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SILVER LEISURE INDUSTRIES IN AGING SOCIETIES OF THE EUROPEAN UNION

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Purpose: The aim of the article is to assess selected conditions for the development of silver leisure industries in European Union countries.
Design/methodology/approach: The TOPSIS method is used in the research. The analysis covers the years 2014 and 2020, and the data source is the Eurostat database. The adopted method allowed the authors to prepare a ranking of countries in accordance with their predispositions (expressed in a synthetic measure) to the development of the economic sector under analysis.
Findings: The highest values of the measure were obtained in Sweden, Denmark, the Netherlands, Finland, Belgium and France. These countries are characterised by the highest or high values of indicators reflecting the financial situation and quality of life of seniors. At the other extreme of the ranking are Romania, Bulgaria, Latvia and Lithuania, where the prospects for the development of silver leisure industries are very poor (the lowest values of the synthetic measure and partial indicators).
Research limitations/implications: An important limitation of the analysis was the availability of data for the European Union countries. The volume limitation of the work also determined the possibility of presenting another research approach - the determination of a synthetic measure based on the weights of individual indicators, in addition to the equivalent treatment of features.
Practical implications: The research undertaken has a practical dimension in two aspects: first, the monitoring of the characteristics of the senior population - it concerns the institutions that collect data, and second, the functioning of the entities of the silver economy.
Social implications: The research involves a growing population of older people and can definitely contribute to improving their quality of life - providing an opportunity to better reconcile the demand and supply sides of the silver economy.
Originality/value: The added value of the study conducted is the assessment of the demand side of the silver industry market, taking into account seniors as beneficiaries of leisure time. This is a look at the elderly from a different point of view than the classic one - focusing on their active rather than passive side.
Keywords: silver industries, free time, aging society.
Category of the paper: Research paper.

1. Introduction

Population aging processes are global. According to numerous forecasts, the share of the elderly in the global population will increase dramatically in the coming years. As indicated by the World Social Report (2023), in 2021 1 in 10 people was 65+, whereas in 2050 it will be 1 in 6 people. In this context, it is difficult to disagree with Walker (2010, p. 589) that *aging in good health should constitute the basis for using the potential and competences of seniors, and their presence in social life should be treated as a gain, not a loss*. Active aging slows down the unfavourable processes of weakening physical and intellectual functions and, consequently, brings benefits to both the individual and the entire society. It maintains the independence of seniors, which significantly reduces health care expenses, and – more importantly – promotes continued professional activity, having a positive impact on the state budget. The higher level of financial resources of older people, in turn, reduces social care expenses and influences the creation of demand for specific products and services.

The issue of solving the problems of aging societies has been of such importance that the World Health Organization announced the years 2020-2030 as the *Decade of Healthy Aging*. Public activities must take into account the growing number of older people to a wide extent, thus it seems crucial to look into the sphere of free time as an important research field. Recognising it gives rise to effective action in the following two aspects:

- using seniors' free time to stimulate the labour market and the production of leisure time industries,
- meeting the needs of older people and maintaining their physical and social activity.

The aim of the article is to assess selected conditions for the development of silver leisure industries in European Union countries.

2. Literature review

According to the adopted definitions, the silver economy is a combination of all types of economic activities (production, consumption, trade, services) which meet the needs of people aged 50 and over, both professionally active or retired, having various needs, possibilities and expectations (Enste, Naegele, Leve, 2008; Urbaniak, 2016; Zsarnoczky, 2018 and others).

Every segment of the economy has the possibility to adapt production and services to the needs of older people, including their free time. The potential of the dynamically growing and diversifying segment of older consumers is significant. Estimates indicate that the value of the European silver economy will increase to PLN 6.4 trillion in 2025 (compared to 4.2 in 2015), and the number of jobs to 88 million (77 in 2015) (Baszczak et al., 2021).

In the literature on the subject, free time is currently considered an attribute of modern societies, which is an "object" and a good having the same significance as other goods (Baudrillard, 2006). It determines the social status and identity of individuals, and at the same time, the way of managing free time determines the cultural capital of the individual and their social group (Coleman, Iso-Ahola, 1993). Free time resources stimulate the need for their consumptive or non-consumptive use, which has a real influence on the economy in financial and social terms. To explain this social phenomenon, the category of "leisure industry" is used, covering branches of the economy related to entertainment, recreation, tourism and lifestyle. This concept has become crucial for describing the new "economy of emotions and impressions" (Pine, Gilmore, 1999; Andersson, 2007).

Free time is an interdisciplinary and multi-layered concept that encompasses a number of dimensions of the life of an individual and social groups (Bombol, Dąbrowska, 2003; Cunningham, 2016). It is part of the economy constantly growing in importance, referred to as the leisure time industry, which consists of products and services related to recreation, entertainment, sports and tourism (REST) (Kijak, Szarota, 2013).

The silver economy is an issue that is quite widely described in the literature, yet there is still a research gap in many areas. The available research results include, for example, general conditions for the development of the silver economy (European Union, 2015; Klimczuk, 2016; European Union, 2018), segmentation of the senior market (Nagusi Intelligence Center, 2018), the use of digital technologies by seniors (Nagusi Intelligence Center, 2021; Butt, Pappel, Draheim, 2023), service design within the silver economy (Erlenheim, Pappel, 2022), or active aging trends and policies (European Union, 2015; Tkalec, 2018; Maritati, Leonardini, 2020). Various approaches to the subject matter may be found in the literature, e.g. analyses conducted through the prism of different sectors of the silver economy, countries and regions, as well as through the prism of the specialties of the authors of given research. Nonetheless, research covering all EU countries, focused on the conditions for the development of silver leisure industries, undoubtedly complements existing analyses in the field of the silver economy.

3. Research method

The TOPSIS method (*Technique for Order Preference using Similar to Ideal Solution*), proposed by Hwang and Yoon in 1981, was used by the authors in order to analyse the research problem. Being one of the basic methods of linear ordering of patterns, it is based on the distances of the assessed objects from the model object and enables ranking the units from the best to the worst based on a synthetic measure (Dudek, Jefmański, 2015).

The TOPSIS procedure used in this work required several stages of action (Czerwińska-Kayzer, Florek, Stanisławska, 2013). The first stage was the selection of diagnostic features and the determination of their impact on the phenomenon under analysis. The Eurostat database was used, with the time range covering the years 2014 and 2020. Taking into account the substantive premises as well as the availability and completeness of data, eleven indicators were selected for analysis.

In the next stage, the variables were standardised – normalised using the zeroed unitarisation method, in accordance with the following formulas:

a) in the case of stimulants:

$$z_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}} \tag{1}$$

b) in the case of destimulants:

$$z_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}} \tag{2}$$

where:

z_{ij} – normalised value of the j-th variable in the i-th country,

x_{ij} – value of the j-th variable in the i-th country.

Further action included assessing the suitability of the considered potential variables using the Pearson correlation coefficient and the coefficient of variation, based on which three variables were eliminated from further analysis. The set of indicators selected for the study and their nature are presented in Table 1.

The research procedure also included determining the coordinates of the pattern and anti-pattern as well as calculating the (Euclidean) distance of objects from the reference values, based on the following formulas:

$$d_i^+ = \sqrt{\sum_{k=1}^{m} (z_{ik} - z_k^+)^2} \tag{3}$$

$$d_i^- = \sqrt{\sum_{k=1}^{m} (z_{ik} - z_k^-)^2} \tag{4}$$

The final stage of the study was to determine the value of the synthetic indicator for the i-th object, using the following formula:

$$q_i = \frac{d_i^-}{(d_i^+ + d_i^-)} \tag{5}$$

Table 1.

Set and nature of variables included in the study

Indicator	Variable name	Variable type
POP 65+	Population of people aged 65+ (% of total population)	STIMULANT
NDOCH	Income inequality among older people (total income received by the 20% of the population with the highest income compared to the income received by the 20% of the population with the lowest income)	DESTIMULANT
DEPR	Material deprivation rate for people aged 65+ (% of population 65+ with forced inability to meet at least three out of nine basic needs)	DESTIMULANT
KOMP –	People aged 65+ who cannot afford a computer (% of households with 1 adult aged 65+)	DESTIMULANT
LZŻ	Years of healthy life at the age of 65+ (number of remaining years that a person aged 65+ is expected to live in good health)	STIMULANT
WAS	Active aging index (index values in the range of 0-100; reflects the degree of utilisation of the potential of older people)	STYMULANTA
ZUWS	Indicator of risk of poverty or social exclusion for people aged 65+ (% of population 65+)	DESTIMULANT
INT –	People aged 65+ who cannot afford an Internet connection for personal use at home (% of population 65+)	DESTIMULANT

Note: Basic needs: paying for a 7-day holiday of all household members once a year; eating meat, fish (or vegetarian equivalent) every two days; heating the place of residence according to needs; covering an unexpected expense; timely payment of housing fees, repayment of instalments and loans; having a colour TV; owning a car; having a washing machine; having a telephone (Szamrej-Baran, 2016, p. 171).

Source: own elaboration.

The synthetic measure allowed the authors to develop a ranking of European Union countries ranging from the one with the best conditions for the development of the silver leisure industry to the country with the worst conditions for this development. Linear ordering and classification were made using the arithmetic mean and standard deviation of the values of the synthetic measure. The following four groups of countries have been distinguished:

1. Group I (very good conditions): $q_i \geq \bar{q} + S_q$
2. Group II (good conditions): $\bar{q} \leq q_i < \bar{q} + S_q$
3. Group III (poor conditions): $\bar{q} - S_q \leq q_i < \bar{q}$
4. Group IV (very poor conditions): $q_i < \bar{q} - S_q$

The study assumed that all features taken into account while calculating the synthetic measure and creating the country ranking are equivalent. The synthetic measure is intended to reflect the conditions for the development of silver leisure industries in various EU countries in the most sustainable way possible – such an assumption was made, for example, in the case of the Index of Economic Freedom established by The Heritage Foundation (Kim, 2023). This approach is a starting point for further research related to the assessment of the most important determinants of the development of this economic sector.

4. Research results

When assessing the development opportunities of silver leisure industries, the authors took into account financial, demographic and health conditions. The analysis covered 27 European Union countries in 2014 and 2020. The indicators adopted for the analysis (Table 1) determine the development of the silver leisure industry for the following reasons:

- they depict the demand side of the products and services market of this industry (POP 65+, DEPR, LZŻ, ZUWS, INT-),
- they determine the possibilities of financing various forms of activity (NDOCH, KOMP-, ZUWS, INT-)
- they facilitate the preparation of an offer of goods – quantity and quality (KOMP-, WAS, LZŻ, INT-),
- they make it possible to determine the development prospects of the examined economic sector (DEPR, KOMP-, WAS, ZUWS, INT-).

Initial information about the situation of EU countries in the area under analysis is provided by basic statistics:

1. the percentage of people aged 65 and over increased in 25 out of 27 countries; the value of this indicator in 2020 ranged from 13.1% in Luxembourg to 23.3% in Italy (the average for the analysed countries amounted to 19.3%);
2. the active aging index increased in 24 out of the 27 countries under analysis; the highest level of utilisation of the potential of older people was recorded in 2014 in Sweden, Denmark and the Netherlands (index value above 40); in 2018, Finland joined the above-mentioned countries; this indicator was not very diverse in the analysed countries – the average index in 2018 was 35.5, with higher values obtained in 12 countries and lower values in 15 countries;
3. in as many as 9 countries, the indicator showing the number of remaining years of healthy life for people aged 65+ decreased – the average value for EU countries was 8.6 in 2014 and 9 in 2020; in the case of this variable, there was strong variation within the examined population – in 2020, in countries such as Latvia, Slovakia and Croatia, the number of years of healthy life for seniors was less than 5, while in Sweden it was almost 16 years;
4. the indicator of risk of poverty or social exclusion for people aged 65+ increased in as many as 18 out of 27 countries, e.g. in Spain – from 12.9 to 20.5%, and in the Netherlands – from 6.9 to 12.2%; the average value of this indicator for all surveyed countries remained at the level of 21-22% in the analysed period; in both years under analysis, there was a strong variation in this variable – from 6-7% in Luxembourg to 35 and 42.5% in Estonia (Eurostat, 2023).

For all the examined variables, the greatest differences between the countries occurred in the case of the material deprivation rate (in 2020, 2.2% in Sweden and 48.3% in Bulgaria), the percentage of people aged 65+ who cannot afford a computer (in 2020 0.2% in Cyprus and 0.7% in Luxembourg compared to approximately 12.5% in Lithuania or Bulgaria) as well as the percentage of people aged 65+ who cannot afford an Internet connection (in 2020, 0.7% in Sweden and Cyprus compared to 39.2 % in Romania).

As shown in Tables 2 and 3, the average value of the synthetic measure increased in 2020 compared to 2014, yet this increase was insignificant. In both years, the group of countries with very good conditions for the development of the economic sector under analysis included five countries, i.e. Sweden, Denmark, the Netherlands and Finland both in 2014 and 2020, as well as Belgium in 2014 and France in 2020.

Table 2.
Distances of objects from patterns and anti-patterns and the synthetic measure of the conditions for the development of the silver leisure economy

Country	2014			2020		
	d^+	d^-	q	d^+	d^-	q
Belgium	0.9357	2.0334	0.6849	1.0218	1.9551	0.6568
Bulgaria	2.1954	1.0156	0.3163	2.2477	1.1270	0.3340
Czechia	1.1008	1.9621	0.6406	1.0864	2.0432	0.6529
Denmark	0.7930	2.2892	0.7427	0.6206	2.3357	0.7901
Germany	1.4669	1.6811	0.5340	1.0885	1.8583	0.6306
Estonia	1.6067	1.4547	0.4752	1.5665	1.5822	0.5025
Ireland	1.4231	1.8709	0.5680	1.2568	1.8957	0.6013
Greece	1.6522	1.5754	0.4881	1.5422	1.7080	0.5255
Spain	1.3563	1.8166	0.5725	1.3796	1.7662	0.5614
France	1.1828	1.9668	0.6245	0.8597	2.0901	0.7086
Croatia	1.7517	1.4864	0.4590	1.7799	1.4885	0.4554
Italy	1.3960	1.8685	0.5724	1.3748	1.9632	0.5881
Cyprus	1.7557	1.6579	0.4857	1.4833	1.8284	0.5521
Latvia	2.0774	1.0937	0.3449	2.0577	1.2740	0.3824
Lithuania	1.6924	1.3365	0.4412	1.9898	1.1921	0.3747
Luxembourg	1.1859	2.1955	0.6493	1.3734	2.0729	0.6015
Hungary	1.6956	1.4120	0.4544	1.7227	1.4215	0.4521
Malta	1.0668	1.8920	0.6394	1.1188	1.8715	0.6259
the Netherlands	0.8841	2.1873	0.7121	0.7678	2.2578	0.7462
Austria	1.2130	1.9329	0.6144	1.2349	1.9254	0.6092
Poland	1.5489	1.5212	0.4955	1.2962	1.8459	0.5875
Portugal	1.6379	1.5887	0.4924	1.7734	1.4869	0.4561
Romania	2.2398	0.7806	0.2584	2.1484	0.8795	0.2905
Slovenia	1.4777	1.5464	0.5114	1.3273	1.7380	0.5670
Slovakia	1.7588	1.6208	0.4796	1.5073	1.7878	0.5426
Finland	0.9611	2.0183	0.6774	0.8381	2.1582	0.7203
Sweden	0.5878	2.5109	0.8103	0.5310	2.5031	0.8250

Source: own calculations.

Furthermore, Sweden is a country with very high quality of life for seniors. In relation to people aged 65+, this country is characterised by the following: 1) the highest healthy life years among EU countries (15.9 in 2020, compared to the average of 9 for the EU), 2) a very low material deprivation rate (2.2%, i.e. the second lowest in the EU in 2020, after Luxembourg)

resulting from, among other things, relatively high professional activity in early old age, and 3) much lower indicator of risk of poverty or social exclusion than the EU average (15.5% in 2020 compared to 22.4% for the EU). In other countries with very good conditions for the development of silver leisure industries, in 2020, the years of healthy life of people aged 65+ also exceeded the EU average, the material deprivation rate was in the range of up to 7% (the EU average was 13.3%), and the indicator of risk of poverty or social exclusion was much lower than the EU average (10-15.5%).

Table 3.
Classification and ranking of EU countries according to the value of the synthetic measure of conditions for the development of silver leisure industries (descending order)

Group of countries	Synthetic measure in 2014			Synthetic measure in 2020		
	Value range	Ranking		Value range	Ranking	
		Country	q		Country	q
I (very good conditions)	≥ 0.6737	Sweden Denmark Netherlands Belgium Finland	0.8103 0.7427 0.7121 0.6849 0.6774	≥ 0.6996	Sweden Denmark Netherlands Finland France	0.8250 0.7901 0.7462 0.7203 0.7086
II (good conditions)	0.5461-0.6737	Luxembourg Czechia Malta France Austria Spain Italy Ireland	0.6493 0.6406 0.6394 0.6245 0.6144 0.5725 0.5724 0.5680	0.5682-0.6996	Belgium Czechia Germany Malta Austria Luxembourg Ireland Italy Poland	0.6568 0.6529 0.6306 0.6259 0.6092 0.6015 0.6013 0.5881 0.5875
III (poor conditions)	0.4185-0.5461	Germany Slovenia Poland Portugal Greece Cyprus Slovakia Estonia Croatia Hungary Lithuania	0.5340 0.5114 0.4955 0.4924 0.4881 0.4857 0.4796 0.4752 0.4590 0.4544 0.4412	0.4368-0.5682	Slovenia Spain Cyprus Slovakia Greece Estonia Portugal Croatia Hungary	0.5670 0.5614 0.5521 0.5426 0.5255 0.5025 0.4561 0.4554 0.4521
IV (very poor conditions)	< 0.4185	Latvia Bulgaria Romania	0.3449 0.3163 0.2584	< 0.4368	Latvia Lithuania Bulgaria Romania	0.3824 0.3747 0.3340 0.2905
Average measure value q	0.5461			0.5682		

Source: own calculations.

In the countries belonging to the first group, there are very good conditions for the development of silver leisure industries due to: the favourable financial situation of seniors, their senior policy (e.g. in Sweden, the availability of various benefits and services is independent of the senior's status), the expected years of healthy life, high professional activity and free time activity. According to research conducted by Bąk (2020), in 2017, the share of

the population aged 65+ in tourist trips in the age group under analysis was: 67.7% in Sweden, 62.4 % in Denmark, 74.8% in the Netherlands (the highest value), 73.4% in Finland and 64.4% in France. For comparison, in countries with very poor conditions for the development of silver leisure industries, this indicator amounted to: 12.3% in Romania, 14.4% in Bulgaria, 23.6% in Lithuania and 26.8% in Latvia. These results confirm the relationship between the examined indicators and active spending of free time by seniors.

Romania, Bulgaria, Lithuania and Latvia belong to the group of countries with very poor conditions for the development of silver leisure industries. The material deprivation rate for people aged 65+ in all these countries decreased during the period under analysis, yet was still very high in 2020: in Bulgaria – 48.3%, in Romania – 30.6%, in Lithuania – 26.3%, and in Latvia – 20.10 (compared to 2.0% in Sweden). Indicators such as years of healthy life at the age of 65+ or the risk of poverty or social exclusion for people in this age group differed significantly in 2020 from the EU averages. Another problem in these countries was the high percentage of seniors aged 65+ who could not afford a computer (10-13%) or an Internet connection (39% in Romania in 2020 compared to 0.7% in Sweden and Luxembourg; 16.5% in Bulgaria). The above-presented characteristics of the countries from the fourth group indicate serious limitations to the development of silver leisure industries. Many products and services of this economic sector require not only adequate financial support but also the use of new technologies, the availability of which is very limited. According to research by Abramowska-Kmon et al. (2020), conducted for 11 countries in Central and Eastern Europe, the need to work in order to ensure adequate income concerned almost 91% of people aged 50-69 who retired in Romania; in the subjective assessment of the financial situation of people aged 65+, seniors from Romania (40%), Bulgaria (38%) and Latvia (29.1%) most often indicated great difficulties in "making ends meet"; the highest percentage of older people feeling that they cannot do many things due to lack of money was in Lithuania (43.6%); the percentage of people over 65 years of age participating in sports and/or cultural events was 12.2% in Romania, and only 5% for people aged 75+ in Romania and Bulgaria; the percentage of people aged 65+ active in tourism was the lowest in Romania and Bulgaria, amounting to less than 15%; the highest percentage of people aged 55-74 who did not use a computer was noted, among others, in Romania and Bulgaria; the use of Internet services among people aged 55-74 in these countries concerned only 2% of the population.

5. Conclusions

Changes in the features (indicators) characterising the community of people aged 65 and over constitute a major challenge for the silver economy, including the leisure industries. Based on the research results, it is not possible to conclude about a decisive positive trend in

changing the development conditions of the silver leisure industries in the EU countries, yet the authors have managed to make several observations.

1. Determining the directions of development of the analysed economic sector must take into account the growing market of potential buyers, paying particular attention to changes in the health of the elderly as well as their changing and diversified preferences for spending free time; the cultural paradigm of aging in Europe is changing. However, it should be noted that changes in seniors' consumption trends are quite difficult to estimate.
2. The development of silver leisure industries may be an opportunity for many European and global companies, but their offer must take into account the heterogeneity of the group of older people and the diversity of the silver economy among countries. The conditions for functioning in this sector depend on the specificity of the market in a given country, the level of seniors' quality of life, the functioning of the health care system as well as social policy. For example, by 2025, the Romanian silver economy is expected to grow the fastest among EU countries as its public sector is growing faster than its private sector (European Union, 2018). In countries with worse conditions for the development of silver leisure industries (e.g. Romania and Bulgaria), public consumption will play a greater role, while in countries with good or very good conditions (e.g. Scandinavian countries), private consumption will be crucial. Public sector subsidies equalise the opportunities of citizens of EU countries for active aging.
3. Effective development of the market for products and services related to seniors' free time requires, first of all, the inclusion of older people in their design, taking into account the safety of this group of consumers, and the creation of innovative, functional and non-stigmatising goods. It is worth paying more attention to social innovations, not just technological ones.
4. In countries with very good conditions for the development of silver leisure industries, seniors are expected to be interested in such market areas as: cognitive training games (improving memory), personalised medicine, robotics, silver tourism, universities of the third age, training and courses in digital technologies, or devices facilitating mobility (leisure in the surroundings of nature). In countries with very poor conditions, first of all, seniors should be provided with products and services that facilitate mobility (e.g. transport) and communication (computer devices, telephones, the Internet). In the case of such countries, the market for goods related to free time requires providing financial, health and social security of seniors in the first place.
5. The study indicates that a higher level of development of a given country has a positive impact on the development of silver leisure industries, while countries with a lower level of development have fewer opportunities in this area.

In view of the above, there is a need for further research, primarily related to:

- adaptation of silver industry products and services to different age categories of seniors, due to their different health conditions and preferences,
- the directions of senior policies and their effectiveness,
- determinants of the development of silver leisure industries, taking into account a broader set of indicators explaining the socio-economic situation of seniors.

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Appendix

Table 1.
Set and nature of variables included in the study

Indicator	Variable name	Variable type
POP 65+	Population of people aged 65+ (% of total population)	STIMULANT
NDOCH	Income inequality among older people (total income received by the 20% of the population with the highest income compared to the income received by the 20% of the population with the lowest income)	DESTIMULANT
DEPR	Material deprivation rate for people aged 65+ (% of population 65+ with forced inability to meet at least three out of nine basic needs)	DESTIMULANT
KOMP –	People aged 65+ who cannot afford a computer (% of households with 1 adult aged 65+)	DESTIMULANT
LZŻ	Years of healthy life at the age of 65+ (number of remaining years that a person aged 65+ is expected to live in good health)	STIMULANT
WAS	Active aging index (index values in the range of 0-100; reflects the degree of utilisation of the potential of older people)	STYMULANTA
ZUWS	Indicator of risk of poverty or social exclusion for people aged 65+ (% of population 65+)	DESTIMULANT
INT –	People aged 65+ who cannot afford an Internet connection for personal use at home (% of population 65+)	DESTIMULANT

Note: Basic needs: paying for a 7-day holiday of all household members once a year; eating meat, fish (or vegetarian equivalent) every two days; heating the place of residence according to needs; covering an unexpected expense; timely payment of housing fees, repayment of instalments and loans; having a colour TV; owning a car; having a washing machine; having a telephone (Szamrej-Baran, 2016, p. 171).

Source: own elaboration.

Table 2.
Distances of objects from patterns and anti-patterns and the synthetic measure of the conditions for the development of the silver leisure economy

Country	2014			2020		
	d^+	d^-	q	d^+	d^-	q
Belgium	0.9357	2.0334	0.6849	1.0218	1.9551	0.6568
Bulgaria	2.1954	1.0156	0.3163	2.2477	1.1270	0.3340
Czechia	1.1008	1.9621	0.6406	1.0864	2.0432	0.6529
Denmark	0.7930	2.2892	0.7427	0.6206	2.3357	0.7901
Germany	1.4669	1.6811	0.5340	1.0885	1.8583	0.6306
Estonia	1.6067	1.4547	0.4752	1.5665	1.5822	0.5025
Ireland	1.4231	1.8709	0.5680	1.2568	1.8957	0.6013
Greece	1.6522	1.5754	0.4881	1.5422	1.7080	0.5255
Spain	1.3563	1.8166	0.5725	1.3796	1.7662	0.5614
France	1.1828	1.9668	0.6245	0.8597	2.0901	0.7086
Croatia	1.7517	1.4864	0.4590	1.7799	1.4885	0.4554
Italy	1.3960	1.8685	0.5724	1.3748	1.9632	0.5881
Cyprus	1.7557	1.6579	0.4857	1.4833	1.8284	0.5521
Latvia	2.0774	1.0937	0.3449	2.0577	1.2740	0.3824
Lithuania	1.6924	1.3365	0.4412	1.9898	1.1921	0.3747
Luxembourg	1.1859	2.1955	0.6493	1.3734	2.0729	0.6015
Hungary	1.6956	1.4120	0.4544	1.7227	1.4215	0.4521
Malta	1.0668	1.8920	0.6394	1.1188	1.8715	0.6259

the Netherlands	0.8841	2.1873	0.7121	0.7678	2.2578	0.7462
Austria	1.2130	1.9329	0.6144	1.2349	1.9254	0.6092
Poland	1.5489	1.5212	0.4955	1.2962	1.8459	0.5875
Portugal	1.6379	1.5887	0.4924	1.7734	1.4869	0.4561
Romania	2.2398	0.7806	0.2584	2.1484	0.8795	0.2905
Slovenia	1.4777	1.5464	0.5114	1.3273	1.7380	0.5670
Slovakia	1.7588	1.6208	0.4796	1.5073	1.7878	0.5426
Finland	0.9611	2.0183	0.6774	0.8381	2.1582	0.7203
Sweden	0.5878	2.5109	0.8103	0.5310	2.5031	0.8250

Source: own calculations.

Table 3.

Classification and ranking of EU countries according to the value of the synthetic measure of conditions for the development of silver leisure industries (descending order)

Group of countries	**Synthetic measure in 2014**			**Synthetic measure in 2020**		
	Value range	**Ranking**		**Value range**	**Ranking**	
		Country	**q**		**Country**	**q**
I (very good conditions)	≥ 0.6737	Sweden	0.8103	≥ 0.6996	Sweden	0.8250
		Denmark	0.7427		Denmark	0.7901
		Netherlands	0.7121		Netherlands	0.7462
		Belgium	0.6849		Finland	0.7203
		Finland	0.6774		France	0.7086
II (good conditions)	0.5461-0.6737	Luxembourg	0.6493	0.5682-0.6996	Belgium	0.6568
		Czechia	0.6406		Czechia	0.6529
		Malta	0.6394		Germany	0.6306
		France	0.6245		Malta	0.6259
		Austria	0.6144		Austria	0.6092
		Spain	0.5725		Luxembourg	0.6015
		Italy	0.5724		Ireland	0.6013
		Ireland	0.5680		Italy	0.5881
					Poland	0.5875
III (poor conditions)	0.4185-0.5461	Germany	0.5340	0.4368-0.5682	Slovenia	0.5670
		Slovenia	0.5114		Spain	0.5614
		Poland	0.4955		Cyprus	0.5521
		Portugal	0.4924		Slovakia	0.5426
		Greece	0.4881		Greece	0.5255
		Cyprus	0.4857		Estonia	0.5025
		Slovakia	0.4796		Portugal	0.4561
		Estonia	0.4752		Croatia	0.4554
		Croatia	0.4590		Hungary	0.4521
		Hungary	0.4544			
		Lithuania	0.4412			
IV (very poor conditions)	< 0.4185	Latvia	0.3449	< 0.4368	Latvia	0.3824
		Bulgaria	0.3163		Lithuania	0.3747
		Romania	0.2584		Bulgaria	0.3340
					Romania	0.2905
Average measure value q	0.5461			0.5682		

Source: own calculations.