European Bank
for Reconstruction and Development

Austerity as violence: measuring the effects of economic austerity on pro-sociality

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Abstract

The European debt crisis gave rise to policies of fiscal austerity designed to instil discipline and return economies to growth after a short-lived period of structural adjustment. Greece was the test-case for austerity policies. Greece received several bailouts conditional on implementing severe spending cuts and structural reforms. The economic effects of austerity have been studied extensively, but less is known about their social impact. In this paper we explore the effects of exposure to policies of austerity on pro-sociality using new household-level data and experimental evidence from Greece. We focus on the effects of joblessness, the most severe outcome of the economic downturn. We find a strong relationship between job loss and decreased generalised solidarity. We also find evidence of increased in-group bias due to exposure to austerity policies.

Keywords: Austerity, pro-sociality, solidarity, in-group bias, economic crisis

JEL Classification Number: F12, F13, F14, F15

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We thank Ioannis Galariotis, Dorothy Kronick, Guadalupe Tunon and Brendan O'Leary for useful comments on an earlier draft. The views expressed in this paper are those of the authors only (in a personal capacity) and not of any organisation.

The working paper series has been produced to stimulate debate on economic transition and development. Views presented are those of the authors and not necessarily of the EBRD.

Working Paper No. 220 **Prepared in September 2018**

1. Introduction

How does economic hardship affect social preferences? Do people feel more solidarity with one another, as often happens after natural disasters? Or does it reduce pro-sociality by making social divisions more salient? We address these questions by analysing the social effects of economic austerity in Greece, where the population experienced several phases of fiscal adjustment during a period of near-constant economic decline between 2010 and 2015.

Austerity policies were adopted after the outbreak of Greece's debt crisis in 2009. Although these policies were intended to promote growth, they resulted in extreme hardship that was experienced by the population as a type of economic violence. The scope of the austerity programme was unusually broad with ultimately negative effects on the economy, leading to five years of recession, a reduction in GDP by 25 per cent and an official unemployment rate that rose to 27 per cent.

The economic consequences of those policies have been analysed extensively, but their social impact is less well understood.[1] Using a survey of a representative sample of the population with an embedded experimental component, we provide the first systematic analysis of the social effects of economic austerity in Greece.[2] More broadly, this paper contributes to the literature on the political economy of social policy; specifically, the economic determinants of social preferences.

We study what we perceive as the harshest consequence of an economic downturn – job loss. We hypothesise that job loss should decrease generalised pro-sociality and explore possible mechanisms. We test this hypothesis by measuring individuals' willingness to make donations to philanthropic organisations using new data from a household survey we fielded in Greece between November 2015 and January 2016. We find clear evidence that donations are lower among those most affected by the crisis. This effect persists across levels of income and is not mediated by income loss, which supports the hypothesis that it is indicative of diminished solidarity.

We also test whether the pro-sociality towards non-Greeks declines more. Public debates on the debt crisis highlighted differences between the preferences of the Greek population and the interests of international agencies and European Union countries. These debates made national identity salient, heightening in-group/out-group distinctions. We test whether austerity exposure leads to a larger decline in pro-sociality vis-à-vis non-Greeks rather than Greeks.

The paper makes an important contribution to two strands of the literature. First, we enrich a body of work studying the origin of social attitudes. Scholars have argued that values and social preferences may be orthogonal to current circumstances. Attitudes may be socialised at a young age (Uslaner, 2002; Rokeach and Ball-Rokeach, 1989), transmitted from parents to children (Bisin and Verdier, 2001) or influenced by long-run historical events (Alesina et al. 2013; Nunn and Wantchekon, 2011). However, there is also evidence that norms and

[1] The choice Greece faced was between defaulting on the debt and leaving the eurozone, or accepting bailout packages with strict terms promoting austerity policies. Considering the pros and cons of each alternative is beyond the scope of this paper. We focus on the social consequences of the crisis as it was experienced by the population rather than consider what might have happened had different policies been implemented.

[2] The survey was conducted by TNS, the largest polling firm in Greece, and was part of the Life in Transition Survey (LiTS) conducted by the EBRD and the World Bank. This was the third round of the LiTS, although only the first that included Greece, which became a recipient country of the EBRD in March 2015 (and will be until the end of 2020).

attitudes can change relatively rapidly. In particular, social attitudes can be affected by macroeconomic and wealth shocks, including financial crises (Giuliano and Spilimbergo, 2014; Margalit, 2013) although the direction of these effects is not clear. We build on those studies and complement research on the drivers of attitudes towards immigrants and out-group members (Scheve and Slaughter, 2001; Hainmueller and Hopkins, 2014; Hainmueller and Hangartner, 2013). While some of the most insightful lessons from that literature come from experiments, much of what we know about attitudes towards out-groups comes from public opinion surveys from economically advanced countries. We offer new data from Greece that measures attitudes towards out-groups in the context of a severe economic crisis coupled with an immigration crisis. During the period of our study, Greece faced massive inflows of migrants and refugees that it could not accommodate due to prevailing economic conditions.

2. Related literature and hypotheses

A growing literature examines the effect of economic and political crises on individual attitudes and values. One strand of this work investigates how economic recessions affect preferences for redistribution and welfare spending. Focusing on the impact of the Great Recession in the United States, Margalit (2013) finds that preferences for welfare policy are strongly affected by individual economic circumstances, particularly job loss. As those who have lost their jobs re-enter employment, their support for welfare spending decreases, suggesting that their recession-induced change in preferences reflected temporary economic self-interest. By contrast, Giuliano and Spilimbergo (2014) demonstrate that recessions have a *long-lasting* effect on preferences. Exploiting survey data since 1973 for both the United States and a cross-section of countries, they show that people who experience recession when they are young support more government redistribution and vote for left-wing parties.

Another strand of work examines the effect of economic shocks on social preferences. Individuals with more exposure to the Great Recession exhibit greater selfishness in lab experiments (Fisman et al., 2015). Survey data has shown similar effects of on trust. In US localities, people who had experienced individual-level negative economic shocks in the previous five years reported lower levels of generalised trust in surveys (Alesina and La Ferrara, 2002). Using survey data covering 1973-2010, Stevenson and Wolfers (2011) show that in both the United States and across countries trust in public institutions (banks, business and government) is pro-cyclical: countries that experienced the greatest rise in unemployment also had the biggest decline in trust in government and the financial sector.[3]

Taken as a whole, these studies point to a negative effect of economic crisis or hardship on commonly used measures of pro-sociality. A parallel literature has examined the effects of a different type of hardship: experiences of wartime violence. The insights from that literature are relevant because economic hardship could be considered as a form of violence.[4] Although not physical, economic shocks due to austerity policies can be traumatic, with long-lasting material and psychological effects on individuals and their families. Existing research on violent conflict shows that it has a negative effect on trust (Besley and Reynal-Querol, 2014; Cassar et al., 2013; De Juan and Pierskalla, 2016; Nunn and Wantchekon, 2011; Rohner et al., 2013) and optimism (Bozzoli et al., 2011), but it can increase pro-sociality with respect to an in-group (Bauer et al., 2016). Political participation (Bellows and Miguel, 2009; Blattman, 2009) and civic engagement (Bellows and Miguel, 2009; Blattman, 2009; Cassar et al., 2013) have also been shown to increase with exposure to violence.[5] The mechanisms underlying the effects of exposure to violence on pro-sociality are not well understood, although the fact that they are limited to the in-group suggests that violence serves to highlight distinctions between in-group and out-group. In Northern Ireland, Silva and Mace (2014) show that conflict reduces altruism towards the out-group, but has no effect on altruistic behaviour towards the in-group. We explore whether a similar logic applies to economic hardship.

[3] Economic shocks can also affect preferences for the market and democracy. Di Tella et al (2007) explore an episode in which Buenos Aires squatters were randomly assigned titles to the properties they were occupying. Squatters with property rights are more pro-market (in the sense that they are more individualistic and materialistic) than those without property rights. De Haas, Djourelova and Nikolova (2016) show that western Ukrainian households that were affected more extensively by the Great Recession were more disappointed with the market and private ownership.

[4] For an example, see the collection of essays in Cooper and Whyte (2017).

[5] See Bauer et al. (2016) for a recent review and Child and Nikolova (2018).

A premise of our analysis is that generalised solidarity depends on shared norms and is reinforced by a shared social identity. Events such as financial crises highlight fissures that divide a social group, which should weaken the group's shared identity. Violent events that pit one social group against another will magnify the perceived distance between these groups (Sambanis and Shayo, 2013). In particular, economic "violence" in the form of austerity policies will affect the perceived social distance between individuals by making social class more salient, especially if lower-income individuals feel more vulnerable to the effects of austerity. Thus, social cohesion should decline as social ties within the nation are weakened. This process should manifest itself as a decline in generalised pro-sociality and generalised trust (that is, trust towards the state, institutions or strangers). We therefore hypothesise that:

Austerity exposure reduces overall solidarity (hypothesis 1).

As the economic crisis in Greece is widely thought to have been at least partly the result of a conflict of interest between Greece and other nations, we expect the decline in pro-sociality to be greater vis-à-vis out-groups understood widely to include other nations.[6] The international dimensions of the crisis make salient in-group/out-group distinctions that fall along national lines. Thus, when confronted with dilemmas that bring the economic crisis to mind, Greeks should exhibit greater solidarity with their in-group (nation) rather than an out-group. We therefore hypothesise that:

Austerity exposure reduces solidarity towards the out-group more than solidarity towards the in-group (hypothesis 2).

Next, we turn to a brief description of the empirical context for our study before discussing the data and our results.

[6] While, as hypothesised above, the crisis should have weakened bonds within the in-group when the out-group is defined to include other social groups in the nation, this effect should be greater (that is, a larger decline in pro-sociality) when the out-group is defined to include foreigners.

3. Background

In 2009, Greece's government announced that its budget deficit was 12.9 per cent of the country's GDP, four times the European Union-mandated 3 per cent limit. That announcement marked the beginning of a downward spiral, leading to unsustainably high debt-to-GDP ratios and a deep, prolonged recession. The crisis de-legitimised already weak and dysfunctional state institutions and was widely blamed on Greece's "establishment" parties – PASOK, which was the ruling party during the first bailout negotiations, and Nea Dimokratia (ND), which was in power until the outbreak of the crisis. Yet many also blamed the international community, in particular the European institutions that would take a lead in structuring Greece's adjustment programme. A widely shared perception was that the government acquiesced to foreign-imposed austerity policies that were designed to protect the interests of foreign stakeholders. Massive social protests and the concomitant rise of radical political parties occurred in that period, partially fed by the narrative of the crisis. Political extremism, nationalism and xenophobia grew more intense (though they were never pervasive).

The period of austerity was marked by a host of policies of fiscal adjustment, such as cancelling of collective labour rights agreements, privatisations of state-owned enterprises, forced unpaid leave policies, sharp reductions in pensions and wages and increases in all taxes.[7] Opposition parties interpreted these policies as evidence of a disrupted social contract between the state and citizens. A commonly shared perception is that Greece came under foreign trusteeship, ruled by the so-called "troika" – the European Commission, the European Central Bank and the International Monetary Fund. The loss of national sovereignty over the design of economic policy generated opposition to the adjustment programme. Media reports focused on the physicality of the consequences of the crisis – suicides due to impoverishment, rising homelessness, images of school children fainting due to malnutrition, and daily coverage of violent protests in major cities. With public services disrupted, near-constant workers' strikes and hospitals that could not afford to supply patients with medicine or basic supplies, Greece was widely described in the media as a "failed state".

These dramatic events were the result of the interaction of a progressively tightening adjustment programme and government ineptitude in the implementation of the programme. Most Greeks were eventually opposed to the austerity policy even though initially there was public support for the first bailout under the threat of Greece's expulsion from the eurozone. The unexpectedly sharp and painful adjustment period turned public opinion against the troika. A widely shared view was that the first bailout package was designed to stave off an international financial crisis by turning private debt exposure to Greek debt into public debt carried by European taxpayers.[8] Negative perceptions of the adjustment programme were stoked by political parties (including those in government), which accused the Eurogroup and the European Central Bank of "terrorism"[9] and warned that the social polarisation due to the economic crisis might cause a "civil war".[10] Opposition parties capitalised on this negative sentiment and undermined the government's ability to impose much-needed structural reforms. Consequently, successive Greek governments were unable to design a strategy to

[7] A core feature of the adjustment programme was the nominal public sector wage cuts and Greece's stabilisation programme was considered the harshest in the eurozone (Pagoulatos 2012, 250).
[8] The pro-bailout position held that defaulting on the debt would have forced Greece to abandon the euro and return to the drachma, which would have caused more severe adjustment costs. The anti-bailout position held that political elites exaggerated the likely consequences of a temporary exit from the eurozone.
[9] http://www.bbc.com/news/world-europe-33393759 [Accessed 9 July 2015].
[10] http://www.kathimerini.gr/822875/opinion/epikairothta/politikh/oxi-se-neo-emfylio [Accessed 9 July 2015].

escape the vortex of more bailouts, more austerity and deeper recession and by 2015 the severity of the crisis – and of the measures taken to escape it – had exceeded all expectations.

4. Data

To measure the social impact of the Greek economic crisis, we conducted a household survey in collaboration with the EBRD during the implementation of the 2016 round of its Life in Transition Survey (LiTS). The survey was conducted from November 2015 to January 2016. Data were collected in face-to-face interviews of 1,500 households across regions of Greece.[11] Sampling for the LiTS was carried out as follows. Respondents (aged 18 and above) were drawn randomly, using a two-stage sampling method with primary and secondary sampling units. The primary sampling units (PSUs) were electoral districts, polling station territories, census enumeration districts, or geo-administrative divisions. Individuals were selected at random from 75 PSUs across the country. The head of the household or another knowledgeable household member answered the Household Roster and questions about housing and expenses. All other modules[12] were answered by a randomly drawn adult from the household with no substitutions possible, using a minimum of three repeat visits if an interview could not be conducted. We consulted with EBRD economists on the design of the survey and added an experimental component and several questions to the module for Greece.

4.1 Measuring austerity exposure

Few Greeks were shielded from the fallout of the economic crisis. Most households report being affected "a fair amount" (38.5 per cent) or "a lot" (53.4 per cent) by the crisis. This concentration of responses at the high end of the scale obscures important differences in exposure. Thus, for more nuanced measures of the impact of the crisis, we chose to use objective changes to personal economic circumstances, specifically job loss. The key explanatory variable used in our analysis is *household job loss*.[13] Subjective assessments of the effect of crisis reflect the fact that job loss is perceived as a consequence of the crisis which affected the household's welfare: 74 per cent of those exposed to household job loss reported that the crisis affected them "a lot", as opposed to 48 per cent for those that did not experience job loss.

4.2 Measuring attitudes

The survey includes several questions that measure pro-sociality, including the respondents' willingness to pay for public education ("would you be willing to give part of your income or pay more taxes, if you were sure that the extra money would be used to improve public education?"); trust towards their family members, their neighbours, strangers, or foreigners; and beliefs about who was responsible for the crisis. We report results from these variables, but focus our analysis on quasi-behavioural indicators of pro-sociality obtained via an experiment targeting respondents' giving to domestic and international charities.

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[11] The analysis uses weight-adjusted data, with adjustments made for age, gender, urban status and region. Weighting was implemented by the polling firm.

[12] In the 2016 round (used here), these modules were Other Dwellings and Assets, Attitudes and Values, Employment, Unemployment, Entrepreneurial Activity, Governance, Miscellaneous Questions and Impact of the Crisis (the latter covering Greece only).

[13] We code separately whether there was job loss for the head of household and report results using that variable, mostly in the supplement. Wage or pension reductions are an additional measure. However, measurement error is likely greater with this variable compared with job loss, as income is likely under-reported. Our choice of explanatory variable is consistent with important studies of the effects of economic crises, which have also focused on the effects of job loss (Margalit, 2013).

Specifically, each respondent was given a description of a pair of charities and asked how they would like to allocate €40.[14] They had the option of keeping the money or giving all or part of it to charity. This experiment serves as a modified dictator game, with two potential recipients besides the individual playing. Charities in each recipient set were engaged in similar work and included a domestic organisation, serving primarily Greeks, and an international organisation, targeting primarily refugees or people in foreign countries. The difference between the charities in each pair was intended to capture an in-group/out-group distinction, where the in-group organisation was the one serving Greeks. Our main focus is the pair of charities that directly address poverty and food aid to poor households, which we see as a theme closely related to the consequences of the economic crisis. For comparison, we chose a second pair of charities with respondents randomly assigned to one of the two pairs.

4.3 The choice of non-profit organisations

The non-profit organisations were selected on the basis of their mandate. Following Margalit (2013), who finds that the effect of economic crisis exposure on policy preferences in the United States is limited to "relevant" policy areas, we created two pairs of charities, the first of which is more relevant to the economic crisis than the other. Charity pair A included two organisations providing food assistance/poverty alleviation – an issue that is directly relevant to the public perception that the crisis increased poverty. Several food assistance programmes emerged to deal with household poverty during the crisis. We selected a programme called "Social Grocery Store" (*Koinwniko Pantopwleio*) as the in-group charity. This was an organisation administered by the municipality of Athens that provided food aid to low-income households. We paired it with the Hellenic Red Cross, an international organisation with high name recognition, which respondents were told "works to provide food aid to refugees and immigrants in Greece". Therefore, while both organisations were described as providing food aid, out-group organisations targeted mostly foreigners whereas in-group organisations benefited mostly Greeks (without explicitly excluding foreigners as recipients of their services).

Charity pair B included organisations with mandates less relevant to the economic crisis as their focus was to improve child welfare. Specifically, respondents were told that the organisations provided assistance to abused children or children with disabilities and work to improve health outcomes in children. Both organisations have high name recognition among subjects. The Greek organisation was "The Smile of the Child" (*Hamogelo tou Paidiou*) and the international one was the Hellenic Association for UNICEF, which is a subsidiary of UNICEF working in Greece. Although these organisations' mandates could lead them to become involved in poverty alleviation initiatives targeting children, respondents were made aware that poverty alleviation was not their primary focus.[15] As with the first pair of charities, the in-group organisation targeted mainly Greeks by virtue of the scope of its activities and area of operation; UNICEF is a global organisation and could be engaged in initiatives within Greece but also internationally.

[14] This experiment was incentivised: after completion of the survey, 100 respondents were randomly selected to receive €40, which was distributed to the charities and the respondents according to the winning respondents' allocation decisions. The full text of the charity questions and enumerator instructions are included in the annex.
[15] On its website, the "Smile of the Child" lists four thematic areas covered by its mandate in order of importance and helping children in poverty is at the bottom of the list, which is topped by protecting abused children (http://www.hamogelo.gr/). UNICEF is primarily a children's rights organisation with global coverage (https://www.unicef.org/what-we-do).

A few comments about these comparisons are in order. We chose to use a realistic setting to measure preferences for charitable giving, but we could have instead chosen artificial charity pairs. Most survey experiments use vignettes devoid of realistic context and the lack of realism can affect the results and even introduce bias (Dafoe and Weiss, 2016). If we had used fictional organisations, we might have been able to achieve a cleaner in-group/out-group distinction, telling respondents that the charities were identical in every way except the population that they served.[16] But that approach has significant disadvantages over the approach we used. First, the artificiality of the set-up would have highlighted the in-group/out-group distinction in ways that would have revealed the quantity of interest in the survey. Second, asking respondents to donate real money to fictional organisations would have raised suspicions about the process (how could money be distributed to organisations that are not named? If the organisation is reputable, why isn't it referred to by name? Why should the survey team decide which organisation should get the allocations?). These suspicions would likely dampen donations, complicate the decision-making process, and reduce overall participation, which could invalidate our analysis.

In light of these considerations, we decided to use pairs of actual organisations with established reputations. This approach, however, also has shortcomings. The organisations' reputations for effectiveness within or across pairs cannot be held constant and the results might not generalise to other organisations with similar mandates. Moreover, the non-profit space in Greece is not very dense, so it was not possible to find organisations that are identical in their size and scope. The out-group organisations in both pairs are larger and have solid international reputations. Consequently, we see these comparisons as establishing a high threshold for measuring in-group bias since the in-group organisations are smaller, narrower, and less well-established than out-group ones.

An additional difference between the two organisations in charity pair A is that the "in-group" organisation ("Social Grocery Store") distributed humanitarian assistance to poor households via the municipality, although funds were from non-state sources, whereas the Hellenic Red Cross is part of the International Committee of the Red Cross and the Red Crescent, an independent, non-governmental organisation which acts in coordination with governmental authorities in the discharge of their mandate. Both are non-governmental organisations, although municipal authorities were more directly involved with the distribution of aid in the in-group organisation. However, the main difference between in-group and out-group organisations in both charity pairs is that the main beneficiaries of the in-group organisation are likely to be Greek citizens/residents of the municipality rather than refugee populations, undocumented migrants, or foreign nationals. Moreover, charity pair A is more directly connected to the crisis, so in light of Margalit (2013), we expect to find stronger effects in charity pair A.

4.4 Exogeneity assumption

Before we present our results, we address our assumption that exposure to austerity policies can be treated *as if* random.

The main justification for the assumption that austerity exposure is exogenous to pre-austerity social preferences is that the term "austerity exposure" refers to experiencing the

[16] There are few, if any, NGOs or public charities operating in Greece that explicitly exclude foreigners as recipients of their assistance. Choosing a fictitious NGO that explicitly excluded non-Greeks would likely have identified it as affiliated with right-wing extremist parties, which would have added an extraneous dimension to the analysis.

consequences of an unusually broad cluster of structural reforms and fiscal adjustment policies that affected people at all income levels and across sectors. These policies were not targeted with prior knowledge of groups' social preferences and they were so broad that most sectors and labour groups were affected.

These policies included broad-based fiscal adjustments such as one-off taxes on profitable companies and large estates, permanent VAT tax increases, increases in consumption tax of fuels, tobacco, alcohol and electricity. Tax increases targeted all social classes. New taxes were imposed on the rich (for example, luxury tax on houses with swimming pools), new property taxes were imposed affecting middle-class households (as home ownership is very prevalent in Greece), and minimum wage reductions as well as severance pay reductions for blue-collar workers were imposed. In addition to tax increases and wage cuts, changes to the regulatory environment, especially social insurance and labour market reform, also affected living standards negatively (for example, deregulation in several "closed" professions, such as legal or transport services, resulted in large-scale job losses).

Reforms were decided in consultation with Greece's external creditors on the basis of a Memorandum of Understanding between the government of Greece, the European Commission, the European Central Bank and the International Monetary Fund (the troika). More than 200 separate actions to restore fiscal health were taken in the initial Memorandum of 2010 and more were added subsequently with each additional bailout negotiation (Mitsopoulos and Pelagidis, 2012). The complexity and unusual breadth of these policies implemented over a five-year period ensures that no single social group was targeted on the basis of attributes that might be correlated with individuals' social preferences. The troika's role in recommending specific reforms further strengthens this expectation since the troika had no private knowledge of how social preferences were distributed in the Greek population, nor was it mandated to be sensitive to the social impact of specific policies.

The design and implementation of austerity policies was informed by general economic theories and were implemented gradually by several different governments, each of them representing a different set of ideological and electoral commitments and different constituencies. We therefore do not see evidence to suggest that specific groups were targeted by these policies. Overall, this pattern suggests no plausible *ex ante* connection between exposure to austerity policies and individual-level social preferences.

Although we believe that the exogeneity assumption for joblessness is warranted, there might still exist some covariation of individual-level social preferences (pro-sociality; in-group bias) and exposure to austerity policies. We address that by controlling for individual-level correlates of social preferences, such as education and income, using the rich LiTS dataset as our source; and by controlling for sector-specific variables that capture sharp differences in the degree of exposure to joblessness (public sector workers had constitutional protections of their tenure, so we control for sector in the analysis).[17]

[17] A different complication concerns the risk of spillovers across households. If someone in household A loses their job and relates their experience to friends or relatives in household B, then outcomes in the two households might be correlated even though individuals in household B have not experienced job loss. In an experimental setting, this problem would amount to a SUTVA violation and would attenuate the treatment effect – that is, it would make it harder for us to identify an effect for our main explanatory variable. In light of this, we view our estimates as conservative assessments of the effect of austerity exposure, as the effect would surely be higher if we were able to subtract these spillovers from the control group.

We estimate regression models where we identify correlates of job loss and use these correlates as controls in regressions of pro-sociality on austerity exposure.[18] Table 1 presents the results of these regressions (we include region fixed effects; clustering observations by region does not produce substantively different results). Adding these controls to the regressions of solidarity should allay concerns of omitted variable bias. We control for the respondents' age and gender; income level; home ownership; household size (with more people in the job market, the risk of exposure to austerity is higher); and the availability of savings, which should have cushioned the blow of wage reductions or job losses.[19] Lastly, to further test robustness, we measure the sensitivity of our results to the exogeneity assumption using a simulation-based approach.

[18] Our survey does not include lagged household characteristics so we cannot make pre- and post-exposure comparisons to identify risk factors for austerity exposure.

[19] The annex (section 3) includes models with more/different sets of controls to establish the robustness of our results.

5. Analysis

Our analysis proceeds in two stages. First, we evaluate the effect of economic hardship on solidarity, represented by the respondents' total allocations to charity. We then examine how economic crisis exposure affected preference for in-group relative to out-group charities.

5.1 Overall solidarity

We investigate the effect of austerity exposure on solidarity using respondents' allocation of lottery winnings to charities as our dependent variable. We model donations to charity as a linear function of exposure to the economic crisis, a vector of personal characteristics including current economic circumstances and region fixed effects. Austerity exposure is measured by job loss.

Our expectation is that, at any given level of income, job loss will have a negative effect on donations to charity. We measure job loss in two ways: first, with a dichotomous variable indicating whether the individual's *head of household* lost his/her job due to the crisis; and second (our preferred measure) with a variable indicating job loss for *any household member*.

Table 2 shows linear regressions modelling individuals' overall giving to charity. Columns 1 and 2 estimate the effect of the *household head* operationalisation of job loss on giving in charity pair A (column 1) and charity pair B (column 2). Columns 3 and 4 do the same for the *any household member* operationalisation of job loss. Per our earlier comments, we control for a number of variables that are typically associated with pro-sociality as well as some variables that might affect the probability of job loss. In charity pair A, socioeconomic status predicts higher donations: those with higher perceived relative income (reported on a 1-10 scale), with post-secondary education and with access to savings give more. In charity pair B, there is little evidence that income and education raise donations.

We find strong evidence for hypothesis 1.[20] Individuals whose head of household lost a job during the economic crisis gave significantly less to charity overall in both charity pairs, even when controlling for the household's present-day economic conditions. These estimated effects represent a reduction in donations of approximately €5 in charity pair A, and €6 in charity pair B, out of a donation of up to €40. Similarly, columns 3 and 4 show that individuals living in a household where any household member lost a job give significantly less to charity. These results are robust to the inclusion of different controls and to the use of different estimation methods as we show in the annex.[21]

The strength of these results is that they are not based on hypothetical questions about the willingness to support charities; rather, they are based on decisions that respondents make about funds that could actually be distributed to them. We interpret our findings as being consistent with our hypothesis that an effect of the crisis was to lower pro-sociality among those most affected by it.

[20] The results shown are not different substantively if we cluster on region.

[21] The results are robust to controlling for (1) the presence of others while respondents entered their allocations to charity; (2) whether respondents entered allocations by themselves; and (3) if respondents signed the consent form to participate in the lottery (see Table A2 in the supplement). They are also robust to dropping savings (Table A3) and to including children in the household as a covariate (Table A4). Having children might explain a higher propensity to donate to charity pair B (although we find no evidence of this in A4).Using Tobit regression, to account for the censored nature of our outcome variable, further confirms the robustness of this result (Table A6).

An alternative hypothesis is that the diminishing marginal utility of income is driving our results. If this is true, we should see no effect of job loss on charitable giving for those whose incomes remain high. Chart 1 plots charitable giving against level of income using the income ladder variable from our survey, for households with job loss and those without job loss. We see a fairly consistent difference in giving, between those that experienced job loss and those that did not, at all levels of income (panel 1 shows a fractional polynomial fit; panel 2 shows a linear fit). Regression analysis (see Table A1 in the annex) confirms that the effect of job loss does not vary significantly across levels of income, so we are not simply picking up a diminished capacity to give by households that have suffered income losses due to unemployment.

Another potential concern is that, in accounting for the effect of income on giving, our estimate of the effect of job loss suffers from post-treatment bias. Respondents' current household income could be directly influenced by a household job loss during the economic crisis: the correlation between job loss and current household income is -0.13. Conditioning on a variable affected by the "treatment", in our case job loss, can introduce bias in estimates of its effect. To assess whether post-treatment bias threatens our findings, we estimate the controlled direct effect of job loss on charitable giving. This quantity is the effect of job loss if we set current household income at a fixed level for every individual. We calculate the controlled direct effect of job loss using sequential-g estimation (see Acharya et al. 2016). To implement this method, we transform our outcome variable, subtracting the effect of household income on giving to charity to create a counterfactual outcome: the allocations to charity if all respondents had the same current household income. We then model the effect of job loss on the new counterfactual level of giving, which yields the controlled direct effect of job loss.

Table 3 presents the results of this estimation. Columns 2 and 4 present the controlled direct effect of job loss on giving in charity pairs A and B, respectively. Columns 1 and 3 show the estimates from our baseline models for comparison. In both cases, the controlled direct effect of job loss remains precisely estimated and similar to the estimated effect in our baseline model.

In the supplement we explore a plausible mechanism for the effects of job loss, focusing on the physical deprivation due to the crisis[22] and provide additional evidence that job loss is associated with a decline in pro-sociality even when we focus on generalised trust, which is a measure of pro-sociality that is not causally related to income level (see section 4 and Table A8 in the annex).

We do not find similar results when we look at the effects of wage and pension cuts on charity giving (see the analysis in section 5 and Table A9 in the annex). The disparity in the results when we compare job losses with wage reductions is interesting and consistent with other studies of the effects of economic crisis (for example, Margalit, 2013, also finds that wage losses have no effect on attitudes, whereas job losses do). We do not have sufficient data to explore this difference further, but it might be instructive with regard to the mechanism underlying the effect we have found. If reduced donations to charity were simply a function of having lower income due to the crisis, then we would expect a similar effect for both job loss and wage reductions, since they both reduce household income. However, job

[22] We also show in the annex (Table A7) that the physical deprivation resulting from the economic crisis mediates the effects of job loss. We create a composite index of variables measuring deprivation (reduced consumption of staple foods; inability to buy medications; skipping visits to doctors, and so on) and conduct a mediation analysis that we describe in the supplement.

loss is a more severe form of exposure to economic crisis and might trigger a traumatic response as the affected households feel more isolated, more vulnerable, and possibly have lower expectations about the future. Whereas most Greeks were in the same boat with regard to wage reductions and tax increases, fewer individuals lost their jobs, so this unique experience might make them feel less solidarity towards others.[23]

As a final robustness test, we check the sensitivity of the estimated effects of austerity exposure to omitted variables. Specifically, we implement a procedure (Beber, Roessler and Scacco, 2014) designed to measure changes in parameter estimates for the potentially endogenous regressor (job loss) as we vary the extent of correlation between an omitted variable and that regressor on the one hand, and the correlation between the omitted variable and the outcome variable, on the other hand. Results for both charity pairs are reported in Chart 2. Highlighted in red are areas where the estimated effects of *household job loss* in Table 1 are invalidated because correlation with an omitted variable is so large as to switch the sign of the coefficient on job loss. We can see that the correlation between the omitted variable and job loss would have to be large (around 0.4) and that variable would have to have a stronger correlation to the outcome than household income, savings or age. We cannot think of a variable that has these characteristics. Thus, this test increases our confidence that job loss has had an overall negative and statistically significant effect on pro-sociality.[24]

5.2 Attitudes towards social spending

In addition to showing the effect of job loss on our behavioural measure of solidarity (charity donations), we explore its effect on expressed attitudes about social spending in different policy areas. The survey instrument asks: "Would you be willing to give part of your income or pay more taxes, if you were sure that the extra money was used to…help the needy? / improve public education? / combat climate change?". The results of logistic regressions of the response are presented in Table 4.

As with the behavioural measure of solidarity, household job loss is associated with strong reductions in expressed willingness to pay increased taxes for each issue area. Income and pension tax increases as well as new property taxes were a big component of the austerity policy package, so the results echo public opposition to more tax hikes with those most affected by austerity registering higher levels of opposition. Socioeconomic status is positively associated with willingness to pay more for social services. Those with higher income and those with higher education are more likely to be willing to pay for help for the needy, for schools and for preventing climate change. Interestingly, in contrast to our findings with the behavioural measure of solidarity, the respondent's access to savings has no significant effect. Employment in the public sector is also an important predictor of willingness to contribute to social spending as is political orientation (supporters of both establishment parties, ND and PASOK are less likely to support more social spending, whereas those who voted for left-wing SYRIZA support more spending).

[23] Could it be that we do not observe lower pro-sociality among those whose wages/pensions were reduced because those people were able to smooth consumption using support from informal networks? We do not have data to answer that question, but that is unlikely to be the explanation. If such informal networks are strong, then those who lost their jobs due to austerity should have received even more assistance than those whose wages were cut, yet those people do not become more pro-social.

[24] In the supplement (section 6, Chart A1), we present an additional sensitivity analysis focusing on job loss only among household heads and we find similar results.

5.3 Preference for in-group charities

Respondents in our survey donated an average of €26 to charity – more money is donated, in percentage terms, than is typical of dictator-type games. We hypothesised that this pro-social behaviour would be directed primarily towards charities targeting Greeks. A glance at the overall donation levels in Chart 3 bears out our expectation of in-group bias. In charity pair A, donations to in-group charities outpace those to out-group charities at a ratio of almost 2:1.[25]

To what extent are these in-group preferences a result of exposure to economic crisis? We first model donations to the out-group and donations to the in-group as separate outcome variables, using WLS regression. As in previous models, we use *household job loss* as our indicator of crisis exposure and include individual-level controls and region fixed effects. Table 5 presents the results of our regressions. Out-group solidarity in charity pair A is sensitive to economic crisis exposure: overall, job loss reduces out-group giving by approximately €5. This establishes a decline in the *level* of out-group solidarity in charity pair A. But to show that job loss intensifies in-group *favouritism*, we need to rule out the possibility that declining support for the out-group is simply a result of lower overall solidarity due to the economic crisis. If exposure to the economic crisis reduces pro-sociality in general but does not increase in-group bias, we should see a proportionate reduction in predicted donations to both in-group and out-group charities.

We begin our exploration of in-group preference with a comparison of the effect of job loss across the in-group and out-group models. Table 6 summarises the predictions generated by the models presented in Table 5. In charity pair A, job loss reduces predicted out-group solidarity by €5, and in-group solidarity by just €2.2.[26] Comparing the predicted donations with the in-group and out-group across models gives us a rough illustration of in-group preference. Without job loss, charity pair A respondents are predicted to donate 1.7 times as much to in-group charities as to out-group charities. With job loss, respondents are predicted to show three times as much solidarity with the in-group as with the out-group – almost twice the degree of in-group preference as those without job loss.[27] These rough approximations are in line with our second hypothesis that austerity exposure would increase in-group preference, particularly in charities that are "relevant" to the economic crisis.[28]

5.4 Controlling for overall solidarity

As an additional check of the effect of job loss on in-group preference in charity pair A, we specify additional regressions of out-group solidarity controlling for funds not donated to either charity. This allows us to estimate the effect of job loss on out-group solidarity while

[25] Respondents allocated, on average, €16 to the in-group charity, and €8 to the out-group charity in charity pair A. An even stronger pattern revealing in-group bias is evident in the second charity pair (see annex). We focus on charity pair A in our analysis of the effect of job loss on in-group preference as that is the pair of charities operating in an issue area most relevant to the economic crisis. We do not find statistically significant effects of job loss on donation differences between in-group and out-group in charity pair B. We offer some potential explanations in the supplement.

[26] In charity pair B, job loss reduces in-group solidarity by an average of €3, and out-group solidarity by €1, although the latter estimated reduction is not statistically significant at conventional levels. See annex, section 7.

[27] The patterns for charity pair B are less distinct. Both with and without job loss, charity pair B respondents are predicted to donate approximately five times as much to the in-group as to the out-group. See results in the annex.

[28] In the annex (section 7; Table A12), we show that the results on in-group bias are not driven by supporters of "hard right" parties (LAOS and Golden Dawn).

accounting for selfishness, so that we can assess changes to the preferential treatment of in-groups over out-groups. Table 7 presents the resulting estimates for charity pair A. In column 1, *amount kept* is included as a control. Job loss is associated with a drop in donations to the out-group of €2.55. Each additional euro kept is associated with a €0.37 drop in donations to the out-group.

In column 2 we interact the amount kept with job loss. This interaction term allows the effect of job loss on donations to the out-group to vary based on the amount kept. This is perhaps a more plausible formulation, because the total funds are capped at €40. If in-group preference is defined as a ratio of funds donated to the in-group over the out-group, and we assume the effect of job loss on out-group giving is homogenous across the amount of funds kept, then our measure of in-group preference would change mechanically across different levels of selfishness.

The interaction term allows the effect of job loss on out-group giving to be proportional to the remaining funds, which more closely approximates our measure of in-group preference. The results of this model are illustrated in Chart 4, which plots the predicted donations to out-groups in charity pair A against the amount of funds the respondent kept. The diagonal green line represents the funds that would be donated to the out-group if respondents were indifferent between the in-group and out-group charities (that is, $y = (40-x)/2$). If a respondent were indifferent and donated all funds to charity, we would expect donations of €20 to each charity. In each case, we see predicted donations to the out-group are far below the line of parity. For charity pair A, those without job loss allocate three-quarters of what we would expect to the out-group, for any level of selfishness. Those with job loss allocate half of what we would expect to the out-group. This means that job loss reduces out-group donations by a third, even holding the total donation level constant.

Column 3 interacts *amount kept* with each covariate, allowing the size of the effect to be proportional to the remaining funds. The results are very similar to those in column 2: job loss is associated with a reduction in out-group giving, even holding total donations constant. Our evidence for *hypothesis 2* is thus mixed. We had predicted that austerity exposure would increase in-group bias. In charity pair A, where we expected to find the strongest effect, we do find support for our argument.[29] Exposure to austerity lowers solidarity, even with the in-group, but it lowers solidarity with the out-group more.

5.5 Indirect effect of crisis exposure through blame of outsiders

Why is out-group giving lower among individuals who are more affected by austerity? Blaming outsiders for the crisis might be part of the answer. A common perception in Greece is that austerity policy was promoted by international institutions (European Commission, the IMF) whose priority was to shield European commercial banks from a possible default of Greek debt by pushing Greek governments to accept successive bailouts with painful terms. The more the crisis is perceived as externally imposed and insensitive to the welfare of Greeks, the higher should be the salience of the national identity when the out-group is defined to include international actors or foreigners.

We address this question indirectly by adding a variable to our model that codes perceptions of blame for the economic crisis. Specifically, we add an indicator for whether respondents believe the European Union is responsible for the crisis (see Table 8) and find a strong

[29] However, using *household-head job loss*, we find no effect (see Table A15 in the annex).

negative effect of this variable on out-group giving, while controlling for job loss, income and other covariates.

In the annex (section 8), we present results from mediation analyses, testing if blaming "outsiders" such as the European Union *mediates* the observed relationship between out-group giving and job loss. We again use "sequential g-estimation" (Acharya, Blackwell and Sen, 2016), which allows us to estimate the effect of job loss on charity allocations to out-groups, if blaming the European Union for the crisis were set at a fixed level. We find a weak mediation effect. In a placebo test, we explore blame for the ruling party (PASOK) or both establishment parties (PASOK and ND) as mediators for out-group giving (this is a placebo test because blaming Greek parties should not affect the salience of national versus international cleavage) and find no evidence of such an effect. The picture that emerges from that analysis is that blame of outsiders for the economic crisis may partially, but not completely, explain the effects of job loss on out-group donations. Another implication is that the negative effect on out-group giving of the European Union's treatment of the Greeks during the crisis is broader than what job loss can explain, and is probably due to an overall heightened sense of the boundaries that divided most Greeks from their European neighbours during the crisis.

6. Conclusion

Austerity policies have been blamed for Greece's prolonged recession after the debt crisis of 2009. Using new data from a household survey, we provide the first systematic analysis of the social consequences of the crisis and show that it diminished generalised solidarity. These results speak to the broader literature on the economic determinants of social preferences by showing that negative economic shocks with uneven distributive consequences weaken levels of trust and pro-sociality. These consequences are not simply due to having lower income, as our analysis clearly demonstrates. Experiencing job loss and other physical consequences of economic downturn affects individuals' attitudes towards others and shapes their social and political outlooks in ways not captured simply by the decline in personal income. As in the parallel literature on the effects of exposure to violence, we find that exposure to economic hardship can induce in-group bias when the out-group includes international organisations or foreigners. This is consistent with observations of increased support for nationalist parties after deep recessions. However, contrary to the literature on the effects of violence, we find that experiencing harsh economic conditions has an overall negative effect of pro-sociality. This is likely due to the crisis making class divisions more salient and possibly also due to resentment felt among people who believe they have suffered disproportionately more than others.

These results have important implications for a large literature exploring the effects of economic downturns on political radicalisation and extremism. While our data do not allow us to speak to similar experiences with economic hardship in other countries, our results are consistent with rising ethno-nationalism and radicalisation observed in countries in western Europe experiencing recession. The fact that we are able to identify such an effect and to show that it is not simply due to reduced income is suggestive of a psychological mechanism underpinning the turn to social isolation and political radicalisation in response to economic hardship. This, in turn, could explain how extremist parties can benefit from targeting the disaffected population whose ties to the rest of society are weakened as a result of negative economic shocks.

Further, our analysis also suggests a possible feedback loop that can explain the depth of economic recessions. To the extent that trust in institutions, willingness to pay taxes and contribute to public goods, and solidarity with others are ingredients for a well-functioning economy, our findings suggest that austerity policies can weaken the social underpinnings of pro-growth policies by increasing social isolation. Lower levels of solidarity will contribute to further economic decline through this socio-psychological pathway. Similarly, if poor handling of economic crises heightens the awareness of us-them distinctions that fall along national lines, this can reduce international cooperation by increasing hostility to out-groups and inducing in-group bias.

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Tables and charts

Source for all tables and charts: authors' data and calculations.

Table 1: Job loss and plausible correlates of social preferences, logistic regression

	Dependent variable: Job loss (in household)	
	(1)	(2)
Age	-0.011**	-0.0060
	(0.0054)	(0.0069)
Education (post-sec.)	-0.015	0.25
	(0.17)	(0.19)
Rural	-0.94***	-0.84***
	(0.21)	(0.23)
Male	-0.12	-0.11
	(0.15)	(0.17)
Father post-sec. ed.	-0.57*	-0.21
	(0.30)	(0.31)
Adults in household	0.57***	0.67***
	(0.088)	(0.098)
Income (ladder)		-0.25***
		(0.060)
Household head public empl.		-1.04**
		(0.42)
Had savings		-0.016
		(0.18)
Homeowner occupation		-0.38**
		(0.19)
Constant	-0.75	0.41
	(0.54)	(0.68)
Region FE	Yes	Yes
Observations	1,503	1,302

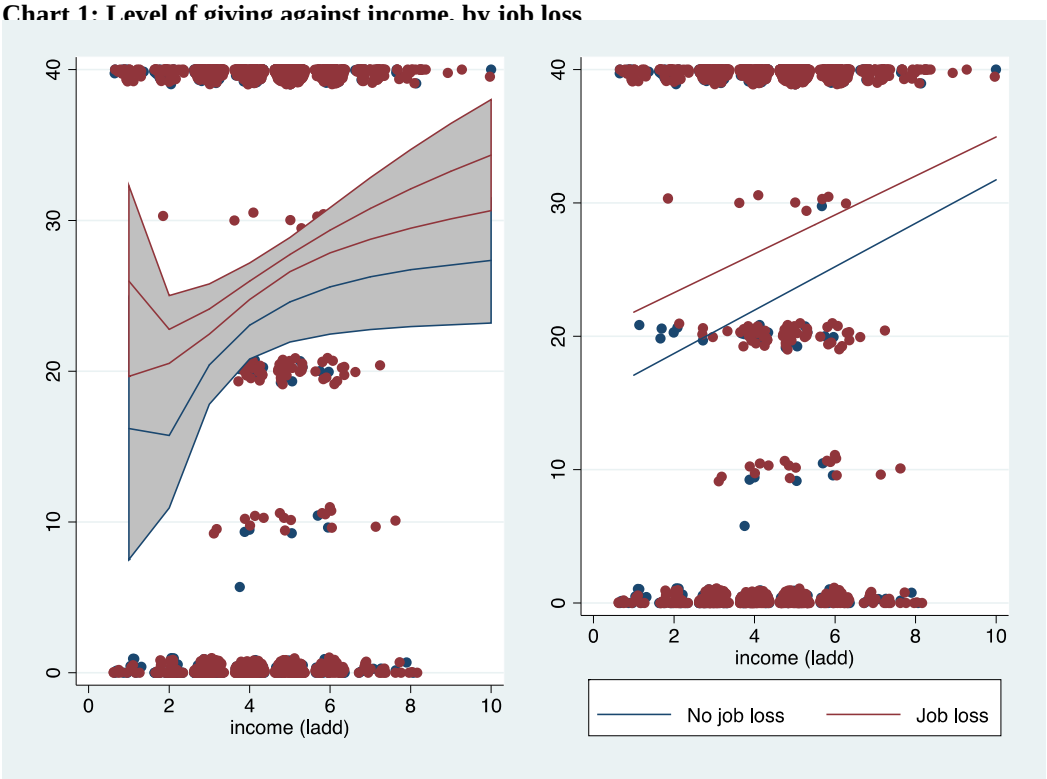
Note: Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01. Data on whether the household head is a public employee is missing for 201 respondents. We include it in subsequent models because public employees were significantly less likely to be fired during the economic crisis. Results hold when we exclude it.

Table 2: Effect of job loss on donations to charity

	Dependent variable: Total amount donated			
	(1)	(2)	(3)	(4)
	Charity pair A	Charity pair B	Charity pair A	Charity pair B
Job loss (household)			-6.61***	-4.89**
			(2.14)	(2.00)
Hh head job loss	-5.16*	-6.28**		
	(2.63)	(2.68)		
Age	-0.01	-0.02	0.01	-0.03
	(0.06)	(0.07)	(0.06)	(0.07)
Income (ladder)	2.45***	0.82	2.10***	0.90*
	(0.52)	(0.51)	(0.52)	(0.51)
Education (post-sec.)	5.04***	1.17	5.85***	1.33
	(1.66)	(1.82)	(1.65)	(1.79)
Rural	-2.37	-2.80	-2.41	-2.01
	(2.10)	(2.09)	(2.08)	(2.04)
Male	0.99	2.12	1.45	1.70
	(1.49)	(1.57)	(1.46)	(1.56)
Father post-sec. ed.	-0.20	3.37	-0.70	2.53
	(2.41)	(2.58)	(2.30)	(2.56)
Hh head public empl.	-2.55	-2.35	-3.45	-2.82
	(3.45)	(2.98)	(3.32)	(2.98)
Adults in hh	-1.21	-2.21*	-0.56	-1.85
	(1.04)	(1.18)	(1.05)	(1.16)
Homeowner occ.	-1.95	3.95**	-1.97	3.66**
	(1.73)	(1.77)	(1.73)	(1.80)
Had savings	4.48***	7.82***	4.18***	7.89***
	(1.61)	(1.60)	(1.56)	(1.59)
Constant	11.20*	16.18***	11.54**	16.22***
	(6.12)	(6.22)	(5.83)	(6.03)
Region FE	Yes	Yes	Yes	Yes
Observations	654	625	671	631

Note: Standard errors in parentheses* p<.10, ** p<.05, *** p<.01. Weighted least squares estimates. Models 1 & 3 show the estimates for individuals presented with charity pair A: Social Grocery Store and Hellenic Red Cross. Models 2 & 4 show the estimates for individuals presented with charity pair B: Smile of the Child and UNICEF. The dependent variable is the total amount donated to either charity in the pair.

Chart 1: Level of giving against income, by job loss



Note: Amount donated (in €) is on the Y-axis. Blue lines indicate fractional polynomial fit (left) or linear fit (right) of giving against income for those who did not experience job loss. Red lines indicate the same for those who experienced job loss.

Chart 2: Sensitivity of the effect of job loss to omitted variable bias

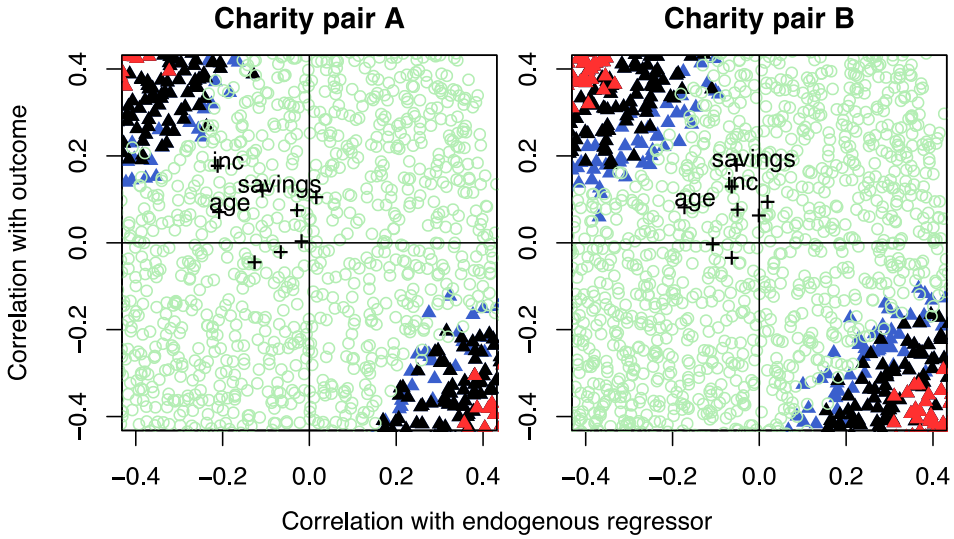


Table 3: Effects of job loss on donations to charity net the effect of current income

	Dependent variable:			
	Amount donated in charity pair A		Amount donated in charity pair B	
	(1)	(2)	(3)	(4)
Job loss	-6.61***	-7.04***	-4.89***	-4.96**
	(1.84)	(2.15)	(1.68)	(2.04)
Income	2.10***		0.90*	
	(0.47)		(0.48)	
Region fixed effects	Yes	Yes	Yes	Yes
Pre-crisis covariates	Yes	Yes	Yes	Yes
Post-crisis covariates	Yes		Yes	
Bootstrapped SEs		Yes		Yes
Model	WLS	Seq. g-est.	WLS	Seq. g-est.
Observations	671	671	631	631

Note: Columns 1 and 3 show the baseline specification from Table 2. Columns 2 and 4 use sequential g-estimation. WLS = weighted least squares. Pre-crisis covariates: age, gender, father's post-secondary education, urban/rural status and region. Post-crisis covariates: secondary education, number of adults in the household, savings, household head employment in the public sector and home ownership. Some pre-crisis covariates (for example, urban/rural status and region) could have been affected by the economic crisis. Results are robust to treating these covariates as post-crisis. Standard errors in parentheses.

*p< 0.1 **p<0.05 ***p<0.01

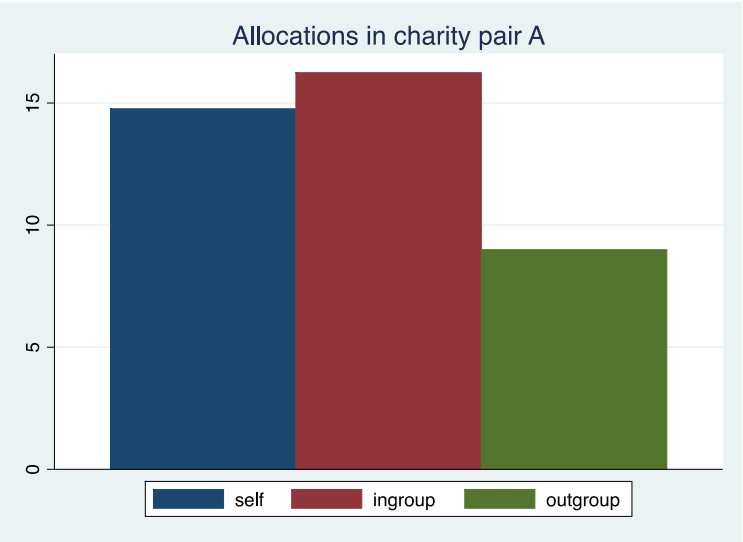
Table 4: **Effect of job loss on willingness to pay for social spending, logistic regression**

	(1) Tax for needy	(2) Tax for schools	(3) Tax for climate
Job loss (household)	-0.67***	-0.85***	-0.61***
	(0.18)	(0.19)	(0.20)
Age	-0.01	-0.00	-0.01*
	(0.01)	(0.01)	(0.01)
Income (ladder)	0.26***	0.18***	0.25***
	(0.05)	(0.05)	(0.05)
Education (post-sec.)	0.38**	0.56***	0.40**
	(0.17)	(0.17)	(0.17)
Rural	-0.25	-0.62***	-0.35
	(0.19)	(0.20)	(0.22)
Male	0.06	0.04	0.05
	(0.14)	(0.14)	(0.15)
Father post-sec. ed.	-0.17	-0.44*	-0.23
	(0.27)	(0.26)	(0.26)
HH head public empl.	0.80***	0.87***	0.82***
	(0.30)	(0.32)	(0.29)
Adults in hh	-0.05	0.07	-0.02
	(0.10)	(0.10)	(0.11)
Homeowner occ.	-0.20	-0.13	-0.13
	(0.17)	(0.17)	(0.18)
Had savings	0.16	0.12	0.06
	(0.15)	(0.15)	(0.16)
Vote in 2009:			
Communist Party of Greece	-0.66**	-0.83***	-0.83**
	(0.30)	(0.32)	(0.38)
Ecologist Greens	0.83	-0.05	-0.06
	(0.57)	(0.53)	(0.62)
Golden Dawn	-0.39	-0.51	0.17
	(0.51)	(0.52)	(0.50)
Laos	-0.33	-2.04**	-1.70*
	(0.79)	(0.93)	(1.02)
Nea Dimokratia	-0.72***	-0.68***	-0.98***
	(0.19)	(0.19)	(0.21)
Pasok	-0.34*	-0.41**	-0.29
	(0.19)	(0.20)	(0.21)
SYRIZA	0.70**	0.77***	0.81***
	(0.30)	(0.29)	(0.29)
Other party	1.22	1.46	0.86
	(1.37)	(1.42)	(1.26)
Constant	-0.83	-0.41	-0.47
	(0.53)	(0.53)	(0.57)
Region FE	Yes	Yes	Yes
Observations	1,230	1,275	1,211

Note: Standard errors in parentheses * p<.10, ** p<.05, *** p<.01

Dependent variable is the binary response to the question, "Would you be willing to give part of your income or pay more taxes, if you were sure that the extra money was used to [help the needy/improve public education/combat climate change]?" Reference category for party vote in 2009 is "none."

Chart 3: Respondent allocations to charity



Note: Amount donated (€).

Table 5: Effect of job loss on donation amount to in-group and out-group charities in charity pair A

	(1) Amount donated to in-group	(2) Amount donated to out-group
Job loss (household)	-2.28	-4.59***
	(1.87)	(1.33)
Age	0.095*	-0.044
	(0.053)	(0.040)
Income (ladder)	1.91***	0.19
	(0.45)	(0.33)
Education (post-sec.)	5.24***	0.31
	(1.60)	(1.24)
Rural	-1.73	-0.31
	(1.87)	(1.47)
Male	0.74	0.45
	(1.32)	(1.03)
Father post-sec. ed.	0.52	-1.02
	(2.45)	(1.70)
HH head public empl.	-5.49**	1.55
	(2.66)	(2.27)
Adults in hh	0.61	-1.18**
	(0.88)	(0.58)
Homeowner occ.	-0.77	-1.06
	(1.59)	(1.24)
Constant	-5.96	17.6***
	(4.92)	(3.79)
Region FE	Yes	Yes
Observations	687	687

Note: Standard errors in parentheses
* p<.10, ** p<.05, *** p<.01

Table 6: Predicted donations to in-group and out-group charity in charity pair A

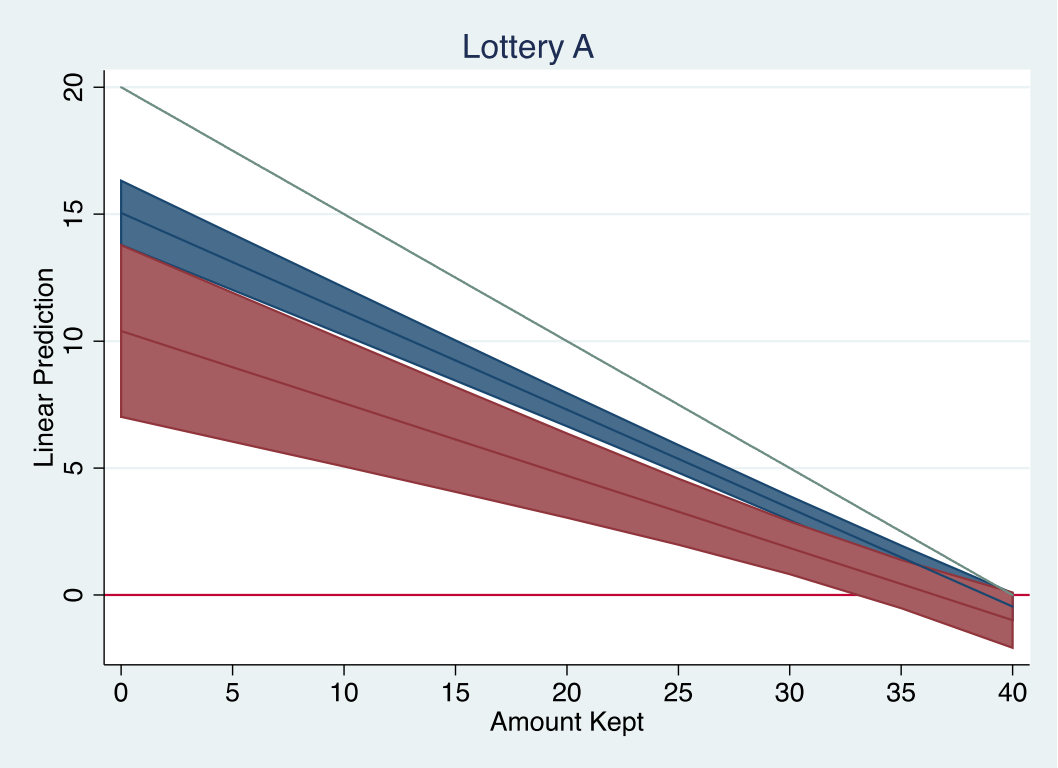
	No job loss	Job loss	Drop
In-group	€16.20	€14.00	€2.20 (14%)
Out-group	€9.80	€4.70	€5.10 (52%)

Table 7: Effect of job loss on bias against out-groups

	Dependent variable: Donations to out-group charity in charity pair A		
	(1)	(2)	(3)
Amt kept	-0.37***	-0.39***	-0.84***
	(0.022)	(0.022)	(0.14)
Job loss (household)	-2.55**	-4.53**	-4.77**
	(1.14)	(2.20)	(2.28)
Job loss (household) x Amt kept		0.10*	0.12**
		(0.060)	(0.059)
Constant	24.9***	24.9***	33.1***
	(3.48)	(3.47)	(5.45)
Region FE	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes
Public service	Yes	Yes	Yes
Observations	654	654	654

Note: Standard errors in parentheses
* p<.10, ** p<.05, *** p<.01
Individual-level controls: age, income, secondary education, urban/rural status, gender, the number of adults in the household and indicators for savings, father's post-secondary education, household head employment in the public sector and home ownership.

Chart 4: Predicted amount donated to the out-group charity against amount kept



Note: Predictions calculated based on estimates presented in column 2 of Table 7. Red represents predicted donations by those with job loss; blue represents predictions for those without job loss. Bands indicate 95% confidence intervals. The diagonal green line represents the funds that would be donated to the out-group if respondents were indifferent between the in-group and out-group charities (that is, $y = (40-x)/2$). If a respondent were indifferent and donated all funds to charity, we would expect donations of €20 to each charity. Amount (€).

Table 8: Effect of holding the EU responsible for the economic crisis on giving to the out-group in charity pair A

	Amount donated to out-group charity A
Blame EU for crisis	-2.24***
	(0.66)
Job loss (household)	-2.71***
	(0.81)
Age	-0.05*
	(0.03)
Income (ladder)	0.34
	(0.21)
Education (post-sec.)	0.43
	(0.84)
Rural	-0.30
	(0.94)
Male	0.42
	(0.67)
Father post-sec. ed.	-1.22
	(1.20)
HH head public empl.	-0.37
	(1.40)
Adults in hh	-1.03***
	(0.39)
Homeowner occ.	-0.72
	(0.80)
Had savings	1.46**
	(0.71)
Constant	13.35***
	(2.57)
Region FE	Yes
Observations	1,301

Annex

A1. Wording of the donation to charity question

Charity pair A

"We now invite you to participate in a lottery that will award 100 of the participants in our study some money. 100 people will be chosen at random to receive a prize of 40 euro. If you are chosen to receive the 40 euro prize, you can keep the entire amount for yourself or you can donate all or part of it to a non-profit organization providing services to vulnerable people. You can make a donation to *Koinwniko Pantopoleio*, an initiative that helps municipalities across Greece provide food, clothes, and basic necessities to poor residents of the municipality; or the Hellenic Red Cross, an international organization that helps feed and provide medical assistance to hundreds of refugees across Greece; or you can contribute to both. If you are selected to receive the prize, how much would you like to keep and how much would you like to donate? Keep in mind that the total must add up to 40 euro. Your chances of receiving the prize do not depend in any way on your answers. The money that you have decided to keep for yourself will be sent to you. The money you have decided to donate will be transferred to the respective organizations."

Charity pair B

"We now invite you to participate in a lottery that will award 100 of the participants in our study some money. 100 people will be chosen at random to receive a prize of 40 euro. If you are chosen to receive the 40 euro prize, you can keep the entire amount for yourself or you can donate all or part of it to a non-profit organization providing services to vulnerable people. You can make a donation to Smile of the Child (Χαμόγελο του Παιδιού), a Greek organization which provides food, medical aid and psychological support to children in need in our country, or the Greek National Commission for UNICEF (Ελληνική Εθνική Επιτροπή της UNICEF), an international organization which helps provide food, medical aid and psychological support to refugee children around the world, including in our country, or you can contribute to both. If you are selected to receive the prize, how much would you like to keep and how much would you like to donate? Keep in mind that the total must add up to 40 euro. Your chances of receiving the prize do not depend in any way on your answers. The money that you have decided to keep for yourself will be sent to you. The money you have decided to donate will be transferred to the respective organizations."

A2. Instructions to enumerators regarding the donation to charity questions

The two questions are randomised across a sample consisting of half of the households.

Respondent allocations should be done without the interviewer observing. The interviewer should ask the respondent if they feel comfortable using a tablet so that they can enter the data themselves. The interviewer should turn the tablet toward the interviewer and instruct them on how to enter the data while averting her/his eyes so that s/he does not observe the allocations. The interviewer should explicitly say to the respondent: "now please enter the information in the tablet. I will look away so that no one will know how you allocate your money." If the respondent does not feel comfortable entering the information directly, the interviewer can ask if there is another family member who can assist and hand the tablet over to that person while stepping back so as not to hear any communication between the respondent and the family member regarding the allocations. Finally, in the event that the respondent is unable to enter the information directly and there is no family member who can assist, the interviewer can ask the respondent can enter the information while assuring the respondent that their answers will remain private.

Interviewer to record in a separate variable if respondent entered allocation by themselves or was assisted by interviewer or family member (record interviewer/family member).

Respondent to be asked to sign consent form in order to participate in the lottery after the question. Details of the lottery to be provided verbally after respondent has read the consent form, namely:

The lottery will be held in January 2016 abroad, by one of the researchers, in the presence of a notary public. If you are one of the winners, we will contact you to arrange your payment.

A3. Overall solidarity

This section includes results from the regressions in Table 2 after adding more controls; it also includes the results referenced in footnote 19 of the main text.

Does the effect of job loss depend on income? We re-estimate the effect of job loss on overall donations to charity (Table 2 in the main text) including an interaction between job loss and income. The effects are shown in Table A1. We find no evidence that the effect of job loss is conditional on income.

Table A1: Effect of job loss, conditional on income, on amount donated

	(1) Amt donated	(2) Amt donated	(3) Amt donated	(4) Amt donated
Income (ladder)	2.51***	0.77	2.27***	1.15**
	(0.54)	(0.55)	(0.59)	(0.57)
Job loss (head)	-2.89	-7.76		
	(6.12)	(6.24)		
Job loss (head) x Income (ladder)	-0.63	0.34		
	(1.62)	(1.46)		
Job loss (hh)			-3.34	-1.04
			(5.38)	(5.56)
Job loss (hh) x Income (ladder)			-0.82	-0.88
			(1.26)	(1.20)
Age	-0.01	-0.02	0.01	-0.03
	(0.06)	(0.07)	(0.06)	(0.07)
Education (post-sec.)	5.07***	1.19	5.90***	1.28
	(1.67)	(1.82)	(1.64)	(1.79)
Rural	-2.32	-2.83	-2.32	-1.91
	(2.11)	(2.09)	(2.09)	(2.03)
Male	0.98	2.12	1.49	1.68
	(1.49)	(1.57)	(1.46)	(1.56)
Father post-sec. ed.	-0.27	3.32	-0.83	2.57
	(2.41)	(2.54)	(2.31)	(2.55)
HH head public empl.	-2.60	-2.34	-3.40	-2.80
	(3.45)	(2.98)	(3.32)	(2.97)
Adults in hh	-1.22	-2.22*	-0.61	-1.89
	(1.05)	(1.18)	(1.05)	(1.17)
Homeowner occ.	-1.97	3.95**	-1.99	3.66**
	(1.73)	(1.77)	(1.73)	(1.80)
Had savings	4.55***	7.82***	4.23***	7.95***
	(1.62)	(1.60)	(1.56)	(1.59)
Constant	10.80*	16.45***	10.66*	15.15**
	(6.23)	(6.22)	(5.94)	(6.11)
Region FE	Yes	Yes	Yes	Yes
Observations	654	625	671	631

Note: Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01

Next, we show robustness checks for the results in Table 2 in the main text. Tables S2-S4 below show that the effect of job loss on overall donations to charity are robust to (1) the presence of others while respondents entered their allocations to charity; (2) whether respondents entered allocation by themselves, or needed assistance; and (3) if respondent signed consent form to participate in the lottery.

Table A2: Job loss and donations to charity, controlling for factors affecting the privacy of the allocation decisions

	(1) Charity pair A	(2) Charity pair B	(3) Charity pair A	(4) Charity pair B	(5) Charity pair A	(6) Charity pair B
Job loss (hh)	-6.59***	-4.92**	-6.34***	-5.11***	-6.61***	-4.95**
	(2.13)	(2.00)	(2.09)	(1.97)	(2.14)	(2.00)
Age	0.020	-0.016	0.0025	-0.035	0.0084	-0.030
	(0.061)	(0.067)	(0.061)	(0.065)	(0.061)	(0.066)
Income (ladder)	2.06***	0.89*	2.00***	0.80	2.10***	0.89*
	(0.52)	(0.50)	(0.52)	(0.51)	(0.52)	(0.51)
Education (post-sec.)	5.68***	1.11	5.80***	1.62	5.84***	1.30
	(1.65)	(1.81)	(1.66)	(1.80)	(1.65)	(1.79)
Rural	-2.75	-2.34	-2.12	-1.77	-2.41	-2.00
	(2.12)	(2.12)	(2.07)	(2.01)	(2.08)	(2.04)
Male	1.38	1.62	1.56	1.81	1.45	1.68
	(1.46)	(1.57)	(1.46)	(1.56)	(1.46)	(1.56)
Father post-sec. ed.	-0.96	2.52	-0.31	2.70	-0.73	2.58
	(2.31)	(2.54)	(2.30)	(2.53)	(2.30)	(2.57)
HH head public empl.	-3.50	-2.94	-2.89	-3.05	-3.44	-2.77
	(3.32)	(2.98)	(3.36)	(2.93)	(3.32)	(3.00)
Adults in hh	-0.56	-1.85	-0.65	-1.76	-0.54	-1.91
	(1.03)	(1.17)	(1.06)	(1.16)	(1.06)	(1.19)
Homeowner occ.	-2.16	3.66**	-2.00	3.62**	-1.96	3.67**
	(1.73)	(1.80)	(1.69)	(1.79)	(1.72)	(1.80)
Had savings	4.11***	7.87***	4.26***	8.09***	4.17***	7.93***
	(1.56)	(1.59)	(1.55)	(1.58)	(1.56)	(1.59)
Entered donation amounts w/o help	1.70	1.44				
	(1.62)	(1.71)				
Entered lottery			-3.56**	-3.43**		
			(1.59)	(1.64)		
Entered donation amounts w/o bystanders					0.19	-0.49
					(1.58)	(1.69)
Constant	11.2*	15.6***	15.7***	19.8***	11.5*	16.6***
	(5.79)	(6.01)	(5.98)	(6.15)	(5.89)	(6.17)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	671	631	671	631	671	631

Note: Standard errors in parentheses.* p<.10, ** p<.05, *** p<.01

Next we re-estimate the models shown in Table 2 without including *savings* as a covariate. If those whose households lost jobs underreported their savings, then including savings could artificially inflate our estimate of the marginal effect of job loss on overall giving. The estimated effect of job loss presented in the results shown below alleviate this concern.

Table A3: Job loss and donations to charity, without savings as covariate

	(1)	(2)
	Amount given A	Amount given B
Job loss (hh)	-6.86***	-4.20**
	(2.13)	(2.04)
Age	0.050	0.045
	(0.060)	(0.065)
Income (ladder)	2.09***	0.80
	(0.51)	(0.51)
Education (post-sec.)	5.55***	1.74
	(1.65)	(1.78)
Rural	-2.04	-0.47
	(2.13)	(2.04)
Male	1.19	2.39
	(1.47)	(1.56)
Father post-sec. ed.	-0.50	2.66
	(2.43)	(2.58)
HH head public empl.	-3.94	-2.44
	(3.56)	(3.10)
Adults in hh	-0.57	-1.55
	(1.03)	(1.17)
Homeowner occ.	-1.83	4.12**
	(1.71)	(1.85)
Constant	11.7**	14.5**
	(5.73)	(6.04)
Region FE	Yes	Yes
Observations	687	646

Note: Standard errors in parentheses * p<.10, ** p<.05, *** p<.01

Table A4: Job loss and donations to charity, including *children in household* as covariate

	(1) Total giving A	(2) Total giving B
Job loss (hh)	-6.65***	-4.87**
	(2.13)	(2.00)
Age	0.013	-0.025
	(0.061)	(0.066)
Income (ladder)	2.10***	0.91*
	(0.52)	(0.51)
Education (post-sec.)	5.86***	1.35
	(1.65)	(1.80)
Rural	-2.45	-2.00
	(2.08)	(2.04)
Male	1.46	1.71
	(1.46)	(1.56)
Father post-sec. ed.	-0.62	2.54
	(2.30)	(2.56)
HH head public empl.	-3.61	-2.88
	(3.32)	(2.98)
Adults in hh	-0.58	-1.86
	(1.05)	(1.17)
Homeowner occ.	-1.97	3.65**
	(1.73)	(1.81)
Had savings	4.14***	7.86***
	(1.56)	(1.59)
Children in household	0.85	0.48
	(2.37)	(2.17)
Constant	11.2*	16.0***
	(5.85)	(6.03)
Region FE	Yes	Yes
Observations	671	631

Note: Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01.

Table A5: Effect of job loss on donations to charity, conditional on party support in 2009

	(1) Charity pair A	(2) Charity pair B
Job loss (hh)	-6.20***	-5.09**
	(2.12)	(1.99)
Age	0.0050	-0.034
	(0.062)	(0.067)
Income (ladder)	2.08***	0.82
	(0.53)	(0.51)
Education (post-sec.)	5.81***	1.17
	(1.66)	(1.80)
Rural	-2.43	-2.55
	(2.02)	(2.01)
Male	1.58	1.55
	(1.46)	(1.58)
Father post-sec. ed.	0.58	2.37
	(2.21)	(2.65)
HH head public empl.	-3.68	-2.90
	(3.31)	(2.95)
Adults in hh	-0.48	-1.81
	(1.04)	(1.17)
Homeowner occ.	-2.88	3.21*
	(1.75)	(1.77)
Had savings	4.45***	8.22***
	(1.54)	(1.63)
2009 party support:		
Communist Party of Greece	3.68	7.27*
	(3.39)	(4.05)
Ecologist Greens	-9.46*	3.01
	(5.42)	(4.58)
Golden Dawn	-9.59	-1.48
	(10.5)	(5.25)
Laos	-21.9***	6.59
	(4.52)	(5.22)
Nea Dimokratia	2.27	2.58
	(2.06)	(1.97)
Pasok	1.68	-0.60
	(2.16)	(2.25)
SYRIZA	6.35**	1.15
	(3.01)	(2.87)
Other party	16.6***	3.69
	(5.11)	(3.12)
Constant	11.9**	17.2***
	(5.81)	(5.98)
Region FE	Yes	Yes
Observations	671	631

Note: Standard errors in parentheses * p<.10, ** p<.05, *** p<.01.

Table A5 (above) shows results from regressions that control for party identity. Certain parties, especially on the extreme right, use rhetoric that suggests higher solidarity with other citizens. There is no evidence to support that this rhetoric reflects the social preferences of those who voted for these parties in 2009, and the estimated effect of job loss remains strong.

Note: The reference category for political party support in 2009 is “none”. When we break down the 2009 vote by political party, the number of respondents by party is often small. The outsize negative effect of LAOS supporters is because we have only a few LAOS supporters in the sample for charity group A and none of them contributed anything to charity.

Next, we show results from Tobit models. Because donations cannot exceed €40 or be below 0, our dependent variable is in effect censored. Table A6 shows the effect of job loss when accounting for censoring in the dependent variable, as estimated using a Tobit model. The effect of job loss remains large and precisely estimated.

Table A6: Job loss and donations to charity, Tobit regression

	(1) Amount given A	(2) Amount given B
Job loss (hh)	-85.7***	-56.2**
	(31.5)	(24.9)
Age	0.23	-0.29
	(0.89)	(0.80)
Income (ladder)	32.4***	11.3*
	(8.98)	(6.63)
Education (post-sec.)	90.7***	23.6
	(28.8)	(22.9)
Rural	-29.7	-23.8
	(29.9)	(25.3)
Male	20.1	21.5
	(21.2)	(19.6)
Father post-sec. ed.	-11.6	23.8
	(35.3)	(32.5)
HH head public empl.	-53.7	-33.4
	(49.1)	(33.4)
Adults in hh	-10.00	-24.5*
	(14.8)	(14.2)
Homeowner occ.	-28.4	40.2*
	(25.0)	(22.3)
Had savings	58.4**	98.9***
	(23.9)	(23.5)
Constant	-128.2	-31.5
	(87.0)	(73.7)
sigma		
Constant	189.7***	159.3***
	(29.1)	(24.3)
Region FE	Yes	Yes
Observations	671	631

Note: Standard errors in parentheses.* p<.10, ** p<.05, *** p<.01.

Physical deprivation as a mechanism

Why does job loss lead to less giving to charity? One pathway might be that job loss induces physical deprivation, such as reducing consumption of staple foods and medicine. This is likely a particularly traumatic experience, which could make one less pro-social.

We estimate the strength of this channel using "sequential g-estimation" (Acharya, Blackwell and Sen, 2016), because it allows us to estimate the effect of job loss on the funds allocated to charity, if physical distress due to the crisis were set at a fixed level. This quantity is called

the "controlled direct effect", and the strength of the *physical distress* mechanism can be measured by comparing the controlled direct effect with a baseline "average treatment effect" of job loss. Our operationalisation of *physical distress* is the sum of indicators for whether the respondent reduced consumption of staple foods, skipped doctor's visits, stopped buying regular medications, delayed paying utility bills, or defaulted on the mortgage of their primary residence.

The procedure for estimating the controlled direct effect is as follows: first we estimate the effect of job loss on donations to charity, controlling for pre-austerity conditions and current conditions, including physical deprivation. We then create a counterfactual dependent variable: what would the allocation to outsiders be if physical deprivation were set at a fixed level? The counterfactual allocation is thus the original allocated charities, minus the product of the respondent's level of physical distress and the coefficient estimate on physical distress from the full model ($\hat{y} = y - \beta * physical\ distress$, where y is the respondent's allocation to outsider charities and $\hat{y}$ is the counterfactual dependent variable). The final step is to model counterfactual allocations using job loss and the pre-crisis covariates. The coefficient on job loss in this model is the controlled direct effect of job loss. This is the influence of job loss on giving to charity, net any effect operating through physical distress.

The results for charity pair A are shown in models 1-3 in Table A7. Model 1 estimates the effect of job loss on allocations to charity, controlling for pre-treatment covariates: gender, age, urban/rural status, father's education, and region fixed effects. Because model 1 excludes post-treatment covariates, the coefficient on *job loss (hh)* can be considered the average treatment effect of job loss on allocations to the out-group: job loss is expected to reduce allocations to charity by €8.85. In model 2 we control for physical distress, as well as other post-treatment variables.[30] The coefficient on *physical distress* here is used to construct the counterfactual level of allocations we use as a dependent variable in model 3.

Column 3 presents our main results. The coefficient on job loss represents the Average Controlled Direct Effect (ACDE) of job loss on allocations to charity; that is, the effect of job loss besides its influence through inducing physical distress. The ACDE of household job loss remains both substantively and statistically significant, suggesting that with physical distress set at a fixed level, job loss would still be associated with less generosity in giving to charity. Is physical distress a mechanism by which job loss lowers generosity to charity? Comparing the effect of job loss in model 3 with that in model 1 can provide an estimate of the strength of this pathway. The bootstrapped 95 per cent confidence interval for this difference excludes zero (-2.88, -0.39), providing some evidence that economic crisis-related job loss affects allocations to charity in charity pair A by inducing physical distress. Columns 4-6 present results of the same analysis on those respondents presented with charity pair B. Here we find no evidence that physical distress mediates the effect of job loss on generosity toward charities (bootstrapped 95 per cent confidence interval: -1.74, 0.48).

[30] Post-treatment variables include income, savings, public sector employment and the number of adults in the household. For some variables, their status as pre- versus post-treatment is unclear. Results are not sensitive to the designation of these variables post-treatment as opposed to pre-treatment.

Table A7: Effect of household job loss on donations to charity, net any effect through physical distress

	Dependent variable: Amount donated					
	Charity pair A			*Charity pair B*		
	(1)	(2)	(3)	(4)	(5)	(6)
Job loss (hh)	-8.85***	-5.70***	-7.37***	-5.17***	-4.38***	-4.65***
	(1.80)	(1.85)	(2.12)	(1.68)	(1.73)	(2.07)
Physical distress		-2.20**			-0.87	
		(1.05)			(0.72)	
Region fixed effects	✓	✓	✓	✓	✓	✓
Pre-treatment covariates	✓	✓	✓	✓	✓	✓
Post-treatment covariates		✓			✓	
Estimation type	WLS	WLS	Seq. g est	WLS	WLS	Seq. g est
Observations	671	671	671	631	631	631

Note: Pre-treatment covariates: gender, age, urban/rural status and father's education dummies. Post-treatment covariates: income, savings, public sector employment and the number of adults in the household. *p**p***p<0.01

A4. Trust

In this section, we present one more piece of evidence to support our conclusion that the pattern of giving is explained by the diminished pro-sociality effect of job loss. We show that a measure of pro-sociality that is not causally related to income level – trust – is still influenced by job loss.

Table S8 presents the results of Weighted Least Squares (WLS) regression modelling the 1- 5 trust rating of family, neighbours, strangers and foreigners. There is no reason to expect that income has any effect on trust and, indeed, we find no statistically significant correlation between the two (with a near-zero coefficient). By contrast, *Household job loss* significantly reduces trust of strangers and foreigners, even when accounting for the individual's education level and partisan affiliation as well as other plausible control variables, including age, gender, and place of residence (rural versus urban location). The observed reduction in generalised trust is consistent with an overall reduced pro-sociality as a result of job loss. As anticipated, the reduction in trust is greater when the "target" is more socially removed ("strangers" or "foreigners") as opposed to trust towards family members, for whom we do not anticipate any effects of job loss.

Table A8: Effect of job loss on trust

	(1) Family	(2) Neighbours	(3) Strangers	(4) Foreigners
Job loss (hh)	-0.015	-0.11*	-0.19***	-0.18**
	(0.029)	(0.064)	(0.070)	(0.074)
Age	0.0013	0.0061***	0.0014	-0.0052**
	(0.0012)	(0.0021)	(0.0024)	(0.0023)
Income (ladder)	0.0053	0.013	0.0073	0.00092
	(0.011)	(0.017)	(0.019)	(0.021)
Education (post-sec.)	0.031	0.076	0.17**	0.16**
	(0.033)	(0.061)	(0.070)	(0.068)
Rural	0.012	0.25***	-0.46***	-0.40***
	(0.034)	(0.068)	(0.074)	(0.078)
Male	-0.033	-0.024	0.019	0.075
	(0.031)	(0.049)	(0.055)	(0.056)
Father post-sec. ed.	-0.0059	-0.17*	0.14	0.14
	(0.047)	(0.092)	(0.10)	(0.11)
HH head public empl.	-0.039	0.0035	-0.093	-0.19*
	(0.11)	(0.11)	(0.091)	(0.10)
Adults in hh	0.035**	0.088***	0.0017	-0.0036
	(0.016)	(0.033)	(0.037)	(0.036)
Homeowner occ.	-0.0093	0.088	-0.068	-0.11
	(0.035)	(0.059)	(0.061)	(0.065)
Had savings	0.00032	0.062	0.080	0.16***
	(0.029)	(0.052)	(0.058)	(0.060)
Party vote in 2009:				
Communist Party of Greece	-0.031	0.044	0.12	0.36**
	(0.071)	(0.11)	(0.14)	(0.17)
Ecologist Greens	-0.19	-0.18	0.34*	0.28
	(0.19)	(0.14)	(0.20)	(0.19)
Golden Dawn	0.064	-0.18	-0.45***	-0.55**
	(0.067)	(0.18)	(0.16)	(0.23)
Laos	-0.064	-0.35	-0.13	-0.18
	(0.13)	(0.23)	(0.22)	(0.31)
Nea Dimokratia	0.037	-0.077	-0.21***	-0.11
	(0.037)	(0.072)	(0.075)	(0.079)
Pasok	0.041	0.0073	0.13*	0.16**
	(0.041)	(0.067)	(0.076)	(0.078)
SYRIZA	-0.0033	0.034	0.076	0.15
	(0.064)	(0.097)	(0.12)	(0.12)
other party	0.18**	-0.19	0.59**	0.73
	(0.073)	(0.46)	(0.23)	(0.56)
Constant	4.76***	3.03***	2.40***	2.57***
	(0.11)	(0.21)	(0.21)	(0.23)
Region FE	Yes	Yes	Yes	Yes
Observations	1117	1301	1302	1300

Note*:* Standard errors in parentheses.
* p<.10, ** p<.05, *** p<.01
Trust is measured on a 1-5 scale where 1 = "complete distrust" and 5 = "complete trust". Reference category for party vote in 2009 is "none". Models are weighted least squares.

A5. Wage cuts as austerity exposure

We use one additional measure of austerity exposure: the degree to which respondents' wages were cut due to austerity. Among those reporting cuts to their wages or pensions, deeper cuts correlate with stronger subjective effects of the economic crisis. Among those reporting the highest level of subjective austerity ("a lot"), the average wage reduction is 29 per cent. By contrast, those affected "a little" by the crisis report an average reduction in wages or pensions of just 5 per cent.

We analysed the effect of wage cuts by restricting the sample to only those who experienced wage cuts from sources *excluding* job loss. We modelled charitable giving as a function of the fraction of their previous salary lost to the economic crisis. In a second set of models, we retained the full sample and for those who did not mention cuts to their salary or pension as a result of the economic crisis, we set the per cent reduction in wages to zero. In a third set of models we treat wage cuts as a categorical variable, to allow for non-linearities in their effect (where cuts of less than 1.4 per cent are the reference category). Results are shown in Table A9. We find no significant effects of wage cuts on donations to either charity pairs, for any of the specifications.

The disparity in the results when we compare job losses with wage reductions is interesting and consistent with other studies of the effects of economic crisis (Margalit, 2013, also finds that wage losses have no effect on attitudes whereas job loss does). We do not have sufficient data to explore this difference further, but the results shown might be instructive with regard to the mechanism underlying the effect of job loss. If lower donations to charity were simply a function of having lower income due to the crisis, then we would expect a similar effect for both job loss and wage reductions, since they both reduce household income. However, job loss is a more severe form of exposure to economic crisis and might trigger a more traumatic response to austerity policy as the affected households feel more isolated and more vulnerable, having lower expectations about the future. Whereas most Greeks were in the same boat with regard to wage reductions, fewer individuals lost their jobs, so this unique experience might make them feel less solidary towards others.

Might it be the case that we observe no decline in pro-sociality among those whose wages/pensions were reduced because those people were able to smooth consumption using support from informal networks? We do not have data to answer that question, but that is unlikely to be the explanation. If such informal networks are strong, then those who lost their jobs due to austerity should have received even more assistance than those whose wages were cut, yet we find that people who lost their jobs became less pro-social. A more plausible explanation is that job loss is a more unusual and severe experience than wage cuts with fewer people experiencing job loss than wage reductions. The effects on solidarity should therefore be more pronounced in the case of job loss.

Table A9: Effect of wage and pension cuts on donations to charity

	(1) Charity pair A	(2) Charity pair B	(3) Charity pair A	(4) Charity pair B	(5) Charity pair A	(6) Charity pair B
Per cent cut	11.96	-5.105				
	(7.944)	(9.316)				
Per cent cut, including 0			6.421	1.295		
			(4.792)	(5.405)		
Cut .014-					0.138	1.948
					(2.382)	(2.340)
Cut .22-					1.740	1.244
					(2.085)	(2.096)
Age	0.0215	0.0521	0.0191	0.0919*	0.0379	0.0955*
	(0.0837)	(0.0707)	(0.0483)	(0.0511)	(0.0562)	(0.0535)
Income (ladder)	3.525***	1.373	2.447***	0.999*	2.558***	0.943
	(0.799)	(0.882)	(0.514)	(0.533)	(0.536)	(0.577)
Education (post-sec.)	0.736	-0.740	5.706***	1.547	6.291***	1.160
	(2.992)	(2.850)	(1.698)	(1.816)	(1.792)	(1.960)
Rural	-7.946**	-6.256*	-1.812	-1.768	-3.199	-2.303
	(3.264)	(3.364)	(2.110)	(2.089)	(2.163)	(2.222)
Male	-3.109	-1.321	0.741	1.291	0.278	0.714
	(2.543)	(2.391)	(1.550)	(1.581)	(1.646)	(1.697)
Father post-sec. ed.	-3.986	1.003	-0.459	1.661	0.0435	2.634
	(6.768)	(4.539)	(2.574)	(2.530)	(3.068)	(2.700)
HH head public empl.	-2.869	-3.669	-2.803	-1.877	-2.948	-1.872
	(4.946)	(4.478)	(3.379)	(2.902)	(3.726)	(3.391)
Had savings	4.592*	6.527**	4.265***	8.030***	4.895***	7.729***
	(2.554)	(2.606)	(1.598)	(1.639)	(1.712)	(1.747)
Observations	257	237	648	615	571	545

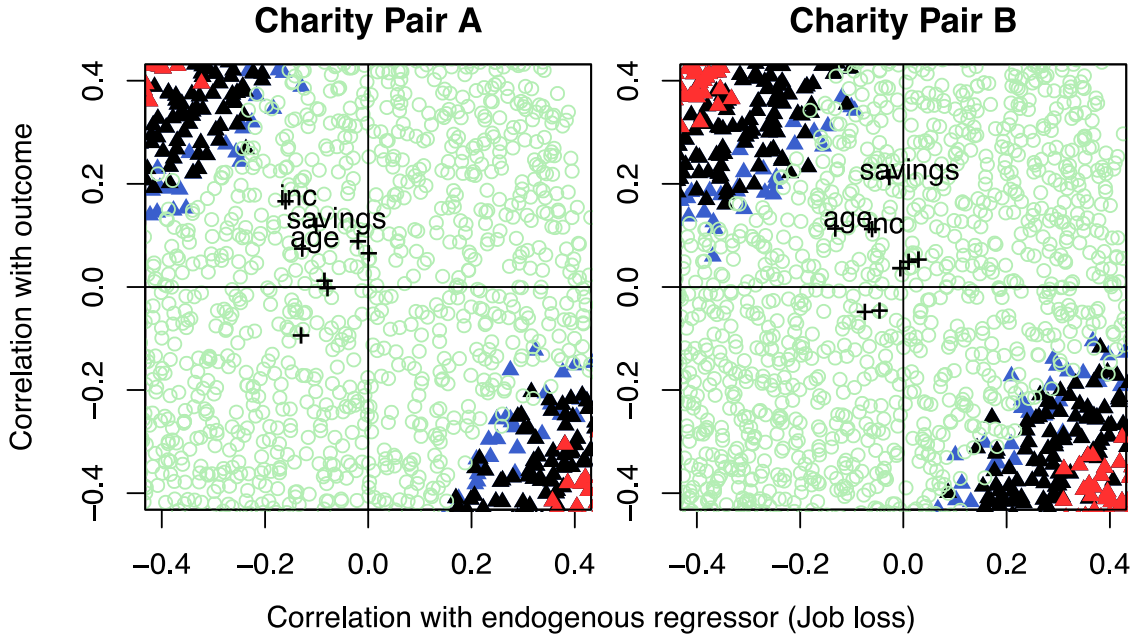
Note: Standard errors in parentheses
* p<.10, ** p<.05, *** p<.01

A6. Sensitivity analysis: results using head of household job loss as the explanatory variable

To further establish that our substantive results are not due to omitted variable bias, we present an analysis of the sensitivity of our estimates to the exogeneity assumption. Specifically, we test whether having omitted a variable that affects giving to charity would invalidate our main conclusions at different levels of correlation between that variable and our measure of austerity exposure. Using simulations, we find that for our results to be invalidated, we would have to have omitted a variable with substantially stronger relationships – both with crisis exposure and with donation to charity – than household income, which seems implausible given the centrality of the income variable for the outcomes we study. This gives us further confidence in the results presented in the text.

Here we repeat the sensitivity analysis shown in the main text while using an alternate measure of job loss (focusing on household head job loss only). Highlighted in red are areas where the estimated effects of household head job loss in are invalidated because correlation with an omitted variable is so large as to switch the sign on job loss. We can see that the correlation between the omitted variable and job loss would have to be sizeable (around 0.4) and that variable would have to have a stronger correlation to the outcome than household income, savings or age. It is unlikely that an omitted variable exists that has these characteristics. Thus, this test increases our confidence that job loss has had an overall negative and statistically significant effect on pro-sociality.

Chart A1: Sensitivity analysis for results in Table 1 in the main text, using the alternate measure of austerity exposure: household head job loss



A7. Preference for in-group charities

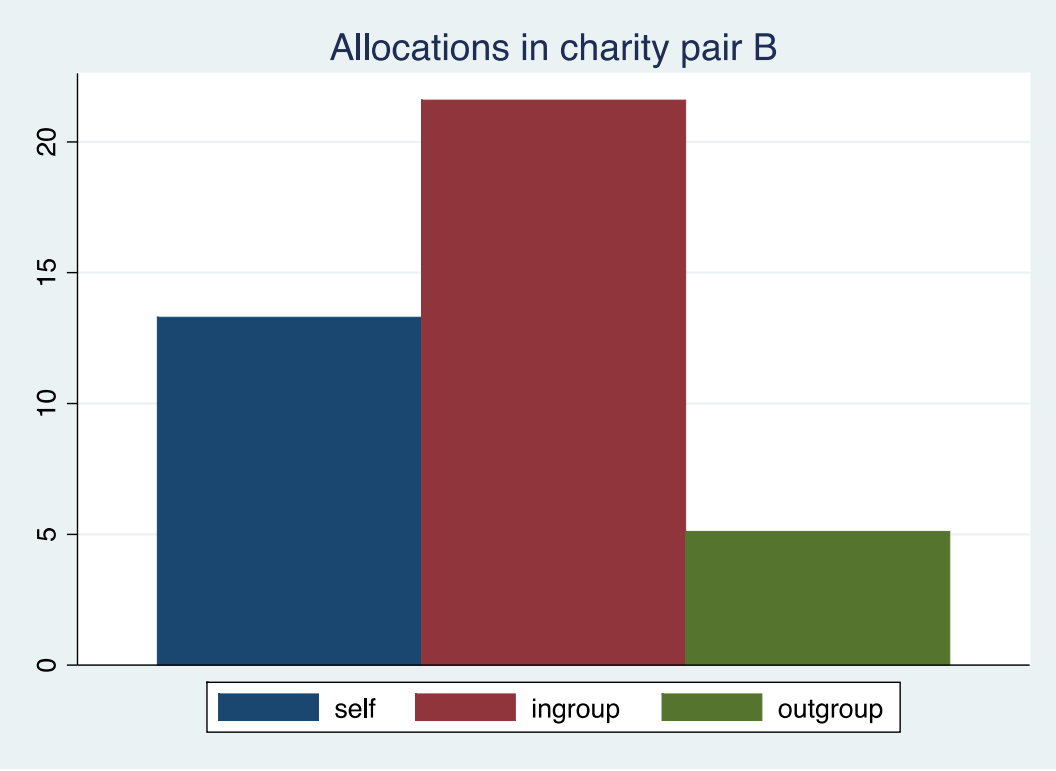
This section presents results on in-group preferences focusing on the second pair of charity organisations.

As Chart A2 demonstrates, respondents presented with charity pair B donated to the in-group charity over the out-group charity at a ratio of 4:1. We believe this is likely due the exceptionally strong reputation of the in-group NGO ("The Smile of the Child"). This strong reputation may also explain why we do not find statistically significant effects of job loss on donations in charity pair B (see Tables A10 and A13 below).

Another explanation for a large in-group bias in charity pair B – one that is resilient to exposure to austerity – is its focus on children's welfare. This issue area is not as directly relevant to the economic crisis as programmes focused explicitly on poverty (as in charity pair A), so crisis-related hardship may have less of an effect.

Table A10 shows models of out-group giving (Models 1-3) and in-group giving (Models 4-6) in charity pairs A and B (charity pair B is the reference category). The linear models estimate the heterogeneous effect of job loss on giving, by charity pair. The negative coefficients on the interaction term (*Job loss (hh) x charity pair A*) in the out-group models demonstrate that job loss lowers out-group giving significantly more in charity pair A than it does in charity pair B. Table S11 adds controls for respondents' 2009 party vote and uses as outcomes the amount donated to the in-group (column 1) and the amount donated to the out-group (column 2).

Chart A2: Allocations to in-group and out-group charities in charity pair B



Note: Amount (€).

Table A10: Effect of job loss on donation amount to out-group and in-group charities in charity pair A versus charity pair B

	(1) Out-group	(2) Out-group	(3) Out-group	(4) In-group	(5) In-group	(6) In-group
Job loss (hh)	-1.42*	-1.06	-1.27	-2.44	-3.02*	-4.47**
	(0.81)	(0.87)	(0.96)	(1.66)	(1.69)	(1.82)
Job loss (hh) x charity A	-2.84**	-3.31**	-3.76**	-1.49	0.69	2.84
	(1.41)	(1.50)	(1.59)	(2.37)	(2.41)	(2.66)
Charity A	4.20***	10.7***	12.3***	-5.01***	-7.43	-10.7**
	(0.75)	(2.96)	(3.22)	(1.10)	(5.04)	(5.03)
Constant	5.50***	1.34	2.31	21.8***	13.1***	17.0***
	(0.46)	(1.53)	(1.68)	(0.82)	(4.48)	(4.31)
Region FE x charity pair	No	Yes	Yes	No	Yes	Yes
Ind. controls x charity pair	No	Yes	Yes	No	Yes	Yes
Public service x charity pair	No	No	Yes	No	No	Yes
Observations	1,480	1,402	1,279	1,480	1,402	1,279

Note: Individual-level controls, as in other models, include age, income, secondary education, urban/rural status, gender, father's education, and a savings dummy. Models are weighted least squares regressions. Standard errors in parentheses * p<.10, ** p<.05, *** p<.01.

Table A11: Effect of job loss on donation amount to out-group and in-group charities in charity pair A, including 2009 vote as covariate

	(1) Amount donated to in-group	(2) Amount donated to out-group
Job loss (hh)	-1.74	-4.46***
	(1.86)	(1.37)
Age	0.078	-0.073*
	(0.055)	(0.043)
Income (ladder)	1.86***	0.22
	(0.46)	(0.33)
Education (post-sec.)	5.81***	-0.0019
	(1.60)	(1.25)
Rural	-2.29	-0.14
	(1.89)	(1.54)
Male	1.26	0.32
	(1.32)	(1.05)
Father post-sec. ed.	1.59	-1.01
	(2.38)	(1.77)
HH head public empl.	-6.67***	2.98
	(2.52)	(2.40)
Adults in hh	0.76	-1.24**
	(0.89)	(0.59)
Homeowner occ.	-1.56	-1.32
	(1.60)	(1.30)
Had savings	3.49**	0.96
	(1.40)	(1.11)
Communist Party of Greece	0.81	2.87
	(3.17)	(2.64)
Ecologist Greens	-9.93**	0.47
	(4.67)	(5.70)
Laikos Syndesmos/Xrish Avgi (Golden Dawn)	-8.28	-1.31
	(6.21)	(7.35)
Laos	-16.5***	-5.49*
	(2.88)	(2.85)
Nea Dimokratia	-0.11	2.38
	(2.00)	(1.74)
Pasok	0.94	0.74
	(1.84)	(1.41)
SYRIZA	4.85*	1.50
	(2.84)	(2.27)
Another party (specify)	28.2***	-11.6***
	(3.34)	(3.15)
Constant	-6.58	18.5***
	(4.99)	(4.03)
Region FE	Yes	Yes
Observations	671	671

Note: Standard errors in parentheses.* p<.10, ** p<.05, *** p<.01.

Table A11 offers robustness checks to our analysis of the effect of job loss on levels of donations to the in-group and the out-group (Table 5 in the main text). To account for the potential that pre-existing ideology could confound the relationship between job loss and social attitudes, we control for individuals' pre-austerity vote choices. Due to concerns that right-wing extremists might be driving in-group bias, we drop Golden Dawn and Laos voters from our analysis in Table A12. Our results for job loss remain consistent with Table 5: job

loss reduces out-group giving, but has an insignificant effect on giving to the in-group. This is in line with our expectation that job loss would increase in-group bias (hypothesis 2).

Table A12: Effect of job loss on donation amount to out-group and to the in-group in charity pair A

	(1)	(2)
	in-group	out-group
Job loss (hh)	-2.50	-4.64***
	(1.89)	(1.35)
Age	0.09	-0.04
	(0.05)	(0.04)
Income (ladder)	1.89***	0.21
	(0.46)	(0.34)
Education (post-sec.)	4.93***	0.32
	(1.61)	(1.25)
Rural	-1.30	-0.43
	(1.89)	(1.46)
Male	1.23	0.49
	(1.33)	(1.04)
Father post-sec. ed.	1.39	-0.66
	(2.51)	(1.75)
HH head public empl.	-5.01*	1.86
	(2.66)	(2.30)
Adults in hh	0.70	-1.18**
	(0.89)	(0.58)
Homeowner occ.	-0.75	-1.26
	(1.61)	(1.26)
Constant	-6.11	17.75***
	(5.02)	(3.84)
Region FE	Yes	Yes
Observations	676	676

Note: Golden Dawn and Laos voters (in 2009 election) dropped. * p<.10, ** p<.05, *** p<.01.

To assess the effect of job loss on in-group bias in charity pair B, we estimate the same models as we did for charity pair A (Table 7 in the main text). Table A13 displays the results. We find no significant effect of job loss on out-group giving in charity pair B, under any of the three specifications.

Table A13: Out-group giving in charity pair B

	(1)	(2)	(3)
Amt kept	-0.19***	-0.20***	-0.12
	(0.018)	(0.020)	(0.10)
Job loss (hh)	-0.19	-0.45	-0.87
	(0.88)	(1.44)	(1.52)
Job loss (hh) x amt kept		0.016	0.017
		(0.038)	(0.040)
Constant	6.61***	6.60***	5.00
	(2.44)	(2.44)	(3.87)
Region FE	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes
Public service	Yes	Yes	Yes
Observations	631	631	631

Note: Individual-level controls include age, income, secondary education, urban/rural status, gender, father's education, and a savings dummy. Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01.

We re-estimate the effect of austerity on in-group bias in charity pair A (Table 7 in the main text) using *household head job loss* (rather than *household job loss*) as our measure of austerity exposure. In contrast to our main results, Table A14 shows we find no significant effect of job loss on out-group giving in charity pair A using this operationalisation of austerity.

Table A14: Out-group giving in charity pair A (HH head job loss)

	(1)	(2)	(3)
Amt kept	-0.37***	-0.37***	-0.77***
	(0.022)	(0.022)	(0.14)
Job loss (head)	-0.042	0.55	0.82
	(1.64)	(3.35)	(3.38)
Job loss (head) x amt kept		-0.029	-0.025
		(0.089)	(0.088)
Constant	23.1***	23.2***	30.4***
	(3.50)	(3.52)	(5.43)
Region FE	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes
Public service	Yes	Yes	Yes
Observations	654	654	654

Note: Individual-level controls, as in other models, include age, income, secondary education, urban/rural status, gender, father's education, and a savings dummy. Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01.

Because having children might make respondents more sensitive to the organisations in charity group B, we include children in the household as a covariate in estimating the effect of job loss on out-group giving and find that this does not affect our conclusions.

Table A15: Job loss and donations to charity, controlling for children in household

	(1) Out-group A	(2) Out-group B
Job loss (hh)	-2.13*	-0.14
	(1.20)	(0.90)
Amt kept	-0.37***	-0.19***
	(0.022)	(0.018)
Age	-0.060	-0.028
	(0.037)	(0.033)
Income (ladder)	-0.56*	0.25
	(0.30)	(0.26)
Education (post-sec.)	-1.77	0.0065
	(1.18)	(0.93)
Rural	0.62	0.84
	(1.36)	(1.03)
Male	-0.058	0.15
	(0.91)	(0.74)
Father post-sec. ed.	-1.10	-1.68
	(1.71)	(1.42)
HH head public empl.	3.38*	-1.06
	(1.89)	(1.30)
Adults in hh	-1.04**	-0.27
	(0.52)	(0.46)
Homeowner occ.	-0.23	-1.01
	(1.11)	(0.85)
Had savings	-0.73	0.46
	(0.98)	(0.80)
Children in household	0.0041	-0.39
	(1.30)	(0.95)
Constant	28.1***	7.53***
	(3.47)	(2.63)
Region FE	Yes	Yes
Observations	671	631

Note: Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01

A8. Mediation

Why is out-group giving lower among individuals who are more affected by austerity? One hypothesis is that the strongest level of austerity exposure (job loss) makes people more likely to believe austerity policy was reflecting the interests of outside groups (European institutions and taxpayers), thus holding outsiders responsible for the crisis. This should have made national identity more salient, increasing in-group bias, so these individuals should be less prone to giving to international NGOs. An implication of this argument is that those who experienced job loss should be more likely to believe outsiders were responsible for the economic crisis, and should donate less to out-group charities. We measure beliefs about crisis responsibility directly, and explore if blaming outsiders for austerity mediates the relationship between exposure to the economic crisis and giving to out-groups.

We estimate the strength of this channel using "sequential g-estimation". The purpose of using this method is now to estimate the effect of job loss on charity allocations to outsiders, if blaming outsiders for the crisis were set at a fixed level. The controlled direct effect we estimate represents the influence of job loss on giving to outsiders net any effect through inducing the respondent to blame outsiders for the crisis. A statistically insignificant controlled direct effect rules out alternative mechanisms by which our treatment (job loss) affects our outcome (allocations to the out-group). In our model, if the controlled direct effect of job loss is not significant, then we can conclude that the influence of austerity-related job loss on charitable giving to outsiders operates exclusively through blaming outsiders for the crisis (that is, inducing animus toward outsiders). Even if the controlled direct effect of job loss is statistically significant, the strength of the *blame outsiders* mechanism can be measured by comparing the controlled direct effect with a baseline "average treatment effect" of job loss. Subtracting the controlled direct effect of job loss from the average treatment effect yields an estimate of the strength of the mechanism.

The procedure for estimating the controlled direct effect is as follows: first we estimate the effect of job loss on charity allocations to outsiders, controlling for pre-austerity conditions and current conditions, including blaming outsiders for the crisis. We then create a counterfactual dependent variable: what would the allocation to outsiders be if blame for outsiders were fixed at the same level for everyone? The counterfactual allocation is thus the original allocation to outsider charities, minus the product of whether the respondent blames outsiders and the coefficient estimate on outsider blame ($\hat{y} = y - \beta * blame$, where y is the respondent's allocation to outsider charities and $\hat{y}$ is the counterfactual dependent variable). The final step is to model counterfactual allocations using job loss and the pre-austerity covariates. The coefficient on job loss in this model is the controlled direct effect of job loss. This is the influence of job loss on giving to outsider charities, net any effect operating through blaming outsiders for the crisis.

We first present results for allocations to the out-group in charity pair A, where we had observed a reduction in solidarity with the out-group in response to austerity.[31] We operationalise outsider blame as whether the respondent believes that the European Union was responsible for the economic crisis.[32] The results are shown in models 1-3 in Table A16. Model 1 estimates the effect of household job loss on allocations to the out-group, controlling

[31] An analysis of the full sample follows.

[32] This was in response to the question "Which of these are responsible for the economic crisis?", where respondents could indicate multiple answers. The European Union was the most commonly cited "outsider", with 46 per cent of respondents attributing responsibility to it. We present results with a broader operationalisation of outsiders later in this section.

for pre-treatment covariates: gender, age, urban/rural status, education and father's education dummies, and region fixed effects. Because model 1 excludes post-treatment covariates, the coefficient on *job loss (hh)* can be considered the average treatment effect of job loss on allocations to the out-group: job loss is expected to reduce allocations to the out-group charity by €5.38.

Table A16: Effect of household job loss on donations to out-group in charity pair A

	Dependent variable: out-group giving						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Job loss (hh)	-5.38***	-4.33***	-5.11***	-4.54***	-5.40***	-4.55***	-5.40***
	(1.28)	(1.35)	(1.18)	(1.35)	(1.21)	(1.35)	(1.21)
Blame EU		-3.13***					
		(1.01)					
Blame PASOK				1.17			
				(1.13)			
Blame PASOK or ND						1.25	
						(1.15)	
Region fixed effects	✓	✓	✓	✓	✓	✓	✓
Pre-treatment covariates	✓	✓	✓	✓	✓	✓	✓
Post-treatment covariates		✓		✓		✓	
Estimation type	OLS	OLS	Seq. g est	OLS	Seq. g est	OLS	Seq. g est
Observations	671	671	671	671	671	671	671

Note*:* Average treatment effect (model 1). Effect net blame for the economic crisis of the EU (model 3) or PASOK (model 5) or PASOK or ND (model 7) Standard errors in parentheses * p<.10, ** p<.05, *** p<.01

Pre-treatment covariates: gender, age, urban/rural status, education and father's education dummies. Post-treatment covariates: income, funds allocated to self, savings, public sector employment, and the number of adults in the household.

In model 2 we can see that controlling for assignment of blame to the European Union, as well as other post-treatment variables,[33] lowers the coefficient on job loss. The coefficient on *blame EU* here is used to construct the counterfactual level of allocations we use as a dependent variable in model 3.

Column 3 presents our main results. The coefficient on job loss represents the Average Controlled Direct Effect (ACDE) of job loss on giving to the out-group; that is, the effect of job loss besides its influence through blaming the European Union. The ACDE of household job loss remains substantively significant and statistically significant, suggesting that if no one blamed the European Union for the crisis, then job loss would still be associated with lower giving to out-groups. Is blame of the European Union a pathway by which job loss affects out-group giving? Comparing the effect of job loss in model 3 with that in model 1

[33] Post-treatment variables include income, funds allocated to self, savings, public sector employment and the number of adults in the household. For some variables, their status as pre- versus post-treatment is unclear. Results are not sensitive to the designation of these variables post-treatment as opposed to pre-treatment.

can provide an estimate of the strength of such a pathway. While the coefficient on job loss in model 3 is lower than in model 1, suggesting that *blame EU* may account for some of the effect, the bootstrapped 95 per cent confidence interval for the difference includes zero (-0.69, 0.05). Thus we find no significant evidence that blaming outsiders for the crisis is a mechanism by which economic crisis-related job loss affects allocations to the outsider charity in charity pair A.

We test the sensitivity of our estimation strategy using a placebo mediator: blame for the ruling party at the time of the crisis (PASOK). We have no reason to believe that holding the ruling party responsible for the economic crisis should affect donations to the out-group. Holding the European Union responsible and PASOK responsible are not mutually exclusive: respondents answered yes or no for each institution. If exposure to the crisis induces people to blame the ruling party, this response should not be a mediator for the effect of austerity on out-group giving. If the analysis suggests otherwise, we should be concerned that in this context, this estimation approach is sensitive to random noise.

Models 4-5 re-estimate the analysis of models 2-3, controlling for assignment of blame to the ruling party. The Average Controlled Direct Effect of job loss in model 5 remains significant and similar to the treatment effect (in model 1), consistent with our expectations that blame of the ruling party does not mediate the effect of austerity exposure on giving to out-groups. Models 6-7 re-estimate the effect with blame for PASOK or ND as the mediator, with almost identical results.

Full sample

If we analyse the entire sample, rather than restricting our sample to charity pair A, a slightly different picture emerges. As seen in column 1 of Table A15, job loss is expected to reduce allocations to the out-group charity by €3.54. Using the same procedure as outlined above we estimate that the ACDE of job loss on out-group allocations net blame of the European Union is a reduction of €3.25. Thus we estimate that the indirect effect of job loss on out-group giving through blaming the European Union is a reduction of approximately €0.29, with a bootstrapped 95 per cent confidence interval that excludes zero (-.55, -.08).

The same analysis using our placebo mediators (*blame PASOK* and *blame PASOK or ND*) generates the results shown in columns 4-7 in Table A15. As expected, we find no evidence of an indirect effect of job loss on out-group giving through blame of the ruling party.

Table A15: Effect of household job loss on donations to out-group in full sample

	Dependent variable: out-group giving						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Job loss (hh)	-3.54***	-2.68***	-3.25***	-2.96***	-3.54***	-2.96***	-3.54***
	(0.79)	(0.81)	(0.82)	(0.81)	(0.82)	(0.81)	(0.82)
Blame EU		-2.23***					
		(0.64)					
Blame PASOK				0.01			
				(0.72)			
Blame PASOK or ND						0.01	
						(0.72)	
Region fixed effects	✓	✓	✓	✓	✓	✓	✓
Pre-treatment covariates	✓	✓	✓	✓	✓	✓	✓
Post-treatment covariates		✓		✓		✓	
Estimation type	WLS	WLS	Seq. g est	WLS	Seq. g est	WLS	Seq. g est
Observations	1,302	1,302	1,302	1,302	1,302	1,302	1,302

Note: Effect net blame of the EU (model 3) or PASOK (model 5) or PASOK or ND (model 7) for the economic crisis. Average treatment effect (model 1). Standard errors in parentheses. * p<.10, ** p<.05, *** p<.01.

Pre-treatment covariates*:* gender, age, urban/rural status, education and father's education dummies. Post-treatment covariates: income, funds allocated to self, savings, public sector employment, and the number of adults in the household.

Outsiders

Here we expand our operationalisation of "blame outsiders" to include other non-Greek entities besides the European Union. Respondents are coded as holding outsiders responsible for the crisis if they blame any of the following: the European Union, the ECB, the IMF, Germany or foreign banks (63 per cent of our sample blamed one or more outsiders).

Using a broader operationalisation of "blame outsiders", we achieve similar but less precisely estimated results. The estimates from charity pair A are shown in columns 1-3 of Table A16, and estimates for the entire sample are shown in columns 4-6. In each case, the ACDE of job loss (net blame of outsiders) is smaller than the treatment effect estimate, but these differences are not significant at conventional levels.

Table A16: Effect of household job loss on donations to out-group, net blame of outsiders for the economic crisis

	Dependent variable: out-group giving					
	Charity pair A			*Full sample*		
	(1)	(2)	(3)	(4)	(5)	(6)
Job loss (hh)	-5.42***	-4.52***	-5.26***	-3.56***	-2.87***	-3.44***
	(1.28)	(1.35)	(1.19)	(0.79)	(0.81)	(0.82)
Blame outsiders		-2.37**			-1.30*	
		(1.05)			(0.67)	
Region fixed effects	✓	✓	✓	✓	✓	✓
Pre-treatment covariates	✓	✓	✓	✓	✓	✓
Post-treatment covariates		✓			✓	
Estimation type	OLS	OLS	Seq. g est	OLS	OLS	Seq. g est
Observations	671	671	671	1,302	1,302	1,302

Note: Pre-treatment covariates: gender, age, urban/rural status, education and father's education dummies. Post-treatment covariates: income, funds allocated to self, savings, public sector employment, and the number of adults in the household. *p **p ***p<0.01.