frequent Hospital Use, Contracted COVID-19, Hotspot Residency, and Urban Residency. Risk Preference respondent's preference for risk; it is on a scale of 1 (Not at all willing) to 10 (Extremely willing). Time preference refers to the respondent's willingness give up something that is beneficial today in order to benefit more from that in the future; it is on a scale of 1 (Not at all willing) to 10 (Extremely willing). Level of Media Trust refers to the respondent's trust level on the news as a whole in the country; it is on a scale of 1 (Strongly disagree) to 5 (Strongly agree). Have Any Medical Condition is equal 1 if the respondent has any of the following medical condition: cardiovascular, diabetes, chronic lung disease, tobacco use, pregnancy, back pain, obesity, or arthritis. Num. of Acquaintances with COVID-19+ refers to the number of the respondent's acquaintances who contracted COVID-19. Subj. community risk refers to the respondent's subjective number out of 100 people in the community who will get sick from COVID-19 in the next month. Subj. Easiness of Testing refers to the respondent's subjective easiness of getting tested for COVID-19 on a scale of 0 (Extremely difficult) to 10 (Extremely easy). N is the number eligible to answer. Observation count varies due to missing responses in the baseline survey.

Appendix Table B.3: Testing For Differential Attrition

Variable	(1) Control Mean/SE	(2) CL Treatment Mean/SE	(3) PH Treatment Mean/SE	T-test P-value (1)-(2)	(1)-(3)	(2)-(3)
Completed survey	0.927	0.900	0.917	0.000	0.068	0.006
	(0.004)	(0.005)	(0.004)			
N	4258	4221	4253			

Notes: Table describes survey completion rates among participants who reached the randomization stage and were assigned to one of the treatment arms based on the sample of COVID-19 and Civil Liberties Survey. Respondents from China and South Korea are excluded from this analysis. Country fixed effects are included. 10 hotspot city dummies are also controlled for, which are: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, and London for U.K. Columns (4), (5) and (6) presents p-values of tests of differences in means between the various group. Standard errors are in parentheses.

Appendix Table B.4: Comparison of Population and Sample Characteristics

	U.S.		U.K.		France		Italy		Germany		South Korea		China	
	Sample (N=5,258)	Population	Sample (N=1,581)	Population	Sample (N=1,892)	Population	Sample (N=1,619)	Population	Sample (N=1,293)	Population	Sample (N=1,036)	Population	Sample (N=3,614)	Population
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Male	0.45	0.48	0.49	0.49	0.50	0.48	0.55	0.48	0.51	0.49	0.51	0.50	0.47	0.51
18-25 years old	0.13	0.14	0.15	0.13	0.11	0.12	0.10	0.09	0.14	0.11	0.16	0.13	0.33	0.18
26-30 years old	0.09	0.09	0.07	0.09	0.08	0.07	0.07	0.06	0.09	0.08	0.09	0.08	0.17	0.10
31-35 years old	0.08	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.10	0.08	0.10	0.08	0.17	0.10
36-45 years old	0.15	0.16	0.17	0.16	0.19	0.16	0.19	0.17	0.18	0.14	0.22	0.18	0.18	0.23
46-55 years old	0.14	0.17	0.16	0.18	0.23	0.17	0.19	0.19	0.20	0.19	0.20	0.20	0.08	0.17
56-65 years old	0.18	0.16	0.18	0.15	0.18	0.16	0.12	0.16	0.18	0.16	0.13	0.17	0.04	0.12
66+ years old	0.22	0.19	0.19	0.21	0.14	0.24	0.25	0.26	0.11	0.24	0.10	0.16	0.02	0.10
Income bracket 1	0.21	0.30	0.23	0.17	0.22	0.25	0.22	0.40	0.20	0.30	0.27	0.34	0.15	0.20
Income bracket 2	0.20	0.19	0.21	0.28	0.36	0.30	0.35	0.25	0.28	0.25	0.26	0.21	0.16	0.20
Income bracket 3	0.18	0.18	0.28	0.26	0.21	0.20	0.23	0.20	0.19	0.15	0.19	0.16	0.11	0.20
Income bracket 4	0.14	0.12	0.28	0.24	0.21	0.25	0.20	0.15	0.33	0.30	0.17	0.14	0.58	0.40
Income bracket 5	0.26	0.20	0.00	0.05							0.11	0.15		
Region 1	0.20	0.16	0.41	0.43	0.25	0.29	0.56	0.46	0.40	0.29	0.45	0.50	0.54	0.37
Region 2	0.24	0.23	0.42	0.41	0.23	0.22	0.20	0.20	0.30	0.35	0.10	0.14	0.23	0.28
Region 3	0.36	0.39	0.03	0.05	0.26	0.29	0.24	0.34	0.13	0.16	0.09	0.11	0.17	0.21
Region 4	0.20	0.22	0.09	0.08	0.27	0.20			0.17	0.20	0.36	0.25	0.06	0.09
Region 5			0.05	0.03										

Notes: Table reports summary statistics of the sample from the COVID-19 and Civil Liberties Report Survey (in odd columns) alongside nationally representative statistics (in even columns) of each country. Detailed sources for each variable and country are listed in Supplemental Section H. Income brackets (annual gross household income) are defined for: (1) U.S. (in USD) as: less than 24,999; 25,000–49,999; 50,000–74,999; 75,999–99,999; more than 100,000.; (2) U.K. (in Pound) as: less than 20,000; 20,000–29,999; 30,000–49,999; 50,999-99,999; more than 100,000.; (3) France, Italy, and Germany (in Euros) as: less than 20,000; 20,000–39,999; 40,000–59,999; more than 60,000.; (4) South Korea (in KRW) as: less than 29,999,999; 30,000,000-49,999,999; 50,000,000-69,999,999; 70,000,000-99,999,999; more than 100,000,000; (4) China (in Yuan) as: less than 15,000; 15,000-34,999; 35,000-54,999; more than 55,000. Detailed regional brackets are listed in Supplemental Section I.

Appendix Table B.5: Quasi-experimental Results Without Survey Sample Weights

Outcome Variables	Scale	Specification 1		Specification 2		Gap b/w China and US	Mean of dept. var
		Health Risk ($HR(1)_{ihj}$)		Health Risk ($HR(2)_{ij}$) X Hotspot			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Overall rights and freedom							
Willing to sacrifice own rights	Agree (0-10)	0.100	(-0.037)	0.202	(-0.063)	1.730	7.073
Willing to sacrifice others' rights	Agree (0-10)	0.080	(-0.034)	0.170	(-0.060)	1.534	6.951
z-score: willing to sacrifice rights	Std. (0-1)	0.036	(-0.013)	0.074	(-0.023)	0.647	0.079
Panel B: Protection of privacy							
Willing to relax privacy protections	Agree (0-10)	0.097	(-0.04)	0.193	(-0.069)	3.086	5.984
Unwilling to accept: track sick people	Binary	-0.003	(-0.005)	-0.013	(-0.009)	0.013	0.238
Unwilling to accept: track everyone	Binary	-0.009	(-0.005)	-0.021	(-0.009)	-0.023	0.252
Click MIT app	Yes/No (binary)	0.003	(-0.006)	0.008	(-0.011)	0.272	0.471
z-score: willing to sacrifice privacy	Std. (0-1)	0.024	(-0.012)	0.060	(-0.022)	0.741	0.131
Panel C: Democratic rights and duties							
Prefer strong leader	Agree (1-4)	0.034	(-0.013)	0.034	(-0.023)	0.616	2.651
Prefer delegating to experts	Agree (1-4)	-0.006	(-0.012)	-0.016	(-0.021)	-0.044	2.917
Willing to sacrifice free press	Agree (0-10)	0.116	(-0.042)	0.190	(-0.073)	3.371	6.083
Prefer democratic system	Agree (1-4)	-0.006	(-0.010)	-0.008	(-0.018)	n.a.	3.286
Willing to suspend democr. procedures	Agree (0-10)	0.139	(-0.043)	0.263	(-0.079)	n.a.	4.885
z-score: willing to curtail democracy	Std. (0-1)	0.026	(-0.013)	0.035	(-0.023)	n.a.	-0.002
Panel D: Rights to movement							
Unwilling to accept: close national border	Binary	-0.002	(-0.005)	-0.003	(-0.009)	0.110	0.245
Unwilling to accept: recommend stay home	Binary	-0.004	(-0.005)	-0.010	(-0.009)	0.103	0.250
Unwilling to accept: arrest if outside home	Binary	-0.007	(-0.005)	-0.012	(-0.009)	0.002	0.253
z-score: willing to give up mobility	Std. (0-1)	0.011	(-0.012)	0.021	(-0.021)	-0.169	0.041
Panel E: Business and school operation							
Unwilling to accept: close schools	Binary	-0.001	(-0.005)	-0.006	(-0.009)	0.106	0.253
Unwilling to accept: close restaurants etc.	Binary	-0.005	(-0.005)	-0.015	(-0.009)	0.083	0.251
Unwilling to accept: close all businesses	Binary	-0.002	(-0.005)	-0.008	(-0.009)	0.081	0.253
z-score: willing to limit operations	Std. (0-1)	0.006	(-0.012)	0.023	(-0.021)	-0.218	0.030
Panel F: Economic well-being							
Unwilling to accept: measures cut income	Binary	-0.012	(-0.005)	-0.026	(-0.009)	-0.018	0.265
Unwilling to accept: measures 2x unemp. rate	Binary	-0.007	(-0.005)	-0.023	(-0.009)	0.084	0.256
Unwilling to accept: measures 3x unemp. rate	Binary	-0.010	(-0.005)	-0.025	(-0.009)	0.061	0.260
Willing to endure economic losses	Agree (0-10)	0.062	(-0.033)	0.139	(-0.056)	0.955	6.217
z-score: willing to harm economy	Std. (0-1)	0.032	(-0.012)	0.079	(-0.022)	0.154	0.078

Notes: Table reports OLS estimates of β based on Equation 1 but without re-weighting the sample. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Column (1) reports the outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in the panel. Column (2) reports the scale of each outcome variable. Health Risk indices, $HR(1)_{ihj}$ and $HR(2)_{ij}$, follow the main definitions as described in Section 4.1.1 respectively, while Hotspot follows the definition as described in Section 4.1.2. Columns (3) and (5) reports β in Equations 1, respectively. Column (7) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (8) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country fixed effects, date fixed effects, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket fixed effects, age bracket fixed effects, employment status fixed effects, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations is: 16,055 for all variables in Panel A; 16,055, 15,973, 15,973, 16,047, 15,965 in Panel B; 16,055 for first three variables, 12,506 for the rest in Panel C; 15,973 for all variables in Panel D and E; and 15,973, 15,973, 15,973, 16,055, 15,973 for Panel F. Robust standard errors are in parentheses.

Appendix Table B.6: Experimental Treatment Effects Without Survey Sample Weights

Outcome Variables	Scale	Civil Liberties Treatment		Public Health Treatment		Civil Liberties= Public Health	Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Overall rights and freedom								
Willing to sacrifice own rights	Agree (0-10)	-0.169	(0.063)	0.056	(0.058)	0.000	1.730	7.073
Willing to sacrifice others' rights	Agree (0-10)	-0.212	(0.062)	0.058	(0.056)	0.000	1.534	6.951
z-score: willing to sacrifice rights	Std. (0-1)	-0.075	(0.023)	0.023	(0.021)	0.000	0.647	0.079
Panel B: Protection of privacy								
Willing to sacrifice privacy protections	Agree (0-10)	-0.102	(0.069)	0.125	(0.065)	0.001	3.086	5.984
Unwilling to accept: track sick people	Binary	0.031	(0.010)	0.000	(0.009)	0.001	0.013	0.238
Unwilling to accept: track everyone	Binary	0.031	(0.010)	-0.004	(0.009)	0.000	-0.023	0.252
Click MIT app	Yes/No (binary)	-0.000	(0.011)	0.027	(0.010)	0.011	0.272	0.471
z-score: willing to sacrifice privacy	Std. (0-1)	-0.060	(0.023)	0.050	(0.021)	0.000	0.741	0.131
Panel C: Democratic rights and duties								
Prefer strong leader	Agree (1-4)	-0.045	(0.022)	0.079	(0.021)	0.000	0.616	2.651
Prefer delegating to experts	Agree (1-4)	0.030	(0.019)	0.100	(0.018)	0.000	-0.044	2.917
Willing to sacrifice free press	Agree (0-10)	-0.013	(0.072)	0.093	(0.069)	0.146	3.371	6.083
Prefer democratic system	Agree (1-4)	0.022	(0.017)	0.006	(0.016)	0.345	n.a.	3.286
Willing to suspend democr. procedures	Agree (0-10)	-0.101	(0.071)	0.096	(0.067)	0.006	n.a.	4.885
z-score: willing to curtail democracy	Std. (0-1)	-0.012	(0.022)	0.087	(0.020)	0.000	n.a.	-0.002
Panel D: Rights to movement								
Unwilling to accept: close national border	Binary	0.008	(0.009)	0.005	(0.009)	0.762	0.110	0.245
Unwilling to accept: recommend stay home	Binary	0.007	(0.009)	0.003	(0.009)	0.606	0.103	0.250
Unwilling to accept: arrest if outside home	Binary	0.025	(0.010)	0.010	(0.009)	0.143	0.002	0.253
z-score: willing to give up mobility	Std. (0-1)	-0.037	(0.020)	-0.017	(0.019)	0.324	-0.169	0.041
Panel E: Business and school operation								
Unwilling to accept: close schools	Binary	0.008	(0.009)	0.002	(0.009)	0.553	0.106	0.253
Unwilling to accept: close restaurants etc.	Binary	0.008	(0.009)	0.001	(0.009)	0.470	0.083	0.251
Unwilling to accept: close all businesses	Binary	-0.002	(0.009)	-0.004	(0.009)	0.777	0.081	0.253
z-score: willing to limit operations	Std. (0-1)	-0.012	(0.021)	0.000	(0.020)	0.566	-0.218	0.030
Panel F: Economic well-being								
Unwilling to accept: measures cut income	Binary	0.014	(0.010)	-0.008	(0.009)	0.025	-0.018	0.265
Unwilling to accept: measures 2x unemp. rate	Binary	0.009	(0.009)	-0.004	(0.009)	0.152	0.084	0.256
Unwilling to accept: measures 3x unemp. rate	Binary	0.021	(0.010)	0.005	(0.009)	0.100	0.061	0.260
Willing to endure economic losses	Agree (0-10)	-0.049	(0.059)	0.105	(0.056)	0.009	0.955	6.217
z-score: willing to harm economy	Std. (0-1)	-0.035	(0.022)	0.033	(0.021)	0.002	0.154	0.078

Notes: Table reports OLS estimates of the effects of the civil liberties and public health treatments but without re-weighting the sample. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Column (1) reports outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in the panel. Column (2) reports the scale of each outcome variable. Column (3) reports the effect of the civil liberties treatment and Column (5) reports the effect of the public health treatment. Column (7) reports the p-value of a Wald test for differential effects of the civil liberties treatment and public health treatment. Column (8) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (9) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country fixed effects, date fixed effects, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket fixed effects, age bracket fixed effects, employment status fixed effects, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations is: 16,055 for all variables in Panel A; 16,055, 15,973, 15,973, 16,047, 15,965 in Panel B; 16,055 for first three variables, 12,506 for the rest in Panel C; 15,973 for Panels D, E, and F. Robust standard errors are in parentheses.

Appendix Table B.7: Summary Statistics for COVID-19 and Civil Liberties Survey

	All N=16,264		U.S. N=5,243		U.K. N=1,579		France N=1,890		Italy N=1,619		Germany N=1,290		South Korea N=1,034		China N=3,609	
	Mean (1)	SD (2)	Mean (3)	SD (4)	Mean (5)	SD (6)	Mean (7)	SD (8)	Mean (9)	SD (10)	Mean (11)	SD (12)	Mean (13)	SD (14)	Mean (15)	SD (16)
PANEL A: DEMOGRAPHIC CHARACTERISTICS																
Male	0.484	0.500	0.455	0.498	0.494	0.500	0.501	0.500	0.547	0.498	0.512	0.500	0.512	0.500	0.466	0.499
Age	44.127	17.039	48.201	17.800	47.391	17.207	46.856	15.395	49.438	16.928	44.909	15.735	42.978	15.220	33.017	11.920
Citizenship	0.981	0.138	0.979	0.145	0.955	0.207	0.980	0.139	0.988	0.108	0.952	0.214	0.994	0.076	0.998	0.044
Num. of Household Members	2.066	1.558	1.753	1.536	1.748	1.415	1.807	1.400	2.100	1.253	1.731	1.538	2.361	1.693	2.814	1.548
Risk Preference	5.562	2.505	5.704	2.540	5.321	2.491	5.354	2.523	5.431	2.527	4.709	2.636	5.218	2.045	6.034	2.392
Time Preference	6.801	2.023	6.976	1.984	6.654	1.763	6.362	2.017	7.413	1.917	6.225	1.963	5.907	1.789	7.027	2.140
Received College Education	0.614	0.487	0.653	0.476	0.500	0.500	0.559	0.497	0.458	0.498	0.352	0.478	0.746	0.436	0.760	0.427
Have College Diploma	0.509	0.500	0.529	0.499	0.422	0.494	0.530	0.499	0.347	0.476	0.313	0.464	0.712	0.453	0.593	0.491
PANEL B: INCOME AND EMPLOYMENT STATUS																
Income < 25th Pct	0.247	0.431	0.212	0.409	0.443	0.497	0.222	0.416	0.219	0.413	0.195	0.397	0.271	0.445	0.251	0.434
25th Pct ≤ HH Income < 50th Pct	0.290	0.454	0.381	0.486	0.158	0.365	0.355	0.479	0.348	0.477	0.278	0.448	0.263	0.441	0.166	0.372
50th Pct ≤ HH Income < 75th Pct	0.221	0.415	0.143	0.350	0.194	0.395	0.214	0.410	0.233	0.423	0.334	0.472	0.256	0.437	0.294	0.456
75th Pct ≤ HH Income	0.242	0.428	0.264	0.441	0.205	0.404	0.209	0.407	0.200	0.400	0.192	0.394	0.210	0.407	0.289	0.453
Employed	0.625	0.484	0.541	0.498	0.620	0.485	0.640	0.480	0.568	0.496	0.660	0.474	0.711	0.454	0.729	0.445
Unemployed	0.104	0.305	0.146	0.353	0.104	0.305	0.097	0.296	0.122	0.328	0.070	0.255	0.134	0.341	0.042	0.200
Out of Labor Force	0.271	0.445	0.313	0.464	0.276	0.447	0.263	0.441	0.310	0.463	0.271	0.444	0.155	0.362	0.229	0.421
PANEL C: POLITICS AND MEDIA																
Political Aff.: Right	0.228	0.419	0.284	0.451	0.303	0.460	0.331	0.471	0.395	0.489	0.231	0.422	0.173	0.379	–	–
Political Aff.: Left	0.272	0.445	0.384	0.486	0.277	0.448	0.291	0.454	0.416	0.493	0.317	0.465	0.338	0.473	–	–
Level of Media Trust	3.372	1.187	3.146	1.233	3.366	1.077	3.220	1.058	3.444	0.968	2.357	0.954	2.993	1.025	4.225	0.881
PANEL D: HEALTH																
Have Any Medical Condition	0.520	0.500	0.553	0.497	0.483	0.500	0.521	0.500	0.602	0.490	0.542	0.498	0.555	0.497	0.431	0.495
Frequent Hospital Use	0.167	0.373	0.123	0.328	0.134	0.340	0.120	0.325	0.240	0.427	0.125	0.331	0.368	0.483	0.194	0.396
Times Washed Hands in Last 24 Hours	12.714	33.294	15.649	42.078	14.555	37.902	13.891	32.529	12.648	19.078	11.877	29.880	8.884	10.613	8.446	26.265
Times Left Home in Last 3 Days	3.171	15.374	3.694	19.084	3.226	10.091	2.750	17.927	1.973	6.312	3.219	4.927	3.785	31.352	2.954	3.710
PANEL E: COVID-19																
Contracted COVID-19	0.027	0.163	0.037	0.189	0.040	0.196	0.037	0.189	0.012	0.108	0.030	0.171	0.012	0.107	0.012	0.111
Num. of Acquaintances with Covid-19+	61.690	476.138	48.736	424.753	24.668	295.613	21.777	289.676	10.040	187.390	27.818	312.185	50.570	435.092	156.940	750.729
Subj. Community Risk	27.110	27.863	36.901	29.761	36.597	27.793	30.842	25.675	24.573	23.478	27.743	25.569	21.442	26.392	9.189	18.135
Subj. Easiness of Testing	4.617	3.109	4.186	2.897	2.243	2.521	3.928	2.975	3.105	2.877	5.040	2.861	5.693	2.567	6.862	2.440
PANEL F: GEOGRAPHIC CHARACTERISTICS																
Hotspot Residency	0.164	0.370	0.214	0.410	0.139	0.346	0.192	0.394	0.232	0.422	0.138	0.345	0.178	0.383	0.062	0.242
Urban Residency	0.475	0.499	0.574	0.495	0.740	0.439	0.334	0.472	0.612	0.487	0.282	0.450	0.816	0.387	0.200	0.400

Notes: Tables shows summary statistics by country from COVID-19 and Civil Liberties survey. Following variables are binary variables: Male, Citizenship, Received College Education, Have College Diploma, all variables in Panel B, Political Aff.: Right, Political Aff.: Left, Have Any Medical Conditions, Frequent Hospital Use, Contracted COVID-19, Hotspot Residency, and Urban Residency. Following variables are binary variables: Male, Citizenship, Received College Education, Have College Diploma, all variables in Panel B, Political Aff.: Right, Political Aff.: Left, Have Any Medical Conditions, Frequent Hospital Use, Contracted COVID-19, Hotspot Residency, and Urban Residency. Risk Preference respondent's preference for risk; it is on a scale of 1 (Not at all willing) to 10 (Extremely willing). Time preference refers to the respondent's willingness give up something that is beneficial today in order to benefit more from that in the future; it is on a scale of 1 (Not at all willing) to 10 (Extremely willing). Level of Media Trust refers to the respondent's trust level on the news as a whole in the country; it is on a scale of 1 (Strongly disagree) to 5 (Strongly agree). Have Any Medical Condition is equal 1 if the respondent has any of the following medical condition: cardiovascular, diabetes, chronic lung disease, tobacco use, pregnancy, back pain, obesity, or arthritis. Num. of Acquaintances with COVID-19+ refers to the number of the respondent's acquaintances who contracted COVID-19. Subj. community risk refers to the respondent's subjective number out of 100 people in the community who will get sick from COVID-19 in the next month. Subj. Easiness of Testing refers to the respondent's subjective easiness of getting tested for COVID-19 on a scale of 0 (Extremely difficult) to 10 (Extremely easy). N is the number eligible to answer. A small number did not answer each question.

Appendix Table B.8: Quasiexperimental Results for Policy Questions

Outcome Variables	Scale	Specification 1		Specification 2		Gap b/w China and US	Mean of dept. var
		Health Risk ($HR(1)_{ihj}$)		Health Risk ($HR(2)_{ij}$) X Hotspot			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Binary Version							
Unwilling to accept: track sick people	Binary	-0.009	(-0.006)	-0.023	(-0.010)	0.058	0.248
Unwilling to accept: track everyone	Binary	-0.013	(-0.006)	-0.026	(-0.011)	0.034	0.271
Unwilling to accept: close national border	Binary	-0.006	(-0.006)	-0.012	(-0.011)	0.160	0.258
Unwilling to accept: recommend stay home	Binary	-0.013	(-0.006)	-0.023	(-0.011)	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	-0.016	(-0.006)	-0.025	(-0.011)	0.068	0.276
Unwilling to accept: close schools	Binary	-0.006	(-0.006)	-0.016	(-0.011)	0.149	0.263
Unwilling to accept: close restaurants etc.	Binary	-0.011	(-0.006)	-0.029	(-0.011)	0.129	0.266
Unwilling to accept: close all businesses	Binary	-0.009	(-0.006)	-0.022	(-0.011)	0.128	0.269
Unwilling to accept: measures cut income	Binary	-0.018	(-0.006)	-0.034	(-0.011)	0.027	0.277
Unwilling to accept: measures 2x unemp. rate	Binary	-0.017	(-0.006)	-0.039	(-0.011)	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	-0.022	(-0.006)	-0.042	(-0.011)	0.094	0.268
Panel B: Normalized Version							
Unwilling to accept: track sick people	Min. lives saved (0-100)	-0.339	(-0.250)	-0.748	(-0.452)	23.798	11.605
Unwilling to accept: track everyone	Min. lives saved (0-100)	-0.301	(-0.247)	-0.584	(-0.466)	25.165	12.823
Unwilling to accept: close national border	Min. lives saved (0-100)	-0.518	(-0.257)	-0.853	(-0.487)	24.906	10.789
Unwilling to accept: recommend stay home	Min. lives saved (0-100)	-0.541	(-0.250)	-0.917	(-0.473)	24.729	11.052
Unwilling to accept: arrest if outside home	Min. lives saved (0-100)	-0.684	(-0.261)	-1.153	(-0.490)	25.381	12.779
Unwilling to accept: close schools	Min. lives saved (0-100)	-0.600	(-0.250)	-1.164	(-0.459)	25.342	11.119
Unwilling to accept: close restaurants etc.	Min. lives saved (0-100)	-0.623	(-0.246)	-1.240	(-0.447)	24.422	10.975
Unwilling to accept: close all businesses	Min. lives saved (0-100)	-0.546	(-0.248)	-0.957	(-0.463)	24.295	11.316
Unwilling to accept: measures cut income	Min. lives saved (0-100)	-0.485	(-0.273)	-0.879	(-0.499)	27.768	14.032
Unwilling to accept: measures 2x unemp. rate	Min. lives saved (0-100)	-0.586	(-0.264)	-1.017	(-0.483)	27.547	12.862
Unwilling to accept: measures 3x unemp. rate	Min. lives saved (0-100)	-0.623	(-0.270)	-1.003	(-0.502)	28.748	13.669
Panel C: Raw Version							
Unwilling to accept: track sick people	Min. lives saved (0-100)	1.434	(-0.506)	1.066	(-0.900)	-4.164	49.587
Unwilling to accept: track everyone	Min. lives saved (0-100)	0.778	(-0.523)	-0.050	(-0.931)	-7.816	55.903
Unwilling to accept: close national border	Min. lives saved (0-100)	1.309	(-0.558)	1.032	(-0.931)	8.581	42.801
Unwilling to accept: recommend stay home	Min. lives saved (0-100)	0.689	(-0.561)	0.059	(-0.942)	9.315	42.921
Unwilling to accept: arrest if outside home	Min. lives saved (0-100)	-0.197	(-0.576)	-1.144	(-0.995)	-4.773	53.468
Unwilling to accept: close schools	Min. lives saved (0-100)	1.127	(-0.589)	0.487	(-0.957)	10.610	42.667
Unwilling to accept: close restaurants etc.	Min. lives saved (0-100)	0.610	(-0.566)	-0.349	(-0.938)	8.323	42.929
Unwilling to accept: close all businesses	Min. lives saved (0-100)	1.037	(-0.560)	0.208	(-0.910)	7.255	44.611
Unwilling to accept: measures cut income	Min. lives saved (0-100)	0.131	(-0.513)	-0.901	(-0.879)	-5.144	60.885
Unwilling to accept: measures 2x unemp. rate	Min. lives saved (0-100)	-0.029	(-0.537)	-1.262	(-0.874)	4.720	52.185
Unwilling to accept: measures 3x unemp. rate	Min. lives saved (0-100)	-0.084	(-0.542)	-1.129	(-0.903)	4.014	56.305

Notes: Table reports OLS estimates for β based on Equation 1 for Column (3) and based on Equation 6 for Column (5). The results are based on the sample from COVID-19 and Civil Liberties survey. Column (1) reports the outcome variables. Outcome variables in Panel A are binary "minimum-lives saved" variables as described in 2.3.2. Outcome variables in Panel B are "minimum-lives saved" variables normalized by the perceived number of (future) COVID-19 related deaths. Outcome variables in Panel C are the raw "minimum-lives saved" variables. Health Risk indices, $HR(1)_{ihj}$ and $HR(2)_{ij}$, follow the main definitions as described in Section 4.1.1 respectively, while Hotspot follows the definition as described in Section 4.1.2. Columns (3) and (5) reports β in Equations 1 and 6, respectively. Column (7) reports the difference in unconditional control group mean of each outcome variable between respondents from China and the US. Column (8) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations of Specification 1 is: 16,045 in Panel A; 16,045 in Panel B; 16,130 in Panel C;. The number of observations of Specification 2 is: 15,973 in Panel A; 15,973 in Panel B; 16,055 in Panel C; Robust standard errors in parentheses.

Appendix Table B.9: Experimental Treatment Effects for Policy Questions

Outcome Variables	Scale	Civil Liberties Treatment		Public Health Treatment		Civil Liberties= Public Health	Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Binary Version								
Unwilling to accept: track sick people	Binary	0.027	(0.011)	-0.000	(0.010)	0.013	0.058	0.248
Unwilling to accept: track everyone	Binary	0.029	(0.012)	-0.005	(0.011)	0.003	0.034	0.271
Unwilling to accept: close national border	Binary	0.008	(0.011)	0.000	(0.010)	0.488	0.160	0.258
Unwilling to accept: recommend stay home	Binary	0.008	(0.011)	-0.000	(0.010)	0.465	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	0.017	(0.011)	0.007	(0.011)	0.359	0.068	0.276
Unwilling to accept: close schools	Binary	0.014	(0.011)	-0.000	(0.010)	0.179	0.149	0.263
Unwilling to accept: close restaurants etc.	Binary	0.013	(0.011)	-0.004	(0.011)	0.133	0.129	0.266
Unwilling to accept: close all businesses	Binary	0.006	(0.011)	-0.007	(0.011)	0.258	0.128	0.269
Unwilling to accept: measures cut income	Binary	0.026	(0.012)	0.004	(0.011)	0.056	0.027	0.277
Unwilling to accept: measures 2x unemp. rate	Binary	0.022	(0.011)	-0.000	(0.010)	0.043	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	0.030	(0.011)	0.012	(0.011)	0.102	0.094	0.268
Panel B: Normalized Version								
Unwilling to accept: track sick people	Min. lives saved (0-100)	0.569	(0.364)	0.212	(0.386)	0.359	23.798	11.605
Unwilling to accept: track everyone	Min. lives saved (0-100)	0.511	(0.398)	0.144	(0.411)	0.377	25.165	12.823
Unwilling to accept: close national border	Min. lives saved (0-100)	0.248	(0.308)	0.142	(0.353)	0.745	24.906	10.789
Unwilling to accept: recommend stay home	Min. lives saved (0-100)	0.013	(0.320)	0.139	(0.367)	0.712	24.729	11.052
Unwilling to accept: arrest if outside home	Min. lives saved (0-100)	0.228	(0.369)	0.219	(0.408)	0.982	25.381	12.779
Unwilling to accept: close schools	Min. lives saved (0-100)	0.330	(0.345)	0.336	(0.380)	0.985	25.342	11.119
Unwilling to accept: close restaurants etc.	Min. lives saved (0-100)	0.479	(0.338)	0.378	(0.370)	0.782	24.422	10.975
Unwilling to accept: close all businesses	Min. lives saved (0-100)	0.322	(0.351)	0.291	(0.379)	0.932	24.295	11.316
Unwilling to accept: measures cut income	Min. lives saved (0-100)	0.883	(0.397)	0.287	(0.410)	0.155	27.768	14.032
Unwilling to accept: measures 2x unemp. rate	Min. lives saved (0-100)	0.834	(0.380)	0.392	(0.392)	0.273	27.547	12.862
Unwilling to accept: measures 3x unemp. rate	Min. lives saved (0-100)	0.921	(0.389)	0.530	(0.405)	0.338	28.748	13.669
Panel C: Raw Version								
Unwilling to accept: track sick people	Min. lives saved (0-100)	3.125	(0.897)	-1.078	(0.852)	0.000	-4.164	49.587
Unwilling to accept: track everyone	Min. lives saved (0-100)	2.257	(0.900)	-1.736	(0.852)	0.000	-7.816	55.903
Unwilling to accept: close national border	Min. lives saved (0-100)	0.457	(0.887)	0.298	(0.855)	0.859	8.581	42.801
Unwilling to accept: recommend stay home	Min. lives saved (0-100)	0.896	(0.897)	0.332	(0.858)	0.532	9.315	42.921
Unwilling to accept: arrest if outside home	Min. lives saved (0-100)	0.660	(0.922)	-0.031	(0.864)	0.449	-4.773	53.468
Unwilling to accept: close schools	Min. lives saved (0-100)	1.042	(0.931)	0.066	(0.882)	0.296	10.610	42.667
Unwilling to accept: close restaurants etc.	Min. lives saved (0-100)	0.810	(0.881)	0.167	(0.844)	0.472	8.323	42.929
Unwilling to accept: close all businesses	Min. lives saved (0-100)	0.323	(0.865)	0.098	(0.823)	0.794	7.255	44.611
Unwilling to accept: measures cut income	Min. lives saved (0-100)	2.580	(0.889)	-0.654	(0.831)	0.000	-5.144	60.885
Unwilling to accept: measures 2x unemp. rate	Min. lives saved (0-100)	2.824	(0.861)	0.366	(0.796)	0.004	4.720	52.185
Unwilling to accept: measures 3x unemp. rate	Min. lives saved (0-100)	3.311	(0.886)	1.074	(0.819)	0.011	4.014	56.305

Notes: Table reports OLS estimates of treatment effects. The results are based on the sample from COVID-19 and Civil Liberties survey. Column (1) reports the outcome variables. Outcome variables in Panel A are binary "minimum-lives saved" variables as described in 2.3.2. Outcome variables in Panel B are "minimum-lives saved" variables normalized by the perceived number of (future) COVID-19 related deaths. Outcome variables in Panel C are the raw "minimum-lives saved" variables. Column (2) reports the scale of each outcome variable. Column (3) reports the treatment effect of Civil Liberties Treatment, and Column (5) reports the treatment effect of Public Health Treatment. Column (7) reports the p-value of a Wald test for differential effects of the civil liberties treatment and public health treatment. Column (8) reports the difference in unconditional control group mean of each outcome variable for respondents from China and the US. Column (9) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations: 16,045 in Panel A; 16,045 in Panel B; 16,130 in Panel C. Robust standard errors in parentheses.

Appendix Table B.10: OLS Results Using Subjective Likelihood of COVID-19 Infection

Outcome Variables	Scale	Specification 1: Subj. Likelihood of COVID-19 Infection		Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Overall rights and freedom					
Willing to give up own rights	Agree (0-10)	0.209	(0.029)	1.864	6.853
Willing to give up others' rights	Agree (0-10)	0.209	(0.029)	1.635	6.779
z-score: willing to give up rights	Std. (0-1)	0.083	(0.011)	0.694	0.002
Panel B: Protection of privacy					
Willing to give up privacy	Agree (0-10)	0.300	(0.032)	3.133	5.631
Unwilling to accept: track sick people	Binary	-0.077	(0.004)	0.058	0.248
Unwilling to accept: track everyone	Binary	-0.083	(0.004)	0.034	0.271
Click MIT app	Yes/No (binary)	0.051	(0.005)	0.246	0.414
z-score: willing to give up privacy	Std. (0-1)	0.215	(0.010)	0.646	-0.002
Panel C: Democratic rights and duties					
Prefer strong leader	Agree (1-4)	0.019	(0.010)	0.554	2.616
Prefer delegating to experts	Agree (1-4)	0.044	(0.010)	0.001	2.943
Willing to forgo media freedom	Agree (0-10)	0.097	(0.034)	3.212	5.579
Prefer democratic system	Agree (1-4)	0.005	(0.009)	n.a.	3.317
Willing to suspend democr. procedures	Agree (0-10)	0.215	(0.037)	n.a.	5.025
z-score: willing to curtail democracy	Std. (0-1)	0.049	(0.011)	n.a.	-0.002
Panel D: Rights to movement					
Unwilling to accept: close national border	Binary	-0.069	(0.004)	0.160	0.258
Unwilling to accept: recommend stay home	Binary	-0.077	(0.004)	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	-0.079	(0.004)	0.067	0.277
z-score: willing to give up mobility	Std. (0-1)	0.193	(0.010)	-0.310	-0.003
Panel E: Business and school operation					
Unwilling to accept: close schools	Binary	-0.072	(0.004)	0.149	0.264
Unwilling to accept: close restaurants etc.	Binary	-0.079	(0.004)	0.129	0.266
Unwilling to accept: close all businesses	Binary	-0.080	(0.004)	0.128	0.270
z-score: willing to limit operations	Std. (0-1)	0.185	(0.010)	-0.327	-0.003
Panel F: Economic well-being					
Unwilling to accept: measures cut income	Binary	-0.081	(0.004)	0.027	0.278
Unwilling to accept: measures 2x unemp. rate	Binary	-0.083	(0.004)	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	-0.086	(0.004)	0.093	0.269
Willing to endure economic losses	Agree (0-10)	0.262	(0.029)	1.001	5.957
z-score: willing to harm economy	Std. (0-1)	0.214	(0.010)	0.086	-0.003

Notes: Table reports OLS estimates of Equation 1. The results are based on the sample from the COVID-19 and Civil Liberties Survey. Column (1) reports the outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in the panel. Column (2) reports the scale of each outcome variable. Subj. Likelihood of COVID-19 Infection refers to the respondent's subjective likelihood of getting infected by COVID-19 measured on a scale of 0 to 10; it is standardized to mean 0 and sd 1. Columns (3) reports β in Equations 1 but using Subj. Likelihood of COVID-19 Infection instead of HR_{ihj}. Column (5) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (6) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. The number of observations is: 16,052 for all variables in Panel A; 16,052, 15,970, 15,970, 16,044, 15,962 in Panel B; 16,052 for first three variables, 12,503 for the rest in Panel C; 15,970 for all variables in Panel D and E; 15,970, 15,970, 15,970, 16,052, 15,970 for Panel F. Robust standard errors are in parentheses.

Appendix Table B.11: RF Robustness Checks for Quasiexperimental Results Using $HR(1)_{ihj}$

	z-score: sacrifice rights (1)	*z-score:* relax privacy (2)	*z-score:* curtail democracy (3)	*z-score:* give up mobility (4)	*z-score:* limit operations (5)	*z-score:* harm economy (6)
Panel A: Original Specification, controlling for Admin-level 1 Regional Fixed-Effects						
$HR(1)\_ihj$	0.066	0.018	0.032	0.027	0.018	0.063
	(0.016)	(0.015)	(0.016)	(0.014)	(0.015)	(0.015)
Gap b/w China and US	0.694	0.646	0.000	-0.310	-0.327	0.086
Num. of Obs.	16055	15965	12506	15973	15973	15973
Panel B: Original Specification, Dropping NYC						
$HR(1)\_ihj$	0.041	0.020	-0.010	0.039	0.036	0.062
	(0.017)	(0.017)	(0.019)	(0.017)	(0.017)	(0.017)
Gap b/w China and US	0.733	0.692	0.000	-0.297	-0.315	0.117
Num. of Obs.	15467	15381	11918	15389	15389	15389
Panel C: Modified Health Risk ($HR(1)_{ihj}$), Using Cumulative Cases						
Modified $HR(1)\_ihj$	0.053	0.009	0.035	0.022	0.011	0.047
	(0.014)	(0.013)	(0.015)	(0.013)	(0.013)	(0.012)
Gap b/w China and US	0.690	0.643	0.000	-0.312	-0.328	0.082
Num. of Obs.	16104	16011	12528	16019	16019	16019
Panel D: Modified Health Risk ($HR(1)_{ihj}$), Using Cumulative Deaths						
Modified $HR(1)\_ihj$	0.058	0.004	0.031	0.024	0.013	0.053
	(0.018)	(0.017)	(0.021)	(0.017)	(0.017)	(0.017)
Gap b/w China and US	0.690	0.643	0.000	-0.312	-0.328	0.082
Num. of Obs.	16104	16011	12528	16019	16019	16019
Panel E: Modified Health Risk ($HR(1)_{ihj}$), Using Std. Cumulative Cases						
Modified $HR(1)\_ihj$	0.048	0.016	0.001	0.029	0.019	0.057
	(0.015)	(0.014)	(0.016)	(0.014)	(0.015)	(0.014)
Gap b/w China and US	0.690	0.643	0.000	-0.312	-0.328	0.082
Num. of Obs.	16104	16011	12528	16019	16019	16019
Full Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table reports OLS estimates based on the sample from COVID-19 and Civil Liberties survey. The "z-score" is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in each panel of Table 1. Panel A shows the OLS Estimates of the original specification 1, controlling for administrative 1 regional fixed-effects for each country. Panel B shows the OLS estimates of the original Specification 1, excluding respondents from New York City. Panels C, D, and E show the OLS estimates of Equation 1, using modified Health Risk ($HR(1)_{ihj}$) in which the "leave-one-out" number of knowing someone contracted with COVID-19 at admin 1 geographical level (i.e.ρ_k in Appendix Equation 4) is replaced with other measures of geographical COVID-19 exposure; cumulative cases for Panel C, cumulative deaths for Panel D, cumulative cases standardized by country for Panel E. The following covariates are included in each panel: date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, and the distance to the nearest hotspot. In addition, the following controls are included for each Panel: Cumulative Cases for Panel C, Cumulative Deaths for Panel D, Standardized Cumulative Cases for Panel E, "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level for Panels A and B. Country fixed effects are included in all Panels except Panel A. Robust standard errors in parentheses. Robust standard errors are in parentheses.

Appendix Table B.12: Robustness Checks for Quasiexperimental Results Using $HR(2)_{ij}$

	z-score: sacrifice rights (1)	*z-score:* relax privacy (2)	*z-score:* curtail democracy (3)	*z-score:* give up mobility (4)	*z-score:* limit operations (5)	*z-score:* harm economy (6)
Panel A: Original Specification, controlling for Admin-level 1 Regional Fixed-Effects						
$HR(2)_{ij}$ X Hotspot	0.102	0.066	0.078	0.003	0.017	0.070
	(0.023)	(0.023)	(0.024)	(0.022)	(0.023)	(0.022)
Gap b/w China and US	0.694	0.648	0.000	-0.309	-0.327	0.087
Num. of Obs.	16051	15961	12502	15969	15969	15969
Panel B: Original Specification, Dropping NYC						
$HR(2)_{ij}$ X Hotspot	0.068	0.051	0.032	0.009	0.027	0.058
	(0.027)	(0.027)	(0.028)	(0.026)	(0.026)	(0.026)
Gap b/w China and US	0.733	0.693	0.000	-0.296	-0.314	0.118
Num. of Obs.	15465	15379	11916	15387	15387	15387
Panel C: Health Risk ($HR(2)_{ij}$) X Cumulative Cases						
$HR(2)_{ij}$ X Cumulative Cases	0.100	0.002	0.115	0.021	-0.019	0.061
	(0.038)	(0.033)	(0.036)	(0.034)	(0.037)	(0.034)
Gap b/w China and US	0.694	0.646	0.000	-0.310	-0.327	0.086
Num. of Obs.	16055	15965	12506	15973	15973	15973
Panel D: Health Risk ($HR(2)_{ij}$) X Empirical Hotspot						
$HR(2)_{ij}$ X Empirical Hotspot	0.124	0.077	0.064	0.038	0.043	0.130
	(0.028)	(0.031)	(0.030)	(0.038)	(0.037)	(0.035)
Gap b/w China and US	0.694	0.646	0.000	-0.310	-0.327	0.086
Num. of Obs.	16055	15965	12506	15973	15973	15973
Panel E: Linear Health Risk X Hotspot						
Linear Health Risk X Hotspot	0.093	0.042	0.060	-0.006	0.012	0.052
	(0.024)	(0.023)	(0.024)	(0.023)	(0.023)	(0.023)
Gap b/w China and US	0.694	0.648	0.000	-0.309	-0.327	0.087
Num. of Obs.	16051	15961	12502	15969	15969	15969
Full Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table reports OLS estimates of z-score indices on various interactions. The results are based on the sample from COVID-19 and Civil Liberties survey. The "z-score" is an inverse-covariance-weighted index as described in Anderson (2008), which combines all outcome variables in each panel of Table 1. Panel A shows the OLS estimates of the original Specification 6, controlling for administrative 1 regional fixed-effects for each country. Panel B shows the OLS estimates of the original Specification 6, excluding respondents from New York City. Panel C shows the OLS estimates using the interaction of Health Risk ($HR(2)_{ij}$) and Cumulative Cases. Panel D Shows the OLS estimates using the interaction of Health Risk ($HR(2)_{ij}$) and Empirical Hotspot, which is a binary variable equal to 1 if the respondent's subjective community risk of COVID-19 infection is greater than the 90th percentile by country. Panel E shows the OLS estimates using the interaction of Linear Health Risk described in Section 4 and Hotspot. The following covariates are included in each specification: date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Country fixed effects are included in all Panels except Panel A. Robust standard errors in parentheses. Robust standard errors are in parentheses.

Appendix Table B.13: Placebo Exercise: Replace Medical Conditions That Are Risk Factors for COVID-19 Severity With Medical Conditions Not Known to Be Risk Factors for COVID-19

Outcome Variables	Scale	Pseudo Health Risk ($HR(2)_{ij}$) X Hotspot		Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Overall rights and freedom					
Willing to sacrifice own rights	Agree (0-10)	0.013	(0.073)	1.865	6.851
Willing to sacrifice others' rights	Agree (0-10)	-0.029	(0.071)	1.636	6.778
z-score: willing to sacrifice rights	Std. (0-1)	-0.003	(0.027)	0.694	0.001
Panel B: Protection of privacy					
Willing to relax privacy protections	Agree (0-10)	-0.012	(0.077)	3.136	5.628
Unwilling to accept: track sick people	Binary	-0.018	(0.010)	0.058	0.248
Unwilling to accept: track everyone	Binary	-0.018	(0.011)	0.034	0.271
Click MIT app	Yes/No (binary)	-0.012	(0.012)	0.246	0.414
z-score: willing to relax privacy	Std. (0-1)	0.012	(0.026)	0.646	-0.002
Panel C: Democratic rights and duties					
Prefer strong leader	Agree (1-4)	0.013	(0.026)	0.554	2.615
Prefer delegating to experts	Agree (1-4)	0.020	(0.024)	-0.000	2.943
Willing to sacrifice free press	Agree (0-10)	-0.052	(0.081)	3.211	5.579
Prefer democratic system	Agree (1-4)	0.015	(0.019)	n.a.	3.317
Willing to suspend democr. procedures	Agree (0-10)	0.009	(0.084)	n.a.	5.024
z-score: willing to curtail democracy	Std. (0-1)	-0.007	(0.026)	n.a.	-0.002
Panel D: Rights to movement					
Unwilling to accept: close national border	Binary	-0.007	(0.010)	0.160	0.258
Unwilling to accept: recommend stay home	Binary	-0.010	(0.010)	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	-0.002	(0.011)	0.068	0.276
z-score: willing to give up mobility	Std. (0-1)	0.015	(0.024)	-0.310	-0.003
Panel E: Business and school operation					
Unwilling to accept: close schools	Binary	0.002	(0.010)	0.149	0.263
Unwilling to accept: close restaurants etc.	Binary	0.001	(0.011)	0.129	0.266
Unwilling to accept: close all businesses	Binary	-0.004	(0.010)	0.128	0.269
z-score: willing to limit operations	Std. (0-1)	0.001	(0.024)	-0.327	-0.003
Panel F: Economic well-being					
Unwilling to accept: measures cut income	Binary	-0.001	(0.011)	0.027	0.277
Unwilling to accept: measures 2x unemp. rate	Binary	-0.010	(0.011)	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	-0.012	(0.011)	0.094	0.268
Willing to endure economic losses	Agree (0-10)	0.057	(0.065)	1.002	5.957
z-score: willing to harm economy	Std. (0-1)	0.025	(0.027)	0.086	-0.003

Notes: Table reports OLS estimates of Equation 6 based on the sample from COVID-19 and Civil Liberties survey. Column (1) reports the outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008). Column (2) reports the scale of each outcome variable. The Pseudo Health Risk ($HR(2)_{ij}$) is constructed based on a multiplicative model, which is equal to the median value of deaths odd ratios related to the respondent's demographic characteristics (i.e. male, age, income) and $\frac{Pr(Exposure_i)}{1-Pr(Exposure_i)}$ (as described in Appendix Equation 3) multiplied by death odds ratios related to medical conditions, replacing obesity, diabetes, cardiovascular disease, chronic lung disease with back pain and arthritis. Column (5) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (6) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Number of observations is: 16055 for Panel A; 16055, 15973, 15973, 16047, 15965 for Panel B; 16055, 16055, 16055, 12506, 12506, 12506, 12506 for Panel C; 15973 for Panels D and E; 15973, 15973, 15973, 16055, 15973 for Panel F. Robust standard errors in parentheses.

Appendix Table B.14: Placebo Exercise: Replace Covid-19 Hotspots with Highest Historic Population Death Rate

Outcome Variables	Scale	Health Risk $(HR(2)_{ij})$X Highest death rate (2018)		Gap b/w China and US	Mean of dept. var
(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Overall rights and freedom					
Willing to sacrifice own rights	Agree (0-10)	-0.064	(0.048)	1.865	6.851
Willing to sacrifice others' rights	Agree (0-10)	-0.045	(0.049)	1.636	6.778
z-score: willing to sacrifice rights	Std. (0-1)	-0.022	(0.018)	0.694	0.001
Panel B: Protection of privacy					
Willing to relax privacy protections	Agree (0-10)	-0.066	(0.057)	3.136	5.628
Unwilling to accept: track sick people	Binary	0.003	(0.009)	0.058	0.248
Unwilling to accept: track everyone	Binary	-0.003	(0.009)	0.034	0.271
Click MIT app	Yes/No (binary)	-0.009	(0.010)	0.246	0.414
z-score: willing to relax privacy	Std. (0-1)	-0.019	(0.019)	0.646	-0.002
Panel C: Democratic rights and duties					
Prefer strong leader	Agree (1-4)	-0.007	(0.019)	0.554	2.615
Prefer delegating to experts	Agree (1-4)	0.014	(0.019)	-0.000	2.943
Willing to sacrifice free press	Agree (0-10)	-0.060	(0.064)	3.211	5.579
Prefer democratic system	Agree (1-4)	0.009	(0.016)	n.a.	3.317
Willing to suspend democr. procedures	Agree (0-10)	-0.150	(0.074)	n.a.	5.024
z-score: willing to curtail democracy	Std. (0-1)	-0.037	(0.021)	n.a.	-0.002
Panel D: Rights to movement					
Unwilling to accept: close national border	Binary	-0.011	(0.010)	0.160	0.258
Unwilling to accept: recommend stay home	Binary	-0.010	(0.010)	0.147	0.263
Unwilling to accept: arrest if outside home	Binary	-0.007	(0.010)	0.068	0.276
z-score: willing to give up mobility	Std. (0-1)	0.023	(0.022)	-0.310	-0.003
Panel E: Business and school operation					
Unwilling to accept: close schools	Binary	-0.002	(0.010)	0.149	0.263
Unwilling to accept: close restaurants etc.	Binary	0.009	(0.010)	0.129	0.266
Unwilling to accept: close all businesses	Binary	0.002	(0.010)	0.128	0.269
z-score: willing to limit operations	Std. (0-1)	-0.006	(0.022)	-0.327	-0.003
Panel F: Economic well-being					
Unwilling to accept: measures cut income	Binary	0.005	(0.010)	0.027	0.277
Unwilling to accept: measures 2x unemp. rate	Binary	0.001	(0.010)	0.132	0.266
Unwilling to accept: measures 3x unemp. rate	Binary	0.001	(0.010)	0.094	0.268
Willing to endure economic losses	Agree (0-10)	-0.022	(0.053)	1.002	5.957
z-score: willing to harm economy	Std. (0-1)	-0.011	(0.021)	0.086	-0.003

Notes: Table reports OLS estimates for β based on Equation 6, but replaces Hotspot dummy with a "Highest death rate in 2018" dummy. Highest death rate is defined as dummy that equals one for respondents who reside in a region with a death rate in 2018 that put the region at or above the 75th percentile within the country. The results are based on the sample from COVID-19 and Civil Liberties survey. Column (1) reports the outcome variables. The "z-score" at the bottom of each panel is an inverse-covariance-weighted index as described in Anderson (2008). Column (2) reports the scale of each outcome variable. Column (5) reports the difference in unconditional control group mean of each outcome variable between China and US respondents. Column (6) reports the unconditional mean of the outcome variable of respondents in the control group. The following covariates are included in each specification: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Number of observations is: 16055 for Panel A; 16055, 15973, 15973, 16047, 15965 for Panel B; 16055, 16055, 16055, 12506, 12506, 12506, 12506 for Panel C; 15973 for Panels D and E; 15973, 15973, 15973, 16055, 15973 for Panel F. Robust standard errors in parentheses.

Appendix Table B.15: Relationship Between Health Risk, Hotspot Residency, and Changes of Views on Civil Liberties

	Dependent Variable: Have Changed Views on Civil Liberties							
	All	U.S.	Germany	France	Italy	U.K.	China	South Korea
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$HR(2)_{ij}$ X Hotspot	0.045	0.070	0.068	0.062	0.020	0.010	0.069	0.021
	(0.013)	(0.018)	(0.056)	(0.041)	(0.034)	(0.040)	(0.031)	(0.029)
$HR(2)_{ij}$	0.019	-0.002	0.001	0.134	0.071	-0.052	0.053	0.018
	(0.012)	(0.034)	(0.084)	(0.075)	(0.065)	(0.061)	(0.058)	(0.044)
Hotspot	0.000	0.043	0.011	0.050	0.005	0.008	0.123	-0.039
	(0.017)	(0.030)	(0.060)	(0.050)	(0.053)	(0.060)	(0.107)	(0.072)
No. Obs	16044	5170	1281	1862	1587	1572	3547	1025
Full Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table reports OLS estimates obtained from regressing "Have Changed Views on Civil Liberties" on the interaction term of $HR(2)_{ij}$ and hotspot. The results are based on the sample from COVID-19 and Civil Liberties survey. Dependent variable is a binary variable that indicates whether the respondent responded to have changed his/her views over any of the civil liberties during the past 2 weeks. $HR(2)_{ij}$ follows the main definitions as described in Section 4.1.1, while Hotspot follows the definition as described in Section 4.1.2. The civil liberties are: willingness to sacrifice own rights, willingness to give up others' rights, willingness to give up privacy, willingness to give up free press, willingness to suspend democratic procedures, and willingness to forgo civic duties. The following covariates are included in each specification: country FE, date FE, treatment group dummies, respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, the distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Robust standard errors are in parentheses.

Appendix Table B.16: Heterogeneity: Quasiexperimental Results Using Specification 2

	Dependent Variable: *z-score: Willingness to Sacrifice Rights*											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PANEL A: SOCIOECONOMIC AND HOUSEHOLD CHARACTERISTICS												
	Income ≤50th pct		**Received College Educ**		**Employed**		**USA Only: Econ. Vulnerable**		**Having Partner/Spouse**		**Living Alone in a Household**	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
$HR(2)_{ij}$ X Hotspot	0.123	0.060	0.045	0.112	0.049	0.106	0.195	0.145	0.103	0.070	0.079	0.182
	(0.033)	(0.038)	(0.048)	(0.030)	(0.051)	(0.030)	(0.047)	(0.080)	(0.042)	(0.033)	(0.028)	(0.073)
No. Obs	7451	8604	6164	9891	6003	10052	3895	1276	6634	9421	13814	2241
PANEL B: POLITICAL AND INSTITUTIONAL CHARACTERISTICS												
	Pol. Aff: Right		**West Only: Populist**		**Media Distrust**		**Satisfied with National Govt**		**DEU Only: Born in East Germany**		**KOR Only: Migrated from N. Korea**	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
$HR(2)_{ij}$ X Hotspot	0.096	0.047	0.111	0.159	0.099	0.088	0.077	0.087	-0.013	0.119	0.045	-0.086
	(0.029)	(0.059)	(0.049)	(0.062)	(0.028)	(0.056)	(0.039)	(0.034)	(0.115)	(0.293)	(0.062)	(0.083)
No. Obs	12390	3665	6077	3521	12055	4000	7305	8750	1053	215	728	225
PANEL C: DEMOGRAPHIC AND GEOGRAPHICAL CHARACTERISTICS												
	Male		**Age Over 45**		**In Hotspot**		**USA Only: White vs. Black**		**In First Month Since First Case**		**West only: Cases: Post-Peak**	
	No	Yes	No	Yes	No	Yes	–	–	No	Yes	No	Yes
$HR(2)_{ij}$ X Hotspot	-0.039	0.109	0.153	0.096	n.a.	n.a.	0.155	0.071	0.069	0.133	0.184	0.083
	(0.057)	(0.037)	(0.035)	(0.052)	(n.a.)	(n.a.)	(0.051)	(0.130)	(0.027)	(0.122)	(0.042)	(0.062)
No. Obs	8281	7774	8906	7149	13411	2644	3424	718	12056	3933	6101	5033

Notes: Table reports OLS estimates of β based on Equation 6 for the outcome of willingness to give up rights and freedom, estimated separately for difference demographic subsamples. The results are based on the sample from COVID-19 and Civil Liberties survey. Health Risk Index, $HR(2)_{ij}$, follows the main definitions as described in Section 4.1.1 and Hotspot follows the definition as described in Section 4.1.2. The dependent variable is an inverse-covariance-weighted index as described in Anderson (2008), which combines the following outcome variables: willing to sacrifice own rights, willing to give up others' rights. Each binary covariate is defined as following: Income $\leq$ 50th pct: 1 if R's household income is less than the 50th percentile, or 0 otherwise; Received College Educ: 1 if the respondent received any college education, or 0 otherwise; Employed: 1 if the respondent is currently employed, or 0 otherwise; USA Only: Econ. Vulnerability: 1 if R's score of economic vulnerability coded based on occupation is greater than the 75th percentile (only applies to respondents in USA); Having Partner/Spouse: 1 if the respondent has a partner/spouse; Living Alone in a Household: 1 if the respondent lives alone in the household, or 0 otherwise; Pol. Aff: Right: 1 if R's political affiliation is right-wing or conservative (this variable does not apply to Chinese respondents); West only (i.e. France, Germany, Italy, UK, and US) Populist: 1 if the respondent voted for populist parties or candidates (Donald Trump in USA, Boris Johnson in GBR, AfD in DEU, Lega or Movimento 5 Stelle in ITA, Marine Le Pen, François Asselineau, or Nicolas Dupont-Aignan in FRA; only applies to western countries); Media Distrust: 1 if R's level of trust in media in general is less than 3 on a scale of 1 to 5; Satisfied with Federal Govt: 1 if R's level of satisfaction with the federal government is greater than 3 on a scale of 1 to 5; DEU only: Born in East Germany: 1 if the respondent was born in East Germany; KOR only: Migrated from N. Korea: 1 if the respondent or any of R's family members had migrated from North Korea to South Korea during the Korean War; Male: 1 if the respondent is male; Age over 45: 1 if R's age is over 45; In Hotspot: 1 if the respondent lives in one of the hotspot areas described in Section 4.1.2; USA only Race: White vs. Black: 1 if R's race is African American/Black, or 0 if White/Caucasian; In First Month Since First case: 1 if the respondent was in the first month since the first COVID-19 case was detected in R's region/area at admin level 1 (or at county level for USA); West only (i.e. France, Germany, Italy, UK, and US): Cases: Post-peak: 1 if the respondent was surveyed after the peak of COVID-19 case at admin level 1 for ITA, GBR, FRA and at county level for USA and DEU. Regression includes the following controls: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Robust standard errors are in parentheses.

Appendix Table B.17: Heterogeneity: Treatment Effects

	Dependent Variable: *z-score: Willingness to Sacrifice Rights*											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PANEL A: SOCIOECONOMIC AND HOUSEHOLD CHARACTERISTICS												
	Income ≤50th pct		**Received College Educ**		**Employed**		**USA Only: Econ. Vulnerable**		**Having Partner/Spouse**		**Living Alone in a Household**	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Civil Liberties Treatment	-0.152	-0.037	-0.134	-0.037	-0.102	-0.062	-0.069	-0.129	-0.010	-0.141	-0.123	0.078
	(0.040)	(0.036)	(0.041)	(0.035)	(0.043)	(0.034)	(0.046)	(0.086)	(0.042)	(0.035)	(0.029)	(0.068)
Public Health Treatment	-0.021	0.015	-0.025	0.016	-0.002	0.006	0.024	-0.045	0.002	-0.000	-0.013	0.064
	(0.034)	(0.033)	(0.037)	(0.031)	(0.040)	(0.029)	(0.046)	(0.084)	(0.038)	(0.031)	(0.026)	(0.062)
No. Obs	7451	8604	6164	9891	6003	10052	3895	1276	6634	9421	13814	2241
PANEL B: POLITICAL AND INSTITUTIONAL CHARACTERISTICS												
	Pol. Aff: Right		**West Only: Populist**		**Media Distrust**		**Satisfied with National Govt**		**DEU Only: Born in East Germany**		**KOR Only: Migrated from N. Korea**	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Civil Liberties Treatment	-0.081	-0.092	-0.068	-0.106	-0.056	-0.151	-0.083	-0.077	-0.141	-0.183	0.000	0.000
	(0.032)	(0.050)	(0.038)	(0.050)	(0.030)	(0.053)	(0.036)	(0.039)	(0.100)	(0.204)	(.)	(.)
Public Health Treatment	-0.005	0.013	0.004	0.005	0.031	-0.063	-0.043	0.054	-0.061	-0.182	-0.050	0.165
	(0.028)	(0.048)	(0.037)	(0.049)	(0.027)	(0.046)	(0.033)	(0.033)	(0.095)	(0.218)	(0.065)	(0.103)
No. Obs	12390	3665	6077	3521	12055	4000	7305	8750	1053	215	728	225
PANEL C: DEMOGRAPHIC AND GEOGRAPHICAL CHARACTERISTICS												
	Male		**Age Over 45**		**In Hotspot**		**USA Only: White vs. Black**		**In First Month Since First Case**		**West only: Cases: Post-Peak**	
	No	Yes	No	Yes	No	Yes	–	–	No	Yes	No	Yes
Civil Liberties Treatment	0.001	-0.158	-0.037	-0.122	-0.076	-0.099	-0.064	0.004	-0.108	-0.032	-0.094	-0.087
	(0.037)	(0.039)	(0.036)	(0.039)	(0.030)	(0.062)	(0.050)	(0.099)	(0.033)	(0.047)	(0.036)	(0.043)
Public Health Treatment	0.054	-0.053	0.037	-0.030	0.020	-0.093	0.021	0.059	-0.010	0.020	0.054	-0.054
	(0.032)	(0.035)	(0.032)	(0.035)	(0.026)	(0.060)	(0.050)	(0.101)	(0.028)	(0.047)	(0.036)	(0.042)
No. Obs	8281	7774	8906	7149	13411	2644	3424	718	12056	3933	6101	5033

Notes: Table reports OLS estimates of the effects of the civil liberties and public health treatments, estimated separately on various demographic subsamples. The results are based on the sample from the COVID-19 and Civil Liberties Survey. The dependent variable is an inverse-covariance-weighted index as described in Anderson (2008), which combines the following outcome variables: willing to sacrifice own rights, willing to give up others' rights. Each binary covariate is defined as following: Income $\leq$ 50th pct: 1 if R's household income is less than the 50th percentile, or 0 otherwise; Received College Educ: 1 if the respondent received any college education, or 0 otherwise; Employed: 1 if the respondent is currently employed, or 0 otherwise; USA Only: Econ. Vulnerability: 1 if R's score of economic vulnerability coded based on occupation is greater than the 75th percentile (only applies to respondents in USA); Having Partner/Spouse: 1 if the respondent has a partner/spouse; Living Alone in a Household: 1 if the respondent lives alone in the household, or 0 otherwise; Pol. Aff: Right: 1 if R's political affiliation is right-wing or conservative (this variable does not apply to Chinese respondents); West only (i.e. France, Germany, Italy, UK, and US) Populist: 1 if the respondent voted for populist parties or candidates (Donald Trump in USA, Boris Johnson in GBR, AfD in DEU, Lega or Movimento 5 Stelle in ITA, Marine Le Pen, François Asselineau, or Nicolas Dupont-Aignan in FRA; only applies to western countries); Media Distrust: 1 if R's level of trust in media in general is less than 3 on a scale of 1 to 5; Satisfied with Federal Govt: 1 if R's level of satisfaction with the federal government is greater than 3 on a scale of 1 to 5; DEU only: Born in East Germany: 1 if the respondent was born in East Germany; KOR only: Migrated from N. Korea: 1 if the respondent or any of R's family members had migrated from North Korea to South Korea during the Korean War; Male: 1 if the respondent is male; Age over 45: 1 if R's age is over 45; In Hotspot: 1 if the respondent lives in one of the hotspot areas described in Section 4.1.2; USA only Race: White vs. Black: 1 if R's race is African American/Black, or 0 if White/Caucasian; In First Month Since First case: 1 if the respondent was in the first month since the first COVID-19 case was detected in R's region/area at admin level 1 (or at county level for USA); West only (i.e. France, Germany, Italy, UK, and US): Cases: Post-peak: 1 if the respondent was surveyed after the peak of COVID-19 case at admin level 1 for ITA, GBR, FRA and at county level for USA and DEU. Regression includes the following controls: country FE, date FE, treatment group dummies, geographic controls (11 individual hotspot city dummies: New York City, Seattle, Detroit, and New Orleans for USA, Munich for Germany, Bergamo and Milan for Italy, Paris for France, London for U.K., Wuhan for China, and Daegu for South Korea), respondent demographic controls (male dummy, income bracket FE, age bracket FE, employment status FE, college degree dummy, political right dummy, political neutral dummy, risk preference, time preference, the "leave-one-out" number of times the respondent left home during the past 3 days, the "leave-one-out" number of times the respondent washed hands during the past 24 hours, and the "leave-one-out" number of household members), disease controls (cardiovascular, diabetes, chronic lung disease, tobacco use, obesity, and any other medical conditions), time since the first case of COVID-19 at region/state level, distance to the nearest hotspot, and "leave-one-out" version of knowing someone contracted with COVID-19 at admin 1 geographical level. Robust standard errors are in parentheses.

C Treatment Scripts

Below we reproduce each script in detail.

C.1 Civil Liberties Treatment Script

As the entire world is fighting against COVID-19, countries such as South Korea and China stand out as examples that have successfully contained the outbreak.

The figures on the next screen show that the number of new cases of COVID-19 in these countries has decreased to close to 0 during the past few weeks.

[Page break]

South Korea and China experienced COVID-19 early on.

[Graph showing case rates over time in China and South Korea. This graph shows only the evolution of cases in the pre-peak period.]

[Page break]

The epidemic reached a peak in both countries.

[Graph showing case rates over time in China and South Korea. This graph shows the evolution of cases in the pre-peak and peak periods.]

[Page break]

Then the epidemic was quickly controlled.

[Graph showing case rates over time in China and South Korea. This graph shows the evolution of cases in the pre-peak, peak and post-peak periods.]

[Page break]

To achieve such success in containing COVID-19, these countries have rolled out perhaps the most aggressive disease containment efforts in history.

[Page break]

Among others, the following policies have been implemented to control COVID-19 in these countries:

[The bullet points below are uncovered one at a time, and each is accompanied by a picture.]

- People need a government-issued permit to leave home;
- Individuals who do not comply with quarantine orders could face one year in jail;
- The government uses artificial intelligence (AI) to tag whether citizens have high risk of contagion, based on smartphone locations, online behavior, and credit card activity;
- The government posts information about the activities and locations of individuals who tested positive for COVID-19 on social media;
- Government officials go door to door for health checks, and force individuals who are suspected to be ill into quarantine.

[Page break]

Information about the patients is collected and publicly shared by the government in stunning detail.

Such information, obtained by the government to fight the COVID-19 epidemic, can potentially be used in many ways beyond the crisis itself.

For example, in South Korea, people used publicly released information to identify COVID-19 patients, and harassed them and their family members.

[Picture]

[Page break]

[Picture]

We are currently facing perhaps the biggest crisis of our generation. While we must act quickly and decisively, we should also take into account the long-term consequences of our actions.

Policies that could help successfully fight the COVID-19 epidemic, such as a large increase in government surveillance, may be abused and may remain in place even after the epidemic ends.

[Page break]

[Picture]

'In many cases, the fear and panic have allowed governments to impose quite drastic measures which can be very difficult to roll back. Once you have a system implemented, they become normalized.' - Human Rights Watch

The decisions we and our government take during the COVID-19 crisis may shape our nation and society for years to come.

[Page break]

C.2 Public Health Treatment Script

"COVID-19 is a respiratory virus without a cure or a vaccine. Respiratory viruses are highly contagious. On average, each individual who has COVID-19 will infect about two to three more people. That might not sound like a big number, but the key is the number is bigger than one, and that can lead to a lot of spread in a short amount of time. The animation on the next screens illustrates this.

[Page break]

Each pink dot represents a person who has the COVID-19 infection. The first infected person quickly infects 3 more people...

[Graph showing a simple graphical explanation of exponential disease spread.]

[Page break]

... then the infection quickly spreads:

[Graph showing a simple graphical explanation of exponential disease spread.]

[Page break]

A big problem with infections occurring so fast is that many people will get very sick at the same time.

[Page break]

This is a huge problem because hospitals will quickly be overwhelmed.
This is shown below in the epidemic curve. The epidemic curve plots the number of COVID-19 cases on the vertical axis and time on the horizontal axis.
At the height of the epidemic curve, the number of patients who need care far exceeds the capacity of hospitals.

[Graph showing epidemic curves]

This strain on our healthcare system affects not only COVID-19 patients but anyone who needs planned or unplanned acute medical care.

[Page break]

This is what overcrowding and strain in hospitals looks like - it leads to shortages and preventable deaths.
Critically ill patients crowded in improvised spaces in Italy.

[Picture showing a hospital with limited hospital capacity]
Patients waiting on the floor in a hospital in Spain.
[Picture showing a hospital with limited hospital capacity]

[Page break]

Many people with other medical problems will not be able to get the care they need.
Many doctors and nurses may get the virus and therefore cannot take care of patients.
Those in the hospital may die without family members around because of fear of contagion.

[Page break]

There are a few key public health measures governments can do to slow down the epidemic:

- (1) Testing widely for COVID-19; and tracking the location and social contacts of anyone who tests positive for COVID-19.
- (2) Isolating individuals who are positive for COVID-19 for a long period of time and ensuring they do not spread the disease to others.
- (3) Requiring individuals to stay at home and not go to work to reduce community spread of the virus.
- (4) Promoting good hygiene at home, at work and in public spaces.

[Page break]

[Graphic showing how public health measures such as social distancing can prevent exponential disease spread.]

[Page break]

These measures can help reduce the number of people who are sick at the same time and they can delay the epidemic.

[Graphic showing how public health measures such as social distancing can flatten the epidemic curve and reduce the burden on the healthcare system.]

[Page break]

Delaying the epidemic is important because it allows time for researchers to develop vaccines and cures and hospitals to get more equipment to treat those who are ill.

[Page break]

D Health Risk Scores

D.1 Health Risk Scores, $HR(1)_{ihj}$ and $HR(2)_{ij}$

We construct our health risk scores, $HR(1)_{ihj}$ and $HR(2)_{ij}$, following the formulation of *Mathematica 19 & Me* COVID-19 risk score[67]:

$$HR(1)_{ihj} \text{ or } HR(2)_{ij} = Pr(COVID\text{-}19\, Infection_i) * Pr(COVID\text{-}19\, Death_i) \tag{1}$$

D.1.1 Formulation of Pr(COVID-19 Infection$_i$)

In Equation 1,

$$Pr(COVID\text{-}19\, Infection_i) = \frac{Exposure\, Odds\, Ratio_i}{1 + Exposure\, Odds\, Ratio_i} \tag{2}$$

for an individual i.

$$Exposure\, Odds\, Ratio_i = \frac{Pr(Exposure_i)}{1 - Pr(Exposure_i)} * Risk\, Mitigating\, Behaviors_{-i} \tag{3}$$

where

$$Pr(Exposure_i) = 1 - (1 - T(\tau, \rho))^{Num.\, of\, Contacts_{-i}} \tag{4}$$

τ describes the transmissibility of household contact, multiplied by the proxy for local prevalence, ρ_j.[68] ρ is a proxy for local prevalence measured by a leave-one-out measure of knowing anyone infected with COVID-19 stratified by the administrative level 1 geographical region. Therefore,

$$T(\tau, \rho) = \tau * \rho \tag{5}$$

In Equation 4,

$$Num.\, of\, Contacts_{-i} = \kappa_i + \lambda_i \tag{6}$$

where κ_i is a leave-one-out number of times having left home during the past 3 days, and λ_i is a leave-one-out number of household members by sex, age group, and country.

[67] Our health risk scores are based on the initial version of the *Mathematica 19 & Me* COVID-19 risk score, which was released in May 2020. The *Mathematica 19 & Me* COVID-19 risk score was designed solely for the U.S. using the county-level COVID-19 case data and estimated flu disease burden from the U.S. CDC. It is normalized by the flu burden of disease and adjusted for underreporting COVID-19 cases. We eschew these two practices by leveraging oversampling of hotspots and using alternative measures of prevalence to surmount these data challenges, which were more acute at the time the original risk score was developed. As described in Section 4.1.1, the other slight modification adopted in order to make our scores more exogenous is to use statistics from Williamson et al. (2020), a more recent COVID-19 related study.

[68] The household transmissibility is equal to 0.105 obtained from Burke (2020).

In Equation 3, we use modified $Risk\,Mitigating\,Behaviors_{-i}$, which is[69]:

$$Risk\,Mitigating\,Behaviors_{-i} = 1 - \frac{\gamma_i}{max(\gamma)} \tag{7}$$

where γ_i is a leave-one-out number of times having washed hands during the past 24 hours by sex, age group, and country, and $max(\gamma)$ is the maximum number of γ across all countries.

D.1.2 Formulation of $\mathbf{Pr(COVID\text{-}19\,Death_i)}$

In Equation 1,

$$Pr(COVID\text{-}19\,Death_i) = \frac{Deaths\,Odds\,Ratio_i}{1 + Deaths\,Odds\,Ratio_i} \tag{8}$$

for an individual i. To calculate $Deaths\,Odds\,Ratio_i$, we use (fully adjusted) hazard ratios from Williamson et al. (2020).[70] To convert hazard ratios into odds ratios, we use the following equations referenced from Shor et al. (2017):

$$RR = \frac{1 - e^{HR*ln(1-r)}}{r} \tag{9}$$

Or

$$RR = \frac{OR}{[(1-r) + (r * OR)]} \tag{10}$$

where RR is the relative risk, OR is the odds ratio, HR is the hazard ratio, r is the death rate for the reference group. Therefore,

$$OR = \frac{RR * (1-r)}{1 - RR * r} \tag{11}$$

We use fully adjusted death hazard ratios by age group (i.e. 18-39, 40-49, 50-59, 60-69, 70-79, and 80 or above) and convert them into death odds ratios using Equation 11 above. Using a multiplicative model described below, we adjust the individual's age group-based death odds ratio by multiplying the relevant death odds ratio based on the individual's demographic characteristics (male and income) and medical conditions (obesity, cardiovascular disease, tobacco use, chronic lung disease, diabetes, or any other medical condition):

$$\begin{aligned} Deaths\,Odds\,Ratio_i = {} & DOR_{i,age} * DOR_{i,income} * DOR_i|\mathbb{1}^{male=1} * DOR_i|\mathbb{1}^{obesity=1} * DOR_i|\mathbb{1}^{smoke=1} \\ & * DOR_i|\mathbb{1}^{copd=1} * DOR_i|\mathbb{1}^{cvd=1} * DOR_i|\mathbb{1}^{diabetes=1} * DOR_i|\mathbb{1}^{other=1} \end{aligned} \tag{12}$$

[69] In the original *Mathematica 19 & Me* COVID-19 risk score, $Risk\,Mitigating\,Behaviors_{-i}$ refers to the odds ratio of preventing an infectious disease by washing hands and/or by wearing PPE. We did not ask about mask wearing in our survey because it was not universally recommended at the time of our survey.

[70] All hazard ratios are adjusted for age group, sex, and comorbidities (e.g. obesity, diabetes, cancer, chronic respiratory disease, etc.) but not for ethnicity. See the third column of Table 2 from Williamson et al. (2020).

where, for individual i, $DOR_{i,age}$ is the age-group related death odds ratio based on the individual's age. $DOR_{i,income}$ is the income-group related death odds ratio based on the individual's reported household income[71]. $DOR_i|\mathbb{1}^{male=1}$ is the death odds ratio for being male. $DOR_i|\mathbb{1}^{obesity=1}$ is the death odds ratio for having obesity. $DOR_i|\mathbb{1}^{smoke=1}$ is the death odds ratio for being a current tobacco user. $DOR_i|\mathbb{1}^{copd=1}$ is the death odds ratio for having a chronic lung disease. $DOR_i|\mathbb{1}^{cvd=1}$ is the death odds ratio for having a cardiovascular disease. $DOR_i|\mathbb{1}^{diabetes=1}$ is the death odds ratio for having diabetes. $DOR_i|\mathbb{1}^{other=1}$ is the death odds ratio for having any other medical condition.

[71] Income group is divided into four groups within each country: HH income $\leq$ 25th percentile, 25th percentile < HH income $\leq$ 50th percentile, 50th percentile < HH income $\leq$ 75th percentile, HH income > 75th percentile.