

**ECONOMICS***Sociology*

Ortikov, A., Čábelková, I., Rotterova, S., Zhytna, O., & Smutka, S. (2023). The preferences for economic growth in the post-Soviet countries. A multicountry study. *Economics and Sociology*, 16(1), 229-258. doi:10.14254/2071-789X.2023/16-1/15

## PREFERENCES FOR ECONOMIC GROWTH IN THE POST-SOVIET COUNTRIES. A MULTICOUNTRY STUDY

**Akhmadjon Ortikov**

*Czech University of Life Sciences Prague, Faculty of Economics and Management, Prague, Czech Republic*

E-mail: ortikov@pef.czu.cz

ORCID 0009-0004-6670-0189

**Inna Čábelková\***

*Czech University of Life Sciences Prague, Faculty of Economics and Management, Prague, Czech Republic*

E-mail: cabelkova@pef.czu.cz

ORCID 0000-0002-8302-1004

\*Corresponding author

**Svitlana Rotterova**

*Czech University of Life Sciences Prague, Faculty of Economics and Management, Prague, Czech Republic*

E-mail: rotterovas@pef.czu.cz

**Olesya Zhytna**

*Czech University of Life Sciences Prague, Faculty of Economics and Management, Prague, Czech Republic*

E-mail: zhytna@pef.czu.cz

**Luboš Smutka**

*University of South Bohemia in České Budějovice, Faculty of Economics,*

E-mail: lsmutka@ef.jcu.cz

ORCID 0000-0001-5385-1333

**ABSTRACT.** Although economic growth is always one of the priorities for a country, an ever-growing economy is unsustainable in the long run. Environment protection, public participation in decision-making, and, nowadays, even strong defense forces gain increasing importance for country sustainability. The paper studies trade-offs between national goals as impacted by the population values and attitudes in the post-soviet region. We study a representative dataset from eleven countries (N=20006, age 18+, M  $\pm$  SD: 46,04  $\pm$  17,07; 58% women, 46,8% upper education). Two indicators are utilized to determine the preferences for economic growth – the growth as the most important priority (the other three being military spending, public participation in social life, and aesthetics of city and countryside) and economic growth at the expense of environmental protection. Methodologically, we rely on correlations and confidence intervals for mean values (95%) analyses to study the associations and the country differences in preferences for economic growth. The results suggest that (1) post-Soviet countries are largely heterogeneous in their preference for economic growth as compared to other priorities, and geographically close countries may have opposing attitudes, and (2) the country-level correlations of the two indicators of preferences for economic growth produced opposite statistically significant correlations in different countries.

Received: January, 2022

1st Revision: December, 2022

Accepted: March, 2023

DOI: 10.14254/2071-789X.2023/16-1/15

**JEL Classification:** O44, O47, O52, O53, P28

**Keywords:** economic growth, environment, preferences, post-Soviet countries

## Introduction

Economic growth is losing its utmost importance in the modern academic and popular narrative as it is recognized that the strife for economic well-being entails the expenses of a damaged environment and increasing income inequality (Hysa et al., 2020; Seo et al., 2020; Tiba & Omri, 2017). The sustainability of economic, political, and social life has been receiving more and more attention (Morandín-Ahuerma et al., 2019; Čábelková et al., 2022). It is increasingly understood that economic growth should not be viewed as the single most important societal goal. More attention needs to be paid to the quality of life in the aspects of more beautiful and sustainable cities and countryside and more possibilities for people to participate in social and political lives on all levels (Cummings et al., 2017). Unfortunately, the complicated international political situation also draws attention to the increasing importance of defense forces and political alliances.

The relative importance or trade-offs between the social goals are the subject of debate in many countries. The outcome of these debates and resulting political actions line up the future development of countries, regions and, eventually, the whole planet. These outcomes are largely heterogeneous. However, little is known about the public preferences for economic growth as compared to other country priorities. The literature does not even suggest a clear answer on whether this trade off exists. For example, environment protection is usually thought to reduce economic growth as stricter regulations increase firms' expenditures for pollution abatement (Becker, 2005; Heyes, 2009). However, environmental protection creates new industries and promotes new technologies, which in the long run may increase economic performance (Panayotou, 2016, Nikolaou, et al., 2021). In addition, environment protection frequently requires increased government regulations (Güngör et al., 2021; Al-Mulali et al., 2022; Sarkodie & Strezov, 2019) that affect economic and political freedoms and, *inter alia*, define the political system.

This paper aims to study the differences in the preferences for economic growth among the other social goals in Post-Soviet Union countries. We employ a representative dataset from the World Value Study and European Value Study in 11 post-Soviet Union countries in 2017-2020 (Joint dataset, EVS/WVS, 2021; see also EVS, 2020a, 2021; Haerpfer et al., 2021). We utilize two indicators for the preferences for economic growth – the growth as the most important priority (the other three are military spending, public participation in social life, and aesthetics of city and countryside) and the economic growth at the expense of environmental protection. Methodologically we rely on correlations and confidence intervals for mean values (95%) analyses to study the associations and the country differences in preferences for economic growth.

The paper is structured as follows. The first sections discuss the path dependencies of post-soviet countries in terms of political orientations from communism to neoliberalism, economic growth vs. other goals, and the state of the environment in countries. The next section discusses the data and the methodology. The last sections present the results and conclusions.

## 1. Literature review

The literature on the relation between economic growth and other country goals does not present a clear picture on the existence of the trade-off between the two. The most discussed aspect of the (possible) trade-off relates to economic growth versus environmental protection. On one side, environment protection requires additional resources and brings risks and limitations thus reducing immediate economic growth. To name just a few effects, stricter regulations increase firms' expenditures for pollution abatement (Becker, 2005; Heyes, 2009). The environmental regulatory risks reduce willingness to invest in firms to avoid additional costs from fees or penalties (Demertzidis et al., 2015; Nikolaou et al., 2014; Vitalis et al., 2012). Severe environmental regulations have a negative impact on the creation of new firms (Dean et al., 2000).

On the other side, environmental protection creates new industries and promotes new technologies, which in the long run may increase economic performance (Panayotou, 2016, Nikolaou, et al., 2021). On the firm level, better environmental performance can increase revenues via better access to particular markets, differentiating products, and selling pollution-control technology (Ambec & Lanoie, 2008). Moreover, better environmental regulation increases resource use efficiency and, under some conditions, can increase economic performance (Porter hypothesis, Porter & Van der Linde, 1995, Brännlund & Lundgren, 2009).

The literature does not provide a clear picture on the resulting direction of the association between economic performance and environment protection and the (non) existence of the trade-off between the two. However, some idea on the affecting factors exist. As environmental regulations should correspond to environmental quality and economic performance, the latter might be two of the intervening factors. As suggested by Environmental Kuznets Curve, the relationships between economic growth and environmental quality may change the sign when the country reaches a certain level of economic performance as people can afford more efficient and environment-friendly production resulting in a cleaner environment (EKC, Shahbaz et al., 2013; Stern, 2017; Anwar et al., 2022 ).

In any case, environment protection frequently requires increased government regulations (Güngör et al., 2021; Al-Mulali et al., 2022; Sarkodie and Strezov, 2019) affecting economic and political freedoms and, among others, defining the political system. Economic and political freedoms indicate systemic differences between countries and showed to affect the environment significantly in terms of the preferences for and costs of environmental protection (Bruun, 2020, Zhang et al., 2019; Halvorson, 2021; Anwar et al., 2022). In this paper we study the preferences on the sample of post-communist countries.

### *1.1. From communism to neoliberalism*

The social preferences and values in the post-Soviet region are largely past-dependent (Niftiyev, 2021). The change of ideology from communism to neoliberalism affected the social and political discourse.

Neoliberalism has successfully integrated into the modern post-Soviet society and, like no other ideology, has proved its ability to conform to the region's current needs. The transition to liberalism and neoliberalism is a consequence of qualitative changes in society, and the nature of this transition, in addition to the political background, also has a historical, cultural, economic, and social character (Žuk, & Toporowski, 2020).

After the USSR collapse, liberalism postulates – free competition and market relations, legal equality, the contractual nature of the state, religious tolerance, and non-interference of the state in private life – became highly relevant for post-socialist society in its transition to the market economy (Bykovskaya, & Cherenkov, 2008; Marat, 2016; Dale, & Fabry, 2018). The

period of the 90s was characterized by rethinking the society's ideological foundations that have guided it for almost seventy years. The neoliberalists adhered to the concept of "positive freedom", that is, the provision by the state of initially equal "initial" opportunities for the realization of individual abilities to representatives of all segments of the population by providing access to vital spheres (Bykovskaya, & Cherenkov, 2008). Demand for a market with a variety of forms of ownership, freedom of entrepreneurship, competition, democracy, a return to general human values, and openness to the outside world - all this was reflected in the ideas of neoliberalism, which has already proven itself well in the West (Hale, 2016; Dale & Fabry, 2018).

It's possible to conclude that neoliberalism, with its minimal state intervention in the life of society and, at the same time, providing support for all social strata of the population, is absolutely deservedly become the leading ideology of the post-Soviet countries and, accurately, neoliberalism can serve as the basis for the formation of a middle class, which is a guarantee for the stable, sustainable development of modern society.

At the present time, the post-Soviet region is still on its transitive way to the market economy, but the economic growth rate looks optimistic with +2,01 average GDP growth 2016-2021 and +2,3% expected in 2022 (Statista Report for Estimated CIS GDP growth 2016-2022).

### ***1.2. Economic growth vs. military spending***

The effect of military expenditure on economic growth was not yet resolved (Benoit, 1973; Alptekin & Levine, 2012; Yesilyurt & Yesilyurt, 2019). The demand for the weapon is rather regarded as a question of national security, and the supply is taken from an economic perspective (Akerman & Seim, 2014). According to Dunne & Smith (2019), the negative correlation between output and military expenditure was observed if the economic system was driven by strategic shocks and was positive if economic shocks were the main drivers. In general, there seems to be little evidence of the link between military expenditures and economic growth. This allows presuming that military spending is unlikely to provide a background for economic growth but rather a question of the country's national security. From the Cold War period till 2019, military expenditures worldwide have decreased from 3% to 1,9% (Clements, Gupta & Khamidova, 2021).

The present situation in the post-Soviet region with military spending reflects rather the need of national security. The highest rates of military spending are observed in Armenia (5% of GDP with a constantly growing tendency since 2016), Azerbaijan (5% of GDP with a constantly growing tendency), Russia (4% of GDP with a stable tendency) and Ukraine (3,2% of GDP with stable tendency); the lowest rates are observed in Moldova (0,4% of GDP), Kazakhstan (0,9% of GDP), Tajikistan (1,1% of GDP), Belarus (1,2% of GDP), Kyrgyzstan (1,5 % of GDP) and Georgia (1,8 % of GDP)(World Factbook, 2021). Present war conflicts characterize the countries with the highest military expenditure rates.

### ***1.3. Economic growth vs. protection of the environment***

The policy of the former Soviet Union emphasized heavy industries as a driver for economic growth (Altshuler & Mnatsakanyan, 1990; Mazurski, 1991). The decisions made by the central headquarters rarely considered the interests of the regions. The emphasis was on fulfilling the Communist party's stated 5-year plans, and their performance was strictly monitored. In such conditions, environmental quality has been side-lined in favor of large-scale intensive industries. The natural resources were taken as "free" with "no intrinsic value" (Mazurski, 1991; Stewart, 1992; Hagan, A., ZumBrunnen, C., & Pryde, P. R., 1993; Mearman,

2005; Peterson, 2019) and their function was providing a background for growing industrialism, and consequently – "wellbeing" of the whole Soviet Community (Scrieciu & Stringer, 2008).

The consequences of such a thoughtless attitude toward the environment are crucial and irreversible (Altshuler, & Mnatsakanyan, 1990; Åslund, Boone, Johnson, Fischer, & Ickes, 1996; Gagarinski, 1995; Coumel, & Elie, 2013). Chernobyl and Aral Sea catastrophes belong to the world's top 10 largest ecological catastrophes in human being history; the Black Sea shore (nuclear power station effluent, oil sludge, nuclear waste); Lake Baikal (industrial and agricultural pollution); Norilsk (world's biggest producer of copper, cobalt and nickel) areas of Moldova and parts of the North Caucasus (pesticides) – this list of Soviet "shame" inheritance goes far beyond and teaches modern society one taught, but very true lesson: no society can speak about wellbeing without environmental sustainability and respect to the nature.

Overall, post-Soviet countries face long-term environmental challenges, some of which still exist. The Post-Soviet Union countries present highly differential results in environmental performance (*table 1*).

Table 1. Environment Performance Indices (EPI) for post-Soviet states (2020)

Country	Rank	EPI score	10-year change
Belarus	49	53	2.3
Armenia	53	52.3	4.5
Russia	58	50.5	3.9
Ukraine	60	49.5	0.7
Azerbaijan	72	46.5	4
Kazakhstan	85	44.7	9
Moldova	87	44.4	-2.3
Uzbekistan	88	44.3	3.1
Turkmenistan	92	43.9	8.4
Georgia	102	41.3	-1.3
Kyrgyzstan	105	39.8	-1.9
Tajikistan	114	38.2	-0.7

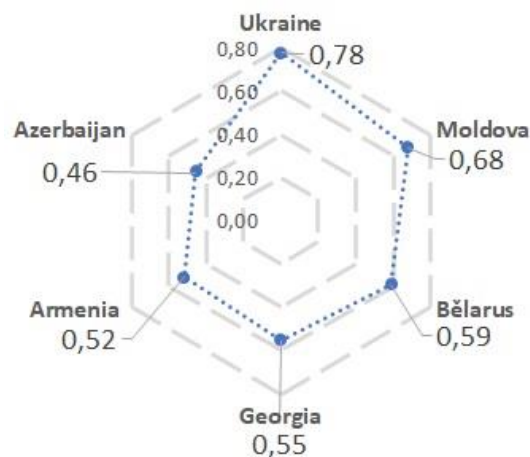
Source: *Environment performance index (2020)*. The EPI index addresses the need for policy to reduce environmental stresses on human health and promote environmental sustainability with concrete and comprehensive natural resource management.

It's possible to distinguish three groups of CIS countries with close ratings based on EPI. Belarus became the leader in the CIS region, ranking 49th place in global ratings, followed by Armenia at 53rd, Russia at 58th, and Ukraine in 60th place. The second group of countries is represented by Azerbaijan(72nd.), Kazakhstan(85th.), Moldova(87th.), Uzbekistan (88th.), and Turkmenistan(92nd.). The last group of countries starts with Georgia (102nd.), Kyrgyzstan (105th.), and finishes with Tajikistan (114th.). Despite the leading positions of Belarus, Armenia, and Russia, their average 10-year change varies from +2,3 to +4,5 points, and the maximal positive changes are observed in Kazakhstan (+9) and Turkmenistan (+8,4, *table 1*).

Belorussia, being the leading country in environment protection, "adheres to the concept of a socially-oriented market economy, which has proved its viability and efficiency," and within the last ten years, the "country's GDP expanded by 18.3% in comparable prices, with productivity growing by 28.2% over the period" (Official website of the President of Belarus, 2021). World Bank classifies Belarus as a highly centralized upper-middle income mixed economy with full employment and a dominant state sector (with machinery, energy, and agricultural sector). Though Belarusian international policy remains unclear (rather neutral, passive and unpredictable), the country's ecological policy and international cooperation in

environmental questions have a clear active position, as presented in numerous programs<sup>1</sup>. All these programs are aimed at providing stable, sustainable development for the country and at solving the country's main ecological problems like soil pollution from pesticide use; healthcare policy, and minimization of radiation contamination consequences from the accident at Chernobyl' Nuclear Power Plant in 1986 in northern Ukraine (Index Mundi 2021, a-d; Ory, Leboulleux, Salvatore, Le Guen, De Vathaire, Chevillard, & Schlumberger, 2020).

An interesting tendency is observed in Moldova. The country's 10-year change rating (*table 1*) shows the highest negative tendency (-2,3) in the post-Soviet region, though the country holds the second place after Ukraine in Environment and Climate Policy approximation and Environment Legislation and Co-operation Linkage with the EU in the Eastern Partnership region (Eastern Partnership Index (2021) average 2015-2021, *Graph 1*).



Graph 1. EU integration and convergence: Environment and Climate Policy, Legislation and Co-operation, average 2015-2021

Source: *Eastern Partnership Index, 2021*.

Note: *Eastern Partnership Index (2021) charts the progress made by the six Eastern Partnership countries towards sustainable democratic development and European integration in certain categories: deep and sustainable democracy, EU integration and coverage in the market economy, deep, comprehensive free trade agreements alignments, energy, environment, and climate policies etc.*

Despite stable economic growth within the last two decades, Moldova remains one of Europe's poorest countries. Having agriculture as the leading sector of the economy, Moldova is facing the main call of finding the path which equally takes into account economic interests (especially in view of economic crises and 7% GDP drop in 2020) (World Bank, 2021) and environmental sustainability (finding the optimal solution for heavy use of agricultural chemicals, contaminated soil and groundwater; extensive soil erosion and declining soil fertility from poor farming methods) (Index Mundi, 2021, a-d).

In the third group of countries with the worst EPI results (Georgia, Kyrgyzstan, and Tajikistan) the most dramatic situation is observed in Tajikistan. Tajikistan remains the poorest country in the post-Soviet region, with an economy based on mineral extraction, agriculture, and reliance on remittances from citizens working abroad. The country has not yet ratified numerous agreements on environmental protection, which concern its priority environmental problems (Index Mundi 2021, a-d).

<sup>1</sup> National Strategy for Sustainable Socioeconomic Development until 2030, Environmental Protection Strategy until 2025, National Action Plan for the Green Economy 2016–2020; EU4Environment", "Greening Economies in the European Union's Eastern Neighbourhood"

After the fall of the USSR, the Kyrgyzstanian economy faced a 50% GDP decrease and 65% of the population living under the poverty level. Nowadays, Kyrgyzstan is the second poorest economy in the post-Soviet region (Index Mundi 2021, a-d). Economic growth remains the main objective of the country, which is based on gold mining, payments by citizens working abroad, and foreign development aid. In 2020 according to the IQAir rating, Kyrgyzstan topped the 8th position in the list of the dirtiest cities in the world, where life poses a serious threat to human health (World Air Quality Index, 2021). Similar to Tajikistan, Kyrgyzstan has not ratified numerous agreements on environmental protection (Index Mundi, 2021, a-d).

Despite Georgia's low EPI rank, the country has proclaimed its course on European integration and has ratified a number of agreements for cooperation in the environmental field with EU (with an accent on water pollution, soil pollution from toxic chemicals, land and forest degradation; biodiversity loss; waste management). In view of the country's agricultural orientation, adherence to environmental sustainability policy norms has been particularly important. The country prioritizes faster economic growth focusing on infrastructure development, entrepreneurship, hydropower, and agriculture.

In the largest economies in the post-Soviet region - Kazakhstan, Russia, and Ukraine – the trade-off between economic growth and environmental sustainability is worth special attention. Kazakhstan has experienced remarkable economic growth over the last decades. Numerous structural reforms, rich hydrocarbon resources (ninth-largest oil reserves in the world, as hydrocarbon output, constituted 21% of GDP and about 70 % of exports in 2020, World Bank, 2021 a, b), high domestic demand, foreign direct investment (FDI) enabled the country to transform into an upper-middle-income economy. EPI 10-year change shows the highest positive dynamics for Kazakhstan (9), which absolutely corresponds with the country's 2050 development strategy and Partnership Framework with the World Bank on "securing sustainable, resilient, and low-carbon growth by managing natural capital, including land and water resources, promoting less energy intensity, and strengthening institutions and service delivery "(World Bank, 2021 a, b).

As one of the region's biggest political and economic powers, Russia admits environmental sustainability as an integral part of modern society. State policy in the area of environmental development in the Russian Federation for the period up to 2030 is focused on guaranteeing environmental security while modernizing the economy. At present special attention is paid to renewable energy and GHG emissions cut, air pollution from heavy industry, water pollution, emissions of the coal-fired electric plant; industrial, municipal, and agricultural pollution; nuclear waste disposal; scattered areas of sometimes intense radioactive contamination; abandoned stocks of obsolete pesticide. Water pollution (along with GHG emissions) remains Russia's biggest concern – both in regard to drinking water reserves (according to official regulatory data, up to 60% of drinking water reserves in Russia fail to meet safety standards) and high contamination of rivers, seas and lakes (Baikal case, Norilsk diesel oil spill). Russia participates in all major environmental agreements, including the Paris Agreement, and cooperates in environmental protection programs with its partners in CIS, BRICS, EAEU, SCO, and EU countries. On the one hand, Russia shows quite good results in environmental sustainability. It ranks quite high positions in environmental ratings (but is not trying to play a leading role). Still, on the other hand, Russia plays its own policy, allowing it to promote its own most beneficial agenda on economic growth/environment sustainability compromise.

Since 1991 Ukraine has made significant progress in its environmental policy at the political and legislative levels. The environment is integrated into the broader sustainable development plans and ongoing reforms given the country's intention for EU integration (ranking the leading position in the Eastern Partnership Index (2021) on Environment and Climate Policy, Legislation, and Cooperation with the EU, among other five EaP post-Soviet

countries). Ukraine can hardly independently solve ecological problems without international assistance, especially in view of its scope, which ranges from the consequences of the Chernobyl nuclear accident and the need for heavy industry renovation to the current results of the current military conflict with Russia.

#### ***1.4. Economic growth vs. spending to make cities and countryside more beautiful***

The nature of soviet urbanization was determined by large industrial expansion and resource allocation but not classic social urban planning and had incredibly high dynamic rates. If in 1922 Soviet Union was a rural state with only 16% of the urban population, then in 1991, this rate reached 66%, and USSR became a highly urbanized state (Frost, 2018). Present situation with post-Soviet region urbanization corresponds with the results of post-socialist centers mostly with the ex-USSR industrial policy character – countries with industrial orientation tend to have a significantly higher percentage of urban population: Belarus 79.9% of the total population (with 0,28% annual rate of urbanization change 2020-25 est.); Russia 74.9% (0,11%); Ukraine 69.8% (-0,27%); Armenia 63.4% (0.23%); Georgia 59.9% (0,35%); Kazakhstan 57.8% (1,19%); Azerbaijan 56.8% (1.38%); Turkmenistan 53% (2,23%); Uzbekistan 50.4% (1,25%); Moldova 43%(0,09%); Kyrgyzstan 37.1% (2,05%); Tajikistan 27.7%(2,73%)(World Factbook, 2021).

Despite the direct economic function, the socialist urbanist also left pace on the modern cultural and aesthetic look of the present post-soviet cities. Notwithstanding their cultural, historical, ethnic, and religious peculiarities, all post-Soviet cities have a lot in common – the paces of the socialist epoch, so typical for all socialist cities despite the distance, state, and time. From the aesthetic perspective, these are the architectural objects (for ex. monuments, buildings with specific socialist style – "Stalinist skyscrapers", low-quality living stock "khrushchevki"); from the functional point of view, it's an old housing stock (often in poor condition), insufficient transport infrastructure that does not meet current needs, industrial location (factories located in the cities, close to the residential areas), lack of green zones, lack of barrier-free access almost everywhere(Spoor, 2018).

Infrastructure modernization is costly and depends upon economic and political possibilities. In this context, modernization changes are expected in the post-Soviet leading countries with the highest urbanization and Human Development Index rate like Russia (0,824), Kazakhstan (0,825), Belarus (0,823) (Country Economy Report for CIS countries, 2021). In the Mercer Report on Quality of Living Ranking for 263 cities of the World, post-communist cities score particularly lowest positions Moscow (Russia) 167 place, Kyiv (Ukraine) – 173, St. Petersburg – 174, Almaty (Kazakhstan) – 177, Tbilisi (Georgia) -187, Minsk (Belarus) – 188, Baku (Azerbaijan) -195, Tashkent (Uzbekistan) – 203, Bishkek (Kyrgyzstan) – 206.

The situation in rural areas remains complicated, especially in post-Soviet "countries" - Kyrgyzstan a Tajikistan. The majority of the Kyrgyz population (63 %) lives in the countryside. Kyrgyzstan's economy is based on mineral extraction and agriculture. The country faces low living standards, a mountainous landscape, weak social and transport infrastructure, hard ecological situation (water and soil pollution, limited access to the public water supply), which complicated modernization. The situation in the Tajikistan countryside remains complicated. Tajikistan is the poorest post-Soviet country with an economy based on mineral extraction and agriculture (7% of the land area is arable). Remittances constitute 35% of the country's GDP (World Factbook, 2021). The country's HDI is the lowest in the post-Soviet region – 0,668 (Country Economy Report for CIS countries, 2021). Like Kyrgyzstan, country life in Tajikistan suffers from poor ecology, outdated infrastructure and lack of finance.

Moldova holds third place among Post-Soviet countries with the highest rural population (57%). Though the situation in the Moldavian countryside does not seem as dramatic



as in the two above-mentioned countries, Moldova remains one of the poorest countries in Europe, with the economy based on agriculture. The government's stated goal of EU integration (in the context of the Association Agreement and DEEP Comprehensive Free Trade Agreement with the EU) has positively affected trade in agricultural products with the EU and called for more attention and financial support for countryside development with an accent on solving the hard ecological situation in this sector: contaminated soil and groundwater in the result of overuse of agricultural chemicals; extensive soil erosion and declining soil fertility from poor farming methods.

The situation in the rest of the Post-Soviet countries remains complicated. All the countryside of all of these countries suffer from the outflow of the working-age population from the countryside, lack of financing for the agricultural infrastructure (most of it is from the Soviet era low productive and high energy consuming), low wages, poor career growth perspectives, unclear land reforms, hard working conditions. The unwillingness of local authorities to provide land ownership rights, lack of opportunities for rural populations to gain access to credit and resource markets, and unclear procedures for granting land rights have hampered the creation of a vibrant family farming sector (Schwartz, 2005; Bruisch, 2016).

To sum it up, the countryside's efficiency and beauty are highly dependent on economic resources and political will. Given the relatively poor population, the question arises on whether they would prefer to invest these resources for more efficiency or for more comfort, environment protection, and aesthetics. The following study analyses the factors that contribute to this choice.

## 2. Methodological approach

### 2.1. The study

This paper aims to study the factors affecting the inclination of the population to prefer economic growth among the other social goals in Post-Soviet Union countries.

### 2.2. The data

We employ a representative dataset from the World Value Study and European Value Study in 11 post-Soviet Union countries in 2017-2020 (Joint dataset, EVS/WVS, 2021; see also EVS, 2020a, 2021; Haerpfer et al., 2021). All the Post-Soviet Union countries present in the dataset were incorporated into the analysis (for the list of countries and descriptive statistics of the sample countries, see *Table 1*). The target population was defined as persons aged 18 and older who have been residing in the country within private households for the past six months prior to the fieldwork (EVS, 2020b; WVS, 2020). The sampling relied on a representative single-stage or multi-stage probability sampling of the country's adult population 18 years old and older. The sample size was set as an effective sample size: with N minimum of 1500 for countries over 100 million, 1200 for countries with a population over 2 million, and 1000 for countries with a population below 2 million. A resulting total sample embraced 20006 respondents aged 18+ (mean age  $\pm$  SD: 46,04  $\pm$  17,07, 58% women, 46,8% upper education<sup>2</sup>, *table 2*). The vast majority of the surveys were conducted using face-to-face interviews (WVS, 2020; EVS, 2020b). The data are available for use for non-commercial purposes at the web pages of European and World Value Studies (2017).

---

<sup>2</sup> Upper level: ISCED 2011 levels 5-8 – short cycle tertiary and higher.

Table 2. Sociodemographic characteristics of the respondents in target countries

No	Country (year of survey)	N	Mean age	Std. deviation, age	% women	% upper education <sup>1</sup>
1	Azerbaijan (2018)	1800	40,68	14,68	51,00	14,90
2	Armenia (2018)	1500	44,45	17,38	54,70	37,60
3	Belarus (2018)	1548	46,81	16,43	57,10	66,30
4	Estonia (2018)	1304	54,62	18,37	62,80	31,30
5	Georgia (2018)	2194	50,89	17,59	63,40	31,30
6	Kazakhstan (2018)	1276	41,24	14,20	54,80	56,50
7	Kyrgyzstan (2020)	1200	41,29	15,16	61,90	46,10
8	Lithuania (2018)	1448	49,84	18,00	61,10	39,60
9	Russia (2017)	3635	45,51	17,17	58,30	64,60
10	Tajikistan (2020)	1200	41,06	15,29	50,50	41,00
11	Ukraine (2020)	2901	47,14	16,45	61,30	59,50
	Total	20006	46,04	17,07	58,30	46,80

<sup>1</sup> Upper level: *ISCED 2011 levels 5-8 – short-cycle tertiary and higher.*

Source: *own calculation*

### 2.3. Indicators

The distributions of the variables below were split into countries as they present considerable differences.

### 2.4. Preference for economic growth

Preferences for economic growth are tricky to study in a survey. If asked whether they wanted economic growth, most of the respondents were likely to answer positively. However, economic growth can be achieved at a price. One of the most obvious ones is damaging the environment (Conrad, E., & Cassar, L. F. (2014), Čábelková et al. 2022). Thus, one needs to ask about the relative importance of the two.

Similarly, economic growth might be just one of the possible priorities. In the case of a war, strong defense forces are more important than economic growth; in an autocratic environment, more public participation in decision-making bears greater importance. Having achieved a certain level of economic development, other aspects of Maslow's pyramid of human needs (Desmet & Fokkinga, 2020.) gain importance.

This paper employs two indicators for the preference for economic growth – as contrasted to the environment protection and as compared to three others – strong defense forces, individual participation in social and economic decision-making, and making the outer environment more beautiful. The discussion of whether these three alternatives are exclusive to economic growth is valid, but it is out of the scope of this paper. The questions studying the preferences for economic growth were formulated as follows:

#### Indicator 1. Protecting environment vs. Economic growth.

*"Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?"*

- 1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.*
- 2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent."* (EVS, 2020a, 2021; Haerpfer et al., 2021)

The distribution of the respondents is presented and *table 3.*

Table 3. Economic growth vs. environment protection. The distribution of the respondents

	Protecting environment (%)	Economy growth and creating jobs (%)	N
Azerbaijan	56,60	43,40	1560
Armenia	38,80	61,20	1433
Belarus	47,80	52,20	1318
Estonia	71,10	28,90	1101
Georgia	71,00	29,00	2058
Kazakhstan	50,80	49,20	1097
Kyrgyzstan	67,10	32,90	1122
Lithuania	35,60	64,40	1247
Russia	51,30	48,70	3042
Tajikistan	44,60	55,40	1176
Ukraine	53,00	47,00	2473
Total	53,70	46,30	17627

Source: *own calculation*

From *Table 3* and *Graph 1*, the respondents in seven countries prefer protecting the environment over economic growth, while four countries prefer economic growth. It might be possible that more preference for the environment is given due to the order of the options in the questionnaire (the option prefer environment to growth was first and growth to environment second). However, the order was the same for all the countries enabling the country comparison.

#### Indicator 2. Economic growth as one of the country's priorities

*"People sometimes talk about what the aims of this country should be for the next ten years. On this card are listed some of the goals that different people would give top priority. Would you please say which one of these you, yourself, consider the most important?"*

1. *A high level of economic growth*
2. *Making sure this country has strong defense forces*
3. *Seeing that people have more say about how things are done at their jobs and in their communities*
4. *Trying to make our cities and countryside more beautiful" (EVS, 2020a, 2021; Haerpfer et al., 2021)*

Table 4. Aims of the country, first choice, distribution of the respondents

	A high level of economic growth (%)	Strong defense forces (%)	People have more say about how things are done (%)	Trying to make our cities and countryside more beautiful (%)	N
Azerbaijan	61,20	22,80	6,60	9,40	1780
Armenia	51,20	37,50	5,90	5,50	1483
Belarus	69,10	15,00	14,30	1,60	1536
Estonia	42,80	12,30	41,50	3,50	1288
Georgia	63,90	14,70	9,10	12,30	2166
Kazakhstan	53,80	25,80	16,00	4,40	1255
Kyrgyzstan	54,60	17,00	15,10	13,30	1154
Lithuania	68,50	5,30	19,00	7,20	1424
Russia	51,70	27,40	16,90	4,00	3557
Tajikistan	49,80	25,90	12,30	12,00	1200
Ukraine	59,80	23,10	13,60	3,50	2818
Total	57,20	21,40	14,90	6,50	19661

Note: *The exact formulation of the question: "People sometimes talk about what the aims of this country should be for the next ten years. On this card are listed some of the goals which*

*different people would give top priority. Would you please say which one of these you, yourself, consider the most important? A high level of economic growth; Making sure this country has strong defense forces; Seeing that people have more say about how things are done at their jobs and in their communities; Trying to make our cities and countryside more beautiful"*

Source: own calculation

Table 4 presents the distributions of the respondents in countries.

### **2.5. Data transformation**

This indicator 1 was binary and did not need any transformation. The value 1 reflects the preference for environment protection over economic growth, while the value 2 reflected preference for economic growth over environment protection. The average for the population minus one (as the variable was encoded 1 or 2 instead of 0 or 1) reflects the share of the respondents preferring one option or the other. Note: the addition or subtraction of the constant (minus one) does not produce any change in correlation analysis or in the confidence interval analysis, though it moves the mean values by one.

The indicator 2 was transformed in the following way. Given, that the categories were of different nature we recoded the variable into the binary variable equal to one if the respondent gave priority to economic growth over the other three options, and zero, if the respondent has chosen otherwise. This way the resulting variable reflects the preferences of the respondents to choose economic growth over the other three priorities and the mean value reflects the share of the respondents in the country choosing this option.

### **2.6. Method**

We employ confidence intervals for mean values (95%) and correlation analysis to study the country differences in preferences for economic growth. Besides that, we conduct ANOVA, Post-hoc tests and Chi-square analyses for relation between the two indicators of economic growth in different countries (see *tables A1-A6* in Appendix 1).

### **2.7. The use of correlation analysis for two binary variables**

The Pearson and Spearman correlation are defined as long as we have some 0s and some 1s for both of two binary variables. For Binary data the Pearson = Spearman = Kendall's tau, so basically from this point of view there is no difference. In fact, a Pearson correlation coefficient estimated for two binary variables will return the phi coefficient (Guilford, 1936). The Phi coefficient (or mean square contingency coefficient) is a measure of association for two binary variables.

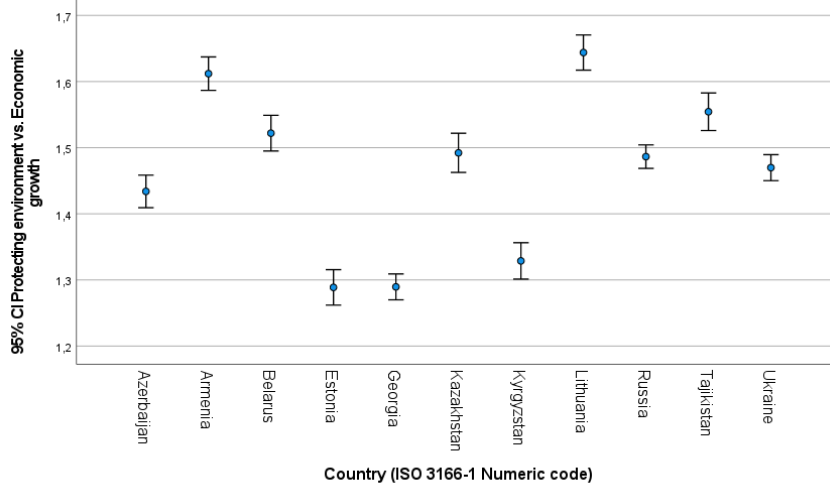
Contrary to chi square test, which enables us to test for independence of the variables but does not tell us the size of the association (for a chi-square independence test, the null hypothesis is that the two variables are not associated; the alternative hypothesis is that the two variables are associated.), neither the direction of the association, the correlation analysis, (which, in the case of binary data reduces to phi coefficient) enables us to infer on the direction of the association, which is of most importance in this paper.

In fact, if the number of observations is large enough (some authors recommend at least 50, other 100, yet other 120 at least, see Newsom, 2022) the law of large numbers ensures that the statistical significance of the results are very similar (ibid.) In our case, the number of

observations in countries in most cases is above 1000, thus we can rely on statistical significance.

### 3. Conducting research and results

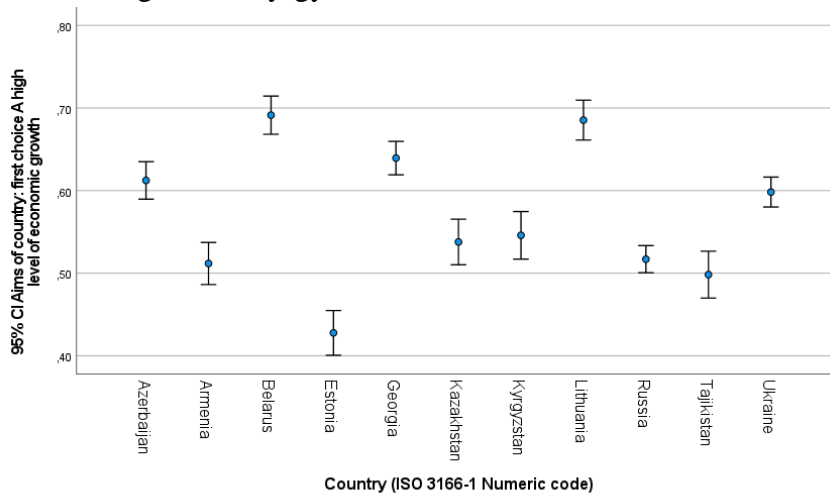
Country comparisons in subjective importance of economic growth contrasted to environment protection



Graph 2. Means and confidence intervals for preference for economic growth vs. protecting the environment

Note: 1 - Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs. 2 - Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent. Source: own computations

Graph 2 shows that the preferences for economic growth at the expense of the environment in the post-Soviet countries are not uniform. Most of the 95% confidence intervals do not intersect. Armenia and Lithuania strongly prefer economic growth and creating new jobs, while Estonia, Georgia, and Kyrgyzstan are more on the side of environmental protection.



Graph 3. Means and confidence intervals for preference for economic growth vs. strong defense forces, People have more say about how things are done, Trying to make our cities and countryside more beautiful

Note: 0 did not state economic growth as the first choice aim of the country (apart from Strong defense forces, People have more say about how things are done, Trying to make our cities and countryside more beautiful), 1- stated economic growth as the first choice of the aim of the country.  
Source: own computations

Similarly, the preferences for economic growth contrasted with three other aims (Strong defense forces, People have more say about how things are done, Trying to make our cities and countryside more beautiful) significantly differed across the countries (*Graph 3*). Estonians, on average preferred aims for the country other than economic growth, while Belarus and Lithuania reported a stronger preference for economic growth as the aim of the country in the next ten years.

The Spearman correlations for the two indicators of preference for economic growth are presented in *table 5*.

Table 5. Spearman correlations of preference for economic growth as the country priority and preference for economic growth at the expense of environmental protection.

No	Code	Country	Spearman's rho	Sig	N
1	31	Azerbaijan	-0,058*	0,024	1547
2	51	Armenia	0,087**	0,001	1416
3	112	Belarus	-0,021	0,445	1310
4	233	Estonia	0,056	0,065	1089
5	268	Georgia	-0,078***	0,000	2035
6	398	Kazakhstan	-0,100**	0,001	1088
7	417	Kyrgyzstan	-0,063*	0,037	1094
8	440	Lithuania	0,021	0,452	1230
9	643	Russia	-0,032	0,079	2998
10	762	Tajikistan	-0,035	0,235	1176
11	804	Ukraine	0,068**	0,001	2423
Whole sample			-0,008	0,265	17406

\*- denotes statistical significance on 5% level, \*\* - on 1% level, \*\*\* - on 0,1% level.

Source: own calculation

In the first case (Aims of the country: first choice - A high level of economic growth), the economic growth was contrasted to defense forces, more initiative was given to people at jobs and communities, and making the country more beautiful. In the second case, economic growth, including the availability of jobs, as contrasted with the economic environment. The stress on the availability of jobs was absent in the first indicator. Therefore, these indicators should be analyzed separately.

Interestingly, the indicators of preference for economic growth above produced opposite correlations at the country level (*table 5*). The statistically significant correlations were positive for Ukraine and Armenia and negative for Azerbaijan, Georgia, Kazakhstan, and Kyrgyzstan. The correlation on the level of the total sample was not statistically significant. Thus the two indicators of economic growth need to be viewed as two different aspects of one phenomenon and need to be interpreted and analyzed separately.

To sum it up, the sample is very heterogenic for the two indicators of preference for economic growth. The correlations between the indicators are significant on the country level but insignificant on the level of the whole sample. Thus, these indicators should be analyzed and interpreted separately.

## Discussion

Economic growth has always been one of the countries priorities. However, the requirements of sustainability, the emphasis on quality of life and environment degradation move other factors at the top of country priorities. Sometimes, though not always these priorities are in conflict and the country need to place its emphasis on one or the other. The public opinion is one of the first to be considered.

The literature does not provide a clear view on which society goals are in line or in conflict, though some factors influencing the association are known. Obviously, the level economic development is the first to consider. In very poor countries, economic growth might be viewed by the public as the first country priority as economic performance helps to satisfy the most basic needs. Similarly, to Maslow pyramid of human needs (Abulof, 2017), population of the country where the basic needs of are satisfied, will be more likely to prioritize factors other the economic growth. Environmental protection is nowadays one of these factors.

The question arises on whether the country cannot have both the high economic performance and environment protection. The literature does not provide a clear answer, but, most obviously, it depends on the current state of environment and growth (as suggested by Environmental Kuznets Curve, EKC, Shahbaz et al., 2013; Stern, 2017; Anwar et al., 2022). In any case, environmental protection often requires governmental regulations that impact economic and other freedoms, which are also the country priorities. These, is turn, affect and are affected by the economic system and political organization of the country.

For this paper we choose the group of the Post-Soviet countries, which represent relatively compact group as for historical path, grew from similar economic and political system, but diversified in their economic development afterwards. We show, that in these countries present very different preferences for the country priorities. Moreover, the relation between these preferences in terms of economic growth versus environmental protection or economic growth versus other country priorities is significant and opposite for countries in the region. We suggest, that more research needs to be done in studying the underline factors of these differences.

## Conclusion

Though the countries of the former Soviet Union share a large portion of common history and were affected by similar ideological propaganda, thirty years of transition made them significantly different in their perceptions of economic development. This paper analyzed the importance of economic growth for the population of eleven Post-Soviet countries and the factors associated with these preferences. Preferences for economic growth proved to be very heterogeneous across countries and indicators. Interestingly, even countries belonging to similar geographical and economic blocks, such as the EU, report contrastingly different preferences for economic development. For example, Estonia and Lithuania proved to be the furthest among the eleven countries analyzed in both indicators of economic growth.

The indicators of economic growth presented a puzzle to explain. While both indicators (economic growth as a top country priority and the importance of economic growth at the expense of environmental protection) are supposed to measure the same phenomena, they proved to be uncorrelated on the level of the whole sample, while correlations on the country levels were positive for some countries and negative for the other.

While both indicators of preference for economic growth are supposed to indicate similar phenomena, in the context of the current narrative, they may belong to different societal paradigms. The perspective of protecting the environment belongs to the generally leftist perspective of protecting all the disadvantaged, including nature, women, or social minorities.

Thus, it creates contexts disconnected from pursuing economically efficient outcomes. In contrast, the first indicator of preference for economic growth is more pragmatic. The disconnection of these two narratives in society creates significant ambivalences that are manifested in the opposed relations of both indicators of preferences for economic growth to competition, the role of the government, the importance of democracy, and the ideas on the essential characteristics of democracy.

### Acknowledgement

The paper supported by the internal research Project No. 2021B0002: The post-Soviet Region in the Context of International Trade Activities: Opportunities and Threats Arising from Mutual Cooperation, solved at the Department of Economics, Faculty of Economics and Management, Czech University of Life Sciences in Prague.

### References

- Abulof, U. (2017). Introduction: Why we need Maslow in the twenty-first century. *Society*, 54(6), 508-509.
- Akerman, A., & Seim, A. (2014). The global arms trade network 1950–2007. *Journal of Comparative Economics*, 42(3), 535–551.
- Al-Mulali, U., Gholipour, H. F., & Solarin, S. A. (2022). Investigating the environmental Kuznets curve (EKC) hypothesis: does government effectiveness matter? Evidence from 170 countries. *Environment, Development and Sustainability*, 24(11), 12740-12755.
- Alptekin, A., & P. Levine. (2012). Military Expenditure and Economic Growth: A Meta-analysis. *European Journal of Political Economy*, 28(4), 636–650. <https://doi.org/10.1016/j.ejpoleco.2012.07.002>.
- Altshuler, I. I., & Mnatsakanyan, R. A. (1990). The Changing Face of Environmentalism in the Soviet Union. *Environment: Science and Policy for Sustainable Development*, 32(2), 4–30. <https://doi.org/10.1080/00139157.1990.9929005>
- Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. *The Academy of Management Perspectives*, 45-62.
- Anwar, M. A., Zhang, Q., Asmi, F., Hussain, N., Plantinga, A., Zafar, M. W., & Sinha, A. (2022). Global perspectives on environmental kuznets curve: A bibliometric review. *Gondwana Research*, 103, 135-145.
- Åslund, A., Boone, P., Johnson, S., Fischer, S., & Ickes, B. W. (1996). How to stabilize: Lessons from post-communist countries. *Brookings papers on economic activity*, 1996(1), 217-313. <https://doi.org/10.2307/2534649>
- Becker, R. A. (2005). Air pollution abatement costs under the Clean Air Act: evidence from the PACE survey. *Journal of environmental economics and management*, 50(1), 144-169.
- Benoit, E. (1973). Defence and Economic Growth in Developing Countries. *Boston: D.C. Heath*.
- Brännlund, R., & Lundgren, T. (2009). Environmental policy without costs? A review of the Porter hypothesis. *International Review of Environmental and Resource Economics*, 3(2), 75-117.
- Bruisch, K. (2016). The Soviet Village Revisited. Household farming and the changing image of socialism in the late Soviet period. *Cahiers du monde russe. Russie-Empire russe-Union soviétique et États indépendants*, 57(57/1), 81-100. <https://doi.org/10.4000/monderusse.8332>



- Bruun, O. (2020). Environmental protection in the hands of the state: authoritarian environmentalism and popular perceptions in Vietnam. *The Journal of Environment & Development*, 29(2), 171-195.
- Bykovskaya, G.A., & Cherenkov, R.A. (2008). Neoliberalism in the context of the historical and political process. *Via in tempore. Story. Political Science*, 7 (5 (45)).
- Čábelková, I., Smutka, L., & Strielkowski, W. (2022). Public support for sustainable development and environmental policy: A case of the Czech Republic. *Sustainable Development*, 30(1), 110-126.
- Clements, B., Gupta, S., & Khamidova, S. (2021). Military spending. *Finance & Development*. <https://doi.org/10.5089/9781513577791.022>
- Conrad, E., & Cassar, L. F. (2014). Decoupling economic growth and environmental degradation: reviewing progress to date in the small island state of Malta. *Sustainability*, 6(10), 6729-6750.
- Coumel, L., & Elie, M. (2013). A belated and tragic ecological revolution: nature, disasters, and green activists in the Soviet Union and the Post-Soviet States, 1960s-2010s. *The Soviet and Post-Soviet Review*, 40(2), 157-165. <https://doi.org/10.1163/18763324-04002005>
- Country Economy Report for CIS countries (2021). On-line resource. Available at <https://countryeconomy.com/countries/groups/cis>. [18.12.2021].
- Cummings, S., Regeer, B., De Haan, L., Zweekhorst, M., & Bunders, J. (2018). Critical discourse analysis of perspectives on knowledge and the knowledge society within the Sustainable Development Goals. *Development Policy Review*, 36(6), 727-742.
- Dale, G., & Fabry, A. (2018). Neoliberalism in Eastern Europe and the Former Soviet Union. *The SAGE Handbook of Neoliberalism*, 234-247.
- Dean, T. J., Brown, R. L., & Stango, V. (2000). Environmental regulation as a barrier to the formation of small manufacturing establishments: A longitudinal examination. *Journal of Environmental Economics and Management*, 40(1), 56-75.
- Demertzidis, N., Tsalis, T. A., Loupa, G., & Nikolaou, I. E. (2015). A benchmarking framework to evaluate business climate change risks: A practical tool suitable for investors decision-making process. *Climate Risk Management*, 10, 95-105.
- Desmet, P., & Fokkinga, S. (2020). Beyond Maslow's pyramid: introducing a typology of thirteen fundamental needs for human-centered design. *Multimodal Technologies and Interaction*, 4(3), 38.
- Dunne, J. P., & Smith, R. P. (2019). Military expenditure, investment and growth. *Defence and Peace Economics*, 31(6), 601-614. <https://doi.org/10.1080/10242694.2019.1636182>
- Eastern Partnership Index (2021). <https://eap-csf.eu>. [15.12.2021].
- EVS (2020a): European Values Study 2017: Integrated Dataset (EVS 2017). *GESIS Data Archive, Cologne*. ZA7500 Data file Version 4.0.0, doi:10.4232/1.13560.
- EVS (2020b). European Values Study (EVS) 2017: *Methodological Guidelines*. (GESIS Papers, 2020/13). Köln. 10.21241/ssoar.70110 (url: <https://www.ssoar.info/ssoar/handle/document/70110>) [accessed 21 October 2021].
- EVS (2021): European Values Study 2017: Ukraine (EVS 2017). *GESIS Data Archive, Cologne*. ZA7539 Data file Version 1.0.0, doi:10.4232/1.13714.
- EVS/WVS (2021). European Values Study and World Values Survey: Joint EVS/WVS 2017-2021 Dataset (Joint EVS/WVS). *GESIS Data Archive, Cologne*. ZA7505. Dataset Version 2.0.0, doi:10.4232/1.13737.
- Frost, I. (2018). Exploring varieties of (post) Soviet urbanization: reconciling the general and particular in post-socialist urban studies. *Europa Regional*, 25(2), 2-14. Retrieved from <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-59047-7>

- Gagarinski, A. Y. (1995). Sustainable development and advanced nuclear energy concepts of the post-Soviet countries. *Progress in Nuclear Energy*, 29, 49–56. [https://doi.org/10.1016/0149-1970\(95\)00026-G](https://doi.org/10.1016/0149-1970(95)00026-G)
- Guilford, J. (1936). *Psychometric Methods*. New York: McGraw–Hill Book Company, Inc.
- Güngör, H., Abu-Goodman, M., Olanipekun, I. O., & Usman, O. (2021). Testing the environmental Kuznets curve with structural breaks: the role of globalization, energy use, and regulatory quality in South Africa. *Environmental Science and Pollution Research*, 28(16), 20772-20783.
- Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano J., M. Lagos, P. Norris, E. Ponarin & B. Puranen et al. (eds.). 2021. *World Values Survey: Round Seven–Country-Pooled Datafile*. Madrid, Spain & Vienna, Austria: JD Systems Institute & WWSA Secretariat. doi:10.14281/18241.13.
- Hagan, A., ZumBrunnen, C., & Pryde, P. R. (1993). Environmental Management in the Soviet Union. *Russian Review*, 52(4), 580. <https://doi.org/10.2307/130684>
- Hale, H. E. (2016). 25 Years After the USSR: What's Gone Wrong?. *Journal of Democracy*, 27(3), 24-35. <https://doi.org/10.1353/jod.2016.0035>
- Halvorson, C. (2021). *Valuing Clean Air: The EPA and the Economics of Environmental Protection*. Oxford University Press.
- Heyes A. (2009) Is environmental regulation bad for competition? A survey. *J Regul Econ* 36(1):1–28
- Hysa, E., Kruja, A., Rehman, N. U., & Laurenti, R. (2020). Circular economy innovation and environmental sustainability impact on economic growth: An integrated model for sustainable development. *Sustainability*, 12(12), 4831.
- Index Mundi (2021a). Kyrgyzstan. On-line information resource, retrieved from [https://www.indexmundi.com/kyrgyzstan/environment\\_profile.html](https://www.indexmundi.com/kyrgyzstan/environment_profile.html) [15.12.2021].
- Index Mundi (2021b).. Moldova. On-line information resource, retrieved from [https://www.indexmundi.com/moldova/environment\\_profile.html](https://www.indexmundi.com/moldova/environment_profile.html) [15.12.2021].
- Index Mundi (2021c). Tajikistan. On-line information resource, retrieved from [https://www.indexmundi.com/tajikistan/environment\\_profile.html](https://www.indexmundi.com/tajikistan/environment_profile.html) [15.12.2021].
- Index Mundi (2021d).. Ukraine. On-line information resource, retrieved from [https://www.indexmundi.com/ukraine /environment\\_profile.html](https://www.indexmundi.com/ukraine /environment_profile.html) [15.12.2021].
- Marat, E. (2016). Reforming Police in Post-Communist Countries: International Efforts, Domestic Heroes. *Comparative Politics*, 48(3), 333–352. <https://doi.org/10.5129/001041516818254392>
- Mazurski, K. R. (1991). Communism and the Environment. *In Forum for Applied Research and Public Policy* (Vol. 5, No. 4, pp. 39-44). Retrieved from [http://www.ansibl.com/mazurski.eu/krm/files/Communism\\_and\\_the\\_Environment.pdf](http://www.ansibl.com/mazurski.eu/krm/files/Communism_and_the_Environment.pdf)
- Mearman, A. (2005). Why have post-Keynesians had (relatively) little to say on the economics of the environment? *International Journal of Environment, Workplace and Employment*, 1(2), 131-154. <https://doi.org/10.1504/ijewe.2005.006381>
- Morandín-Ahuerma, I., Contreras-Hernández, A., Ayala-Ortiz, D. A., & Pérez-Maqueo, O. (2019). Socio–ecosystemic sustainability. *Sustainability*, 11(12), 3354.
- Newsom (Fall 2022). *Univariate Quantitative Methods*, [https://web.pdx.edu/~newsomj/uvclass/ho\\_correlation%20t%20phi.pdf](https://web.pdx.edu/~newsomj/uvclass/ho_correlation%20t%20phi.pdf) Accessed 2.1.2023
- Niftiyev, I. (2021). Ideology and economics: post-soviet perspective InterConf, 14-32.
- Nikolaou, I. E., Jones, N., & Stefanakis, A. (2021). Circular economy and sustainability: the past, the present and the future directions. *Circular Economy and Sustainability*, 1(1), 1-20.

- Nikolaou, I. E., Kourouklaris, G., & Tsalis, T. A. (2014). A framework to assist the financial community in incorporating water risks into their investment decisions. *Journal of Sustainable Finance & Investment*, 4(2), 93-109.
- Official website of the President of Belarus (2021) <https://president.gov.by/en/belarus/economics> [15.12.2021].
- Ory, C., Leboulleux, S., Salvatore, D., Le Guen, B., De Vathaire, F., Chevillard, S., & Schlumberger, M. (2020). Consequences of atmospheric contamination by radioiodine: the Chernobyl and Fukushima accidents. *Endocrine*, 1-12. <https://doi.org/10.1007/s12020-020-02498-9>
- Panayotou, T. (2016). Economic growth and the environment. *The environment in anthropology*, 24, 140-148.
- Peterson, D. J. (2019). *Troubled lands: The legacy of Soviet environmental destruction*. Routledge.
- Porter, M. E., & Van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. *Journal of economic perspectives*, 9(4), 97-118.
- Sarkodie, S. A., & Strezov, V. (2019). A review on environmental Kuznets curve hypothesis using bibliometric and meta-analysis. *Science of the total environment*, 649, 128-145.
- Schwartz, K. Z. (2005). Wild horses in a 'European wilderness': imagining sustainable development in the post-Communist countryside. *Cultural geographies*, 12(3), 292-320. <https://doi.org/10.1191/1474474005eu331oa>
- Scrieciu, S. Ş., & Stringer, L. C. (2008). The transformation of post-communist societies in Central and Eastern Europe and the Former Soviet Union: an economic and ecological sustainability perspective. *European Environment*, 18(3), 168-185. <https://doi.org/10.1002/eet.480>
- Seo, H. J., Kim, H., & Lee, Y. S. (2020). The Dynamic relationship between inequality and sustainable economic growth. *Sustainability*, 12(14), 5740.
- Shahbaz, M., Ozturk, I., Afza, T., & Ali, A. (2013). Revisiting the environmental Kuznets curve in a global economy. *Renewable and sustainable energy reviews*, 25, 494-502.
- Spoor, M. (2018). 25 Years of Rural Development in post-Soviet Central Asia: Sustaining Inequalities. *Eastern European Countryside*, 24(1), 63-79. <https://doi.org/10.2478/eec-2018-0004>
- Statista Report for Estimated CIS GDP growth 2016-2022. On-line resource. Available at <https://www.statista.com/statistics/1185457/forecast-cis-gdp-growth>. [15.12.2021].
- Stern, D. I. (2017). The environmental Kuznets curve after 25 years. *Journal of Bioeconomics*, 19(1), 7-28.
- Stewart, J. M. (Ed.). (1992). *The Soviet environment: problems, policies and politics*. Cambridge University Press.
- Tiba, S., & Omri, A. (2017). Literature survey on the relationships between energy, environment and economic growth. *Renewable and Sustainable Energy Reviews*, 69, 1129-1146.
- World Air Quality Index (2021) <https://www.iqair.com/us/kyrgyzstan> [15.12.2021].
- World Bank (2021a). Report on GDP per capita- European Union. On-line resource. Available at <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=EU>. [16.12.2021].
- World Bank (2021b). Kazakhstan Economic Update. On-line information resource, retrieved from <https://www.worldbank.org/en/country/kazakhstan> [15.12.2021].
- World Bank (2021c). Moldova Economic Update. On-line information resource, retrieved from <https://www.worldbank.org/en/country/moldova> [15.12.2021].
- World Factbook (2021). On-line resource. Available at <https://www.cia.gov/the-world-factbook/countries/> [19.12.2021].

- WVS (2020). World Values Survey, Fieldwork and Sampling. <https://www.worldvaluessurvey.org/WVSContents.jsp?CMSID=FieldworkSampling&CMSID=FieldworkSampling> Accessed 5.11.2021.
- Yesilyurt, F., and M. E. Yesilyurt. (2019). "Meta-analysis, Military Expenditures and Growth." *Journal of Peace Research*, 56, 352–363. <https://doi.org/10.1177/0022343318808841>.
- Zhang, Q., Yu, Z., & Kong, D. (2019). The real effect of legal institutions: Environmental courts and firm environmental protection expenditure. *Journal of Environmental Economics and Management*, 98, 102254.
- Żuk, P., & Toporowski, J. (2020). Capitalism after communism: The triumph of neoliberalism, nationalist reaction and waiting for the leftist wave. *The Economic and Labour Relations Review*, 31(2), 158-171. <https://doi.org/10.1177/1035304620911121>

## Appendix 1. Statistical tables

Table A1. ANOVA. Aims of the country: first choice - A high level of economic growth

F	Sig.
44,502	<,001

Table A2. Multiple Comparisons. Dependent Variable: Aims of the country: first choice A high level of economic growth, LSD

(I) Country (ISO 3166-1 Numeric code)	(J) Country (ISO 3166-1 Numeric code)	Mean Difference (I-J)	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Azerbaijan	Armenia	,10056*	<,001	0,0668	0,1343
	Belarus	-,07905*	<,001	-0,1125	-0,0456
	Estonia	,18456*	<,001	0,1495	0,2197
	Georgia	-0,02707	0,084	-0,0578	0,0036
	Kazakhstan	,07451*	<,001	0,0392	0,1099
	Kyrgyzstan	,06643*	<,001	0,0302	0,1027
	Lithuania	-,07303*	<,001	-0,1071	-0,0389
	Russia	,09535*	<,001	0,0675	0,1232
	Tajikistan	,11403*	<,001	0,0782	0,1499
	Ukraine	0,01406	0,343	-0,015	0,0431
Armenia	Azerbaijan	-,10056*	<,001	-0,1343	-0,0668
	Belarus	-,17961*	<,001	-0,2145	-0,1447
	Estonia	,08401*	<,001	0,0475	0,1205
	Georgia	-,12763*	<,001	-0,16	-0,0953
	Kazakhstan	-0,02605	0,165	-0,0628	0,0107
	Kyrgyzstan	-0,03413	0,076	-0,0718	0,0035
	Lithuania	-,17359*	<,001	-0,2092	-0,138
	Russia	-0,00521	0,731	-0,0349	0,0244
	Tajikistan	0,01347	0,479	-0,0238	0,0507
	Ukraine	-,08650*	<,001	-0,1173	-0,0557
Belarus	Azerbaijan	,07905*	<,001	0,0456	0,1125
	Armenia	,17961*	<,001	0,1447	0,2145
	Estonia	,26361*	<,001	0,2274	0,2999
	Georgia	,05198*	0,001	0,02	0,084
	Kazakhstan	,15356*	<,001	0,1171	0,1901
	Kyrgyzstan	,14548*	<,001	0,1081	0,1828
	Lithuania	0,00601	0,738	-0,0293	0,0413
	Russia	,17440*	<,001	0,1451	0,2037
	Tajikistan	,19307*	<,001	0,1561	0,23
	Ukraine	,09311*	<,001	0,0627	0,1235
Estonia	Azerbaijan	-,18456*	<,001	-0,2197	-0,1495
	Armenia	-,08401*	<,001	-0,1205	-0,0475
	Belarus	-,26361*	<,001	-0,2999	-0,2274
	Georgia	-,21163*	<,001	-0,2454	-0,1779
	Kazakhstan	-,11005*	<,001	-0,1481	-0,072
	Kyrgyzstan	-,11813*	<,001	-0,157	-0,0793
	Lithuania	-,25760*	<,001	-0,2945	-0,2207
	Russia	-,08921*	<,001	-0,1204	-0,058
	Tajikistan	-,07054*	<,001	-0,109	-0,0321

	Ukraine	-,17050*	<,001	-0,2028	-0,1382
Georgia	Azerbaijan	0,02707	0,084	-0,0036	0,0578
	Armenia	,12763*	<,001	0,0953	0,16
	Belarus	-,05198*	0,001	-0,084	-0,02
	Estonia	,21163*	<,001	0,1779	0,2454
	Kazakhstan	,10158*	<,001	0,0676	0,1356
	Kyrgyzstan	,09350*	<,001	0,0585	0,1285
	Lithuania	-,04597*	0,006	-0,0787	-0,0132
	Russia	,12242*	<,001	0,0963	0,1486
	Tajikistan	,14109*	<,001	0,1066	0,1756
	Ukraine	,04113*	0,003	0,0137	0,0685
Kazakhstan	Azerbaijan	-,07451*	<,001	-0,1099	-0,0392
	Armenia	0,02605	0,165	-0,0107	0,0628
	Belarus	-,15356*	<,001	-0,1901	-0,1171
	Estonia	,11005*	<,001	0,072	0,1481
	Georgia	-,10158*	<,001	-0,1356	-0,0676
	Kyrgyzstan	-0,00808	0,686	-0,0472	0,031
	Lithuania	-,14754*	<,001	-0,1847	-0,1104
	Russia	0,02084	0,195	-0,0107	0,0523
	Tajikistan	,03952*	0,046	0,0008	0,0782
	Ukraine	-,06045*	<,001	-0,093	-0,0279
Kyrgyzstan	Azerbaijan	-,06643*	<,001	-0,1027	-0,0302
	Armenia	0,03413	0,076	-0,0035	0,0718
	Belarus	-,14548*	<,001	-0,1828	-0,1081
	Estonia	,11813*	<,001	0,0793	0,157
	Georgia	-,09350*	<,001	-0,1285	-0,0585
	Kazakhstan	0,00808	0,686	-0,031	0,0472
	Lithuania	-,13947*	<,001	-0,1775	-0,1015
	Russia	0,02892	0,081	-0,0036	0,0614
	Tajikistan	,04759*	0,018	0,008	0,0871
	Ukraine	-,05237*	0,002	-0,0859	-0,0188
Lithuania	Azerbaijan	,07303*	<,001	0,0389	0,1071
	Armenia	,17359*	<,001	0,138	0,2092
	Belarus	-0,00601	0,738	-0,0413	0,0293
	Estonia	,25760*	<,001	0,2207	0,2945
	Georgia	,04597*	0,006	0,0132	0,0787
	Kazakhstan	,14754*	<,001	0,1104	0,1847
	Kyrgyzstan	,13947*	<,001	0,1015	0,1775
	Russia	,16838*	<,001	0,1383	0,1985
	Tajikistan	,18706*	<,001	0,1495	0,2246
	Ukraine	,08710*	<,001	0,0559	0,1183
Russia	Azerbaijan	-,09535*	<,001	-0,1232	-0,0675
	Armenia	0,00521	0,731	-0,0244	0,0349
	Belarus	-,17440*	<,001	-0,2037	-0,1451
	Estonia	,08921*	<,001	0,058	0,1204
	Georgia	-,12242*	<,001	-0,1486	-0,0963
	Kazakhstan	-0,02084	0,195	-0,0523	0,0107
	Kyrgyzstan	-0,02892	0,081	-0,0614	0,0036
	Lithuania	-,16838*	<,001	-0,1985	-0,1383
	Tajikistan	0,01868	0,253	-0,0133	0,0507
	Ukraine	-,08129*	<,001	-0,1055	-0,0571
Tajikistan	Azerbaijan	-,11403*	<,001	-0,1499	-0,0782

	Armenia	-0,01347	0,479	-0,0507	0,0238
	Belarus	-,19307*	<,001	-0,23	-0,1561
	Estonia	,07054*	<,001	0,0321	0,109
	Georgia	-,14109*	<,001	-0,1756	-0,1066
	Kazakhstan	-,03952*	0,046	-0,0782	-0,0008
	Kyrgyzstan	-,04759*	0,018	-0,0871	-0,008
	Lithuania	-,18706*	<,001	-0,2246	-0,1495
	Russia	-0,01868	0,253	-0,0507	0,0133
	Ukraine	-,09996*	<,001	-0,133	-0,0669
Ukraine	Azerbaijan	-0,01406	0,343	-0,0431	0,015
	Armenia	,08650*	<,001	0,0557	0,1173
	Belarus	-,09311*	<,001	-0,1235	-0,0627
	Estonia	,17050*	<,001	0,1382	0,2028
	Georgia	-,04113*	0,003	-0,0685	-0,0137
	Kazakhstan	,06045*	<,001	0,0279	0,093
	Kyrgyzstan	,05237*	0,002	0,0188	0,0859
	Lithuania	-,08710*	<,001	-0,1183	-0,0559
	Russia	,08129*	<,001	0,0571	0,1055
	Tajikistan	,09996*	<,001	0,0669	0,133

\* The mean difference is significant at the 0.05 level.

Table A3. ANOVA. Protecting environment vs. Economic growth

F	Sig.
87,139	<,001

Table A4. Multiple Comparisons Dependent Variable: Protecting environment vs. Economic growth, Post Hoc tests, LSD

(I) Country (ISO 3166-1 Numeric code)	(J) Country (ISO 3166-1 Numeric code)	Mean Difference (I-J)	Sig.	95% Confidence Interval	Upper Bound	Lower Bound
Azerbaijan	Armenia	-,178*	<,001	-0,21	-0,14	
	Belarus	-,088*	<,001	-0,12	-0,05	
	Estonia	,145*	<,001	0,11	0,18	
	Georgia	,144*	<,001	0,11	0,18	
	Kazakhstan	-,058*	0,002	-0,1	-0,02	
	Kyrgyzstan	,105*	<,001	0,07	0,14	
	Lithuania	-,210*	<,001	-0,25	-0,17	
	Russia	-,053*	<,001	-0,08	-0,02	
	Tajikistan	-,120*	<,001	-0,16	-0,08	
	Ukraine	-,036*	0,023	-0,07	-0,01	
Armenia	Azerbaijan	,178*	<,001	0,14	0,21	
	Belarus	,090*	<,001	0,05	0,13	
	Estonia	,323*	<,001	0,28	0,36	
	Georgia	,322*	<,001	0,29	0,36	
	Kazakhstan	,120*	<,001	0,08	0,16	
	Kyrgyzstan	,283*	<,001	0,25	0,32	
	Lithuania	-0,032	0,09	-0,07	0,01	
	Russia	,125*	<,001	0,09	0,16	
	Tajikistan	,058*	0,003	0,02	0,1	
	Ukraine	,142*	<,001	0,11	0,17	
Belarus	Azerbaijan	,088*	<,001	0,05	0,12	
	Armenia	-,090*	<,001	-0,13	-0,05	
	Estonia	,233*	<,001	0,19	0,27	
	Georgia	,232*	<,001	0,2	0,27	
	Kazakhstan	0,03	0,135	-0,01	0,07	
	Kyrgyzstan	,193*	<,001	0,15	0,23	
	Lithuania	-,122*	<,001	-0,16	-0,08	
	Russia	,035*	0,027	0	0,07	
	Tajikistan	-0,032	0,097	-0,07	0,01	
	Ukraine	,052*	0,002	0,02	0,08	
Estonia	Azerbaijan	-,145*	<,001	-0,18	-0,11	
	Armenia	-,323*	<,001	-0,36	-0,28	
	Belarus	-,233*	<,001	-0,27	-0,19	
	Georgia	-0,001	0,966	-0,04	0,03	
	Kazakhstan	-,203*	<,001	-0,24	-0,16	
	Kyrgyzstan	-0,04	0,053	-0,08	0	
	Lithuania	-,355*	<,001	-0,39	-0,32	
	Russia	-,198*	<,001	-0,23	-0,16	
	Tajikistan	-,266*	<,001	-0,31	-0,23	
	Ukraine	-,181*	<,001	-0,22	-0,15	



Georgia	Azerbaijan	-,144*	<,001	-0,18	-0,11
	Armenia	-,322*	<,001	-0,36	-0,29
	Belarus	-,232*	<,001	-0,27	-0,2
	Estonia	0,001	0,966	-0,03	0,04
	Kazakhstan	-,203*	<,001	-0,24	-0,17
	Kyrgyzstan	-,039*	0,03	-0,07	0
	Lithuania	-,354*	<,001	-0,39	-0,32
	Russia	-,197*	<,001	-0,22	-0,17
	Tajikistan	-,265*	<,001	-0,3	-0,23
	Ukraine	-,180*	<,001	-0,21	-0,15
Kazakhstan	Azerbaijan	,058*	0,002	0,02	0,1
	Armenia	-,120*	<,001	-0,16	-0,08
	Belarus	-0,03	0,135	-0,07	0,01
	Estonia	,203*	<,001	0,16	0,24
	Georgia	,203*	<,001	0,17	0,24
	Kyrgyzstan	,163*	<,001	0,12	0,2
	Lithuania	-,152*	<,001	-0,19	-0,11
	Russia	0,006	0,738	-0,03	0,04
	Tajikistan	-,062*	0,002	-0,1	-0,02
	Ukraine	0,022	0,205	-0,01	0,06
Kyrgyzstan	Azerbaijan	-,105*	<,001	-0,14	-0,07
	Armenia	-,283*	<,001	-0,32	-0,25
	Belarus	-,193*	<,001	-0,23	-0,15
	Estonia	0,04	0,053	0	0,08
	Georgia	,039*	0,03	0	0,07
	Kazakhstan	-,163*	<,001	-0,2	-0,12
	Lithuania	-,315*	<,001	-0,35	-0,28
	Russia	-,158*	<,001	-0,19	-0,12
	Tajikistan	-,226*	<,001	-0,27	-0,19
	Ukraine	-,141*	<,001	-0,18	-0,11
Lithuania	Azerbaijan	,210*	<,001	0,17	0,25
	Armenia	0,032	0,09	-0,01	0,07
	Belarus	,122*	<,001	0,08	0,16
	Estonia	,355*	<,001	0,32	0,39
	Georgia	,354*	<,001	0,32	0,39
	Kazakhstan	,152*	<,001	0,11	0,19
	Kyrgyzstan	,315*	<,001	0,28	0,35
	Russia	,157*	<,001	0,13	0,19
	Tajikistan	,090*	<,001	0,05	0,13
	Ukraine	,174*	<,001	0,14	0,21
Russia	Azerbaijan	,053*	<,001	0,02	0,08
	Armenia	-,125*	<,001	-0,16	-0,09
	Belarus	-,035*	0,027	-0,07	0
	Estonia	,198*	<,001	0,16	0,23
	Georgia	,197*	<,001	0,17	0,22
	Kazakhstan	-0,006	0,738	-0,04	0,03
	Kyrgyzstan	,158*	<,001	0,12	0,19
	Lithuania	-,157*	<,001	-0,19	-0,13
	Tajikistan	-,068*	<,001	-0,1	-0,04
	Ukraine	0,017	0,207	-0,01	0,04
Tajikistan	Azerbaijan	,120*	<,001	0,08	0,16
	Armenia	-,058*	0,003	-0,1	-0,02

	Belarus	0,032	0,097	-0,01	0,07
	Estonia	,266*	<,001	0,23	0,31
	Georgia	,265*	<,001	0,23	0,3
	Kazakhstan	,062*	0,002	0,02	0,1
	Kyrgyzstan	,226*	<,001	0,19	0,27
	Lithuania	-,090*	<,001	-0,13	-0,05
	Russia	,068*	<,001	0,04	0,1
	Ukraine	,085*	<,001	0,05	0,12
Ukraine	Azerbaijan	,036*	0,023	0,01	0,07
	Armenia	-,142*	<,001	-0,17	-0,11
	Belarus	-,052*	0,002	-0,08	-0,02
	Estonia	,181*	<,001	0,15	0,22
	Georgia	,180*	<,001	0,15	0,21
	Kazakhstan	-0,022	0,205	-0,06	0,01
	Kyrgyzstan	,141*	<,001	0,11	0,18
	Lithuania	-,174*	<,001	-0,21	-0,14
	Russia	-0,017	0,207	-0,04	0,01
	Tajikistan	-,085*	<,001	-0,12	-0,05

\* The mean difference is significant at the 0.05 level.

A5. Chi-Square Tests of independence between indicators 1 (Aims of country: first choice - A high level of economic growth) and Indicator 2 (Protecting environment vs. Economic growth)

Country (ISO 3166-1 Numeric code)		Value	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Azerbaijan	Pearson Chi-Square	5,118c	0,024	
	Continuity Correctionb	4,88	0,027	
	Likelihood Ratio	5,107	0,024	
	Fisher's Exact Test			0,025
	Linear-by-Linear Association	5,115	0,024	
	N of Valid Cases	1547		
Armenia	Pearson Chi-Square	10,781d	0,001	
	Continuity Correctionb	10,426	0,001	
	Likelihood Ratio	10,791	0,001	
	Fisher's Exact Test			0,001
	Linear-by-Linear Association	10,773	0,001	
	N of Valid Cases	1416		
Belarus	Pearson Chi-Square	,585e	0,444	
	Continuity Correctionb	0,497	0,481	
	Likelihood Ratio	0,585	0,444	
	Fisher's Exact Test			0,473
	Linear-by-Linear Association	0,584	0,445	
	N of Valid Cases	1310		
Estonia	Pearson Chi-Square	3,417f	0,065	
	Continuity Correctionb	3,172	0,075	
	Likelihood Ratio	3,402	0,065	
	Fisher's Exact Test			0,068
	Linear-by-Linear Association	3,414	0,065	
	N of Valid Cases	1089		
Georgia	Pearson Chi-Square	12,255g	<,001	
	Continuity Correctionb	11,901	<,001	
	Likelihood Ratio	12,113	<,001	
	Fisher's Exact Test			<,001
	Linear-by-Linear Association	12,249	<,001	
	N of Valid Cases	2035		
Kazakhstan	Pearson Chi-Square	10,975h	<,001	
	Continuity Correctionb	10,576	0,001	
	Likelihood Ratio	10,993	<,001	
	Fisher's Exact Test			0,001
	Linear-by-Linear Association	10,965	<,001	
	N of Valid Cases	1088		
Kyrgyzstan	Pearson Chi-Square	4,338i	0,037	
	Continuity Correctionb	4,073	0,044	
	Likelihood Ratio	4,33	0,037	
	Fisher's Exact Test			0,039
	Linear-by-Linear Association	4,334	0,037	
	N of Valid Cases	1094		
Lithuania	Pearson Chi-Square	,567j	0,451	
	Continuity Correctionb	0,475	0,491	
	Likelihood Ratio	0,566	0,452	
	Fisher's Exact Test			0,482

	Linear-by-Linear Association	0,567	0,451
	N of Valid Cases	1230	
Russia	Pearson Chi-Square	3,076k	0,079
	Continuity Correctionb	2,949	0,086
	Likelihood Ratio	3,077	0,079
	Fisher's Exact Test		0,086
	Linear-by-Linear Association	3,075	0,079
	N of Valid Cases	2998	
Tajikistan	Pearson Chi-Square	1,410l	0,235
	Continuity Correctionb	1,274	0,259
	Likelihood Ratio	1,41	0,235
	Fisher's Exact Test		0,241
	Linear-by-Linear Association	1,409	0,235
	N of Valid Cases	1176	
Ukraine	Pearson Chi-Square	11,182m	<,001
	Continuity Correctionb	10,905	<,001
	Likelihood Ratio	11,206	<,001
	Fisher's Exact Test		<,001
	Linear-by-Linear Association	11,178	<,001
	N of Valid Cases	2423	
Total	Pearson Chi-Square	1,244a	0,265
	Continuity Correctionb	1,21	0,271
	Likelihood Ratio	1,244	0,265
	Fisher's Exact Test		0,269
	Linear-by-Linear Association	1,244	0,265
	N of Valid Cases	17406	

a 0 cells (0,0%) have expected count less than 5. The minimum expected count is 3437,71.

b Computed only for a 2x2 table

c 0 cells (0,0%) have expected count less than 5. The minimum expected count is 244,77.

d 0 cells (0,0%) have expected count less than 5. The minimum expected count is 267,91.

e 0 cells (0,0%) have expected count less than 5. The minimum expected count is 193,39.

f 0 cells (0,0%) have expected count less than 5. The minimum expected count is 133,32.

g 0 cells (0,0%) have expected count less than 5. The minimum expected count is 211,65.

h 0 cells (0,0%) have expected count less than 5. The minimum expected count is 248,76.

i 0 cells (0,0%) have expected count less than 5. The minimum expected count is 162,89.

j 0 cells (0,0%) have expected count less than 5. The minimum expected count is 139,11.

k 0 cells (0,0%) have expected count less than 5. The minimum expected count is 711,01.

l 0 cells (0,0%) have expected count less than 5. The minimum expected count is 258,88.

m 0 cells (0,0%) have expected count less than 5. The minimum expected count is 447,12.

Table A6. Correlations and symmetric measures

Country (ISO 3166- 1 Numeric code)			Value	Asymptotic Standard Errora	Approximate Tb	Approximate Significance
Azerbaijan	Interval by Interval	Pearson's R	-0,058	0,025	-2,265	,024c
	Ordinal by Ordinal	Spearman Correlation	-0,058	0,025	-2,265	,024c
	N of Valid Cases		1547			
Armenia	Interval by Interval	Pearson's R	0,087	0,026	3,294	,001c
	Ordinal by Ordinal	Spearman Correlation	0,087	0,026	3,294	,001c
	N of Valid Cases		1416			
Belarus	Interval by Interval	Pearson's R	-0,021	0,028	-0,764	,445c
	Ordinal by Ordinal	Spearman Correlation	-0,021	0,028	-0,764	,445c
	N of Valid Cases		1310			
Estonia	Interval by Interval	Pearson's R	0,056	0,03	1,85	,065c
	Ordinal by Ordinal	Spearman Correlation	0,056	0,03	1,85	,065c
	N of Valid Cases		1089			
Georgia	Interval by Interval	Pearson's R	-0,078	0,023	-3,51	<,001c
	Ordinal by Ordinal	Spearman Correlation	-0,078	0,023	-3,51	<,001c
	N of Valid Cases		2035			
Kazakhstan	Interval by Interval	Pearson's R	-0,1	0,03	-3,327	<,001c
	Ordinal by Ordinal	Spearman Correlation	-0,1	0,03	-3,327	<,001c
	N of Valid Cases		1088			
Kyrgyzstan	Interval by Interval	Pearson's R	-0,063	0,03	-2,085	,037c
	Ordinal by Ordinal	Spearman Correlation	-0,063	0,03	-2,085	,037c
	N of Valid Cases		1094			
Lithuania	Interval by Interval	Pearson's R	0,021	0,029	0,753	,452c
	Ordinal by Ordinal	Spearman Correlation	0,021	0,029	0,753	,452c
	N of Valid Cases		1230			

Russia	Interval by					
	Interval	Pearson's R	-0,032	0,018	-1,754	,079c
	Ordinal by	Spearman				
	Ordinal	Correlation	-0,032	0,018	-1,754	,079c
	N of Valid					
	Cases		2998			
Tajikistan	Interval by					
	Interval	Pearson's R	-0,035	0,029	-1,187	,235c
	Ordinal by	Spearman				
	Ordinal	Correlation	-0,035	0,029	-1,187	,235c
	N of Valid					
	Cases		1176			
Ukraine	Interval by					
	Interval	Pearson's R	0,068	0,02	3,35	<,001c
	Ordinal by	Spearman				
	Ordinal	Correlation	0,068	0,02	3,35	<,001c
	N of Valid					
	Cases		2423			
Total	Interval by					
	Interval	Pearson's R	-0,008	0,008	-1,115	,265c
	Ordinal by	Spearman				
	Ordinal	Correlation	-0,008	0,008	-1,115	,265c
	N of Valid					
	Cases		17406			

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

c Based on normal approximation.