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Trust in the time of corona

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WIDER Working Paper 2020/82

Trust in the time of corona

Tilman Brück,¹ Neil T. N. Ferguson,¹ Patricia Justino,² and
Wolfgang Stojetz¹

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Abstract: The global spread of COVID-19 is one of the largest threats to people and governments since the Second World War. The on-going pandemic and its countermeasures have led to varying physical, psychological, and emotional experiences, shaping not just public health and the economy but also societies. We focus on one pillar of society—trust—and explore how trust correlates with the individual experiences of the pandemic. The analysis is based on a new global survey—‘Life with Corona’—and uses simple correlational statistics. We show that those who have had contact with sick people and those that are unemployed exhibit lower trust in people, institutions, and in general. By contrast, no such differences exist for those who have personally experienced symptoms of the disease. These associations vary across contexts and are not driven by concerns about personal health or the health of loved ones, but rather by increased levels of worry and stress. Our findings suggest that the effects of the pandemic go well beyond immediate health concerns, leading to important normative changes that are likely to shape how societies will emerge from the pandemic.

Key words: COVID-19, coronavirus, pandemic, survey data, trust, well-being

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1 Introduction: trust in the time of corona

Trust plays a critically important role in how societies organize themselves and how people interact personally and economically. Trust has also been shown to substantially shape human development, economic growth and political institutions (Rodrik 1999; Dearmon and Grier 2009; Algan and Cahuc 2010; Bjørnskov and Méon 2013). It is thus critically important to understand how the pandemic might affect the extent to which people trust each other and trust those charged with ruling and governing. Should the pandemic erode trust, considerable risks and threats could arise, from ineffective health policies to societal instability and political violence (Cassar et al. 2013; de Juan and Pierskella 2016) - as we are starting to observe in some countries. Interpersonal trust and institutional trust are particularly important when the social contract is weak, as in many developing, fragile, or fractious countries around the world, irrespective of their level of per capita income.

The implications of the pandemic for trust are not immediately clear. On one hand, the world has seen instances of people coming together to support each other; and approval rates of several world leaders have risen considerably. On the other, people defy social distancing rules and protest against state intervention and lockdowns. One reason for these disparate effects is that the pandemic and its countermeasures are not only a public health crisis; it is also a global economic shock, a shifter of policy and politics, and a bringer of ubiquitous insecurity and uncertainty. These interlinked crises do not post a uniform challenge. Individual endowments, private and collective attitudes and the wider context in which a person faces the crisis are all salient concerns. In turn, the impact of the crisis on trust is not, *a priori*, obvious at either individual or aggregate levels.

In this paper, we present the first empirical evidence of the effects of the COVID-19 pandemic on trust across the world, using unique information on how people are experiencing the pandemic and its consequences to several dimensions of trust: (i) interpersonal trust, comprised of trust in family members and trust in neighbours; (ii) trust in institutions, comprised of trust in police, courts, local government and national government; and (iii) generalized trust (an amalgamation of interpersonal trust and trust in institutions). We also explore the mediating role of various forms of individuals' worries, stress, and subjective well-being in shaping the relationship between pandemic experiences and trust.

2 Literature review

A broad literature on previous public health crises, such as the West African Ebola epidemic, has focused largely on the impact of trust levels on the spread of crises (Blair et al. 2017; Vinck et al. 2019), but some evidence shows that health shocks can also negatively affect levels of trust, particularly in the healthcare sector (Elston et al. 2016). A body of literature across disciplines suggests that trust also responds to a wide range of macro-economic and macro-political shocks (McCoy et al. 2019; Margalit 2019). While levels of trust sometimes decrease in the aftermath of crises (Algan et al. 2018; Dustmann et al. 2017), this is by no means a universal response. For example, it has been found that violent conflict—typically a compound of multiple shocks (Verwimp et al. 2009)—can lead to increases in trust and cooperative behavior (Bauer et al. 2016; Voors et al. 2012).

The net effect of shocks on trust largely depends on a range of psychological factors that shape individual and group responses. Two important factors are worry and stress. For example, worry about the avian influenza A/H5N1 was positively associated with trust in formal and informal

information (Liao et al. 2011). At the same time, worries about the possibility of job loss in the wake of terror events have been found to reduce trust in employers (Ashford et al. 1989). Similarly, acute stress might both enhance and reduce the propensity to trust, depending on an individual's unique pattern of physiological reactivity (Potts et al. 2019). It has also been shown that economic hardship can impact trust via psychological channels, such as in the form of economic insecurity and risk exposure (Kevins 2019; Guiso et al. 2020), in line with recent research into the 'psychology of poverty' (Haushofer and Fehr 2014).

Based on this brief review of the literature, we postulate that the Coronavirus pandemic will affect trust depending on how people experience the pandemic and its countermeasures, and on their personal characteristics. This effect is in turn mediated by multiple psycho-social pathways and the context.

3 The Life with Corona survey and empirical strategy

The Life with Corona survey is a global online survey launched on 23 March 2020 by the authors and a network of collaborators. The questionnaire covers three broad research areas—livelihoods and well-being; norms, trust and politics; and public health and pandemic exposure—as well as basic socioeconomic information on respondents. The survey was initially launched in German and English, and has now been translated into 21 additional languages. Using online snowball sampling, people from around the world participated in the survey by visiting the survey platform and completing the questionnaire.¹ Between 23 March and 18 May 2020, 10,750 individuals submitted valid responses. For this paper, we analyse data from just under 8,000 individuals² from nine countries in which at least 150 people participated in the survey: Argentina, Australia, Finland, Germany, India, Portugal, Spain, United Kingdom, and United States. We use the joint gender and age distributions of the country-level populations to weight the data using population weights and correct for deviations of the country-level sample distributions.

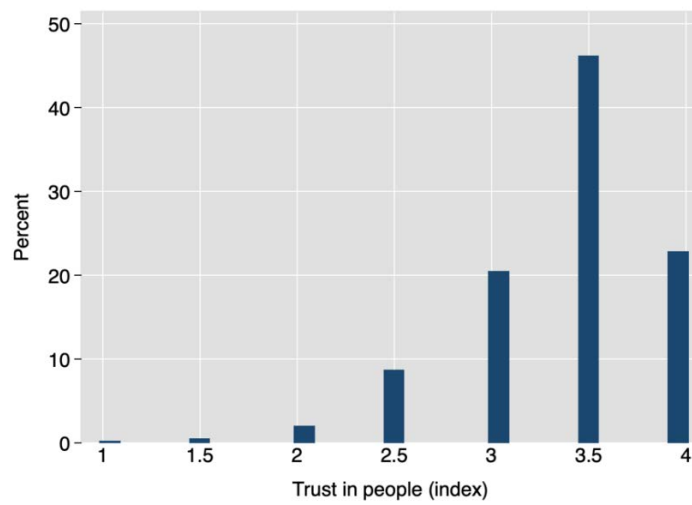
We constructed three measures of trust as our dependent variables. The first consists of questions that ask people to rank on a scale of 1–4 (where 1 is very low and 4 very high) how much they trust their family and how much they trust their neighbours. We call this the 'interpersonal trust' indicator. As we have no priors which suggest one of these two sub-indicators is more important than the other, we created an unweighted index, which is effectively a simple mean of the two reports. Second, we generate a 'trust in institutions' index, which is a similarly unweighted index of four sub-indicators collected on the same scale: trust in police, trust in courts, trust in local government and trust in national government. Third, we generate a 'generalized trust' index, which is an unweighted index of the other two indices, normalized to balance the number of sub-indicators in each. Figure 1 presents the distributions of the three indicators.

¹ See www.lifewithcorona.org.

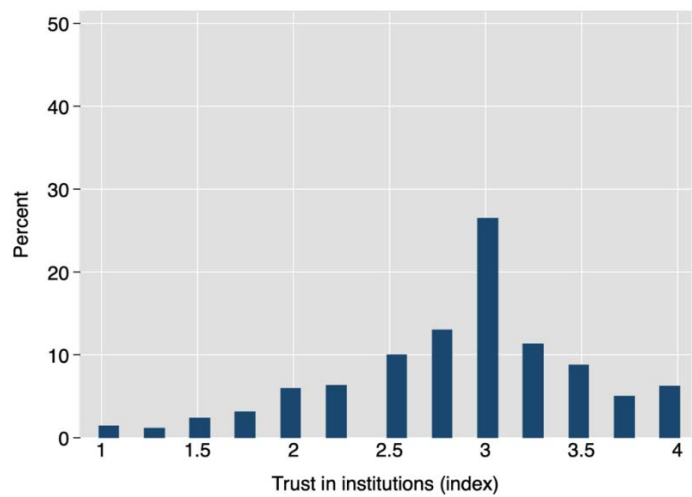
² This comprises the group of individuals who were asked, and chose to answer, the questions on trust.

Figure 1: Indices of trust

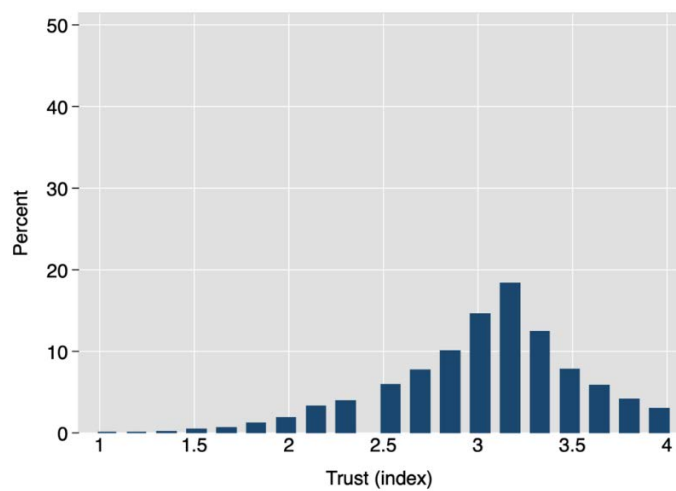
(a) interpersonal trust



(b) trust in institutions



(c) generalized trust



Source: see text.

The main independent variable is a measure of experience of the pandemic. We disaggregate this into three distinct pandemic experiences: (i) direct exposure to illness, proxied by data collected on whether or not a person has exhibited symptoms of the disease in the last 14 days; (ii) indirect exposure to illness, proxied by having been in contact with someone the respondent believed to have been ill in the last 14 days; and (iii) economic experience, proxied by employment status. The first two measures intend to illustrate the level of exposure of each respondent to the health effects of the COVID-19 pandemic. The third measure intends to capture some of the effects of the lockdown measures set in place to limit the expansion of the pandemic. Across the world, these restrictions have resulted in high levels of job loss and other economic concerns.

Our empirical estimation strategy is based on the following equation:

$$Trust_{ij} = \alpha + \beta_1 Experience + \beta_3 X_{ij} + \delta_j + \epsilon_{ij} \quad (1),$$

where *Trust* is the level of self-reported trust by individual *i* in country *j*. *Experience* is a binary indicator taking the value of 1 if an individual reports having had a specific experience. These are: *Ill*, a binary variable indicating recent experience of one or more coronavirus symptoms; *Contact*, a binary variable indicating recent experience of in contact with one or more people they think was ill; and *Unemployed*, a binary variable indicating recent experience of unemployment. *X* is an $n \times k$ matrix of control variables (specifically, the age and gender of the respondent). δ is a country-specific fixed effect. α is the regression constant, β_i a $k \times 1$ vector of regression coefficients and ϵ the idiosyncratic error.

The Life with Corona survey follows a snowball sampling approach. Although the estimates in this paper are based on countries with larger response rates and use population weights and country fixed effects, some biases are still present. One is the requirement that respondents have internet access, which will reduce the representativeness of the sample, particularly by age, around the world. Gender and socioeconomic class may also be relevant factors in accessing the questionnaire in certain countries. Data are weighted to account for biases that could arise from this, yet this does not fully overcome these potential problems. Results, therefore, are presented as preliminary evidence and designed to inform an on-going discussion of the role of the pandemic on trust—and to stimulate further research. They are not designed to provide exhaustive or conclusive evidence of the causal impact of the COVID-19 pandemic on trust.

To this end, we run a series of correlational OLS regressions in order to provide hints and guidance on the kinds of relationships that are arising during the pandemic. This approach does not overcome potential endogeneities, reverse causality or omitted variable biases. At the same time, they point towards important current trends and provide entry points to future research, once more comprehensive data becomes available.

4 Results

4.1 Corona exposure and trust

Our main results are presented in Tables 1, 2 and 3.³ In Table 1, we illustrate the relationship between having been in contact with someone who is ill and trust. In Table 2, we show the relationship between having had coronavirus symptoms and trust. In Table 3, we show the relationship between employment status and trust. Each table contains three columns. The first column shows the relationship with generalized trust; the second the relationship with trust on institutions; and the third the relationship with interpersonal trust.

Table 1 reveals a negative and significant relationship between having been in contact with someone who might be ill and all measures of trust. In particular, we observe that those who have had contact with a potentially sick person trust both other people as well as institutions less (when compared with those that have not been in contact with someone with COVID-19). The magnitude of the association is slightly larger for trust in institutions than for interpersonal trust.

Table 1: Contact with someone who may have COVID-19 and trust

	(1) Total	(2) Institutions	(3) People
Had contact (1 = yes, 0 = no)	-0.068*** (0.026)	-0.072** (0.033)	-0.044* (0.026)
Gender	Yes	Yes	Yes
Age	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Mean of dep. var.	3.07	2.89	3.43
Observations	7373	7501	7811
R^2	0.08	0.10	0.07

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Source: see text.

By contrast, Table 2 shows that we do not observe A statistically significant relationship between having exhibited coronavirus symptoms on either interpersonal or institutional trust. The magnitude of the coefficients are also much lower than those shown in Table 1.

³ As can be seen in Tables 1–3, a small number of individuals chose not to answer some, or all, of the trust questions. Compared to the overall sample, these numbers are small. This explains the small differences in the number of observations in these tables.

Table 2: Coronavirus symptoms and trust.

	(1) Total	(2) Institutions	(3) People
Corona virus symptoms (1 = yes, 0 = no)	-0.007 (0.026)	-0.014 (0.033)	-0.013 (0.028)
Gender	Yes	Yes	Yes
Age	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Mean of dep. var.	3.07	2.89	3.43
Observations	7364	7492	7804
R^2	0.08	0.10	0.07

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Source: see text.

The results displayed in Table 3 suggest a negative relationship between unemployment and trust: those who are currently unemployed exhibit significantly lower levels of trust in all three domains than those who are employed. The magnitude of the effect on trust in people is slightly greater than for trust in institutions; and effects are generally more pronounced than those shown in Table 1 for both interpersonal trust and generalized trust.

Table 3: Unemployment and trust

	(1) Total	(2) Institutions	(3) People
Unemployed (1 = yes, 0 = no)	-0.078*** (0.020)	-0.073*** (0.025)	-0.094*** (0.019)
Gender	Yes	Yes	Yes
Age	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Mean of dep. var.	3.08	2.89	3.45
Observations	6067	6167	6425
R^2	0.08	0.10	0.07

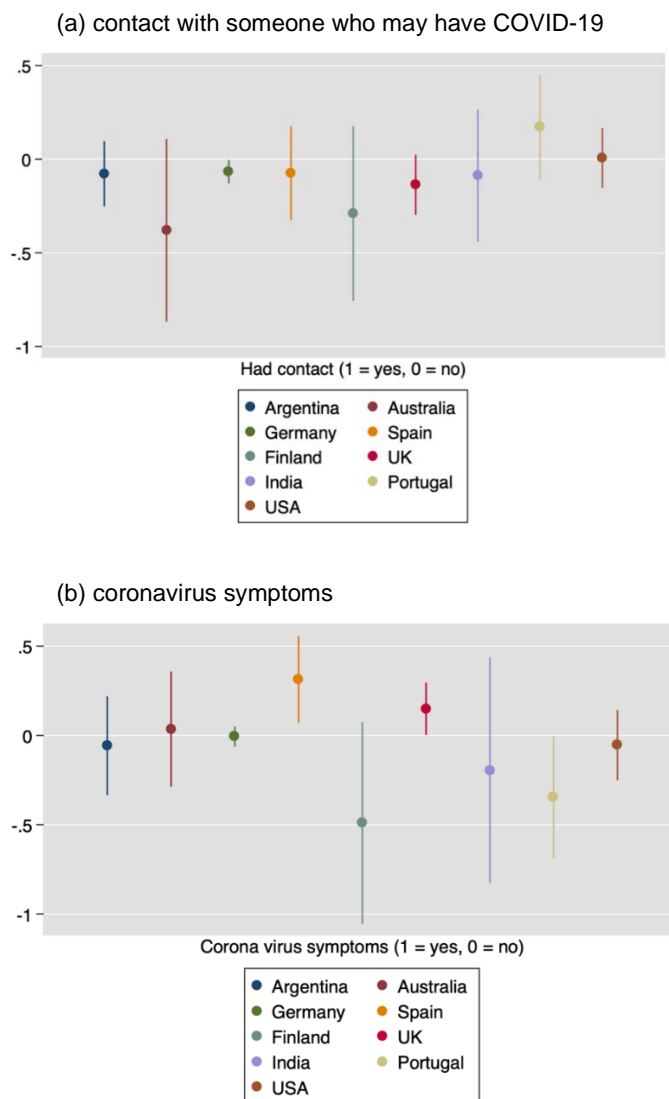
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Source: see text.

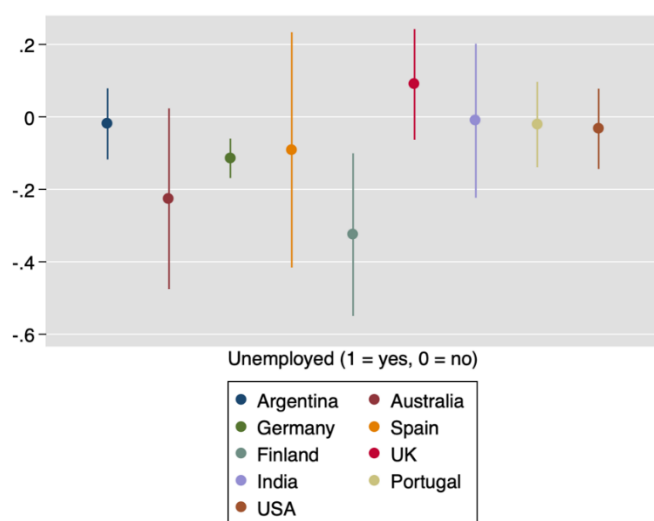
Figure 2 speculatively explores heterogeneity in the associations between general trust and the three types of experiences of individuals across different countries. For the case of contact with potentially ill people, some confidence intervals are large, but the point estimates suggest that the negative association is robust across almost all of the countries in our sample (Figure 2a). This suggests little international heterogeneity in this finding, which in turn strengthens the potential of a direct and universal link between trust and contact with people who have fallen ill. By contrast,

for those who exhibit symptoms of the virus, the associated effects are mixed in sign and very small in magnitude. (Figure 2b). Lastly, the cross-country comparison of the correlation between unemployment and generalized trust reveals another interesting pattern. For most countries, the correlation coefficient tends to be negative, but a null relationship emerges in a number of countries. The negative overall relationship shown in Table 3 seems to be driven by a small number of countries, such as Finland, in which the negative correlation is strong.

Figure 2: Heterogeneity of associations across countries



(c) unemployment



Source: see text.

5 Mechanisms

We turn our attention to potential mechanisms through which these effects might work. We focus on psycho-social pathways. First, Figure 3 reveals a strong link between worry and general trust. Individuals who tend to worry less have higher trust than those who worry more.

Figure 3: Worries and trust

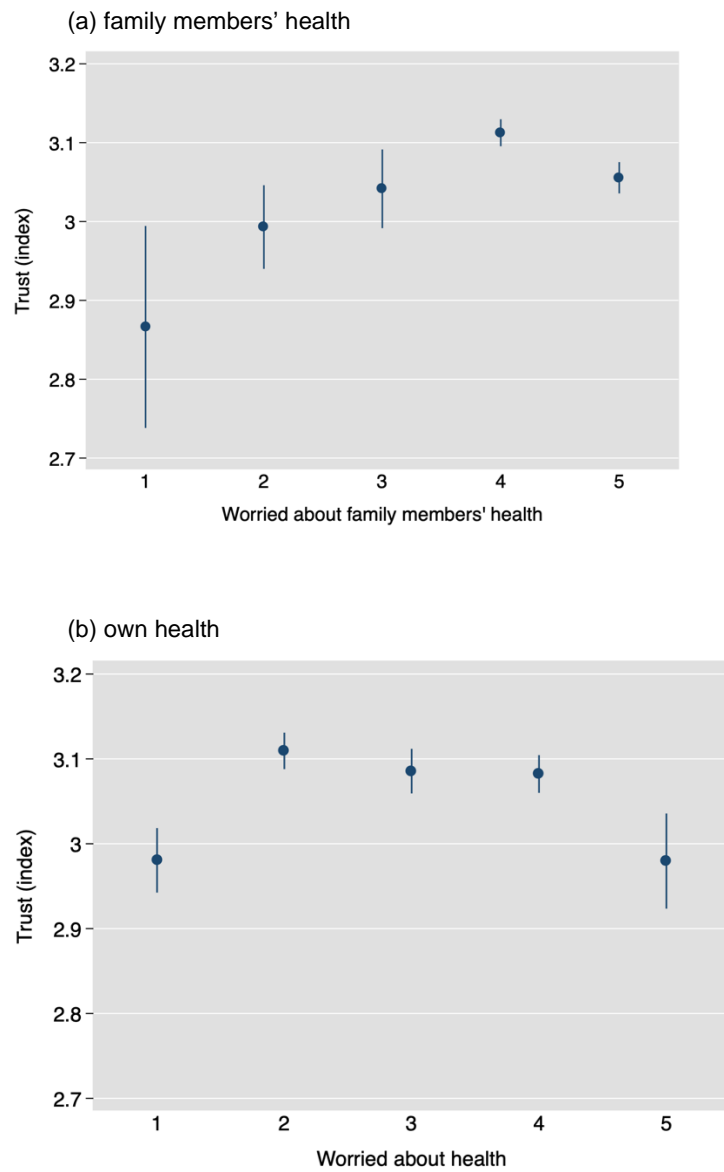


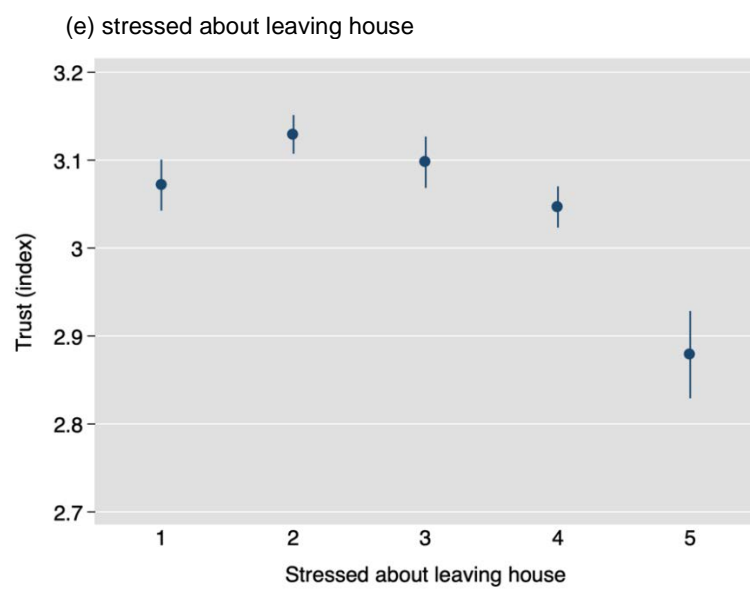
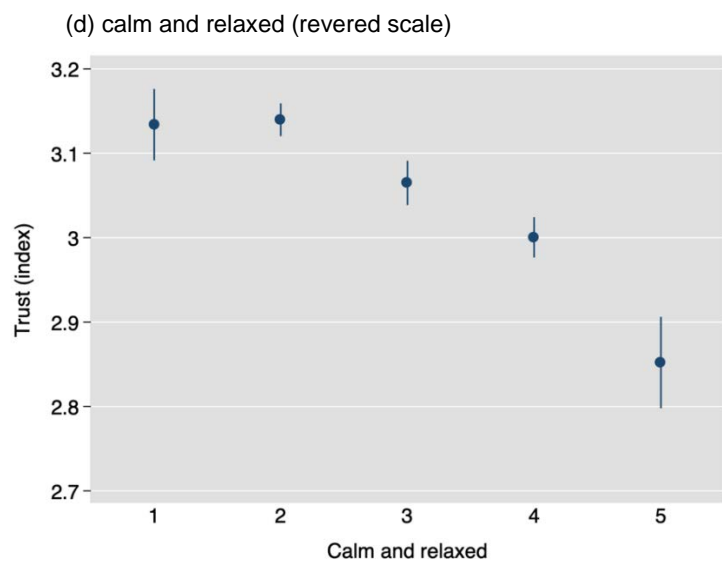
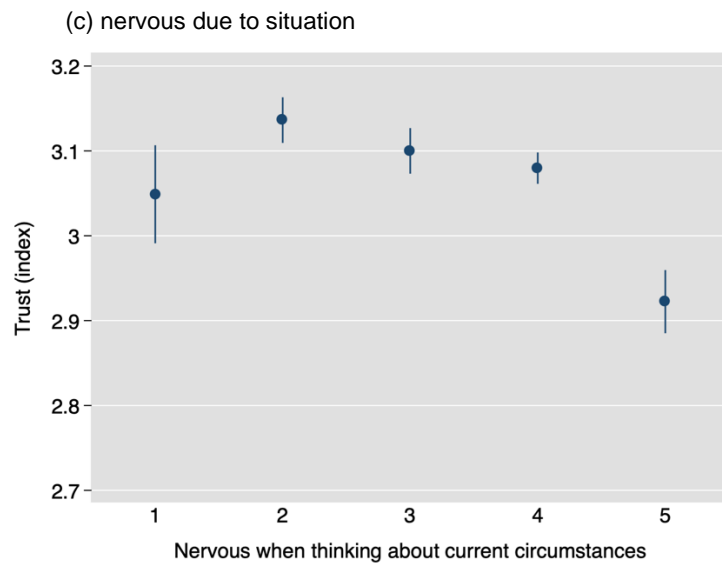
Source: see text.

Figure 4 disaggregates the worry index into its five components. The results suggest that our findings are not primarily driven by worries stemming directly from the health aspects of the pandemic (Figure 4a and 4b). By contrast, trust seems to decline for those who are more nervous

about the current situation (Figure 4c), those who report being less calm and relaxed in general (Figure 4d), and those more stressed about leaving the house (Figure 4e).

Figure 4: Different forms of worries and trust

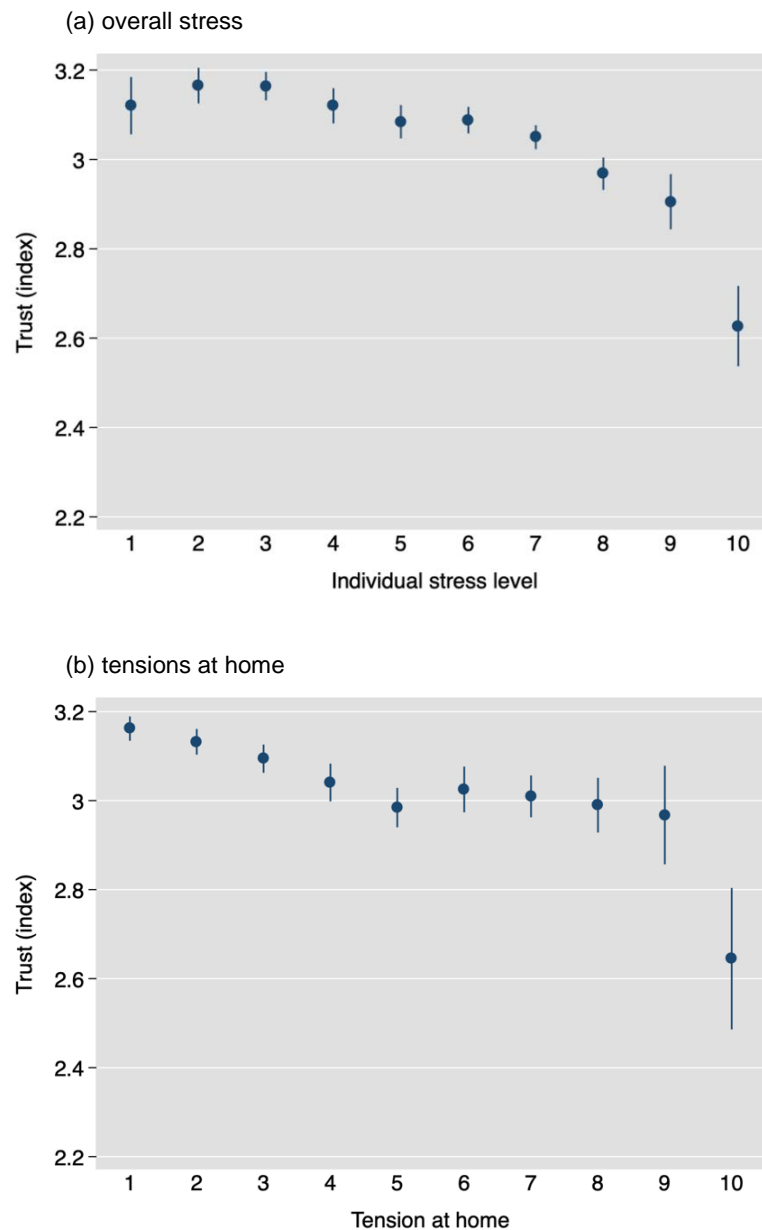




Source: see text.

Figure 5 presents results on three self-reported indicators of general stress and well-being that worries immediately affect: overall stress level, ratings of tensions at home, and (low) general life satisfaction⁴. These indicators are all negatively associated with lower levels of trust, which is primarily driven by those with the highest levels of overall stress and intra-household stress and the lowest level of life satisfaction.

Figure 5: Well-being and trust



⁴ Stress and tensions questions are asked on a Likert scale running from 1 to 10 where 1 is the least amount of stress / tension and 10 the highest. In the case of life satisfaction, the scale runs from 0 to 10, where 0 is least satisfied and 10 is most satisfied.



Source: see text.

6 Conclusions

This paper uses data from the new global Life with Corona survey to provide first estimates of the correlations between measures of exposure to the pandemic with institutional and interpersonal trust. We provide also suggestive evidence for psycho-social mechanisms that might shape such a relationship. We find no difference in trust when comparing those who had personal experience of the illness to those who did not. However, we observe lower general trust for those who have been in contact with (potentially) ill people and the unemployed.

These key results suggest three conclusions. First, there is preliminary evidence that individual-level experiences of the pandemic and trust outcomes are linked. Second, while direct exposure to the health risks of the pandemic do not seem to matter, wider social exposure (such as knowing those who have been ill) are important. At least in the immediate aftermath of the experience, those who have symptoms of the disease do not necessarily exhibit different levels of trust to society as a whole. Knowing people who might have been ill, however, reduces trust. This suggests that as the disease spreads, societies may become less trusting. Third, experience of economic hardship arising from the policy response to the pandemic might shape trust in just as important ways as direct or indirect exposure to health risks.

Even if speculative, additional results suggest a certain degree of heterogeneity in the associations between general trust and the three types of experiences across individuals from different countries. The overall negative link between contact with potentially ill people and trust appears to exist in most, but not all, countries, suggesting relevant heterogeneity in some contexts but also broader stronger trends. The negative association between unemployment status and trust varies more. In some countries, the relationship is weak, but is highly pronounced in others. These observations suggest that the context in which one is exposed to both the disease and its wider effects might be an important mediator for trust outcomes.

Our analyses into impact pathways suggest a strong role for worries and subjective well-being. These indicators are all negatively associated with lower levels of trust, which is primarily driven by those with extremely high levels of overall stress, intra-household stress and an extremely low

level of life satisfaction. These results suggest that it is not the worries about personal health during the Coronavirus crisis that shape trust, but emotional and mental health ones.

The immediate health and economic effects have dominated discussions on the Coronavirus to date. Our preliminary findings point towards potentially key relationships between experiences of the pandemic and trust. This hints that the likely effects of the pandemic go well beyond the immediate threats that the disease brings. In all societies, trust in institutions is a key factor in how societies are governed. In countries where institutions are weak, interpersonal trust is additionally important for a range of normal social and economic interactions. Therefore, the negative relationships we show between certain forms of exposure to the disease and trust are very important, particularly in considering how the world might recover from the Coronavirus pandemic.

This analysis is intended as an illustration of potential relationships using preliminary, early data. We are cognizant of the limitations currently inherent in our approach. In particular, we note that biases could arise both due to the sampling approach of the survey and from the statistical methods used. At the same time, these preliminary findings point to the importance of understanding the impacts of idiosyncratic exposure to the coronavirus, not least due to heterogeneities across exposure types and the factors that may be linked to these responses. The Life with Corona survey will continue collecting real time data until the end of 2020, with a particular focus in fragile African countries, which will allow us to explore these relationships in more detail and with more accuracy.

Our results also raise an important question about the domains in which the pandemic has salience, which go well beyond its public health dimensions. How these responses aggregate, in turn, will help to shape the societies that emerge from the crisis because those countries that face further trust deficits will likely recover differently (and more slowly) than those that do not.

In future work, as the Life with Corona sample increases and covers wider dynamics of the pandemic, we will attempt to establish the causality of the relationships analysed in this brief paper, and consider in more detail the kinds of policy interventions that can overcome these trust deficits. Future work will also consider a wider cluster of domains (such as prosocial behavior) in which the pandemic might be salient and how these domains relate to how societies might recover from the pandemic.

References

- Algan, Y., Papaioannou, E., Passari, E. and Guriev, S. 2018. 'The European Trust Crisis and the Rise of Populism'. EBRD Working Paper 208. London: European Bank for Reconstruction and Development. <https://doi.org/10.2139/ssrn.3128274>
- Algan, Y., and P. Cahuc (2010). 'Inherited trust and growth'. *American Economic Review*, 100(5): 2060–92. <https://doi.org/10.1257/aer.100.5.2060>
- Ashford, S.J., C. Lee, and P. Bobko, (1989). 'Content, causes, and consequences of job insecurity: A theory-based measure and substantive test'. *Academy of Management Journal*, 32, 803–29. <https://doi.org/10.5465/256569>
- Bauer, M., C. Blattman, J. Chytilová, J. Henrich, E. Miguel, and T. Mitt (2016). 'Can war foster cooperation?'. *Journal of Economic Perspectives*, 30(3): 249–74. <https://doi.org/10.1257/jep.30.3.249>
- Bjørnskov, C., and P.G. Méon (2013). 'Is trust the missing root of institutions, education, and development?'. *Public Choice*, 157(3–4): 641–69. <https://doi.org/10.1007/s11127-013-0069-7>

- Blair, R.A., B.S. Morse, and L.L. Tsai (2017). 'Public health and public trust: Survey evidence from the Ebola Virus Disease epidemic in Liberia'. *Social Science and Medicine*, 172: 89–97. <https://doi.org/10.1016/j.socscimed.2016.11.016>
- Cassar, A., P. Grosjean, and S. Whitt (2013). 'Legacies of violence: trust and market development'. *Journal of Economic Growth*, 18(3): 285–318. <https://doi.org/10.1007/s10887-013-9091-3>
- De Juan, A., and J.H. Pierskalla, (2016). 'Civil war violence and political trust: Microlevel evidence from Nepal'. *Conflict Management and Peace Science*, 33(1): 67–88. <https://doi.org/10.1177/0738894214544612>
- Dearmon, J., and K. Grier (2009). 'Trust and development'. *Journal of Economic Behavior and Organization*, 71(2): 210–20. <https://doi.org/10.1016/j.jebo.2009.02.011>
- Dustmann, C., B. Eichengreen, S. Otten, A. Sapir, G. Tabellini, and G. Zoega (2017). *Europe's Trust Deficit: Causes and Remedies*. Monitoring International Integration 1, CEPR Press. London: Center for Economic Policy Research.
- Elston, J.W.T., A.J. Moosa, F. Moses, G. Walker, N. Dotta, R.J. Waldman, and J. Wright (2016). 'Impact of the Ebola outbreak on health systems and population health in Sierra Leone'. *Journal of Public Health*, 38(4): 673–8. <https://doi.org/10.1093/pubmed/fdv158>
- Haushofer, J., and E. Fehr (2014). 'On the psychology of poverty'. *Science*, 344(6186): 862–67. <https://doi.org/10.1126/science.1232491>
- Guiso, L., H. Herrera, M. Morelli, and T. Sonno (2020). 'Economic Insecurity and the Demand of Populism in Europe'. Mimeo.
- Kevins, A. (2019). 'Dualized trust: risk, social trust and the welfare state'. *Socioeconomic Review*, 17(4): 875–97. <https://doi.org/10.1093/ser/mwx064>
- Liao, Q., B.J. Cowling, W.W.T. Lam, and R. Fielding (2011). 'The influence of social-cognitive factors on personal hygiene practices to protect against influenzas: using modelling to compare avian A/H5N1 and 2009 pandemic A/H1N1 influenzas in Hong Kong'. *International Journal of Behavioral Medicine*, 18(2): 93–104. <https://doi.org/10.1007/s12529-010-9123-8>
- Margalit, Y. (2019). 'Political responses to economic shocks'. *Annual Review of Political Science*, 22: 277–95. <https://doi.org/10.1146/annurev-polisci-050517-110713>
- McCoy, S.J., I.K. McDonough, and P. Roychowdhury (2019). 'The Impact of Terrorism on Social Capital: Evidence from the 2015 Charlie Hebdo Paris Shooting'. *Oxford Bulletin of Economics and Statistics*. <https://doi.org/10.1111/obes.12343>
- Potts, S.R., W.T. McCuddy, D. Jayan, and A.J. Porcelli (2019). 'To trust, or not to trust? Individual differences in physiological reactivity predict trust under acute stress'. *Psychoneuroendocrinology*, 100: 75–84. <https://doi.org/10.1016/j.psyneuen.2018.09.019>
- Rodrik, D. (1999). 'Where did all the growth go? External shocks, social conflict, and growth collapses'. *Journal of Economic Growth*, 4(4): 385–412. <https://doi.org/10.1023/A:1009863208706>
- Verwimp, P., P. Justino, and T. Brück (2009). 'The Analysis of Conflict: A Micro-Level Perspective'. *Journal of Peace Research*, 46(3): 307–14. <https://doi.org/10.1177/0022343309102654>
- Vinck, P., P.N. Pham, K.K. Bindu, J. Bedford, and E.J. Nilles (2019). 'Institutional trust and misinformation in the response to the 2018–19 Ebola outbreak in North Kivu, DR Congo:

a population-based survey'. *The Lancet Infectious Diseases*, 19(5): 529–36.
[https://doi.org/10.1016/S1473-3099\(19\)30063-5](https://doi.org/10.1016/S1473-3099(19)30063-5)

Voors, M.J., E.E. Nillesen, P. Verwimp, E.H. Bulte, R. Lensink, and D.P. Van Soest (2012).
'Violent conflict and behavior: a field experiment in Burundi'. *American Economic Review*,
102(2): 941–64. <https://doi.org/10.1257/aer.102.2.941>