Bridging or Bonding? Preferences for Redistribution and Social Capital in Russia[1]

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Does bridging or bonding social capital matter for redistribution preferences? Existing literature demonstrates causal link between measures of social capital and such preferences but does it mostly for developed countries with good enforcement of formal rules and without a distinction between two different types of social capital. We argue that welfare states rely on contributions from an immense number of anonymous citizens, thus attitudes towards strangers, i.e. generalized trust and solidarity should be salient. Using two surveys of about 34,000 and 37,000 Russians we prove this proposition showing the importance of the bridging type of social capital but not the bonding one. Instrumenting social capital with education, climate and distance from Moscow we deal with endogeneity concerns and also contribute to the understanding of the deep roots of social capital in Russia. Additionally we claim that social capital in post-socialist countries could help mobilize public support for the redistribution schemes in spite of the fact that institutions are weak.

Keywords: preferences for redistribution; bridging social capital; bonding social capital; trust; corruption; Russia

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1. Introduction

Spike in inequality has been among the major shocks the ex-Soviet and Central European nations experienced during the post-socialist transition. In particular, the Russian society, after being among the most egalitarian in the world, has become a highly unequal one[2], on par with the United States. Concerns about rising inequality are important to the legitimacy of the market economy in the post-socialist countries. As it has been shown in (Grosfeld, Senik, 2010) with evidence from Poland after 1989, increase in income inequality was positively associated with citizen's satisfaction with the country's economic situation in the early years of transition due to well-known "tunnel effect"[3], but it became a source of dissatisfaction later. This process has been accompanied by growing perception of corruption as the country's major problem. Combination of inequality, corruption and distrust in elites feeds to resentment that might rise to power authoritarian nationalist and populist forces (Sachs, 1990; Roberts, 2003; Solt, 2011). Redistributive policies implemented by the government are potentially able to remedy income inequality, but they need state capacity and citizens' collaboration in order to reach their goals, i.e. to enforce tax compliance and minimize welfare fraud.

Both state capacity and citizens' collaboration with the state pose significant problems for the post-socialist countries and Russia in particular. Tax evasion is wide-spread in Russia, jeopardizing the government's capacity for progressive taxation – the keystone of modern welfare state (Yakovlev, 2001; Gorodnichenko et al., 2009). Additionally, poor institutions give rise to the monitoring problem, making it possible to individuals to hide their income and enjoy benefits of social safety nets. The monitoring problem is severely exacerbated by Russia's enormous size, ethnolinguistic diversity and tremendous interregional variation in terms of per capita income, unemployment level, and infrastructure availability (Bradshaw, Vartapetov, 2003; Zubarevich, Safronov, 2011). The donors and the recipients of redistribution schemes are likely to live in different areas and belong to different ethnic groups.

Thus, the state is quite limited in its ability to collect resources and to redistribute them effectively. This is in stark contrast with the developed countries most previous research on redistribution has been dealing with. Even in the developed countries, sustainability of welfare state has been repeatedly called "a puzzle" by the economists, bearing in mind its susceptibility to free-rider problem and difficulty of monitoring of citizens' behavior (Bergh, Bjornskov, 2011, 2014; Brandt, Svendsen, 2010; Bjornskov, Svendsen, 2013; Svendsen, Svendsen, 2015). Studying what factors make people favor greater redistribution and more egalitarian society under imperfect institutions and how do they conform with evidence from the countries with strong institutions presents an important research question which has been rarely studied empirically.

Our paper aims at making some steps towards studying factors of redistribution preferences in post-socialist countries. We do so in the context of one prominent factor, namely social capital, that received attention in the literature on preferences for redistribution only

[2] According to the World Bank World Development Indicators Database, Gini index in Russia increased from 23.8 in 1988 to 41.6 in 2012.

[3] The "tunnel effect", the term coined by Hirschman and Rothschild (1973), implies that the poor may see increasing inequality as a sign of forthcoming opportunities for their own upward mobility, just like drivers stuck in a traffic jam inside a two-lane tunnel become optimistic when they see another lane to start moving. (Ravallion, Lokshin, 2000) find evidence of tunnel effect for the 1990s Russia.

recently (see (Algan et al., 2016) and (Daniele, Geys, 2015)) and could be particularly salient when formal enforcement of rules is inefficient (Cassar et al., 2014). Social capital consists of trust and norms that help to solve problems of cheating and free-riding which in the particular setting of welfare system refer to avoiding taxes, working informally while being on welfare, claiming benefits without being legally entitled or otherwise abusing the social security system. Thus, it seems natural to hypothesize that people would be more likely to support taxation in exchange for access to generous redistribution schemes in a case of need if they live in the community with higher social capital.

We could further hypothesize that bridging social capital, but not the bonding one should lead to more desire to redistribute. The concept of bridging social capital popularized by Robert Putnam in his prominent book "Bowling Alone" (Putnam, 2000) points out at the importance of people's connections to strangers. According to Putnam's Saguaro Seminar glossary these are "social ties that link people together with others across a cleavage that typically divides society (like race, or class, or religion)"[4]. While bonding social capital describes "social ties that link people together with others who are primarily like them along some key dimension". Thus, bridging social capital describes the type of connections that is relevant in the context of welfare system which is dependent on the contributions of immense number of anonymous people.

Then, it makes sense to pay attention to regional social capital. A person with a given levels of trust and norms will experience positive or negative externalities depending on a level of trust and norms in a region he lives. For example, individuals with good norms of conduct are willing to redistribute only if they live in a region where people could trust each other, as it shown by (Algan et al., 2016). Such ecological effects of social capital are discussed in (Halpern, 2005) with empirical examples for various outcomes – health, unemployment, education, etc. We propose the same ecological approach for the studying redistribution preferences for which there is a lack of understanding of the contextual factors' role.

We use data from 2007 and 2008 rounds of "Georating" survey provided by FOM[5], the major and reputable Russian polling company. It's the best available source of information on Russians' views and preferences, which is representative at the regional level. We obtain regional level social capital for 2007 and use it as an explanatory variable in regressions with 2008 preferences for redistribution as a dependent variable[6]. We demonstrate that respondents in regions with high level of generalized trust, the most commonly used measure of bridging social capital, tend to have more pro-redistribution preferences. This result is robust to using different estimation techniques, controlling for a number of individual- and regional-level socio-demographic, economic and institutional controls. Also, we get pretty similar results using perceptions of social solidarity instead of generalized trust. Economic effect of bridging social capital is also meaningful: the magnitude of trust effect is larger than the effect of unemployment or gender and of all other regional variables such as Gini index, ethnolinguistic fractionalization, corruption, GRP and regional social spending per capita. To deal with causality concerns, we instrument generalized trust and solidarity with January and June temperature, distance from

[4] https://www.hks.harvard.edu/saguaro/glossary
[5] http://fom.ru/
[6] To be more precise we get aggregated social capital measures that are purified from individual parameters such as age, gender, etc. Details of the procedure explained in Section 3.

regional capital to Moscow and 1989 share of people with college-level degree. The main results become even stronger in the IV setting.

As hypothesized, bonding social capital doesn't lead to greater preferences for redistribution. It's mostly insignificant. Thus our results point at bridging social capital, but not the bonding one, as an important source of higher preferences for redistribution in a country with poor institutional quality like Russia. Social capital could possibly provide governments with the public support for redistribution even in a situation when institutions are weak. Our findings also hint at importance of the regional social capital for shaping individual views and beliefs and also ensure that the result is not driven by individual-level unobserved heterogeneity within a single cross-section.

By our selection on the instrumental variables, we also contribute to the understanding of historical and geographical roots of informal institutions in Russia. We point at the importance of human capital endowments inherited from the past for social capital today similarly to (Lankina, Libman, Obydenkova, 2016), who show the role of pre-communist literacy rates for post-communist democratic outcomes. Along with (Foa, Nemirovskaya, 2016), we emphasize remoteness from the national capital as a factor shaping informal institutions in the frontier regions of Russia, like Siberia and the Far East. Finally, to the best of our knowledge, we are the first to find importance of climate for social capital in Russia. Overall, our findings are in line with other research on persistence of informal institutions in Russia, such as those demonstrating the role of Pale of Settlement in nurturing anti-market sentiment (Grosfeld, Rodnyansky, Zhuravskaya, 2013), the regional-level association between violent resistance to the 1906 Stolypin agrarian reform and opposition to the 1990ths privatization (Dower, Markevich, 2014), and the relationship between the communist party membership by region and subnational institutional quality in transition period (Libman, Obydenkova, 2013, 2015). Studying factors of informal institutions persistence helps to understand limits of policy interventions in such fields as social policy.

The paper proceeds as follows. Section 2 discusses preferences for redistribution and the role of social capital for them. Section 3 describes data and empirical strategy, while Section 4 presents the main results. Section 5 deals with endogeneity concerns and offers our strategy for instrumenting social capital. Section 6 concludes.

2. Preferences for redistribution: General theory and the role of social capital

Social preferences for redistribution are crucial for the functioning of modern welfare state. However, there is still need to understand which factors make people willing to support the system based on taxing the rich and the middle class and transferring resources to the poor. Theoretical literature on preferences for redistribution has been largely built on the seminal Meltzer-Richards model of positive relationship between income inequality and median voter support for redistributive policies. Rational utility-maximizing voter models starting from (Meltzer, Richards, 1981) imply that under universal franchise median voter's position in the overall income distribution scale dictates the tax rate and, therefore, share of income to be

redistributed. In a society with low inequality popular support for redistribution would be lesser that in a highly unequal society[7].

However, as noted in (Alesina, Guiliano, 2009; Olivera, 2015), this hypothesis received mixed empirical support. Therefore, much theoretical and empirical effort has been devoted to discover other factors that could drive redistribution preferences. Many factors other than pure economic self-interest have been demonstrated to affect preferences for redistribution. For example, voters may oppose redistribution if they are not sure that taxes paid would not be diverted from aiding the poor (Rothstein et al., 2012; Svallfors, 2013). Then, redistribution tends to be higher in the societies where people think that poor are unlucky than in those where people believe that poor are lazy and immoral (Gilens, 1999; Alesina, Glaeser, 2004; Alesina, La Ferrara, 2005). Additionally, as shown in (Alesina, Fuchs-Schundeln, 2007) and (Pop-Eleches, Tucker, 2014), people who were exposed in their past to communist socialization are more likely to think that the state is responsible for individual welfare. Several papers show importance of religion: more religious people tend to support redistribution less than atheists (Scheve, Stasavage, 2006; Guiso et al., 2006).

Recently, researchers have started to focus on *social capital* as one more non-economic factor that affects preferences for redistribution and enables smooth operation of the welfare state system (Bergh, Bjornskov, 2011, 2014; Brandt, Svendsen, 2010; Bjornskov, Svendsen, 2013; Svendsen, Svendsen, 2015). Social capital defined as "trust, norms, and networks that can improve the efficiency of society" (Putnam et al., 1994) could preclude cheating and free-riding that undermine the welfare state and dilute public support for it. Thus, generalized trust of an individual, i.e. his expectations of better behavior among unknown people, could raise demand for redistribution, as it was empirically shown in (Algan et al., 2016) and (Danielle, Geys, 2015). Conversely, civic norms of an individual could lower preferences for redistribution – civic individuals (i.e. individuals with good norms) prefer less redistribution than uncivic ones, because the latter are prone to get benefits without bearing costs, i.e. avoid paying taxes and claim for government benefits they are not entitled to (Algan et al., 2016).

But what could matter even more than individual's social capital is social capital of the community an individual lives. The same paper by (Algan et al., 2016) demonstrates that civic individuals could support higher redistribution only if they are surrounded by civic people, who are not prone to abuse welfare state. Therefore, social capital of the environment is a predominant factor of redistribution preferences.

One relevant example of the paper that considers social capital of the community is a paper by (Yamamura 2012). Using Japanese survey data, the author studies the third component of social capital, namely networks, to account for the role of interaction among people in their preferences for redistribution. Yamamura shows that higher community participation leads to more pro-redistributive preferences due to psychological externalities, but never discusses community-level trust and norms, the two other ingredients of social capital that received the most attention in the literature.

[7] In practice, however, it is necessary to account for the fact that existing income distribution itself is at least partially product of government redistribution and public goods provision, thus it is not trivial to establish a causal link in this setting.

Here we do one more step towards studying the effect of social capital of the community on redistribution preferences. We do so in terms of aggregate levels of trust and norms in a region, and hypothesize that their higher levels should lead to more support for redistribution. Both variables reflect prevailing pattern of behavior in a region in terms of avoiding abusing the welfare state, and thus should not differ in their effect on redistribution.

We consider a post-socialist country, namely Russia, where formal institutions are weak. While most previous papers are based on the evidence for democratic countries with good institutions, our paper aims to address dearth of research on the issue outside the developed world and to check how social capital can bridge the gap in formal enforcement and buttress public support for the welfare state. Poor institutions provide opportunities to hide income which in turn creates demand for redistribution from those who have comparative advantage in hiding income and therefore enjoying government benefits without paying taxes (Marques, 2015). Social capital could remedy such situation and allow governments in post-socialist countries to spend more even under the fact that formal institutions are weak.

Finally, we distinguish between two different types of social capital, bridging and bonding as suggested by Robert Putnam (Putnam 2000). What should matter for pro-redistribution preferences is bridging type of social capital reflecting attitudes towards strangers, since welfare states are based on people most of which don't know each other personally. In contrast, bonding social capital, which is about bonds with family, friends, neighbors, and other familiar people, should not have such an effect. Thus, only trust and norms that constitute bridging social capital should raise demand for redistribution. Such an important distinction between the role of bridging and bonding social capital for redistribution preferences has not been made previously.

Overall we hypothesize that:

Higher bridging social capital in a region should lead to greater preferences for redistribution. Bonding social capital should not have such an effect.

The next section describes our empirical strategy in testing this hypothesis.

3. Data and empirical strategy

We investigate the link between social capital and preferences for redistribution employing two surveys of about 34,000 and 37,000 individuals in each conducted in Russia by the well-known pooling company FOM in 2007 and early 2008. Both surveys are designed to be representative at the regional level and cover the same 68 Russian regions with similar number of observations across regions. It's the best available source of information on the views, norms and attitudes of Russians that covers the vast majority of Russian regions[8]. The questions on social capital were asked in the 2007 survey, while those on preferences for redistribution were

[8] FOM, one of the largest polling companies in Russia, provides several so-called "Georating" surveys every year starting from 2003. They cover the majority of Russian regions and are representative for them, although respondents for every wave are not the same. Topics of the surveys also vary to include the most important at the moment. Social capital topic was represented only once in 2007, while general preferences for redistribution were included in 2008 survey. More information about "Georating" surveys could be found in the paper by Oslon A.A. "Megapolls for Russia's Population (The "Georating" Project)": http://www.politstudies.ru/en/article/3780. Structure of the sample is described here: http://bd.fom.ru/report/cat/cult/sci_sci/ans_sociology/georating (in Russian only).

asked in 2008. We obtain regional measures of social capital in a way that is described later and use them with the individual-level preferences for redistribution.

Our dependent variable measuring preferences for redistribution is based on the responses to the following question of the 2008 survey: *"In your opinion, what type of society is more fair: where people's incomes are similar or where incomes differ appreciably between people according to their skills and business acumen?"* with a scale from 1 to 4 where higher values correspond to preferences for more unequal society. This question is quite close to the following one from World Values Survey used by (Algan et al., 2015): "*Incomes should be made more equal* vs. *We need larger income differences as incentives*." A question like this could serve a good proxy for redistribution preferences since respondents are not referred to the current welfare state institutions like in the following European Social Survey question: *"If the government had to choose between increasing taxes and spending more on social benefits and services, or decreasing taxes and spending less on social benefits and services, which should they do?"* The latter formulation might lead to biased responses, because respondents are likely to take into account their trust in the already existing institutions responsible for implementation of redistributive policies. Such bias could be huge in less developed countries with poor institutions and low state capacity. Further analysis provides additional evidence that our dependent variable could reflect redistribution preferences as it shows pattern of connection with various individual characteristics, which follows from the literature on redistribution.

Details on our dependent variable presented in Table 1. We transform four-point categorical variable to a binary one indicating those who gave preference to society with similar incomes rather than society with appreciably different incomes (see Table 1). That *Redistribution_preferences* dummy is our preferred dependent variable, however we try original four-point variable as well to test the robustness of our findings. Summary statistics for the binary dependent variable presented in Table 2 of the Appendix.

Table 1

In your opinion, what type of society is more fair: where people's incomes are similar or where incomes differ appreciably between people according to their skills and business acumen?

Response options	Response rate	Dependent variable: ***Redistribution_preferences***
1. Certainly the society where incomes are similar	16.7%	1
2. Rather the society where incomes are similar	28.2%	
3. Rather the society where incomes are appreciably different	24.8%	0
4. Certainly the society where incomes are appreciably different	14.1%	
5. Don't know	16.2%	Missing

Four measures of regional social capital obtained from 2007 survey are used as our independent variables of interest. We start with a generalised trust, which measures bridging

social capital and in our particular setting characterizes perceptions of cheating and free-riding that abuses social security system. The corresponding question in 2007 survey has a traditional wording, used, for example, in World Values Survey: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The two response options "Most people can be trusted" and "Need to be very careful" were coded as 1 and 0 respectively.

Another bridging social capital measure is solidarity among people, the norm which relates to the ability of society members to share common values and pursue common goals. Thus it precludes possibility of abusing social security system in a manner similar to generalized trust. Finally, we use two measures of bonding social capital, namely particularized trust and helpfulness among surrounding people, to check whether our predictions about relative importance of bridging and bonding social capital are true. Among them particularized trust could be viewed as the main measure of bonding social capital. Uslaner (2001) points at the analogy of differentiation among bridging and bonding social capital and between generalized trust and particularized trust. The question formulations for the measures of social capital could be found in Table 2 below.

Table 2

Social capital measures

Variable	Question wording	Response options
	Bridging social capital	
Generalized trust	Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?	1. Most people can be trusted 2. Need to be very careful 3. Don't know
Solidarity	Do you think that there is more solidarity and cohesion among people in our country today, or that there is more disagreement and disunion?	1. Certainly more solidarity and cohesion 2. Somewhat more solidarity and cohesion 3. Somewhat more disagreement and disunion 4. Certainly more disagreement and disunion 5. Don't know
	Bonding social capital	
Particularized trust	Do you trust people who have much to do with you more than other people, or you trust them less or equally with others?	1. Certainly more 2. Somewhat more 3. Equally 4. Somewhat less 5. Certainly less 6. Don't know
Helpfulness	How often do you see readiness to help each other among people, which surround you?	1. Very often 2. Quite often 3. Quite seldom 4. Very seldom 5. Never 6. Don't know

Note. "Don't know" dropped in subsequent analysis.

We run the following baseline OLS-model[9]:

$$Redistribution\_preferences_{ij} = \alpha + \beta SocialCapital_j + \gamma IndividualControls_i + \delta RegionalControls_j + \varepsilon_{ij} \quad (1)$$

where $Redistribution\_preferences$ is a dummy indicating preferences of a respondent i from region j, $SocialCapital_j$ refers to either bridging or bonding social capital measure for region j or to both of them added simultaneously. Bridging and bonding, although different according to definitions in Section1, are not completely orthogonal. The first could be based upon the latter. Overall, there is lack of knowledge of the connection between the two types of social capital and there is no conventional strategy how to deal with them. Therefore we tested them both one by one and simultaneously: we run four regressions with generalised trust, solidarity, particularized trust and helpfulness added one by one, and other four regressions with four possible combinations of one bridging and one bonding measure. These four measures are our variables of interest since we are testing the role of social capital for redistribution preferences.

$SocialCapital_j$ is for the other year than $Redistribution\_preferences$ and thus we can't include individual-level control variables for social capital in the baseline regression[10]. To avoid noisy assessments of social capital we run a set of the following OLS-regressions on the 2007 dataset:

$$Social\ capital = \alpha Gender + \beta Age + \gamma Age^2 + \delta Education + \phi Income + \eta Nationality + \lambda Citytype + \mu Reg\_Dummies + \varepsilon \quad (2)$$

The dependent variable $Social\ capital$ is substituted by one of four characteristics of social capital: generalized trust, solidarity, particularized trust, and helpfulness. A set of regional fixed effects $Reg\_Dummies$ captures cross-regional differences in social capital purified from personal characteristics of respondents[11]. We further use the values of the regional fixed effects from the model (2) in our base model (1) as proxies for regional social capital. We also utilize simple regional means of social capital to illustrate the robustness of our findings. Summary statistics for these means presented in Table 3 of the Appendix.

The term $IndividualControls_{ij}$ includes individual control variables that according to the literature could influence preferences for redistribution and that were available from 2008 survey: gender, age, age squared, income, education, occupation and settlement status. The most obvious control variable in this set is individual income, since the Meltzer-Richards model predicts wealthy people to want less redistribution than poor people do (Meltzer, Richards, 1981). It has been also shown that people in young and old ages are more supportive of redistribution than middle-aged respondents, and women prefer more redistribution (Alesina, Guiliano, 2009). We also control for a set of dummies for educational attainment and for types of employment/occupation. Alesina and Giuliano (2009) relate occupational prestige and educational attainment to prospects of upward mobility (POUM) that have been demonstrated to

[9] We give preference to OLS estimation, as it appears to be more robust to such specification issues as model underspecification and heteroscedasticity. As a robustness test we run probit-model as well and obtained results similar to what OLS estimation provides.

[10] See (Alesina, La Ferrara, 2002) for the influence of individual parameters such as income or education on social capital.

[11] Overall strategy of getting pure trust is similar to that used by (Algan, Cahuc, 2010).

influence preferences for redistribution (Piketty, 1995; Benabou, Ok, 2001; Alesina, La Ferrara, 2005). Entrepreneurs, managers and professionals are likely to expect greater income growth in their future than blue-collar workers, and thus call for less redistribution. By controlling for the type of employment we also account for welfare-dependent groups like retired, unemployed, non-working parents, who are likely to have pecuniary interest in raising welfare benefits. We also control additionally for a type of a respondent's settlement, since daily experiences differ dramatically between urban and rural residents.

Summary statistics for all individual controls could be found in Table A2 of the Appendix.

$RegionalControls_j$ denotes a set of regional control variables derived from the theory and obtained from official statistics, and agencies which provide institutional quality indicators for Russian regions (INDEM foundation and Moscow Carnegie Center). We control for wealth (*logarithm of GRP per capita*), inequality (*Gini coefficient* or *share of people with incomes below subsistence level* instead), fractionalization (*ethnic fractionalization index*), existing level of social support in a region (*logarithm of government social expenditures per capita*), and institutional quality (*corruption index*). Description of regional controls presented in Table A1, while summary statistics provided in Table A3, both in the Appendix.

Inclusion of regional-level controls is motivated by the fact that respondents may adjust their preferences responding to regional-level social and economic conditions. Thus, *Inequality* is a usual suspect in the studies of preferences for redistribution and might account for both relative position of a respondent in the income scale (crucial for the Meltzer-Richards style models) and for the "tunnel effect". Then, not just personal or household income, but general economic situation in a region might affect individual preferences: e.g. residents of high-poverty regions may support greater redistribution even when their income levels do not qualify themselves for benefits, in anticipation of positive local consumption spillovers from the government subsidies for the poor in their regions. Therefore, we proxy for local economic situation with *GRP and regional social expenditures per capita*.

Ethnolinguistic fractionalization is among the most established factors affecting preferences for redistribution (Alesina, Glaeser, 2004; Dahlberg et al., 2012) because of positive in-group bias: people tend to favor aid primarily to those who are like themselves, e.g. to one's own ethnolinguistic group. If welfare recipients are disproportionately concentrated in certain ethnolinguistic groups, members of a majority group would be less supportive of redistribution. In ethnically homogenous societies, this problem does not arise.

Finally, regional institutional quality is a potential driver of social beliefs about causes of wealth and poverty that has been shown to matter for preferences for redistribution. People are less willing to put high tax burden on wealth accumulated due to individual effort than on windfall created by birth, connections, luck or corruption (Alesina, Angeletos, 2005, Gimpelson, Monusova, 2014, Sabatini et al., 2014).

4. Main results

Our empirical results indicate that generalized trust matters both statistically and economically suggesting that people living in regions with higher levels of generalized trust

prefer more redistribution (Table 3)[12]. Regional-level generalized trust remains a strong predictor of individual preferences for redistribution irrespective of whether bonding social capital is accounted for in the regression or not (see columns (1), (5) and (7) of Table 3). When interpreted in terms of standardized coefficients, the magnitude of effect of generalized trust on individual preferences for redistribution is higher than the effect of such important parameter as unemployment and just somewhat smaller than the effect of being in the highest income category or having incomplete higher or higher education. It's also stronger than other regional-level controls including Gini index, ethnolinguistic fractionalization, prevalence of corruption, GRP and regional social spending per capita. Inclusion into the regression of another measure of bridging social capital, regional-level solidarity, i.e. feeling of unity among people in the country, demonstrates the same pattern of connection with redistribution preferences, thus corroborating the result for generalized trust[13].

Among the measures of bonding social capital, particularized trust in a region has no statistically significant effect on preferences for redistribution in any of the specifications. This is consistent with our theory pointing at the positive role of attitudes towards strangers (i.e. generalized trust and solidarity), but not the attitudes towards one's close circle, because the welfare state relies on contributions from an immense number of anonymous citizens, which by default do not know individual benefit claimants. Interestingly, our second measure for bonding social capital – average perception of helpfulness within one's close circle – has negative effect on individual preferences for redistribution; the effect is significant at the 5-percent level. This finding does not contradict our theory, but adds further detail as it's suggestive to the role of bonding social capital in substituting the government. Informal safety nets within one's close circle could provide insurance against adverse life events. Thus bonding social capital really differs from the bridging one in its role for the support of redistribution schemes.

The results are robust for the set of individual and regional control variables, alternative four-point scale measure of redistribution preferences, and for substituting regional-level social capital indicators conditional on socio-demographic variables with simple unconditional regional means of the respective variables (available by request).

Estimates for the individual-level controls are suppressed for space reasons (available by request). They produce the usual pattern of the factors affecting preferences for redistribution (Alesina, Guiliano, 2009)[14]: more redistribution is preferred by young and old persons rather than middle-aged respondents, also by unemployed, females, people with lower levels of education and income. Notably, entrepreneurs have less desire to redistribute which talks to the literature on expectations of upward mobility and role of personal effort vs. sudden luck.

Regional economic development (proxied by logs of GRP and regional social spending per capita) are not significant predictors for preferences, as well as regional-level ethnolinguistic fractionalization. We also find that the residents of high-inequality regions prefer less

[12] Table 3 presents results for one of inequality measures, namely Gini coefficient. Results for alternative indicator (share of people with incomes below subsistence level) are similar and available upon request.

[13] Our results are also robust to the inclusion of a share of those answered "don't know" to the questions about generalized trust and solidarity. Thus, we eliminate the potential that non-responses biased our results due to social capital of those who dropped out of the sample.

[14] The fact that our estimates for the effect of individual-level demographic variables are similar to those in the rest of the literature on preferences for redistribution reassures that the survey question we rely on is a relevant proxy for redistribution preferences.

redistribution which can be seen as yet another example of the failure of the Meltzer-Richards model to explain redistribution preferences.

Remarkably, the fact of living in a more corrupt region is positively associated with preferences for greater redistribution. Moreover, the result is robust to several alternative measures of corruption[15] (see Table 4). As shown in (Aghion et al., 2010), even if people think that government is corrupt they could be more supporting government intervention into economy because of their lack of trust in business. The same possibility of a positive link between level of corruption and preferences for redistribution is demonstrated by the theoretical model in (Alesina, Angeletos, 2005). Redistribution thus perceived as an equalizer of unfair outcomes created by the corrupt system (Sabatini et al., 2014). Alternatively, prevalence of uncivic individuals interested in free-riding could produce such an outcome (Algan et al., 2016).

[15] Although both *Corruption index* and *Willingness to bribe* assess regional corruption in 2010 we believe they may be used as measures of corruption for 2008, because this institution is unlikely to evolve rapidly. Nevertheless, in our main specification we give preference to corruption assessment provided in 2004.

Table 3

Preferences for redistribution and social capital: OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Bridging social capital				
Generalized trust	0.677***				0.678***		0.849***	
	[0.197]				[0.195]		[0.208]	
Solidarity		0.533***				0.557***		0.750***
		[0.185]				[0.181]		[0.205]
				Bonding social capital				
Particularized trust			0.021		0.029	0.101		
			[0.114]		[0.136]	[0.147]		
Helpfulness				-0.157			-0.447**	-0.512**
				[0.191]			[0.195]	[0.195]
Ethno-linguistic fractionalization	-0.035	-0.080	-0.035	-0.012	-0.035	-0.081	0.030	-0.023
	[0.071]	[0.074]	[0.073]	[0.083]	[0.071]	[0.075]	[0.081]	[0.082]
Corruption	0.042***	0.039***	0.050***	0.048***	0.043***	0.040***	0.037**	0.030**
	[0.014]	[0.014]	[0.015]	[0.014]	[0.015]	[0.015]	[0.015]	[0.014]
Log GRP per capita	0.062	0.054	0.060	0.068	0.063	0.056	0.087	0.080
	[0.082]	[0.087]	[0.091]	[0.095]	[0.082]	[0.085]	[0.084]	[0.091]
Log Regional social spending per capita	0.122	0.0912	0.159	0.172	0.123	0.092	0.151	0.108
	[0.113]	[0.126]	[0.125]	[0.125]	[0.112]	[0.123]	[0.104]	[0.119]
Gini	-0.899**	-0.819*	-0.891**	-0.911**	-0.895**	-0.803*	-0.948**	-0.843*
	[0.383]	[0.433]	[0.430]	[0.433]	[0.388]	[0.448]	[0.375]	[0.439]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Observations	31,068	31,068	31,068	31,068	31,068	31,068	31,068	31,068
R-squared	0.069	0.068	0.065	0.065	0.069	0.068	0.071	0.070

Notes: Robust standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.

Individual controls include age, age squared, gender, education, type of employment, income category, type of settlement. Constant is also included.

Table 4

Preferences for redistribution and corruption: Additional tests

	(1)	(2)	(3)
Corruption	0.042***		
	[0.014]		
Corruption index (by INDEM)		0.163**	
		[0.070]	
Willingness to bribe (by INDEM)			0.321***
			[0.115]
Generalized trust	0.677***	0.763***	0.803***
	[0.197]	[0.185]	[0.192]
Individual controls	YES	YES	YES
Regional controls	YES	YES	YES
Observations	31,068	31,068	31,068
R-squared	0.069	0.068	0.069

Notes: Robust standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.
Controls for individuals' background and characteristics of regions are the same as in Table 3. Constant is also included. The model in column (1) is the same as in column (1) of Table 3.

5. Endogeneity concerns

Endogeneity of the main explanatory variable is a potential challenge to our identification strategy. If generalized trust or solidarity are somehow influenced by preferences for redistribution (reverse causality), or co-determined with it by any third factor (omitted variable), the OLS estimates are inconsistent. We can also expect errors in the measurement of social capital and preferences for redistribution leading to the same inconsistency. Reverse causality is possibly the least of the problems as regional levels of social capital reflect the overall atmosphere and not individual feelings. Anyway to deal with potentially biased OLS-estimates cautiously, we implement 2SLS approach.

We instrument the two variables of bridging social capital in the regions with four instrumental variables. Following (Bergh, Bjornskov, 2011), we use average temperature in January and July. Traditional argument is that in colder climates individual survival historically depended more on cooperation with strangers due to weather-related agricultural shocks, thus predicting negative first-stage relationship. At the same time, in Russia with its tradition of communal agriculture this channel of influence seems to be not the only one possible. Communal agriculture is important for survival in southern and warmer areas of Russia, while in northern and colder ones inhabitants rely on valuable resources like wood or fur skins. Importantly for us, communal agriculture is based on cooperation (and thus on social capital), but trade in wood or fur skins is not. Such resources are contestable and lootable, thus making profitable for an individual to be tough and suspicious to strangers (in a manner similar to "culture of honor" formation in lawless herder societies, as tested empirically in (Grosjean, 2014)). Therefore, we can also expect positive sign of the first-stage relationship.

As additional two instruments we use share of inhabitants having college-level degrees in 1989 and distance to Moscow. 1989 share of college graduates is a proxy for historic social capital, since it has been shown that social capital is important enabler of human capital formation (Coleman, 1988). We expect it to be positively related to bridging social capital. Distance to

Moscow is a proxy for state capacity and intensity of state control (Foa, Nemirovskaya, 2016). Given centralized and, for the most of Russian history, authoritarian nature of the state, it is more likely that heavy government involvement in life is likely to crowd out social capital, as outlined in (Putnam et al., 1994). We expect positive relationship between distance and bridging social capital measures. Description and summary statistics for the instruments presented in Tables A1 and A3 of the Appendix.

The results from the first-stage regressions are generally in line with our expectations (please, see Table A4 of the Appendix). Generalized trust and solidarity are positively related to 1989 share of college graduates and logarithm of distance to Moscow. Trust and solidarity are also negatively associated with the average temperature in July across specifications, thus favoring "trust through weather risks" explanation (colder growing season is more likely to be associated with the risks of poor harvest, thus necessitating cooperation among farmers to alleviate these risks). On the contrary, January average temperature is positively related to solidarity, thus favoring explanation through "resource curse" in the regions with harsh winters. Therefore, relationship between climate and social capital might be multifaceted and vary between the seasons.

Overall IV regressions provide even stronger results than OLS (Table 5). Coefficients for generalized trust and solidarity are respectively 1.2. and 1.5 times larger than obtained with the OLS-model. Thus we can claim even more economically significant positive effect of bridging social capital on preferences for redistribution.

Table 5

Preferences for redistribution and social capital: IV second stage

	(1)	(2)	(3)	(4)	(5)	(6)
			Bridging social capital			
Generalized trust	0.841**		0.852**		1.130**	
	[0.350]		[0.348]		[0.441]	
Solidarity		0.807**		0.845**		1.045***
		[0.336]		[0.333]		[0.378]
			Bonding social capital			
Particularized trust			0.031	0.142		
			[0.148]	[0.181]		
Helpfulness					-0.543**	-0.651***
					[0.228]	[0.230]
Individual controls	YES	YES	YES	YES	YES	YES
Regional controls	YES	YES	YES	YES	YES	YES
Observations	31,068	31,068	31,068	31,068	31,068	31,068
R-squared	0.069	0.067	0.069	0.067	0.070	0.070

Notes: Robust standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.
Controls for individuals' background and characteristics of regions are the same as in Table 3. Constant is also included.

6. Conclusion

Inequality and poverty constitute important part of politics in many countries in the world, including post-socialist ones. This issue is especially salient in the age of populism. However, the welfare state, which is based on redistribution from the rich to the poor, is itself plagued by problems related to the public concerns over free-riding on its benefits and overall "undeservingness" of welfare recipients. In the environment of the post-socialist countries, where state capacity is low, formal institutions are weak, and cheating on taxes and benefits is still not uncommon, the welfare state looks doomed. However, we focus on how informal institutions, in particular social capital, may solve the issues of trust in welfare state contributors and recipients, thus mobilizing public support in favor of redistribution.

The relationship between social capital and preferences for redistribution has been studied before, but mostly with evidence from the developed countries with good institutions. Moreover, there is no distinction between two different types of social capital – bridging and bonding ones. First of them reflects attitudes to unknown people, while second serves to capture perceptions about quite narrow circle of people who the respondent knows. We expect that given the universalistic nature of a welfare state only bridging social capital should positively affect redistribution preferences.

Using unique surveys of about 34,000 individuals in 2007 and 37,000 in 2008 in the majority of Russian regions we study the effect of bridging and bonding social capital for the preferences for redistribution. In doing so we measure preferences for redistribution with the following question: *"In your opinion, what type of society is more fair: where people's incomes are similar or where incomes differ appreciably between people according to their skills and business acumen?"* An important advantage of this question is that it doesn't refer to actual level of redistribution and actual quality of redistributive institutions that differs across regions and thus bias results. We find that individuals living in regions with higher generalized trust and solidarity, our two measures of bridging social capital, tend to prefer more redistribution. Moreover, the effect of bridging social capital is stronger than for other regional-level variables which could be important for redistribution preferences, i.e. GRP, socio-economic inequality, ethnolinguistic fractionalization, corruption, and regional social spending per capita. On the contrary we don't find the same effect for particularized trust and helpfulness within close circle, which are employed as measures of bonding social capital. Results are robust to different controls and measurement techniques and become even stronger in IV-model with the instruments for education attainment in 1989, climate, and distance from Moscow.

Thus, we find evidence for only bridging social capital raising preferences for redistribution. The bonding type of social capital does not show such an effect. Therefore, previous findings about positive role of trust for redistribution should be refined. Only generalized trust, but not particularized trust could lead to more demand for redistribution. Similarly, only norms that constitute bridging social capital could raise popular support for redistribution.

Another important novelty of the paper lies in the sphere of contextual factors role. We show not only importance of specific type of social capital, but do it for the aggregated social capital, thus contributing to the literature on redistribution preferences which mostly concentrated on individual factors. But as discussed, for example, in Halpern (2005) contextual factors seem to be very important to take into account. Even if an individual has strong civic norms, they could be

suppressed by the region he lives, leading to another preferences that he will have in a region with mostly civic individuals. By showing the contextual factors role we also add to the broader literature on the role of contextual factors in shaping political preferences, such as Gelman et al. (2008) studying why the income-voting patterns at the U.S. federal elections are different at individual and state levels.

Using instrumental variables strategy, we both alleviate endogeneity concerns and explore geographical and historical determinants of social capital in Russia, such as climate, distance to the seat of government, and human capital endowments. All these variables are hard or impossible to change in a short-run. Persistence of social capital caused by the lasting influence of these variables can be viewed as an obstacle to reforms and should be accounted for in making policy advice. In our particular setting of social capital influencing preferences for redistribution this means inherited from the past of social capital formation determinants for the public support of redistribution schemes.

Apart from the core findings about social capital we document an intriguing evidence for other contextual variable, namely corruption. According to our estimations and consistent with theoretical predictions from the literature, corruption leads to more demand for redistribution. This means that preferences for redistribution would be the highest in regions with high social capital and widespread corruption. How this could be the case? As we noted earlier (see Section 4 with the results), redistribution could be perceived as an equalizer of unfair outcomes created by the corrupt system. Alternatively, this is the outcome of the vicious circle created by the influence of social capital on redistribution which in turn leads to more corruption and then to more redistribution and less incentives for productive activity rather than rent-seeking. Additional effort is needed to verify this potential relationship. Anyway, this puzzle should be accounted for in the reform agenda and provides an interesting topic for future research.

Our paper could also provide implications for debates about reforms in post-socialist countries, as well as for the Russian politics. We argue that ability to mobilize popular support for the welfare state depends on social capital at the regional level, consistently with the view that social capital causes sustainable welfare states at the cross-country level and in particular in the context of the Nordic countries (Bergh, Bjornskov, 2011, 2014; Brandt, Svendsen, 2010; Bjornskov, Svendsen, 2013; Svendsen, Svendsen, 2015). Currently Russian regions have quite limited opportunities for independent welfare policy, being constrained mostly by the uniform federally imposed tax rates. However, potentially the regions with more trusting and cohesive population are able to build consensus around low inequality, high redistribution and strong safety nets. On the opposite side, low-trust regions are likely to evolve into low tax – low service jurisdictions with few aid to the poor. Therefore, any efforts on decentralization of welfare policy should take this into account.

Overall, the ability of social capital to shape popular preferences points on its potential role as a substitute for formal institutions for countries that lack state capacity to build an efficient welfare state. A high social capital society, in which people trust each other and share common values and objectives, is potent to counter rent-seeking and not to overemphasize occasional failures of the welfare state systems, which are otherwise likely to fuel anti-redistribution attitudes and political trends. This conclusion may be relevant for a broad variety of settings outside Russia.

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Appendix

Table A1. Regional control variables: description and sources

Variable name	Year	Variable description	Data source
Ethno-linguistic fractionalization	2010	Herfindahl—Hirschman index based on ethnic groups' shares to measure ethnic diversity within regions. Higher values of variable indicate more fractionalization.	2010 Russian census
Log GRP per capita	2007	Logarithm of gross regional product per capita, adjusted for regional cost of living with regional average price for fixed commodity bundle, number of commodity bundles per year.	Rosstat database
Log social spending per capita	2007	Logarithm of regional and local authorities' spending per capita on social welfare, adjusted for regional cost of living with regional average price for fixed commodity bundle, number of commodity bundles per year.	Russian Treasury database
Gini	2007	Gini coefficient indicating income inequality within regions.	Rosstat database
Poverty	2007	Percentage of people with level of income below subsistence level.	Rosstat database
Corruption	2004	Experts' assessments based corruption index; it's a component of regional democracy index provided by Moscow Carnegie Center. Higher values of variable indicate more corruption.	Moscow Carnegie Center
Corruption index (by INDEM)	2010	Survey based regional corruption index provided by INDEM foundation and Public Opinion Fund. Higher values of variable indicate more corruption.	INDEM foundation report to Ministry of Economic Development of Russia
Willingness to bribe (by INDEM)	2010	Survey based assessment of people's willingness to offer bribes; it's a component of regional corruption index provided by INDEM foundation and Public Opinion Fund. Higher values of variable indicate more corruption.	INDEM foundation report to Ministry of Economic Development of Russia
Log distance to Moscow		Logarithm of distance from Moscow to regional capitals.	Rosstat database

Variable name	Year	Variable description	Data source
Temperature in January	2007	Average temperature in January (°C).	Rosstat database
Temperature in July	2007	Average temperature in July (°C).	Rosstat database
Higher education	1989	Percentage of population aged 15 and above with higher education.	1989 Soviet census

Table A2. Summary statistics for variables at the individual level

Variable	Obs	Mean	Std. dev.	Min	Max
Redistribution preferences	31209	0.46	0.50	0	1
Gender: female	37263	0.54	0.50	0	1
Age	37263	44.2	16.8	18	95
Education: primary general or less	37217	0.11	0.31	0	1
Education: primary professional	37217	0.07	0.26	0	1
Education: secondary general	37217	0.23	0.42	0	1
Education: secondary special	37217	0.38	0.48	0	1
Education: uncompleted higher, higher / PhD	37217	0.22	0.41	0	1
Type of employment: businessmen, entrepreneur, top manager	37103	0.06	0.24	0	1
Type of employment: department manager	37103	0.03	0.17	0	1
Type of employment: specialist	37103	0.18	0.38	0	1
Type of employment: white collar worker	37103	0.13	0.34	0	1
Type of employment: blue collar worker	37103	0.19	0.39	0	1
Type of employment: (not working) retired	37103	0.24	0.43	0	1
Type of employment: housewife (do not work and do not plan to look for job)	37103	0.04	0.19	0	1
Type of employment: unemployed or on holidays without pay	37103	0.07	0.25	0	1
Type of employment: student	37103	0.05	0.22	0	1
Type of employment: other	37103	0.01	0.12	0	1
Income category: having not enough money even for food	37256	0.10	0.30	0	1
Income category: having enough money for food, but not enough for clothes, shoes	37256	0.27	0.44	0	1
Income category: having enough money for clothes and shoes, but not enough for home appliances	37256	0.41	0.49	0	1
Income category: having enough money for home appliances, but not enough for a car	37256	0.16	0.36	0	1
Income category: having enough money for a car or an apartment/house	37256	0.07	0.25	0	1
Type of settlement: Moscow	37263	0.01	0.12	0	1
Type of settlement: Saint Petersburg	37263	0.01	0.12	0	1
Type of settlement: regional capital with population above 1 mln	37263	0.06	0.24	0	1
Type of settlement: regional capital with population below 1 mln	37263	0.30	0.46	0	1
Type of settlement: provincial town	37263	0.37	0.48	0	1
Type of settlement: village	37263	0.25	0.43	0	1

Table A3. Summary statistics for regional variables

Variable	Obs	Mean	Std. dev.	Min	Max
Generalized trust	68	0.15	0.05	0.07	0.33
Solidarity	68	0.32	0.06	0.22	0.53
Particularized trust	68	0.69	0.07	0.44	0.86
Helpfulness	68	0.28	0.06	0.14	0.41
Ethno-linguistic fractionalization	68	0.28	0.15	0.10	0.73
Log GRP per capita	68	1.38	0.17	1.10	2.15
Log Social spending per capita	68	3.70	0.36	2.82	4.99
Gini	68	0.39	0.03	0.34	0.55
Poverty	68	16.6	4.7	7.4	31.6
Corruption	68	3.16	0.66	1	4
Corruption index (by INDEM)	68	0.45	0.15	0.15	0.81
Willingness to bribe (by INDEM)	68	0.47	0.08	0.27	0.70
Log distance to Moscow	68	2.99	0.70	0	4.07
Temperature in January	68	-13.5	5.7	-28.8	-0.1
Temperature in July	68	18.1	2.3	11.8	25.3
Higher education	68	10.1	3.0	7.2	26.4

Table A4. IV first stage

	(1)	(2)	(3)	(4)	(5)	(6)
	Generalized trust	Solidarity	Generalized trust	Solidarity	Generalized trust	Solidarity
Temperature in January	0.002	0.003**	0.002	0.003**	0.002	0.003**
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Temperature in July	-0.005*	-0.008*	-0.005*	-0.008**	-0.004	-0.005
	[0.003]	[0.004]	[0.003]	[0.004]	[0.003]	[0.004]
Higher education	0.012***	0.008***	0.012***	0.008**	0.011***	0.006*
	[0.004]	[0.003]	[0.004]	[0.003]	[0.004]	[0.003]
Log distance to Moscow	0.038***	0.051***	0.039***	0.048***	0.038***	0.050***
	[0.011]	[0.011]	[0.011]	[0.010]	[0.011]	[0.010]
Particularized trust			0.045	-0.089		
			[0.080]	[0.095]		
Helpfulness					0.194**	0.350***
					[0.090]	[0.092]
Individual controls	YES	YES	YES	YES	YES	YES
Regional controls	YES	YES	YES	YES	YES	YES
Observations	37,057	37,057	37,057	37,057	37,057	37,057
R-squared	0.393	0.466	0.396	0.476	0.425	0.541

Notes: Robust standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.

Controls for individuals' background and characteristics of regions are the same as in Table 3. Constant is also included.