Trust in scientists in times of pandemic: Panel evidence from 12 countries

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This article analyzes the specific and critical role of trust in scientists on both the support for and compliance with nonpharmaceutical interventions (NPIs) during the COVID-19 pandemic. We exploit large-scale, longitudinal, and representative surveys for 12 countries over the period from March to December 2020, and we complement the analysis with experimental data. We find that trust in scientists is the key driving force behind individual support for and compliance with NPIs and for favorable attitudes toward vaccination. The effect of trust in government is more ambiguous and tends to diminish support for and compliance with NPIs in countries where the recommendations from scientists and the government were not aligned. Trust in others also has seemingly paradoxical effects: in countries where social trust is high, the support for NPIs is low due to higher expectations that others will voluntary social distance. Our individual-level longitudinal data also allows us to evaluate the effects of within-person changes in trust over the pandemic: we show that trust levels and, in particular, trust in scientists have changed dramatically for individuals and within countries, with important subsequent effects on compliant behavior and support for NPIs. Such findings point out the challenging but critical need to maintain trust in scientists during a lasting pandemic that strains citizens and governments.

trust in scientists | COVID-19 | trust in governments | trust in others

In their fight against COVID-19, governments around the world have faced different technological constraints but also social hurdles. For more than 1 year, the COVID-19 crisis has put under strain not only trust in government but also trust in scientists and in civil society at large. This trend has had critical implications on individuals' attitudes toward policy measures and vaccination.

Indeed, the COVID-19 crisis has brought into sharp relief the importance of trust at several levels. Trust in scientists lends legibility and credibility to policy recommendations, which should lead to higher support for and compliance with the recommended nonpharmaceutical interventions (NPIs) and vaccination. But the degree to which people support more NPIs or comply with restrictions might also depend on their expectations about the behaviors of others and thus on their level of trust in others. Furthermore, trust in scientists, in government, and in others is not only likely to matter for outcomes during the pandemic, but it is also likely to have been affected and potentially undermined by the crisis, leading to further effects on behaviors and support for NPIs.

This paper explores the specific impacts of the levels and the changes in different types of trust on attitudes toward NPIs, on the willingness to be vaccinated, and on compliant behavior over time across individuals and countries during the pandemic. We consider "horizontal" trust (i.e., generalized trust or trust in others) as well as two types of "vertical" trust, namely, trust in the government and in scientists.

We exploit representative, large-scale, cross-country, and longitudinal surveys on the evolution of support for NPIs, attitudes toward vaccination, and compliant behaviors over the period from March to December 2020. These surveys took place in four waves (mid-March, mid-April, mid-June, and mid-December 2020) in 12 countries (Australia, Austria, Brazil, Canada, France, Germany, Italy, New Zealand, Poland, Sweden, the United Kingdom, and the United States), which differ in the types and stringency of the NPIs implemented as well as in their levels of trust in others, the government, and scientists. Such data are critical to rigorously study the questions at hand, allowing us to leverage across- and within-country, as well as within-individual, variations over many of the pandemic months.

We find that trust in scientists is the key driver of the support for and compliance with NPIs across and within countries. The role of trust in government is much less clear-cut, contrary to findings in the earlier literature. In countries where the governments spoke out against social distancing and restrictions, such as the United States and Brazil, trust in government has negative effects on support for or compliance with NPIs. Trust in others also has more subtle effects. Respondents who trust others more are more willing to be vaccinated, which suggests that they may also be more civically minded and further internalize the social benefits of vaccination. But individuals who trust others more also exhibit lower support for NPIs and lower compliance with restrictions. We show that this is because they are more likely to trust others to respect social distancing and not because of a lack of social- or civic-mindedness.

Our individual-level longitudinal data also allows us to evaluate the effects of within-person changes in trust over the pandemic on attitudes and compliance, thus contributing evidence to the literature. We show that trust levels, and in particular trust in scientists, have changed dramatically for individuals and within countries, with important subsequent effects on compliant behavior and support for

Significance

During the COVID-19 pandemic, support for nonpharmaceutical interventions (NPIs) and compliant behavior changed substantially over time. Using a large-scale, longitudinal, and representative survey for 12 countries from March to December 2020 (n = 54,000), combined with experimental data, we show that trust in scientists is the critical determinant of societies' resilience in their fight against the pandemic. Yet, this trust has eroded dramatically in some countries such as France. Individuals and countries for which trust in scientists has declined have experienced fading support for and compliance with NPIs. In countries where trust in government is low, the independence of scientists and scientific institutions is essential to obtain citizen's support for measures necessary to protect public health.

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The authors declare no competing interest.

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NPIs. We are also able to check for the robustness of our results with measures of the precrisis levels of trust at the individual level.

Finally, we provide experimental evidence of the causal impacts of trust in scientists and government on compliant behavior in the different countries, which confirms that trust in scientists is crucially needed for respondents to support and comply with NPIs.

Earlier work has shown the positive impact of the local precrisis level of trust in government on compliance, as measured by mobility reduction using Google mobility rates across European regions during the first lockdown (1). Experimental evidence from Germany during this period has also shown that the more the respondents distrusted government, the more they opposed enforced instead of voluntary implementation of policy measures (2). Further experimental evidence in nine countries (using vignettes with hypothetical "stay-at-home" orders) suggests that a high level of trust in science generates a much larger increase in compliance than trust in government (3). Recent papers have found the level of local civic mindedness—as measured by levels of political participation across US counties (4) or blood donations, newspaper readership, and trust in others in Italian provinces (5)—to be positively associated with a reduction in the Google index of mobility rates. Previous evidence has shown that past epidemics deeply influenced trust in government and scientists (6, 7). Research related directly to the COVID-19 pandemic has focused so far on the evolution of trust in scientists in the United States (8) in the aftermath of the crisis and found little variation. We provide evidence on how the different types of trust have evolved in the longer run during the different phases of the pandemic in a large sample of countries and on how these changes are associated with variation in the support for NPIs and compliant behavior over time. Leveraging this longer-run and large-scale longitudinal data, we can show more precisely that trust in scientists is the critical driver of the support for and compliance with health policy measures, while trust in the government and trust in others have much more complicated effects. We also provide explanations for these patterns.

The first two waves of our panel (March and April for eight countries) have already been used to document the existence of a gender gap in attitudes during the pandemic. Women tend to perceive COVID-19 as a more serious health problem and are more compliant with NPIs (9). However, in 10 countries from our sample in Wave 4 (December 2020), women are less willing than men to be vaccinated and to make vaccination compulsory due to more contested beliefs on the origins of the pandemic (10). For France only, among the 12 countries in our sample, the first and the third waves were used to examine how trust in governments is affected by the perceived threats to the country's public health and economy (11). Finally, in a methodological paper, a list experiment in the third wave of the panel has been used to study how reliable the self-reported answers about compliant behavior are (12).

Our paper contributes to the existing literature using this database by exploring the distinct impacts of horizontal (generalized trust) and vertical (trust in the government and in scientists) trust on attitudes toward NPIs, the willingness to be vaccinated, and compliant behavior across individuals, countries, and over time during the pandemic. Our methodology leverages longitudinal data and allows us to estimate the within-person effect of changes in trust on variation in support for NPIs and compliant behavior. Finally, we also exploit experimental data in the fourth wave (December 2020) to distinguish the causal impact of trust in scientists and in government on compliant behavior.

Results

Surveys. We administrated large-scale international surveys in four waves over the period from March to December 2020 (Wave 1 = March 6 to 30, Wave 2 = April 15 to 20, Wave 3 = June 20 to July 1, Wave 4 = December 15 to 30). The survey included 12 countries: Australia (n = 4,000), Austria (n = 4,000), Brazil (n = 3,000), Canada (n = 2,000), France (n = 7,500), Germany (n = 7,500), Italy (n = 4,000), New Zealand (n = 4,000), Poland (n = 3,000), Sweden (n = 3,000), the United Kingdom (n = 4,000), and the United States (n = 8,000) in sum (n = 54,000 in the pooled data).

The surveys asked specific questions about trust levels, support for NPIs, and compliance with them. All variables are defined in the text and in more detail in *SI Appendix*, *Survey questions*.

Our survey asked about three specific types of trust, namely, trust in scientists, trust in the government, and trust in others. We define "trust in the government" to be an indicator variable equal to 1 if the respondent trusts the government somewhat or completely and 0 otherwise and call "high-trust respondents" those that have trust indicators equal to 1. Trust in scientists and others are similarly defined indicator variables.

There are large variations in the levels of trust across countries and over time (*SI Appendix*, Fig. S1 *A–C* and Table S2). Trust in scientists (mean = 84%) is much higher on average than trust in government (mean = 49%) in all countries. Trust in scientists is the highest in New Zealand, Austria, Canada, and the United Kingdom, followed by Australia, and the lowest in France, Brazil, Poland, and, to a lesser extent, the United States and Italy. In France, trust in scientists decreased from 87% in March 2020 to 70% in December 2020. Trust in scientists also decreased in Italy and the United States but to a lesser extent. The ranking of countries by trust in government and trust in others is similar, with the highest levels in New Zealand, Austria, and Sweden (where, on average, 64% of respondents trust the government and 54% trust others, as compared to 45% and 39%, respectively, on average in the other countries in our sample) and the lowest levels in Poland, Brazil, Italy, and France (where only 33% of respondents trust the government and 29% trust others). However, even though the ranking of countries is similar for trust in others and in government, the correlation between the different types of trust is very low. The pairwise correlation at the individual level between trust in scientists and the government ranges from 0.11 to 0.41 and is particularly low in Brazil and the United States (*SI Appendix*, Table S3).

In all survey waves, respondents were asked the extent to which they agreed with several NPIs implemented in their country or other countries using the following question: "Here is a list of measures that have been taken in some countries against the spread of the coronavirus (Covid19). Do you agree with them?" The list of measures we consider includes closing schools, closing nonessential businesses, implementing a curfew, a general lockdown prohibiting people from leaving home, imposing a quarantine on people entering the country, and mandating the use of face masks in public places. We construct a "support for NPIs" index by averaging the answers over all questions and normalizing them to a variable ranging from 0 to 1. The list of items differs slightly across waves, as some measures were added or dropped depending on their relevance given the evolution of the pandemic (*SI Appendix*, *Survey questions*).

The fourth wave of the survey in December 2020 also queried individuals about their willingness to be vaccinated with the following question: "When a vaccine will be available, would you agree to be vaccinated?" The answers are ordered on an 11-point scale ranging from 0 ("not at all") to 10 ("extremely likely"). We define the "willingness to be vaccinated" indicator to be equal to 1 if the answer is equal or above 7 and 0 otherwise.

Our cross-country survey also provided information on compliant behaviors with seven COVID-19–related health and social distancing rules. All respondents were asked the following question: "Due to the coronavirus epidemic, in your daily life, would you say that…?", with examples of behaviors such as "You keep a distance of three to six feet between yourself and other people outside your home"; "You have reduced your trips outside"; "You avoid busy places (public transportation, restaurants, sports…)". The answers are ordered on an 11-point scale ranging from 0 ("not at all")

to 10 ("all the time"). We construct a compliance index by taking the average answer for all questions that were asked in all waves and normalizing it to a variable ranging from 0 to 1.

Finally, the international survey queried individuals about a variety of topics related to health and their sociodemographic backgrounds. Some individual characteristics are likely to be related to support for and compliance with NPIs, such as gender (9), political polarization (13), and risk aversion. Respondents are also directly asked about their objective health conditions (such as cardiovascular diseases or diabetes) and whether they have kept working outside the home, live with more than two people, have had coronavirus symptoms, or have been exposed to someone with COVID-19.

While we are interested in the evolution of trust levels in the main part of the analysis, we also check the robustness of our results using an alternative measure of trust that is exogenous to the pandemic, namely, precrisis levels of trust in government and in others before the outbreak of the pandemic from the French Electoral Survey panel (n = 10,000) that started in 2015. We investigate how they relate to compliant behavior, support for NPIs related to the closure of nonessential activities, and measures on people's beliefs about the respect of social distancing by others (measured by the responses to the following question: "Do you trust others to respect social distancing?") (*SI Appendix*, *Survey questions*).

Statistical Analysis. We begin by creating a pooled sample consisting of the respondents from the surveys administered across four waves in the 12 countries mentioned above. The estimates we report in this section are based on this pooled sample that we call "Sample A."

To estimate the effect of individual trust on attitudes and behaviors within countries for the overall sample, we regress our indices for support for NPIs and compliance for each individual on their trust in government, others, and scientists. We also include individual controls and country and wave fixed effects. We will refer to this as "Specification A" (see *Materials and Methods*). To obtain a coefficient for each country, we run the same equation for the subsample of each country with the same set of controls (but excluding country fixed effects).

To evaluate the impact of changes in the different types of trust, we focus on the subsample of individuals present in all waves, "Sample B" hereafter, and regress the change in their support for NPIs and compliant behavior on the change in their level of trust. We can thus include individual fixed effects, absorbing all individual-level heterogeneity, to measure the within-person effect of change in trust on change in support for NPIs and in the compliance index. We will refer to this as "Specification B" (see *Materials and Methods*).

Trust Levels, Support for NPIs, and Willingness to be Vaccinated. Fig. 1 *A–C* reports the coefficients associated with trust in scientists, the government, and in others from the regression of the outcome variable "Support for NPIs" using Specification A (see *SI Appendix*, Fig. S2 for the full set of controls).

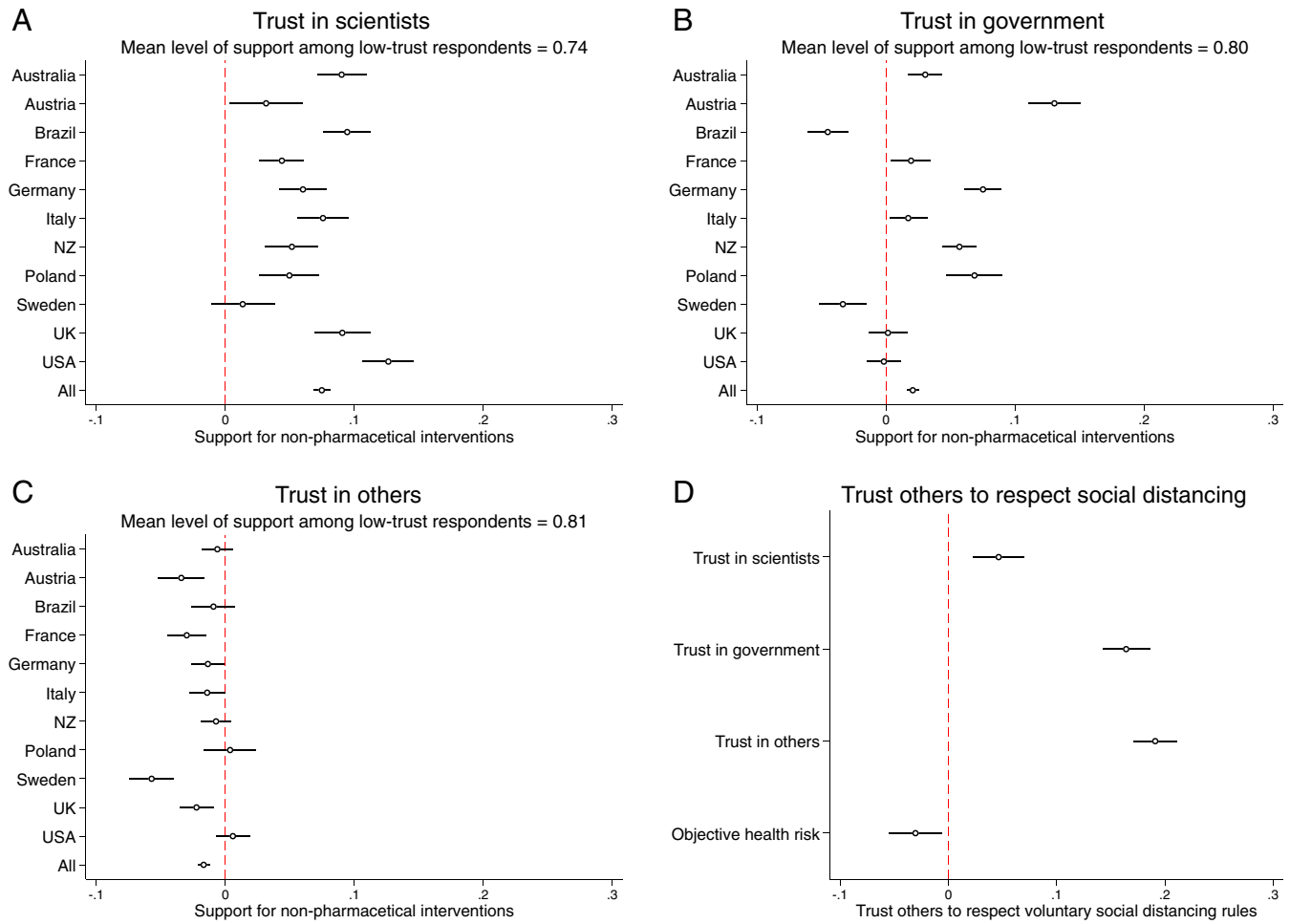

Fig. 1. Individual trust levels and support for NPIs. *A–C* show the regression coefficients of trust on support for NPIs from Specification A within each country and across all countries (all). *D* shows the regression coefficients of trust and health risk on trusting others to respect voluntary social distancing rules from Specification A using the French panel survey.

Individual trust in scientists (Fig. 1*A*) is associated with significantly higher support for NPIs. The NPI support index is 0.07 higher for high-trust respondents, relative to a mean level of the NPI support index among low-trust-in-scientists respondents of 0.74. Trust in government is also positively associated with the support for NPIs but has a much more modest effect of 0.02 on the NPI support index (mean level of support among low-trust-in-government respondents = 0.80) increase ($P < 0.01$) on the general index (Fig. 1*B*). For each policy, the coefficients associated with trust in government are much lower and less significant than individual trust in scientists.

The comparison of the coefficients estimated country-by-country also reveals important cross-country differences. The effect of trust in scientists on the support for NPIs is positive and significant in all countries, especially in the United States (increases the mean level of support among low-trust respondents—0.7—by 0.13). In contrast, trust in the government has an insignificant or even a negative role in some countries. This is particularly the case in the United States and, to a lesser extent, in Brazil, where the Trump and Bolsonaro governments stood against a lockdown and mandatory social distancing recommended by scientists. Trust in scientists and the government display the lowest correlation in these two countries (0.11 in Brazil and 0.19 in the United States).

In Fig. 1*C*, we observe that, in sharp contrast with trust in scientists or the government, trust in others is associated with a 0.02 drop (mean level of support among low-trust respondents = 0.81) in the support for policies imposing social distancing. This negative relationship holds and is statistically significant for most countries, especially in Sweden.

To understand the mechanism at work, we exploit the French panel survey. Fig. 1*D* shows that high-trust individuals are 0.19 (mean level of trusting other to respect social distancing among low-trust respondents = 0.34) more likely to think that others will respect social distancing; they thus favor voluntary distancing against stringent NPIs. This could explain the observed less-stringent NPIs implemented in very high-trusting countries like Sweden. This is also consistent with previous findings showing a higher demand for regulation in low-trusting countries (14).

Using the French panel survey with precrisis levels of trust, we find the same pattern. A lower precrisis level of trust in others is associated with lower support for the closing of business and nonessential activities, while the precrisis level of trust in the government is associated with positive support (*SI Appendix*, Fig. S3*A*).

SI Appendix, Table S2 documents that both the individual support for NPIs and the individual trust in scientists have decreased over the period. Estimates with Specification B including individual fixed effects show that a within-person variation in trust in scientists is associated with a 0.07 (mean level of support among low-trust respondents = 0.74) variation in the same direction in the support for NPIs. The effect is statistically significant at the 1% level ($P < 0.01$). A within-person variation in trust in the government is also associated with a 0.01 (mean level of support among low-trust respondents = 0.81) variation in the same direction in the support

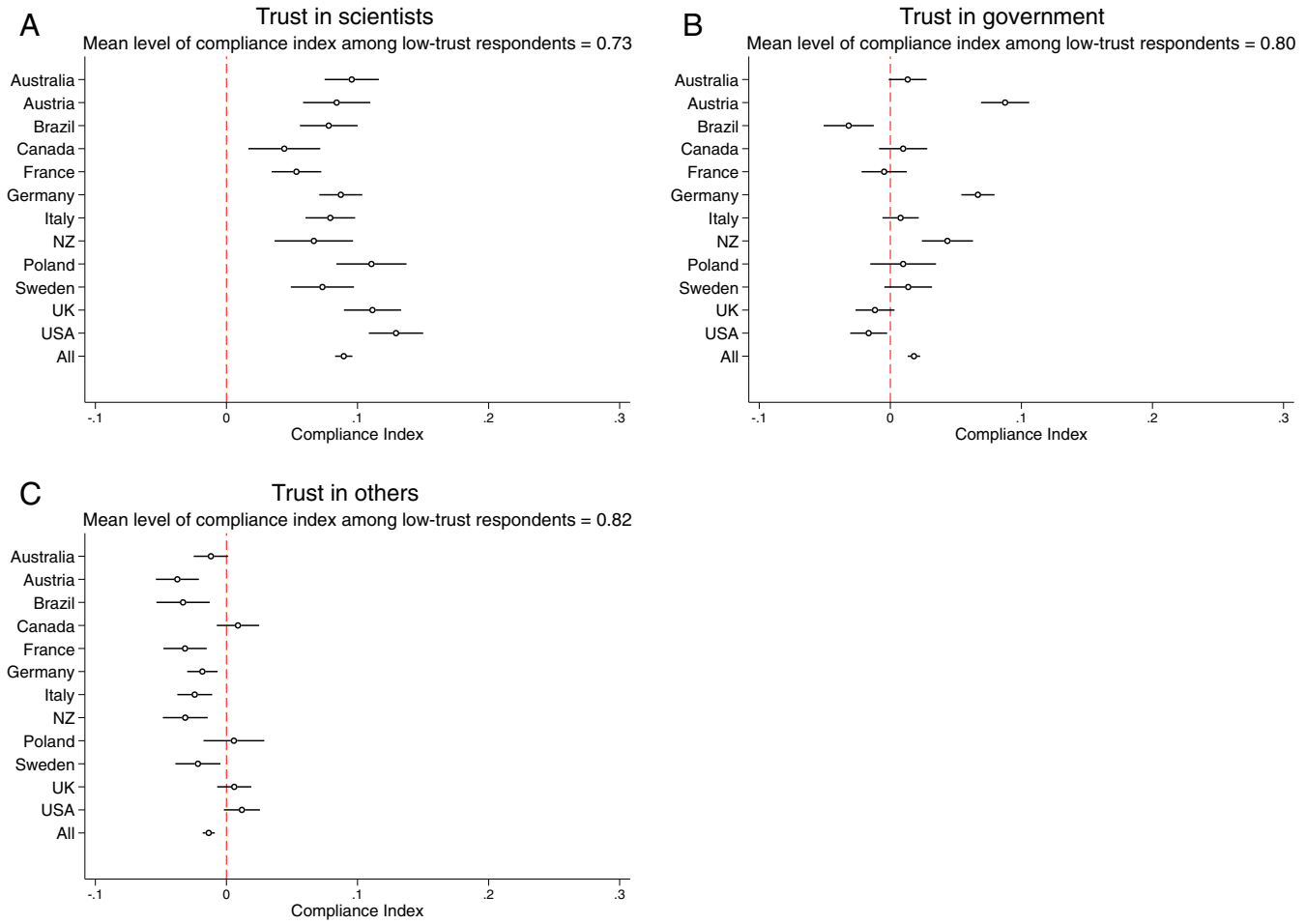

Fig. 2. Trust and compliance with restrictions. *A–C* show the regression coefficients of trust on compliance from Specification A within each country and across all countries (all).

for NPIs, while the effect of the variation in trust in others is not statistically significant (*SI Appendix*, Fig. S4*A*).

The willingness to be vaccinated follows the same pattern. *SI Appendix*, Fig. S5 *A–C* shows that when individuals trust scientists, their willingness to be vaccinated increases on average by 0.23 (mean level of the willingness to be vaccinated among low-trust respondents = 0.28). Trust in government is associated with a smaller increase in the willingness to be vaccinated (0.10 on average; mean level of willingness to be vaccinated among low-trust respondents = 0.47), except in Germany. Once again, trust in government has a negative and insignificant effect in countries like the United States, the United Kingdom, and Brazil. Interestingly, trust in others is associated with a higher willingness to be vaccinated. This result suggests that those who trust others may also be more civically minded and care more about the positive externality of vaccination. The aforementioned finding that individual trust is associated with lower support for NPIs is thus much more related to beliefs about the ability of others to respect social distancing than with a lack of social-mindedness or good citizenship behavior.

Trust Levels and Compliant Behaviors. Fig. 2 displays the coefficients of trust in scientists, trust in government, and trust in others from Specification A, in which the outcome is the compliance index. Trust in scientists is by far the main determinant of compliant behavior. In Specification A, when individuals trust scientists, the compliance index goes up by 0.09 (mean level of compliance index among low-trust respondents = 0.73) ($P <$ 0.01) (Fig. 2*A*). Trust in government has a more moderate effect of 0.02 increase in compliance (mean level of compliance index among low-trust respondents = 0.80, Fig. 2*B*). Trust in others has a more much ambiguous role and tends to be negatively associated with compliant behavior (Fig. 2*C*). Individuals who trust others have a 0.01 (mean level of compliance index among low-trust respondents = 0.82) lower compliance index, consistent with their beliefs about the ability of others to respect social distancing.

The comparison of the estimates across countries provides, once again, evidence on the disparate roles of trust in government versus scientists. In all countries, compliance significantly increases with trust in scientists, with the effects ranging from a 0.04 or 0.05 increase in Canada or France (mean level of compliance index among low-trust respondents = 0.82 in Canada and 0.81 in France) to a 0.13 increase in the US (mean level of compliance index among low-trust respondents = 0.67). On the contrary, the effects of trust in government are less clear-cut. While it is associated with a significant increase in compliance in New Zealand, Germany, and Austria, it is related to lower compliance in the United States and Brazil, where the Trump and Bolsonaro governments spoke out against social distancing and restrictions. Trust in government also has a small effect in countries where the government did not explicitly call for strict restrictive policies (e.g., Sweden) and a negative effect in countries with a much lower average level of trust (e.g., France).

Fig. 3 documents the evolution of the compliance index at the individual level (raw data) by differentiating individuals whose trust level is above or below the national average level of trust within each country. Overall, the compliance index has decreased over the period, especially between the waves of April and June 2020, which is consistent with the decline in case rates in most of the countries over this period. The main explanatory factor for compliant behavior across individuals and over time is still the level of trust in scientists, with, on average, a 0.09 (mean level of compliance index among low-trust respondents = 0.73) gap between individuals who trust scientists or not.

Specification B with individual fixed effects confirms this result. We find that when trust in scientists declines for a given individual over time, their compliance index decreases by 0.04 (mean level of compliance index among low-trust respondents = 0.76) ($P < 0.01$; *SI Appendix*, Fig. S4*B*). As *SI Appendix*, Table S2 shows, both trust in scientists and compliant behavior have decreased on balance over the period.

We also show that our results are robust for controlling for the prepandemic level of trust in the government and trust in others on compliant behavior using the French panel survey (*SI Appendix*, Fig. S3*B*). The precrisis level of trust in others (in government) is associated with a 0.03 percentage-point decrease (increase) (mean level of compliance index among low-trust respondents = 0.88 for precrisis trust in others and 0.85 for precrisis trust in government) in the compliance index.

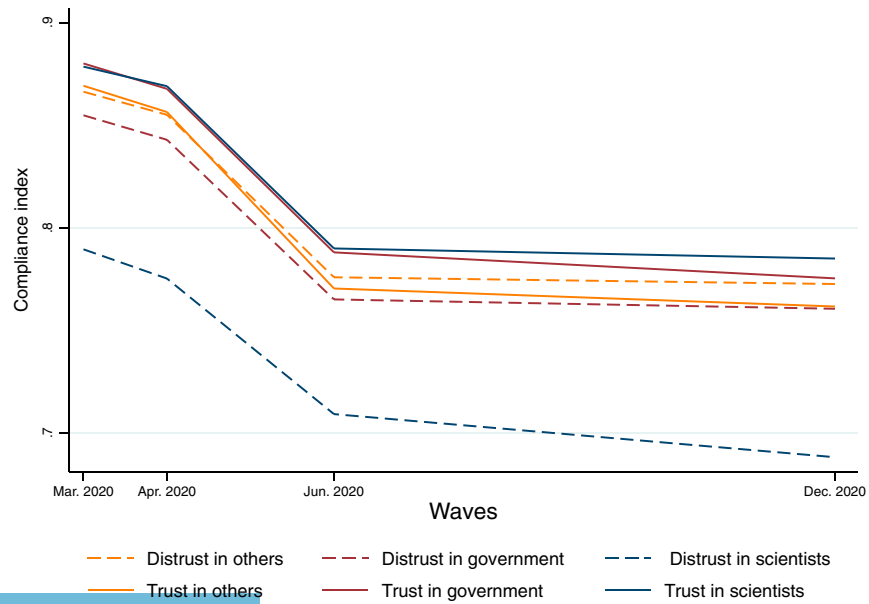

Fig. 3. Evolution of individual compliant behavior as a function of trust.

Experimental Data on the Specific Impact of Trust in Scientists. To further investigate the causal impacts of trust in scientists and government on compliance, we ran an online experiment in the mid-December wave (Wave 4). Respondents were asked about their willingness to wear a mask at home if this measure were to be recommended to fight the COVID-19. The formulation of the question was randomly assigned and represents our treatment. Treatment 1 tests the effect of a government recommendation and asked the following question: "If the Prime minister / President recommended it, would you agree to wear a mask at home to fight the coronavirus epidemic?" Treatment 2 instead tests the effects of a recommendation from an international scientific organization, with the question "If the World Health Organization recommended it, would you agree to wear a mask at home to fight the coronavirus epidemic?" The last treatment frames the question as a recommendation from individual scientists: "If Nobel Laureates in medicine recommended it, would you agree to wear a mask at home to fight the coronavirus epidemic?"

Fig. 4 shows the proportion of individuals who report they would be willing to wear a mask at home if a Nobel laureate in medicine or the World Health Organization (WHO) recommended it. The effect is measured relative to the group that received the government recommendation formulation. In almost all countries, a recommendation from scientists (individual or institutional [i.e., a Nobel laureate or the WHO]) makes people more willing to wear a mask. The treatment effect is 10 percentage points relative to a mean support of 19.8% in the group that saw the government treatment. France and, to a lesser extent, Germany are exceptions, in which recommendations from scientists do not generate more support than recommendations from the government.

Discussion

Policy Implications. We end by discussing the implication of our individual-level estimates and experiment for the observed macro-level cross-country differences in the support for NPIs and vaccinations and its evolution over time.

Across countries, the share of citizens who trust scientists is strongly correlated with the share of citizens who support NPIs or are willing to be vaccinated. Fig. 5*A* shows stark cross-country differences in people's willingness to be vaccinated in December 2020—ranging from ∼70% in the United Kingdom, Australia and Brazil, to around 60% in the United States, Sweden, and New Zealand and to only 36% in France and Poland—and a strong correlation with the share who trusts scientists. On the contrary, trust in the government and trust in others are only weakly correlated with willingness to be vaccinated across countries (*SI Appendix*, Fig. S6*A*). For instance, in Brazil, the United Kingdom, or the United States, there is high support for vaccines but also low levels of trust in government. Thus, in line with what we found at the individual level, trust in scientists is the key driver of the acceptance of restrictions or vaccinations rather than trust in others or in the government.

Similar to what we have shown for the individual level, the evolution of trust in scientists is also a critical factor shaping the

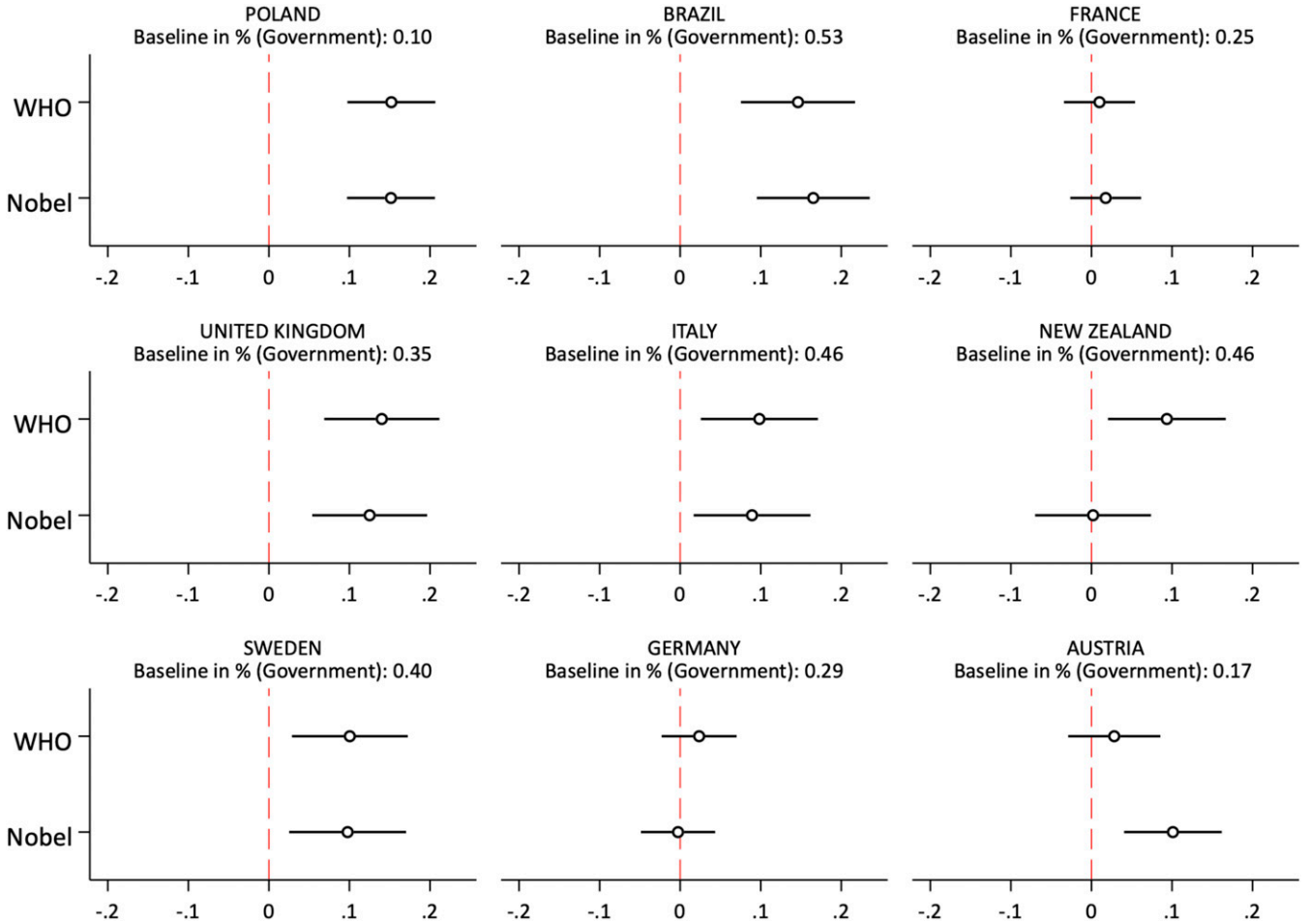

Fig. 4. Experimental evidence on compliance with recommendations. Willingness to wear a mask at home when the recommendation comes from the government (prime minister or president) or from scientists (individual scientists–Nobel laureates in medicine–or a scientific institution—the WHO).

evolution of support for NPIs across different countries. Fig. 5*B* shows that support for NPIs has declined significantly in countries where trust in scientists has also decreased over the year (i.e., France, Italy, Brazil, and, to a lesser extent, the United States). There is no such strong pattern when it comes to trust in the government or in others (*SI Appendix*, Fig. S6*B*). In other words, while there was strong initial support for NPIs in many countries to stop the pandemic spread, the level of trust in scientists is a critical determinant of such support over longer periods of time and of the resilience of citizens dealing with potentially coercive policies to fight the pandemic.

Our dataset also shows that a critical component of the evolution of trust in scientists lies in their perceived level of independence. Typically, in Brazil, Italy, France, or Poland, where trust in scientists has decreased, a substantial and increasing share of citizens think that scientists are likely to hide information (*SI Appendix*, Fig. S7). This pattern, which was already flagged during the Ebola pandemic (15), emerges precisely in countries where the initial level of trust in government at the time of the outbreak was very low, suggesting that initial distrust toward the government may have fueled growing distrust toward scientists during the course of the crisis. It is therefore crucial to guarantee confidence in scientists by preserving their independence, especially in countries with low trust in government.

This is akin to the issue of central bank independence in the economic literature. In a low-trust environment, the independence of monetary institutions is a critical tool against inflation. Similarly, in countries where trust in government is low, independence not just of scientists but also of scientific institutions is essential to obtain the support of public opinion needed to reach public health goals. In line with our results, communication of scientific facts by independent scientists could help reassure public decision makers that their fellow citizens will be more willing to endorse policy recommendations, even the harshest ones, if they trust in science (16).

Materials and Methods

Specification A. To estimate the effect of individual trust on attitudes and behaviors *within* countries, we regress the indices for support for NPIs and compliance for each individual on their trust in government, others, and scientists, with the following specification:

$$y_i = \alpha + \beta_1 \text{Trust in Scientists}_i + \beta_2 \text{ Trust in Government}_i + \beta_3 \text{Trust in Others}_i + \theta X_i + FE_c + FE_w + \epsilon_i,$$

where

- y_i corresponds to the outcome variable for individual i, which is either support for NPIs, compliance index, or willingness to be vaccinated
- β_1, β_2 *and* β_3 are the coefficients of interest for each trust category
- θ are the coefficients of interest associated with the variables X_i we control for (risk aversion in health matters, objective health, political ideology, age, gender, education, income, and employment situation)
- FE_c are country fixed effects (only when all countries are included in the regression)
- FE_w are wave fixed effects
- ϵ_i is the error term.

Specification A is run on the pooled sample of respondents across the four waves in the twelve countries, mentioned as Sample A.

Specification B. To measure the within-person effect of change in trust on change in support for NPIs and in the compliance index, we run the following regression with individual fixed effects:

$$y_{i,w} = \alpha + \beta_1 \text{Trust in Scientists}_{i,w} + \beta_2 \text{ Trust in Government}_{i,w} + \beta_3 \text{Trust in Others}_{i,w} + FE_i + FE_w + \epsilon_{i,w},$$

where

- $y_{i,w}$ corresponds to the outcome variable for individual i and wave w, which is either support for NPIs or compliance index
- β_1, β_2 *and* β_3 are the coefficients of interest for each trust category
- FE_i are individual fixed effects
- FE_w are wave fixed effects
- $\epsilon_{i,w}$ is the error term.

Specification B is run on the subsample of individuals present in all waves, mentioned as Sample B in the main text.

This paper was part of "REPEAT: Attitude on Covid related measures" (Protocol SA000085); the Research Ethics Committee of Bocconi and Sciences Po University approved this study. Respondents were informed by the survey companies (IPSOS and CSA) at the beginning of the questionnaire about the

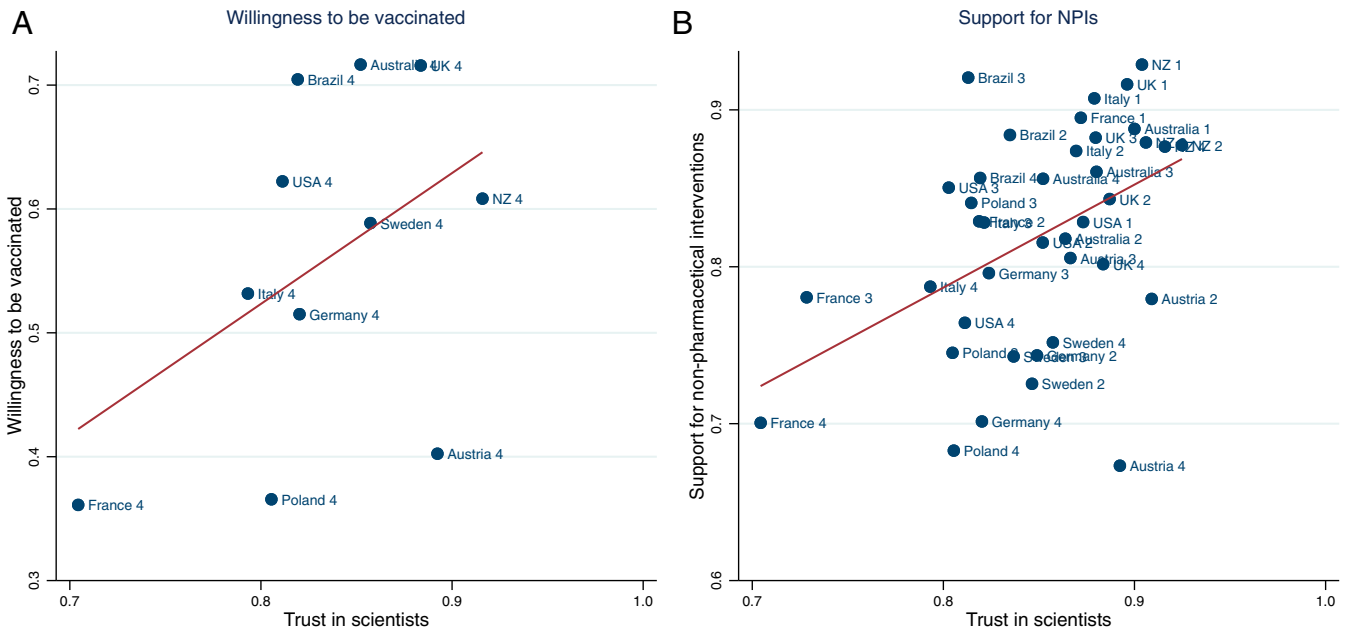

Fig. 5. Cross-country comparison of willingness to be vaccinated and support for NPIs. The number associated with the country label corresponds to the wave number.

general scope of the survey: collecting information on perceptions and attitudes on COVID-19 and related public policies. Each respondent provided explicit consent to the survey companies (IPSOS and CSA) in every country and in each wave of our survey.

The data generated by the project is available in open access on the Sciences Po Dataverse. We have uploaded subdatasets for each wave in each country of the study in TAB format. The country*wave subdatasets have been cleaned to standardized variable names across country and wave datasets. We have also included detailed codebooks for each subdataset, which describes all the variables included in each subdataset (variable labels, answer categories, answer labels, and country specific variables) in XLSX format. All this material is available at the following link: https://figshare.com/articles/dataset/CAUCP_4Waves_dta/14743575.

Data Availability. Data have been deposited in the Sciences Po Dataverse at the following link: https://figshare.com/articles/dataset/CAUCP_4Waves_dta/14743575.

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