

The spatial structure of domestic tourist trips of Polish residents in the context of the Covid-19 pandemic

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Abstract. In Poland in 2020, the number of domestic tourist trips decreased by over one fifth (more for short-term than long-term trips), which was probably related to the Covid-19 pandemic. This large decline in the number of domestic tourist trips was not associated with significant changes in their spatial structure. The recovery in domestic tourist trips in 2022 also did not affect their spatial structure, which continues to be mainly determined by the distribution of tourist attractions in the country. The analysis at the voivodeship level showed no preference were observed during the Covid-19 pandemic for domestic trips to voivodeships with a lower level of urbanization (i.e. voivodeships with a greater share of rural areas, less frequently visited so far - generally with lower tourist values). The spatial structure of the recovery in domestic tourism turned out to be sensitive to the level of Covid-19 deaths, which slowed it down. In 2022, the recovery in domestic tourist traffic was somewhat influenced by the war in neighboring Ukraine, which had a significant slowing effect in the eastern voivodeships of Poland.

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1. Introduction

The Covid-19 pandemic (which in Poland was announced on March 12, 2020) had a major impact on tourism. It was expressed in a spectacular decline in the number of tourist trips. This was especially evident in the first year of the pandemic. In 2020, there was no vaccine yet and it was necessary to introduce traditional methods of physical isolation to prevent the spread of the virus. State borders were closed, mobility was limited, blockades and quarantines were introduced, educational and cultural institutions were closed, etc. Teaching and working switched largely to remote models of operation. This was particularly severe and very costly for the economy, especially the tourism sector. The introduction of the vaccine at the beginning of 2021 reduced the fear of Covid infection and led to an easing of the isolation methods that had initially been used. On July 1, 2023, the Covid-19 state of pandemic was officially ended in Poland.

The Covid-19 pandemic was characterized by a waves of increases and decreases in viral infections, which resulted in the tightening and loosening of travel restrictions. In the warm season (summer), the decrease in viral infections resulted in restrictions being relaxed, which favoured tourist travel. In turn, in the cold seasons (autumn, winter, spring), the growing number of infections resulted in tighter restrictions, including restrictions on travel, which in turn included tourist travel.

The indicated nature of the Covid-19 pandemic and the measures used to limit it resulted in changes in the number of trips, structure of tourism and other aspects of tourism behavior among Polish residents (Matczak & Szymańska, 2022). It seems that these changes are temporary, because after a significant decline in tourist trips in 2020, numbers began to rebound in 2021. This recovery began with domestic tourist trips and, in 2022, foreign tourism contributed to a lesser degree. In 2020–2021, the Covid-19 pandemic was essentially the only cause of changes in the tourist behavior of Polish residents. Then, in 2022, in addition to the pandemic, the war in neighboring Ukraine had a further impact on tourist travel.

The study by Matczak and Szymańska (2022) indicates that the size and nature of demand for domestic tourist trips among Polish residents in the context of the Covid-19 pandemic has a significant regional dimension (at the voivodeship level). The present study addresses this very issue, i.e. it seeks to determine whether the pandemic changed the

spatial structure of demand for domestic tourist travel, and if so, to what extent.

2. Literature review

The Covid-19 pandemic has had a significant impact on contemporary tourism research. There has been a sharp increase in the number of articles about the impact of epidemics on tourism, such articles before 2020 having been limited to studies on the effect of epidemics of more limited range, such as SARS. Platforms such as Google Scholar already contain hundreds of articles on this topic (Gösling & Schweiggart, 2022). Within very little time, several reviews of the scientific research conducted to date on this issue were presented (Kumudumali, 2020; Zopiatis et al., 2020; Lin, 2021; Utkarsh & Sigala, 2021; Persson-Fischer & Liu 2021; Yang et al., 2021; Huang & Wang, 2022; Pahrudin et al., 2022, Viana-Lora & Nel-lo-Andreu, 2022). Many international organisations and institutions have also presented numerous reports containing analyses of the impact of the Covid-19 pandemic on tourist demand (Rogerson & Rogerson, 2021; Matczak & Szymańska, 2022).

The pandemic has raised awareness of the need to introduce a more sustainable model of tourism development. The current model based on a constant growth in high-income-generating tourist trips, an abundance of jobs, etc. at the expense of destroying nature, local communities, etc. requires change. The literature indicates that the Covid-19 pandemic, being a crisis both global in scale and covering multiple dimensions (including the biological, financial-economic, environmental, socio-psychological, cultural and geopolitical), has presented potentially huge opportunities to transform the current model of tourism development. Most studies, especially those published during the early days of the pandemic, advocate for more sustainable, responsible and equitable tourism in the post-pandemic period (Hall et al., 2020; Higgins-Desbiolles, 2020a, 2020b; Niewiadomski, 2020; Sigala, 2020; Gössling et al., 2021; Higgins-Desbiolles et al., 2021). However, these studies do not clearly indicate whether, why or how these theoretical proclamations might materialise (Utkash & Sigala, 2021). Most research (again, especially early in the pandemic) was conceptual in nature and based on theoretical considerations of existing literature on pandemic, crisis management and the nature of the future reconstruction of the tourism sector (Hall et al., 2020; Sigala, 2020; Gössling et al., 2021). Later, there was broader interest in the impacts, especially the harmful

impact of the pandemic on tourism (Ioanides & Gyimothy, 2020; Qiu et al., 2020; Wen et al., 2020). The increasing amount of data available over time (based on numerous surveys) has enabled empirical research on tourists' attitudes and behaviors, as well as the development of models and the verification of existing theories used in this area (Fotadis et al., 2021). These endeavours have indicated that, for example, research on behavioral intentions is a poor indicator of actual behavior (Kock et al., 2020), that online research also has its limitations, and that there are still few field, experimental and qualitative studies (Viglia & Dolnicar, 2020; Volgger et al., 2021).

The subject literature still shows two opposing assessments of the impact of the Covid-19 pandemic on tourist travel (Matczak & Szymańska, 2022), that: 1) there will be a transformation in participation in – and the nature of – tourist travel aimed at more sustainable tourism development (and this transformation has especially been presented in numerous academic publications: Higgins-Desbiolles, 2020a, 2020b; Niewiadomski, 2020; Sigala, 2020; Higgins-Desbiolles et al., 2021), and that 2) it will not cause a transformation in the participation in – or nature of – tourist trips but that, after a period of "shock", these will return to a slightly modification of their pre-pandemic state. The assessment promoted by the tourism industry and governments is based partly on the view that tourism is highly resistant to crises.

It is emphasised, however, that to hasten the return to favourable visitor numbers, tourism should receive government support to be quickly rebuilt after the pandemic, preferably following sustainable models (Kennell, 2020; UNWTO, 2021; WTTC, 2021, 2022; Persson-Fischer & Liu, 2021; Jones, 2022).

Leaving aside the more outlier assessments, it seems to be fully justified to believe that the Covid-19 pandemic, by introducing restrictions on travel, increasing the risk of viral infection and worsening the economic situation of many households, not only caused a temporary decline in overall tourist demand but also changed preferences regarding the forms and directions of tourist trips (Ioanides & Guimothy, 2020; Neuberger & Egger, 2020; Pinos-Novarrete & Show, 2021).

During a pandemic, fear of the risk of contracting the virus encourages tourists towards self-protection, forcing changes in their travel behaviour (Li et al., 2020; Neuberger & Egger, 2020; Zheng et al., 2021). It is expected that people traveling during the pandemic (and partly after it) will try to avoid mass tourism and switch to domestic travel (Li et

al., 2020) and more independent travel (Wen et al., 2020). The view that domestic tourism is safer than foreign tourism (Rogerson & Rogerson, 2021; Das, Tiwari, 2021; Chiet & Razak, 2021) favours domestic tourism. Tourist preferences coincide with the search for green and protected areas (McGinlay et al., 2020), while limiting travel to mass tourism destinations (Renaud, 2020; Arora & Sharma, 2021). A clear trend was seen for preferring trips to less-populated destinations with open spaces and the possibility of maintaining social distance (Zenker & Kock, 2020; Jeon & Yang, 2021; Falk et al., 2022). In many countries, there has been greater interest in rural tourism focused on local natural and gastronomic attractions, etc., e.g. in the Czech Republic (Vashar & Štastná, 2022) or Turkey (Özdemir & Yildiz, 2020) or interest in agritourism in Poland (Wojcieszak-Zbierska et al. 2020).

During the pandemic, changes were observed in a significant part of the population in developed countries, i.e. a preference for domestic holidays and a reduction in trips abroad (Altuntas & Gok, 2021; Donaire et al., 2021; Jacobsen et al., 2021; Filimon et al., 2022; Wu et al., 2022). Many authors state that engaging in recreation within the home country is particularly important and to be expected due to its capacity to ensure revenue, support employment, etc. (Rogerson & Rogerson, 2021). Gyimothy S., Braun E. and Zenker S. (2022) indicate that the pandemic has increased tourism ethnocentrism and, consequently, strong support for domestic travel and support for the domestic tourism sector. They believe that the positive side of the pandemic is that many countries have experienced strong growth in domestic tourism, especially in rural and peripheral areas, which had often not been a priority tourism market before. In some countries (e.g., Nordic countries), there was already increased interest being seen in domestic travel before the pandemic, and in many (e.g., Germany) the demand for domestic tourism actually exploded after the easing of Covid-related travel restrictions (Lück & Seeler, 2021; Filimon et al., 2022). The pandemic reduced the crowding of many natural and protected areas (including Iceland, New Zealand) by foreign tourists, thereby making them more readily available to domestic tourists again (Wendt et al., 2022; Lück & Seeler, 2021). In this way, local residents regained many domestic destinations from which they had previously been discouraged by their excessive crowding with foreign tourists.

Domestic tourism can help many destinations compensate for losses resulting from a lack of foreign visitors (Arbulú et al., 2021; Kvitkova et al., 2021; Seyfi et al., 2022; Tanguay & Rajaonson, 2022).

However, the role of domestic tourism as a substitute for international tourism has not yet received adequate consideration in the literature, and there are relatively few broader analyses of "shifts" from international to domestic tourism and the effects of this substitution. Many tourism organisations and institutions, national governments and scientists are coming to the conclusion that domestic tourism can not only successfully mitigate the negative effects of the dramatic decline in demand for foreign travel, but can above all contribute to faster post-pandemic recovery in the tourism sector (Kvitkova et al., 2021; Pinos-Navarrete & Shaw, 2021; Volgger et al., 2021; Wu et al., 2022). There is a widespread view that domestic travel will recover more quickly, which should be attributed not only to it being less subject to restrictions during a pandemic than is international travel, but also to deeper psychological factors (Gyimothy et al., 2022) that relate to better knowledge of the local environment reducing the sense of vulnerability, and the greater sense of security that people feel in their own country, etc.

In turn, the impact of the pandemic on domestic tourism is not uniform across the country: it is clearly differentiated between regions (Kowalska & Niezgodą, 2020; Widomski, 2020; Arbulu et al., 2021; Chiet & Razak, 2021; Gierczak-Korzeniowska et al., 2021; Lin, 2021; Falk et al., 2022; ; Kugiejko & Żyto, 2022). So far, it has been noted that favouring tourist trips closer to home (Hall et al., 2020; Renaud, 2020; Bratić et al., 2021; Donaire et al., 2021) is resulting in a greater decline in travel between regions than within regions (Wu et al., 2022). The pandemic has been particularly favourable for domestic regions that are attractive to tourists, less populated, less frequently visited, less urbanised, and less risky for viral infection (Kvitkova et al., 2021). However, there has been no broader research on this issue to date (Arbulu et al., 2021).

Therefore, this study tries to at least partially fill this gap using the example of the domestic tourist trips of Polish residents.

Research on the pandemic's impact on tourist behavior requires that time be allowed for the effects to become noticeable, measurable and reliably linked to specific causes. Studies on the negative and positive impact of the pandemic on tourist behavior (especially on tourist destinations) may help to redefine the importance of tourism for society after the pandemic subsides (Utkarsh & Sigala, 2021).

3. Research materials, data

The study used data published in the industry yearbooks entitled *Turystyka...* for the years 2018–2022 (Note 1). They contain the results of research monitoring the level of Polish residents' participation in tourist trips in terms of the characteristics of domestic and foreign trips with one or more overnight stays (including the number of short-term [2–4-day] and long-term [5-day or more] tourist trips to individual voivodeships). The participation of Polish residents in tourism is systematically examined every year using approximately the same research methods, which allows for basic comparative analyses. In these studies, Statistics Poland (GUS) uses a random sample that was employed for a survey of household budgets. The random sample includes many thousands of members of these households (Note 2). However, it ignores people not residing in such households (pupils, students, nursing home resident, etc.). Hence, there are differences in the selected socio-demographic characteristics between the study sample and the broader Polish population, which implies certain limitations in generalising the results of the research conducted by GUS in this area. The results of these surveys are made available in the yearbook, in the section entitled "Polish residents's participation in travel". The publication contains synthesised results rather than raw data, which therefore limits the scope of more detailed analyses. However, it allows for sufficient assessment of changes in the size, structure and directions of tourist trips in the years preceding and during the pandemic (in 2018–2022).

3.1. Participation in domestic tourism after 1989

After the end of World War II (after 1945), a socialist system and a planned economy were introduced in Poland. The constitution of the socialist state guaranteed every citizen the right to recreation. State-subsidised holidays were organised by the Employee Holiday Fund (Fundusz Wczasów Pracowniczych – FWP), trade unions, workplaces, social institutions, schools and others. In this way, mass social tourism developed as short weekend trips (initially on Sundays and later on Saturdays and Sundays), holidays and excursions, summer holidays for employees and their families, preventive and therapeutic health stays, as well as various kinds of camps for children and adolescents, primarily

within the country. Summer leisure tourism became especially popular. These were usually 2–3 week stays. In 1960, 3.5 million people participated in them, and in 1979, 18.1 million people. In the 1980s, during the crisis of the planned economy, the number of trips for holidays of one week or longer fell to between 7.2 and 13.8 million people.

The return to the market economy after 1989 changed the tourist behavior of Polish residents. The level of participation in tourism fluctuates depending on the economic situation. A deterioration in the national economy results in a decrease in participation, while an improvement causes an increase (Fig. 1). In the first half of the 1990s, there was a decline in this participation, while in the second half there was an increase, and then a systematic decline until 2011 and another increase until 2019, which was interrupted by the Covid-19 pandemic in 2020. Despite pessimistic forecasts, the fall in participation in tourism caused by the pandemic was similar in scale to that of previous declines caused by economic difficulties. In terms of participation in domestic travel during the economic downturn, a greater decline was recorded in short-term travel than in long-term travel. Thus, participation in long-term travel gained an advantage. Conversely, in economically prosperous years, people participated more often in short-term trips, and the pandemic did not change this trend. The recovery of participation in domestic tourism in 2021–2022 was at an almost identical level to the that after declines caused by difficult economic situations.

After 1989, the average number of trips per person participating in tourism decreased, especially

for short-term trips. In the 1990s, five short-term trips were made annually, but from 2004 onwards their number decreased to fewer than three. During the pandemic, on average, a short-term trip participant made 2.3 trips. The average number of long-term trips per participant in domestic tourism was smaller and amounted to fewer than two trips per year, and slightly exceeded two trips per year only during the economically favourable second half of the 1990s (2.2–2.3 trips per year) and during the pandemic (2.1 trips).

In the field of social tourism (during the period of social tourism – 1945–1989), most often there was one annual holiday trip, which in the early 1990s lasted 11–18 days. After this period, the average long-term trip decreased to 10–8 days. During the pandemic, the average long-term trip lasted 8.5 days. In turn, a short-term trip in the years 1990–2016 lasted less than 2 days, and only in 2017 did it reach 2 days.

The Covid-19 pandemic changed the reasons for the lack of participation in tourism by Polish residents aged 15 or over in private tourist trips (with at least one overnight stay). In the pre-pandemic period, the main reason for lack of participation in tourism was financial. Until 2019, consistently just over one third of respondents indicated financial concerns as the main reason for not participating in tourism. Other reasons, such as: lack of free time resulting from family obligations, work and study (one quarter of responses), health or mobility limitations (one sixth), or lack of desire to travel (one sixth) had lesser impacts on participation in tourism. During this period, a very small percentage of respondents indicated lack of

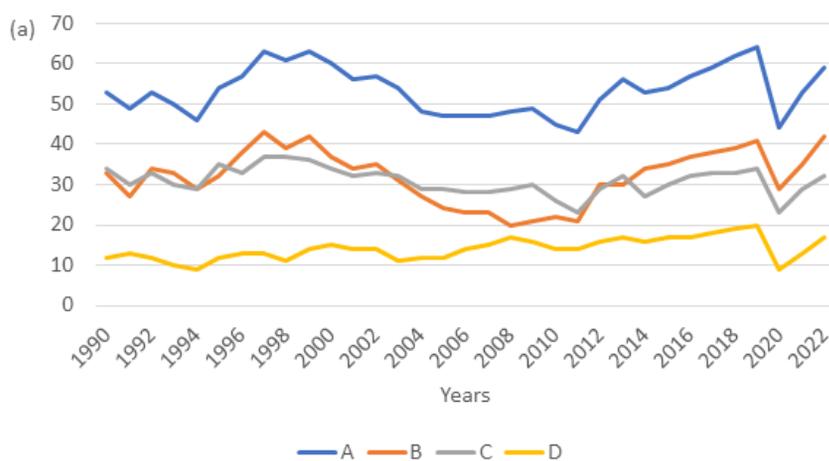


Fig. 1. Participation of Polish residents aged 15 or over in tourist trips in 1990–2021

Explanation: (a) - participation in tourism (in %), A - total, B - short-term, C - long-term, D - foreign

Source: Authors' own elaboration

safety as a reason for not participating in tourism. In 2013, this reason was indicated by nearly 2% of respondents, and in 2019 only 0.7%. However, in the first year of the pandemic (in 2020), as many as 36.9% of respondents indicated lack of safety as the reason for not participating in tourism, and 32.3% in 2021. In 2022, however, this was no longer the most important reason for not participating in tourism; it was overtaken again by financial reasons (32.9%) and lack of motivation to travel (15.5%), whose share returned to the pre-pandemic years.

3.2. Directions of domestic tourist trips

In 2019, tourist trips reached 75.1 million. Domestic trips dominated (59.8 million). Foreign trips (15.3 million) accounted for 20.4% of all tourist trips made that year. In 2020, the Covid-19 pandemic caused tourist trips to decline to 53 million (i.e., by 29.4% compared to 2019), with the number of domestic trips falling by 22.7% and foreign trips by as much as 55.5%. The increase in tourist trips that occurred in 2021–2022 compensated for the 2020 decrease more in domestic trips than foreign (Table 1).

The Covid-19 pandemic caused a decline of 13.6 million in the number of domestic tourist trips in 2020, and this was felt most strongly by cities (Fig. 2). The 2020 decrease in trips to cities amounted to as much as 9.6 million, which was 32.5% less than in 2019. In turn, in 2021–2022, the increase in the number of trips to cities constituted only a 74% recovery of that decrease (Note 3). Rural areas lost 1.3 million such trips in

2020 (relative to 2019), and in 2022 they bounced back by only 1.1 million (relative to 2020), which largely compensated for the loss recorded due to the pandemic. The most attractive tourist areas in the country are the coastal and mountain areas. Although they recorded significant declines in the number of trips in 2020 (by 1.4 and 1.8 million, respectively), in 2022 they not only recovered the volume of domestic tourist travel flows directed to them but experienced a significant bounce-back of 2.1 million.

The Covid-19 pandemic did provoke a significant decline in the number of domestic tourist trips; however, it also introduced minor changes of a temporary nature to their spatial structure (Fig. 3). Cities had hosted just over half of these trips before the pandemic, but this fell to about 45% during the pandemic, with this trend being towards a return to pre-pandemic levels. The rural share of domestic travel increased in 2020, before returning to pre-pandemic levels in 2022. However, the most attractive tourist areas in the country, the coastal and mountain areas, increased their share in domestic tourist travel slightly in the years 2018–2022, but the Covid-19 pandemic did not weaken their position on the domestic market.

In the period preceding the Covid-19 pandemic, short-term trips (2–4 days) clearly predominated among domestic tourist trips (Fig. 4). In 2019, they accounted for 59.8% of all domestic trips. The pandemic in 2020 slightly reduced (by 1.5%) this share to 58.3%, which fell by another 0.6 p.p. in 2022. Thus, the pandemic caused a slight increase in the share of long-term trips (5 days or more) in domestic tourist trips from 40.2% in 2019 to

Table 1. Tourist trips of Polish residents in 2018–2022 (in millions)

Breakdown	Years					Decrease in 2020 compared to 2019		Growth in 2022 compared to 2020	
	2018	2019	2020	2021	2022	in millions	in %	in millions	in %
Total	72.1	75.1	53.0	62.5	74.4	22.1	29.4	21.4	40.4
of which:									
National	57.7	59.8	46.2	55.1	61.2	13.6	22.7	15.0	32.5
2–4 days	33.6	34.5	26.1	30.9	34.8	8.4	24.3	8.7	33.3
5 days or more	24.1	25.3	20.0	24.2	26.4	5.3	20.9	6.4	32.0
Foreign:	14.4	15.3	6.8	7.4	13.2	8.5	55.5	6.4	94.1
2–4 days	2.7	2.9	1.3	1.4	2.4	1.6	55.2	1.1	84.6
5 days or more	11.7	12.4	5.5	6.0	10.8	6.9	55.6	5.3	96.4

Source: Calculated based on data from the *Turystyka ...* industry yearbooks for 2019–2023



Fig. 2. Domestic tourist trips of Polish residents in 2018–2022 (in millions)

Explanation: (a) - tourist trips in millions, A – towns/cities, B – rural areas, C – coastal, D - mountains

Source: Compiled based on data from the *Turystyka ...* industry year-books for 2019–2023



Fig. 3. Structure of directions of domestic tourist trips by Polish residents in 2018–2022 (in %)

Explanation: (a) - tourist trips in %; A – towns/cities, B – rural areas, C – coastal, D - mountains

Source: Compiled based on data from the *Turystyka ...* industry year-books for 2019–2023

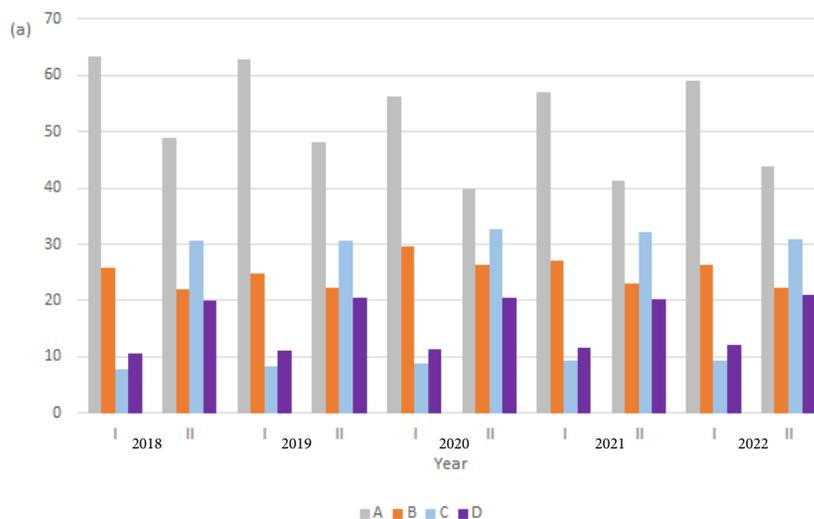


Fig. 4. Directions of short-term (2–4 days) and long-term (5 days or more) domestic travel by Polish residents in 2018–2022 (in %)

Explanation: (a) - number of travelers (in %); A – towns/cities, B – rural areas, C – coastal, D – mountains; I - 2–4 days, II - 5 days or more

Source: Compiled based on data from the *Turystyka ...* industry yearbooks for 2019–2023

42.2% in 2022. Cities hosted short-term trips far more than long-term trips. In 2019, the difference between them was 15 p.p. in favour of short-term travel. Similarly rural areas hosted more short-term than long-term trips, but the share of short-term trips in 2019 was only 2.5 p.p. higher than that of long-term trips. The pandemic did not change these proportions between short- and long-term travel in 2020 or the following years. More short-term trips than

long-term trips continued to go to cities (16.6 p.p. more in 2020 and 15.3 p.p. in 2022). Rural areas, meanwhile, saw a slightly greater increase in the share of short-term trips (by 2.8 p.p. in 2020 and 4.1 p.p. in 2022) compared to long-term trips as a result of the pandemic. By contrast, in the mountains and on the coast long-term stays outnumbered short-term ones two-fold and three-fold, respectively, in 2019. In 2020, the pandemic caused a further slight increase (of 2 p.p.) in the share of long-term travel,

especially along the coast. In the following years (2021–2022), these figures returned to pre-pandemic levels. In contrast, short-term travel shows a slight upward trend beginning in 2020, especially in the mountains (1.2% p.p.).

3.3. Spatial structure of domestic tourist trips

The spatial structure of domestic tourism in Poland changes little over time (Lijewski et al. 2008). The main hosts for domestic tourist trips are coastal voivodeships, the voivodeships with the country's largest urban agglomerations, mountainous voivodeships and voivodeships with lake districts. Changes are slow to occur. They result partly from the changes to the tourism model after 1989. Since the end of the 1990s, there has been a decline in Polish residents' participation in tourism. In 1999, 63% participated in tourism, but by 2011 (the end of the global economic crisis) only 43% did. Beginning in 2012, the participation of Polish residents in tourism increased again, rising to 64% in 2019. In the years 2014–2019 (Note 4), the number of domestic tourist trips increased by 30.2 p.p. This increase varied regionally (from 10.5% in the Łódzkie Voivodeship to 53.4% in the Pomorskie Voivodeship). In most voivodeships (11), the increase in domestic tourist trips was below the national mean, and in the remaining voivodeships (5) it was above the national mean. However, there were not significant changes in their spatial distribution (Table 2).

The increasing numbers of more frequent but shorter tourist trips during the year resulted in a gradually growing advantage of short-term trips over long-term ones (Fig. 4). The spatial preferences in terms of choice of destinations differed significantly between travelers staying for 2–4 days and those staying 5 days or more. This is one of the reasons for changes currently occurring in the spatial structure of domestic tourist trips. They are partly determined by differences in the structure of tourist supply serving short- and long-term tourism (Fig. 5).

Short-term domestic trips (2–4 days) in the years preceding the pandemic were mainly directed to the country's largest metropolises, cultural heritage centres, places of national memory and unique natural areas (national parks, landscape parks, nature reserves). An important motive for short trips, other than entertainment, recreation and education, is visiting relatives or friends. Resources for this type of travel are distributed throughout the country, so short-term travel exhibits relatively low spatial concentration (Table 2). The largest number of short-term trips was directed to voivodeships with high levels of urbanisation and large urban agglomerations.

Domestic long-term travel by Polish residents exhibited a different spatial structure. It is undertaken mainly for recreational purposes. Thus, appropriate conditions are required to ensure relaxation for such stays. Accordingly, coastal and mountain areas are particularly preferred, and these are concentrated in the north and south of Poland. Hence, domestic long-term travel is relatively highly spatially concentrated (Table 2). Most long-term domestic trips were directed to six voivodeships: two coastal voivodeships (accounting for 33.4% and 35.6% in 2014 and 2019, respectively) and four mountain voivodeships (30.5% and 32% in 2014 and 2019, respectively) (Fig. 5).

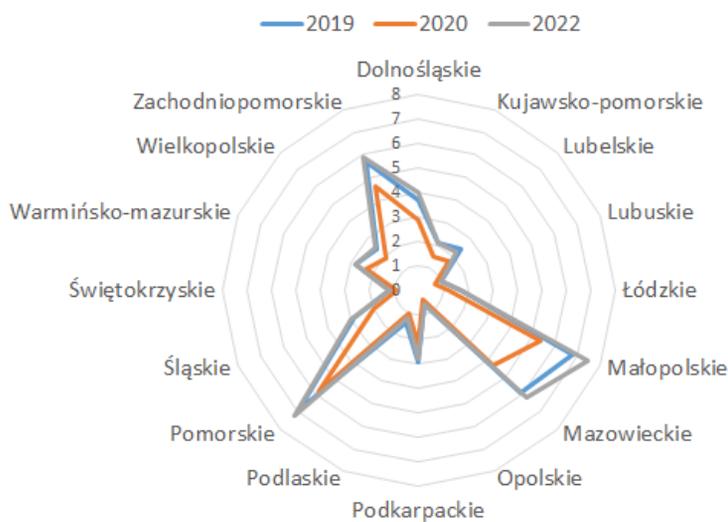
In 2020, the Covid-19 pandemic caused decreases (compared to 2019) in the number of trips to every voivodeship (of 0.2 million in the Opolskie Voivodeship to 1.6 million in the Mazowiecki Voivodeship). In coastal and mountain voivodeships, the total decrease in the number of trips amounted to approximately 6 million, but the dynamics of this decrease was below the national average decrease of 22.9%). Of the remaining ten voivodeships, all but Mazowieckie (which recorded 1.6 million fewer trips than in 2019) saw a lower decline in the number of trips, but the dynamics of this decline significantly exceeded the average for the country. The decrease in the total number of short-term trips was 7.5 million (24.7%), which was almost twice as large as that of long-term trips (4.1 million – 20.1%). The largest decline in short-term travel was recorded in the Mazowieckie Voivodeship (1.2

Table 2. Changes in the Lorenz concentration coefficient (η) of domestic tourist trips of Polish residents in 2014–2022

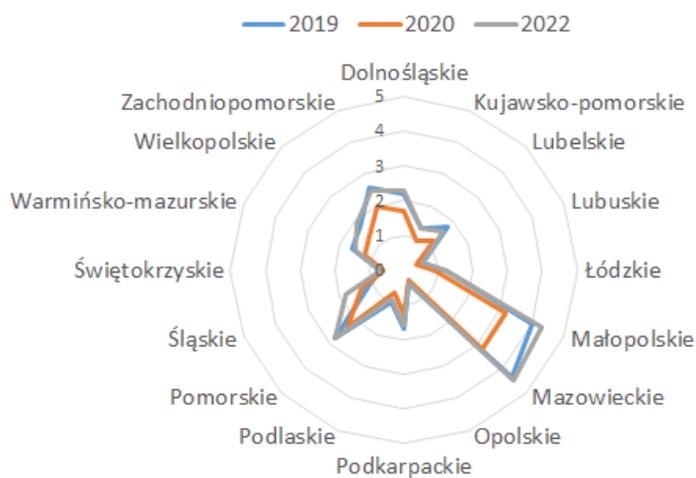
Domestic tourist travel	η in years				η decrease in 2020 *	η growth in 2022*
	2014	2019	2020	2022		
Total	0.262	0.323	0.343	0.336	0.821	0.881
Short term (2–4 days)	0.213	0.258	0.273	0.280	0.872	0.879
Long-term (5 days or more)	0.393	0.435	0.454	0.441	0.883	0.885

Source: Calculated based on data from the *Turystyka ...* industry yearbooks for 2019–2023

I



II



III

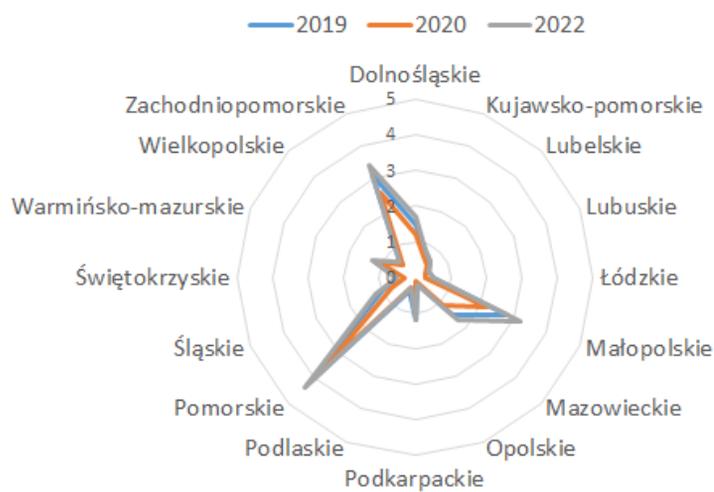


Fig. 5. Domestic tourist trips by Polish residents in 2018–2022 (in millions)

Explanation: I – total, II - 2–4 days, III - 5 days or more

Source: Compiled based on data from the *Turystyka ...* industry yearbooks for 2019–2023

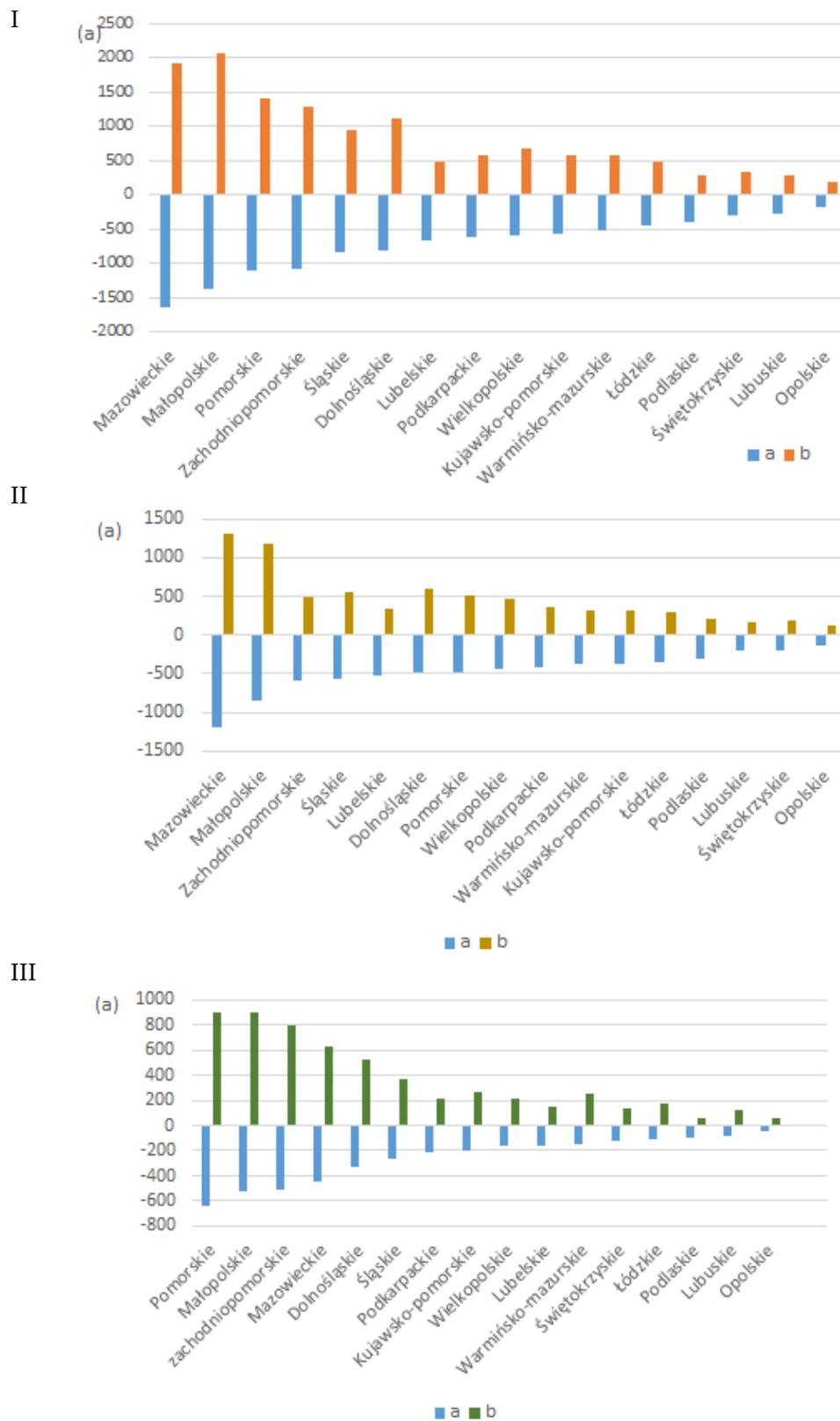


Fig. 6. Decrease in 2020 and increase in 2022 in the number of trips by Polish residents (in thousands)

Explanation: I - tourist trips total, II - short-term trips, III - long-term trips ; a - decrease in 2020, b - increase in 2022

Source: Compiled based on data from the *Turystyka ...* industry yearbooks for 2019–2023

million fewer than in 2019), in voivodeships with large urban agglomerations, and in less-urbanised voivodeships (the dynamics of decline is above the national average - short-term trips 24.7%, long-term trips 20.1%). In coastal and mountain voivodeships, despite a significant reduction in the number of trips, the dynamics of the decline in short-term trips were below the national average. Similarly, the dynamics of the decline in long-term travel in the coastal and mountain voivodeships and in the Warmińsko-Mazurskie Voivodeship, despite a large drop in the number of trips, were below the national average (Fig. 6).

In 2022, the number of domestic tourist trips by Polish residents was already 1.6 million higher than before the pandemic in 2019. This increase varied regionally. In coastal voivodeships (Pomorskie and Zachodniopomorskie), mountainous voivodeships

(Dolnośląskie, Śląskie, Małopolskie), and those with large urban agglomerations (Mazowieckie, Wielkopolskie, Łódzkie), the number of tourist trips hosted clearly exceeded 2019 levels. However, the eastern voivodeships directly bordering Belarus and Ukraine have not made up for all the losses caused by the pandemic, the recovery being slowed by Russia's war with Ukraine. Total national short-term trips reached the level from 2019, while the national total for long-term trips increased by 1.6 million. The increase in the number of short-term trips in 2022 compensated for their decline in 2020 in voivodeships with large urban agglomerations, especially those located in the north (Pomorskie Voivodeship) and south (Dolnośląskie, Małopolskie Voivodeship) and in the central part of the country (Mazowieckie Voivodeship, Wielkopolskie Voivodeship, Łódzkie Voivodeship). However, the 2022 increase in long-

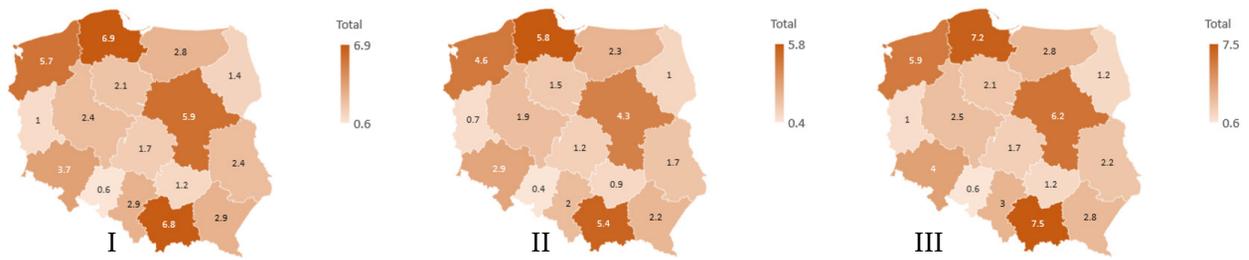


Fig. 7. Spatial distribution of domestic tourist trips of Polish residents in 2019, 2020 and 2022 (in millions)
 Explanation: I – 2019, II – 2020, III - 2022

Source: Compiled based on data from the *Turystyka ...* industry yearbooks for 2019–2023

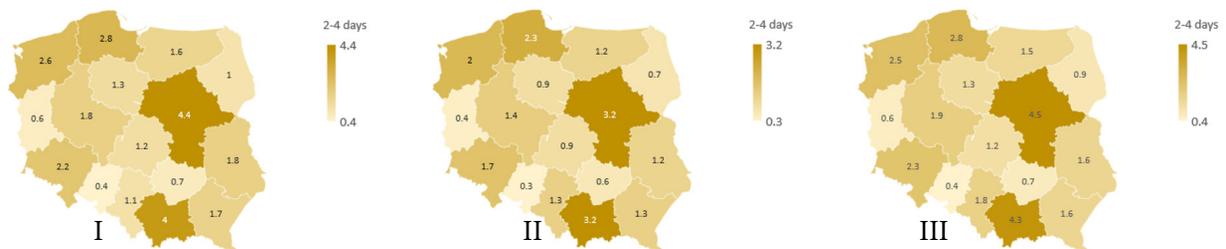


Fig. 8. Spatial distribution of domestic tourist trips (short-term) of Polish residents in 2019, 2020 and 2022 (in millions)
 Explanation: I – 2019, II – 2020, III - 2022

Source: Compiled based on data from the *Turystyka ...* industry yearbooks for 2019–2023

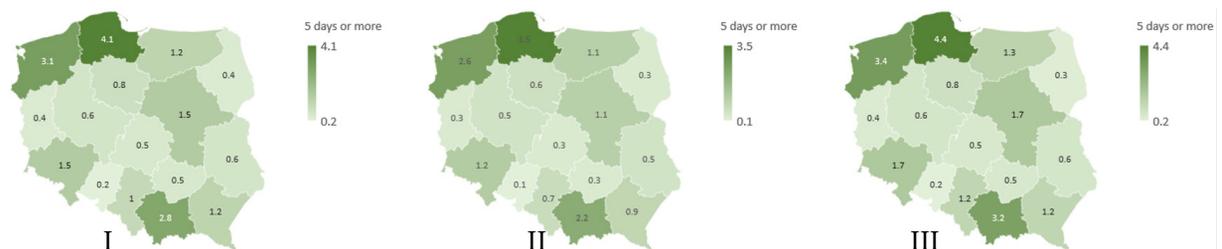


Fig. 9. Spatial distribution of domestic tourist trips (short-term) of Polish residents in 2019, 2020 and 2022 (in millions)
 Explanation: I – 2019, II – 2020, III - 2022

Source: Compiled based on data from the *Turystyka ...* industry yearbooks for 2019–2023

term travel was higher than the 2020 decline in almost all voivodeships except those located at the eastern borders of Poland (Podlaskie, Lubelskie, Podkarpackie) (Fig. 7, 8, 9).

4. Conclusions

The results of the analyses confirm the opinion expressed by many authors (Rogerson & Rogerson 2021, Hall et al. 2020) that, after the decline caused by the Covid-19 pandemic, the demand for domestic tourist travel will recover more quickly than the demand for foreign tourism, and this recovery had already begun during the pandemic. In Poland, after a decline in 2020, the numbers of domestic tourist trips, both short- and long-term, had already fully recovered by 2022, including returning to a spatial distribution very similar to the state before the pandemic. Therefore, the Covid-19 pandemic has not changed the regions preferred by Polish residents for their domestic tourist trips. The view expressed in the literature that the pandemic has particularly favoured regions that are attractive to tourists, less populated, less frequently visited, less urbanised, and at a lower risk of viral infection (e.g., Li et al. 2020, Kvitkova et al. 2021) was only partially confirmed at the level of regional analysis. The increase in demand for domestic tourist trips in 2022, after its significant decline in 2020, was significantly influenced by tourism value (Spearman's correlation coefficient $r_s=0.885$) and the threat of death due to viral infection ($r_s=-0.491$). However, lower population density (less congestion) and lower levels of urbanisation had a small and insignificant impact on the increase in domestic tourist trips in 2022 (respectively: $r_s=-0.041$, $r_s=-0.323$). Kendall's coefficient of concordance measures agreement among multiple rankings of the same entities (M.G. Kendall and B. Babington-Smith, as cited in J. Runge 2006), and for the increase in domestic tourist trips, tourist attractions, people working in agriculture and deaths from Covid-19 was only 0.189 and the χ^2 test did not confirm its significance. The analysis at voivodeship level shows little correlation between increases in domestic trips and the presence of such regionally differentiated factors as tourist attractions, agricultural worker numbers and Covid deaths, suggesting that the regional context has only a limited impact on the spatial structure of the post-pandemic recovery in domestic tourist trip numbers among Polish residents. There have been few studies to date on the influence of the regional context on the spatial structure of domestic tourist movements

(by voivodeship), and the voivodeship-level data resources from which tourist trip numbers can be drawn are also limited; these facts combine to restrict the capacity to check previous studies conducted at the micro-regional level (spatially small-scale studies based on surveys) and require that further studies be conducted into this rarely studied issue.

Notes

1. All calculations in the paper were performed based on data published online by Statistics Poland (GUS): Participation of Polish residents in travel in 2018. In: *Turystyka w 2018 r.*, Statistics Poland, Warsaw 2019, Statistical analyses, pp. 99–109 and tables – section III; Participation of Polish residents in travel. In: *Turystyka w 2019 r.*, Statistics Poland, Warsaw 2020, Statistical analyses, pp. 61–72 and tables – section III; Participation of Polish residents in travel. In: *Turystyka w 2020 r.*, Statistics Poland, Warsaw 2021, Statistical analyses, pp. 63–75 and tables – section III; Participation of Polish residents in travel. In: *Turystyka w 2021 r.*, Statistics Poland, Warsaw 2022, Statistical analyses, pp. 65–77 and tables – section III; Participation of Polish residents in travel. In: *Turystyka w 2022 r.*, Statistics Poland, Warsaw 2023, Statistical analyses, pp. 63–75 and tables – section III; Accessed: October 13, 2023
2. The study covered 138.7k people out of approximately 52k households in 2018. In the subsequent years it covered 136.6k people from over 52k households in 2019, 128.7k people from almost 51k households in 2020, 142k people from over 58k households in 2021, and 145k people from over 61k households in 2020.
3. Statistics available for the first three quarters of 2023 indicate a return to pre-pandemic numbers of tourists in cities.
4. Since 2014, Statistics Poland (GUS) has provided data on domestic tourist trip numbers to individual voivodeships in its industry yearbooks entitled *Turystyka w 2014 r.* in section III “Participation of Polish residents in travel” and in the same publication for subsequent years.

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