

Interregional trust in Russia – First results of a behavioral and survey study
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Introduction

Trust is an important research topic because results from the literature show that trust within organizations increases efficiency by lower monitoring costs, lowering turnover, thus increasing positive behavior from employees. Trust also lowers deception, there is less need to intervene in agents' activities and thus transactional costs are reduced. Higher predictability of behavior improves the quality of public institutions and the quality of life. Scholars have shown that higher trust and cooperation are directly related to economic growth and GDP per capita in developed countries (Knack & Keefer 1997), and higher levels of trust have been associated with efficient judicial systems, higher quality government bureaucracies, lower corruption, and greater financial development (Knack and Keefer 1997, Herrmann et al. 2008). Trust is most often measured by survey questions like in The World Value Survey questionnaire (www.worldvaluesurvey.org) where people are asked "Do you think most people can be trusted, or is it never wrong to be cautious with people?" In 2017-2020, the first option was chosen on average by 27% of respondents in 77 countries (N=125,098), with variations ranging from 2% (Zimbabwe) to 74% (Denmark) with a value for Russia of 22% (2018) showing that trust in Russia is rather low compared to other countries (see also Algan & Cahuc, 2013; Natkhov, 2018, see also Kalyuzhnova 2012 on mistrust).

Another approach is the experimental method where people are invited to participate in a controlled experiment and their level of trust in each other is measured according to their financially incentivized decisions. A common experimental tool to study trust is the trust or investment game (Berg et al., 1995). An investor (trustor) has to take a risky investment decision. The decision involves transferring money to another person (investee, trustee), which involves trusting that person. The investment creates a revenue. The investee may or may not repay to the investor a due share of the revenue received. The investor does not know the investee's response (and expectations) beforehand. Johnson and Mislin (2011) in a meta-analysis report that on average of 50% of the amount the investor in the experiment has at hand is actually invested and 37% is repaid.

A plethora of trust game experiments have been conducted by now but only very few studies deal with interregional comparisons (e.g., Falk and Zehnder 2013, Chmura et al. 2016). This maybe due to the fact that the focus was more on cross-country/cross-culture studies where the approach adopted has two potential drawbacks. First, nearly all of these studies are based on data from only one subject pool of each country.

Second, difference within a country may be large (even larger than between countries). This may be particularly true in the largest country of the world – Russia.

Existing literature on regional differences in Russia derived from survey data show that regional differences with regard to trust seem to exist. For instance, people from Vladivostok in Primorsky Krai have a high level of local identity. Due to economic prosperity and openness of the region, residents consider benefits of living there, so the majority does not seek ways of migration (Vendina, 2017; Zadorin, 2018). Dagestan, on the other hand can be viewed as an unstable region with high level of unemployment, violence and social tension. These factors contribute to not the very best image of the region in the eyes of Russians and most Russians mistrust people from Dagestan (Ryzhova, 2019). The population of Dagestan has a high level of confidence in federal government and, at the same time, very low confidence in regional and local authorities. What is more, Dagestanis have a low level of trust to their own ethnic and religious groups, while their attitudes to non-Dagestan Russians are generally positive (Shahbanova et al., 2019), see also (Korobeynikov, 2017, 2018). In Khabarovsk Krai, migrants constitute a significant share of the population. Most residents plan to leave Khabarovsk and move to regional centers, like Saint Petersburg or abroad (Vendina, 2017). The level of interpersonal trust is low (Vendina, 2017).

To better understand the channels through which trust and trustworthiness (or more generally, social capital) operate across regions of Russia we run a trust game in 12 cities covering all federal districts of Russia (see Figure 1).

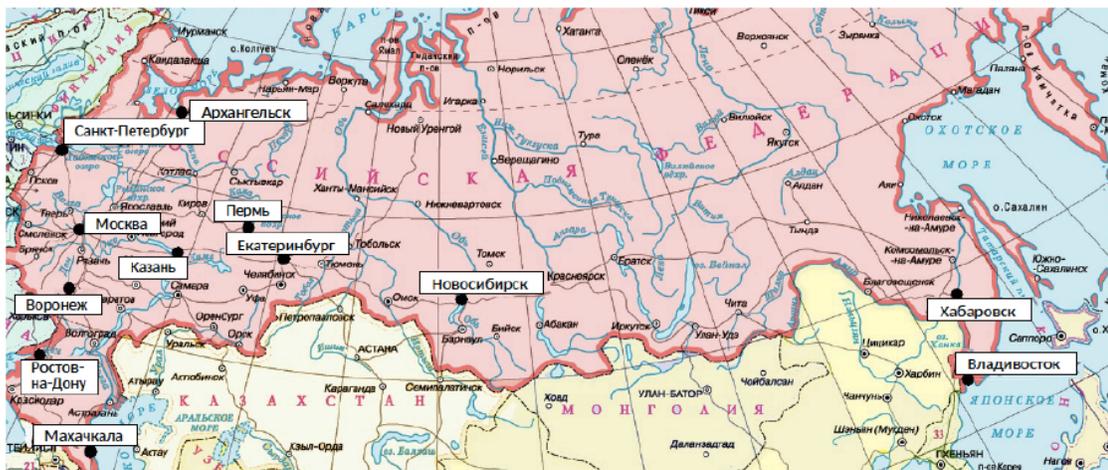


Figure 1: The 12 cities participating in the interregional trust game

1. Arkhangelsk (Arkhangelsk region)
2. Ekaterinburg (Sverdlovsk region)
3. Kazan (Republic of Tatarstan)
4. Khabarovsk (Khabarovsk Krai).
5. Makhachkala (Republic of Dagestan)

6. Moscow city
7. Novosibirsk (Novosibirsk region)
8. Perm (Perm Krai)
9. Rostov-on-Don (Rostov region)
10. Saint Petersburg city
11. Vladivostok (Primorsky Krai)
12. Voronezh (Voronezh region)

Interregional within-country experimental economics studies are a rather new research area and our large-scale interregional experiment is the first ever conducted in Russia. This research strategy is interesting and relevant, as *interactive* behavioral (experimental) data in connection with comprehensive survey data are not yet available – neither for Russia, nor, to the best of our knowledge, for any other country in the world. Yet such countrywide data are needed to analyze potential drivers of possible interregional heterogeneity in trust and trustworthiness within Russia along various dimensions.

Design, procedure and questionnaire

Design

In the trust game (Berg et al. 1995) we conducted, a sender and a responder are given a monetary endowment of 10 tokens by the experimenter, the exchange rate being 10 token = 1US\$. The sender is confronted with a binary decision. She can transfer either her total endowment to the responder or keep her endowment. The responder keeps his endowment. While being sent, the transfer is tripled by the experimenter. Thus, the responder receives 30 tokens. The responder can return any part of the tripled transfer or nothing to the sender. The sender's payoff is the monetary equivalent to the amount returned by the responder while the responder is paid the monetary equivalent to what she kept from the tripled transfer plus her endowment. The standard prediction if players are selfish is that responder does not repay to the sender (independent of the transfer). The sender anticipating this behavior returns nothing.

We decided to use the strategy method (Selten 1967), which involves that each player in the trust game has to make a transfer/return decision and has to state a belief for every possible city interaction before knowing the actual matching with regard to cities, while actually playing with only one player of the 12 possible cities (including one's own). This allowed us to obtain cross-regional comparisons of behavior and beliefs covering all Russia, as well as solve the (unique to the country) problem of a rather large number of time zones.

Procedural description

We run our interregional experimental study on the Russian online crowdsourcing platform Yandex.Toloka (<http://toloka.yandex.ru>), for recruiting participants and to manage the payments to them. To these ends, we developed a special toolkit (see Chapkovski, 2020). To the best of our knowledge we are the first to run experiments on this platform. Yandex.Toloka, similar in setup and audience to Amazon Mturk and Prolific, offers the opportunity to reach an audience beyond the student samples from the classical lab experiments. This constitutes a move towards experiments on samples from general population, and although this sample is not representative as limited to active Internet users, it still features to hundreds and thousands of active users. The experimental assignment is programmed in oTree (Chen et al., 2013) and connected to Yandex.Toloka service, so that registered Toloka participants can directly go to the oTree-app to participate in the experiment.

In contrast to lab experiments, our online study could be conducted nearly simultaneously in all of the partly rather far-apart cities, allowing for real matching of senders and responders from all cities. The experimental material like online instructions, comprehension questions as well as the online questionnaire has been prepared first in English, as a basis for mutual comprehension and international extensions, and was pre-tested to ensure its feasibility including testing information material and procedural details under 'real' online conditions. The study was pre-registered and was approved by the German Association for Experimental Economic Research (Certificate No. 4wAmRFb8).

We conducted the study in July and October 2020. We collected from each participant in each of the 12 cities decisions and beliefs for each of the 12 cities including the own subject pool. 2,078 subjects (Senders/Trustors: 1,059; Responders/Trustees: 1,019) participated in total in two Yandex.Toloka waves. We have collected 12,708 trust and 12,228 trustworthiness decisions and the same for beliefs.

Questionnaire

Our non-incentivized questionnaire includes a total of 106 items. We asked for subjects' social characteristics, as for instance, age, gender, marital status, education, occupation, employment status, own income, financial situation, religious denomination, cultural background (language, nationality/ethnicity), regional identity, knowledge about the Russian regions in the experiment. Other items concern subjects' decision motives, trust in people and institutions, satisfaction, risk, reciprocity, rule of law, political party attachment, personality (BIG-5), perceived interregional income inequality, housing, honesty, happiness, freedom of choice, attitude towards corruption, cooperation and competition. Questions were taken from the World Value Survey, RLMS, georating, GPS (Falk et al. 2018), German Socio-Economic panel (G-SOEP, see Dohmen et al. 2011),

International Social Survey Programme (ISSP) as well as from the International Standard Classification of Occupation (ISCO). The questionnaire items we used from the surveys are available and externally validated in English and Russian. We also added several own questions pertinent to our research goal.

First Results

In the following we report first results. Average trust (percentage of endowment transferred) and trustworthiness (percentage of received transfer returned) over all cities amount to 59% and 44% respectively. As senders in our experiment have a binary choice between transferring their total endowment or nothing, averages on trust display 1) the fraction of senders transferring their endowment, but also 2) the average amount senders transfer. These numbers are remarkably higher than the average of 50% and 37%, respectively, reported by Johnson and Mislin (2011) in meta-analyses of more than 21,000 participants. They are also much higher than the previously reported data from the World Value Survey.

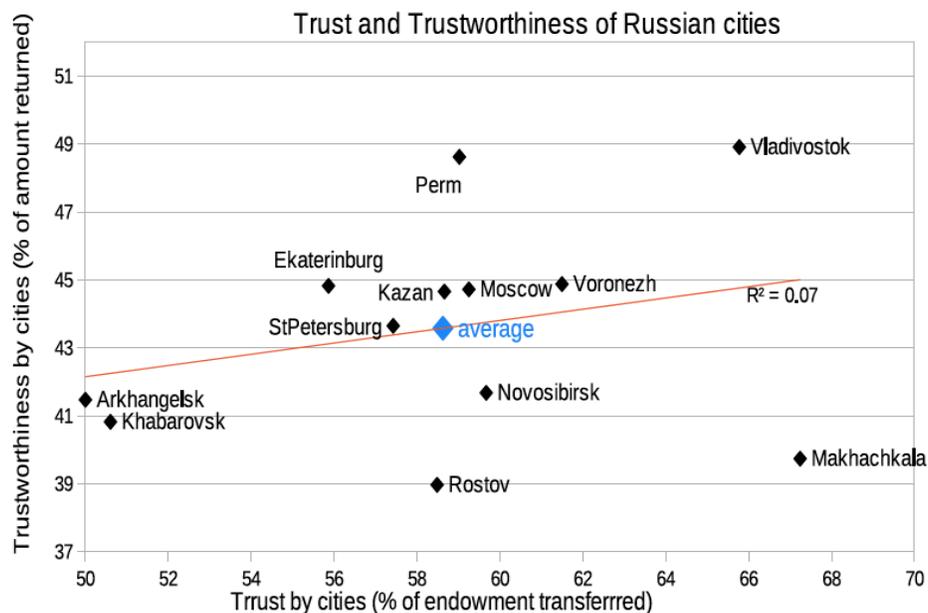


Figure 2: Trust and trustworthiness across Russian cities

We find clear interregional differences in the fraction of participants who are trusting or are rewarding trust (see Figure 2). Interestingly, our behavioral results are in accordance with the interregional survey studies reported above. In our study, we find the distinct levels of trust and trustworthiness that differ between some of the participating Russian cities (see Belianin et al. 2020 for a remarkable stable trend on local behavioral standards in an interregional Ultimatum game experiment, see also Goerg et al. 2016). For example, the trust level in Arkhangelsk amounts to only 50%, meaning that only 50% of the senders transfer their endowment to the responders, which is the lowest

percentage in our city sample. The highest percentage is found in Makhachkala (67%) – and this difference is significant. The least trustworthy participants are those from Rostov-on-Don with an average return of 39%, while responders from Vladivostok return 49% of the tripled amount transferred by the senders on average. We also find that trust and trustworthiness within the 12 Russian cities are positively correlated ($R^2 = 0.07$) suggesting general and coherent differences in this important element of social capital. Figure 2 also shows clusters of cities with similar levels of trust and trustworthiness with a tendency of a center-periphery relation.

Figure 3 displays a different view on the data. It shows average transfers from a specific city to all cities as well as transfers from all cities to a specific city, displaying how trusting a city is and how much a city is trusted. When comparing the average transfers made and the transfers received over all 12 cities, we find them to be rather similar (about 58%). However, interregional differences between the two are rather pronounced in both directions. For example, Makhachkala participants are rather trusting (67%) but are trusted by a much lower percentage of Russian participants (43%) while this relation is reversed for, e.g., Khabarovsk. 61% of senders from all 12 cities display trust, but only 51% of participants from Khabarovsk are trusting. For some cities, the differences between transfers and received trust are small, like in Novosibirsk (60% vs. 61%). Transfers given and trust received within the 12 Russian cities are negatively correlated ($R^2 = 0.23$). Analyzing our data further will shed light on the reasons behind these differences.

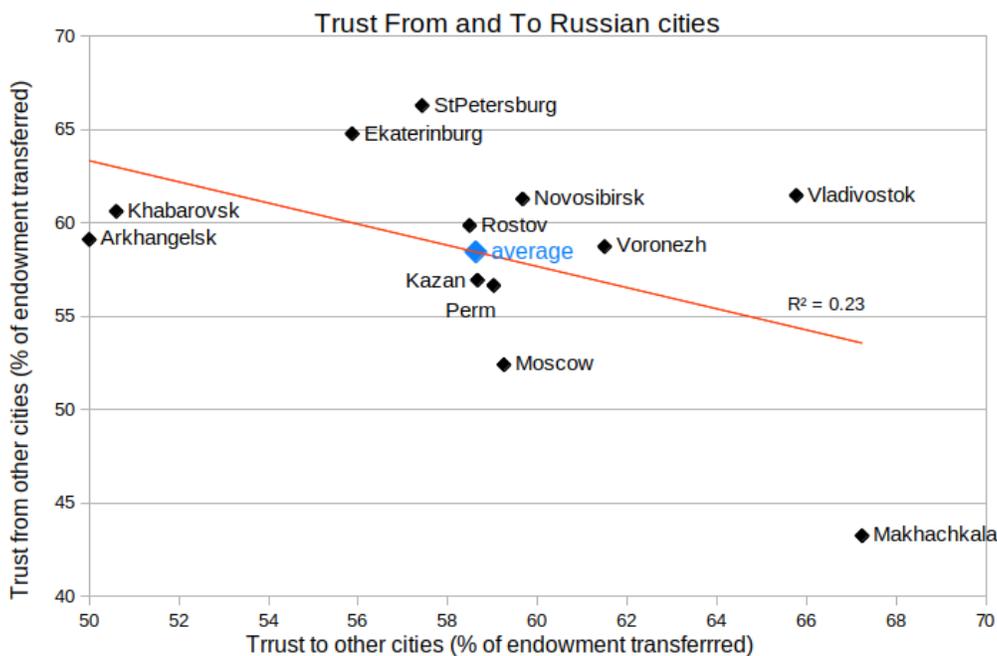


Figure 3: Average transfers from a specific city to all other cities and transfers from all other cities to a specific city.

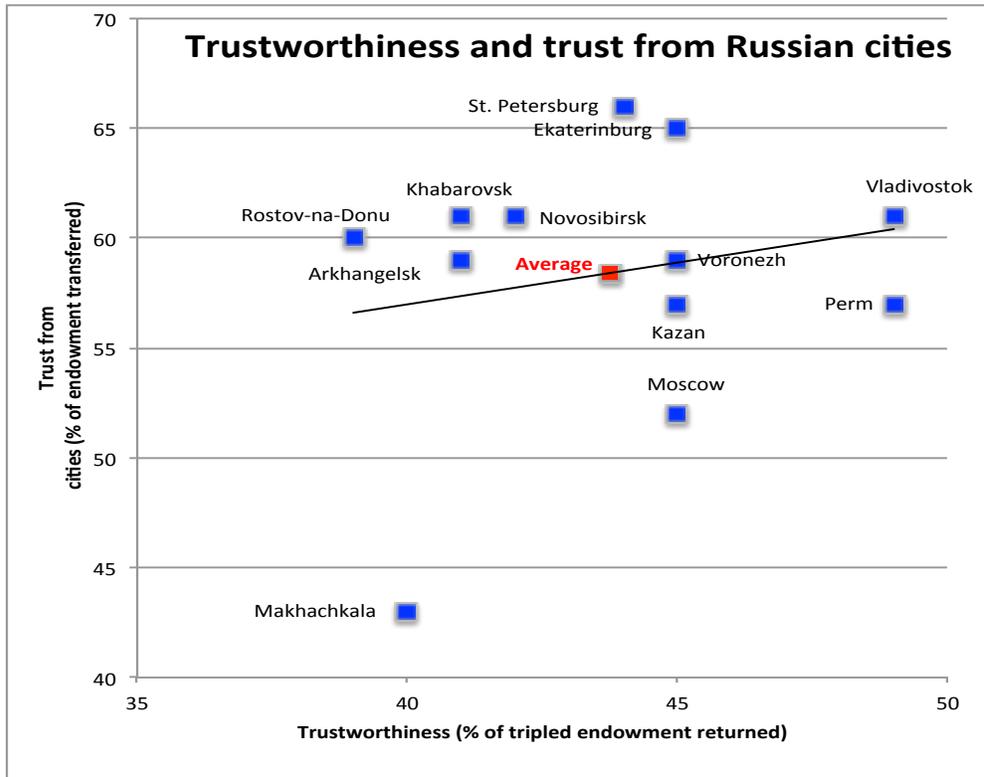


Figure 4 shows whether trusting behavior towards a city is rewarded by trustworthiness by this city. We see that the low trust towards Makhachkala is justified by low trustworthiness and the high trust towards Vladivostok by high trustworthiness. But we also see quite some differences in positive and negative directions.

Conclusion

Our large data set will enable us to identify and better understand the channels through which trust and trustworthiness operate across Russian regions. Our findings would help policy makers develop and tailor strategies and interventions enhancing country cohesion to build social capital across Russian regions. For example, preliminary analysis indicates that people's trust behavior is much influenced by their beliefs on responder's trustworthiness. This plausible mechanism operates only in some regions of our sample. From a policy perspective it seems crucial to get information on whether country unity can be enhanced by better understanding and changing people's beliefs or whether people's (mis)trust is guided by other, more subtle, channels. In this regard, our data also indicate that people's trusting behavior hinges on their confidence in the Rule of Law (see also Herrmann et al. 2008).

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