ECONOMIC WELFARE OF THE EUROPEAN UNION MEMBER STATES

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Abstract: The article focuses on a comparison of the European Union member states in terms of their economic welfare. To this end, a selected array of indicators was used to group the member states through cluster analysis. The primary research objective is to determine whether these countries enhance their economic welfare positions over time or there is a discernible trend of deterioration in this respect.

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Introduction

Welfare is an intrinsically multifaceted concept. Although it may be interpreted from various points of view, they all refer to opportunities to employ various means to affect welfare to achieve a common objective aimed at enhancing the well-being not only of the individual but also of specific economies, and perhaps, on a broader scale, the global economy as a whole.

The subject of this research is economic welfare. Its **object** are the common characteristics and disparities that exist among the European Union member states in terms of their levels of economic welfare. The **primary research objective** is to conduct a cluster analysis aimed at grouping the EU member states into distinct clusters, categorized according to the level of their economic prosperity in terms of selected indicators.

Economic nature of welfare

Overall, welfare is inherently multidimensional as it encompasses various aspects. Consequently, the economic nature of welfare is but one of the

many aspects in which it can be defined and studied. In addition to this aspect, Stoyanov (2007) points out three additional aspects - natural, socio-political, and spiritual-cultural. Scientific literature presents a plethora of viewpoints which clarify the conceptual content of the term economic welfare. Its OECD (2013) definition relates it to the material conditions of living, which afford individuals the opportunity to consume various types of goods and services. Focusing on the economic theory of well-being, Yotova (2008) defines the concept in terms of the social production function, which ensures the fulfilment of both current and emerging human needs. Quiros-Romero & Reinsdorf (2020) draw a clear distinction between welfare and economic welfare, the latter being specifically related to current consumption and the resources it requires, including wealth, income, and time.

Comparing countries in terms of their level of economic welfare is a complex task, as it requires a reasoned selection of indicators for which statistical data is available and which should encompass to a large extent various aspects of societal life at both micro and macro levels. When the primary goal is to build economies of well-being, Llena-Nozal et al. (2019) assert that this can be achieved through four principal channels: education, healthcare, social protection, and gender equality. Similar mechanisms are highlighted by Lee & Goh (2023), who emphasize that the promotion of happiness is a prerequisite for enhancing economic well-being, indicating that governmental policies must be explicitly aligned with the specific needs of the citizens and the challenges the state faces. Dang (2024), in exploring the relationship between well-being and economic growth, also underscores the importance of focusing economic policies not merely on growth itself, but rather on the specific factors affecting it.

Globalization and the rapid advancement of technology underscore the necessity of accounting for new determinants in the exploration of economic welfare. This is supported by Nouria (2024), who emphasizes the pivotal role of digital transformation, concluding within the context of Algeria's economy that the advancement of technology significantly contributes to enhancing economic welfare, which is inextricably linked to a focus on the education sector. Faris & Nilasari (2024) assert that investment in education serves as the means through which nations can improve their economic welfare as it is a prerequisite for increasing labour productivity, achieving sustainable long-term economic growth, generating employment opportunities, and reducing inequality in income and wealth distribution.

Indicators for measuring economic welfare and research methodology

The study is based on a clustering procedure (K-Means Cluster Analysis) with a predetermined number of clusters. Three clusters were defined,

each distinguished by varying levels of economic welfare: exceptional (Cluster One), very good (Cluster Two), and good (Cluster Three). The countries classified in the first group are defined as *thriving*. The second cluster comprises economies that can be characterized as *developing* and the economies in the third group are referred to as *catching-up*.

This analysis is based on a set of eight indicators to measure economic welfare using mostly information from the statistical database of Eurostat. Considering the selection of indicators to be included in the analysis, it is important to clarify that other indicators may be appropriate to include as well. One potential example in this regard is the adjusted gross disposable income of households per capita. However, the unavailability of data for all countries and years at the time the research was conducted hinders the inclusion of other indicators.

The selected indicators are directly related to the economic nature of well-being, while the ecological, social, and subjective aspects of the investigated issue remain outside the scope of the analysis. In this context, the analysis of economic welfare is usually based on indicators pertaining to income, consumption, household wealth, and inequality in income distribution (OECD, 2020). Additionally, Osberg & Sharpe (2010) introduced the concept of economic protection, which encompasses the risks of job loss and unemployment. Consequently, the indicators employed in this analysis primarily relate to household wealth and are complemented by other factors that directly affect the prosperity and development opportunities of economic entities, such as long-term unemployment, education, and level of digitalization. Undoubtedly, households' internet access is a prerequisite for the rapid access, on one hand, to a variety of electronic services and information, and on the other, it facilitates remote work and education, provided that employers and educators offer such options.

Contemporary scientific research publications usually emphasize the limitations of GDP as a measure of economic welfare. However, its role should not be underestimated as the information it provides should be complemented by a comprehensive set of other social and economic indicators. In this context, OECD (2023) highlights that when it comes to measuring economic welfare, it is advisable to utilize indicators that are directly related to household behaviour.

Taking into account the aforementioned considerations, the following indicators were selected for the purposes of this cluster analysis:

- ✓ Gini index (GI);
- ✓ Long-term unemployment rate, in %, (UNL);
- ✓ GDP per capita in terms of purchasing power parity (GDP);
- ✓ Percentage of population at risk of poverty or social exclusion, (PPS);

✓ Percentage of people unable to face unexpected financial expenses, (IUE);

✓ Percentage of people unable to afford a one-week annual holiday away from home, (IHH);

✓ Percentage of people unable to afford Internet for personal use at home, (PIH);

✓ Percentage of people with higher education, (TED).

The analysis covers the statistics reported in three years - 2015, 2020, and 2023. This choice was motivated by the intention to trace over time whether significant differences arise among the countries regarding their levels of economic welfare prior to, during, and after the COVID-19 crisis.

Clusterization of the EU member states according to the level of their economic welfare

Prior to proceeding with the analysis, the researchers considered the statistical significance of the variables included in it. As shown in Table 1, the variables are statistically significant at a 5% risk of error. Notably, only in 2020 do the variables "long-term unemployment rate" and "percentage of people unable to afford Internet for personal use at home" are statistically significant at a 10% risk of error.

Table 1

Statistical significance of the variables

Variable	Sig.		
	2015	**2020**	**2023**
GI	0,039	0,046	0,053
UNL	0,037	0,081	0,014
GDP	0,000	0,000	0,000
PPS	0,032	0,011	0,007
IUE	0,001	0,000	0,000
IHH	0,000	0,000	0,000
PIH	0,037	0,086	0,044
TED	0,009	0,023	0,018

Source: SPSS calculations using Eurostat data and cluster analysis application.

The most important variable in terms of cluster formation in the three periods is "GDP per capita in terms of purchasing power parity." Conversely, the variable "long-term unemployment rate" has the least impact.

Tables 2 and 3 systematically present the results of the grouping of countries, allowing for an understanding of each nation's affiliation with the pre-

defined clusters over the individual years, as well as the distance of each country from the cluster centre. **Cluster One** comprises the so-called *thriving* nations, which are Ireland and Luxembourg. These countries were placed in this group in both 2020 and 2023, while in 2015, only Luxembourg remained in the first cluster.

Cluster Two comprises the so-called *developing* economies. Notably, the composition of this cluster remains unchanged in both 2020 and 2023, including Belgium, Finland, France, Sweden, Austria, the Netherlands, Germany, Denmark, Malta, the Czech Republic, and Slovenia. This was not the case in 2015, when Malta, the Czech Republic, and Slovenia were not included in the second cluster. Thus, it can be concluded that these three countries have made significant progress in terms of their economic welfare in 2020 and 2023 compared to 2015. A comparison of the average intra-cluster distances across the three analysed years indicates a marked convergence among the countries within the second cluster, as evidenced by a reduction in the average intra-cluster distance by approximately 2.5 percentage points from 2015 to 2023.

Table 2

Average intra-cluster distances and clustering of the EU member states in 2015

Year	Average intra-cluster distance		
	Cluster One	**Cluster Two**	**Cluster Three**
2015	Luxembourg (0.000)	Denmark (5.396) Netherlands (7.994) Austria (8.380) Germany (10.013) Belgium (10.975) Sweden (14.924) Finland (20.216) France (22.825) Ireland (61.031)	Portugal (8.857) Poland (11.124) Lithuania (13.301) Greece (16.129) Slovakia (17.795) Latvia (19.363) Spain (20.579) Cyprus (21.007) Estonia (21.539) Italy (24.115) Slovenia (24.777) Croatia (27.759) Hungary (27.811) Czech Republic (28.635) Malta (35.345) Bulgaria (36.661) Romania (39.033)

Source: SPSS calculations using Eurostat data and cluster analysis application.

Cluster Three, consisting of the so-called *catching-up* countries, is the most populous one. These countries are characterized by relatively weaker performance of the studied indicators compared to the countries in the first and second clusters. Nevertheless, it is important to note that, based on certain metrics, some of the included countries may outperform those in the top two clusters; however, their overall performance across all indicators places them in the third group. In both 2020 and 2023, Cluster Three remains unchanged and comprises fourteen countries, including Hungary, Portugal, Spain, Latvia, Lithuania, Poland, Slovakia, Croatia, Estonia, Cyprus, Italy, Greece, Bulgaria, and Romania. Compared to 2020 and 2023, in 2015 it comprised as many as seventeen countries.

Table 3

Average intra-cluster distances and clustering of the EU member states in 2020 and 2023

Year	Average intra-cluster distance		
	Cluster One	**Cluster One**	**Cluster One**
2020	Ireland (27.959) Luxembourg (27.959)	Belgium (8.322) Finland (9.179) France (12.464) Sweden (13.490) Austria (13.928) Netherlands (18.051) Germany (18.769) Denmark (20.128) Malta (23.211) Czech Republic (24.575) Slovenia (25.864)	Hungary (8.059) Portugal (9.224) Spain (12.286) Latvia (14.421) Lithuania (16.872) Poland (18.001) Slovakia (19.765) Croatia (20.381) Estonia (20.944) Cyprus (21.625) Italy (21.870) Greece (25.240) Bulgaria (26.362) Romania (30.488)
2023	Ireland (16.403) Luxembourg (16.403)	Finland (7.893) Belgium (9.723) Sweden (11.653) Austria (11.891) France (14.426) Germany (14.784) Malta (16.064) Denmark (16.314) Netherlands (21.495) Slovenia (21.529) Czech Republic (23.909)	Portugal (8.812) Croatia (8.818) Hungary (10.798) Spain (12.152) Lithuania (14.260) Latvia (14.365) Slovakia (15.610) Greece (16.634) Estonia (16.932) Poland (17.185) Italy (22.554) Bulgaria (22.673) Cyprus (23.042) Romania (29.755)

Source: SPSS calculations using Eurostat data and cluster analysis application.

It is essential to note that, unlike in 2015, in both 2020 and 2023, Slovenia, the Czech Republic, and Malta were not in the third cluster, as they have consistently maintained their positions in the second group while improving their levels of economic welfare. In her study on the redistributive policies within the EU, Tsoklinova (2022) concludes that it is precisely this consistency and fiscal discipline that positively impacts the welfare of countries such as the Czech Republic and Malta. Like the second cluster, the third cluster also shows certain convergence processes among its member; however, this trend is significantly more pronounced in the third group, as evidenced by a reduction in the average intra-cluster distance of nearly 6.5 percentage points from 2015 to 2023.

Table 4 summarizes the calculated final intra-cluster centres for each indicator in the three studied years. As previously indicated, the dominant factor for the differentiation of countries and their subsequent grouping is the value of the indicator "GDP per capita in terms of purchasing power parity." In this context, it is noteworthy that the countries in the first cluster have exceptionally high values of this indicator in comparison to the countries in the second and third clusters. In 2015, its value exceeded nearly three times the average level for the EU-27, which applies only to single country within this cluster—Luxembourg. Although a decline is observed in 2020 and 2023 compared to 2015, the "GDP per capita in terms of purchasing power parity" for the thriving countries still exceeds the average EU-27 level by slightly more than two times.

A characteristic feature of the developing countries cluster is that they maintain values of "GDP per capita in terms of purchasing power parity" that are close to or even slightly exceed the EU-27 average in sharp contrast to the catching-up countries where this indicator remains below the EU-27 average. Certain countries, such as Bulgaria, Croatia, Greece, and Romania, lag significantly behind the EU-27 average, a conclusion that is especially valid for the year 2015. Nonetheless, it is impressive that the catching-up countries, unlike their thriving counterparts (with the exception of Luxembourg) and all developing countries, report a considerably faster progress is observed, characterized by a gradual increase in the aforementioned indicator in 2023 compared to 2015. For instance, while in 2015 the value of "GDP per capita in terms of purchasing power parity" in Bulgaria was nearly half of the EU-27 average, by 2023, this figure had risen to approximately two-thirds of the average. Similar conclusions regarding advancements can be drawn for other countries in the third cluster, including Romania, Croatia, Cyprus, Lithuania, Latvia, Estonia, Hungary, Portugal, and Poland.

Table 4

Final cluster centres

Indicator	Cluster		
	One	**Two**	**Three**
2015			
GI	28.5	27.6	31.87
UNL	1.9	2.77	6.18
GDP	282	129.11	75.82
PPS	18.4	19.16	26.89
IUE	23	28.81	47.1
IHH	13.1	20.58	47.6
PIH	1.2	2.28	7.28
TED	35.2	31.59	24.28
2020			
GI	29.4	27.18	31.06
UNL	1.55	1.34	3.08
GDP	233	113.73	76.29
PPS	19.5	17.05	23.51
IUE	27.95	23.77	38.49
IHH	19.8	17.89	38.5
PIH	1.55	1.27	4.61
TED	41.85	32.87	28.25
2023			
GI	29	27.55	31.08
UNL	1.4	1.21	2.64
GDP	225	111.18	79.79
PPS	20.3	17.40	23.04
IUE	29.2	23.06	36.79
IHH	17.15	18.95	37.29
PIH	0.9	1.12	2.74
TED	46.15	34.08	30.19

Source: SPSS calculations using Eurostat data and cluster analysis application.

Remarkably, the thriving nations comprising the first cluster maintain some of the highest values, not only in terms of "GDP per capita in terms of purchasing power parity," but also in terms of the "percentage of people with higher education" indicator. A distinctive characteristic of Ireland and Luxembourg is the steady trend whereby the proportion of individuals with higher education among those aged between 15 and 64 years is slightly below

50% of the population. The developing countries rank immediately after the thriving ones in this aspect. Within the second cluster, Sweden, the Netherlands, France, and Belgium have the best performance, as the percentage of individuals with higher education is gradually getting closer to 40%, and in some of these countries, such as Sweden, this level is even higher. Among the catching-up countries, Cyprus, Spain, Lithuania, Latvia, and Estonia stand out for their commendable positions. It should be noted that in terms of regarding this indicator the performance of Cyprus is similar to that of the thriving countries, as, in 2023, the proportion of individuals with higher education reaches 46%. Compared to 2015, this figure reflects an increase of 9.6 percentage points in 2023. Of all the countries, Malta demonstrates the most substantial progress in 2023 relative to 2015, with the proportion of individuals with higher education rising by approximately 11 percentage points. The same trend was observed for this country in 2020, when the increase compared to 2015 was 8.3 percentage points. The significantly improved performance in the sector of education further contributes to the Malta's economic prosperity, placing it in the group of advancing countries in 2020 and 2023 while in 2015 this country was among the catching-up countries. A similar conclusion can be made for Slovenia and the Czech Republic, where the proportion of individuals with higher education increased, albeit at substantially lower rates compared to Malta, yet still contributing to the reclassification of these countries into the ranks of advancing nations in 2020 and 2023.

The degree of inequality in income distribution measured by the Gini coefficient, is lowest in the group of developing countries all the three analysed years, particularly in the Czech Republic, Belgium, Slovenia, and Finland (below 27). According to Nenkova (2021), the lower level of income inequality in countries such as Belgium and Finland is significantly influenced by their social and tax systems. Among the developing countries, the most notable progress is observed in Belgium, where the Gini coefficient in 2023 is 2 percentage points lower compared to 2015. Conversely, the most significant deterioration of this measure was reported for Malta, where, in 2023, the indicator was approximately 5 percentage points higher than in 2015.

A defining characteristic of the catching-up countries is their notably high level of income inequality. The sole exception to this trend is Slovakia, which stands out among all EU member states with the lowest values of this indicator (below 22 during the period from 2020 to 2023, and values not exceeding 24.3 since 2015). Despite the high levels of income inequality in the catching-up countries, most of them (with the exception of Bulgaria and Hungary) have managed to lower their levels of income inequality in 2023 compared to 2015. The most significant reductions were reported for Romania (6.4 percentage points), Cyprus (4 percentage points), Poland (3.6 percentage

points), Spain (3.1 percentage points), and Estonia (3 percentage points). The progress demonstrated by the catching-up countries in reducing income inequality in 2023 compared to 2015 is considerably more pronounced than that reported by the developing countries, many of which reported a trend of increasing income inequality. The only exceptions to this trend are Belgium, the Czech Republic, Germany, the Netherlands, and Slovenia. Among all the analysed countries, in 2023, Malta reported the most substantial increase in income distribution inequality (by 4.9 percentage points).

The obtained values of the final cluster centres show that that the values of the indicators "population at risk of poverty or social exclusion," "long-term unemployment rate," and "proportion of individuals unable to cope with unexpected financial expenses" of the developing countries remained stable in both 2020 and 2023. In contrast to 2020 and 2023, in 2015, the thriving economies had the lowest values of these indicators. Throughout the three analysed years, the catching-up economies consistently reported the weakest performance in terms of these indicators, which serves as a precondition for sustaining lower levels of economic welfare. More specifically, a comparison of the long-term unemployment rates in 2023 and 2015 shows that each member state has made a certain degree of progress in this respect regardless of the cluster to which it belongs with the only exception being Sweden, where this indicator increased by 0.3 percentage points. In 2023, compared to 2015, the most significant reduction in the long-term unemployment rate is observed in the countries from the catching-up group, particularly Greece (down by 10.2 percentage points), Croatia (8.1 percentage points), Spain (7.1 percentage points), Slovakia (5 percentage points), Cyprus (5 percentage points), Portugal (4.9 percentage points), and Bulgaria (3.8 percentage points). The fact that most EU member states reported a decrease of their long-term unemployment rates in 2023 compared to the values reported at the onset of the COVID-19 crisis makes a positive impression.

In 2023, the catching-up economies achieved a marked reduction (similar to the level of decrease of their “long-term unemployment rate”) of their levels of the indicator of "population at risk of poverty or social exclusion" compared to 2015 (with notable decreases in Bulgaria (13.3 percentage points), Romania (12.5 percentage points), Hungary (10.9 percentage points), Greece (6.3 percentage points), Portugal (6.3 percentage points), Poland (6.2 percentage points), and Cyprus (6.1 percentage points)). A comparison of their 2023 and 2020 levels shows considerable differences both among the three clusters and among the countries within a particular cluster. Surprisingly, in 2023, compared to 2020, a slight increase in the population at risk of poverty or social exclusion was reported in the thriving economies - specifically, in Ireland (0.1 percentage point) and Luxembourg (1.5 percentage points.) Substantial

differences regarding the levels of poverty and social exclusion are evident among the catching-up countries. The most significant progress was made in Romania, Bulgaria, and Italy, where, in 2023 relative to 2020, the indicator decreased by 3.6 percentage points, 3.5 percentage points, and 2.1 percentage points, respectively. The most significant setback is seen in Slovakia, where the share of the population at risk of poverty or social exclusion increased by 3.8 percentage points. A prevailing unfavourable trend is observed in most of the developing countries, which reported an increase of this indicator in 2023 compared to 2020 with the exception of Belgium, Malta, the Netherlands, and Slovenia. The Czech Republic stands out as the EU member state that consistently achieved the lowest proportion of the population at risk of poverty and social exclusion from 2015 to 2023 (ranging between 11.5% and 13%), while Romania (between 32% and 44.5%) and Bulgaria (between 30% and 43.3%) reported the worst values of this indicator.

By 2023, nearly all countries (except Germany, Luxembourg, Austria, and Sweden) had improved their levels of the "proportion of individuals unable to cope with unexpected financial expenses," indicator compared to 2015. Examples in this regard can be given with countries across all the three clusters: Hungary (a reduction of 40.7 percentage points), Cyprus (22.9 percentage points), Slovenia (20.2 percentage points), Croatia (18.4 percentage points), Poland (16.6 percentage points), the Czech Republic (16.3 percentage points), and Ireland (15.9 percentage points). Their economic performance in 2023 compared to 2020 reveals that the COVID-19 crisis did not lead to a marked increase of the analysed indicator for most of them and its levels remained relatively stable. Moreover, the comparison of the 2023 and 2020 levels shows that among the countries reporting most significant decreases in the percentage of people unable to face unexpected financial expenses are Croatia (7.5 percentage points), Cyprus (7 percentage points), Slovenia (6.9 percentage points), and Greece (6.4 percentage points). This positive trend was due to various measures implemented by their governments to mitigate the effects of the COVID-19 crisis. Examining the dynamics of budgetary indicators in the Balkan countries in the context of the pandemic, Angelov (2021) particularly emphasizes the prioritizing of economic agents' capacity to dispose of the financial resources they needed due to various forms of tax relief as well as grants and preferential loans. At the same time the values of this indicator in Austria, Bulgaria, Slovakia, Sweden, Spain, Luxembourg, Ireland, Finland, Denmark, and the Czech Republic increased.

In 2015 and 2023, the economies in the first cluster maintained the lowest values of the indicators "percentage of individuals unable to afford a one-week annual holiday away from home" and "percentage of people unable to afford Internet for personal use at home." In 2020, the leading position for these

indicators was held by the countries of the second cluster. Throughout the three analysed years, the catching-up countries reported the highest values of these indicators, which, in turn, creates a condition for deterioration of their economic welfare.

An overview of the performance of the countries regarding the percentage of people unable to afford a one-week annual holiday away from home shows that throughout all three examined years, representatives from thriving economies (Luxembourg) and a number of developing countries (Denmark, the Netherlands, Finland, and Sweden) consistently maintained the lowest values of this indicator (up to 17%). In contrast, a significantly higher percentage (above 40%) was reported by several catching-up countries, including Bulgaria, Greece, Croatia, Hungary, and Romania. In 2023 compared 2015, the most pronounced decrease of the percentage of people unable to afford a one-week annual holiday away from home was reported by some of the thriving and catching-up countries, specifically by Croatia (26.4 percentage points), Ireland (18.4 percentage points), Cyprus (17.5 percentage points), Poland (16.4 percentage points), Bulgaria (16.2 percentage points), and Italy (15 percentage points). An increase of this indicator was observed only among representatives of the developing countries, notably in Germany (an increase of 3.1 percentage points), Austria (2.2 percentage points), Sweden (2 percentage points), and France (1.1 percentage points). In 2023, compared to 2020, nearly half of the countries, regardless of their cluster, experienced an increase in the percentage of people unable to afford a one-week annual holiday away from home, with the most significant increases observed in Austria (6.9 percentage points), Bulgaria (4.9 percentage points), Hungary (4.5 percentage points), and Romania (3.4 percentage points), which may indicate a decline in their economic welfare.

In 2023, compared to 2015, all countries (with the exception of Austria) succeeded in reducing the proportion of people unable to afford Internet for personal use at home. A comparative analysis shows certain differences between the various clusters, with the most significant improvement of this indicator among the catching-up countries. Romania stands out for achieving the most substantial reduction of this indicator (17.8 percentage points in 2023 compared to 2015), followed by Bulgaria (8.4 percentage points), Greece (8.1 percentage points), Latvia (5.3 percentage points), Lithuania (5 percentage points), Hungary (4.8 percentage points), and Portugal (4.7 percentage points). Thus, in 2023, the percentage of people unable to afford Internet for personal use at home in the EU member states ranged from 0.3% to 7.3%. In contrast, the spread between its lowest and highest values in 2015 was considerably larger, with the indicator spanning from 1.1% to 25.1%.

Table 5

Distances between the final cluster centres

	I and III	I and II	II and III
2015	211.040	153.235	63.817
2020	158.857	119.744	46.212
2023	147.723	114.681	39.681

Source: SPSS calculations using Eurostat data and cluster analysis application.

Table 5 presents a summary of the calculated distances between the final cluster centres. The results lead to the conclusion that, relative to the initial year, a general trend toward convergence among the countries in all three clusters is observed in 2020 and 2023 as there is a gradual reduction of the distances between the final cluster centres. More specifically, the most significant decrease in distances between the thriving and the catching-up countries occurred in 2023 compared to 2015, while the least reduction was noted between the developing and catching-up member states.

Overall, in all three analysed years, the greatest disparity remains between the thriving and the catching-up countries, while the least difference exists between the latter and the developing countries. Comparatively, heterogeneity is most rapidly reduced between clusters One and Three, whereas the decline is slowest between clusters Two and Three.

Conclusion

In studying economic welfare, a multitude of factors pertinent to both the individual agent and the economy as a whole should be considered. When conducting comparative analyses over specific groups of countries, a significant challenge arises, on one hand, in justifying the selection of indicators directly related to economic welfare, and on the other hand, in procuring the necessary statistical information by year and country, thereby facilitating a meaningful comparison. In instances where, due to entirely objective reasons, data for selected indicators are unavailable, they should be substituted with indicators that can be effectively integrated into the overall logical framework of the analysis.

The clustering of EU countries according to their economic welfare reveals a gradual, albeit with a varying intensity for each country, reduction of the disparities among the selected individual nations both within a given cluster and between the clusters as a whole. The process of diminishing heterogeneity is particularly pronounced among the group of catching-up countries, which, although generally exhibiting a tendency to lag behind in terms of the absolute

values of their indicators measuring economic prosperity, demonstrate significant progress in their endeavours to enhance their economic welfare. When comparing 2023 with 2015, a considerable number of countries, irrespective of their cluster position, report favourable trends in the studied indicators. The economic welfare metrics used in this study were inevitably influenced to some extent by the effects of the pandemic. However, it is worth noting that the comparison of the 2023 indicators with those for 2020 does not provide grounds to assert that there are any significant and indeed rather unfavourable deviations in their values.

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