MEASURING CIVIC ENGAGEMENT IN EASTERN PARTNERSHIP COUNTRIES: COMPARATIVE ANALYSIS

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Promotion of civic engagement is one of the key components of governmental toolkits and civic initiatives in six Eastern Partnership countries – Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova and Ukraine, which were especially activated after The Eastern Partnership (EaP) processes were put forward in 2008. Despite these efforts, civic engagement is still low in almost all EaP countries. This paper aims at studying the level of civic engagement in Eastern Partnership countries in a comparative perspective, which will give insight into the question of at what level "attributes" of democracy are developed in the countries which are currently involved in broad consolidation processes. We constructed a measurement model of civic engagement and built a Composite Index of Civic Engagement to enable meaningful comparison of EaP countries based on the derived results. For comparative analysis we used database of 6th Wave of World Value Survey (WVS). The variables involved in WVS performed good ability to tap measurement model of civic engagement in EaP countries. The results gave evidences that civic engagement in Armenia is higher comparing to Azerbaijan, Belarus and Georgia and is equal to the one in Ukraine.

Keywords: Civic engagement, Comparative Analysis, Eastern Partnership Countries, Measurement Model, World Value Survey, Correlated Unidimensional Factors Model, Confirmatory Factor Analysis, Construction of Composite Index, Principal Component Analysis, Two-sample t-test

ИЗМЕРЕНИЕ ГРАЖДАНСКОГО УЧАСТИЯ В СТРАНАХ ВОСТОЧНОГО ПАРТНЕРСТВА: СРАВНИТЕЛЬНЫЙ АНАЛИЗ

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Поощрение гражданского участия является одним из ключевых компонентов в правительственных инструментов и гражданских инициатив в шести странах Восточного партнерства – Армении, Азербайджане, Беларуси, Грузия и, Республике Молдова и Украине, которые были особенно активизированы после процесса «Восточного участия», выдвинутых в 2008 г. Несмотря на эти усилия, гражданское участие по-прежнему остается низким во всех странах Восточного партнерства. Эта статья направлена на изучение уровня гражданской активности в странах Восточного партнерства в сравнительной перспективе, которая даст представление о том, на каком уровне «атрибуты» демократии развиваются в странах, которые в настоящее

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время участвуют в процессах широкой консолидации. Мы построили измерительную модель гражданского участия и создали составной индекс, чтобы дать возможность сравнительного анализа уровня гражданского участия в странах Восточного партнерства на основе полученных результатов. Для сравнительного анализа мы использовали базу данных 6-ой волны Всемирного Обзора Ценностей (WorldValueSurvey, WVS). Переменные, участвующие в WVS, продемонстрировали хорошую способность представлять измерительную модель гражданского участия в странах Восточного партнерства. Полученные результаты подтвердили, что гражданское участие в Армении выше по сравнению с Азербайджаном, Беларусью и Грузией и равно гражданской активности в Украине.

Ключевые слова: Гражданское участие, сравнительный анализ, страны Восточного партнерства, модель измерения, Всемирный Обзора Ценностей, модель взаимосвязанных одномерных факторов, подтверждающий факторный анализ, построение составного индекса, анализ основных компонентов, T-тест с двумя выборкамы

Introduction. For nearly two decades promotion of civic engagementwas and continues to beone of the key components of development initiatives, governmental toolkits and civic organizationsin EU sixneighboring countries- Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova and Ukraine. These actionswere especially activated after the Eastern Participation (EaP) processes were put forward in 2008[1]. EaP is a European Union initiative directed at collaboration with above listedsix Eastern Countries to promote EU values, political association and economic integration in partner countries as well asto facilitate civic engagement in these countries. The latterwas identified and recognized as one of the fundamental factors of societal development in partner countries[2]. However, almost all EaP countries still face low level of clear, effective and inclusive policymaking aimed at promotion of civic engagement [7, pp. 3–8]; on the other hand these countries are still post-soviet in many aspects. Despite on-going processes of democratization and promotion of civic discoursespatterns of behavior inherent to "soviet times" are still up-to-date issues among these societies.

Why study of civic engagement in EaP countries is important and why now? It is important because of wide engagement in consolidation processes of these countries and their proactive effortsto increase the level of democracy to meet the best practices defined by EU. It is also important as these countries, formerly involved in transition processes from the totalitarian regime to the relatively democratic one, currently are experiencing the breakthrough towards deepen democratization. On this ground, number of researchers have focused and continue to focus on the different aspects of Eastern Partnership initiative, notwithstanding, as for now attempts of cross-country analyses comparing the level of civic engagement on quantitative basis are still limited.

This paper aims at studying the level of civic engagement in EaP countries in comparative perspective. We used World Value Survey (WVS) data of 6th Wave[3]. A cross-country analysis involved five EaP countries as Republic of Moldova has not been involved in WVS 6th Wave. We established and tested multidimensional measurement model of Civic Engagement encompassing the following behavioral dimensions: participation in elections or political participation, participation in protest activities and engagement in civic associations. Based on the derived measurement model of civic engagement we constructed composite index of the latter and used it to carry out cross-country comparative analysis. The paper consists of the following parts:literature reviewsets outthe theoretical framework describing civic engagement andreviews core literature on measurement practices of civic engagement, second partintroducesbasic methodological approaches to con-

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struct a measurement model and composite index of civic engagementand the last part interpretsthe results and findings of comparative analysis.

Literature review. The concepts of participation, engagement and inclusiveness of citizens in governmental affairs and policy making activities have become one of key directions in global discourses. The concepts of civic engagement and civic participation have become one of the focuses of scientific research in terms of their power to represent democratic relationships between the states and its citizens and the level of empowerment of citizens. [2, pp. 1–11; 12, pp. 76–98; 32, pp. 5–15]. "White paper on European Governance" adopted by European Commission in 2001 outlines civic engagement as one of the key principles of "good governance" to be applied at the all levels of governance[1].

The authors having optimistic position towards civic participation think about it as an effective way in constructing new culture in governance where citizens are empowered through their participation [e.g. see 6, 9, 11, 19, 21], on the contrary to the authors having pessimistic positions according to which citizens' participation is simply a way to gain consensus and leave an impression that the voice of citizens is addressed [e.g. see 9, 10, 27]. However, many researches outline positive outcomes of civic participation. The empiric results of studies clearly indicate civic engagement to be related to lower corruption [e.g. see 20, pp. 1–23, 30, pp. 241–248], it enforces civic orientations and enable collective action [e.g. see 30, pp. 341–380] and contributes to the construction of citizenship, strengthens practices of participation, the building of responsive and accountable states, and more inclusive and cohesive societies [19, pp. 2399–2410]. In terms of its research value civic engagement can be thought as an important indicator for the assessment of civil society and democratization, "basic indicator of the health of any democracy" [29, pp. 1–28].

Engagement and participation can manifest themselves in a variety of ways: they can take private or public, institutionalized or non-institutionalized forms [36, pp. 173–199]. Griesshaber [20, pp. 1–23] identifies two forms of civic engagement; 1) involvement in voluntary associations referring to formal forms of participation in institutionalized networks and 2) informal and situation-specific types of civic engagement – elite-challenging or protest actions such as participation in petitions, boycotts or demonstrations. Norris P. [29, pp. 1–28] differentiates three distinct behavioural component of civic activism as follows: electoral turnout, engagement via civic activism and experience of protest politics.

Since the tradition of comparative analysis developed by A. Verba and G. Sidney [1, p. 574] the cross-national and cross-cultural analyses have become more and more popular [e. g. see 34, pp. 341–380, 22, p. 464, 23 pp. 115–136 and etc.]. World Values Surveys and European Values Surveys which are aimed at measuring the beliefs and values of most of the world's people are "unprecedentedly rich source" [23, pp. 115–136] to carry out different kinds of comparative analysis on political, economic and social aspects of global world. Among the other aspects, observation of people's attitudes towards civic values and democratic ideals, civic engagement and participation as an integral part of them, have permanently been on the focus of these surveys.

Measurement of civic engagement has been on the focus of many academic researchers [e.g. see 20, pp. 1–23; 29, pp. 1–28; 18, pp. 1–40; 37, pp. 1–13 and others]; civic engagement scale was developed and tested against psychometric characteristics [e.g. 14, pp. 1–7; 37 pp. 1-13 and others].Most of the researchers accept multidimensionality of civic engagement [e.g. 14, pp. 1–729, pp. 1–28; 18, pp. 1–40; 37, pp. 1–13 and others] and encourage construction of multidimensional measurement model based on directly observed variables. These measures tap aspects of civic engagement as civic behaviors, opinions, knowledge and dispositions [e.g. 18, pp. 1–40]. Norris P. [29, pp. 1–28] identifies three behavioral measures of civic engagement: electoral turnout, civic activism and protest activism, which were tested to be distinct measures based on the data from the WVS.

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[1] See European Governance: A White Paper, Commission of the European Communities, Brussels, 2001, http://europa.eu/rapid/press-release_DOC-01-10_en.htm

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Griesshaber [20, pp. 1–23] defined civic engagement as an aggregate measure of associational involvement by taking the percentage of respondents in each country that are involved (active or inactive) in at least one of the organization types based on WVS data.

In line with the development of Eastern Partnership initiative researchers have focused on different aspects in partner countriesincluding civic education, civil society and democratic situation[e.g. 15, pp. 1–35; 26, pp. 27–43; 33, pp. 11–23; 17, pp. 1–52 and etc.]. A comprehensive piece of comparative research has been developed examining the existing laws, agencies and procedures governing civil participation in political decision-making at national and local level in the six countries by Council of Europe [7, p. 107]. However, comparative studiesof civic engagement based on the quantitative data of citizens in EaP countries are still limited.

Research objectives and hypotheses. The main research question is – what is the state of civic engagement in Eastern Partnership countries in comparative perspective? The main purpose of the paper is to describe the current situation of civic engagement in EaP countries in a comparative perspective to each other. The objectives of the research are as follows: 1) Construct a multidimensional measurement model of civic engagement and calculate Civic Engagement Index; 2) CompareEaP countries according to Civic Engagement Index; 3) Compare the level of Civic Engagement in Armenia to the ones in other EaP countries.

The following hypotheses are established and tested:

H1: It is possible to construct measurement model of civic engagement in EaP countries using the observed variables involved in WWS database.

H2: Measurement model of Civic Engagement is comprised of three dimensions: participation in protest activities, participation via civic organizations and electoral turnout.

H3: Civic engagement in Armenia is higher than in Azerbaijan and Belarus and lower than in Ukraine and Georgia.

Data source and analytical packages used. We used the 6th Wave of World Values Association's Surveys[1] (carried out from 2010–2014) to interpret the situation of civic engagement in Eastern Partnership countries. The WVS started in 1981 is the only survey collecting data on value orientations in a worldwide scale and includes relevant variables which could be used to construct measurement models of civic engagement. As for now, the 6th Wave is the most recent available data. The 7th wave have launched in 2015, however the data will be publicized for broad usage only in 2020. The6th Wavedoes not include survey data on Republic of Moldova, which unfortunately forced to exclude this country from the data analysis process.

We used SPSS 22 Software Package to carry out Principal Component Analysis and Two-Sample T-Tests.Measurement model of Civic Engagement was constructed and tested through AMOS – Structural Equation Modeling (SEM) software program.

Construction of a measurement model of civic engagement. Based on the observed empiric approaches found in the literature we definedcivic engagement as a multidimensionallatent constructwhich can be measured through a combination of directly observed variables [e.g. 20, pp. 1–23; 29, pp. 1–28; 18, pp. 1–40; 14, pp. 1–7; 37, pp. 1–13 and others].The analytical review of approaches found in the literature [e.g. 20, pp. 1–23; 25, pp. 1–7129, pp. 1–28; 18, pp. 1–40; 14, pp. 1–7] and study of existing variables involved in World Value Survey Questionnaire[2] leadto construct an *a priori* measurement model of civic engagement comprising of the following behavioraldimensions: electoral turnout, engagement via civic organizations and engagement in protest activities.Overall, 13 variables were used for model constructionwhich are listed on Table 1.

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[1]WORLD VALUES SURVEY Wave 6 2010–2014 OFFICIAL AGGREGATE v. 20150418. World Values Survey Association (www.worldvaluessurvey.org). Aggregate File Producer: Asep/JDS, Madrid SPAIN.

[2]Questionnaire for the 6th Wave can be found here: http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp

Table 1

Variables involved in Model Construction

Components	Item in the questionnaire:	Variables
Component 1 : Engagement via civic associations:	Now I am going to read off a list of voluntary organizations. For each organization, could you tell me whether you are an active member, an inactive member or not a member of that type of organization?	X_1 – Labor Union
		X_2 – Political party
		X_3- Environmental organization
		X_4 – Humanitarian or charitable organization
		X_5 – Consumer organization
		X_6 – Self-organizing group, mutual-aid groups
Component 2: Engagement in protest activities:	Tell me for each of these activities how often you have done it in the last year?	X_7 – Signing a petition
		X_8 – Joining in boycotts
		X_9 – Attending peaceful demonstrations
		X_{10} – Joining strikes
		X_{11} – Any other act of protest
Component 3: Political participation	When elections take place, do you vote always, usually or never?	X_{12} – Local level
		X_{13} – National level

A priori model of civic engagement was defined as **correlated unidimensional factors model**. This entails assuming that multiple specific dimensions of a construct fit together conceptually but are best measured distinctly [37, pp. 1–13]. Correlated unidimensional factor model along with its complexity emphasizes and predicts differences among dimensions of a construct. Confirmatory Factor Analysis (CFA) method was used to verify measurement model of civic engagement through identified variables. CFA is used in testing the measurement model which is specified *a priori* [4, p. 237] and incorporates relationships between observed and latent variable, relationships between latent variables and gives information on errors and disturbances.

The parameters of a proposed model are estimated by minimizing the discrepancy between the empirical (sample)] covariance matrix and a covariance matric implied by the model (population) [13, p. 120]. As the identified items include categorical (non-normal) variables the following strategies were applied to handle the issue: a) asymptotic distribution free (ADF) estimator was selected as model estimator to adjust the non-normality by taking into account kurtosis in joint multivariate distribution [5, pp. 62–83, 24, pp. 6–13], b) resampling techniques such as ADF bootstrap was applied to obtain the standard errors of SEM parameters as these are most affected by departure from multivariate normality [3, pp. 111–135, 24, pp. 6–13]. The ADF estimation generally requires large samples to keep the type II error at a reasonable level and extremely non-normal variables such as binary may be difficult to handle with sufficient precision [24, pp. 6–13].
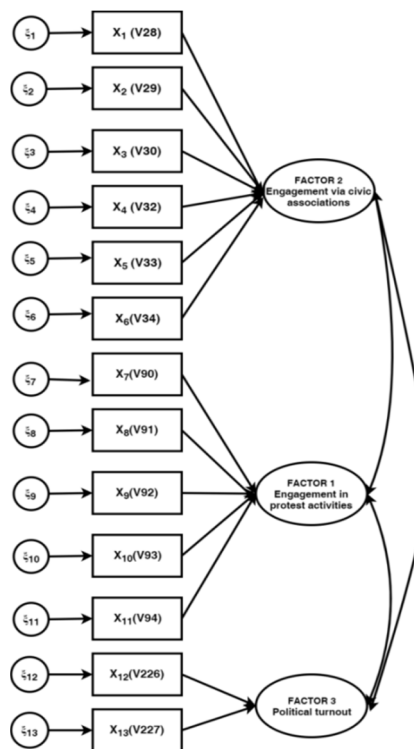

Fig. 1. Correlated unidimensional factors model of Civic Engagement

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The model was estimated by loading variables onto identified factors using SEM software program AMOS (Figure 1). The model was empirically identified and provided a good fit to the data. A model's fit refers to its ability to reproduce the data i.e. the objective is to determine whether the associations among measured and latent variables in the researcher's estimated model adequately reflect the observed associations in the data [13, p. 117]. The indexes of model parameters are estimated as follows: DF=62, CMIN=2.649 ($0 \leq$ CMIN ≤ 3 acceptable), Room Mean Square Residual (RMR) = 0.007 (≤ 0.05 acceptable), Root Mean Square Error of the Approximation (RMSEA) = 0.016 (≤ 0.05 acceptable), Goodness of Fit Index (GFI) = 0.978 (≥ 0.95 acceptable), Adjusted Goodness of Fit Index (AGFI) = 0.967 (≥ 0.95 acceptable), Normed Fit Index (NFI) = 0.958 (≥ 0.95 acceptable). The Table 2 includes some more other parameters of model estimation.

The model estimation results are acceptable. The identified variables and dimensions performed good ability to tap the same conceptual framework; accordingly no further interventions were carried out to modify the measurement model. **The first hypothesis (H₁) was accepted**. Our results demonstrated that Civic Engagement in EaP countries can be illustrated through three dimensions: **electoral turnout, engagement via civic organizations and engagement in protest activities. The second hypothesis (H₂) was also accepted.**

Table 2

Model estimation parameters through AMOS

Estimation Indexes		Default model	Acceptable Fit
Chi-square (CMIN), Degree of freedom (DF)	CMIN	164.226	Non-significant chi-square is accepted CMIN/DF≤3
	DF	62	
	P	0	
	CMIN/DF	2.649	
Room Mean Square Residual (RMR)	RMR	0.007	≤0.05
Goodness of Fit Index (GFI)	GFI	0.978	≥0.95
Adjusted Goodness of Fit Index (AGFI)	AGFI	0.967	≥0.95
Normed Fit Index (NFI)	NFI	0.958	≥0.95
Relative Fit Index (RFI)	RFI	0.947	≥0.95
Incremental Fit Index (IFI)	IFI	0.973	≥0.95
Tucker-Lewis Index (TLI)	TLI	0.966	≥0.95
Comparative Fit Index (CFI),	CFI	0.973	≥0.95
Root Mean Square Error of the Approximation (RMSEA)	RMSEA	0.016	≤0.05

Construction of a civic engagement composite index. Producing a single composite index is a tricky and delicate task asthere is not a single general approach to build a composite index universally valid for all cases. While Structural Equation Modeling enables to construct a measurement and structural model of a latent variable under consideration, data aggregation and weighting methods are still to be identified to enable meaningful reduction of dimensionality of a data set.

The Principal Components Analysis (PCA) is one of the most-used methods to obtain weights intrinsically. Through PCA weights are determined in a way to maximize the sum of squared coefficients of correlation between the variables (X) and constructed index (I), i.e. $\sum_{j=1}^{k} r^2 (I, X_j) \rightarrow$ max, where I is index, X_j are variables, and r(I, X_j) the coefficient of correlation between I and X_j. The OECD handbook on Constructing Composite Indicators suggests toconstruct the weights of individual items (ω_i) from the matrix of factor loadings after rotation (Varimax rotation with Kaiser Normalization), given that the square of factor loadings represents the proportion of the total unit variance of the indicator which is explained by the factor [e.g. see 28, 31, pp. 89–92].

The run of Principal Component Analysis applying Varimax rotation with Kaiser Normalization identified 3factors which have associated eigenvalues larger than one, contribute individually to the explanation of overall variance by more than 14 % and contribute cumulatively to explanation of overall variance by more than 47 % (Table 3). The grouping of individual items into the intermediate factors through PCA corresponds to be measurement model of Civic Engagement as identified through Confirmatory Factor Analysis (Table 4).

Table 3

PCA Results. Total Variance Explained

Compone nt	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.410	18.542	18.542	2.171	16.700	16.700
2	1.955	15.042	33.584	2.150	16.538	33.238
3	1.845	14.191	47.774	1.890	14.536	47.774
4	1.002	7.706	55.480			
5	.954	7.338	62.818			
6	.895	6.881	69.699			
7	.742	5.710	75.409			
8	.706	5.433	80.843			
9	.660	5.079	85.922			
10	.622	4.785	90.707			
11	.582	4.475	95.182			
12	.501	3.857	99.039			
13	.125	.961	100.000			

Table 4

Rotated Component Matrix

	Component		
	Factor 1	Factor 2	Factor 3
Active/Inactive membership: Labor Union	-.051	.288	.027
Active/Inactive membership: Political party	.057	.351	.152
Active/Inactive membership: Environmental organization	.047	.687	-.027
Active/Inactive membership: Humanitarian or charitable org.	.035	.736	-.022
Active/Inactive membership: Consumer organization	.067	.697	-.045
Active/Inactive membership: Self-help group, mutual aid group	.054	.660	-.031
Political action recently done: Signing a petition	.536	.053	.034
Political action recently done: Joining in boycotts	.726	.035	-.020
Political action recently done: Attending peaceful demonstrations	.630	-.011	.084
Political action recently done: Joining strikes	.688	.002	-.004
Political action recently done: Any other act of protest	.684	.054	-.021
Vote in elections: Local level	.033	.018	.962
Vote in elections: National level	.031	.038	.963

Accordingly, the following aggregation formula was applied to aggregate individual items onto intermediate composite indicator (I_{IC}):

$$I_{IC} = \sum_{j=1}^{k} \omega_j X_{ji},$$

(1)

where, ω_j is factor loading of each jth individual item, X_{ji} individual items to be aggregated into the given factor and k is numberof individual items.

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Intermediate composite indicators were aggregated into one Composite Indicator (Civic Engagement Index) by assigning a weight to each one of them equal to the proportion of the explained variance in the data set [e.g. see28, 31, pp. 89-92]. Accordingly, (1) aggregation formula was applied to aggregate individual items onto **intermediate composite indicators** (I_{IC})and the latters onto **one Composite Indicator – Civic Engagement Index (I_{CE})**.

$$I_{CE} = \frac{\text{Var }(F_1)}{\sum_{m=1}^{3}(F_m)} * \sum_{i=1}^{5} \omega_i X_i + \frac{\text{Var }(F_2)}{\sum_{m=1}^{3}(F_m)} * \sum_{i=6}^{10} \omega_i X_i + \frac{\text{Var }(F_3)}{\sum_{m=1}^{3}(F_m)} * \sum_{i=11}^{12} \omega_i X_i \qquad (2)$$

(3) is the final formula of calculationof Civic Engagement Index (I_{CEI}) where weights of intermediate composite indicators were calculated based on the proportion of the explained total variance of each indicator (Table 3).

$$I_{CE} = 0.3496* I_{IC(Factor 1)} + 0.346* I_{IC(Factor 2)} + 0.304* I_{IC(Factor 3)} \qquad (3)$$

Result discussion: comparative analysis. The comparative analysis was based on the calculated Civic Engagement Index (I_{CE}) and produced intermediate composite indicators (I_{IC}).We used both descriptive statistics and statistical tests to interpret the differences of Civic Engagement Indexes in EaP countries. Basic descriptive statistics of Engagement Composite Index and intermediate composite indicators are summarized on Table 5 including means, std. deviation, variance, skewness and kurtosis of the indexes.

Table 5

Descriptive statistics of constructed intermediate composite indicators and Civic Engagement Index

Country	Indexes	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Armenia	$I_{IC(Factor2)}$	0.0904	0.40691	0.166	8.399	0.074	86.392	0.147
	$I_{IC(Factor1)}$	0.0909	0.46892	0.22	9.232	0.074	107.684	0.147
	$I_{IC(Factor3)}$	3.1447	1.30148	1.694	-1.591	0.074	1.018	0.147
	$I_{CE(Composite index)}$	1.0191	0.4705	0.221	0.239	0.074	8.66	0.147
Azerbaijan	$I_{IC(Factor2)}$	0.1725	0.4826	0.233	5.345	0.077	39.985	0.154
	$I_{IC(Factor1)}$	0.0588	0.28919	0.084	6.828	0.077	59.411	0.154
	$I_{IC(Factor3)}$	2.0413	1.48984	2.22	-0.094	0.077	-1.436	0.154
	$I_{CE(Composite index)}$	0.7012	0.53095	0.282	0.411	0.077	0.045	0.154
Belarus	$I_{IC(Factor2)}$	0.221	0.46639	0.218	7.312	0.062	79.869	0.125
	$I_{IC(Factor1)}$	0	0	0	.	.	.	.
	$I_{IC(Factor3)}$	2.6493	1.3165	1.733	-0.666	0.062	-0.739	0.125
	$I_{CE(Composite index)}$	0.8826	0.43748	0.191	-0.053	0.062	1.437	0.125
Georgia	$I_{IC(Factor2)}$	0.0222	0.13664	0.019	7.729	0.071	68.927	0.141
	$I_{IC(Factor1)}$	0.1172	0.4503	0.203	6.783	0.071	64.273	0.141
	$I_{IC(Factor3)}$	3.0156	1.35057	1.824	-1.312	0.071	0.245	0.141
	$I_{CE(Composite index)}$	0.9651	0.45219	0.204	-0.64	0.071	1.249	0.141
Ukraine	$I_{IC(Factor2)}$	0.1461	0.46454	0.216	6.125	0.063	48.713	0.126
	$I_{IC(Factor1)}$	0.1889	0.50207	0.252	3.327	0.063	12.584	0.126
	$I_{IC(Factor3)}$	2.9857	1.17905	1.39	-1.067	0.063	0.095	0.126
	$I_{CE(Composite index)}$	1.0241	0.44754	0.2	-0.013	0.063	1.176	0.126

The Figures 2, 3, 4 and 5 interpret the results (means) of intermediate composite indicators and Civic Engagement Index for each EaP country. As data visualization shows the I_{CI} of engagement in protest activities is high in Ukraine and Georgia, slightly low in Armenia and significantly low in Azerbaijan and Belarus (Fig. 2). As for I_{CI} for Engagement

in Civic Organizations, the index is high in Belarus, Azerbaijan and Ukraine while comparatively low in Armenian and Georgia (Fig. 3). Electoral turnout index is high in all EaP countries. The highest index is in Armenia, which is followed by Georgia and Ukraine and is slightly low in Belarus and Azerbaijan (Fig. 4). As for Civic Engagement Composite Index, Ukraine has the highest score which is followed by Armenia and Georgia. The index is comparatively low in Azerbaijan and Belarus (Fig. 5).

The intermediate composite indicators of engagement via civic association and participation in protest activities have positive values of skewness for all of the EaP countries (Tab. 5), which means distribution of the data is right-skewed and most of the data are concentrated below the mean. For intermediate composite indicators of electoral turnout the skewness is negative which indicates that values are concentrated above the mean.
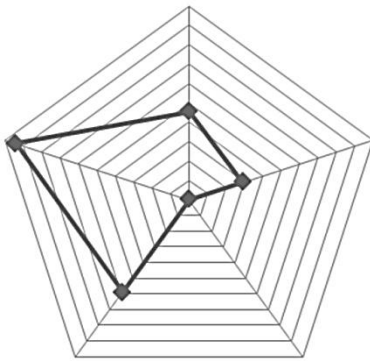

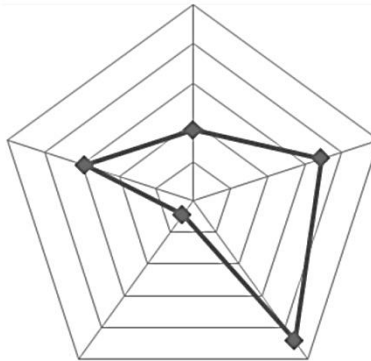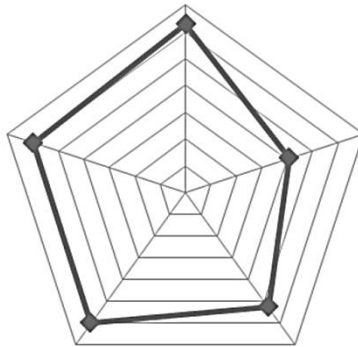Fig. 2. Participation in Protest Activities   Fig. 3. Engagement via Civic Associations
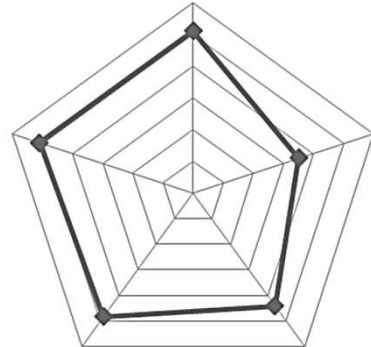

Fig. 4. Electoral Turnout   Fig. 5. Civic Engagement Composite Index

One of the key research questions was to compare the level of Civic Engagement in Armenia to the other EaP countries. For this purpose we used the two-sample t-test to determine if population means by countries are equal based on the derived Civic Engagement Index. We establishedtwo hypotheses: Null Hypothesis (H_0)states that means of Civic Engagement Index in Armenia and the other EaP country are equal, while Alternative (Non-Directional) Hypothesis (H_a) states that they are not:

Null Hypothesis: H_0: $\mu_A - \mu_B = 0$

Alternative (Non-Directional) Hypothesis: H_a: $\mu_A - \mu_B \neq 0$

The results of comparative analysis are introduced as follows:

Armenia and Azerbaijan: The F value for Levene's test is 73.595 with a Sig. (p) value of .000 (p < .005), thus we reject the null hypothesis (no difference) for the assumption of homogeneity of variance between two countries and conclude that there is a signifi-

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cant difference between the two group's variances. Accordingly we use the data results associated with the "Equal variances not assumed" of the output where significance level (2-tailed) equals to 0.00 (p-value <0.05) which means that we reject the null hypothesis (H_0) in support of the alternative hypothesis. This tells us that the Means for the two samples are statistically different (significantly different). According to the descriptive results, the mean of Civic Engagement Index for Armenia μ_A=1.0191 (σ_A=0.47050), while for Azerbaijan is μ_B=0.7012 (σ_B=0.53095), which mean that civic engagement in Armenia is significantly higher than in Azerbaijan (Tab. 6).

Table 6

Two-sample t-test: Armenia/Azerbaijan

Country	N	Mean	Std. Deviation	Std. Error Mean
Armenia	1100	1.0191	.47050	.01419
Azerbaijan	1002	.7012	.53095	.01677

Independent Samples Test

	Levene's Test		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95 % CI of the Difference	
								Lower	Upper
Equal variances assumed	73.59	0.00	14.551	2100	0	0.31786	0.02185	0.27502	0.3607
Equal variances not assumed			14.469	2008.958	0	0.31786	0.02197	0.27478	0.36094

Armenia and Georgia: In case of Georgia, sig. of Levene's Test for Equality of Variances) equals to 0.019 (p < .005) That is, the assumption of homogeneity of variance is not met. Thus we reject the null hypothesis (no difference) and go to the line "Equal variances not assumed" where significance level (2-tailed) equals to 0.005 (p-value <0.05) which means that we reject the null hypothesis (H_0) in support of the alternative hypothesis. According to the descriptive results the mean of Civic Engagement Index for Armenia μ_A=1.0191 (σ_A=0.47050), while for Georgia is μ_B=0.9651 (σ_B=0.45219), which means that civic engagement level in Armenia is significantly higher than in Georgia (Tab. 7).

Table 7

Two-sample t-test: Armenia/Georgia

Country	N	Mean	Std. Deviation	Std. Error Mean
Armenia	1100	1.0191	.47050	.01419
Georgia	1202	.9651	.45219	.01304

Independent Samples Test

	Levene's Test		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
								Lower	Upper
Equal variances assumed	5.543	0.019	2.807	2300	0.005	0.05399	0.01924	0.0163	0.0917
Equal variances not assumed			2.802	2262	0.005	0.05399	0.01927	0.0162	0.0918

Armenia and Belarus: According to the independent-samples t-test Levene's Test for Equality of Variances Sig = 0.001 (p < .005), accordingly we reject the null hypothesis (no difference) for the assumption of homogeneity of variance and conclude that there is a significant difference between the two group's variances. Sig. (2-tailed) = 0.00 (p < .005) ac-

cording to the data results associated with the "Equal variances not assumed" on the table which tells us that there is statistically significant difference between civic engagement index in Armenia and Belarus. The mean of Civic Engagement Index for Armenia μ_A=1.0191 (σ_A=0.47050), while for Belarus is μ_B=0.8826 (σ_B=0.43748), which means that civic engagement in Armenia is significantly higher than in Belarus (Tab. 8).

Table 8

Two-sample t-test: Armenia/Belarus

Country	N	Mean	Std. Deviation	Std. Error Mean
Armenia	1100	1.0191	.47050	.01419
Belarus	1535	.8826	.43748	.01117

Independent Samples Test

	Levene's Test		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
								Lower	Upper
Equal variances assumed	10.823	0.001	7.648	2633	0.00	0.13643	0.01784	0.101	0.1714
Equal variances not assumed			7.557	2261	0.00	0.13643	0.01805	0.101	0.1718

Armenia and Ukraine: In case of Ukraine Significance level of Levene's Test for Equality of Variances is equal to 0.18 (> .05) which means that the assumption of homogeneity of variance is met and we retain null hypothesis concluding that there is not a significant difference between the two group's variances (Tab. 9). Thus, we can conclude that civic engagement level is equal in Armenia and Ukraine.

Table 9

Two-sample t-test: Armenia/Ukraine

Country	N	Mean	Std. Deviation	Std. Error Mean
Armenia	1100	1.0191	.47050	.01419
Ukraine	1500	1.0241	.44754	.01156

Independent Samples Test

	Levene's Test		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95 % CI of the Difference	
								Lower	Upper
Equal variances assumed	1.8	0.18	-0.277	2598	0.782	-0.00502	0.01816	-0.0406	0.0306
Equal variances not assumed			-0.274	2299	0.784	-0.00502	0.0183	-0.0409	0.0309

Based on the Two-sample t-test analysis results, Hypothesis 3 is partially accepted: civic engagement in Armenia is significantly (statistically) higher than in Azerbaijan, Belarus and Georgia and is equal to the one in Ukraine.

Conclusion. Civic engagement in EaP countries can be interpreted through 3 behavioral dimensions: participation in protest activities, engagement via civic organizations and electoral turnout. The identified variables demonstrated good ability to measure civic engagement in EaP countries, therefore these variables can be used in similar researches aimed at measurement of civic engagement. Descriptive statistics showed, that engagement in protest activities is high in Ukraine and Georgia and comparatively low in Armenia and essentially low in Azerbaijan and Belarus. Engagement via civic organizations is high in Belarus, Azerbaijan and Ukraine while comparatively low in Armenian and Georgia. Elec-

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toral turnout is high in all EaP countries. Civic Engagement Composite Index is high in Ukraine, Armenia and Georgia and is comparatively low in Azerbaijan and Belarus. The comparative analysis based on statistical tests showed, that civic engagement level in Armenia is significantly (statistically) higher than in Azerbaijan, Belarus and Georgia, while is equal to the one in Ukraine. Key finding of the research paper was identification of the position of Armenia in terms of civic engagement level in comparison to the other EaP countries.

The further development of the paper may include incorporation of all countries involved in WVS 6th wave to draw the level of civic engagement in EaP countries on the broad canvas of the Globe as well ascombination of the civic engagement index to the other indexes – i.e. Human Development Index by UNDP[1] and Index of Level of Democracy by Freedom House[2]. The further development of measurement model of civic engagement may include incorporation of not only behavioral dimensions, but also cognitive and affective ones. Description of long-term trends of patterns of civic engagement in EaP countries will also be reasonable using other Waves of WVSs.

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[1]See more at: http://hdr.undp.org/en/countries
[2]See more at:https://freedomhouse.org/report/freedom-world/freedom-world-2017

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