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INSTITUTIONAL TRUST AND LIFE SATISFACTION IN SELECTED POST-SOVIET COUNTRIES: THE MEDIATING ROLE OF 'PERCEIVED RELATIVE INCOME'

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ABSTRACT. This research investigates the impact of institutional trust on self-reported life satisfaction in the case of eight selected post-Soviet (non-EU member) countries. The study examines a potential explanation for the aforementioned impact and investigates the mediating role of perceived relative income for the relationship between institutional trust and life satisfaction. The sample contains a pool of country-level cross-sectional data ($N = 10410$; $n_{female} = 5952$, $n_{male} = 4458$, $Mean_{age} = 43.86$) obtained from the World Values Survey (wave 6). The study applies mediation analysis to explore institutional trust's direct and indirect effects on individuals' life satisfaction. The validity of positive association is confirmed for pooled and country-level analyses. Simultaneously, mediation analyses provide evidence for the hypothesized indirect effect of institutional trust on life satisfaction through perceived relative income in the case of pooled data and five selected countries (Armenia, Azerbaijan, Belarus, Russia, and Ukraine). A significant mediation effect is not found in Georgia, Kazakhstan, and Uzbekistan. Policy recommendations derived from the research suggest focusing on public policies and efficient communication tools to enhance institutional trust among citizens in conjunction with decreasing income inequality.

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Introduction

Life satisfaction is one of the oldest concepts dating back to early ages (Helliwell et al., 2014). Oishi and Diener (2014) describe an ideal society "in which citizens are happy, feel satisfied, and find their lives meaningful". Clark et al. (2019) discuss the possibilities of well-being as the government's goal. A statement by Esaiasson et al. (2020) explains the association between institutional trust and life satisfaction, maybe, in the best form: "citizens act as if they have signed a happiness contract with those in power". Putnam (1993) and Hudson (2006) define institutional trust as a degree of confidence by individuals in economic, governmental, and judicial bodies. If they find institutions effective enough, happiness is predicted to increase. The availability of information about the well-being of citizens can make the policymaking process better (Kroll & Delhey, 2013).

For a long time, a country's gross domestic income was considered the most important indicator for a good quality of life (Oishi & Schimmack, 2010) and the income-life satisfaction association gained considerable attention over the past decades (Plouffe & Tremblay, 2017). Although such a relationship is found to be positive (Diener, Tay & Oishi, 2013) or nonlinear (Kahneman & Deaton, 2010), the association can also depend on cultural or societal conditions (Diener et al., 2018). There are also numerous studies investigating the association between income and institutional trust (Allum et al., 2010; Yang & Tang, 2010; Medve-Bálint & Boda, 2014).

There is widespread distrust of institutions in post-Communist countries, including former Soviet Union members (Mishler & Rose, 2001). People with lower trust in public institutions, mainly in police and other law enforcement entities, are more likely to operate in the shadow economy (Hudson, 2006). A high level of institutional trust creates conditions for citizens to live in stable and governable situations (Abrams and Travaglino, 2018), increasing individuals' life satisfaction. Therefore, examining the impact of institutional trust on life satisfaction is worthwhile for scientific and policy purposes. Income-related factors may have a mediating role in this association.

This paper examines the impact of subjective institutional trust on individuals' life satisfaction in selected post-Soviet countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Russian Federation, Ukraine, Uzbekistan). These countries share a similar economic history (being a part of a centrally planned economic system). However, these countries have achieved different levels of integration with the European Union (EU), although none of these post-Soviet countries has gained membership in the EU. The major novelty of the study is proposing that individuals' life satisfaction is additionally affected by institutional trust indirectly through perceived relative income. Using the World Values Survey (6th round) database, we create a pool of the selected countries and cross-sectional datasets for each corresponding country. Mediation analysis tools developed by Hayes (2018) are applied to estimate the impact through direct and indirect channels for the pooled and selected countries separately. To the best of our knowledge, no previous studies comprehensively examined the causality between institutional trust and life satisfaction in the context of the selected post-Soviet countries while considering the mediation effect of perceived relative income.

2. Literature review

2.1. Institutional trust and life satisfaction

There is growing literature on the link between institutional trust and life satisfaction with controversial findings. The common view is on the positive impact of institutional confidence over life satisfaction. Baltatescu (2005) explains life satisfaction as an indicator of institutional trust. This claim was affirmed by scholars such as Zhang and Zhang (2015) and Heliwell, Huang, and Wang (2016) for the case of Asian countries. Rode (2013) reveals the existence of a causal channel from economic freedom well-being. Alongside the positive association, Heliwell and Huang (2008) show an even greater contribution of governmental quality to life than real per-capita income.

Findings reveal that social trust and confidence in the police are more important for well-being than other sorts of trust. Simultaneously, the institutional environment, including parliament and politicians, and the legal system, is another crucial driver of well-being (Zhang and Zhang, 2015; Heliwell et al., 2016). By taking different trust types into account, Heliwell et al. (2016) found a positive relationship between the aforementioned indicators. In European countries, Jovanovic (2016) found the dominance of interpersonal trust in social well-being while the impact of institutional trust is limited. According to Mueller (2009), the association of interest varies across types of institutions in Eastern and Western Europe. In the case of Korea, Yi (2009) investigates the association among elders and reveals the weak effectiveness of institutional trust compared to community trust to enhance the life satisfaction of individuals. The elderly well-being can be supported by different community efforts, including such advanced practices as usage of virtual reality systems for medical, psychological purposes as well as leisure activity for seniors (Podhorecka et al., 2021).

Habibov and Afandi (2015) analyzed institutional trustworthiness and life satisfaction links differently. The authors aimed to investigate the impact of the global economic and financial crises on life satisfaction and trust in transitional countries. Findings demonstrate the large-scale negative effect of the crises on economic satisfaction and trust for the better life of children and institutional trust. Besides, in some social processes like personal development, awareness on important societal issues, particularly, financial literacy, there are evidence that youth have higher trust for non-governmental organisations and central bank foundations rather than those of the financial institutions (Sági et al., 2020). Peculiarities in subjective well-being perception by younger groups are revealed also by Tvaronavičienė et al. (2021), who proved the essential role of social constituents of well-being among its other factors. Habibov (2014) reveals a positive association between institutional trust and attitudes to welfare expenditures at the individual level in another study for transitional countries. As Abbott and Sapsford (2006) found for Ukraine and Russia, economic shocks matter for citizens' well-being. Avoiding and managing economic shocks are also directly associated with institutional trust. Not surprisingly, Mironova (2015) emphasizes a low level of institutional trust in Russia and positive causality from the trustworthiness of institutions to individuals' life satisfaction.

More recent research shows direct positive causality between life satisfaction and political support to the government (Esaiasson, Dahlberg, and Kokkonen, 2020). According to Esaiasson et al. (2020), "*citizens act as if they have signed a happiness contract with those in power*".

2.2 Perceived relative income as a mediator factor

Relative income, i.e., comparing a person's income with others' earnings, is one of the significant determinants of individuals' life satisfaction (Cheung & Lucas, 2006). Studies show that relative income comparison negatively affects life satisfaction (Mayraz, Wagner & Schupp, 2009; Layard, Mayraz & Nickell, 2010). Analogous results appear in Gokdemir and Dumludag (2012) for Turkish and Moroccan immigrants in the Netherlands and Shifa and Leibbrandt (2018) for Ethiopia. Sohn (2013) also underlines the significant impact of relative income on happiness larger than absolute income. Happiness is negatively linked with others' income (Clark, Frijters & Shields, 2008). On the contrary, Mayraz, Wagner, and Schupp (2009) do not correlate between income comparisons and subjective well-being in Germany. Instead, living in a high-income neighbourhood is found as a significant determining factor of self-reported happiness (Mayraz et al., 2009).

To better understand the mediating role of perceived relative income on the relationship between institutional trust and life satisfaction, it is necessary to understand the impact of income inequality on well-being. The association between income inequality and life satisfaction remains inconclusive (Schneider, 2016). This uncertainty increases in terms of informal economy and shadow incomes (Mishchuk et al., 2018; Remeikiene & Gaspareniene, 2021). It is evident that income inequality mostly plays a moderating role in the relative income effect. This fact also was confirmed by Cheung and Lucas (2016), indicating that their neighbours' income more strongly impacts individuals in case of high inequality. Income inequality makes people unhappy and unsatisfied with their lives (Yang, Zhang & Lie, 2019; Iftcher, Zarghamee and Graham, 2019) and the government increasing the probability of mass incident occurrence (Yang et al., 2019). It is also considered as one of the causes of almost all social problems such as short life expectancy, decreasing social trust, crime, drug abuse, etc. (Wilkinson & Pickett, 2009; Snowdon, 2010).

However, studies argue for the opposite – no impact or even existence of positive causality from income inequality and life satisfaction (Rözer & Kraaykamp, 2013; Zagorski et al., 2014; Esping-Andersen and Nedoluzhko, 2016; Nielsen, 2017; Kelley & Evans, 2017). The positive effect is expected to be weaker in countries with high social and institutional trust (Rözer & Kraaykamp, 2013).

2.3. Contribution to the literature

Although numerous studies on the relative income-life satisfaction relationship, the mediation role of perceived relative income in the relationship between institutional trust and life satisfaction is a gap in the literature and, to our best knowledge, has not been investigated before. There are two relatively close studies (Graafland & Compen, 2015; Zhang & Zhang, 2015). Graafland and Compen (2015) analyze the mediating role of income per capita in the relationship between economic freedom and life satisfaction. Zhang and Zhang (2015) investigate the indirect impact of institutional trust on life satisfaction through belief in a just world. The mediation model of perceived relative income in the relationship between institutional trust and self-reported life satisfaction constitutes the conceptual framework of the current study.

The association between institutional trust and life satisfaction is not enough for developing countries, including post-Soviet economies. By doing group (8 countries in a pool) and country-level (separately for each selected country), the research will contribute to existing literature.

3. Methodology

3.1. Hypotheses and analytical strategy

This research investigates the association between institutional trust and life satisfaction in selected 8 post-Soviet countries – Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Russian Federation, Ukraine, and Uzbekistan within a pooled cross-sectional analyses framework. Furthermore, considering the association between institutional trust and perceived relative income and perceived income and life satisfaction, the study examines whether there is any significant mediating role of perceived relative income for the causality from institutional trust to life satisfaction. The root of the proposition comes from the higher vulnerability of people at perceived lower income scale (Posel & Casale, 2011) to institutional changes. Meeting people's expectations on the low-income ladder through public policies should enhance their life satisfaction. In contrast, people at the top react less to changes in institutional trust. Therefore, it aims to identify the direct and indirect effects of institutional trust on the life satisfaction of individuals in a selected group of countries. Based on a conceptual framework adapted from Ciziceno and Travaglino (2019), the hypothesis is that *lower (higher) institutional trust results in lower (higher) life satisfaction* (H1), and *institutional trust has an indirect effect on life satisfaction through perceived relative income* (H2).

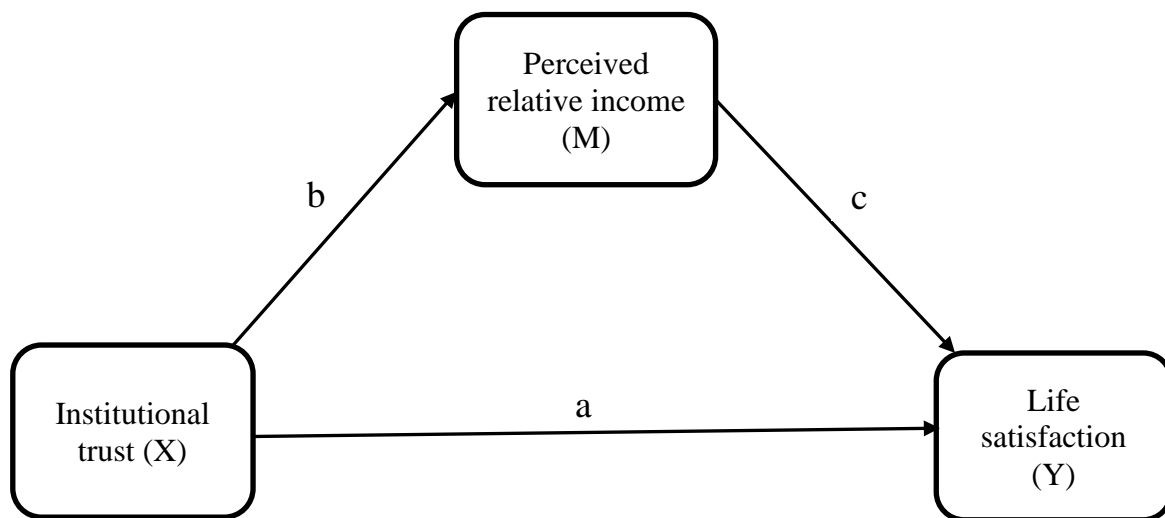


Figure 1. Mediation model of perceived relative income in the relationship between institutional trust and life satisfaction

Figure 1 presents the conceptual framework of the transmission mechanism. The path shows the direct impact of institutional trust on people's life satisfaction while the multiplication of and denotes indirect effects.

The analytical strategy is built on mediation analyses using the SPSS process macro (model 4) developed by Hayes (2018). Mediation analyses allow us to estimate direct and indirect effects simultaneously while controlling for a group of covariates. In this case, that is a handy tool to assess whether the impact of institutional trust is transmitted on life satisfaction through perceived relative income. Mediation analysis has been applied for the pooled group of all selected countries and individually for each country.

Baseline empirical models are as follows:

$$LS_i = \beta_0 + a * IT_i + c * PRI_i + \sum_{k=1}^n \gamma_k * \chi_{k,i} + \varepsilon_i \quad (1)$$

$$PRI_i = \alpha_0 + b * IT_i + \sum_{k=1}^n \delta_k * \chi_{k,i} + \epsilon_i \quad (2)$$

Where LS_i , IT_i and PRI_i represent life satisfaction, institutional trust, and perceived relative income, respectively. χ_k includes a group of covariates for control purposes (i.e., age, gender, marital status, subjective social class stratification, health status, and country-specific dummies). A multistage adding approach for control variables is followed for pooled cross-sectional analyses. At the first stage, only country-specific dummies are added. The second model specification additionally includes age, gender, and marital status dummies. Health status and educational dummies are added in the third stage. The final model specification covers all covariates, including subjective social class identity dummies.

Only the final model specification is applied (inclusion of all covariates) is used for individual country cases. All estimations are done by using Process Macro (version 3.4.1) in SPSS 25.

3.2. Data

Cross-sectional datasets for selected countries 6th round of World Values Surveys (hereafter WW6, Inglehart et al., 2014). Data collection had realized in 7 of the selected countries (Armenia ($N = 1100$, $n_{female} = 727$, $n_{male} = 373$), Azerbaijan ($N = 1002$, $n_{female} = 501$, $n_{male} = 501$), Belarus ($N = 1535$, $n_{female} = 849$, $n_{male} = 686$), Kazakhstan ($N = 1500$, $n_{female} = 906$, $n_{male} = 594$), Russia ($N = 2500$, $n_{female} = 1385$, $n_{male} = 1115$), Ukraine ($N = 1500$, $n_{female} = 900$, $n_{male} = 600$), and Uzbekistan ($N = 1500$, $n_{female} = 919$, $n_{male} = 581$)) within the same year, in 2011. The survey was conducted in 2014 for Georgia ($N = 1202$, $n_{female} = 649$, $n_{male} = 553$). After removing all observations with inconclusive responses or missing values to questions about life satisfaction, institutional trust indicators and perceived relative income, a pool of 10410 observations ($n_{female} = 5952$, $n_{male} = 4458$, $Mean_{age} = 43.86$) is reached.

Dependent variable

Life satisfaction (hereafter LS) denotes the self-reported satisfaction of each respondent from their overall life. In the surveys, respondents are asked to specify overall satisfaction level with their current life using a scale of 1 to 10, where "1" means "not satisfied at all" and "10" means "completely satisfied". Therefore, a higher LS value means being more satisfied with the current life.

Independent variable

Institutional trust (hereafter IT) measures how much respondents trust to public institutions and organizations. WW6 lists a wide range of institutions church, armed forces, press, TV, trade unions, police, courts, the government, political parties, parliament / national assembly, public/civil services (local self-governance bodies, etc.), universities, large enterprises, banks, and some other local and international organizations. Here, we select those associated with state-citizen partnership or intercourse. Selected institutes are (1) armed forces, (2) police, (3) courts, (4) the government, (5) parliament / national assembly, (6) public/civil

services, and (7) banks. Trust to banks also added due to the regulatory power of Central Banks under the monetary policy and financial stability framework.

Respondents are asked to specify their trust in each institute (1 = *a lot*, 2 = *a fair amount*, 3 = *not very much*, 4 = *not at all*). Therefore, a lower value displays higher trust in the corresponding institution. A single IT score is calculated as a sum of trust values to selected institutes, ranging from 7 to 28. 7 means the highest while 28 indicates the lowest trust. The reliability of the scale is confirmed ($\alpha_{Total} = 0.899$, $\alpha_{Armenia} = 0.824$, $\alpha_{Azerbaijan} = 0.913$, $\alpha_{Belarus} = 0.881$, $\alpha_{Georgia} = 0.850$, $\alpha_{Kazakhstan} = 0.832$, $\alpha_{Russia} = 0.861$, $\alpha_{Ukraine} = 0.851$, $\alpha_{Uzbekistan} = 0.873$) in all cases.

Mediator variable

Perceived relative income (hereafter PRI) denotes the respondent's self-placement of his/her household on an "income ladder". Perceived placement is an outcome of subjective income evaluation. It is asked that "using a scale of 1 to 10, please assess what group your household belongs to from the standpoint of availability of income" while considering all salaries, retirement payments, and other incomes that the household receives. "1" means self-belonging to the group with the lowest income level, while "10" displays belonging himself/herself to the highest income level group.

Control variables

A wide range of controlling factors (covariates) are taken into account for the robustness of mediation analysis results. Age_i represents the age of respondents, ranging from 18 to 91. $Gender_i$ is a dummy variable equals 1 if the respondent is female and 0 if the person is male. $Health_i$ describes respondent's state of health of that time (1 = *very good*, 2 = *good*, 3 = *poor*, 4 = *very poor*). Lower $Health_i$ value means better health status. Control variable also includes educational dummies ($Pre_secondary_i$, $Secondary_i$ (*Ref. group*)), $Incom_Higher_i$, and $Higher_educ_i$), self-perceived social stratification dummies (lower class - $Lower_i$, lower than the middle class but higher than the lower class - $Upper_lower_i$ the lower stratum of the middle class - $Lower_middle_i$ (*Ref. group*), the upper stratum of the middle class - $Upper_middle_i$ and upper class- $Upper_i$), marital status dummies ($Unmarried_i$ (*Ref. group*), $Married_i$, $Divorced_i$ and $Widow_i$), and country-specific dummies ($Armenia_i$, $Azerbaijan_i$, $Belarus_i$, $Georgia_i$, $Russia_i$, $Khazakistan_i$, $Ukraine_i$, $Uzbekistan_i$).

4. Results and discussion

4.1. Preliminary analyses

Table 1 reports the main descriptive statistics of all variables from pooled data. Table 2 tabulates means and standard deviations of life satisfaction, institutional trust (with all items) and perceived relative income.

Table 1. Descriptive statistics of all variables for pooled data

Variables	No. Obs.	Mean	Min	Max	Std.
LS_i	10410	6.36	1	10	2.37
$Trust_i$	10410	16.96	7	28	5.25
PRI_i	10410	4.73	1	10	1.90
Age_i	10410	43.49	18	91	16.87
$Gender_i(Ref. Males)$	10410	0.57	0	1	0.495
$Health_i$	10410	2.51	1	4	0.830
<i>Educational dummies</i>					
$Pre_secondary_i$	10401	0.05	0	1	0.224
$Secondary_i(Ref)$	10401	0.60	0	1	0.490
$Incom_Higher_i$	10401	0.06	0	1	0.231
$Higher_educ_i$	10401	0.29	0	1	0.453
<i>Subjective social class dummies</i>					
$Upper_i$	10239	0.02	0	1	0.145
$Upper_middle_i$	10239	0.23	0	1	0.419
$Lower_middle_i(Ref.)$	10239	0.34	0	1	0.473
$Upper_lower_i$	10239	0.35	0	1	0.476
$Lower_i$	10239	0.07	0	1	0.250
<i>Marital status dummies</i>					
$Unmarried_i(Ref.)$	10388	0.63	0	1	0.484
$Married_i$	10388	0.09	0	1	0.281
$Divorced_i$	10388	0.11	0	1	0.318
$Widow_i$	10388	0.17	0	1	0.379
<i>Country specific dummies</i>					
$Armenia_i$	10410	0.09	0	1	0.281
$Azerbaijan_i$	10410	0.10	0	1	0.295
$Belarus_i$	10410	0.14	0	1	0.346
$Georgia_i$	10410	0.10	0	1	0.297
$Kzakhstan_i$	10410	0.14	0	1	0.351
$Russia_i(Ref.)$	10410	0.18	0	1	0.381
$Ukraine_i$	10410	0.14	0	1	0.350
$Uzbekistan_i$	10410	0.12	0	1	0.322

Source: Authors' own creation

Table 2. Partial correlations matrix for life satisfaction, institutional trust and perceived relative income

	1	2	3
Life satisfaction (1)	-		
Institutional trust (2)	-0.121***	-	
Perceived relative income (3)	0.225***	-0.059***	-

Notes: *** denote statistical significance (two-tailed test) at 1%. Correlation coefficients are calculated while controlling for *Country specific dummies*, $Gender_i$, Age_i , $Married_i$, $Divorced_i$, $Widow_i$, $Health_i$, *Educational dummies*, $Upper_i$, $Upper_middle_i$, $Upper_lower_i$, $Lower_i$

Initial analyses display the signs of a positive relationship between IT, LS, PRI and LS, and PRI and IT. The partial correlations matrix (see table 2) also supports these inferences. The correlation coefficient for LS-IT association is negative and statistically significant ($p < 0.01$), which supports H1. Meanwhile, the coefficient of PRI-LS is positive and significant ($p < 0.01$) while correlation analyses indicate significant negative causality between PRI and IT ($p < 0.01$), which creates an imagination towards supporting H2.

4.2. Mediation analyses

Results from mediation analyses for pool data are presented in table 3 with different model specifications. Altogether, results support the significant direct and indirect impact of institutional trust over life satisfaction. Inclusion of additional covariates changes neither the sign nor significance of the coefficients displaying the direct effect, which are negative and statistically significant at the 99% confidence level ($p < 0.01$).

Regarding the indirect effect of institutional trust on individuals' life satisfaction through perceived relative income, corresponding coefficients are negative and statistically significant ($p < 0.05$). Zero never falls to confidence intervals which confirms the significance of the indirect impact. Therefore, the analyses presented enough scientific evidence for the validity of both hypotheses (H1 and H2) within the pool data analyses framework.

Pool data-based mediation analyses show a positive association between institutional trust and individuals' life satisfaction in selected Post-Soviet countries. Higher trust in institutions (i.e., lower IT value) is predicted to make people more satisfied with their lives. The decomposition of total impact displays 80-90% of the direct channel and 10-20% of the indirect channel. According to model 4, the share of the direct effect ($\frac{-0.0506}{-0.0566} = 0.894$) is 89.4% while perceived relative income mediates only 10.6% ($\frac{-0.0060}{-0.0566} = 0.106$) of the total impact.

Although mediation analyses with pool data present enough scientific evidence to validate both hypotheses, country-specific analyses better represent the associations. Table 4 tabulates the results of mediation analyses of each country.

Table 3. Results of Mediation Analyses: direct and indirect effects of institutional trust (X) on individuals' life satisfaction (Y) considering Perceived Relative Income (M)

	β	SE	/	t	p	LLCI	/	ULCI	/
		Boot SE				Boot LLCI		Boot ULCI	
Model 1: Covariates (<i>Country specific dummies</i>)									
Total effect	-0.0730	0.0052		-14.128	0.0000	-0.0832		-0.0629	
Direct effect	-0.0593	0.0049		-12.050	0.0000	-0.0690		-0.0497	
Indirect effect	-0.0137	0.0017		-	-	-0.0171		-0.0104	
Model 2: Covariates (<i>Country specific dummies, Gender_i, Age_i, Married_i, Divorced_i, Widow_i</i>)									
Total effect	-0.0739	0.0050		-14.679	0.0000	-0.0838		-0.0640	
Direct effect	-0.0609	0.0049		-12.533	0.0000	-0.0704		-0.0513	
Indirect effect	-0.0130	0.0016		-	-	-0.0161		-0.0100	
Model 3: Covariates (<i>Country specific dummies, Gender_i, Age_i, Married_i, Divorced_i, Widow_i, Health_i, Educational dummies</i>)									
Total effect	-0.0619	0.0048		-12.828	0.0000	-0.0713		-0.0524	
Direct effect	-0.0522	0.0047		-11.087	0.0000	-0.0614		-0.0430	
Indirect effect	-0.0097	0.0013		-	-	-0.0122		-0.0072	
Model 4: Covariates (<i>Country specific dummies, Gender_i, Age_i, Married_i, Divorced_i, Widow_i, Health_i, Educational dummies, Upper_i, Upper_middle_i, Upper_lower_i, Lower_i</i>)									
Total effect	-0.0566	0.0048		-11.775	0.0000	-0.0659		-0.0471	
Direct effect	-0.0506	0.0047		-10.692	0.0000	-0.0598		-0.0413	
Indirect effect	-0.0060	0.0011		-	-	-0.0081		-0.0039	

Note: Country specific dummies include Armenia_i, Azerbaijan_i, Belarus_i, Georgia_i, Kazakhstan_i, Ukraine_i, Uzbekistan_i. The confidence level is 95% for all confidence intervals; the number of bootstrap samples for percentile bootstrap confidence intervals is 5000; the Huber-White heteroscedasticity consistent standard errors and covariance matrix estimator was used.

Source: Authors' own completion

At a 95% confidence level, a significant total impact of institutional trust on life satisfaction in all participant countries ($p < 0.05$) was found. Here, Georgia is an exemption. The p-value of Georgia's total impact coefficient is slightly over 5% (5.15%), which means a relatively weak association. There is evidence of significant positive direct impact in all countries ($p < 0.05$) out of Georgia ($p_{Georgia} = 0.098$), which validates the H1 hypothesis at least in 7 selected cases.

Table 4. Results of Mediation Analyses of each country: direct and indirect effects of institutional trust (X) on individuals' life satisfaction (Y) considering Perceived Relative Income (M)

	β	SE / $Boot SE$	t	p	$LLCI$ / $Boot LLCI$	$ULCI$ / $Boot ULCI$
Armenia						
Total effect	-0.0586	0.0188	-3.1113	0.0019	-0.0956	-0.0216
Direct effect	-0.0420	0.0189	-2.2235	0.0264	-0.0790	-0.0049
Indirect effect	-0.0166	0.0052	-	-	-0.0278	-0.0068
Azerbaijan						
Total effect	-0.0248	0.0124	-2.0020	0.0456	-0.0492	-0.0005
Direct effect	-0.0298	0.0127	-2.3548	0.0187	-0.0547	-0.0050
Indirect effect	0.0050	0.0026	-	-	0.0002	0.0106
Belarus						
Total effect	-0.0663	0.0126	-5.2507	0.0000	-0.0912	-0.0416
Direct effect	-0.0514	0.0124	-4.1382	0.0000	-0.0758	-0.0270
Indirect effect	-0.0149	0.0041	-	-	-0.0234	-0.0075
Georgia						
Total effect	-0.0335	0.0172	-1.9494	0.0515	-0.0673	0.0002
Direct effect	-0.0280	0.0169	-1.6553	0.0982	-0.0612	0.0052
Indirect effect	-0.0055	0.0048	-	-	-0.0149	0.0038
Kazakhstan						
Total effect	-0.0643	0.0122	-5.2549	0.0000	-0.0882	-0.0403
Direct effect	-0.0639	0.0121	-5.2672	0.0000	-0.0877	-0.0401
Indirect effect	-0.0004	0.0016	-	-	-0.0037	0.0028
Russia						
Total effect	-0.0563	0.0108	-5.2102	0.0000	-0.0774	-0.0351
Direct effect	-0.0438	0.0107	-4.0752	0.0000	-0.0648	-0.0227
Indirect effect	-0.0125	0.0028	-	-	-0.0184	-0.0073
Ukraine						
Total effect	-0.0822	0.0143	-5.7482	0.0000	-0.1103	-0.0542
Direct effect	-0.0579	0.0138	-4.2043	0.0000	-0.0850	-0.0309
Indirect effect	-0.0243	0.0044	-	-	-0.0333	-0.0161
Uzbekistan						
Total effect	-0.0597	0.0144	-4.1557	0.0000	-0.0879	-0.0315
Direct effect	-0.0548	0.0140	-3.9221	0.0001	-0.0822	-0.0274
Indirect effect	-0.0049	0.0030	-	-	-0.0110	0.0008

Note: Covariates consists of country-specific dummies, Health_i, Upper_i, Upper_middle_i, Upper_lower_i, Lower_i, Δ Savings_i, Gender_i, Age_i, Married_i, Divorced_i, Widow_i. Country specific dummies include Armenia_i, Azerbaijan_i, Belarus_i, Georgia_i, Kazakhstan_i, Ukraine_i, Uzbekistan_i; Level of confidence is 95% for all confidence intervals; Number of bootstrap samples for percentile bootstrap confidence intervals is 5000; Huber-White heteroscedasticity consistent standard errors and covariance matrix estimator was used.

Source: Authors' own completion

To test the second (H2) hypothesis, the study explores the indirect effect of institutional trust through perceived relative income for each country. At a 95 % confidence level, the mediating role of perceived relative income is validated in Armenia, Azerbaijan, Belarus, Russia, and Ukraine ($p < 0.05$). In the remaining three countries (Georgia, Kazakhstan, and Uzbekistan), we do not find enough evidence to validate mediating impact at a 95% confidence level. Therefore, H2 has been partially validated.

Regarding the decomposition of total impact for each country, the share of direct impact is 71.7% in Armenia, 77.5% in Belarus, 83.4% in Georgia, 99.4% in Kazakhstan, 77.8% in Russia, 70.4% in Ukraine, and 91.8% in Uzbekistan. Azerbaijan has a special exception. In all other countries, perceived relative income strengthens the impact of institutional trust on individuals' life satisfaction. At the same time, there is a reverse indirect effect that decreases the margin of total effect in absolute value. This is an unexpected interesting output that requires further research and discussion.

Discussion and conclusion

This research investigates the important question of the association between institutional trust and life satisfaction and how perceived relative income mediates institutional trust. We hypothesized that there increasing trustworthiness of institutions makes individuals more satisfied with their life, and institutional trust indirectly affects life satisfaction through perceived relative income. Note that the major final goal of all economic policies and public services is to enhance the well-being of citizens. In this context, institutional trust represents citizens' response to fulfilling the so-called "happiness contract" (see Esaiasson et al., 2020) with the government. A conceptual framework of mediation model over previous studies on institutional trust and life satisfaction was built (Baltatescu, 2005; Heliwell and Huang, 2008; Mironova, 2015; Heliwell et al., 2016; Esaiasson et al. 2020), and the mediating role of per-capita income (Graafland and Compen, 2015) and belief in a just world (Zhang and Zhang, 2015).

For mediation analyses, selected countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Russia, Ukraine, Uzbekistan) share a common past as members of the former Soviet Union and are not members of the European Union. The study tests the hypotheses for pooled data and separately for each selected country. Countries (except Georgia) have similar governance effectiveness performance. Governance effectiveness score presented by World Bank (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance) at the year of data collection (i.e., 2014 for Georgia, 2011 for others) is negative for Armenia (-0.13), Azerbaijan (-0.77), Belarus (-1.08), Kazakhstan (-0.41), Russia (-0.47), Ukraine (-0.82) and Uzbekistan (-0.69) while it is positive (0.49) for Georgia (see Kaufmann, Kraay and Mastruzzi (2010) for a detailed description of measurement methodology). Therefore, sampling has consisted of countries with weak governance effectiveness performance except for Georgia.

Pool data estimations confirm the validity of both hypotheses in line with (Baltatescu, 2005; Heliwell and Huang, 2008; Mironova, 2015; Heliwell et al., 2016) regarding institutional trust - life satisfaction association, and mediating role of income-related factor (Graafland and Compen, 2015) as well as perceived justice in the world (Zhang and Zhang, 2015). However, country-specific mediation analyses present better scientific results with solid policy implications, confirming heterogeneity of the association. Despite differences in margins of the coefficients, the strong validity of H1 is found in 7 out of 8 selected countries at a 95% confidence level. The confidence level is slightly below 95% for Georgia, which means relative weak strength of the association and validity of H1 at 94% confidence.

More heterogeneity is observed across selected countries regarding the indirect effects of institutional trust on individuals' life satisfaction (H2). The validity of H2 is confirmed in 5 cases (Armenia, Azerbaijan, Belarus, Russia, and Ukraine) while there is a lack of enough evidence for Georgia, Kazakhstan, and Uzbekistan. Simultaneously, unlike other selected countries, the adverse indirect impact is found in Azerbaijan.

Overall, the reasons behind country-level heterogeneity require further investigation of the issue. Considering Georgia's case, one may notice a substantially higher government effectiveness score compared to other cases (Kaufmann et al., 2010), which are expected to undermine the positive effect of institutional trust (Rözer and Kraaykamp, 2013), supported in Jovanovic (2016) and Yi (2009). Effective economic management (Kim and Voorhees, 2011) and better institutional performance (Godefroidt, Langer and Meuleman, 2017) are predicted to affect governmental trust. All these create expectations that also affect subjective well-being (Kelley and Evans, 2017). However, Georgia's average self-reported institutional trustworthiness is only greater than Russia and Ukraine. Can it be attributed to the wrong perceptual assessment of institutional effectiveness? Future research should look for the question's answer. Note that Jovanovic (2016) has found a limited impact of institutional trust during the dominance of interpersonal trust for social well-being. Probably, taking interpersonal trust into account would affect the results.

Regarding the adverse indirect impact of institutional trust via perceived relative income for Azerbaijan, 3-year before and 3-year after 2011 (the year when a survey was conducted) were pick of the oil boom accompanied by massive use of natural resource revenues through expansionary fiscal policy (see Aliyev and Gasimov (2018) and Aliyev (2019)). Moving forwards in the perceived income ladder may have behavioural changes in minds and create fewer needs for institutional developments in the country to be more satisfied, decreasing the marginal impact of institutional trust over individuals' life satisfaction.

Governments should focus on public policies and efficient communication tools to enhance institutional trust among citizens alongside decreasing income inequality. That is a working tool to make people more satisfied with life, build strong government and citizen partnerships, and finally establish a base for economic/financial stability and social welfare.

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