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## SOCIAL CAPITAL AND ITS CHANGES IN ARMENIA: CHALLENGES AND EXPECTATIONS

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**Abstract:** *Social capital was the Achilles' heel of the economic competitiveness of Armenia. In the meantime, the country made significant progress in solidifying it since the Velvet Revolution. In this article, we tried to present and analyze those elements of social capital which demonstrated significant progress in post-revolutionary Armenia, as well as the changes thereof. For that purpose, we have formulated the following research questions: What factors led to this growth, and what factors still lag? What hidden challenges can be observed through factual indicators which probably resulted from the slight decrease in the updated scores? What changes can be expected from the turbulent world and in the post-war society? The applied methodology is quantitative. In particular, to answer the research questions we used index analysis, graphic analysis, and comparison, correlation analysis techniques, paired t-test of the mathematical-statistical significance of changes, and Principal Component Analysis. The results of the analysis showed that a significant increase in the level of social capital was recorded in post-revolutionary Armenia, which was mainly due to the progress in institutional trust. Nevertheless, some revealed anomalies and encountered challenges undermined the archived progress in the growth of trust. Therefore, we put forward several recommendations.*

**Keywords:** *Social Capital; Institutions; Velvet Revolution; Caucasus Barometer; Covid-19; War*

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### INTRODUCTION

According to the Global Competitiveness Report, social capital has been the weakest pillar of Armenia's economic competitiveness for many years (WEF 2019), and it is no longer a secret that Armenia has made significant progress in that regard since the Velvet Revolution (LI 2021a). What factors led to this growth and what factors still lag? What hidden challenges can be observed through factual indicators which probably resulted in the slight decrease in the updated scores (LI 2021a)? What changes can be expected from the turbulent world and in the post-war society?

To tackle the research questions we used mathematical-statistical methods based on results of the Caucasus Barometer 2019 survey (the data are openly available). We compared the latter with the social capital pillar in Legatum Prosperity Index used in the Global Competitiveness Report, as well as discussed the challenges of social capital in the post-pandemic and post-war countries. The study addresses the mentioned issues in the following order; firstly, we assessed the social capital of the Republic of Armenia (RA) and the changes in its elements. Afterward, we observed the indicators that had the most noticeable changes and checked the statistical significance of these changes. Thirdly, we analyzed the social capital of the RA over time. And finally, we discussed revealed anomalies, along with the local and global challenges of the future.

## DEFINING SOCIAL CAPITAL

The elements attributed to social capital (trust, norms, personal ties, etc.) are quite diverse. Hence, it is not contingent that the concept lacks a common definition yet (Gradlyan and Baghdasaryan 2014, 10). Many approaches were grouped by some authors. In particular, the grouping is based on community, network, institutional and synergetic approaches (Woolcock and Narayan 2000, 229), or micro and macro (sometimes also in meso level) levels of analysis (Chakrabarty 2013; Akcomak 2009).

As a result, while talking about social capital, different authors, discuss its different elements, thereby sometimes arriving at different conclusions concerning the same problem. Here are two such examples that merit attention. While discussing social capital in the context of the Covid-19 pandemic, authors sometimes take its different elements: in one case it is considered to have a positive impact due to the high level of trust in institutions (Aassve *et al.* 2020), while on the other hand, the impact of interpersonal relationships considered as a negative factor contributing to the spread of the virus (Bartscher *et al.* 2020).

The second example is the study of the interaction between social capital and economic growth. In the most well-known case studying this connection, Knack and Keeffer (1997) show a positive correlation between the trust element of social capital and the strong economic performance, while another study, considering only the interpersonal trust element of social capital, concludes that the impact of social capital on the overall result disappears in case of developed institutions (Ahlerup *et al.* 2009). Notably, J. Stiglitz explained this phenomenon as a transformation of social capital, i.e. a transition from one form of social capital (interpersonal trust) to another (trust in institutions), not the neutralization of the influence of social capital (Stiglitz 2000, 63-65). We agree with this approach, which is essentially the synergetic approach to the definition of social capital. Thereby, for the present article, we formulated and proposed the following definition of social capital: the social capital of an individual country refers to the strength of interpersonal and individual-institutions relations in the given society,

which affects the outcomes. Moreover, well-known international organizations also use the synergistic approach of definition when assessing social capital, reflected in key indexes which will be addressed below.

## THE CHANGES IN THE SOCIAL CAPITAL OF THE REPUBLIC OF ARMENIA AND THE ELEMENTS THEREOF

The change of social capital in post-revolutionary Armenia needs a detailed analysis, which we will try to do in this part based on the most recent data of the Caucasus Barometer 2019 survey. The survey results for Armenia became available on 26 June 2020 and the field works were carried out in February-March, 2020.

Using the results of the survey evaluated social capital by calculating a social capital index analogous to Legatum Prosperity Index (LI 2021b) and OECD (n.d.) methodology. In particular, we calculated the three elements (institutional trust, civic participation, and personal network connections, combining personal networks, interpersonal trust, and personal and family relations in the latter due to the lack of questions on these elements in the survey) using the weighted average of the included indicators. Afterward, we calculated the index with the weighted average of the indicators. The answers are included in consideration of the weights of respondents given in the survey results. We evaluated the index using the following formula:

$$1) \text{ Index}_{\alpha} = \frac{\sum_{i=1}^3 \frac{\sum_{j=1}^{n_i} w(ij) * m(ij)}{\sum_{j=1}^{n_i} m(ij)} * k(i)}{\sum_{i=1}^3 k(i)}, \text{ where}$$

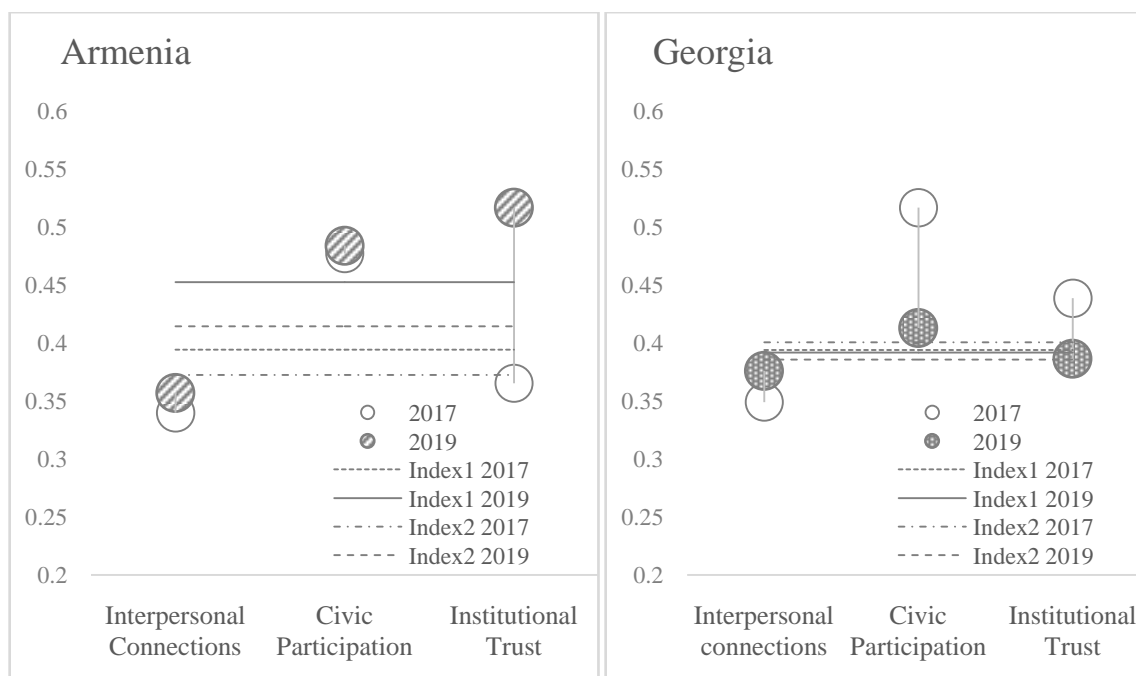
$w(ij)$  is the mean value of  $j$  indicator in the element.

$m(ij)$  is the weight of  $j$  indicator in the element.

$k(i)$  is the weight of the element.

$n_i$  is the number of indicators in the element.

According to the 2019 results, Armenia improved its indicator by 14.8%, by having progress of 0.06 percentage points (in the range of 0-1), bypassing Georgia. To understand due to which elements and indicators, in particular, this progress has been recorded, let us unbundle the Social Capital Index.



**Figure 1: Changes in the Main Elements of the RA and RG Social Capital According to Caucasus Barometer 2017 and 2019 (Source: Caucasus Barometer databases and authors' calculations)**

As we can see from Figure 1, the Republic of Armenia has made progress in all the three sub-elements of the index, recording the smallest progress in the element of civic participation and the biggest progress in the element of institutional trust (the indicators used in the calculation of elements are presented below).

Meanwhile, neighboring Georgia has made progress only in the element of personal network connections. The progress, however, was higher than in Armenia. A mention must be made that while discussing the issues related to the social capital some authors only consider this particular element of the index as an indicator of social capital and do not include the institutional factors (for example, the approaches of Putnam or Fukuyama (Gradlyan and Baghdasaryan 2013)). Among the indicators included in the 'institutional trust' element the biggest improvement compared with 2017 had the perception of fairness of the recent elections, the level of trust in the president, the level of trust in the government, and confidence in fairness of the treatment of the government. Only the 'frequency of visits to religious institutions' indicator recorded a decrease inside this element. The biggest improvement in the element of personal network connections is not able concerning the activity on Facebook and other social networks, while the most significant decline is recorded when it comes to the 'participation in public events' and 'telling personal problems to relatives' indicators. As for the element of civic participation, the biggest progress is recorded about the importance of volunteering, the importance and readiness to

participate in elections indicators, while the most significant decline is registered in terms of donations to religious and non-religious organizations. Note that in the case of the indicators showing the most significant change, the change is also statistically significant by the results of the Paired-t test (Table 1). It should be noted that the indicators of trust in the president and participation in public events do not meet the normal distribution condition, therefore, the analysis does not allow to check the statistical significance of the change in these indicators.

Table 1: The Results of the Statistical Significance Test and the Required Tests (Source: Caucasus Barometer databases and authors' calculations)

| Indicator                                | Shapiro-Wilk test on normal distribution<br>p-value (>0.05) | Normal distribution-<br>Density plot<br>(bell shape) | Mean of differences<br>(2019/2017) | Paired t test<br>p-value (<0.05) |
|--|---|--|------------------------------------|----------------------------------|
| Domestic politics . improvement          | ● 0.0032800   | ✓  | 1.255                              | ● 2.20E-16                       |
| Information by TV's                      | ● 0.0098800   | ✓  | 0.381                              | ● 9.17E-08                       |
| Will the situation improve in RA         | ● 0.0742000   | ✓  | 0.697                              | ● 2.26E-13                       |
| Trust – Army                             | ● 0.0000868   | ✓  | 0.355                              | ● 0.0001                         |
| Trust – Banks                            | ● 0.0240000   | ✓  | 0.163                              | ○ 0.0904                         |
| Trust - Court system                     | ● 0.1860000   | ✓  | 0.322                              | ○ 0.0005                         |
| Trust - Educational system               | ● 0.0368000   | ✓  | 0.054                              | ○ 0.5635                         |
| Trust - Executive government             | ● 0.3220000   | ✓  | 1.501                              | ● 2.20E-16                       |
| Trust - Healthcare system                | ● 0.2200000   | ✓  | 0.144                              | ○ 0.1051                         |
| Trust - Local government                 | ● 0.7220000   | ✓  | 0.502                              | ● 3.02E-08                       |
| Trust – Media                            | ● 0.0630000   | ✓  | 0.138                              | ○ 0.0901                         |
| Trust – NGOs                             | ● 0.6430000   | ✓  | 0.139                              | ○ 0.1635                         |
| Trust – Ombudsman                        | ● 0.0350000   | ✓  | 0.257                              | ○ 0.0308                         |
| Trust – Parliament                       | ● 0.0087600   | ✓  | 0.814                              | ● 7.63E-16                       |
| Trust – Police                           | ● 0.0561000   | ✓  | 0.718                              | ● 2.23E-12                       |
| Trust - Political parties                | ● 0.1160000   | ✓  | 0.496                              | ● 9.59E-09                       |
| Trust – President                        | ● 0.0000419   | ✓  | -                                  | -                                |
| Trust - Religious institutions           | ● 0.0180000   | ✓  | 0.262                              | ● 0.0053                         |
| People treated fairly by the gov.        | ● 0.0000250   | ✓  | -                                  | -                                |
| Injustice of the judicial system         | ● 0.0554000   | ✓  | 0.425                              | ● 2.19E-07                       |
| Fairness of recent elections             | ● 0.2140000   | ✓  | 1.015                              | ● 2.20E-16                       |
| Important - support the gov on every oc. | ● 0.1700000   | ✓  | 1.087                              | ● 3.58E-07                       |
| Important - always obey laws             | ● 0.0272000   | ✓  | 0.299                              | ○ 0.1195                         |
| Important - be critical to the gov.      | ● 0.0759000   | ✓  | 0.437                              | ● 0.0219                         |
| Level of democracy                       | ● 0.0015100   | ✓  | 0.790                              | ● 2.20E-16                       |
| Necess. to participate in protests       | ● 0.0022600   | ✓  | 0.193                              | ○ 0.0295                         |
| Frequency of fasting                     | ● 0.0000730   | ✓  | 0.053                              | ○ 0.5619                         |
| Freq. of attendance of rel. serv.        | ● 0.0008870   | ✓  | 0.334                              | ● 0.0056                         |
| Would you parti. in parliament elec?     | ● 0.0880000   | ✓  | 0.222                              | ● 0.0064                         |
| Cleaned /helped to/ public space (6m)    | ● 0.4170000   | ✓  | -0.043                             | ○ 0.1942                         |
| Made an online comment (6m)              | ● 0.0208000   | ✓  | 0.044                              | ○ 0.1279                         |
| Donated money to a church (6m)           | ● 0.3660000   | ✓  | -0.123                             | ○ 0.0001                         |
| Non-religious charity (6m)               | ● 0.0910000   | ✓  | -0.064                             | ○ 0.0734                         |
| Helped some. to resolve a dispute (6m)   | ● 0.0352000   | ✓  | 0.047                              | ○ 0.1579                         |
| Signed a petition or a demand/req.(6m)   | ● 6.93E-13  | ✓  | -                                  | -                                |
| Volunteered (6m)                         | ● 0.0081100   | ✓  | -0.061                             | ○ 0.0484                         |
| Important - support people               | ● 0.3490000   | ✓  | -0.103                             | ○ 0.5525                         |
| Important - vote in elections            | ● 0.0523000   | ✓  | 0.522                              | ● 0.0040                         |
| Important - do volunteer work            | ● 0.0095000   | ✓  | 0.424                              | ○ 0.0209                         |
| Did you vote in the Parl. elec. in 2018  | ● 0.0099800   | ✓  | 0.017                              | ○ 0.5643                         |
| Use Facebook                             | ● 0.0792000   | ✓  | 0.114                              | ● 0.0003                         |
| Engage in forum discussions              | ● 2.26E-22  | ✓  | -                                  | -                                |
| Use social networking site(s)            | ● 0.0780000   | ✓  | 0.047                              | ○ 0.1062                         |
| Appr. of doing business with Armenian    | ● 2.27E-15  | ✓  | -                                  | -                                |
| Discuss. pers. Problems with relatives   | ● 0.3280000   | ✓  | -0.432                             | ○ 0.0275                         |
| Most people can be trusted               | ● 0.0112000   | ✓  | -0.183                             | ○ 0.3305                         |
| Helped a neighbor/friend (6m)            | ● 0.4850000   | ✓  | -0.039                             | ○ 0.2098                         |
| Attended a public meeting (in 6m)        | ● 1.44E-08  | ✓  | -                                  | -                                |

Notes: 1. According to the questionnaire, in the case of the intensity of attendance at religious institutions and the frequency of fasting, the higher the value, the lower is the frequency. In Shapiro-Wilk test: ● -  $p < 0.05$ , ● -  $p > 0.05$ , in Paired-t test: ○ -  $p < 0.05$ , ● -  $p < 0.05$ , normal distribution: ✓ - visually bell appearance. The first group – Institutional Trust, the second group – Civic Participation, the third group – Interpersonal Relations.

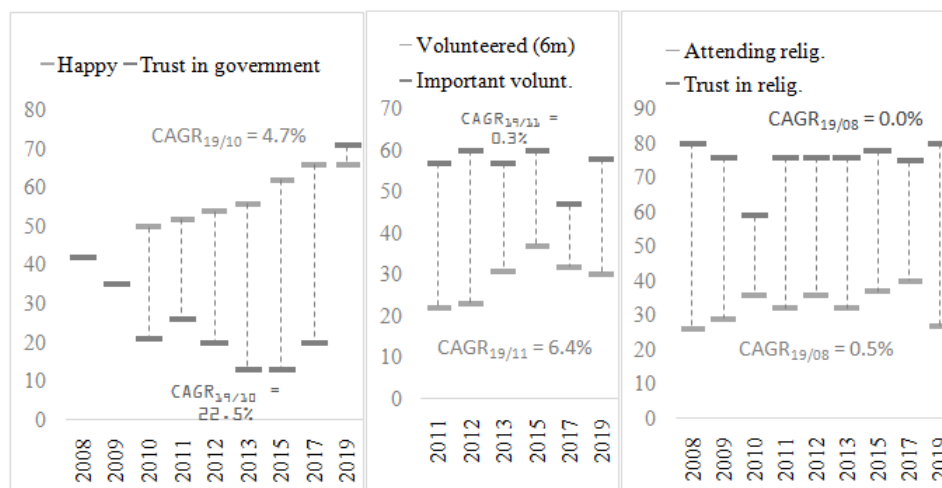
Note that performed Paired-t test<sup>1</sup> of statistical significance of the changes, most commonly used in biostatistics, is generally used, for example, to determine if a patient's condition has changed after treatment. It is also a common practice, however, to compare pairs of different groups of people with similar characteristics (Pagano and Gauvreau 2018, 260). We took the criteria of matching the respondents from 2017 and 2019 waves of the Caucasus Barometer survey with the gender, age group, place of residence, and income group indicators, as a result of which we got 135 groups with completely repeatable characteristics of the respondents, according to which we observed the changes with the weighted average of the answers. We applied the model at the significance level of  $\alpha=0.05$ . We tested the normal distribution of data by the Shapiro-Wilk test (Shapiro and Wilk 1965 in Romao 2012), as well as by observing the graphical distribution, to be more sure, taking into account that in case of a large number of observations (more than 30) the Shapiro-Wilk test may be sensitive to individual deviations (Shapiro and Wilk 1965, 610).

### SOME DETECTED ANOMALIES

Based on the results of the analysis, we noticed some anomalies, which will be discussed below. In particular, along with the growth of trust in the Government of the Republic of Armenia, more and more citizens think that it is necessary to take part in the protests (even before the military escalation). A paradoxical question arises as to whether the increase in trust in the government does not mean that the citizens will no longer take part in the protests. In fact, according to the Relative Deprivation Theory, people do not protest if they feel happy, while ever-deteriorating socio-economic conditions and political tensions eventually lead to escalating protests, leading to the so-called 'comorbidity problem', especially if specific groups are blamed for those problems (Smith, Pettigrew, and Huo 2020, 507).

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<sup>1</sup>The calculation of the formula of the 'Paired t' test is the following:  $t = \frac{\bar{d}}{S_d/\sqrt{n}}$ , where  $\bar{d}$  stands for the average of the differences in the sample,  $S_d$  stands for the standard error,  $n$  is number of observations (pairs), with the  $t_{(n-1),\alpha/2}$  and  $t_{(n-1),1-\alpha/2}$  being the critical values of two-tailed alternative (Ataharul and Abdullah 2018, 261).



**Figure 2: Dynamics of Observed Indicators for the Years With Data Availability (2008-2019)**  
(Source: Caucasus Barometer databases and authors' calculations)

Observing the dynamics of the indicators of happiness and trust towards the Government of the Republic of Armenia, we noticed that even though the compound annual growth rate (CAGR) for 2010-19 of trust towards the government is 22.5%, that of the indicator of happiness is only 4.7%. Therefore, despite the high level of trust, having long-term stability, and happy society, it will probably necessitate tackling the socio-economic problems and securing higher incomes.

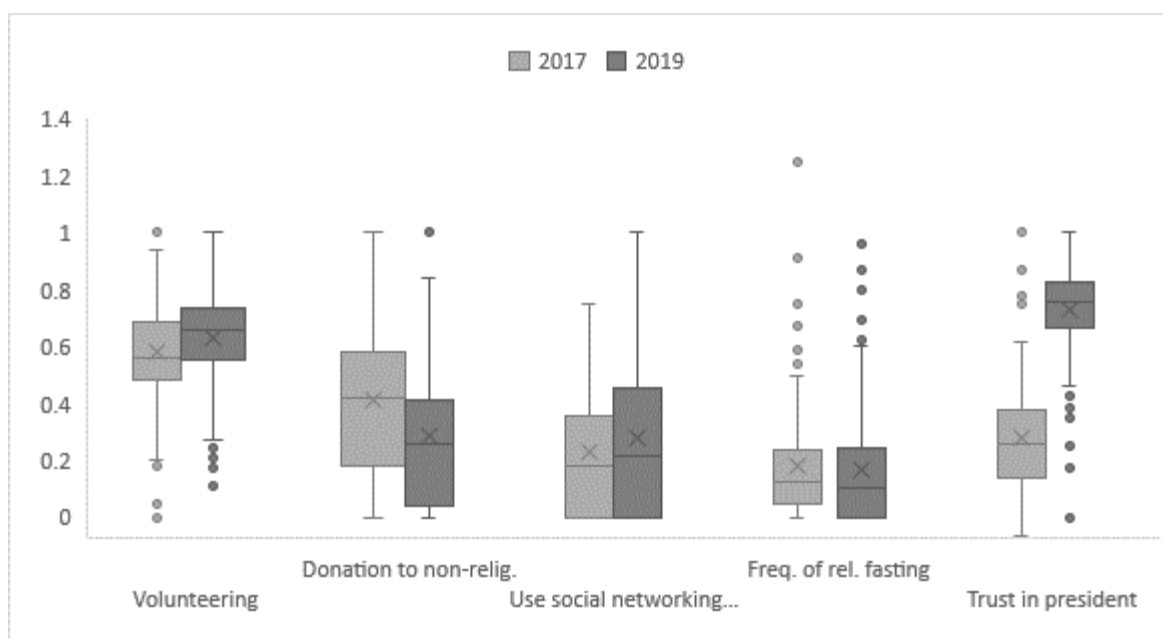
The next anomaly observed is that although the indicator of considering volunteering as an important feature of being a good citizen recorded the biggest improvement in the civic participation element, the indicator of involvement in any voluntary activity within the six months before the survey recorded a decline. There is also a very weak negative correlation between those two indicators (-0.16). It should be noted that the indicator of volunteering has been one of the weakest aspects of the RA social capital for many years, according to the results of both this and other surveys (LI 2019a).

However, as can be seen from Figure 2, the Compound Annual Growth Rate (CAGR) compared to 2011 is much higher in the case of the indicator of whether the respondent has participated in any type of volunteering work within the six months before the survey. A similar picture is also seen in the case of the importance and actual participation in election-related indicators.

According to the weighted average indicators, more people consider participation in elections important than the number of actual participants (however, there is a high positive correlation between those two indicators: 0.68). Notably, trust in institutions including informal institutions is one of the most important elements of social capital, and the latter is considered as a factor ensuring economic growth. However, the cited theory is one of the most controversial issues in various scientific



circles (e.g. political scientists, economists, and other scientific circles). As noted by Y. N. Harari (2018) religions, regardless of their justification, have a unifying feature that enables cooperation between people (p. 125). At the same time, according to some other authors, some types of religion by their nature can have unifying or divisive effects on society (hierarchical religions, e.g. Christianity or Islam, correspond to weak horizontal ties and low level of interpersonal trust in society with a correlation coefficient of 0.61 (La Porta 1997, 336 in Mailyan 2018, 98). However, lest to delve into this controversial issue, let us note that the survey we observed was conducted in February-March 2020 and in March 2020. At that period there were discouraging calls regarding visiting crowded places, especially religious institutions to prevent the spread of the Covid-19 pandemic. Paradoxically, in the case of some indicators with relatively significant changes in the weighted average value (including donations to non-religious institutions, volunteering, online activity on social networks, fasting frequency), our Paired-t test results did not confirm the statistical significance of the changes, and in the case of the indicator of trust in the president, the differences are not normally distributed.



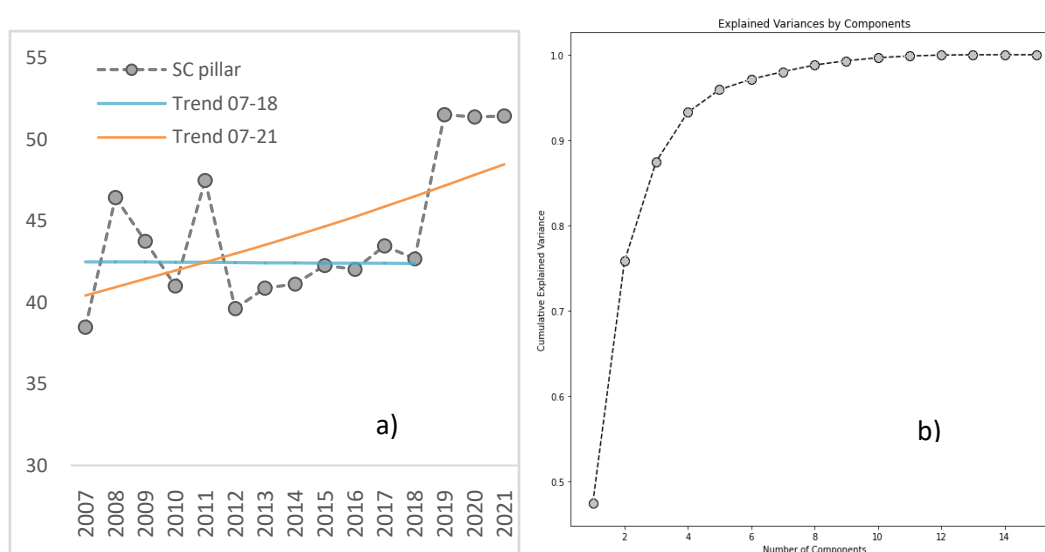
**Figure 3: Distribution of Answers to Questions with Noticeable but Statistically Insignificant Change, as well as Questions with Unsatisfactory Results for Normal Distribution (2017 and 2019) (Source: Caucasus Barometer databases and authors' calculations)**

As we can see from Figure 3, in the case of individual indicators, this can be explained by various reasons, for example, in the case of the indicator of trust in the president the reason is the presence of deviations in opposite directions.



## COMPARISON OF CAUCASUS BAROMETER SURVEY AND THE SOCIAL CAPITAL PILLAR OF GLOBAL COMPETITIVENESS REPORT

Taking into consideration that the Caucasus Barometer survey was conducted in Armenia since 2008 (every two years in recent years) and from time to time the absence of some of the questions from the questionnaire that are included in our index, let us consider the dynamics of social capital following the Global Competitiveness Report. In the latter, the social capital pillar is based on the Legatum Prosperity Index social capital pillar data, published since 2007, the results of which are presented in Figure 4.



**Figure 4: The Dynamics of the Social Capital Pillar of the Legatum Prosperity Index in RA Over 2007-2021 (a) and the Explained Variance by Principal Components of Social Capital Features (b)**  
(Source: Legatum Prosperity Index databases and authors' calculations)

According to the results of the Legatum Prosperity Index, Armenia has made significant progress in terms of social capital pillar, improving by 20.6% in 2019 versus 2018 (18.6% in 2019 versus 2017). It should also be noted that the results are in line with the changes in social capital elements based on our calculations using Caucasus Barometer results. Particularly, the most significant increase in 2019 (compared to pre-revolutionary 2017) is recorded concerning the institutional trust element (25.8%), followed by the joint element of interpersonal connections (20.6%). As for the civic participation element, even a decrease of 4.7% can be seen. Comparing the results of the two surveys for the same period, the only noticeable differences are the more significant increase in the interpersonal relations element according to the results of the

Legatum Prosperity Index versus that of the results of the Caucasus Barometer survey and the increase in volunteering, which has decreased according to the latter.

Considering the 17 indicators included in the pillar calculation, indicators with the most significant growth are ‘confidence in national government’ (from institutional trust element), ‘generalized interpersonal trust’ (from interpersonal relations element), and ‘voiced opinion to a public official’ (from institutional trust element). In the meantime, according to the results of the Principal Component Analysis (PCA) of all available data, the historically most influential indicators are ‘opportunity to make friends’, ‘helped another household’, ‘helped a stranger’, ‘confidence in the judicial system and courts’, ‘donated money to charity’ (details of the PCA analysis can be found in Table 2). Therefore, to have a stable high level of social capital, in the long run, it is worth paying attention to these elements.

**Table 2: The Results of the Principal Component Analysis (Source: Legatum Prosperity Index databases and authors’ calculations)**

| Element Name                      | Indicator Name                                 | Factor (Weight) | 2021 Score | 2019 vs. 2017 | CAGR 07-21 | PC1  | PC2  |
|-----------------------------------|--|-----------------|------------|---------------|------------|------|------|
| Personal and Family Relationships | Help from family and friends when in trouble   | 2.0             | 0.67       | 28.2%         | -21.3%     | 0.26 | 0.21 |
| Personal and Family Relationships | Family give positive energy                    | 1.0             | 0.73       | 0.0%          | 1.0%       | 0.33 | 0.10 |
| Social Networks                   | Respect  | 2.0             | 0.90       | -4.3%         | 2.7%       | 0.28 | 0.06 |
| Social Networks                   | Opportunity to make friends                    | 1.0             | 0.69       | 40.0%         | 13.1%      | 0.35 | 0.10 |
| Social Networks                   | Helped another household                       | 0.5             | 0.24       | 20.0%         | 10.4%      | 0.35 | 0.04 |
| Interpersonal Trust               | Generalized interpersonal trust                | 1.0             | 0.33       | 146.6%        | 1.4%       | 0.02 | 0.18 |
| Interpersonal Trust               | Helped a stranger                              | 0.5             | 0.56       | 27.6%         | 3.2%       | 0.05 | 0.41 |
| Institutional Trust               | Confidence in local police                     | 2.0             | 0.51       | 5.7%          | 2.3%       | 0.21 | 0.20 |
| Institutional Trust               | Public trust in politicians                    | 2.0             | 0.37       | 8.4%          | 7.4%       | 0.33 | 0.17 |
| Institutional Trust               | Confidence in financial institutions and banks | 1.0             | 0.52       | 0.0%          | 1.5%       | 0.07 | 0.35 |
| Institutional Trust               | Confidence in judicial system and courts       | 1.0             | 0.37       | 26.1%         | 1.4%       | 0.00 | 0.42 |

|                                       |                                     |     |      |        |       |      |      |
|---------------------------------------|-------------------------------------|-----|------|--------|-------|------|------|
| <b>Institutional Trust</b>            | Confidence in national government   | 1.0 | 0.63 | 376.9% | 5.3%  | 0.18 | 0.33 |
| <b>Institutional Trust</b>            | Confidence in military              | 0.5 | 0.88 | 7.5%   | 1.6%  | 0.15 | 0.34 |
| <b>Civic and Social Participation</b> | Donated money to charity            | 1.5 | 0.16 | 16.7%  | 9.4%  | 0.34 | 0.06 |
| <b>Civic and Social Participation</b> | Voter turnout                       | 1.5 | 0.39 | -28.3% | -2.0% | 0.28 | 0.15 |
| <b>Civic and Social Participation</b> | Volunteering                        | 1.0 | 0.14 | 75.0%  | -8.7% | 0.26 | 0.23 |
| <b>Civic and Social Participation</b> | Voiced opinion to a public official | 0.5 | 0.15 | 150.0% | -6.3% | 0.15 | 0.23 |

Here we used PCA<sup>2</sup> to find the most important elements (the most informative) of the social capital pillar for the RA to pay more attention to. As we see from Figure 4 (b), the first two principal components explain more than 70% of the original variance, so we should look at the weights of pillar elements in these two components (top variance weights are green highlighted in Table 2).

## SOCIAL CAPITAL IN POST-WAR ARMENIA AND THE CHANGING WORLD

It is no secret that the world is now in a period of rapid changes and fluctuations: the threat of comprehensive wars in recent years, the gradual weakening of the ideology of liberalism that has prevailed for decades, the escalating tensions between the superpowers, as well as the spread of the global pandemic. These are all factors that affect social capital globally, mostly in a negative direction. Among the above, if we consider social capital for a concrete country, in our opinion, from the point of view of unexpectedness and speed of impact, the spread of the pandemic is especially important.

In scientific and public circles, scholars currently actively talk about the expected global transformations in terms of values and dominant approaches caused by the spread of Covid-19. In this regard, many works on the idea of social capital, which play a key role during and after pandemics, have already been published by behavioral

<sup>2</sup> Principal Component Analysis is a dimension reduction technique serving different purposes and generally used to sufficiently explain m-dimensional process by smaller k principal components and thus reduce a higher dimension problem to one with fewer dimensions (Wei 2019). The process consists of following steps including centering the original dataset by subtracting the mean from each data point, dividing by the standard deviation to make the data unit free, computing eigen values and eigenvectors (arrows) of the data covariance matrix (ellipse), projecting data onto the principal subspace, undoing the standardization and moving projected data back into the original data space. The idea under principal components is finding the ones with the maximum variance (containing more information).

scientists, representatives of social capital theory, and other scientists. Some of these works refer to the closeness of personal network connections element of social capital as a factor that increases the risk of spreading the infection through close contact (Bartscher *et al.* 2020; Borgonovi, Andrieu, and Subramanian 2020; Isayan 2020). The other part of the work focuses on the trust element of social capital as a factor of positive impact in the long run, as well as in terms of its expected decline due to the pandemic (Antinyan *et al.* 2020; Aassve *et al.* 2020). In this context, the factor of trust in the government is particularly discussed in terms of ensuring compliance with anti-pandemic rules, for the society to not panic, etc. (Doganoglu and Ozdenoren 2020; Rieger and Wang 2020). For example, according, to one study on this topic, the higher the trust in the health care system, the greater the likelihood of developing a tendency to seek medical attention at the onset of symptoms (Antinyan *et al.* 2020, 1).

Note that in the case of the Republic of Armenia, the indicator of trust in the healthcare system exceeds the average of the institutional trust element of the index but lags behind the trust in many other institutions and it has not recorded statistically significant progress.

Aassve *et al.*, studying the changes in the relations between countries and people before and after the Spanish flu, report that as a result of the pandemic, due to the general suspicion, civil society has experienced a serious split. According to the results of the study, the increase in the number of deaths per thousand people during the Spanish flu has led to a decrease in the level of trust by 1.4 percentage points. In particular, such loss of social trust has hindered economic growth for decades after the Spanish flu (Aassve *et al.* 2020). Behavioral research, in its turn, argues that patience and social responsibility increase the level of social readiness, while risk-tolerant preference harms crowd avoidance behavior, and present-biased preference is expressed by panic shopping (Müller and Rau 2020).

On the other hand, international experts warn of possible isolation in international relations and a weakening in the level of cooperation (Tadevosyan 2020). It should also be noted, however, that all these contribute to the strengthening of the bonding social capital (inside the group), not the bridging social capital (between groups), which can even be dangerous in terms of thwarting society and leading to civil wars.

A study of WWII (conducted in 35 countries and involving 35,000 individuals) shows that in the long run, war victims' political confidence declined, collective action was encouraged, and it was more of a 'dark' action due to the destruction of trust in the state. The personal or family impact of war violence has left a negative, lasting mark on the level of political trust throughout Europe and Central Asia, regardless of the outcome or nature of the conflict. At the same time, the impact on trust is stable for generations, leading to an increased risk of conflicts and 'conflict traps' in a given society (Grosjean 2019).

Social capital can easily degenerate into disrupting social cohesion, dividing society for individual and group interests, possibly leading to violent conflicts, so the close ties and associations in the society can also be used for negative purposes: by the current government in terms of strengthening its position, by groups pursuing different goals for criminal or political purposes (Acemoglu *et al.* 2013).

## CONCLUSION

The results of the analysis showed that a significant increase in the level of social capital was recorded in post-revolutionary Armenia, which is mainly due to the progress on the element of institutional trust. Indeed, the progress is statistically significant according to the Paired-t test results and is in line with the social capital pillar of the Global Competitiveness Report. This capital factor, which is considered by some authors as a factor of economic growth, becomes much more important especially taking into account the local and global challenges that contributed to its reduction. In addition, the anomalies revealed in this analysis may gradually lower the index. So it is necessary for the current (or the next) Government of the Republic of Armenia to take all possible measures to maintain (or to recreate) these positive achievements. One way to do this is to keep the historically most important elements of the RA social capital index in the center of attention.

Finally, we showed that although the close ties and associations in the society can also be used for negative purposes, their absence generally complicates the realization of any common goal. Given that in post-war societies people have a growing tendency to unite in different groups or to unite around an idea, it becomes extremely important to simply direct and control the flow of generated energy in the right direction. 🌐

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