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Social Progress in the European Union: A Comparative Analysis at the National and Regional Levels

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Abstract: Measuring multidimensional social progress in the European Union (EU) is a challenging task but important for addressing strengths and weaknesses in the non-economic dimensions of social development that complement other progress indicators. The aim of this study is to present a review on measuring social progress (including a holistic approach and different levels of observation) and to investigate the differences in social progress within the EU, with an emphasis on the disparities between the regions of old and new EU member states. Descriptive statistics and the Mann–Whitney test were used to summarize and compare the main results, as well as to identify significant differences between the mentioned groups. The best results in social progress are driven by strong performances across various dimensions and components of the European regional Social Progress Index. Regions of the old EU member states perform better, but significant variability is determined in different components and dimensions of social progress across regions in both old and new EU member states. The importance of the opportunity dimension is confirmed in explaining the differences in social progress. Given that new EU member states try to converge with old EU member states, and considering that inclusive growth and social cohesion are among the goals of EU cohesion policy, investigating the factors behind the differences in social progress can provide valuable insights for policymaking and investment decisions.

Keywords: social progress measurement; regions; European Union; opportunity dimension

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1. Introduction

In managing development, metrics are important for policy actions. Therefore, it is necessary to have reliable indicators to make adequate policy choices. Reflections on the limitations of using GDP (gross domestic product) as a measure of a country's or region's success and wellbeing are well known and justified. This is because GDP does not account for various aspects such as social or environmental factors or other determinants of quality of life. It also does not account for inequalities or wealth distribution. GDP growth can be accompanied by social and/or environmental degradation and significant disparities. Different initiatives aim to develop alternative approaches and complementary measures that provide indicators to address the mentioned limitations in measuring wellbeing, societal progress, or sustainability. In more detail, [1] describes efforts on the "beyond GDP" approach that began in 1968 with Robert F. Kennedy's critique of GDP. The discussion was emphasized in 2008 with the creation of the Commission on the Measurement of Economic Performance and Social Progress in France, while in 2009, Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi published a report that became the foundation of the "beyond GDP"

initiative [1]. Since then, various scientists, experts, and institutions have released studies on measuring economic and social progress, seeking to provide answers on how to improve the measurement of different aspects not included when using GDP. One of the attempts is the Social Progress Index (SPI), which focuses on the non-economic dimensions of global social performance and provides a comprehensive database [2]. Based on this index, the EU regional Social Progress Index (EU-SPI) was first published by the Commission in 2016. It includes components of basic needs, foundations of wellbeing and opportunity dimensions, and focuses on the regional context of social progress across EU regions [3]. Monitoring social progress at the regional level can address important disparities between different countries and regions within the EU. National averages can obscure regional disparities. Addressing these differences ensures more equitable policies and tailored actions that promote balanced development. Economic and social cohesion are important goals of EU cohesion policy. These indices of social progress can be useful in monitoring the outcomes of social cohesion and related factors. New EU member states (those that joined in 2004, 2007, and 2013) tend to have lower results in various economic and social indicators compared to the old EU member states. Additionally, differences also exist within EU member states, between EU regions. Understanding these disparities is important for policymaking, while identifying the issues can help determine priority areas for future investments.

The aim of this study is to present a review on measuring social progress and to investigate the differences in social progress in the EU, with an emphasis on the disparities between the regions of the EU old and new member states.

Based on the main research questions, two hypotheses have been formulated:

H1. *Regions in old EU member states score significantly higher on the EU-SPI compared to regions in new EU member states.*

H2. *The opportunity dimension of the EU-SPI shows the largest disparities between old and new EU member states.*

The next section presents elaborations on the definition and measurement of social progress, including different levels of observation. It highlights various aspects that are important in measuring social progress and provides a review of key publications in this research field. Including observations at different levels when measuring social progress provides a more comprehensive understanding of disparities. This part contributes to previous studies about measuring social progress, by highlighting factors that should be included in holistic approach to measuring social progress in European integration and including the last available data about regional social progress in the EU. The EU-SPI, which has been less investigated in previous scientific studies but represents a valuable indicator in measuring social progress on EU (regional) level, is presented in more detail. This index is also used in the paper to investigate the differences between new and old EU member states, aiming to identify which factors of social progress differ between these two groups of countries. Descriptive statistics and the Mann–Whitney test were used to summarize and compare the main characteristics, as well as to determine significant differences between the groups mentioned. The best results in EU-SPI are connected with good performances of various dimensions and components of the EU-SPI. Regions of the old EU member states have better performances in social progress but EU-SPI enables to see the components which should be strengthened. Significant variability across regions is confirmed in both old and new EU member states, as shown for various components of the EU-SPI, where opportunity domain represents important dimension of these differences. Given that new EU member states try to converge with old EU member states, while considering that inclusive and sustainable growth, social cohesion, ensuring fair and more

balanced opportunities to achieve higher quality of life are important elements of EU cohesion policy, investigating the factors behind these differences can provide valuable insights for policymaking.

2. Social Progress and Its Measurement—Theoretical Framework

The concept of social progress goes beyond conventional quantitative definition of progress based on economic growth and encompasses a broad range of factors contributing to and defining the wellbeing and welfare of a country/region/society. This multidimensional concept is the research subject of different scientific fields, including sociology, political science, economics, philosophy, psychology, geography, comparative religion [4–7], that all contribute to the understanding and measurement of social progress. Social progress could be defined as progressive advancements over time in the capability of nations to achieve wellbeing of their populations [4,6,8], or as [4] stated, societal progress occurs when there is an improvement in the sustainable and equitable wellbeing of a society. It includes both material and immaterial aspects of human/social development, encompassing both the means required for realizing fuller levels of individual and collective development (e.g., political freedom, relationships, social institutions, personal safety, good health) as well as the ends that result from that development (e.g., improved educational status, improved housing and sanitation conditions, better health) [6,8]. Global SPI defines social progress as "the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential" [2] (p. 5). Social progress is communal (the welfare of whole society is the goal) and it involves and implies value-judgments, i.e., it is often more a subjective than an objective idea and is subject to diverse interpretations (from society to society as well from time to time within the same society due to different/changing cultural, political and moral values) [9]. It is a socially constructed concept [10], and a powerful political concept [11].

The complexity and the normative character of the concept makes its measurement a challenging task, especially regarding the choice of dimensions to include in measurement (which should be incommensurable, irreducible and non-hierarchical [12], as in [4]), the ways in which dimensions are measured, the relationships between dimensions, and the weight of each dimension in overall assessment of progress [4]. A significant milestone on the journey to comprehensive social progress measurement was President Sarkozy's Commission Report on the Measurement of Economic Performance and Social Progress [13] in which a better measurement of the domestic production of goods and services, the incorporation of sustainability considerations, and the measurement of quality of life as key progress measures were proposed [14]. Wellbeing is in this report elaborated as a broad concept encompassing material living standards, subjective features such as people's evaluations and affects, health, education, personal activities, including work, political voice and governance, social connections and relationships, and insecurity (economic and physical) [4]. The "Beyond GDP" initiatives have resulted in the development of several composite indicators and other measures of social progress, including the Human Development Index (HDI) [15,16], and its inequality-adjusted version (IHDI) [12], the Planetary Pressures-Adjusted HDI (PHDI) [17], the Genuine Progress Indicator (GPI) [18], the Index of Sustainable Economic Welfare (ISEW) [19], the Bhutan's Gross National Happiness Index [20,21], the UN's Sustainable Development Goals (SDG) Index [22], the EU SDG Indicators [23], the NEF's National Accounts of Well-Being [24], the Happy Planet Index [25], the Better Life Index [26], the Resource–Infrastructure–Environment index (RIE) [27,28], the BCG's Sustainable Economic Development Assessment (SEDA) [29], the Index of Social Progress (ISP) [6], the Well-being and Progress Index (WIP) by [30],

the Composite Global Well Being Index (CGWBI) developed by [31], the Development Balance Index by [5], the Environmental and Social Sustainability Index (ESSI) [32], the World Happiness Report [33], the WELLBY [34], and the above-mentioned SPI [35].

The above-mentioned measures are all created according to their conceptual framework and understanding of social progress' relevant dimensions. Wellbeing, individual and collective (quality of life), is the core value around which different measures are developed, and many encompass social quality [36] domains, including social capital. They differ by the number and type of dimensions/components/indicators and by its key orientation (towards inputs or outcomes). For example, the WELLBY, a new measure of social value and progress, is defined as one point of self-reported life satisfaction measured on a 0-to-10 Likert scale for one individual for one year [34], while the Global SPI evaluates a range of 57 indicators across three dimensions (basic human needs, foundations of wellbeing, and opportunity). The Global SPI is an example of an outcome-oriented measure that focuses on non-economic dimensions of social performance (social and environmental indicators) [35]. Although some of the composite measures focus exclusively on subjective (psychological) wellbeing, most of them encompass social indicators like education, healthcare, social mobility and income inequality, environmental indicators like resource depletion, pollution levels and biodiversity loss, and wellbeing indices that capture subjective experiences of wellbeing (trust, satisfaction and perceived opportunities) [3,37–41]. Social progress measures are created in a way that incorporates local regress (e.g., income inequality) within a context of global progress [42], and most of them bridge the social wellbeing concept from economics with the concept of individual happiness from philosophy through the operational facets such as prosperity, freedom and wellness [43,44]. In his study, ref. [45] advocates for the strong dual-necessity principle as a core principle of ranking social progress, i.e., it argues that the two components of the concept, subjective (representing people's actual attitudes) and objective (representing external standards of development), are necessary and only jointly sufficient.

Besides the composite indices, social progress frameworks are also created, such as the framework in [4] that defines progress through final goals covering human wellbeing and ecosystem condition, intermediate goals covering economy, governance and culture, the links between the two sets of goals, and two key cross-cutting perspectives, the intra-generational (equity), and the inter-generational (sustainability).

Examples of national measures of social progress include the National Welfare Index in Germany [46], the Canadian Index of Wellbeing [47], the Swiss MONET 2030 indicator system [48], the Australian Bureau of Statistics Measures of Australia's Progress (MAP) indicator system [10,49], while the authors [50] have proposed a method to measure social progress at the sub-national (regional) level (with an application to the Peruvian regions).

SPI indicators and results are used in various studies and reports. The current global state of social progress (measured by the 2024 Global SPI) shows that after a decade of steady growth, for the first time the world has fallen into a social progress recession, due primarily to deterioration in the following areas: health (COVID pandemic), access to information and communications (declining press freedom), and rights and voice [2]. This also confirms the urgent need to investigate different aspects and factors that influence on social progress in contemporary society. In the study of [51] it is highlighted that for the effective functioning of the EU, a similar level of social progress among EU member states is desirable to help these countries adapt. Based on SPI data, he grouped EU countries into significantly distinct but homogeneous groups in terms of social development and then evaluated the countries within their categories. The differences were determined between the social development levels of the old and new EU member states, northern and southern EU countries.

By using the SPI as a wellbeing measure, [52] proposed a measure of relative sustainability of social progress: the Just Transition Score (JTS), which tracks countries' ability to increase wellbeing with limited environmental harm, i.e., to achieve a "Just Transition", a simultaneous shift towards high societal outcomes for their populations ("Just") and low or no environmental impacts ("Transition" to low impact economies). On the other hand, ref. [53] introduced social time as a new concept for monitoring the progress towards the UN SDGs, measured with social clocks which compare the socio-economic situation of a nation or another social actor with a real or virtual reference group and determine the actor's temporal lead or lag as compared to this group.

When discussing the measurement of social progress, another important yet less investigated aspect should be highlighted. Various studies confirm the need to analyze social progress at the regional level. The EU-SPI, analyzed in detail in the following chapters, is inspired by the framework of the Global SPI while adapting the set of selected indicators to the specific characteristics of the EU regions [3]. The key component-level difference between these two indicators is related to opportunity dimension: while the Global SPI measures rights and voice (political rights, freedom of peaceful assembly, equality before the law and individual liberty index, equal protection index), the EU-SPI measures trust and governance instead (trust in the national government, trust in the judicial system, trust in the police, voicing one's opinion to a public official, female participation in regional assemblies, institution quality index). This also shows that the European Commission recognized social capital as a critical opportunity component of the social progress.

The author of [54] highlights the importance of social cohesion, including regional cohesion, as a goal of political actions at various levels. That paper describes differences in social progress index across EU member states and presents the results of regional social progress in Poland. Ref. [55] analyzes the factors contributing to social progress in the region of Epirus, Greece, and gives suggestions for future improvement. This illustrates the applicability of social progress indicators in measuring cohesion and analyzing disparities in social progress across EU member states and regions.

The study by [56] confirms the robustness of the EU-SPI. The authors conclude that EU-SPI could complement the GDP per capita in determining the eligibility for the allocation of the funds of the EU cohesion policy. In [57], a composite indicator of GDP per capita adjusted for social progress is presented, which is also used to simulate the eligibility of EU regions for EU funding. The authors of the mentioned study note that incorporating social progress can influence funding decisions and that combining economic and non-economic factors of development is more closely aligned with the subjects important to citizens' quality of life. This confirms the importance of examining disparities in social progress when observing different development levels of regions/countries and/or in defining their typologies, which can be used as a foundation for policy actions.

The potential role of social trust in explaining social opportunities and their components in a sample of 229 European regions is presented in [58]. Opportunities are recognized as most advanced elements in the EU-SPI, typical of advanced societies (as also in [3,59]). This study has shown that social trust effects are seen in improved quality of government, education and people's pro-social behaviors [58]. It is possible that differences in these aspects between countries and regions influence the variations in social progress outcomes across them.

Based on the presented review, it follows that measuring social progress is challenging due to its multidimensionality, various factors that affect social progress, regional and national variations, data availability, and different methodological approaches in measuring. The EU-SPI has several advantages that validate its use as a valuable tool for measuring social progress. It enables analysis and comparison across EU member states and regions,

helping to identify areas for improvement. It encompasses different dimensions of social progress, including both perception-based indicators and objective measures, and is also policy-oriented. Overall, EU-SPI indicators were selected based on the following criteria: indicators must measure outcomes, not only inputs; they must be relevant, comparable across all the EU regions and EU member states, and should cover matters that can be addressed by policy interventions, either at the EU or national/local levels; they must describe social and environmental aspects exclusively [60]. By excluding economic indicators, the EU-SPI represents a direct measure of social progress, enabling a cause-and-effect analysis of the relationship between economic development and social development, which is the advantage in comparison with metrics that mix social and economic indicators [60]. EU-SPI significantly contributes to "beyond GDP initiatives". Investigating the EU-SPI results and its dimensions allows policymakers to identify national and regional disparities and determine the specific drivers that can contribute to social progress and convergence. A more detailed analysis of the differences between EU member states based on the EU-SPI is presented in the next sections.

3. Materials and Methods

In order to present the theoretical background on defining and measuring social progress, an extensive literature search was performed by using relevant academic databases and repositories (e.g., Web of Science, Scopus, EBSCO, ScienceDirect, SSRN, Google Scholar), publications of the European Commission and international organizations that try to contribute to "beyond GDP initiatives". The review also included the latest theoretical and empirical findings regarding the measuring of regional social progress in the EU, which was less extensively investigated in previous scientific research. Papers that deal with different approaches, key determinants and constraints in measuring social progress were categorized and carefully examined to provide comprehensive understanding of the main theme.

Data on EU-SPI 2.0 [59] and its dimensions and components are used in data analysis. According to [3], as explained before, EU-SPI is a tool that helps benchmark EU regions on various socio-economic and environmental criteria, providing valuable insights for policymakers and stakeholders about regional strengths and weaknesses. It is based on 12 components (that encompass 53 socio-economic and environmental indicators), aggregated into basic needs, foundations of wellbeing and opportunity dimensions [3,59]. EU-SPI analyses social progress on EU regional (NUTS 2) level, which is a significant advantage of this database in comparison with other attempts on measuring social progress. It also presents national scores across EU member states, enabling comparisons of social progress at both the national and regional levels. This can help identify greater variability, which is often found at the regional level.

In order to answer the main research questions, our study includes two levels of observations: national and regional. A comparative analysis was conducted between old and new EU member states, examining the EU-SPI results across these countries, as well as the different dimensions and components of the index. A detailed analysis focused on regional-level data and comparisons between the regions of old and new EU member states, aiming to account for regional differences that can influence aggregated results. The discussion also included elaborations on the dimensions that differ the most between old and new EU member states, as well as those that show the largest variations at the regional level.

After presenting the main conclusions of the EU-SPI 2.0, the EU member states' rankings based on the EU-SPI were compared with those from the SPI and the SDG Index. The SPI was used because it tracks global social progress at the country level, and the EU-SPI is based on this index (as previously explained). The SDG Index provides an annual assessment of progress toward sustainable development goals. Therefore, it was interesting

to compare the rankings of the top and bottom performers of the EU-SPI with their progress in sustainable development goals.

The comparative analysis in the next part includes data on the 27 EU member states (13 new member states that joined the EU in 2004, 2007, and 2013, and 14 old member states) and their corresponding 236 NUTS 2 regions. The Mann–Whitney U test and descriptive statistics were used to investigate the differences in social progress results between the old and new EU member states. Factors/components contributing to these differences are also discussed. The Mann–Whitney test was chosen because it does not assume a normal distribution of the data (which was confirmed during the precondition checks in our analysis). It can be used in comparing differences between two independent groups (here, old and new EU member states). If the test results show a p value below the significance level (0.05), it suggests a significant difference between the groups (old and new EU member states). The Mann-Whitney test was performed using Stata 14 software. Descriptive statistics were used to summarize and compare the differences in more detail between the regions of old and new EU member states. They provide a clear summary of key results and in our analysis help to identify patterns, variability and regional disparities in social progress index and its determinants. Table 1 includes all the indicators used in the analysis.

Table 1. Indicators included in the analysis.

Indicator	Description
EU-SPI	EU regional Social Progress Index 2.0, 2024 edition, (regional and national) scores (EU 27 = 100)
Dimensions of EU-SPI	
BN	Basic needs, (regional and national) scores (EU 27 = 100)
FW	Foundations of wellbeing, (regional and national) scores (EU 27 = 100)
OP	Opportunity dimension, (regional and national) scores (EU 27 = 100)
Components	
BN C1	Nutrition and medical care, (regional and national) scores (EU 27 = 100)
BN C2	Water and sanitation, (regional and national) scores (EU 27 = 100)
BN C3	Housing, (regional and national) scores (EU 27 = 100)
BN C4	Safety, (regional and national) scores (EU 27 = 100)
FW C1	Basic education, (regional and national) scores (EU 27 = 100)
FW C2	Information and communications, (regional and national) scores (EU 27 = 100)
FW C3	Health, (regional and national) scores (EU 27 = 100)
FW C4	Environmental quality, (regional and national) scores (EU 27 = 100)
OP C1	Trust and governance, (regional and national) scores (EU 27 = 100)
OP C2	Freedom and choice, (regional and national) scores (EU 27 = 100)
OP C3	Inclusive society, (regional and national) scores (EU 27 = 100)
OP C4	Advanced education, (regional and national) scores (EU 27 = 100)
SPI	Social Progress Index Score (national scores)
SDG	2024 SDG Index Score (national scores)

Sources: authors based on [2,22,59].

More detailed information on EU-SPI indicators' description, unit of measurement, reference year of data, regional coverage and data source can be found in [59]. All EU-SPI scores are based on a 0–100 scale. To simplify the interpretation of the results and to facilitate benchmarking with the EU, the score for each EU region or country is reported relative to the EU average [3]. The EU average is set to 100 for every level of the index, e.g., a score of 80% reflects that a region underperforms by 20% with respect to the EU average [3].

All composite indices have various methodological limitations, mostly related to the choice of indicators, choice of weights for the various dimensions of the index, normalization, weighting, and aggregation method, due to their influence on the trade-offs between indicators [61]. The EU-SPI index follows the steps of development of a composite indicator, described in the Handbook of Constructing Composite Indicators: Methodology and User Guide [62], as in [3], and it is regularly updated and improved (the last is the third edition). How the index addresses issues of missing data, biases, normalization, internal coherence, and aggregation could be found in [3]. A recent study [61] contributes to discussion on aggregation challenges and this could influence future improvements of the EU-SPI through enabling adjustments of the level of substitutability between index components: by applying the unbalance penalization approach, the penalization effect was found to be particularly evident for regions with a strongly unbalanced performance across the components. Due to aggregation limitations of the composite indices, we conducted the analysis not only based on aggregate scores and rankings, but also by taking into account scores across different dimensions and components of the EU-SPI. This allowed us to better explain the results.

The results and discussion of the findings are presented in the next section.

4. Results and Discussion

Before presenting the detailed analysis of the differences between regions of the old and new EU member states, a brief overview of the main findings from the EU-SPI 2.0 is provided.

As explained in [3], and mentioned before, the EU-SPI 2.0 presents the disparities in social progress across EU regions. According to the latest 2024 edition, Nordic countries are performing better than eastern and southern EU member states. Regions in Finland, Denmark and Sweden have the best results. The Finnish region of Helsinki Uusimaa is estimated to have the highest level of social progress in the EU, with the highest results in opportunity dimension (particularly in the components of advanced education and trust and governance). The opportunity dimension is seen as the most advanced dimension of the index. The weak performers, that is, those regions showing the lowest scores, are from Bulgaria or Romania. The Bulgarian region of Severozapaden has the lowest social progress results among the observed EU regions, particularly in the opportunity dimension. This includes especially low scores in "advanced education" and "freedom and choice" within this dimension (additionally, the region has low scores in components such as "information and communications" within the foundations of the wellbeing dimension, etc.) [3,59]. Capital regions often have better results in comparison with national averages, but it is also seen that they can lag in basic needs (safety and housing affordability). On average, less developed regions of the EU (that have a GDP per capita below 75% of the EU 27 average) have lower social progress, while the gap in comparison with the more developed regions (that have a GDP per capita above 100% of the EU 27 average) is the largest in the opportunity dimension [3]. The gaps between these groups of the regions are also determined in basic components of the index. Transition regions (with a GDP per capita between 75% and 100% of the EU 27 average) represent an interesting group also for future analysis, because a significant share of the population lives in regions that have good performances of social progress, similar to more developed regions, while a substantial share of regions still lag behind in some of the dimensions of social progress (e.g., the basic needs dimension) [3].

Table 2 presents the rankings of EU member states based on the EU-SPI index, its dimensions and components, as well as the rankings for the SPI and SDG.

Table 2. Rankings of EU member states based on the EU-SPI 2.0, SPI, and SDG indices.

Country	EU-SPI	BN	FW	OP	BN C1	BN C2	BN C3	BN C4	FW C1
FI	1	2	1	3	17	2	1	1	5
SE	2	1	3	2	5	4	3	2	7
DK	3	3	4	1	7	3	6	3	8
NL	4	5	6	4	4	9	2	9	11
IE	5	11	2	5	12	13	10	14	4
AT	6	6	9	7	2	6	4	17	14
EE	7	10	5	12	15	14	5	11	3
LU	8	9	7	9	6	7	12	4	19
BE	9	14	8	6	8	18	11	24	10
DE	10	4	14	15	10	1	8	8	16
SI	11	12	13	8	22	10	13	6	2
FR	12	17	11	13	19	11	15	26	13
LV	13	18	10	10	24	21	20	12	9
PT	14	13	15	14	11	15	18	10	20
ES	15	15	16	11	14	17	19	7	23
CZ	16	8	12	17	3	5	7	18	6
MT	17	7	17	16	9	8	9	5	24
IT	18	20	18	19	18	20	24	20	21
LT	19	23	20	18	20	22	17	27	12
PL	20	21	23	21	16	23	23	16	1
HU	21	16	25	22	21	16	14	15	18
SK	22	19	19	24	23	19	16	22	17
CY	23	25	22	20	1	24	27	23	25
HR	24	24	21	25	13	25	22	19	15
EL	25	22	24	23	27	12	26	13	22
RO	26	27	26	26	26	27	21	25	26
BG	27	26	27	27	25	26	25	21	27

Country	FW C2	FW C3	FW C4	OP C1	OP C2	OP C3	OP C4	SPI	SDG
FI	1	3	1	1	4	2	4	2	1
SE	6	1	3	3	3	3	1	3	2
DK	5	5	2	2	1	1	3	1	3
NL	3	7	12	8	2	6	2	5	19
IE	8	2	4	9	6	4	8	8	20
AT	12	6	11	5	10	10	11	7	6
EE	4	15	5	13	13	18	6	10	13
LU	7	4	9	15	9	15	5	4	24
BE	10	8	13	7	8	8	12	9	15
DE	17	12	10	4	7	9	18	6	4
SI	16	14	21	14	5	14	7	12	9
FR	13	10	15	6	16	13	13	14	5
LV	2	23	7	11	14	5	16	20	11
PT	18	16	8	10	11	11	14	13	14
ES	11	9	17	12	17	7	9	15	12
CZ	15	17	16	16	12	17	22	11	10
MT	9	19	14	17	15	12	17	17	23
IT	20	13	23	19	22	16	24	16	18
LT	23	26	6	18	19	20	15	19	22
PL	24	22	26	23	18	19	20	24	8
HU	19	25	24	22	21	22	23	25	16
SK	21	21	20	24	26	24	19	23	17
CY	14	11	27	26	20	21	10	18	27
HR	22	20	22	20	23	25	25	21	7
EL	25	18	25	21	25	23	21	22	21
RO	26	24	19	25	24	26	27	27	25
BG	27	27	18	27	27	27	26	26	26

Notes: FI: Finland; SE: Sweden; DK: Denmark; NL: Netherlands; IE: Ireland; AT: Austria; EE: Estonia; LU: Luxembourg; BE: Belgium; DE: Germany; SI: Slovenia; FR: France; LV: Latvia; PT: Portugal; ES: Spain; CZ: Chechia; MT: Malta; IT: Italy; LT: Lithuania; PL: Poland; HU: Hungary; SK: Slovakia; CY: Cyprus; HR: Croatia; EL: Greece; RO: Romania; BG: Bulgaria. Sources: authors based on [2,22,59].

According to the results of the EU-SPI scores by EU member states, Finland, Sweden, and Denmark, rank the highest among EU member states, while Bulgaria and Romania have the lowest scores. This aligns with the previously presented regional results about the top and bottom performers. The top performers in the EU-SPI also rank highest on the SPI and SDG indices. Romania and Bulgaria have the lowest scores on the SPI, while Cyprus, Bulgaria, and Romania have the lowest results on the SDG index. A more detailed look at the rankings of the EU-SPI components scores by EU member states confirms that the best results in the EU-SPI are driven by strong performances across various dimensions and components of the index. It is also evident that the best performers have good results in the opportunity dimension and components (the advanced dimension of the index that is highly prioritized in these countries). However, there are also areas that can be strengthened, and the EU-SPI addresses these issues (e.g., in Finland, nutrition and medical care in the basic needs dimension, etc.). It is evident that there are differences between old and new EU member states, with new member states having lower results, which is better seen in Figure 1.

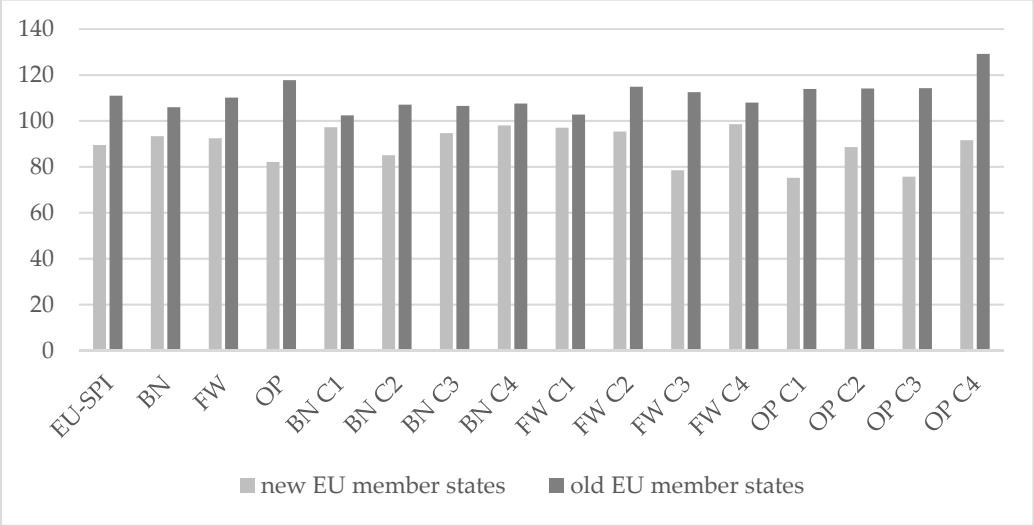

Figure 1. Comparison of average EU-SPI 2.0 (national) scores, its dimensions and components between new and old EU member states, 2024 edition. Source: authors based on [59].

The Mann–Whitney U test, a non-parametric statistical test, was used to assess whether there are statistically significant differences in the distribution of the EU-SPI, its dimensions and components between the old and new EU member states. The results are presented in Table 3.

p values (<0.05) indicate a statistically significant difference between the two groups (old and new EU member states) in EU-SPI, and its dimensions (basic needs, foundations of wellbeing, opportunity dimension). Regarding the different components, a statistically significant difference was not found for some of the components in each dimension, suggesting that the scores for these components are similar between certain EU old and new member states. This aspect should be investigated in more detail. "Trust and governance" and "inclusive society", as the components of the opportunity dimension have the lowest *p* values, confirming the high importance of this components in investigating the differences between the old and EU member states.

Table 3. Mann–Whitney test statistics for old and new EU member states regarding the 2024 EU-SPI 2.0, its dimensions and components.

	z	*p*
EU-SPI	−2.840	0.0045
BN	−2.160	0.0308
FW	−2.670	0.0076
OP	−3.082	0.0021
BN C1	−0.873	0.3824
BN C2	−2.135	0.0327
BN C3	−1.408	0.1592
BN C4	−1.456	0.1455
FW C1	−0.631	0.5281
FW C2	−2.160	0.0308
FW C3	−3.082	0.0021
FW C4	−2.184	0.0290
OP C1	−3.786	0.0002
OP C2	−2.426	0.0153
OP C3	−3.786	0.0002
OP C4	−1.941	0.0523

Sources: authors' calculation based on [59].

Descriptive statistics of the EU-SPI index scores, its dimensions and components, are presented below for 236 NUTS 2 regions of the EU-27 member states (in Table 4), 173 NUTS 2 regions of the 14 old EU member states (in Table 5), and 63 NUTS 2 regions of the new EU member states (in Table 6). Data at the regional NUTS 2 level are included to highlight regional differences in greater detail (e.g., differences between maximum and minimum values, and regional specificities that can influence the final results). As highlighted before, these differences are not always seen when observing (aggregated) indicators on a national level. It is well known that using regional data instead of national data offers advantages when analyzing variations within a country, which is also necessary in policy targeting. The aim of EU cohesion policy is to reduce regional inequalities, where inequalities in regional social progress are an important aspect. Therefore, measuring social progress at the regional level provides also added value compared to conclusions drawn from national-level data.

Regarding the total sample of 263 NUTS 2 regions of the EU-27 member states, the highest average scores are found in the foundations of wellbeing dimension. The average values that are higher than 100 suggest that, on average, regions are performing better in these dimensions and components. Median values show that a substantial number of regions perform better than the average (exceptions are results regarding the "advanced education" as one of the components of the opportunity dimension). Component results show that the highest average scores are found in the "environmental quality" component of the foundations of wellbeing dimension, the "safety" component of the basic needs dimension and the "freedom and choice" component of the opportunity dimension. But the results present significant variability across regions, where opportunity dimension has the most variability (based on range (the difference between maximum and minimum regional values), SD, VAR, CV, Q3–Q1). There are very low minimum values for some regions in certain components, such as the "water and sanitation" component of the basic needs dimension or components of the opportunity dimension, etc. On the other hand, some regions have very high performance scores in certain components, e.g., of the opportunity dimension. This confirms significant regional disparities and again that components of opportunity dimension represent significant factors that can influence on these disparities.

Table 4. Descriptive statistics of the EU-SPI index scores, its dimensions and components, 236 NUTS 2 regions of the EU 27.

	EU-SPI	BN	FW	OP	BN C1	BN C2	BN C3	BN C4
Average	100.2	100.5	100.7	99.4	99.5	100.1	101.0	101.7
Median	103.2	101.8	103.1	105.6	101.9	104.3	105.9	104.7
Min	52.2	62.9	55.6	34.8	56.3	29.0	48.4	41.9
Max	132.1	121.9	129.5	157.4	115.7	123.1	128.6	141.6
Max–Min	79.9	59.0	73.9	122.6	59.4	94.1	80.2	99.7
SD	17.09	13.50	14.65	26.99	11.63	19.88	19.55	19.23
VAR	292.06	182.31	214.63	728.45	135.17	395.12	382.24	369.62
Q1	87.28	91.48	92.20	78.85	96.65	94.03	84.80	89.28
Q3	111.00	112.53	109.23	116.45	107.13	114.20	117.68	117.58
Q3–Q1	23.73	21.05	17.03	37.60	10.48	20.18	32.88	28.30
CV	17.06	13.44	14.56	27.17	11.69	19.86	19.37	18.91
	FW C1	FW C2	FW C3	FW C4	OP C1	OP C2	OP C3	OP C4
Average	99.4	99.4	99.6	102.8	98.8	101.7	99.3	97.4
Median	104.2	100.5	106.1	104.3	107.3	103.2	108.5	94.8
Min	38.8	34.5	41.6	59.8	31.4	39.3	26.3	14.8
Max	132.4	145.3	127.3	132.1	154.3	152.1	142.2	205.4
Max–Min	93.6	110.8	85.7	72.3	122.9	112.8	115.9	190.6
SD	20.22	23.12	19.80	12.88	27.02	23.93	26.91	43.17
VAR	408.99	534.37	391.94	165.96	730.29	572.75	723.93	1863.55
Q1	88.70	87.60	93.38	95.30	77.63	86.25	77.05	63.65
Q3	112.20	113.60	113.18	111.18	120.00	118.33	117.43	129.48
Q3–Q1	23.50	26.00	19.80	15.88	42.38	32.08	40.38	65.83
CV	20.34	23.25	19.89	12.53	27.36	23.54	27.08	44.31

Notes: SD: standard deviation, VAR: variance, Q1: first quartile, Q3: third quartile, CV: coefficient of variation. Sources: authors' calculation based on [59].

Table 5. Descriptive statistics of the EU-SPI index scores, its dimensions and components, 173 NUTS 2 regions of the old EU member states.

	EU-SPI	BN	FW	OP	BN C1	BN C2	BN C3	BN C4
Average	106.1	103.8	105.5	109.2	100.8	106.8	104.0	103.5
Median	107.8	107.2	105.3	110.1	103.9	107.7	111.2	109.3
Min	72.2	78.1	80.7	54.9	56.3	65.5	48.4	41.9
Max	132.1	121.9	129.5	157.4	115.7	123.1	128.6	141.6
Max–Min	59.9	43.8	48.8	102.5	59.4	57.6	80.2	99.7
SD	13.58	11.58	11.23	21.89	11.33	11.92	19.96	20.09
VAR	184.36	134.06	126.02	479.18	128.28	142.11	398.38	403.51
Q1	99.1	95	98.8	99.8	98.7	100	92.3	92.5
Q3	113.4	114	112.5	119.9	108.6	117.6	118.9	119.4
Q3–Q1	14.3	19	13.7	20.1	9.9	17.6	26.6	26.9
CV	12.80	11.15	10.64	20.05	11.24	11.16	19.18	19.40
	FW C1	FW C2	FW C3	FW C4	OP C1	OP C2	OP C3	OP C4
Average	99.20	105.45	109.48	106.13	110.21	108.10	110.95	106.70
Median	104	105.7	109.8	106.9	113.8	111.4	111.8	104.2
Min	46	54.7	64.5	65.5	58.3	47.9	46	21.7
Max	125.2	145.3	127.3	132.1	154.3	152.1	142.2	205.4
Max–Min	79.2	90.6	62.8	66.6	96	104.2	96.2	183.7
SD	15.77	20.09	8.54	11.51	19.85	22.37	18.06	40.67
VAR	248.70	403.45	72.95	132.45	393.99	500.32	325.99	1653.76
Q1	90.5	94.5	103.8	100	100.5	93.4	104.1	71.9
Q3	110.3	116	114.9	113.6	121.4	119.5	121.3	140.3
Q3–Q1	19.8	21.5	11.1	13.6	20.9	26.1	17.2	68.4
CV	15.90	19.05	7.80	10.84	18.01	20.69	16.27	38.11

Notes: SD: standard deviation, VAR: variance, Q1: first quartile, Q3: third quartile, CV: coefficient of variation. Sources: authors' calculation based on [59].

Table 6. Descriptive statistics of the EU-SPI index scores, its dimensions and components, 63 NUTS 2 regions of the new EU member states.

	EU-SPI	BN	FW	OP	BN C1	BN C2	BN C3	BN C4
Average	84.0	91.2	87.3	72.3	95.9	81.5	92.5	96.6
Median	85.6	91.8	90.2	70.9	98.0	88.7	87.2	93.1
Min	52.2	62.9	55.6	34.8	65.8	29.0	63.2	46.9
Max	114.8	113.5	120.5	127.2	115.1	116.6	122.7	128.3
Max–Min	62.6	50.6	64.9	92.4	49.3	87.6	59.5	81.4
SD	15.13	14.08	14.65	20.40	11.70	24.90	15.49	15.53
VAR	229.03	198.25	214.57	416.09	136.82	620.22	239.82	241.31
Q1	74.65	82.3	78.3	58.3	90.45	63.8	81.5	86.8
Q3	92.3	103.85	95.45	85.3	102.5	101.35	105.7	109.7
Q3–Q1	17.65	21.55	17.15	27	12.05	37.55	24.2	22.9
CV	18.03	15.44	16.78	28.20	12.19	30.55	16.75	16.08
	FW C1	FW C2	FW C3	FW C4	OP C1	OP C2	OP C3	OP C4
Average	100.04	82.89	72.32	93.79	67.39	83.97	67.46	71.97
Median	108.9	83.9	71.2	95.3	68.8	86.8	66.7	62.6
Min	38.8	34.5	41.6	59.8	31.4	39.3	26.3	14.8
Max	132.4	139.3	109.3	118.6	108.7	132.2	128.5	176.8
Max–Min	93.6	104.8	67.7	58.8	77.3	92.9	102.2	162
SD	29.13	22.82	15.99	12.09	17.60	18.57	20.73	39.43
VAR	848.63	520.73	255.75	146.27	309.71	344.90	429.90	1555.11
Q1	74.4	74.5	61	85.9	54.35	73.15	55.05	47.2
Q3	125.5	98.35	79.8	101.75	81.2	94.2	75.85	94.95
Q3–Q1	51.1	23.85	18.8	15.85	26.85	21.05	20.8	47.75
CV	29.12	27.53	22.11	12.89	26.12	22.12	30.74	54.80

Notes: SD: standard deviation, VAR: variance, Q1: first quartile, Q3: third quartile, CV: coefficient of variation. Sources: authors' calculation based on [59].

The average EU-SPI score of the regions in the EU's old member states is slightly better than the score of the sample that includes all EU NUTS 2 regions. Compared to the previously presented results with EU-SPI national scores, it can be confirmed that the average scores calculated by using data at the NUTS 2 level reflect the diversity of regional performances. When measuring social progress, it is necessary to include regional data that account for these differences.

Regions of the old EU member states have the highest average scores in the opportunity dimension of social progress, particularly in the components "inclusive society" and "trust and governance", which are interrelated aspects. These regions and their countries develop environment and legal frameworks that contribute to an inclusive society, trust, transparency and good governance. They provide economic opportunities, have high-quality public services, strong welfare systems (especially Nordic countries that are often at the top of rankings), civic engagement and civil society that foster trust in governance. The lowest average scores are found in "basic education", which is a component of the foundations of wellbeing dimension. There is significant variability across regions of the old EU member states. The opportunity dimension again shows the highest variability (especially in the "advanced education" component). Some of the reasons for the differences in "advanced education" scores are regional disparities, such as those between capital city regions like Hovedstaden in Denmark, or Groningen and Utrecht in the Netherlands, which are known for their excellent universities and research centers and have the highest results. In contrast, regions with socio-economic challenges, such as the Greek islands of Ionia Nisia and Sterea Ellada, as well as the Italian region of Sicilia, tend to have the lowest scores in "advanced education". Ionia Nisia and Sicilia are also island regions, with specific geographical features that influence access to services.

The average EU-SPI score of the regions in the EU's new member states is lower than the scores of both the sample that includes all EU NUTS 2 regions and the sample that includes regions of the old EU member states, as presented above. Regions of the new EU member states have the highest average scores in the basic needs dimension, while the lowest scores are found in the opportunity dimension (e.g., in "trust and governance" and "inclusive society"). The focus on providing fundamental services and accelerating development contributes to the basic needs dimension, but these regions and their countries struggle with the opportunity dimension as a result of historical factors, structural issues, lack of public trust, inefficient institutions, socioeconomic inequalities, and a lack of social integration and equal opportunities. Social capital (including trust) is path-dependent [63]. Historical and cultural factors shape society, social capital and institutional design and thus contribute to observed regional differences in "trust and governance" category. Research findings can be connected with [64] study on social capital in EU countries; in 2015, the following countries boasted very high stocks of social capital measured by participation in voluntary activities, active citizenship, frequency of getting together with relatives and friends, public-private co-publications, international scientific co-publications, innovative SMEs collaborating with others and private co-funding of public R&D expenditures: Sweden, the Netherlands, Finland, Denmark, Austria and Belgium [64]. Six countries showed high stocks of social capital: Luxembourg, the United Kingdom, France, Germany, Slovenia and Ireland, while medium and low stocks of social capital were recorded in 13 countries: Estonia, Greece, Spain, Lithuania, Italy, Cyprus, Portugal, the Czech Republic, Croatia, Slovakia, Hungary, Poland and Latvia [64]. Very low stocks of social capital were found only in three countries: Malta, Bulgaria and Romania [64].

Regarding the presented results on EU-SPI components scores in the regions of the new EU member states, the highest average scores are found in "basic education" (a component of the foundations of wellbeing), and in "safety" and "nutrition and medical care", which belong to the basic needs dimension. In numerous components, the average results are below the baseline (EU 27 = 100). The highest variability is addressed in the opportunity dimension, particularly in the "advanced education" and "inclusive society" components, and in "information and communication" and "basic education" components of the foundations of the wellbeing dimension.

The presented indicators confirm significant differences in social progress performances across regions and countries of the EU and highlight areas of high and low performances in main dimensions and components of EU-SPI. This can be important for tailored regional policy interventions. The opportunity dimension must be observed in more detail across new EU member states and regions, together with other dimensions and components that show lower results in various aspects in comparison with the baseline, or in comparison with other (peer) EU member states. Old EU member states must target the potential issues in foundations of wellbeing dimension and basic needs dimension, factors that prevent some countries and regions to achieve better results, but also to account for high variability in opportunity dimension and to study the regions that have minimum scores. Since the observed index reflects the priorities of EU cohesion policy, its dimensions and components, determined issues and strengths, can also be analyzed in terms of potential future investments.

Here, it can be also added that to improve social trust, a synergy between government and citizen action, based on complementarity and embeddedness, is needed (Evans, 1992, 1995, 1996, as in [65]). Successful community networks and state–society relations are result of the mutually supportive interactions between community groups, civil society organizations, firms and government institutions [65]. Social relations between them (both bridging and linking social capital, [66]) contribute to improvement of social trust and

to improvement of the effectiveness of regional government in implementing different policies [67]. Government institutions can encourage civil society activities and citizens participation/voicing one's opinion, while civil society organizations complement institutions in solving regional problems.

Monitoring social progress allows us to address whether all citizens benefit from economic growth and have equal access to goods and services, whether the institutional and governance systems are effective, and whether society is inclusive or if inequalities are widening. Social issues and gaps that can be seen through monitoring can help to inform policymakers, while social progress is also important for political stability and cohesion.

To propose national development strategies that would support the overall progress of a country, with the goal of achieving a good society [44], policymakers need valid and reliable social performance and capacity indicators (both quantitative and qualitative). The indicator characteristics should enable the evaluation of the current level and the determination of the desired level of a country's social progress, while simultaneously enabling comparison to a country's economic peers. This confirms the benefits of more complex indicators such as EU-SPI. Consulting with citizens and organized civil society in the design of wellbeing measures and policies will ensure that the choice of indicators is a socially agreed set and represents, therefore, an important step in the process of designing social progress measures; an applied system science methodology, such as Interactive Management, could be used to facilitate the consultation process and stakeholder engagement [68–70]. The combination of objective and subjective indicators gives more reliable insight on drivers and results of social progress.

By addressing social disparities that exist in and between EU member states, the risk of discontents, instabilities and lower trust in institutions can be reduced. This can also help to strengthen EU's position in map of global wellbeing.

5. Conclusions

Understanding social progress is valuable for making adjustments and tailoring interventions in policymaking, strategy development, as well as in (social) investment decisions. The paper focuses on the understudied area of differences between (regions of the) old and new EU member states in non-economic aspects of social progress. By investigating the results of the relatively new EU-SPI index and through a review on measuring social progress, it tries to contribute to previous studies on measuring and evaluating regional social progress in the EU.

This paper confirms the multidimensionality of social progress, emphasizing that its measurement must be based on a combination of dimensions and components that describe performance in greater detail and which include basic and advances factors of social progress. The EU-SPI index, which encompasses results at the EU regional level, significantly contributes to previous efforts in measuring social progress in the EU and provides an adequate "beyond GDP" indicator that can be used in scientific studies as well as for policymaking.

The results of the analysis presented in this paper confirm differences between old and new EU member states and their (236) NUTS 2 regions based on the EU-SPI, its dimensions, and components. On average, old EU member states and their regions perform better, which can be attributed to stronger institutions and greater financial resources for implementing policies that promote inclusive society, trust and good governance, and strengthen the foundations of wellbeing, such as health and education, among others. The high importance of the opportunity dimension is confirmed, as well as the substantial disparities between EU regions, which remain a significant challenge for social cohesion.

The results also highlight the need to observe differences in social progress at the regional level, due to significant regional disparities.

Better results in social progress are the outcome of good, balanced performances across various dimensions of social progress that are included in EU-SPI. This leads to the conclusion that is necessary to focus on different dimensions of social progress (e.g., education, governance, social inclusion, citizens' engagement, socio-economic opportunities, etc.) in efforts to strengthen social progress. Policymakers should integrate actions that contribute to multiple components (e.g., trust and governance can be connected with an inclusive society, better socio-economic opportunities, reduced brain drain, etc.) and foster collaborations that will create synergies.

In the new EU member states, there is a need to strengthen different dimensions of social progress that show lower results. The EU cohesion policy, which aims to reduce regional inequalities, can play an important role in promoting social progress through funds (such as the European Social Fund+, European Regional Development Fund, etc.) or instruments (such as social innovations), as well as measures to improve education, social inclusion, labor market integration, and strengthen governance. Investments directed toward EU-SPI dimensions/components can help achieve the connected specific objectives of EU cohesion policy. Regarding the opportunity dimension, EU funds can support reforms that contribute to different aspects of social cohesion, inclusive growth, more equal access to services, advanced education, better governance, the strengthening of civil society, etc. Targeted investments in these areas can improve transparency and efficiency in governance, promote stability, inclusion, integration and cooperation, support initiatives that remove barriers to education and entrepreneurship, and ultimately lead to higher satisfaction and social progress. Regions that significantly lag behind in social progress should be investigated in more detail in future studies, where the EU-SPI highlights the areas with the most significant gaps. Future investigations could also explore the influence of different components on the final results (which would depend on data availability). Additionally, it would be interesting to examine the differences between groups of countries/regions based on various grouping criteria (e.g., comparing capital regions with other regions, or comparing groups of regions that have high, medium, and low social progress results, etc.). It is also possible to compare the EU-SPI results with other "beyond GDP" indicators, social progress indices, and metrics that encompass different social progress dimensions, complementing the indicators of social progress included in this study.

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Abbreviations

The following abbreviations are used in this manuscript:

GDP	Gross Domestic Product
EU	European Union
EU-SPI	EU regional Social Progress Index
SDG	Sustainable Development Goals
SPI	Social Progress Index

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