# DO INSTITUTIONS CAUSE SOCIAL TRUST? EVIDENCE FROM AN INSTITUTIONAL REFORM

## Denis Ivanov

### Abstract

I disentangle a problem of causality between institutional quality and interpersonal trust using evidence from a natural experiment in the form of the mid-2000s institutional reforms in the post-Soviet nation of Georgia. The reforms following the 2003 Rose Revolution were swift and extensive, covering a broad range of issues. Combating corruption and organized crime as well as improving the law enforcement system became a trademark of the Georgian reform package. Georgia's rapid progress in institutional quality was documented by numerous international rankings and sociological surveys. At the same time, the neighboring nations of Armenia and Azerbaijan, both former Soviet republics with cultural and economic background similar to the Georgian one, experienced no such change. I show these two countries as a counterfactual to Georgia.

I show that the institutional reform has led to higher interpersonal trust in two basic ways. Firstly, I use a diff-in-diff design with World Values Survey data. Secondly, I exploit the fact that republics' borders during the Soviet era were often drawn with negligence towards actual ethnic group settlement patterns, thus creating a number of minorities separated from their ethnic compatriots by an arbitrary border. Georgia also has several districts with predominantly Armenian and Azeri population. Comparing people of the same ethnic group on both sides of the border allows concentrating on differences in governance and formal institutions and to diminish possible confounding effect of culture-related heterogeneity.

Using the 2006 Life in Transition I survey, I find that Armenian and Azeri residents of Georgia have greater level of interpersonal trust than their counterparts in Armenia and Azerbaijan. The effect is also found for trust in police, but not for trust in military, trade unions and religious institutions. This implies that collective action experience, national or ethnic pride, religion-based social cohesion unlikely able to cause the observed association, while institutional quality is a plausible explanation.

Denis Ivanov is a Research Fellow at International Center for the Studies of Institutions and Development (ICSID), National Research University Higher School of Economics. Postal address: Institute of Industrial Market Studies, National Research University Higher School of Economics, 20 Myasnitskaya str., Moscow, 101000 Russian Federation. E-mail: dsivanov@hse.ru or d.s.ivanov@inbox.ru

**Introduction**

The idea of interplay between generalized trust and good governance is the central one in the field of social capital research since the first groundbreaking works by Putnam et al. (1993) or Fukuyama (1995). Across the world, societies with high level generalized trust also feature increased institutional quality, including lesser corruption, better efficiency of judiciary and bureaucracy, more civic participation as well as voter turnout (Knack, 1992, 2002; La Porta et al., 1997; Uslaner, 2002, 2004; Bjornskov, 2011; Algan, Cahuc, 2013). This correlation holds on both cross-country and within-country levels (for example, within Italy or the United States). However, much less consensus exists about the direction of causality between social trust and institutions. As noted in Uslaner (2008), experiential approach to trust puts emphasis on fragility of trust and people's perception of others' trustworthiness, while cultural approach sees trust as a result of intergenerational values transmission primarily. Similarly, according to Rothstein (2013), there are two general explanations for the variations in the level of social trust between societies: social-centered and institutional-centered. Social-centered approach views trust to be created in long-term experience of social interaction through voluntary associations. Institution-centered approach assumes that strong and impartial institutions can cause social trust, while wide-spread corruption leads to distrust among the society's members: can I trust anyone if even public officials, who are required by law to be honest, unbiased and impartial, are easily bribed or otherwise corrupted in real life?

Practical relevance of the issue is beyond any doubt. Formal institutions are relatively easy to change for a national and even local government, but can an institutional reform succeed if social norms are not supportive? Also, are there political and institutional reforms that are able to improve social trust and thus yield its well-documented economic and social benefits? Both social trust and institutions are likely to be subject to various kinds of virtuous and vicious circles, so they are unlikely to change in time on their own. Reverse causality and omitted variable bias are most common challenges to econometric analysis of causal relationship between social trust and institutional quality.

This research tries to answer the question using evidence from the particular case of institutional reforms in Georgia during the presidency of Mikheil Saakashvili (2004-2013). Saakashvili came to power with 2003 Rose Revolution, advancing both democratic and nationalistic appeals. Saakashvili's reforms package included full-scale deregulation, fighting organized crime and eradication of corruption. To attain these goals, Saakashvili initiated even disbanding or replacing the entire government agencies, including the police, by hiring new staff trained according to Western standards. As a result, most international ratings of institutional quality documented significant improvement in Georgia's position, unmatched among former USSR republics, excluding the Baltic States.

It should be noted that both direction of reforms and their eventual success were not expected *ex ante*. The Rose Revolution was triggered by electoral fraud. It led to ousting the previous president Eduard Shevardnadze in November 2003. Shevardnadze left Georgia as a notoriously corrupt failed state with omnipotent mafia (so-called "thieves in law"), widespread poverty and unreliable electricity supply. The United People's Alliance the revolution brought to power initially had vague economic agenda (Burakova, 2011, Ch.2). The main architect of the reforms, Kakha Bendukidze, assumed his position in Georgian government only in June 2004.

Finally, several successful or attempted "color revolutions" occurred in ex-Soviet countries after 2003 (specifically, in Ukraine, Kyrgyz Republic and Moldova), but no one caused institutional progress similar to those in the case of Georgia.

To find reasonable counterfactuals to Georgian institutional development, I turn to neighboring nations of Armenia and Azerbaijan. These three nations have many similarities even despite linguistic and religious differences, so it is reasonable to claim that they were in similar initial conditions (see Table 1). The countries under consideration share much common in their history, having been conquered by Russians from Ottoman Empire and Persia during the first third of XIX century. In 1918-1920/1, the three nations experienced brief periods of independence under non-communist governments, until the Soviet-oriented regimes were installed. Since 1922, Armenia, Azerbaijan and Georgia were the part of the USSR, and proclaimed independence again in 1991. During the collapse of the USSR in late 1980s – early 1990s South Caucasus turned into a battlefield: Armenia and Azerbaijan fought each other over Nagorny Karabakh, while Georgia tried to suppress secessionist movements in Abkhazia and South Ossetia, which eventually became *de facto* sovereign states, having been formally recognized by Russian Federation in 2008. Now, Georgia and Armenia are democracies, and Azerbaijan is a secular autocracy. Neither Armenia nor Azerbaijan experienced significant institutional reforms during 2000s.

It is also notable that Georgia, Armenia and Azerbaijan are located near each other on the Inglehart-Welzel World Cultural Maps both in 1996 and 2010 (see Picture 1). Therefore, I expect that Armenia and Azerbaijan are likely to replicate the dynamics of trust in Georgia in absence of the reforms.

I employ two basic strategies. Firstly, I use difference-in-differecne design with social trust measured by World Values Survey in 1997-1998 (to the best of my knowledge, the only source of data on social trust before the reforms) and in 2009-2011 (after the reforms). Results of estimation may be interpreted as the Georgian reforms prevented overall decrease of trust seen in the neighboring nations.

Secondly, I take advantage of the phenomenon of partitioned ethnicities due to arbitrarily drawn borders, in a way similar to Michalopoulos and Papaioannou (2014). Doing so allows comparing people of the same culture living in different institutional environments. The phenomenon of partitioned ethnicities is frequently observed in the former USSR, where demarcation of borders between constituent republics was made centrally, and the internal boundaries had never been seen as future national borders. Therefore, although the declared principles of "Leninist national policy" required granting territorial autonomy to as many ethnic groups as possible, in practice administrative borders split historical ethnic homelands in a number of cases. Specifically, Georgia has significant presence of indigenous Armenian and Azeri population in areas near its southern border. I compare people living in Armenian and Azeri communities on both sides of the border by their level of social trust using 2006 Life in Transition I Survey, which has significant presence of the Georgian ethnic minorities in the sample. I observe significantly higher level of trust in Armenian and Azeri primary sampling units (PSU) under the Georgian flag when compared to PSU in Armenia and Azerbaijan.

Using the latter empirical design, I also examine differences in trust in various social institutions, namely police, courts, armed forces, trade unions and religious institutions. I find the positive effect on trust in police (the model corruption-free Georgian agency), no statistically significant effect on judiciary, the reform of which was less successful, and negative effect on trust in military, trade unions and religious institutions. I interpret these results as ruling out possible alternative explanations through national or ethnic pride, religion-based social cohesion or successful collective action experience.

## Literature review

To this day, significant number of papers argues that oppressive, extractive institutions can destroy social capital, and this effect can persist for centuries. Putnam et al. (1993) and Guiso et al. (2008) argue that regions in the North of Italy, where independent city-states flourished during the Middle Ages, enjoy higher levels of social capital today. At the same time, in the South of Italy authoritarian Norman kingdoms precluded civic self-organization. This in turn has led to lower levels of social capital. Nunn and Wantchekon (2011) in their prominent paper show how the historic experience of slave trade in Africa has undermined generalized trust in African societies. In Tabellini (2010) correlation between 1600-1850 political institutions and present-day trust on the sample of West European regions was found.

Strong evidence exists in favor of inheritability of generalized trust. As shown in Tabellini (2008), Americans who are descendants of immigrants from countries with less autocratic political regimes in 1900 are also more trusting now. This implies that institutions do influence social trust, and that cultural heterogeneity arising from differences in ancestors' experience of dealing with institutions may persist for a long time even in an environment of democracy and rule of law.

Another source of evidence originates from laboratory experiments. In one experiment, Swedish and Romanian students were asked to rate their trust in others after being exposed to a narrative of interacting with authorities during a travel in an unknown city in unknown country. The participants were randomly exposed to different treatments: in some variants of the narrative, the interaction involved bribe, and in some not. Despite significant initial differences in levels of social trust between Sweden and Romania, students in both countries show lower generalized trust when confronted with the scenarios involving bribery and other anti-social norms of behavior. Similarly, in Strimling et al. (2013) it was shown with experimental approach that "when endowed with strong, socially efficient institutions at the outset, even groups of agents with low social trust are capable of using political inclusion to maintain and also to strengthen the socially efficient institutions thereby achieving collectively high-yielding outcomes".

The contribution of this paper in the literature is two-fold. Firstly, it explores the consequences of the natural experiments implemented recently, resulting in plenty of first-hand accounts. It is especially important that survey data on social trust before and after the reforms are available, which is uncommon for studies of historic roots of social capital typically relying on cross-sectional variation. Therefore, it is possible to employ difference-in-difference

approach. Secondly, it examines consequences of the institutional reforms in short-run, thus diminsing possible interference from other historic shocks. A drawback of this study is it is hardly able to investigate long-run persistence of institutions impact on social trust.

### Data and methodology

Two basic sources of data on trust in Southern Caucasus as well as two empirical designs are used.

World Values Survey (WVS) has been carried out in Georgia in 1996 and 2009, and in Armenia and Azerbaijan in 1997 and 2011. Thus, 2004 – the year when the Georgian reforms started – falls between of the two dates for each country. This allows to employ difference-in-difference strategy. However, distance between the years outcome has been measured in Georgia, from one side, and in Armenia and Azerbaijan, from another side, is quite substantial. It is especially important that 2009 was a year of global recession, and in 2011 it was rapid economic growth in Armenia and Georgia. If economic shocks have causal effect on trust, as argued in Guriev and Ananyev (2015), it is likely that the effect is underestimated due to different timing of measurement in treatment and control groups.

To overcome this problem, I resort to Life in Transition I Survey (LiTS) which has an advantage of being conducted in all the countries under consideration simultaneously (30th August – 6th October 2006). Life in Transition data are not available for a period before 2006, therefore it is impossible to apply DID. To minimize potential unobserved heterogeneity in cross-section regressions, I consider only those Georgian primary sampling units (PSU) which have Armenian and/or Azeri majority. Doing so produces four PSUs to include in the sample. I use as a control group in this design either the whole countries of Armenia and Azerbaijan or PSU in these countries within 100-kilometer-wide strip adjacent to the Georgian regions Kvemo Kartli and Samtskhe-Javakheti. List of the selected PSUs is reported in Table 2. In each PSU, 20 interviews have been held.

Additional advantage of concentrating on Armenians and Azeri lies in that they are much less likely to be excited by Georgian nationalism enkindled by Saakashvili administration. Therefore, they are expected to be influenced almost exclusively by the institutional reform.

I prefer LiTS I (2006) over LiTS II (2010), because the former survey has better representation of Armenians and Azeri residents of Georgia, which is crucial in my design. In 2006 sample, there are four Georgian PSUs dominated by ethnic Armenians and/or Azeri. In 2010 there is only one such PSU, and the number of people in 2010 Georgian sample whose mother tongue is Azeri is three only (mother tongue is the only identifier of ethnicity in LiTS II dataset). So, it is much harder to make consistent conclusions basing on the 2010 dataset. Also, as reported by EBRD, in 2006 interviews in Georgia could be conducted in both Georgian and Russian (*lingua franca* in the former Soviet republics). In 2010, only Georgian has been listed as a language of questionnaire used in Georgia. Exclusive reliance on the official language when contacting ethnic minorities who often speak it poorly is likely to result in various forms of bias. Another advantage of the 2006 dataset is that LiTS I was carried out in a relatively short time after the reforms had been started, and before 2008 Russo-Georgian War which was likely to

boost both nationalist sentiment and lead to disillusionment with the government because of disastrous defeat of the Georgian Armed Forces.

Descriptive statistics (means) for the World Values Survey sample are reported in Table 3 and for the Life in Transition sample (for whole Armenia and Azerbaijan) are in Table 4. From the World Values Survey sample it can be seen that social trust in Georgia was lower than in Armenia and Azerbaijan in pre-treatment period, but it was higher after the treatment. Indeed, the levels of social trust in Georgia in 1996 and 2009 are almost identical, while in Armenia and to a lesser extent in Azerbaijan trust decreased sharply from 1997 to 2011.

Decrease in trust during the post-socialist transition is consistent with the evidence from 2006 Life in Transition Survey. In all the three countries people report higher trust in others in 1989 than today. Social trust both in 1989 and 2006 is greater in Georgian PSUs when compared to Armenian and Azerbaijani. Thus, I control for trust in 1989 in baseline specification. Although reliability of self-reported assessments of trust 15 years ago is questionable, this variable is likely to capture prevalence of Soviet nostalgia and to account for differences in socialist-era experiences among populations in the three countries.

### Empirical results

*Baseline models*

Results from DID model are shown in Table 5. In column (1), results from baseline model with demographic controls are reported. Coefficient at the dummy for Georgia is negative but insignificant, thus signaling that Georgia did not higher pre-treatment social trust, and DID design is chosen correctly. The results indicate strong negative temporal trend in trust levels. However, the treatment effect for Georgia is positive and significant, thus offsetting nearly all the magnitude of the negative time trend. In column (2), dummies for regions are included[*], with small change in the results. In columns (3) and (4), the respective specifications are added with demographic controls interacted with post-reform period dummy. This results in increased magnitude of the main effect, although standard errors also get somewhat inflated.

Results from the cross-section regression on LiTS data are shown in Table 6. In columns (1) and (2) the whole countries of Armenia and Azerbaijan are used as a control group. The coefficient of the Georgia dummy is positive and significant, while trust in 1989 generally has no significant influence on trust today short of complete distrust in others in 1989. When the control group is restricted to 100-kilometer-wide strip adjacent to Georgian regions Kvemo Karlti and Samtskhe-Javakheti (columns (3) and (4)), coefficient of the Georgia dummy is much greater in magnitude and remains highly significant even despite drastic reduction in the number of observations.

---

[*] I relied on the variable "Region where interview was conducted" in the WVS dataset. It generally corresponds to Georgian *mkhare,* or regions, Armenian *marz,* or provinces, and traditional economic divisions of Azerbaijan, that aggregate several adjacent districts. I have manually matched regions across the waves of survey in order to eliminate mismatch due to differences in nomenclature of regions as well as in spelling of the same regions' names if different years, which is common for Azerbaijan (e.g. *Lankaran* is transliteration of the Azeri name of the region and *Lenkoran* is that of the Russian name). When running regressions with regional dummies, only respondents from regions present both in pre-reform and post-reform samples are included.

*Potential explanations*

In addition to the institutional reform, several alternative explanations of the observed effect can be envisioned. The revolution itself as an outstanding example of collective action was likely to strengthen cohesiveness and amplify altruism among Georgian citizens, thus resulting in increased social trust. Improved state capacity was likely to boost national pride, leading to the same consequences. Although ethnic minorities concentrated in rural areas were unlikely to directly participate in the revolution (which at least partly endorsed nationalist agenda), they still could be inspired by the collapse of the decadent Shevardnadze's regime under popular pressure.

To disentangle this issue, I consider evidence from LiTS I data on trust in various governmental and social institutions, namely police, courts, armed forces, trade unions and religious institutions. Trust in police and judiciary is an indicator of institutional quality. Trust in armed forces is a proxy for national pride. Like police, military is an indispensable attribute of a sovereign state and a core of its prestige, but soldiers typically do not participate in routine law enforcement and generally are not expected to serve citizens directly. Trust in trade unions and religious institutions measures peoples' willingness to engage in collective action. It should be also mentioned that in South Caucasus religion is tightly interrelated with ethnicity, so trust in religious institutions also captures affinity to one's own ethnic group.

In the way identical to that in the case of generalized trust, I compare trust in the aforementioned institutions among people of the same ethnic background on both sides of the Georgian state border (table 7). In odd-numbered columns, the entire Armenia and Azerbaijan are used as a counterfactual, and in even-numbered ones, only PSUs within 100-kilometer strip are. Results confirm greater trust in police in Georgia. On the "near-border strip" sample, the coefficient is greater in magnitude when compared to the "whole countries" one, although its p-value is slightly above 10-percent threshold. No significant differences are revealed with respect to courts. This is not surprising, having in mind that the reform of Georgian judiciary is considered to be sluggish and ineffective even by Saakashvili's advocates, especially when it is compared to the police and civil service reforms (Burakova, 2012). Although, in the post-Soviet states judges in criminal procedure are widely seen as a rubber stamp, while police and public prosecution play crucial role in punishing an offender and thus attract greater public attention.

In contrast, trust in armed forces is lower in the Georgian part of the sample (note again that the survey was conducted before the disastrous 2008 Russo-Georgian War). Similarly, there are negative association between living in Georgia and trust in trade unions and religious institutions. Therefore, it is unlikely that underlying mechanism of the observed increase in social trust is caused by the experience of collective action, by national or ethnic pride or by religion-based social cohesion.

**Conclusion**

In this paper I have shown in two basic ways that mid-2000s institutional reform in the post-Soviet nation of Georgia were likely to cause relative increase in Georgians' trust to others

when compared to the neighboring nations of Armenia and Azerbaijan. Firstly, I yield my results with difference-in-difference design. The results imply that improvement in institutional quality has been likely to offset decrease in social trust that has been expected in absence of the reform.

As an alternative, I take advantage of the fact that Georgia has significant presence of Armenian and Azeri population in its southern regions because of arbitrary drawn borders of the Soviet republics. I show that Armenian and Azeri residents of Georgia demonstrate higher level of social trust when compared to their counterparts in Armenia and Azerbaijan. Also they have significantly higher trust in police, although not in other social institutions, including judiciary, military, trade unions and religious institutions.

My results suggest that improvement in institutional quality, with emphasis on imposing rule of law and combating corruption is able to yield short-term payoff in the form of increased social trust. However, social trust in Georgia remains moderate by global measures. Therefore it is likely that higher levels of trust may be attained only by long-term experience of repeated social interactions. Moreover, it should be investigated how persistent are effects of institutional reforms.

**References**

1. Algan, Y., & Cahuc, P. (2013). Trust, Growth and Well-being: New Evidence and Policy Implications.
2. Bjørnskov, C. (2011). Combating corruption: On the interplay between institutional quality and social trust. *Journal of Law and Economics*, *54*(1), 135-159.
3. Burakova L. (2011) *Pochemu u Gruzii poluchilos' (Why Georgia Succeed).* Moscow: United Press.
4. Burakova L. (2012) Sudebnaya reforma: pochemu u Gruzii ne poluchilos' (The Judical Reform: Why Georgia Did Not Succeed). *Harvard Business Review Russia,* December.
5. Fukuyama, F. (1995). *Trust: The Social Virtues And The Creation of Prosperity*. New York: Free Press.
6. Guiso, L., Sapienza, P., & Zingales, L. (2008). *Long Term Persistence* (No. w14278). National Bureau of Economic Research.
7. Guriev, S., & Ananyev, M. (2015). *Effect of Income on Trust: Evidence from the 2009 Crisis in Russia* (No. 2015-02). Sciences Po.
8. Knack, S. (1992). Civic norms, social sanctions, and voter turnout. *Rationality and Society*, *4*(2), 133-156.
9. Knack, S. (2002). Social capital and the quality of government: Evidence from the States. *American Journal of Political Science*, 772-785.
10. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Trust in Large Organizations. *The American Economic Review*, 333-338.
11. Michalopoulos, S., & Papaioannou, E. (2014). National Institutions and Subnational Development in Africa. *The Quarterly Journal of Economics*, *129*(1), 151-213.
12. Nunn, N, & Wantchekon, L. (2011) The Slave Trade and the Origins of Mistrust in Africa." *American Economic Review*, 101(7): 3221-52.
13. Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton NJ: Princeton University Press.
14. Rothstein, B., & Eek, D. (2009). Political corruption and social trust: An experimental approach. *Rationality and Society*, *21*(1), 81-112.
15. Rothstein, B. (2013). Corruption and social trust: Why the fish rots from the head down. *Social Research: An International Quarterly*, *80*(4), 1009-1032.
16. Strimling, P., Lindberg, S. I., Ehn, M., Eriksson, K., & Rothstein, B. (2013). Can Efficient Institutions Induce Cooperation Among Low Trust Agents? *QOG The Quality Of Government Institute Working Paper Series*, *7*.
17. Tabellini, G. (2008). Presidential Address: Institutions and Culture. *Journal of the European Economic Association*, *6*(2-3), 255-294.
18. Tabellini, G. (2010). Culture and Institutions: Economic Development in the Regions of Europe. *Journal of the European Economic Association*, *8*(4), 677-716.
19. Uslaner, E. M. (2002). *The Moral Foundations of Trust*. Cambridge University Press.
20. Uslaner, E. M. (2004). Trust and Corruption. In Lambsdorff, J. G., Taube, M., & Schramm, M. (Eds.) *The New Institutional Economics of Corruption*. Routledge.
21. Uslaner, E. M. (2008). Where You Stand Depends Upon Where Your Grandparents Sat The Inheritability of Generalized Trust. *Public Opinion Quarterly*, *72*(4), 725-740.
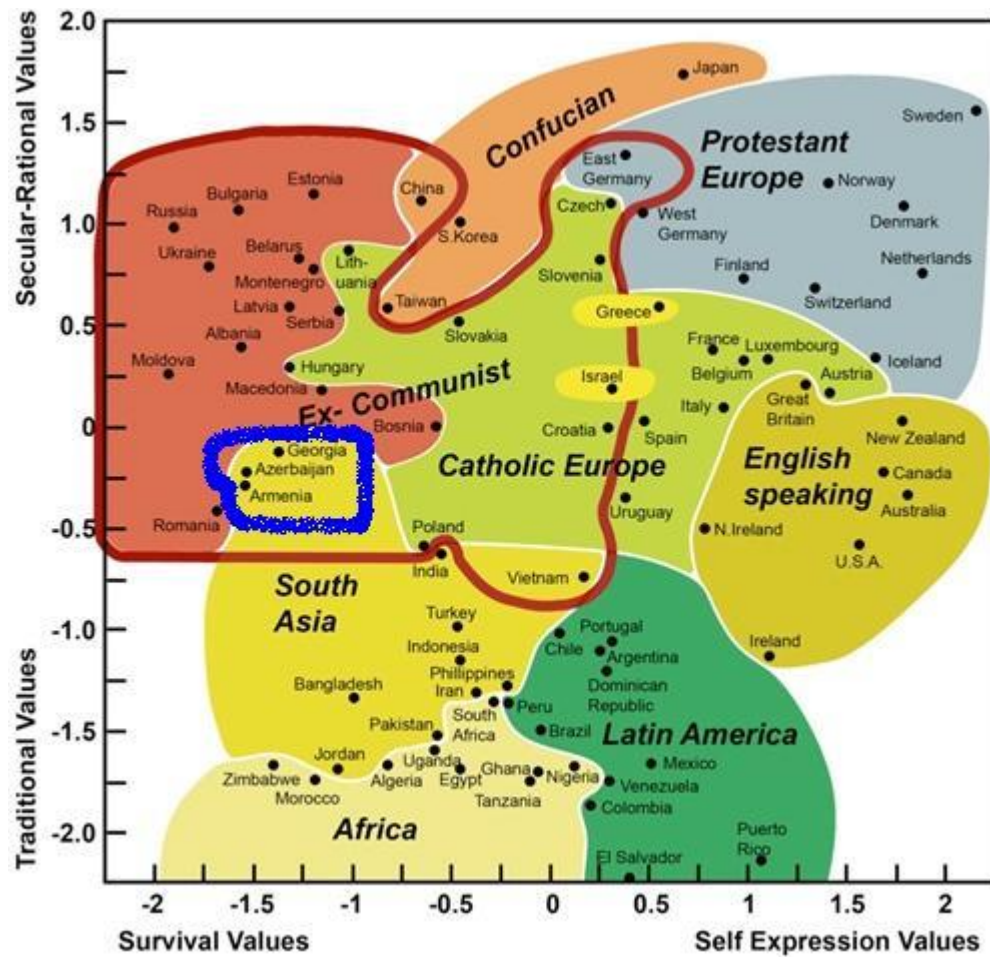
**1996**
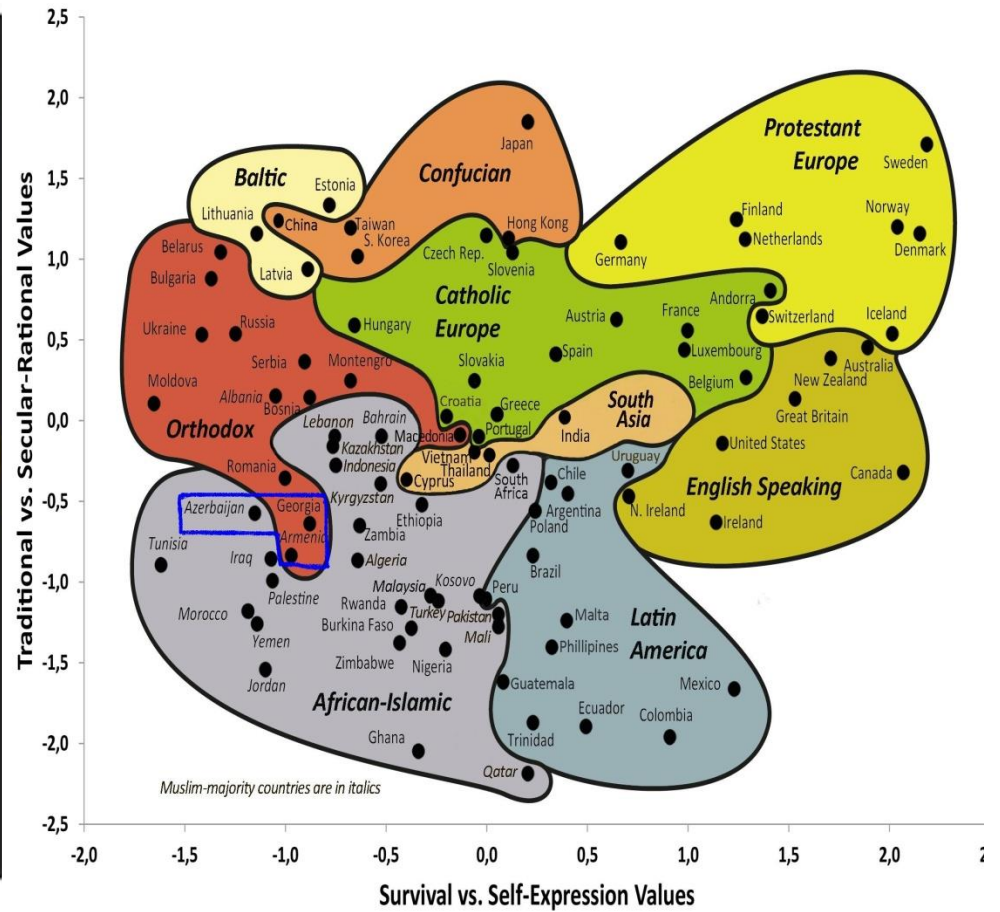
**2010**

Picture 1. Positions of Georgia, Armenia and Azerbaijan on the Inglehart-Welzel Cultural Map of the World, 1996-2010

Table 1

| | Year | Armenia | Azerbaijan | Georgia |
|---|---|---|---|---|
| Dominant religion | | Oriental Orthodox Christianity | Islam | Eastern Orthodox Christianity |
| Official language, by language family | | Indo-European | Turkic | Kartvelian |
| GDP per capita, current international $ (1996) World Bank | 1996 | 1,733.3 | 2,473.7 | 1,947.4 |
| | 2009 | 6,153.8 | 14,900.0 | 5,460.9 |
| Mean years of schooling of adults, UNDP | 2009 | 10.8 | 10.8 | 12.1 |
| Urbanization rate, % World Bank | 1996 | 66 | 52 | 54 |
| | 2009 | 64 | 53 | 53 |
| Polity IV index | 1996 | -6 5 since 1998 | -6 | 5 |
| | 2009 | 5 | -7 | 6 |
| Transparency International Corruption Perception Index | 1999 | 2.5 | 1.7 | 2.3 |
| | 2009 | 2.7 | 2.3 | 4.1 |
| Rankings on the ease of doing business World Bank | 2009 | 44 | 33 declined in ensuing years to the 80th position in 2014 | 15 |

Table 2

| PSU number | PSU Name | Region |
|---|---|---|
| *Armenia* | | |
| 28 | Vanadzor | Lori Province |
| 29 | Vanadzor | Lori Province |
| 30 | Tashir | Lori Province |
| 31 | Azatan | Shirak Province |
| 32 | Akhuryan | Shirak Province |
| 33 | Jajur | Shirak Province |
| 34 | Sarakap | Shirak Province |
| 35 | Arevshat | Shirak Province |
| 39 | Norashen | Shirak Province |
| 48 | Dsegh | Lori Province |
| 49 | Sarchapet | Lori Province |
| 50 | Koti | Tavush Province |
| *Azerbaijan* | | |
| 37 | Qiriqli | Agstafa District |
| 38 | Cilovdarli-Gedirli | Tovuz District |
| *Georgia* | | |
| 24 | Marneuli | Kvemo Kartli Region |
| 42 | Makhmuti | Kvemo Kartli Region |
| 43 | Ashkala | Kvemo Kartli Region |
| 48 | Kirovakani | Samtskhe-Javakheti Region |

Table 3

| Variable (World Values Survey) | Georgia (1996) | Georgia (2009) | Armenia & Azerbaijan (1997) | Armenia & Azerbaijan (2011) |
|---|---|---|---|---|
| Observations | 2,008 | 1,500 | 4,002 | 2,102 |
| Most people can be trusted | 0.187 | 0.181 | 0.226 | 0.132 |
| Gender: Female | 0.551 | 0.529 | 0.520 | 0.584 |
| Age | 40.7 | 45.4 | 37.2 | 44.0 |
| Married | 0.602 | 0.670 | 0.609 | 0.653 |
| Living together as married | 0.014 | 0.005 | 0.010 | 0.010 |
| Divorced | 0.028 | 0.021 | 0.027 | 0.037 |
| Separated | 0.007 | 0.011 | 0.008 | 0.005 |
| Widowed | 0.087 | 0.100 | 0.065 | 0.113 |
| Never married | 0.262 | 0.192 | 0.281 | 0.182 |
| Has children | 0.692 | 0.763 | 0.669 | 0.773 |
| Education: Not applicable; no formal education | - | - | - | 0.004 |
| Education: No answer | - | - | - | 0.001 |
| Education: Inadequately completed elementary education | 0.005 | 0.007 | 0.010 | 0.010 |
| Education: Complete elementary education | 0.076 | 0.011 | 0.023 | 0.018 |
| Education: Incomplete secondary school: technical/vocational type | 0.066 | 0.027 | 0.037 | 0.039 |
| Education: Complete secondary education: technical/vocational type | 0.208 | 0.283 | 0.283 | 0.208 |
| Education: Incomplete secondary school: university-preparatory school | 0.043 | 0.042 | 0.059 | 0.052 |
| Education: Complete secondary school: university-preparatory school | 0.396 | 0.293 | 0.324 | 0.328 |
| Education: Some university without degree | 0.028 | 0.034 | 0.029 | 0.042 |
| Education: University degree | 0.178 | 0.303 | 0.235 | 0.299 |
| Social class: No answer | - | 0.011 | - | 0.004 |
| Social class: Don't know | 0.008 | 0.017 | 0.014 | 0.009 |
| Social slass: Upper class | 0.029 | 0.002 | 0.044 | 0.033 |
| Social class: Upper middle class | 0.109 | 0.153 | 0.149 | 0.305 |
| Social class: Lower middle class | 0.627 | 0.462 | 0.543 | 0.344 |
| Social class: Working class | 0.168 | 0.205 | 0.203 | 0.257 |
| Social class: Lower class | 0.058 | 0.151 | 0.046 | 0.048 |
| Religion: No answer | - | 0.003 | - | 0.000 |
| Religion: Don't know | 0.002 | 0.005 | 0.037 | - |
| Religion: Very important | 0.493 | 0.795 | 0.272 | 0.489 |
| Religion: Rather important | 0.341 | 0.169 | 0.447 | 0.311 |
| Religion: Not very important | 0.108 | 0.019 | 0.179 | 0.137 |
| Religion: not at all important | 0.056 | 0.009 | 0.065 | 0.063 |

Table 4

| Variable | Georgia (Armenian&Azeri PSUs) | Armenia & Azerbaijan |
|---|---|---|
| Respondents | 80 | 2,000 |
| Trust in people today (1-5 scale)* | 2.73 | 2.34 |
| Trust in people in 1989 (1-5 scale) * | 4.15 | 3.61 |
| Trust in police (1-5 scale) * | 3.68 | 2.86 |
| Trust in courts (1-5 scale) * | 2.79 | 2.73 |
| Trust in armed forces (1-5 scale) * | 3.40 | 3.92 |
| Trust in trade unions (1-5 scale) * | 1.89 | 2.85 |
| Trust in religious institutions (1-5 scale) * | 3.19 | 3.31 |
| Ethnic group: Armenian | 0.28 | 0.49 |
| Ethnic group: Azeri | 0.68 | 0.46 |
| Age | 47.0 | 43.2 |
| Education: No degree | 0.01 | 0.03 |
| Education: Compulsory only | 0.15 | 0.11 |
| Education: Secondary | 0.58 | 0.46 |
| Education: Professional, vocational | 0.15 | 0.17 |
| Education: University, college | 0.11 | 0.23 |
| Worked for income in last 12 months | 0.66 | 0.29 |
| ln(Household expenditures per adult equivalent member +1) | 4.10 | 4.21 |
| Type of settlement: urban | 0.25 | 0.27 |
| Type of settlement: rural | 0.75 | 0.42 |
| Type of settlement: metropolitan | - | 0.31 |

\*   "Difficult to say" not included

Table 5

| Variables | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Dependent variable: *Most people can be trusted* = 1, *Can't be too careful with people* = 0 | | | | |
| Georgia*Postreform | 0.632** | 0.630** | 0.719** | 0.678* |
| | (0.296) | (0.317) | (0.331) | (0.350) |
| Postreform | -0.712*** | -0.821*** | -0.213 | -0.631 |
| | (0.221) | (0.252) | (0.492) | (0.537) |
| Georgia | -0.203 | | -0.227 | |
| | (0.200) | | (0.206) | |
| Controls | Yes | Yes | Yes | Yes |
| Controls*Postreform | No | No | Yes | Yes |
| Regional dummies | No | Yes | No | Yes |
| Constant | -1.376*** | -1.625*** | -1.676*** | -1.887*** |
| | (0.305) | (0.240) | (0.454) | (0.386) |
| Observations | 9,198 | 8,705 | 9,198 | 8,703 |

Each entry corresponds to a coefficient in a binary logistic regression indicated in a column head. The controls include gender, age, square of age, marital and parental status, education, self-assessed social class and importance of religion in life. Models with regional dummies include respondents from regions presents in both surveys exclusively. Robust standard errors clustered at regional level in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$
Data source: World Values Survey Longitudinal data

Table 6

| Variables | (1) | (2) | (3) | (4) |
|---|---|---|---|---|

Dependent variable: *Trust in people today,* 1-5 scale from "Complete distrust" = 1 to "Complete trust" = 5

| Variables | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Georgia | 0.463*** | 0.527*** | 0.904*** | 0.886*** |
| | (0.131) | (0.119) | (0.167) | (0.172) |
| Trust in 1989: Complete distrust | -1.321*** | | -2.714** | |
| | (0.328) | | (1.062) | |
| Trust in 1989: Some distrust | -0.325 | | -0.227 | |
| | (0.225) | | (0.481) | |
| Trust in 1989: Neither trust nor distrust | 0.266 | | 0.668* | |
| | (0.182) | | (0.352) | |
| Trust in 1989: Some trust | -0.203 | | -0.162 | |
| | (0.178) | | (0.334) | |
| Trust in 1989: Complete trust | -0.129 | | 0.309 | |
| | (0.203) | | (0.632) | |
| Trust in 1989: Difficult to say | | Reference category | | |
| | | | | |
| Controls | Yes | Yes | Yes | Yes |
| | | | | |
| Observations | 1,994 | 1,994 | 353 | 353 |

Each entry corresponds to a coefficient in an ordered logistic regression indicated in a column head. In columns (3) and (4), for Armenia and Azerbaijan only PSUs within 100-kilometer strip near the border are included. The controls include age, square of age, ethnic group (Armenian or Azeri), education level, employment status, log household consumption per adult equivalent member, type of settlement. Respondents who answered "Difficult to say" are dropped. Robust standard errors clustered at the level of PSU in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$
Data source: Life in Transition I survey

Table 7

| Trust in… (1-5 scale) | …police | | …courts | | …armed forces | | …trade unions | | …religious institutions | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Georgia | 0.648*** | 0.930 | -0.154 | -0.162 | -1.193*** | -1.370*** | -1.528*** | -1.731* | -0.288* | -0.512* |
| | (0.218) | (0.581) | (0.221) | (0.464) | (0.211) | (0.497) | (0.581) | (0.942) | (0.174) | (0.303) |
| Observations | 1,989 | 342 | 1,922 | 322 | 2,015 | 344 | 1,616 | 231 | 1,903 | 324 |

Each entry corresponds to a coefficient in an ordered logistic regression indicated in a column head. In the even-numbered columns, for Armenia and Azerbaijan only PSUs within 100-kilometer strip near the border are included. The controls include age, square of age, ethnic group (Armenian or Azeri), education level, employment status, log household consumption per adult equivalent member, type of settlement. Respondents who answered "Difficult to say" are dropped. Robust standard errors clustered at the level of PSU in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Data source: Life in Transition I survey