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“SAGE” AS A WELL-BEING INDICATOR: SOLIDARITY, AGENCY, GAINS AND ENVIRONMENT IN CEE COUNTRIES**

Abstract. The article considers the adequacy of GDP and its derivatives as well-being indicators, using the “SAGE” methodology that integrates “solidarity”, “agency” and “environment” into the economic metric. Applying this framework to Central and Eastern European countries, the research highlights significant variations in well-being indicators, pointing to the decoupling of economic well-being from social cohesion in certain countries in this region. While the Czech Republic experienced a reduction in solidarity, Slovenia consistently maintained high levels of solidarity and agency. The analysis suggests that incorporating broader dimensions into traditional metrics provides a more comprehensive view of the well-being of society.

Keywords: Well-being, Indicators, Solidarity, Agency, CEE.

INTRODUCTION

In the history of political and economic thoughts, well-being and happiness have often been considered foundational principles for evaluating the legitimacy of laws and policies. This concept is key to the theory of utilitarianism, introduced by Bentham and Mill in the late 18th and 19th centuries. Utilitarianism claims that the best political actions are those that maximise the overall happiness or well-being of the greatest number of people (Bentham 1789). While Bentham’s utilitarianism is quantitative, Mill adds a qualitative dimension (Mill 1863). Over time, the concepts of well-being evolved and underwent significant

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changes, eventually leading to the adoption of Gross Domestic Product (GDP) as a central measure of well-being in economics.

Research on modifying or supplementing GDP as an indicator of well-being¹ is heavily influenced by maximising collective happiness or utility. This perspective is evident in various GDP adjustments, for instance, in the Measure of Economic Welfare, Index of Sustainable Economic Welfare, Green GDP, or Genuine Savings. Some methods supplement GDP with environmental and social indicators, such as the System of Economic Environmental Accounts (SEEA) and Sustainable Development Indicators. Even the Human Development Index, which seeks to evaluate well-being independently of GDP, is based on this individualistic, preference-centred approach. Overviews of the adequacy of GDP and its proxies are included, for example, in Afsa et al. (2008), Bleys (2009), Boarini, Johansson, and Marco Mira d'Ercole (2006), Costanza et al. (2009), Diener and Suh (1997) and Goossens et al. (2007).

Similarly, psychological metrics of subjective well-being, including various happiness indexes, e.g., the Happy Life Years Index and the Personal Well-being Index, view well-being as an aggregation of individual elements without considering broader human objectives. There are exceptions in sociological social indicators, such as the Physical Quality-of-Life Index and the Index of Social Progress. Still, these do not integrate value-driven purposes into economic well-being indicators either (Diener 2006; Veenhoven 2004).

The Sustainable Development Goals (SDGs) set various economic, social and environmental targets for 2030. While they aim to enhance well-being, their direct connection to well-being is not explicitly defined. The SDG Index and Dashboards do not serve as straightforward well-being indicators because the SDGs mix policy goals and methods without a clear prioritisation of well-being or an understanding of their interrelationships. These perspectives are discussed in Guido Schmidt-Traub et al. (2017) and Sachs et al. (2016).

The OECD Better Life Index (BLI) allows users to assess countries based on personal preferences regarding various aspects of life. It suggests objective components of well-being that are subject to individual preferences, yet it is uncertain whether these preferences align with deeper values or mere tastes. In summary, none of these indicators deeply engages with human purposes driven by psychological motivations. Some progress has, however, been made in investigating trade-offs among the SDGs (e.g., Machingura 2017).

SAGE is an alternative well-being indicator developed by Lima de Miranda and Snower (2020), where “S” stands for solidarity, “A” for agency, “G” for gains and “E” for the environment. GDP per capita is a commonly used well-being

¹ Scientists generally had problems providing one unified definition of well-being Dodge et al. (2012). A decent review of definitions and classification was provided, for instance, by Voukelatou et al. (2021), who distinguish between objective and subjective well-being, the latter encompassing personal evaluations of the quality of their own lives. We argue that both types are crucial to capturing overall well-being.

indicator, here represented by G (“Gains”). In the last few decades, the environmental impact of economic development has been discussed frequently. Nowadays, it is often included in alternative well-being indicators to rectify the insufficiencies of GDP. These two categories are widely used and not developed further in the text below. Unlike Lima de Miranda and Snower (2020), we use real GDP per capita in PPP (constant 2017 prices) to represent “G” and CO₂ emissions per capita to represent “E” (see the Annex for further notes). The main novelty of Lima de Miranda and Snower (2020) is the “S” and “A” dimensions. They depart from the assumption that human well-being is also dependent on solidarity with other members of society and the capacity of humans to determine their faith within that society. These two categories are to be developed further in the following sections.

We use this contribution of Lima de Miranda and Snower (2020) and apply it to Central and Eastern European (CEE) countries. The CEE region is marked by a shared recent history characterised by the transition from centrally planned to market economies. However, we assume there are still differences in well-being among CEE countries, which we would like to capture using the SAGE methodology. We suppose richer CEE countries (e.g., Czechia or Slovenia) would also have higher solidarity and agency in their societies. Nevertheless, this might not prevent the countries from the decoupling phenomenon, which is defined further. The aim is to verify this assumption.

In our article, we first review existing well-being indicators. Next, we define the new indicators, aiming at rectifying the deficiencies of the established ones. The methodological section also indicates how we use these indicators to analyse CEE countries. We then observe how all indicators evolve over time. In this section, CEE countries are ranked by these categories. Next, we investigate correlations between particular indicators and observe their interdependence. We focus on the relationship of the “S” and “A” dimensions to GDP, inequality (represented by the GINI index), and to each other. The evolution of the societal dimensions across time are then displayed before we discuss possible causes of such development, highlighting differences between the Czech Republic and Slovenia. The last section concludes. To our knowledge, the SAGE methodology has not been applied in any academic work other than Lima de Miranda and Snower (2020) and Lima De Miranda and Snower (2022). Still, these two articles did not analyse the CEE region. We aim to fill this gap with our contribution.

INDICATORS OF WELL-BEING

Research on modifying or supplementing Gross Domestic Product (GDP) as an indicator of well-being is heavily influenced by maximising collective happiness or utility. GDP has long been the cornerstone of economic measurement, representing the total market value of all goods and services produced within a country over a specific period. It has traditionally been used as a proxy for national well-being, with higher GDP figures equating to higher living

standards. Yet, GDP has faced significant criticism for its inability to account for income distribution, environmental degradation, and the population's overall well-being. For instance, GDP increases with expenditures on pollution control and healthcare costs associated with accidents or diseases, yet these expenditures do not necessarily improve well-being (Costanza et al. 2009). The rise of platform capitalism, characterised by the expansion of digital platforms, has further exacerbated global inequalities, reinforcing the need to include broader social indicators such as solidarity and agency in well-being assessments (Kanjua Mrčela 2022).

Several alternative indicators have been developed to address the shortcomings of GDP. For instance, the Happy Life Years Index and the Personal Well-being Index (PWI) are widely recognised tools that aggregate individual responses to assess overall happiness and satisfaction with life (Diener and Suh 1997). The Index of Sustainable Economic Welfare (ISEW) and the Genuine Progress Indicator (GPI) attempt to adjust GDP by accounting for environmental costs and social factors. These indices subtract the environmental and social costs associated with economic activity to provide a more holistic view of economic well-being (Afsa et al. 2008).

The Human Development Index (HDI), developed by the United Nations Development Programme (UNDP), is another widely recognised alternative to GDP. HDI incorporates health (life expectancy), education (mean years of schooling), and income per capita, offering a broader perspective on human progress (Bleys 2009). While HDI represents a significant improvement over GDP by including non-economic factors, it nonetheless still relies on income as a central component. It does not fully capture the social dimensions of well-being.

The OECD Better Life Index (BLI) allows individuals to weigh the importance of various life aspects, such as housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety, and work-life balance. This user-driven approach highlights the subjective nature of well-being, acknowledging that different people prioritise different aspects of life. However, BLI still faces limitations in its application, particularly concerning its reliance on subjective preferences, which may not always align with broader societal goals (Goossens et al. 2007).

Nevertheless, subjective well-being measures are invaluable for providing insights into life quality's psychological and emotional aspects. They complement traditional economic indicators by offering a more holistic view of what constitutes a good life, allowing policymakers to address both material psychological and social well-being (Guido Schmidt-Traub et al. 2017).

The SAGE indicator developed by Lima de Miranda and Snower (2020) attempts to integrate the dimensions of economic and social well-being. SAGE includes traditional economic metrics (Gains) along with social cohesion (Solidarity), individual empowerment (Agency) and environmental sustainability (Environment). By incorporating these broader dimensions, SAGE offers a more

comprehensive view of well-being beyond economic well-being, including the quality of social relationships, individual autonomy, and environmental health. The novelty of SAGE lies in its inclusion of “Solidarity” and “Agency”, which reflect the social and individual empowerment factors less emphasised in traditional measures like GDP or the Human Development Index.

We apply this alternative well-being indicator to CEE countries to uncover variations in well-being indicators and stress significant discrepancies, such as the decoupling of economic well-being from social cohesion in some countries. The analysis suggests that incorporating broader dimensions into traditional metrics leads to a more comprehensive view of the well-being of a society.

The SAGE (Solidarity, Agency, Gains, Environment) indicator is selected for this article because it offers a wide-ranging approach to well-being that goes beyond traditional economic indicators like GDP, the Human Development Index (HDI) and the OECD Better Life Index (BLI). While these conventional indicators focus on economic well-being, health and education, they often miss critical social and environmental dimensions. GDP focuses on economic output but ignores social cohesion, individual empowerment, and environmental sustainability. HDI includes health and education yet neglects social and psychological factors like solidarity and agency. Finally, while BLI allows a personalised well-being assessment, it is limited by subjective preferences, which may not align with societal values or sustainability goals.

SAGE uniquely integrates social cohesion (Solidarity) and individual empowerment (Agency) with economic and environmental dimensions, making it particularly suitable for analysing well-being in CEE countries. This holistic approach addresses the ‘decoupling’ of economic growth from social and individual well-being, which is especially relevant in the socio-economic landscape of the CEE region.

METHODOLOGY AND DATA

For the reasons explained above, we proceed with the SAGE methodology and apply it to CEE countries. All four categories of the SAGE methodology are indispensable and not substitutable between each other. Economic well-being should significantly overlap with social well-being, represented by solidarity and agency. If it does not, this phenomenon is labelled “decoupling”. When the economy grows without social cohesion, several symptoms, such as rising populism, nationalism, or a backlash against globalisation, may appear (Lima de Miranda and Snower 2020). Given the increasing importance of the societal dimension of well-being, the solidarity and agency dimensions are elaborated in broader detail.

Solidarity has an inward and an outward aspect. Inward solidarity refers to one’s national or ethnic group, whereas outward solidarity considers the relationship with foreigners or immigrants. Both indexes comprise several aspects provided by different sources and are scaled from 0 to 1.

Table 1 shows the composition of the solidarity index. **Giving behaviour** is a simple average of three indicators describing giving behaviours: helping a stranger, donating money, and volunteering time (CAF 2022). The index measures countries by the proportion of population giving. **Trust in other people** is a measure based on the question, “Generally speaking, would you say that most people can be trusted or that you need to be careful in dealing with people?” from a survey conducted by WVS (2022). **Social support** refers to the percentage of people with friends or relatives they can count on in times of trouble (OECD 2020).

Table 1: COMPOSITION OF THE SOLIDARITY INDEX

Indicator	Meaning	Source
Giving behaviour	An indicator for showing social solidarity via three giving behaviours: helping a stranger, donating money, and volunteering time	Charities Aid Foundation (CAF 2022)
Trust in other people	A measure based on the question: Generally speaking, would you say that most people can be trusted or that you need to be careful in dealing with people?	World Values Survey (WVS 2022)
Social support	An indicator which reflects the sense that one is supported and can count on family and friends (percentage of people who report that they have friends or relatives whom they can count on in times of trouble)	OECD (OECD 2020)

Note: The first two components cover universalist aspects of solidarity (i.e., “inward” combined with “outward” solidarity), whereas the third component covers a particularist aspect (i.e., “inward” solidarity on its own).

Source: Lima de Miranda and Snower (2020).

The agency index, reflecting one’s ability to influence one’s life through one’s own decisions, is structured as described in Table 2. **Labour market insecurity** is measured as the expected earnings loss linked to unemployment. It refers to a percentage change with respect to previous earnings. The earnings loss is related to the risk of becoming unemployed, the expected duration of unemployment, and the degree of mitigation against these losses in the form of government transfers (OECD 2020). **Vulnerable employment** is defined as a ratio of contributing family workers and own-account workers on total employment, expressed in percent (WB 2022b). **Life expectancy** measures how long, on average, people could expect to live based on the current age-specific death rates, and is calculated as a weighted average of life expectancy for men and women (WB 2022a). **Years in education** refer to the mean of years of schooling completed by a country’s adult population, defined as 25 years old and older. Years of repeated grades are omitted (UIS 2022). Finally, **Confidence in empowering institutions** is the

percentage of respondents who answered yes to the following question: “In this country, do you have confidence in the national government?” (Gallup 2020).

Table 2: COMPOSITION OF THE AGENCY INDEX

Indicator	Meaning	Source
Labor market insecurity	An indicator for expected earnings losses in case of unemployment which includes the risk of becoming unemployed, the expected duration of unemployment, and the degree of mitigation against these losses provided by government transfers to the unemployed (effective insurance)	OECD (OECD 2020)
Vulnerable employment	Contributing family workers and own-account workers as a percentage of total employment	World Bank/International Labour Organization (WB 2022b)
Life expectancy	A proxy for life, health and working conditions that are a prerequisite for empowered life decisions	World Bank (WB 2022a)
Years in education	Mean years of schooling of the population aged 25 years and above	UNESCO (UIS 2022)
Confidence in empowering institutions	The degree to which people believe that their government serves their needs. The measure is based on the question: “In this country, do you have confidence in the national government?”.	Gallup World Poll (Gallup 2020)

Source: Lima de Miranda and Snower (2020).

Since missing values appear in the databases, several procedures must be conducted to complete them. Linear interpolation was used to find missing data within the time series. Incomplete data outside the time series were filled with the closest data points. Each source uses a specific scale, expressing a country's performance in both ascending and descending order. Therefore, all indicators were normalised to a scale from 0 to 1, where the score 1 means the best performance. Finally, the indicators were aggregated into the solidarity and agency indexes, all subcomponents having equal weights. This normalisation procedure enables the inclusion of more measurable aspects of solidarity and agency in society and their meaningful comparison simultaneously. Hence, we use the data transformed by Lima de Miranda and Snower (2020) in the following sections of our article.

As mentioned above, these novelty indicators are accompanied by established ones. We use GDP per capita in PPP as a proxy for economic well-being (WB 2022c). The environmental dimension is captured by CO₂ footprints per capita (WB 2022e) and transformed to negative values, i.e., the higher the indicator, the better the environmental performance, to maintain consistency with other dimensions. The four SAGE dimensions are also analysed in the light of

inequality, measured by the GINI index (WB 2022d). All of these characteristics applied to CEE countries are investigated in the sections below. First, descriptive analysis ranks CEE countries according to their performance in SAGE dimensions. Second, relationships between different dimensions are analysed, computing correlation coefficients and testing their statistical significance (see the Annex). Third, resulting observations for CEE countries and related anomalies are explained in the light of CEE countries' specifics.

RANKING OF CEE COUNTRIES IN SAGE DIMENSIONS

Our sample contains yearly observations from 2006 to 2019 for countries in the CEE region, as listed in Table 3.

Table 3: LEGEND FOR CEE COUNTRIES AND THEIR CODES USED IN THIS ARTICLE

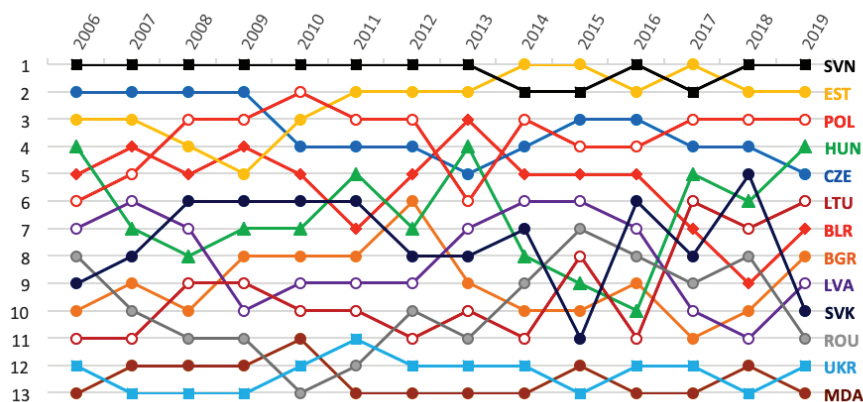
Country	Code	Country	Code	Country	Code
Belarus	BLR	Latvia	LVA	Romania	ROU
Bulgaria	BGR	Lithuania	LTU	Slovakia	SVK
Czech Republic	CZE	Moldova	MDA	Slovenia	SVN
Estonia	EST	Poland	POL	Ukraine	UKR
Hungary	HUN				

Source: Authors' analysis.

Examining the evolution of agency, solidarity, environment and GDP during the determined period provides valuable insights into the long-term positioning of selected countries within the entire sample. As depicted in Figure 1 and Figure 2, it is evident that the agency and solidarity indicators exhibit considerable variability, with countries experiencing frequent shifts in their rankings from year to year. In contrast, the indicators for environment and growth (Figure 3 and Figure 4) demonstrate a more consistent trajectory over time.

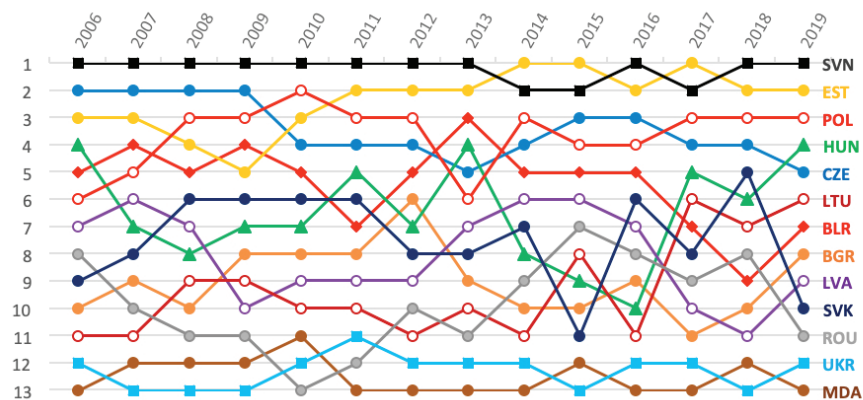
Determining countries that uniformly excel in all four categories proves to be a challenging task. While Slovenia, Estonia, Czechia and Poland are distinguished by their consistently low average rankings, placing them among the top 5 in the categories of agency, solidarity, and GDP per capita, their performance in the environmental category is markedly less commendable, positioning them unfavourably. This observation suggests a negative correlation where higher economic levels may be accompanied by increased emissions, indicating a potential trade-off (Grossman and Krueger 1995). However, the relationship between solidarity and agency remains an area for further investigation given that establishing a direct causal link between these factors is challenging. Slovenia's performance is noteworthy since it shows an exceptionally stable trend across all four indicators in the years under study.

Figure 1: AGENCY RANKING DEVELOPMENT



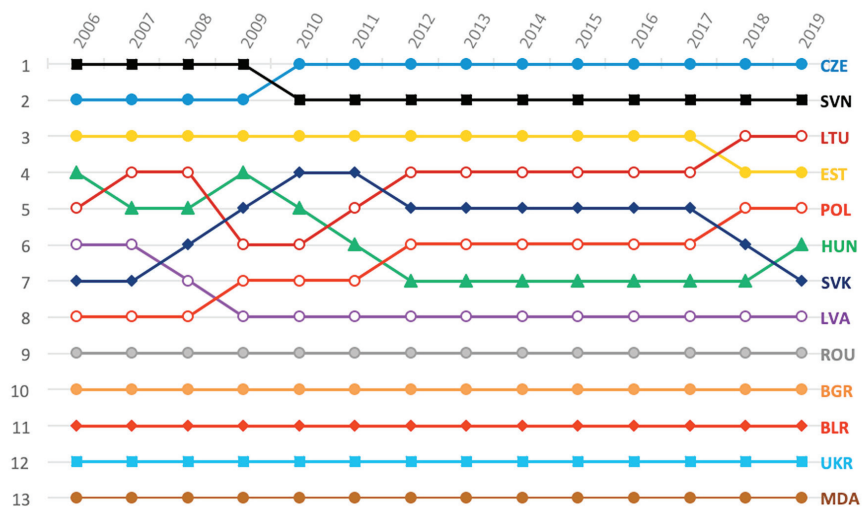
Source: Authors' calculations based on Gallup (2020), OECD (2020), UIS (2022), WB (2022a), WB (2022b) and Lima de Miranda and Snower (2020).

Figure 2: SOLIDARITY RANKING DEVELOPMENT



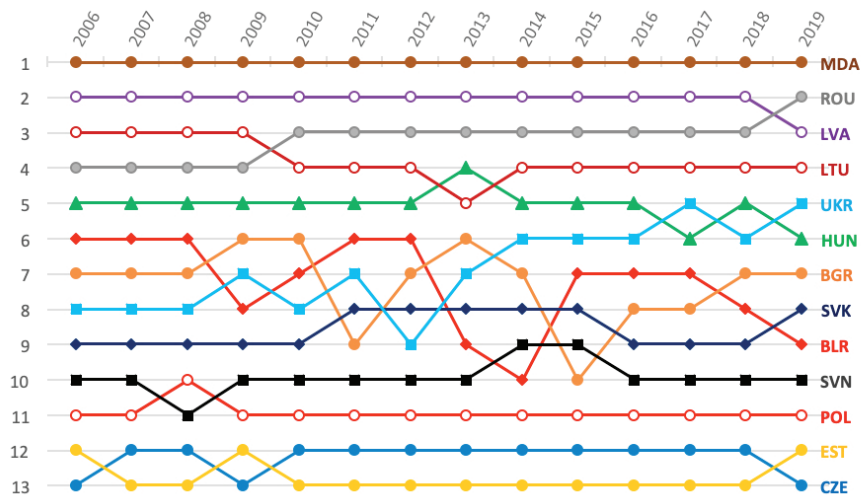
Source: Authors' calculations based on CAF (2022), OECD (2020), WVS (2022) and Lima de Miranda and Snower (2020).

Figure 3: GDP PER CAPITA RANKING DEVELOPMENT



Source: Authors' calculations based on WB (2022c).

Figure 4: ENVIRONMENT RANKING DEVELOPMENT



Source: Authors' calculations based on WB (2022e).

Accurately identifying countries with the lowest ratings is even more complex than detecting the top performers. Moldova, Ukraine and Romania rank bottom regarding agency, solidarity, and GDP per capita. Yet, these rankings are subject to significant fluctuations, especially in the agency and solidarity dimensions. Compared to Slovenia, Estonia, the Czech Republic, and Poland, Moldova and Romania exhibit consistently low CO₂ emissions per capita compared to other countries in the study. A notable exception is observed with Latvia and Lithuania. These countries maintain a low environmental impact while achieving favourable GDP per capita rankings. Lithuania, in particular, demonstrated a remarkable ascent to the third-highest position in the growth category in 2019 while maintaining the fourth-smallest carbon footprint per capita.

In the aftermath of the 2008–2009 financial crisis, modest adjustments were observed in the GDP per capita rankings. Subsequent analyses indicate that no other macroeconomic disturbances considerably affected these rankings. Specifically, when examining the impact of adopting the euro, the five nations in the study that joined the monetary union – Slovenia, Slovakia, Estonia, Latvia and Lithuania – retained their relative positions compared to their neighbouring countries.

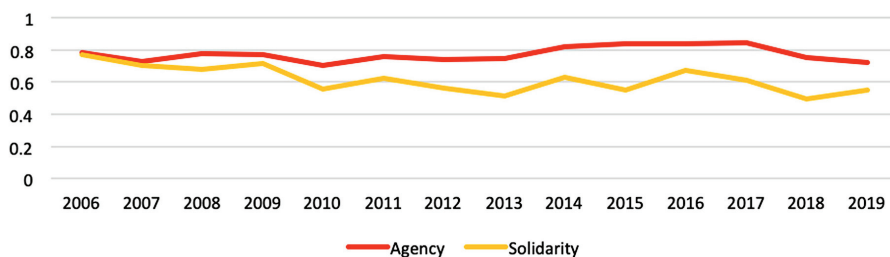
DECOUPLING

In Figures 5 and 6, we can observe correlation coefficients of GDP and Solidarity and Agency indexes, respectively². The decoupling hypothesis partially holds for CEE countries. Across the sample, solidarity dropped more significantly than agency. Countries marked by worse decoupling in both dimensions were the Czech Republic, Moldova, Belarus and Ukraine. The ongoing reduction of the welfare state and the shift towards market-driven policies, as observed in Slovenia and discussed by Dragoš (2016), have further undermined societal solidarity, highlighting the need for comprehensive well-being indicators that can capture the erosion of social cohesion in the face of such policy changes.

Ukraine is a country with a particularly low correlation between gains and agency. Regarding the solidarity index, Hungary, Czech Republic, and Ukraine are marked by negative values, i.e., solidarity is declining with economic development. In contrast, Bulgaria, Estonia, Lithuania, Slovakia, Romania and Slovenia are the least decoupled in both categories.

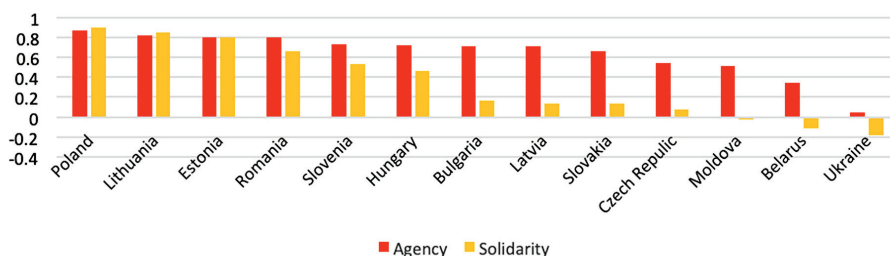
² Detailed results of the correlation analysis are shown in the Annex.

Figure 5: CORRELATION COEFFICIENTS OF SOLIDARITY AND AGENCY TO GDP PER CAPITA ACROSS YEARS



Source: Authors' calculations based on CAF (2022), Gallup (2020), OECD (2020), UIS (2022), WB (2022a), WB (2022b), WB (2022c), WB (2022d), WVS (2022) and Lima de Miranda and Snower (2020); see Annex for detailed results.

Figure 6: CORRELATION COEFFICIENTS OF SOLIDARITY AND AGENCY TO GDP PER CAPITA ACROSS COUNTRIES

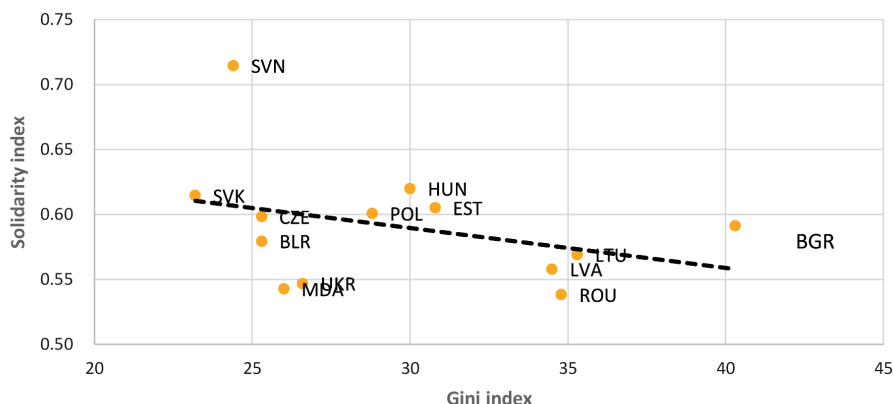


Source: Authors' calculations based on CAF (2022), Gallup (2020), OECD (2020), UIS (2022), WB (2022a), WB (2022b), WB (2022c), WB (2022d), WVS (2022), and Lima de Miranda and Snower (2020); see Annex for detailed results.

SOCIAL WELL-BEING AND INEQUALITY

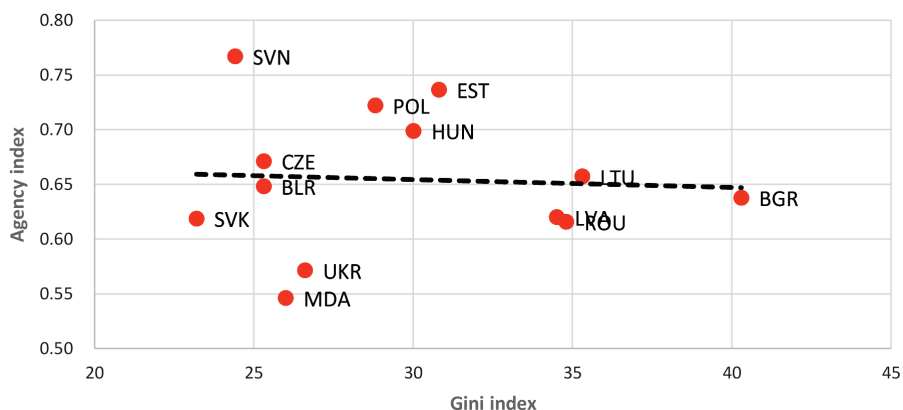
The preceding analysis makes it clear that nations exhibit considerable variation in terms of social well-being. The measures of social well-being, namely the solidarity and agency indicators, demonstrated a divergence from economic well-being, revealing that these indicators reflect distinct aspects of societal phenomena across different countries. Social challenges, notably those arising from disempowerment and a sense of alienation – the opposite of solidarity – are frequently linked to disparities in wealth and income. The graphical representations in Figures 7 and 8, which plot the agency and solidarity indexes against the Gini index for various countries in 2019, provide visual insights into these relationships.

Figure 7: SOLIDARITY INDEX AND GINI INDEX ACROSS COUNTRIES, 2019



Source: Authors' calculations based on CAF (2022), OECD (2020), WB (2022d), WVS (2022) and Lima de Miranda and Snower (2020); see Annex for detailed result.

Figure 8: AGENCY INDEX AND GINI INDEX ACROSS COUNTRIES, 2019



Source: Authors' calculations based on Gallup (2020), OECD (2020), UIS (2022), WB (2022a), WB (2022b), WB (2022d) and Lima de Miranda and Snower (2020); see Annex for detailed results.

Contrary to the findings of Lima de Miranda and Snower (2020), a correlation between the solidarity index and inequality is observed in CEE nations. The more unequal members of society are, the less solidarity they exhibit³. This suggests that some social issues may result from escalating inequality in these

³ The result that lower inequality correlates with higher well-being of the society seems intuitive. However, some authors showed that higher inequality can increase well-being, for instance, in developing countries (Kelley and Evans, 2017). These societies can see them as opportunities to improve their living standards, which relates to the agency dimension.

regions, underscoring that the interplay between social indices and economic factors can vary significantly based on regional socio-economic and developmental contexts.

However, the agency index presents a different scenario. It aligns with the conclusions drawn by Lima de Miranda and Snower (2020), showing no substantial correlation between the agency index and the Gini coefficient. This differential pattern indicates that while economic disparities within a society partly influence solidarity, the concept of agency appears to be more resilient to such economic factors.

REASONS BEHIND CHANGES IN SOLIDARITY

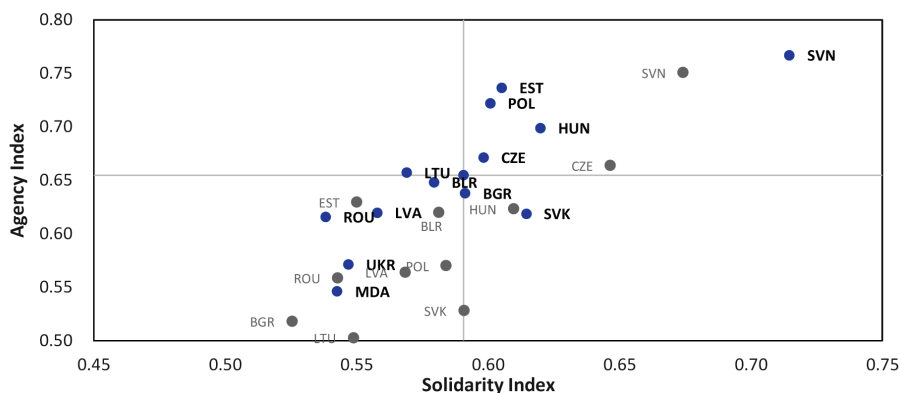
In this segment, we revisit the social well-being indicators, focusing on patterns and interdependencies by examining them concurrently. The correlation analysis detailed in the Annex reveals that the solidarity and agency indices are the most significant among all the relationships explored between various indicators. Countries can be broadly categorised into two groups based on the behaviour of their solidarity scores: those showing an increase in solidarity are indicative of a cohesive social fabric, while a decrease points to a fragmenting social environment. Similarly, for the agency dimension, countries are deemed empowering if their agency scores rise and disempowering if these scores decline.

Examining the data spanning from 2006 to 2019, we observe an average increase of 0.08 points in the agency score across our sample, with no country experiencing a decline over these 14 years. Regarding solidarity, the average increase is more modest, at 0.02 points. Yet, the Czech Republic stands out as an anomaly, exhibiting a notable fragmentation of society – a decline in solidarity (0.05 points), diverging from the trend observed in other nations.

Figure 9 visualises these changes and allows us to conclude that there has been an overall enhancement in regional social well-being during the analysed period, except for the Czech Republic, which exhibited a negative trend. This improvement in social well-being is potentially attributable to concurrent increases in economic well-being, suggesting a link between economic growth and social well-being.

Determining why the Czech Republic displays a notable fragmentation of society while other countries increase the solidarity metric is not straightforward. We can observe a very different development, especially by comparing the cases of the Czech Republic and Slovenia. Before investigating any country specifics, we identified three major variables that could have significantly impacted the development of the solidarity indicator during the observed period: economic factors, immigration and corruption. **Economic challenges** are one of the natural forces that shape society and therefore could have influenced solidarity development. Specific examples like the global financial crisis in the period 2008–2009 impacted the observed indicator. The crisis was, in any case, an international issue that affected the whole region.

Figure 9: SOLIDARITY TO AGENCY COMPARISON BETWEEN YEARS 2006 AND 2019



Source: Authors' calculations based on CAF (2022), Gallup (2020), OECD (2020), UIS (2022), WB (2022a), WB (2022b), WVS (2022) and Lima de Miranda and Snower (2020); see Annex for detailed results.

Corruption undermines social cohesion (Solidarity) and individual empowerment (Agency), key components of the SAGE well-being framework. High levels of corruption erode trust in institutions, leading to a breakdown in social cohesion as individuals lose faith in public systems (Rothstein and Uslaner 2005). This distrust also diminishes agency since people feel powerless to effect change (Helliwell and Huang 2008). The negative impact on well-being is particularly significant in CEE countries where corruption is often prevalent (Naxera 2015). **Migration** can both enhance and challenge social cohesion. In societies with strong institutional support for migrants, it can lead to greater solidarity and improved well-being (Van Oorschot 2008). However, where migration is met with resistance, it can exacerbate social divisions and weaken solidarity (Alesina and La Ferrara 2002). Migration also affects agency because migrants often face barriers to accessing resources, limiting their ability to make autonomous decisions (Dustmann and Frattini 2014).

In the Czech Republic, the evolution of social unity, empathy, and intergroup and intergenerational solidarity has developed alongside the nation's journey through democratisation, economic liberalisation, and growing focus on individualism. The discourse surrounding solidarity and social cohesion has yet to be prominent in post-communist societies, including the Czech Republic. Here, the governmental and political focus on solidarity has mostly revolved around pension, healthcare and taxation reforms. The economic downturn has made poverty and social marginalisation issues more visible. A striking manifestation of social exclusion is the loss of housing, a problem exacerbated by the Czech

Republic's lack of a comprehensive housing policy or a defined approach to social housing despite existing legislation on the matter (BTI 2016; BTI 2022).

In an article by Paskov and Dewilde (2012), the authors explored how economic inequality within a nation relates to the concept of solidarity among its people. They defined solidarity through two lenses: "affective solidarity", which is about caring and empathy for others, and "calculating solidarity", which is based on self-interest. Their theory suggests that as economic inequality grows, affective solidarity might decrease because people feel more socially distant from those not in their economic bracket. Conversely, calculating solidarity could increase because people might see a personal gain in supporting others. Yet, researchers generally argue that higher economic inequality erodes overall solidarity because it amplifies social divisions and weakens the perceived benefits of helping others. As the gap between the wealthy and the poor widens, people may become less likely to recognise the indirect advantages of social support systems that benefit all levels of society. Slovenia scores above the EU average in all examined categories in this article. The Czech Republic, on the other hand, is significantly below the EU average except for the category "helping sick and disabled".

Another crisis that impacted the whole European Union was the immigration crisis, which influenced the last years of the observed period (2015–2018). Numerous studies have examined the differences in countries' openness to immigrants, especially in Europe. Votoupalová (2019) concludes that while the EU and the member states stress solidarity as a key to resolving the refugee crisis, their conceptualisations vary greatly. Poland and the Czech Republic frame their arguments around national sovereignty and interests, suggesting that solidarity can coexist with national priorities. In contrast, the findings of Van Oorschot (2008) show that informal solidarity towards immigrants is generally lower in Europe, with Eastern European countries, notably the Czech Republic, being an exception where such solidarity is comparatively higher.

Koos and Seibel (2019) examined the varied reactions of European citizens to the 2015 refugee surge, revealing a spectrum that ranges from solidarity to fear and resistance. This research incorporates theories related to attitudes to out-groups, explicitly focusing on refugees as a distinct category within migrants. Based on data from 28 EU nations, the findings suggest a correlation between the inclination to support refugees and specific national characteristics: countries with more robust welfare systems and significant existing migrant populations tend to exhibit a greater willingness to help refugees. The study shows the complicated nature of solidarity, pointing out that factors like inter-group contact and the strength of social protection frameworks are influential. Despite these complexities, most Europeans (about 64%) support refugees. Still, this support varies markedly across countries, from a high of 93% in Sweden to just 23% in the Czech Republic, indicating a significant diversity in levels of solidarity within Europe. Compared to the Czech Republic, Slovenia's propensity to support refugees is more than two-fold (57%).

The third possible cause of the decreased solidarity in the Czech Republic could be corruption. Naxera (2015) investigates the evolving perceptions of corruption in post-communist countries, focusing on the Czech Republic. The mentioned study notes that while corruption was initially sidelined in official discourse and media, it gradually took centre stage, influenced by media coverage of high-profile scandals. This shift has led to a significant change in how corruption is discussed publicly. Recently, a growing sentiment among the Czech public has been that corruption, particularly within the political elite and parties, is increasing. This belief has supported new political groups that oppose the status quo and criticise the established political norms. Meanwhile, some traditional political parties have de-emphasised corruption in their agendas, which may affect their voter base and the public's perception of the democratic process. However, corruption does not appear to cause declining solidarity. While the Czech solidarity indicator score went down, the Slovenian score went up. Following the corruption report by Transparency International (2012), Slovenia reached a stable rank during the observed period, while the Czech Republic increased its ranking significantly. This data would suggest the Czech Republic had improved its solidarity score because of lower corruption, which is not confirmed by our analysis.

CONCLUSION

The existing body of literature on well-being indicators extending beyond GDP per capita is robust, yet lacks measures encompassing the psychological motivations beyond individual preferences. Lima de Miranda and Snower (2020) introduced the “SAGE” methodology to address this gap. This innovative approach is especially pertinent in contexts where economic well-being does not necessarily align with social well-being. This concept integrates the dimensions of “solidarity” and “agency” into the assessment of social well-being. Solidarity is quantified through metrics of social support, altruistic behaviour, and trust among individuals, considering both inward and outward perspectives. Conversely, the agency dimension is constructed from indicators reflecting an individual's capacity for self-determination, encompassing factors like labour market stability, life expectancy, educational tenure, and confidence in empowering institutions.

In our detailed analysis of these dimensions of social well-being within the CEE region, we examined their interplay with “gains”, “environment”, and national inequality levels. Of note, Slovenia, Estonia, Czechia and Poland were characterised by their relatively stronger rankings across all categories. In contrast, Moldova, Ukraine and Romania occupied lower standings regarding agency, solidarity, and GDP per capita. Despite general volatility in the rankings for “solidarity” and “agency” across most countries, Slovenia consistently maintained a leading position. The decoupling hypothesis partly holds in the CEE region context, with countries like the Czech Republic, Moldova, Belarus and

Ukraine exhibiting more pronounced disparities in both dimensions. A negative correlation between the solidarity index and inequality was observed, achieving statistical significance in the initial years of the period under study. While a general trend of increasing solidarity over time was evident for nearly all countries, the Czech Republic experienced a notable decline. We discussed three plausible causes of this phenomenon – economic prospects, immigration, and corruption – especially in the context of its Slovenian counterpart.

Had we considered solely traditional economic well-being measures, such as GDP per capita, we would be unable to capture other phenomena accompanying well-being in society. That is demonstrated by the case of the Czech Republic, showing a high level of economic development within CEE countries which, however, is accompanied by other societal issues like declining solidarity. The SAGE indicator permits such a comprehensive and detailed study. One may reasonably argue that this indicator also cannot capture all aspects of well-being in CEE societies. We agree with this statement since every index represents a certain simplification of reality. Missing data from various sources of the subindexes is another limitation of our study.

These insights into the performance of CEE countries on well-being indicators that include societal dimensions suggest a shift towards more refined measures of well-being. We expect this trend to continue in the future. Further exploration of the underlying causes of these observed phenomena within CEE nations entails a valuable direction for future research.

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Annex

The following table shows correlation coefficients and their statistical significance across all combinations of indicators used. Note that we transform the "E" dimension to negative values, i.e., the higher the indicator, the lower the CO₂ footprints per capita. With this transformation, it holds for all dimensions that the better-performing the country; the higher the indicator.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
GINI to GINI	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***
GINI to A	-0.54	-0.35	-0.41	-0.43	-0.40	-0.31	-0.19	-0.06	-0.02	0.08	-0.03	0.01	-0.16	-0.06
GINI to S	-0.68**	-0.61*	-0.69*	-0.55	-0.67*	-0.61*	-0.54	-0.52	-0.34	-0.40	-0.36	-0.28	-0.40	-0.35
GINI to E	0.45	0.44	0.48	0.47	0.30	0.20	0.19	0.07	0.00	0.07	0.12	0.16	0.16	0.21
GINI to G	-0.43	-0.37	-0.33	-0.25	-0.28	-0.16	0.00	0.12	0.18	0.12	0.11	0.05	0.06	0.06
A to GINI	-0.54	-0.35	-0.41	-0.43	-0.40	-0.31	-0.19	-0.06	-0.02	0.08	-0.03	0.01	-0.16	-0.06
A to A	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***
A to S	0.87***	0.81***	0.83***	0.91***	0.88***	0.82***	0.78**	0.72**	0.76**	0.60*	0.74**	0.67*	0.68**	0.80***
A to E	-0.58*	-0.46	-0.64*	-0.69*	-0.66*	-0.72**	-0.68*	-0.63*	-0.73**	-0.71**	-0.76**	-0.73**	-0.71**	-0.70**
A to G	0.78**	0.72**	0.77**	0.77**	0.69**	0.75**	0.72**	0.72**	0.77**	0.83***	0.81***	0.86***	0.79**	0.75**
S to GINI	-0.68**	-0.61*	-0.69*	-0.55	-0.67*	-0.61*	-0.54	-0.52	-0.34	-0.40	-0.36	-0.28	-0.40	-0.35
S to A	0.87***	0.81***	0.83***	0.91***	0.88***	0.82***	0.78**	0.72**	0.76**	0.60*	0.74**	0.67*	0.68**	0.80***
S to S	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***
S to E	-0.46	-0.33	-0.48	-0.52	-0.44	-0.37	-0.32	-0.27	-0.41	-0.41	-0.50	-0.43	-0.31	-0.48
S to G	0.78**	0.70**	0.68*	0.71**	0.54	0.62*	0.57*	0.53*	0.61*	0.58*	0.67*	0.69*	0.55	0.57*
E to GINI	0.45	0.44	0.48	0.47	0.30	0.20	0.19	0.07	0.00	0.07	0.12	0.16	0.16	0.21
E to A	-0.58*	-0.46	-0.64*	-0.69*	-0.66*	-0.72**	-0.68*	-0.63*	-0.73**	-0.71**	-0.76**	-0.73**	-0.71**	-0.70**
E to S	-0.46	-0.33	-0.48	-0.52	-0.44	-0.37	-0.32	-0.27	-0.41	-0.41	-0.50	-0.43	-0.31	-0.48
E to E	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***
E to G	-0.66*	-0.64*	-0.63*	-0.67*	-0.62*	-0.61*	-0.60*	-0.54	-0.53	-0.58*	-0.56*	-0.56*	-0.54	-0.58*
G to GINI	-0.43	-0.37	-0.33	-0.25	-0.28	-0.16	0.00	0.12	0.18	0.12	0.11	0.05	0.06	0.06
G to A	0.78**	0.72**	0.77**	0.77**	0.69**	0.75**	0.72**	0.72**	0.77**	0.83***	0.81***	0.86***	0.79**	0.75**
G to S	0.78**	0.70**	0.68*	0.71**	0.54	0.62*	0.57*	0.53*	0.61*	0.58*	0.67*	0.69*	0.55	0.57*
G to E	-0.66*	-0.64*	-0.63*	-0.67*	-0.62*	-0.61*	-0.60*	-0.54	-0.53	-0.58*	-0.56*	-0.56*	-0.54	-0.58*
G to G	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***	1***

Note: The notations *, **, and *** represent p-values smaller than 0.05, 0.01, and 0.001, respectively.

METODOLOGIJA “SAGE” – SOLIDARNOST, OPOLNOMOČENJE, PRIDOBITNOST IN OKOLJE V DRŽAVAH SREDNJE IN VZHODNE EVROPE

Povzetek. V članku preverja primernost BDP in njegovih izpeljank kot kazalnikov dobrobiti, pri čemer uporabiva metodologijo “SAGE”, ki v ekonomska merila vključuje tudi “solidarnost”, “svoboda odločanja” in “okolje”. Ta okvir aplicirava na države Srednje in Vzhodne Evrope in izpostavlja precejšnje razlike v kazalnikih blaginje, ki kažejo na razhajanje ekonomske blaginje in socialne povezanosti v določenih državah v tej regiji. Medtem ko se v Češki republiki solidarnost zmanjšuje, Slovenija dosledno ohranja visoko raven solidarnosti in svobode odločanja. Analiza kaže, da vključitev širših razsežnosti v tradicionalna merska orodja zagotavlja bolj celovit pogled na dobrobit posamezne družbe.

Ključni pojmi: blaginja, kazalniki, solidarnost, svoboda odločanja, CEE.