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**In Medio Stat Virtus? Effective
Communication and Preferences for
Redistribution in Hard Times**

Paola Bertoli, Veronica Grembi, Massimo Morelli and
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Centre for Economic Policy Research
33 Great Sutton Street, London EC1V 0DX, UK
Tel: +44 (0)20 7183 8801
www.cepr.org

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Abstract

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JEL Classification: D70, D80, D83

Keywords: Sensitivity to Information, Beliefs Update, Scarce Resources Distribution

Paola Bertoli - paola.bertoli@univr.it
University of Verona

Veronica Grembi - veronica.grembi@unicatt.it
Sapienza, University of Rome

Massimo Morelli - massimo.morelli@unibocconi.it
Bocconi University and CEPR

Anna Rosso - anna.rosso@unimi.it
University of Insubria

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Paola Bertoli
University of Verona

Veronica Grembi
Sapienza, University of Rome

Massimo Morelli
Bocconi University and CEPR

Anna Rosso
University of Insubria

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1 Introduction

The communication literature studies the effects of two types of information on agents' decisions: statistical and narrative information. The former is objective information based on statistics on the topic, while the latter is the personal account of one's own experience on the topic.¹ There is still much controversy on what type of information is more persuasive (for a systematic review, see [Allen and Preiss \(1997\)](#); [Winterbottom et al. \(2008\)](#)). Moreover, most of this research has been carried out in the fields of healthcare and consumers' decisions (e.g., [Morman \(2000\)](#); [Dickson \(1982\)](#)) and with student population. The role of statistical information on shaping individual decisions in a more general context has been essentially disregarded.

In this paper, we investigate how individuals react to the provision of statistical information when confronted with a public interest issue, as the choice on the distribution of a scarce resource during a crisis. We focus on the decision of how to allocate a scarce resource in 4 situations highly salient in the aftermath of the COVID-19 pandemic: the health emergency, the labor market emergency, the housing emergency, and the economic emergency. Accordingly, the resource to be allocated, through a prioritization mechanism, is the vaccine (health), a layoff ban (labor market), an eviction ban (housing), and the allocation of non-repayable funds (the economy). We focus on Italy, which adopted a layoff ban, an eviction ban, and an allocation of non-repayable funds to firms since March 2020.

We design an online experiment through which we expose the treated group to more statistical information than the control group on a specific characteristic, which we call "discriminating condition, which makes individuals more vulnerable in each scenario defined by each emergency. Out of our 4 hypothetical situations, 3 of them recall a pre-existing health condition, while in one case the discriminating condition is related to being a smaller firm. The idea is to evaluate how statistical information on the discriminating characteristic (e.g. how more likely somebody with such a condition is to die due to the SARS-Cov-2 virus) impacts on those who receive the information, who could be more likely to prioritize the social categories displaying such characteristic with respect to those who do not. In other words, our treatment conveys information which matters to shape preferences for redistribution.

To better understand the use of statistical information, among the social categories to be prioritized, respondents are confronted with two groups having the discriminating condition but differing under a second dimension. We consider the employment/unemployment status

¹For evidence on how individual preferences and decisions turn out to be affected by narrative information, see e.g. [Fagerlin et al. \(2005\)](#); [Ubel et al. \(2001\)](#).

in the case of prioritizing allocation of the vaccine; gender and age for the case of the extension of the layoff ban; family situations in case of the extension of the eviction ban; and whether a firm has (or has not) received any not re-payable funds from the beginning of the pandemic in the case of the use of the economic relief packages. The consideration of these “second conditions” allows us to investigate how the respondent, conditional on being exposed to the treatment, prioritizes the given statistical information according to a set of different characteristics.

When it comes to the determinants of the effect of information, the credibility of the information provided (e.g., [Baesler \(1997\)](#); [Kopfman et al. \(1998\)](#); [Parrott et al. \(2005\)](#)), its vividness (e.g., [Kopfman et al. \(2001\)](#); [Slater \(1996\)](#)), its relevance with the topic of interest (e.g., [Slater \(1996\)](#); [Baesler \(1997\)](#)) and individuals’ prior attitudes on the given topic, have been found to be the most relevant explicative variables (e.g., [Harte \(1976\)](#); [Slater \(1996\)](#)). However, much more can be done to understand which (if any) personal traits might make individual more or less responsive to statistical evidence. We consider in particular four dimensions that have been proven to play a role in affecting belief change and update: political affiliation, religiosity, age, and the education level of the respondent (see [Section 4](#)). We divide each dimension in three levels or categories (e.g. left, center, and right; high, medium, and low education, etc.). We show that those who display greater sensitivity to information are those in the middle for each of the four dimensions, such that one could say that “in medio stat virtus.”

The rationalization of these findings could come from a decision problem similar to a turnout decision problem: for turnout decisions those who are indifferent between voting and not voting are those for whom the cost of voting roughly equals the benefit of voting, and the information provided before an election affects the benefit of voting enough to trigger participation. For a given cost of voting, those who are sensitive to campaign information are those who are neither sure that their candidate is bad (very low benefit) nor those who are sure that their preferred candidate is awesome (very high benefit), but those in the middle.²

We can employ the same kind of intuition to explain our findings. For each individual there is a prior belief on the allocation of a scarce resource. Denote by s_i^0 the prior believed benefit

²When looking into heterogeneous effects of mobilization campaigns using voters’ attributes, [Niven \(2001\)](#) finds that the effect of face-to-face contact on mobilization is stronger among occasional voters. [Arceneaux and Nickerson \(2009\)](#) for the US find that individuals that are indifferent between voting and not voting are more likely to be affected by the get-out-to-vote campaign, especially in high-salience elections. Similarly, [Kendall et al. \(2015\)](#) consider voters’ response to ideology and valence messages on the incumbent for election in an Italian municipality finding that centrist voters are more prone to update their beliefs than voters with other characteristics. [Barton et al. \(2014\)](#) highlight that the effect of canvassing on voter support is largest among voters lacking any partisan affiliation, even though they do not find significant effect on mobilization.

of the allocation for a designated category by individual i before the statistical information provided by the treatment. Denote by c_i the perceived opportunity cost of this allocation to a disadvantaged group for individual i . Whatever is the targeted category around which the policy maker wants to raise consensus disclosing statistical information, there is always heterogeneity both in terms of believed benefit of such a prioritization and opportunity cost. However, for each of our four dimensions of heterogeneity it is clear that the “middle belief” type can be easily identified through the pre-treatment questions, confirming that extreme beliefs are disproportionately held by respondents who belong to one of the two extremes on each dimension.

Suppose for simplicity that each individual has a binary choice, between allocating the scarce resource to the category highlighted by the information or to her preferred choice in the absence of extra information. Let s_i^1 denote the updated believed benefit for the targeted category post information. We say that the treatment *has effect* if $s_i^0 < c_i$ but $s_i^1 > c_i$. This implies that information might have more impact on people placed in the middle of each dimension of heterogeneity on s_i^0 .³

The paper is organized as follows. In section 2, we provide detailed information on the design of the experiment and the treatment. In section 3, we provide some descriptive statistics, explain our empirical strategy and discuss our baseline results. The analysis of heterogeneous responsiveness is presented in section 4. Section 5 concludes.

2 The Survey

2.1 Participants and General Procedure

We rely on an unique survey conducted in March 2021, after 12 months of the COVID-19 first outbreak in Italy. The survey, translated in English and available in Appendix B, was managed by Demetra opinioni.net Srl, a market survey company. After a pilot run from February 22nd to March 1st, the questionnaire was administered online from March 2nd to March 26th through email invitations. Respondents could participate via computer-assisted web interviews (CAWIs). On average, it took 12 minutes to complete the survey, that targeted both genders in an age range 20-70 and included a total of 40 questions: 35

³This argument is clear if the distribution of opportunity costs is independent from the distribution of believed benefits of the targeted category. We allow for the possibility, of course, that some of these respondents have high c_i due to pressing other personal concerns (i.e. economic concerns), and hence it is an empirical question whether indeed in medio stat virtus.

pre-treatment and 5 post-treatment.⁴ Overall, the final sample includes 6,044 respondents and is representative of the actual population by gender, region (21 administrative units) and age groups (younger than 35, aged 35-55, and older than 55). As shown in Table 2, the main socioeconomic characteristics detectable through the pre-treatment questions, are balanced between the treated and the control groups. In addition, Table A2 shows that the treated and control groups are balanced at the regional level, as well as at the macro-areas level (i.e., groups of regions).

2.2 The treatment

The survey included two versions of the same questionnaire and both versions provided four pieces of information on four topics related to the distribution of a scarce resource concerning the health emergency, the labor market emergency, the housing emergency, and the more general economic emergency. The resources to be prioritized were the vaccine against SARS-Cov-2, the extension of the layoff ban, introduced in Italy in March 2020 and extended till July 2021 (for some sectors till October 2021), the extension of the eviction ban, introduced in March 2020 and extended till the end of June 2021, and the allocation of non-repayable funds. In the case of the vaccine against COVID-19, Italy lag behind countries like the UK and the US at the time of the survey. The distribution of the vaccine in the country started on December 31st 2020 and immediately faced supply problems. If 56% of the UK population and 33% of the US population received the first dose of the vaccine by the end of March 2021, while it was equal to 12.5% for the adult Italian population. In addition, at the time of the survey (i.e., Spring 2021), the economic measures considered constitute a very sensitive topic of public debate. They were firstly implemented during spring 2020 as an emergency response to the severe economic impact of the first wave of the COVID-19 pandemic and, one year later, policy makers were facing the choice of to whom keep ensuring these economic supports.

First, following the pre-treatment questions, four different screens were showed to both the treated and the control group. Each screen provided the same basic objective information on one of the emergency situation of our interest. Yet, the treated group had an extra piece of objective information highlighting the population group most fragile in each emergency scenario. For instance, in the case of the economic emergency, both treated and controls were informed about impact of the COVID-19 pandemic on the national economy. In particular,

⁴We include a social desirability question which counts as an aggregate question, made up by 13 yes-or-no items. See Section 2.2 for an explanation of the index.

all respondents became aware that, following the first wave of the pandemic, 45% of Italian firms shut down. Then, treated were also informed that the firms that suffered the most from the economic consequences of the pandemic were those with fewer than 50 employees. Hence, according to this extra information, being a small business (i.e., having less than 50 employees) should become the primary discriminating condition to identify businesses that are the most vulnerable during the economic emergency, thus the most potentially in need of the new non-repayable funds from the government.

Second, respondents were asked who they would prioritize in the distribution of the scarce resource related to the given emergency by ranking from the most prioritized (1st) to the least one (sixth) 6 potential groups of receivers. In the case of the economic emergency, for example, respondents were asked to rank from the 1st to the 6th the groups of receivers to whom they would assign new non-repayable funds choosing from the following: firms with fewer than 50 employees, firms with fewer than 50 employees that did not previously receive such funds, firms with 50 to 250 employees, firms with 50 to 250 employees that did not previously receive such funds, firms with more than 250 employees, firm with more than 250 employees that did not previously receive such funds. The group ranked 1st represents the group that should have received the resource first, while being ranked as 6th means being the last group entitled to the resource according to a given respondent.

The treated might rank higher the individuals characterized by the discriminating condition recalled by the treatment systematically, or they might have some inner preferences and react differently depending on a secondary condition. Hence, among the groups to rank, there are two groups displaying the primary condition but differing on a secondary characteristic (Table 1). Going back to the example of the administration of non-repayable funds, 2 groups include businesses with fewer than 50 employees (i.e., the primary condition) but differ from one another based on whether they already previously benefited from this economic support (i.e., the secondary condition).

The underlying idea of the treatment is to make respondents aware through statistical information that there are groups in the society that are more vulnerable during an emergency and see how they react to this information. The treatment was not meant to elicit an altruistic behavior in the respondents, but rather to investigate if an extra objective information can affect individual preferences/beliefs.⁵

⁵To date, there are a number of procedures used in psychology and sociology to measure one's altruism such as, for instance, the altruism scale (Sawyer, 1966; Lee et al., 2003). In experimental economics, an option is represented by the dictator game, a modified version of which has been developed specifically for surveys (i.e., the All-or-Nothing dictator game in Bekkers (2007)). However, there is no clear cut experimental design

Table 1: **Model**

	Health Emergency	Labor Market Emergency	Housing Emergency	Economic Emergency
Primary cond.	Having a pre-condition	Having a pre-condition	Cohabiting minor children or children with pre-conditions	Small business
Secondary cond.	Being unemployed or employed	Being or not a men Being older than 55	Being or not single	Having or not received funds in the past

Notes: *Primary cond.* coincides with the discriminating characteristic that identifies, according to our treatment, the most vulnerable groups of the Italian population for each given emergency scenario. *Secondary cond.* coincides with the characteristic on which the groups having the primary condition in our survey differ.

Given the nature of the survey, we might be concerned that respondents might want to please the surveyors and that the treatment effect (if any) might be due to the so-called social desirability bias (aka a demand effect). Following [Dhar et al. \(2018\)](#), we included a Marlowe-Crowne social desirability module, based on a 13-item validated version index ([Reynolds, 1982](#)). This index is designed with the purpose to measure a person’s concern for social approval ([Dhar et al., 2018](#)), and it is based on questions asking the respondent whether he or she has certain too-good-to-be-true personality traits (as being always ready to admit own faults or being always kind even with problematic people). If respondents with a high social desirability index were driving the effect that we estimate, our identification would be undermined. Respondents would be making use of the statistical information provided just because they have somehow anticipated that this is what is expected from them.

Finally, the very last question of the survey concerned the choice of the student groups to prioritize for the provision of in-presence schooling. None of the 4 screens shown to respondents contained a reference to the education emergency, that in Italy was particularly severe. All types of schools were close starting the first week of March 2020 to re-open mid September, but they were later shut down again in some regions, while in others only classes up to the 7th grade were allowed to take place in presence. We asked to prioritize the type of student (with disability, with unemployed or employed parents) who should go back to face-to-face teaching, moving from the implicit assumption that disadvantaged categories might benefit the most of going back to class. The inclusion of this question aims at checking if there was any *compassion* effect driven by the treatment, which could be orthogonal to the actual provision of the information.

to elicit altruism since the challenge would be to disentangle altruism from other feelings connected to it such as, among others, compassion, sorrow or commiseration.

3 Empirical strategy and baseline results

We define the outcomes of interest in a two-step way. Moving from the treatment, first we exploit the primary discriminating condition, then we focus on the secondary condition. Following Table 1, we construct our primary outcomes averaging the actual ranking given to each group with the primary discriminating condition.

Since according to the treatment the most vulnerable firms to the economic emergency caused by the COVID-19 pandemic are those employing 50 or fewer workers, the related main outcome coincides with the average between the ranking position given to firms with fewer than 50 employees and firms with fewer than 50 employees that did not previously received any non-repayable fund from the government. For example, if a respondent places firms with fewer than 50 employees in the third place and firms with fewer than 50 employees that never received a non-repayable fund in the first place, then the average would be equal to 2.

Since suffering from a pre-condition is recalled as an essential element of the discriminating status in 3 out of our 4 scenarios, our treatment could have made respondents more prone to prioritize the distribution of any scarce resource to individuals with pre-conditions. To exclude this potential bias, we use the last question related to school attendance as a robustness check on the validity of our treatment, which indeed did not include any reference to such a topic. Accordingly, with respect to this question, the related main outcome is represented by the average between the ranking position given to primary school children with disability and high school children with disability (i.e. pre-conditions).

As a second step, we look at the actual ranking position of each group with the primary discriminating condition on its own. These secondary outcomes range between 1 (most preferred category) and 6 (least preferred category). If the treatment is really effective and people are actually influenced by statistical information, the treated group, compared to the control group, would be expected to give a higher placement to all groups identifiable as the most vulnerable based on the primary discriminating condition (i.e., place them at the top ranking positions). However, the statistical information might be used selectively to prioritize only certain types of individuals with the primary condition, with no consequence on the rest of the available options. If this is the case, statistical information would not have a generalized effect in driving individual choices and it will still be prone to individual preferences.

Figure 1 plots our main outcomes under each type of emergency per treated and control groups, with a confidence interval of 95%. The graphs show that groups having the primary condition recalled by the treatment are more likely to be placed at the top ranking positions,

even though the differences between treated and control groups are not always statistically significant. There is no statistical difference in the allocation of vaccine against COVID-19 and the extension of the eviction ban. By contrast, these differences are significant when the extension of the layoffs ban and the assignment of non-repayable funds are at stake.

Figure 2 repeats the same exercise looking at each single group having the primary condition recalled by the treatment. It is apparent that there are no differences between treated and control groups in the vaccine priority given to neither employed nor unemployed individuals with pre-conditions (Panels (a) and (b)) and to extend the eviction ban to singles or couples with cohabiting minors or minors with pre-conditions. Differently, the average effect observed in Figure 1 with respect to the extension of the layoffs ban to employed individuals with pre-conditions is likely to be driven by employed women and individuals older than 55. Similarly, the difference between treated and control groups with regards to the ranking given to small firms is likely to be driven by small firms that did not receive any non-repayable funds in the past. Finally, Figure 3 shows no treatment effect in prioritizing access to schools.

We estimate the effect of conveying information on vulnerable groups when allocating a scarce resource using the model in Equation 1. For each respondent i living in region r , we use the different definitions of outcomes as stated above and control for regional fixed effects τ_r , which can capture time invariant characteristics of the resident population, as its trust and altruism, but also the different average availability and needs along the four emergency dimensions we analyze. We also control for three sets of variables as listed in Table 3. The idea is to control, besides the usual socio-economic characteristics, also for those characteristics which could make respondents feel closer to one of the suggested categories to be prioritized, as having suffered economic distress or having lost the job, but also to have been directly affected by the SARS-Cov-2 virus.

$$Outcomes_{ir} = \delta Treatment_i + Controls1'_i\sigma + Controls2'_i\gamma + Controls3'_i\beta + \tau_r + \epsilon_{ir} \quad (1)$$

3.1 Baseline results

Assigning a smaller ranking number to a specific group means placing such a group higher in the ranking and giving it a higher priority in the distribution of the scarce resource at stake. Assigning a rank of 1 means placing a group at the top of the ranking. Then, results in Table 4 show that our treatment has the expected effect to increase the propensity of the

treated to place towards the top of their references the categories with the relevant primary condition, even though the effect is not statistically significant in the case of the eviction ban. The effect varies from 3.7 percentage points for the vaccine, to 14.1 percentage points for the non-repayable funds.

Moving to the impact of the treatment on the different groups having the primary condition but differing on a secondary characteristic, Table 5 shows that the treated mainly rewarded certain groups. Hence, statistical information does not make the respondents favor all vulnerable groups. Treated are more likely than controls to prioritize only certain vulnerable groups. Specifically for vaccines, unemployed with disability report a 6.6 percentage points higher ranking position (i.e., smaller ranking number) that it mechanically compensated by a 6.6 percentage points lower ranking position (i.e., greater ranking number) for employed with pre-conditions. Women with pre-conditions and people older than 55 with pre-conditions are favored by our treatment as they are assigned a 9.6 and a 10.2 percentage points lower ranking position (i.e., greater ranking number) when labor market protection is at stake. Finally, treated give more priority for the grant of new non-repayable funds to all small businesses regardless of whether they previously received such a support.

Finally, we control if our results are affected by any means by the social desirability index of the respondent by estimating the heterogeneous effects driven by this dimension on the treated. Tables A3 and A4 report results for our main outcomes and the social desirability index interacted with the treatment dummy. There is no differential effect of the treatment based on the desire of the respondent to appear as a nice person, or, in other words, one should not be concerned of a demand effect.

4 Heterogeneities

To understand what type of respondents are more sensitive to the information provided, we examine the role of four individual dimensions that have been proven to play a role in affecting belief change and update. Specifically, we run a heterogeneity analysis focusing respondents' political affiliation, level of religiosity, level of education, and age. Since we are interested in understanding how respondents placed along the spectrum of each dimension respond to statistical information, we define three categories for each dimension as to have two extreme categories and an intermediate one, rather than simply contrasting two opposite categories. Then, we interact our treatment with both the two extreme categories separately and include such interactions simultaneously in equation 1 using the middle category as our

benchmark.

To identify the political affiliation of respondents, we use several questions in our survey. We rely on the self-classification of respondents as belonging to an extreme left, left, center, right, and extreme right party. Then, we cross the self-perception of their political color with the information on the party they voted for in the last 2018 national elections and their answers on two crucial political issues for Italian politics such as immigration policies and EU role.⁶ As a result, “Leftist” identifies those respondents who self-perceived as being leftist, voted for a left-wing party and are simultaneously against anti-immigration policies and pro-EU. On the opposite side of the political scale, we place the “Rightist” category which includes all respondents who reported to be rightist or extreme rightist, voted for a right-wing party and support the minimization of foreign immigration, while being against a stronger EU. Consistently, all respondents falling outside these extreme categories have been classified as “Centrist”, which becomes the reference category in the heterogeneity analysis.

Similarly, for the level of religiosity, respondents were classified as religious if they self-declared as practicing religious individuals and as non-religious if they self-declared as such, while those who declared to be non-practicing religious or were incapable to self-categorize themselves constitute the middle (reference) category. With respect to educational attainment, we divided respondents into “Highly educated” if they have a university diploma or higher and “Poorly educated” if they have a secondary diploma or lower, while respondents with a high school or professional diploma belong to the middle category. Finally, we use the age of respondents to distinguish them in “Young” when younger than 25 and “Old” when older than 59, while the middle category includes individuals in the 26-59 age group.

Overall, individuals in the middle categories of each dimension are expected to be more likely affected by our treatment, thus to be those who actually internalize the statistical information we provide. Both highly and poorly educated people have been observed to be less prone to question their own beliefs/convictions. For example, the medical literature provides large evidence on the general poor self-management of treatments for chronic-illnesses of low educated patients due to their weak ability in processing the needed information to ensure proper care (Goldman and Smith, 2002). Additionally, in our sample, education is linked to financial difficulties, with individuals at the low end having more problems. It has been shown that limited resources can act as a load to cognitive function (Mani et al., 2013), and

⁶We do not rely solely on the self-classification of respondents due to the multiple potential shortcomings of this measurement. In fact, political ideology is a complex concept that might not be well captured by self-identification on a one-dimensional left-right scale (e.g., Jacoby (2009); Jost et al. (2009); Layman and Carsey (2002); Jennings (1992); Conover and Feldman (1984)).

financial constraints have been linked to lower attention levels and scarcity-induced cognitive load (Shah et al., 2012, 2018). Even though highly educated individuals have an advantage in using information, on the one hand, they tend to have arguments to defend deep-rooted positions, being more confident in their beliefs regardless of their actual knowledge on the given issue (Dummond and Fischhoff, 2017). On the other hand, when characterized by strong beliefs, highly educated individuals are also more likely to ignore evidence on other points of view (Nyhan and Reifler, 2010). Similarly, we expect individuals who do neither embrace nor refuse religion to have less strong beliefs to some extent than those who place themselves at the extreme positions with respect to religiosity. Research in psychology has shown that both religious and non-religious individuals are similarly dogmatic in their views: the more rigid the individual, whether religious or not, the less likely she would consider the perspective of others and adapt her view in the light of new information (Friedman and Jack, 2018). In particular, strong religious convictions can work as a paradigm through which individuals understand and evaluate their experiences (Park, 2007). For instance, strong religious values can influence the provision and uptake of health care (Tomkins et al., 2015), ultimately affecting one’s health.

Belief change has been proven to be also affected by age, with older individuals (i.e., over 65) being less likely to update their beliefs after receiving new information, as well as less likely to vary their beliefs when confronted with a debunk (Swire et al., 2017). Moreover, existing evidence also shows age differences in inter-temporal choices, with middle aged adults proving to be most patient relative to younger and older adults, hinting to the existence of age-related time preferences that again could make individuals in the two opposite extreme age groups less prone to update their convictions (Richter and Mata, 2018). The last individual dimension of interest is the strength of one’s political belief⁷ which can distort the process of belief updating especially when relevant political issues are at stake. When characterized by rooted political ideology, individuals tend to discredit or refuse unambiguous evidence questioning their prior beliefs (Su, 2022; Kahan et al., 2011) on the basis of whose they instead interpret ambiguous evidence (Fryer et al., 2019; Conover and Feldman, 1989).

As shown in Table 6, results meet our expectations. Respondents belonging to the middle categories identified under any of our four dimensions of interest turn out to be the ones affected by the treatment, that is, they are those who used the statistical information provided by our treatment. Respondents who are centrists, have a medium level of education, belong to the 26-59 age group and are neither practicing religious nor non-religious are those who

⁷We expect individuals expressing more extreme political ideology and preferences over relevant political issue as the ones presented to respondents to be characterized by stronger political beliefs.

give a lower average ranking position (i.e., higher priority) to the groups with the relevant primary condition. The baseline results for the middle categories of respondents are confirmed also when we look at the actual placement assigned to each specific group with the primary condition as reported in Table 7. An important implication can be drawn from these findings: the best target for the provision of statistical information are those individuals who are not placed at the extremes of the spectrum under any of the dimension considered. Such individuals do not simply make use of the objective information provided, they also use it with a more generalize approach, that is, without letting their potential individual preferences for redistribution to interfere.

5 Conclusion

This paper displays novel and strong support for the usefulness of providing people with statistical information. More specifically, citizens' preferences for redistribution to categories in need can be affected by statistical information, and especially so when they do not belong to extreme segments of the population along any of the most important dimensions of heterogeneity that are usually considered.

Beside constituting “good news” for the positive analysis of the effectiveness of information campaigns, the results of this paper may also lead to normative considerations on targeting strategies of communication. In a nutshell, “forget about extreme categories”, target centrists on all dimensions.

References

Allen, M. and R. W. Preiss

1997. Comparing the persuasiveness of narrative and statistical evidence using meta-analysis. *Communication Research Reports*, 14(2):125–131.

Arceneaux, K. and D. W. Nickerson

2009. Who is mobilized to vote? a re-analysis of 11 field experiments. *American Journal of Political Science*, 53(1):1–16.

Baesler, J. E.

1997. Persuasive effects of story and statistical evidence. *Argumentation and Advocacy*, 33:170–175.

Barton, J., M. Castillo, and R. Petrie

2014. What persuades voters? a field experiment on political campaigning. *The Economic Journal*, 124(574):F293–F326.

Bekkers, R.

2007. Measuring altruistic behavior in surveys: The all-or-nothing dictator game. *Survey Research Methods*, 1(3):139–144.

Conover, P. and S. Feldman

1984. How people organize the political world: A schematic model. *American Journal of Political Science*, 28(1):95–126.

Conover, P. J. and S. Feldman

1989. Candidate perception in an ambiguous world: Campaigns, cues, and inference processes. *American Journal of Political Science*, 33(4):912–940.

Crowne, D. and D. Marlowe

1960. A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4):349–354.

Dhar, D., T. Jain, and S. Jayachandran

2018. Reshaping adolescents’ gender attitudes: Evidence from a school-based experiment in india. *NBER Working Paper*, (25331).

Dickson, P. R.

1982. The impact of enriching case and statistical information on consumer judgments. *Journal of Consumer Research*, 10:398–406.

Dummond, C. and B. Fischhoff

2017. Individuals with greater science literacy and education have more polarized beliefs on controversial science topics. *PNAS*, 114(36):9587–9592.

Fagerlin, A., C. Wang, and P. A. Ubel

2005. Reducing the influence of anecdotal reasoning on people’s health care decisions: Is a picture worth a thousand statistics? *Medical Decision Making*, 25(4):398–405.

Friedman, J. P. and A. I. Jack

2018. What Makes You So Sure? Dogmatism, Fundamentalism, Analytic Thinking, Perspective Taking and Moral Concern in the Religious and Nonreligious. *Journal of Religion and Health*, 57(1):157–190.

Fryer, Roland G, J., P. Harms, and M. O. Jackson

2019. Updating Beliefs when Evidence is Open to Interpretation: Implications for Bias and Polarization. *Journal of the European Economic Association*, 17(5):1470–1501.

Goldman, D. P. and J. P. Smith

2002. Can patient self-management help explain the ses health gradient? *Proceedings of the National Academy of Sciences*, 99(16):10929–10934.

Harte, T. B.

1976. The effects of evidence in persuasive communication. *Central States Speech Journal*, 27:42–46.

Jacoby, W.

2009. Ideology and vote choice in the 2004 election. *Electoral Studies*, 28:584–594.

Jennings, M. K.

1992. Ideological thinking among mass publics and political elites. *The Public Opinion Quarterly*, 56(4):419–441.

Jost, T. J., C. Federico, and J. Napier

2009. ‘political ideology: Its structure, functions, and elective affinities. *Annual Review of Psychology*, 60:307–337.

- Kahan, D. M., H. Jenkins-Smith, and D. Braman
2011. Cultural cognition of scientific consensus. *Journal of Risk Research*, 14(2):147–174.
- Kendall, C., T. Nannicini, and F. Trebbi
2015. How do voters respond to information? evidence from a randomized campaign. *The American Economic Review*, 105(1):322–353.
- Kopfman, J. E., S. E. Smith, J. K. Ah Yun, and A. Hodges
1998. Affective and cognitive reactions to narrative versus statistical evidence organ donation messages. *Journal of Applied Communication Research*, 26:279–300.
- Kopfman, J. E., S. E. Smith, J. K. Ah Yun, and A. Hodges
2001. The relationship between narrative content variation, affective and cognitive reactions, and a person’s willingness to sign an organ donor card. *Paper presented at the meeting of the International Communication Association*, Washington, D. C.
- Layman, G. and T. Carsey
2002. Party polarization and “conflict extension” in the american electorate. *American Journal of Political Science*, 46(4):786–802.
- Lee, D., J. Lee, and C. Kang
2003. Development and validation of an altruism scale for adults. *Psychological Reports*, 92:555–561.
- Mani, A., S. Mullainathan, E. Shafir, and J. Zhao
2013. Poverty Impedes Cognitive Function. *Science*, 341(6149):976–980.
- Morman, M. T.
2000. The influence of fear appeals, message design and masculinity on men’s motivation to perform the testicular self examination. *Journal of Applied Communication Research*, 28:91–116.
- Niven, D.
2001. The limits of mobilization: Turnout evidence from state house primaries. *Political Behavior*, 23(4):335–350.
- Nyhan, B. and J. Reifler
2010. When corrections fail: The persistence of political misperceptions. *Political Behavior*, 32(2):303–330.

- Park, C. L.
2007. Religiousness/Spirituality and Health: A Meaning Systems Perspective. *Journal of Behavioral Medicine*, 30(4):319–328.
- Parrott, R., K. J. Silk, K. Dorgan, C. Condit, and T. M. Harris
2005. Risk comprehension and judgments of statistical evidentiary appeals. *Human Communication Research*, 31(3):423–452.
- Reynolds, W.
1982. Development of reliable and valid short forms of the marlowe-crowne social desirability scale. *Journal of Clinical Psychology*, 38(1):119–125.
- Richter, D. and R. Mata
2018. Age differences in intertemporal choice: U-shaped associations in a probability sample of German households. *Psychology and Aging*, 33(5):782–788.
- Sawyer, J.
1966. The altruism scale: A measure of co-operative, individualistic, and competitive interpersonal orientation. *American Journal of Sociology*, 71(5):407–416.
- Shah, A. K., S. Mullainathan, and E. Shafir
2012. Some consequences of having too little. *Science*, 338(6107):682–685.
- Shah, A. K., J. Zhao, S. Mullainathan, and E. Shafir
2018. Money in the mental lives of the poor. *Social Cognition*, 36(1):4–19.
- Slater, M. D.
1996. Value-affirmative and value-protective processing of alcohol education messages that include statistical evidence or anecdotes. *Communication Research*, 23:210–235.
- Su, S.
2022. Updating politicized beliefs: How motivated reasoning contributes to polarization. *Journal of Behavioral and Experimental Economics*, 96:101799.
- Swire, B., A. J. Berinsky, S. Lewandowsky, and U. K. H. Ecker
2017. Processing political misinformation: Comprehending the trump phenomenon. *Royal Society Open Science*, 4(3):106802.

Tomkins, A., J. Duff, A. Fitzgibbon, A. Karam, E. J. Mills, K. Munnings, S. Smith, S. R. Seshadri, A. Steinberg, R. Vitillo, and P. Yugi

2015. Controversies in faith and health care. *The Lancet*, 386(10005):1776–1785.

Ubel, P. A., C. Jepson, and J. Baron

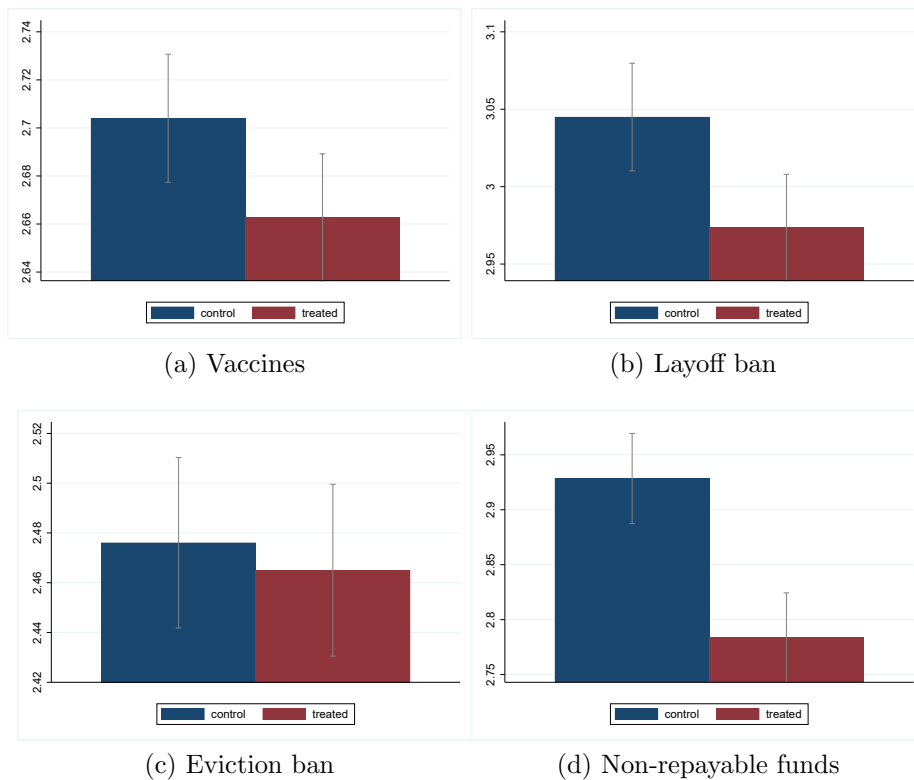
2001. The inclusion of patient testimonials in decision aids. *Medical Decision Making*, 21(1):60–68.

Winterbottom, A., H. L. Bekker, M. Conner, and A. Mooney

2008. Does narrative information bias individual’s decision making? a systematic review. *Social Science and Medicine*, 67(12):2079–2088.

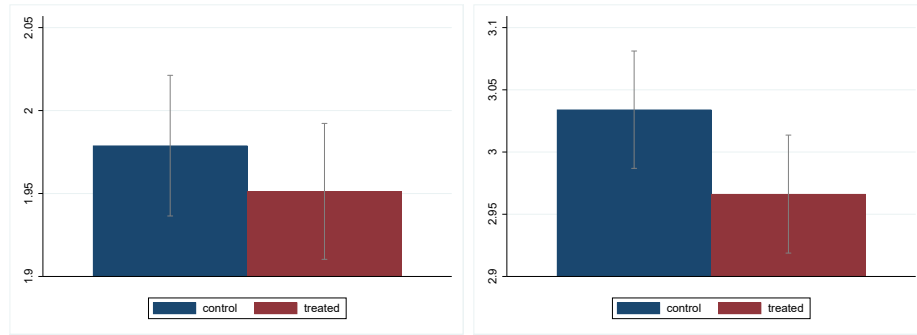
Tables and Figures

Figure 1: Priorities per emergency



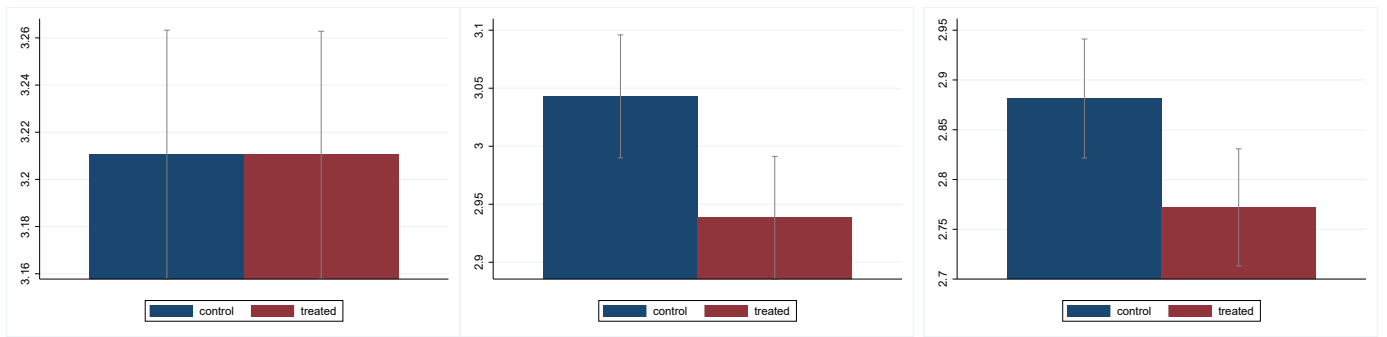
Notes: Each panel reports the average ranking for treated and control given to individuals with pre-conditions/less than 50 workers by type of emergency (vaccines, layoff ban, eviction ban e non-repayable funds).

Figure 2: Priorities per item and specific groups



(a) Employed

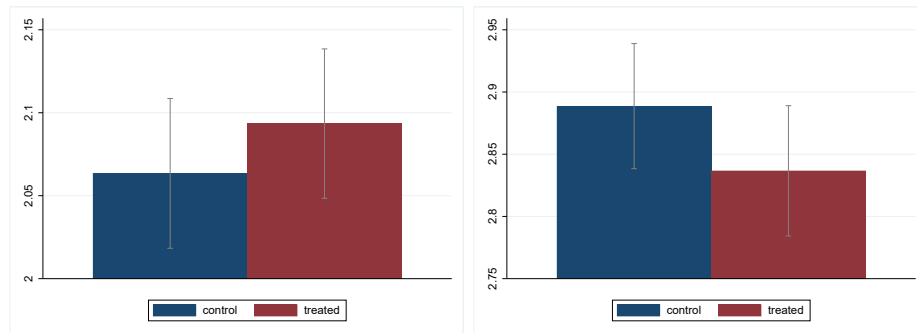
(b) Unemployed



(c) Employed men

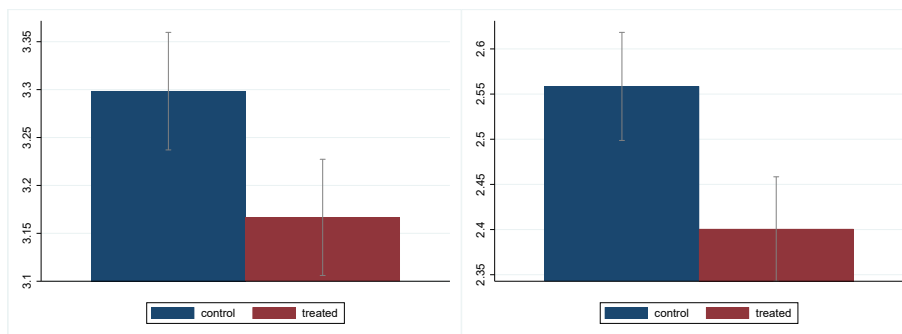
(d) Employed women

(e) Employed older than 55



(f) Couples

(g) Singles

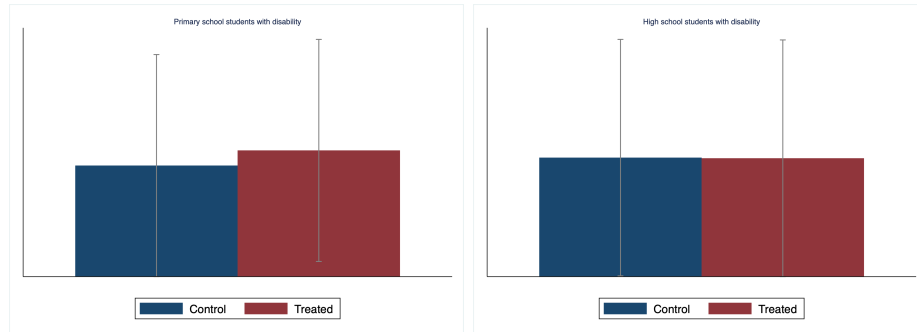


(h) Received funds

(i) No funds received

Notes: Each panel reports the average ranking for treated and control given to individuals with pre-conditions/less than 50 workers by type of emergency: vaccines (Panels (a) and (b)), layoff ban (Panels (c)-(e)), eviction ban (Panels (f)-(g)) and non-repayable funds (Panels (h) and (i)).

Figure 3: Priority in attending school in person



(a) Primary school students with disability (b) High school students with disability

Notes: For an explanation of the variables, see Table A1.

Table 2: Balance Tests

	Control	Treated	Difference p-value
Age	45.61 (13.65)	45.27 (13.54)	0.34
Younger than 35	0.27 (0.44)	0.28 (0.45)	0.45
Btw 35&45	0.44 (0.50)	0.44 (0.50)	0.91
Older than 55	0.29 (0.45)	0.28 (0.45)	0.38
Religious and practicing	0.23 (0.42)	0.24 (0.43)	0.21
Religious	0.66 (0.47)	0.66 (0.47)	0.83
Vaccinated or willing to	0.85 (0.36)	0.85 (0.36)	0.99
Positive	0.07 (0.26)	0.08 (0.27)	0.32
Someone in the family positive or died	0.52 (0.50)	0.54 (0.50)	0.09
HS graduate	0.43 (0.50)	0.45 (0.50)	0.36
College/Postgraduate	0.32 (0.47)	0.33 (0.47)	0.48
Number kids	1.01 (0.99)	1.00 (0.99)	0.97
Kids	0.59 (0.49)	0.59 (0.49)	0.95
Kids at school age	0.56 (0.50)	0.57 (0.49)	0.42
Female	0.52 (0.50)	0.51 (0.50)	0.41
Married	0.49 (0.50)	0.48 (0.50)	0.77
Respondent or other in family with disability	0.17 (0.38)	0.17 (0.37)	0.59
Mental distress	7.91 (4.42)	8.04 (4.59)	0.27
Left in political spectrum	0.29 (0.45)	0.31 (0.46)	0.10
Healthcare worker	0.06 (0.24)	0.06 (0.24)	0.65
Employed at Feb2020	0.62 (0.48)	0.63 (0.48)	0.83
Public sector	0.22 (0.41)	0.22 (0.42)	0.69
Private sector	0.67 (0.47)	0.67 (0.47)	0.99
Remote work	0.20 (0.40)	0.21 (0.41)	0.23
Remote work partner	0.09 (0.29)	0.09 (0.29)	0.97
Fear partner loses the job	0.07 (0.26)	0.08 (0.27)	0.37
Financial distress due to the pandemic	1.50 (1.16)	1.52 (1.17)	0.36
Observations	3,026	3,018	6,044

Notes: For an explanation of the variables, see Table A1.

Table 3: Controls

Controls 1	Controls 2	Controls 3
School-aged Children	Vaccine COVID-19	Healthcare worker
Children	Positive to COVID-19	Public Sector
Age (3 groups)	Acquaintance positive/dead COVID-19	Fear partner loses the job
Female	Disability	Remote work
Married	Mental distress	Partner: Remote work
High School	Employed	Financial distress
College	Unemployed	
Vocational school		
Religious		

Notes: *Age (3 groups)* : we split the respondents in the younger than 35, which is used as the reference category, those between 35 and 55, and those older than 55. For a detailed explanation of the variables see Table A1.

Table 4: Baseline Results

	(1)	(2)	(3)	(4)	(5)
	Vaccine	Layoff Ban	Eviction Ban	Non repayable funds	School funds
Treated	-0.037** (0.013)	-0.067** (0.025)	-0.010 (0.027)	-0.141*** (0.024)	-0.033 (0.021)
Obs	6,044	6,044	6,044	6,044	6,044
Mean	2.683	3.009	2.471	2.856	2.367
Controls 1	Yes	Yes	Yes	Yes	Yes
Controls 2	Yes	Yes	Yes	Yes	Yes
Controls 3	Yes	Yes	Yes	Yes	Yes
Regional FE	Yes	Yes	Yes	Yes	Yes

Notes: The *primary discriminating condition* is being an individual with a pre-condition for both the allocation of COVID-19 vaccine and the extension of the layoff ban. For the extension of the eviction ban, this condition is to cohabit with minor children or children with pre-conditions, while for the priority in the allocation of non repayable funds, it is being a firm with fewer than 50 employees. Then, the outcome is computed as the average position given to each group with the primary discriminating condition. *Controls 1*, *Controls 2*, and *Controls 3* are listed in Table 3. For an explanation of the variables, see Table A1.

Table 5: Baseline results - Single groups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Employed with pre-cond.	Unemployed with pre-cond.	Men with pre-cond.	Women with pre-cond.	Over 55 with pre-cond.	Couple with kids	Single with kids	<50 empl	<50 empl. no funds
Treated	0.066* (0.034)	-0.066* (0.034)	-0.001 (0.033)	-0.096** (0.042)	-0.102*** (0.030)	0.024 (0.038)	-0.044 (0.033)	-0.127*** (0.039)	-0.154*** (0.038)
Obs	6,044	6,044	6,044	6,044	6,044	6,044	6,044	6,044	6,044
Mean	3.394	3.000	3.210	2.991	2.827	2.078	2.863	3.233	2.480
Controls 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The outcome coincides with the actual position given by respondents to each specific group. *Controls 1*, *Controls 2*, and *Controls 3* are listed in Table 3. For an explanation of the variables, see Table A1.

Table 6: Henerogeneity results

	(1)	(2)	(3)	(4)
	Vaccine	Layoff Ban	Eviction Ban	Non repayable funds
PANEL A: Political Affiliation				
Treated	-0.038*** (0.013)	-0.073** (0.032)	0.010 (0.043)	-0.123*** (0.042)
Treated*Leftist	0.042 (0.042)	0.037 (0.054)	-0.014 (0.070)	-0.097 (0.071)
Treated*Rightist	-0.031 (0.042)	-0.000 (0.064)	-0.092 (0.066)	-0.010 (0.076)
PANEL B: Level of Religiosity				
Treated	-0.072** (0.026)	-0.080** (0.034)	-0.014 (0.031)	-0.138** (0.048)
Treated*Religious	0.085 (0.057)	0.000 (0.063)	0.002 (0.050)	0.063 (0.065)
Treated*Not religious	0.055 (0.046)	0.046 (0.069)	0.000 (0.033)	-0.091 (0.098)
PANEL C: Age				
Treated	-0.042* (0.021)	-0.068** (0.029)	-0.010 (0.026)	-0.132*** (0.032)
Treated*Young	0.028 (0.056)	0.049 (0.080)	0.017 (0.087)	0.037 (0.102)
Treated*Old	0.009 (0.045)	-0.029 (0.052)	-0.018 (0.038)	-0.077 (0.091)
PANEL D: Level of Education				
Treated	-0.043** (0.018)	-0.058* (0.032)	-0.009 (0.039)	-0.142*** (0.031)
Treated*Highly educated	0.052 (0.053)	-0.084 (0.052)	0.072 (0.063)	0.015 (0.066)
Treated*Poorly educated	-0.006 (0.042)	0.000 (0.054)	-0.035 (0.062)	-0.008 (0.056)
Obs	6,044	6,044	6,044	6,044
Mean	2.683	3.009	2.471	2.856
Controls 1	Yes	Yes	Yes	Yes
Controls 2	Yes	Yes	Yes	Yes
Controls 3	Yes	Yes	Yes	Yes
Regional FE	Yes	Yes	Yes	Yes

Notes: The *primary discriminating condition* is being an individual with a pre-condition for both the allocation of COVID-19 vaccine and the extension of the layoff ban. For the extension of the eviction ban, this condition is to cohabit with minor children or children with pre-conditions, while for the priority in the allocation of non repayable funds, it is being a firm with fewer than 50 employees. Then, the outcome is computed as the average position given to each group with the primary discriminating condition. *Leftist* indicates a leftist or extreme leftist respondent, while *Right* indicates a rightist or extreme rightist respondent. *Religious* identifies respondents who self-declared as practicing religious, while *Not religious* identifies respondents who self-declared as non religious. Respondents younger than 26 are classified as *Young*, while those older than 59 as *old*. *Poorly educated* indicates respondents with a secondary school diploma or lower, while *Highly educated* indicates respondents with a university degree or higher. *Controls 1*, *Controls 2*, and *Controls 3* are listed in Table 3. For an explanation of the variables, see Table A1.

Table 7: Heterogeneity results - Single groups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Employed with pre-cond.	Unemployed with pre-cond.	Men with pre-cond.	Women with pre-cond.	Over 55 with pre-cond.	Couple with kids	Single with kids	<50 empl	<50 empl. no funds
PANEL A: Political Affiliation									
Treated	0.099*	-0.079**	-0.017	-0.088**	-0.113**	0.046	-0.025	-0.104*	-0.141***
	(0.053)	(0.033)	(0.044)	(0.039)	(0.052)	(0.055)	(0.047)	(0.057)	(0.048)
Treated*Leftist	-0.134	0.114	0.121*	0.024	-0.036	0.005	-0.034	-0.145	-0.049
	(0.099)	(0.075)	(0.066)	(0.102)	(0.080)	(0.095)	(0.066)	(0.114)	(0.119)
Treated*Rightist	-0.048	-0.037	-0.027	-0.060	0.085	-0.114*	-0.069	0.013	-0.033
	(0.099)	(0.076)	(0.085)	(0.087)	(0.093)	(0.056)	(0.108)	(0.120)	(0.086)
PANEL B: Level of Religiosity									
Treated	0.117**	-0.075	-0.013	-0.103*	-0.124**	0.035	-0.062*	-0.084	-0.192***
	(0.046)	(0.066)	(0.037)	(0.052)	(0.051)	(0.052)	(0.036)	(0.075)	(0.054)
Treated*Religious	-0.082	0.010	0.008	-0.020	0.012	-0.120	0.125	-0.027	0.153*
	(0.110)	(0.083)	(0.074)	(0.073)	(0.115)	(0.082)	(0.092)	(0.117)	(0.079)
Treated*Not religious	-0.129**	0.021	0.057	0.030	0.050	0.075*	-0.075	-0.158	-0.025
	(0.059)	(0.084)	(0.082)	(0.091)	(0.106)	(0.042)	(0.059)	(0.140)	(0.079)
PANEL C: Age									
Treated	0.092*	-0.092*	-0.008	-0.095**	-0.100**	-0.001	-0.018	-0.117**	-0.148***
	(0.047)	(0.046)	(0.045)	(0.038)	(0.036)	(0.035)	(0.037)	(0.055)	(0.043)
Treated*Young	-0.170	0.164	0.176	0.009	-0.039	0.177	-0.143	0.201	-0.127
	(0.101)	(0.089)	(0.144)	(0.106)	(0.135)	(0.109)	(0.140)	(0.161)	(0.125)
Treated*Old	-0.064	0.051	-0.051	-0.030	-0.007	0.056	-0.093	-0.149	-0.004
	(0.075)	(0.088)	(0.060)	(0.092)	(0.088)	(0.060)	(0.081)	(0.133)	(0.093)
PANEL D: Level of Education									
Treated	0.098*	-0.066	0.008	-0.114**	-0.068	0.055	-0.073	-0.138***	-0.146***
	(0.057)	(0.044)	(0.053)	(0.049)	(0.055)	(0.039)	(0.056)	(0.043)	(0.045)
Treated*Highly educated	-0.040	-0.125	-0.117	-0.081	-0.054	-0.041	0.185	0.007	0.024
	(0.117)	(0.129)	(0.124)	(0.074)	(0.087)	(0.109)	(0.110)	(0.128)	(0.109)
Treated*Poorly educated	-0.079	0.042	0.018	0.077	-0.094	-0.079	0.010	0.031	-0.046
	(0.078)	(0.076)	(0.086)	(0.064)	(0.094)	(0.059)	(0.113)	(0.103)	(0.055)
Obs	6,044	6,044	6,044	6,044	6,044	6,044	6,044	6,044	6,044
Mean	3.394	3.000	3.210	2.991	2.827	2.078	2.863	3.233	2.480
Controls 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The outcome coincides with the actual position given by respondents to each specific group. *Leftist* indicates a leftist or extreme leftist respondent, while *Rightist* indicates a rightist or extreme rightist respondent. *Religious* identifies respondents who self-declared as practicing religious, while *Not religious* identifies respondents who self-declared as non religious. Respondents younger than 26 are classified as *Young*, while those older than 59 as *old*. *Poorly educated* indicates respondents with a secondary school diploma or lower, while *Highly educated* indicates respondents with a university degree or higher. *Controls 1*, *Controls 2*, and *Controls 3* are listed in Table 3. For an explanation of the variables, see Table A1.

A Appendix

Table A1: Variables definition

Variable	Definition
School-aged Child	Dummy=1 if respondent has at least one child younger than 18 and 0 otherwise
Children	Dummy=1 if respondent has one child and 0 otherwise
Age (3 categories)	3 age categories dummies (younger than 35, 35-55, older than 55)
Female	Dummy=1 if respondent is a woman and 0 otherwise
Married	Dummy=1 if respondent is married and 0 otherwise
High School	Dummy=1 if respondent has high-school degree and 0 otherwise
College	Dummy=1 if respondent has college (and above) degree and 0 otherwise
Religious	Dummy=1 if respondent is religious
Vaccine COVID-19	Dummy=1 if respondent is vaccinated against COVID-19 or willing to vaccinate as soon as possible and 0 otherwise
Positive to COVID-19	Dummy=1 if respondent was infected by COVID-19 and 0 otherwise
Disability	Dummy=1 if respondent or any member of her family has a disability and 0 otherwise
Public sector	Dummy=1 if respondent works in the public sector and 0 otherwise
Left	Dummy=1 if respondent self classified as leftist in the political spectrum and 0 otherwise
Right	Dummy=1 if respondent self classified as rightist in the political spectrum and 0 otherwise
Healthcare worker	Dummy=1 if respondent is a healthcare worker and 0 otherwise
Fear to lose the job	Dummy=1 if respondent is afraid to lose his job after COVID-19 and 0 otherwise
Remote working	Dummy=1 if respondent has worked remotely during COVID-19 0 otherwise
Partner remote working	Dummy=1 if respondent's partner has worked remotely during COVID-19 0 otherwise
Financial distress	Dummy=1 if respondent suffered by any financial distress due to the COVID-19 pandemic and 0 otherwise
Mental distress	Continuous variable ranging from 0 (low) to 20 (high). It is the sum of self-assessed ranking on 5 mental conditions: feeling depressed, nervous, sleeping problems, feeling something unexpected could happen, have a panic attack
Financial distress (2)	Continuous variable ranging from 0 (low) to 4 (high). Individuals are ranked on their financial distress: high financial distress are those that are unemployed <i>and/or</i> lost their job during the pandemic <i>and</i> fear to lose their jobs. Individuals with low financial distress have 2 of these conditions and work in the public sector.
Social desirability	A continuous variable from 0 to 13 which is a Marlowe-Crowne, measuring the propensity of the respondent to please the interviewer
Pro-EU	A dummy equal to 1 if the individual replied that she/he believes that the European Union is very/quite important
More immigration	A dummy equal to 1 if the individual replied that they are very much fo quite in favour of more immigration

Notes: The survey was run in March 2021.

Table A2: Balance tests: By geographical areas

	Control	Treated	Difference p-value
Region==Piemonte	0.08 (0.27)	0.07 (0.26)	0.22
Region==Valle D'Aosta	0.00 (0.05)	0.00 (0.04)	0.41
Region==Lombardia	0.18 (0.38)	0.17 (0.37)	0.31
Region==Trentino Alto Adige	0.01 (0.11)	0.02 (0.13)	0.38
Region==Veneto	0.08 (0.27)	0.08 (0.27)	0.83
Region==Friuli Venezia Giulia	0.02 (0.14)	0.02 (0.15)	0.58
Region==Liguria	0.03 (0.16)	0.03 (0.16)	0.92
Region==Emilia Romagna	0.07 (0.26)	0.08 (0.27)	0.61
Region==Toscana	0.06 (0.23)	0.06 (0.24)	0.64
Region==Umbria	0.01 (0.11)	0.01 (0.11)	0.99
Region==Marche	0.03 (0.16)	0.02 (0.15)	0.64
Region==Lazio	0.10 (0.30)	0.10 (0.29)	0.41
Region==Abruzzo	0.02 (0.15)	0.02 (0.13)	0.17
Region==Molise	0.00 (0.07)	0.01 (0.08)	0.22
Region==Campania	0.09 (0.29)	0.10 (0.30)	0.14
Region==Puglia	0.07 (0.25)	0.07 (0.25)	0.94
Region==Basilicata	0.01 (0.10)	0.01 (0.10)	0.99
Region==Calabria	0.03 (0.17)	0.03 (0.17)	0.89
Region==Sicilia	0.07 (0.26)	0.08 (0.27)	0.29
North	0.48 (0.50)	0.47 (0.50)	0.48
Center	0.20 (0.40)	0.19 (0.39)	0.59
South	0.33 (0.47)	0.34 (0.47)	0.23
Observations	3,026	3,018	6,044

Notes: For an explanation of the variables, see Table A1.

Table A3: The social desirability gradient - baseline results

	(1)	(2)	(3)	(4)	(5)
	Vaccine	Layoff Ban	Eviction Ban	Non repayable funds	School funds
Treated	0.026 (0.035)	0.002 (0.046)	0.056 (0.035)	0.101*** (0.023)	0.055** (0.025)
Social desirability	0.004 (0.003)	0.002 (0.003)	0.007*** (0.002)	0.006*** (0.002)	0.007** (0.003)
Treated*Social desirability	-0.001 (0.004)	0.004 (0.004)	-0.005 (0.003)	-0.007** (0.003)	-0.007** (0.003)
Obs	6,044	6,044	6,044	6,044	6,044
Mean	2.683	3.009	2.471	2.856	2.367
Controls 1	Yes	Yes	Yes	Yes	Yes
Controls 2	Yes	Yes	Yes	Yes	Yes
Controls 3	Yes	Yes	Yes	Yes	Yes
Regional FE	Yes	Yes	Yes	Yes	Yes

Notes: The *primary discriminating condition* is being an individual with a pre-condition for both the allocation of COVID-19 vaccine and the extension of the layoff ban. For the extension of the eviction ban, this condition is to cohabit with minor children or children with pre-conditions, while for the priority in the allocation of non repayable funds, it is being a firm with fewer than 50 employees. Then, the outcome is computed as the average position given to each group with the primary discriminating condition. *Controls 1*, *Controls 2*, and *Controls 3* are listed in Table 3. Social desirability is an index which varies in a range between 0 and 13 and corresponds to a Marlowe-Crowne index as proposed by Dhar et al. (2018). For an explanation of the variables, see Table A1.

Table A4: The social desirability gradient - single groups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Employed with pre-cond.	Unemployed with pre-cond.	Men with pre-cond.	Women with pre-cond.	Over 55 with pre-cond.	Couple with kids	Single with kids	<50 empl	<50 empl. no funds
Treated	0.050* (0.027)	-0.023 (0.025)	0.026 (0.035)	0.016 (0.032)	-0.036 (0.032)	0.001 (0.029)	0.055* (0.028)	0.101*** (0.023)	0.021 (0.032)
Social desirability	0.006** (0.002) (0.041)	-0.001 (0.002) (0.022)	0.004 (0.003) (0.033)	-0.005 (0.003)	0.000 (0.004)	0.010*** (0.003)	-0.002 (0.002)	0.006*** (0.002)	-0.001 (0.003)
Treated*Social desirability	-0.007* (0.004)	0.006* (0.003)	-0.001 (0.004)	0.001 (0.004)	0.004 (0.004)	-0.003 (0.003)	-0.002 (0.003)	-0.007** (0.003)	0.002 (0.004)
Obs	6,044	6,044	6,044	6,044	6,044	6,044	6,044	6,044	6,044
Mean	3.394	3.000	3.210	2.991	2.827	2.078	2.863	3.233	2.480
Controls 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The outcome coincides with the actual position given by respondents to each specific group. *Controls 1*, *Controls 2*, and *Controls 3* are listed in Table 3. Social desirability is an index which varies in a range between 0 and 13 and corresponds to a Marlowe-Crowne index as proposed by Dhar et al. (2018). For an explanation of the variables, see Table A1.

Appendix B: Survey Design

We design a survey targeting individuals in the age range 20-70 living in Italy which was implemented through the internet panel of *Demetra*, a specialized company in data collection and market research services. The survey was administered to 6,044 respondents between March 2nd and March 26th after running a soft pilot between February 22nd and March 1st.

The survey included 54 questions and was developed in Italian. It included 6 modules: (i) an introductory screen with a consent form that did not specify the topic of study to avoid attrition due to the survey topic; (ii) questions eliciting demographics and health status; (iii) a questionnaire to elicit social desirability; (iv) questions on working status before/after the pandemics and working conditions before/after lock-downs; (v) questions on political views; (vi) experimental treatment; and (vi) decision screens to measure allocation preferences. The average completion time was 12 minutes. As quality control, every respondent who completed the survey in less than 5 minutes was dropped and replaced by *Demetra*. Similarly, we checked the consistency of responses across questions. For example, for respondents reporting a child older than 17 years old, we checked if the age they declared to have was compatible with having a child older than 17 years old. If not, respondents were dropped and replaced by *Demetra*.

The second module (“Basics”) queried participants on their basic characteristics including gender, age, citizenship, province of residence, province of birth, education, religiosity, children, self-assessed health, personal experience with COVID-19. Respondents were also asked to report whether they or one of their relatives suffered from any pre-condition.

The third module (“Social Desirability”) coincided with the Marlowe-Crowne social desirability module designed to assess the respondent’s concern for social approval ([Crowne and Marlowe, 1960](#)). Following [Dhar et al. \(2018\)](#), we rely on a 13-item validated version of this module ([Reynolds, 1982](#)). Specifically, respondents were asked to agree or disagree with they having certain almost saintly personality traits some of which are too stringent to be met by most people (e.g., “I have never been irked when people expressed ideas very different from my own”). The sum of all the positive traits a respondent reported constitutes our social desirability score, thus a high score signals a stronger social desirability bias as respondents have a higher tendency to give answers that are socially desirable.

The fourth module (“Work”) queried participants about their working status and occupation and those of their partners (if any) before and after the pandemics (i.e, before/after February 2020). Participants were also asked about their working conditions and those of their partners (if any) before and after lock-downs. Additional questions regarded their

concerns about being fired, their well-being and that of their family, whether they suffered financial problems due to the pandemic, and how often they suffered from stress, sleeping problems, panic attacks, anxiety and fear about bad events.

The fifth module (“Politics”) elicited political preferences by asking participants to self-assess their political orientation (from extreme left to extreme right), to express their political view with respect to immigration policy, the privatization of the healthcare, and the influence of the EU on national politics. Respondents were also asked about their main source of information, what party they voted for at the last political election in 2018, and how much satisfied they were with the management of the COVID-19 emergency at the regional level.

After the fifth module, participants were randomly and evenly split into a control group and a treatment group, and stratified to match the respective adult population on three dimensions (i.e., gender, age and region of residence) within both controls and treated. In brief, the experimental treatment provided information on the following 4 specific phenomena in the country: COVID-19 infections, economic crisis, poverty and unemployment. It consisted of (i) basic statistics on the spread of the given phenomenon in the country or among the Italian population and (ii) information on the most exposed population group to such a phenomenon. Differently, the control group was provided only with the same basic statistics showed to the treated.

Finally, in the sixth module (“First stage module”), participants had to express their preferences about the allocation of four scarce resource each of which is linked to the phenomenon discussed in the previous module: vaccine against COVID-19, ban on layoffs, ban on evictions, governmental non-repayable grants. Specifically, respondents were asked to rank which of the six proposed groups should be prioritized in supplying each of these scarce resources. As a falsification test, we included also a last question regarding the types of students to which in presence schooling should be guaranteed. Since the experimental treatment did not provided any information about the types of students most negatively affected by online teaching, treated and controls should not behave differently with respect to this last quest

B1 Questionnaire

Module 1 - Introduction

This is a survey for academic research purposes carried out by a group of researchers

working at various Italian universities. This study is strictly anonymous and independent from any government and other public organization. The data collected will be used only for research purposes and the study is non-partisan.

The survey consists of a questionnaire that will take about 15 minutes to complete. For this study to be reliable, it is very important that you answer with complete sincerity and that you read each question carefully before answering.

You should know the following:

1. Whether or not to participate is up to you. Participation is completely voluntary. You can choose not to participate. You can agree to participate and subsequently change your mind. Your decision will not be used against you in any way. Your refusal to participate will not result in any consequences or any loss of benefits that you are otherwise entitled to receive. You can ask as many questions as you want before making a decision.
2. If you have any questions, doubts or complaints, you can contact Professor Anna Rosso at anna.rosso@unimi.it.

All personal data collected with this survey will be treated as strictly confidential, and will not be made available to any third party. Any data analysis or reports based on this study will protect your anonymity and will be strictly confidential.

Do you agree to participate in this survey?

- No, I don't agree to participate.
- Yes, I agree to participate.

Module 2 - Basics

1. Age
2. Province of birth
3. Citizenship
4. Province of residence
5. Marital status

- single
- in a relationship
- cohabitating
- married
- divorced
- widow/widower

6. Number of children

- No children
- 1
- 2
- 3 or more

7. (For those with children) Is at least one of your children older than 17? (Yes/No)

8. Education

- primary school diploma
- middle school diploma
- vocational school diploma or equivalent
- high school diploma or equivalent
- bachelor or post-graduate diploma

9. In daily life, which of the following statements best describes you

- I am a religious practicing person
- I am a religious non-practicing person
- I can't tell if I'm religious or not
- I am not a religious person

10. In general, you would say that your health status is:

- Excellent

- Very good
 - Good
 - Not very good
 - Very bad
11. Someone in your family (including you) suffers from any pre-conditions? (Yes/No)
 12. Did you get infected from COVID-19? (Yes/No)
 13. With respect to COVID-19 vaccination you (choose one of the following):
 - you have already been vaccinated
 - you plan to get vaccinated as soon as possible
 - you do not plan to get vaccinated
 14. Has anyone among your acquaintances or relatives tested positive or died from COVID-19? (Yes/No)
 15. Are you a healthcare professional?

Module 3 - Social Desirability

16. It is sometimes hard for me to go on with my work if I am not encouraged (Agree/Disagree)
17. I sometimes feel resentful when I don't get my way (Agree/Disagree)
18. On a few occasions, I have given up doing something because I thought too little of my ability (Agree/Disagree)
19. There have been times when I felt like rebelling against people in authority even though I knew they were right (Agree/Disagree)
20. No matter who I'm talking to, I'm always a good listener (Agree/Disagree)
21. There have been occasions when I took advantage of someone (Agree/Disagree)
22. I'm always willing to admit it when I make a mistake (Agree/Disagree)
23. I sometimes try to get even rather than forgive and forget (Agree/Disagree)

24. I am always courteous, even to people who are disagreeable (Agree/Disagree)
25. I have never been irked when people expressed ideas very different from my own (Agree/Disagree)
26. There have times when I was quite jealous of the good fortune of others (Agree/Disagree)
27. I am sometimes irritated by people who ask favors of me (Agree/Disagree)
28. I have deliberately said something that hurt someone's feelings (Agree/Disagree)

Module 4 - Work

29. Your working condition before the pandemic (February 2020) was:
 - Employed with an open-ended contract
 - Employed with a fixed-term contract
 - Self-employed
 - Unemployed
 - Retired
 - Housewife
 - Receiving unemployment benefits
 - Other
30. Do / did you work mainly in the public administration or in the private sector?
 - Public administration
 - Private sector
31. Your current working condition is:
 - Employed with an open-ended contract
 - Employed with a fixed-term contract
 - Self-employed
 - Unemployed

- Retired
- Housewife
- Receiving unemployment benefits
- Other

32. (If not unemployed, retired, housewife) What is your occupation?

- Manager
- Clerk
- Worker
- Business owner
- Craftsman
- Self-employed
- Working member of a cooperative
- Family assistant
- Other

33. (If married or co-habiting) The working condition of your partner before the pandemic (February 2020) was:

- Employed with an open-ended contract
- Employed with a fixed-term contract
- Self-employed
- Unemployed
- Retired
- Housewife
- Receiving unemployment benefits
- Other

34. (If married or co-habiting) The current working condition of your partner is:

- Employed with an open-ended contract

- Employed with a fixed-term contract
 - Self-employed
 - Unemployed
 - Retired
 - Housewife
 - Receiving unemployment benefits
 - Other
35. (If working before the pandemic) How did you work during the various lock-downs?
- Mainly remote working
 - Went regularly or with modified shifts to work
 - Remote working and face-to-face work
36. (If currently working): Are you afraid of being fired due to the COVID-19 crisis?
- Yes
 - No
 - I do not know
37. (If married or co-habiting with a person currently working) How did your partner work during the various lock-downs?
- Mainly remote working
 - Went regularly or with modified shifts to work
 - Remote working and face-to-face work
38. (If married or co-habiting with a person currently working): Is your partner afraid of being fired due to the COVID-19 crisis?
- Yes
 - No
 - I do not know
39. Have you suffered from financial problems since the start of the COVID-19 crisis?

- A lot
- Quite a lot
- Moderately
- A little bit
- Not all

40. Since the beginning of the COVID-19 crisis, how often have you experienced the following statuses: (always, very often, often, almost never, never)

- Feeling depressed, hopeless
- Feeling nervous or anxious
- Having trouble sleeping or falling asleep
- Being afraid that something very bad might happen
- Having a panic attack (sudden feeling of fear or panic)

41. Since the beginning of the pandemic, have you ever been worried about: (always, very often, often, almost never, never)

- your health
- the health of relatives and friends
- (if married, co-habiting or in a relationship): your relationship with your partner
- your relationship with your family of origin
- stress at the workplace
- financial problems
- not having anyone to talk to
- (if with children): the well-being of your children

Module 4 - Politics

42. What did you vote for in the last political elections of 2018?

- Forza Italia

- Lega Nord
- Fratelli d'Italia
- UDC
- PD
- +Europa
- Civica Popolare
- Italia Europa Insieme
- M5S
- Liberi Uguali
- Other
- I didn't vote
- I prefer not to answer

43. Do you agree that immigration to your country should be minimized?

- I strongly agree
- I agree
- I am indifferent
- I disagree
- I strongly disagree

44. (If strongly agreeing or agreeing to the previous questions) Your concern for immigration is mainly based on

- Economic considerations (e.g., risk of losing your job)
- Cultural considerations
- None of the above

45. Do you agree that the European Union should play a more important role than the current one? (e.g. make more decisions, intervene more directly)

- I strongly agree
- I agree

- I am indifferent
- I disagree
- I strongly disagree

46. Do you agree with a possible increase in the privatization of public healthcare?

- I strongly agree
- I agree
- I am indifferent
- I disagree
- I strongly disagree

47. What is your main source of information?

- TV News
- Social network
- Newspapers (online and printed)
- Blog of experts (i.e. scientists, politicians, journalists)
- Friends
- Other

48. How satisfied are you with the regional government's response to the COVID-19 emergency?

- Very satisfied
- Satisfied
- Indifferent
- Unsatisfied
- Very unsatisfied

49. How would you describe your political orientation?

- Far left
- Left

- Moderate
- Right
- Extreme right

Module 5 - Experimental treatment

SCREEN 1:

Control group : “According to the Italian National Institute of Health, since the beginning of the pandemic in Italy, the average age of patients who died due to COVID-19 is 81 years, while the average age among the infected patients is 62 years. Women who died after contracting COVID-19 are on average older than men (women 86 years - men 80 years).”

Treated group: “According to the Italian National Institute of Health, since the beginning of the pandemic in Italy, the average age of patients who died due to COVID-19 is 81 years, while the average age among the infected patients is 62 years. Women who died after contracting COVID-19 are on average older than men (women 86 years - men 80 years). The age being equal, an individual with previous chronic diseases who get infected by COVID-19 has a 3 times greater chance of dying than an infected individual without chronic diseases.”

SCREEN 2:

Control group : “According to the latest estimates of the Italian Institute of Statistics, during the first phase of the health emergency (which ended on May 4, 2020), 45% of firm shut down. Over 70% of firms reported lower revenues in the 2-month period March-April 2020 compared to the same period in 2019.”

Treated group : “According to the latest estimates of the Italian Institute of Statistics, during the first phase of the health emergency (which ended on May 4, 2020), 45% of firms shut down. Over 70% of firms reported lower revenues in the 2-month period March-April 2020 compared to the same period in 2019. The greatest contraction was registered among firms with 3-9 employees, followed by firms with 10-49 employees, which mainly declared zero revenues or a reduction of more than 50%.”

SCREEN 3:

Control group : “According to the latest report on poverty in Italy, in 2019 the Italian Institute of Statistics estimates almost 1.7 million families in absolute poverty with an incidence of 6.4%.”

Treated group : “According to the latest report on poverty in Italy, in 2019 the Italian Institute of Statistics estimates almost 1.7 million families in absolute poverty with an incidence of 6.4%. Poverty is more widespread among single-parent families (8.9%) and among families with cohabiting children, especially if minors (20.2% with three or more minor children).”

SCREEN 4:

Control group : “In Italy, 15% of the unemployed are re-integrated into the labor market within 3 months after their dismissal.”

Treated group : “In Italy, 15% of the unemployed are re-integrated into the labor market within 3 months after their dismissal. This figure drops to 10% for the unemployed over 55 and women with children. Furthermore, for the same age, a person with pre-conditions is on average a 26% less likely to find a job than a person without pre-conditions.”

Module 6 - First stage module

50. In your opinion, which of the following groups of individuals should be given priority for the administration of the COVID-19 vaccine? Order from highest priority (1) to lowest priority (6).

- Employed
- Employed with pre-conditions or chronic diseases
- Unemployed
- Unemployed with pre-conditions or with chronic diseases
- Retired
- Individuals up to 25 years old

51. In your opinion, for which of the following categories of workers is it more important to extend the ban on layoffs (currently in force till March 2021)? Order from the first (1) which should be protected the most to the last (6).

- Employed men
- Employed men with pre-conditions or chronic diseases
- Employed women
- Employed women with pre-conditions or chronic diseases
- Employed older than 55
- Employees with pre-conditions disabilities or chronic diseases older than 55

52. In your opinion, for which of the following groups of individuals is it more important to extend the ban on evictions (currently in force till June 30, 2021)? Order from the first (1) which should be protected the most to the last (6).

- Couples with dependent minors or people with pre-conditions
- Couples without dependent minors or people with pre-conditions
- Singles with dependent minors or people with pre-conditions
- Singles without dependent minors or people with pre-conditions
- Retired with pre-conditions
- Retired without pre-conditions

53. In your opinion, which of the following categories of firms should be given priority for the new assignment of governmental non-repayable grants? Order from highest priority (1) to lowest priority (6).

- Firms with fewer than 50 employees
- Firms with 50 to 250 employees
- Firms with more than 250 employees
- Firms with fewer than 50 employees that did not previously get these contributions
- Firms with 50 to 250 employees that did not previously get these contributions

- Firms with more than 250 employees that did not previously get these contributions

54. In your opinion, which of the following categories of students should be guaranteed face-to-face teaching? Order from highest priority (1) to lowest priority (6).

- Elementary school students with pre-conditions
- High school students with pre-conditions
- Elementary school students of working parents
- High school students of working parents
- Primary school students of unemployed parents
- High school students of unemployed parents